



PIONEER

Pioneer Energy Services

**RADIAL BOND LOG
WITH GAMMA RAY**

Company **VERDAD RESOURCES**

Well **Sonic Star 1101-16H**

Field **Wattenberg**

County **Weld** State **Colorado**

Location: API #: 05-123-49003

SE SE

SEC 11 TWP 8N RGE 60W

Permanent Datum GL Elevation 4882'

Log Measured From KB = 21' Above Perm. Datum

Drilling Measured From KB K.B. D.F. G.L. Elevation 4882"

Comp. VERDAD RESOURCES
Well Sonic Star 1101-16H
Field Wattenberg
Co. Weld
State Colorado

Date of Service 08-OCTOBER-2021

Run Number ONE

Depth Driller or PBTD 18984

Depth Logger 8590

Bottom Log Interval 8586

Top Log Interval Surface

Open Hole Size 7 7/8

Type Fluid WATER

Fluid Level Full

Fluid Density 8.33 PPg

Max. Recorded Temperature 250

Max. Wellhead Pressure 0

Wellhead Connection ---

Estimated Cement Top 695

Unit Number 133

Wireline Size 9/32

Location FT MORGAN

Recorded By HAYES

Witnessed By BRIAN STANLEY

Size

Wt/Ft

Top

Bottom

9 5/8

36

Surface

1928

5.5

20

Surface

18968

Production Casing

Liner Record

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Bond Tool Calibrated @ 507'

Logged With 0 PSI Surface Induced Pressure

Correlated To Marker Joint @ 7391'

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew

Tool Data - Services

Serial Number

Engineer: HAYES
Operator: PARRISH
Operator: UNDERWOOD
Operator:

Top - Bottom

| | | | | | | | |
|--------------------------|-----------------------|------------------------|----------------------|-------------------------|-------------------------|-----------------------|--------------------|
| BHTEMP_Src TEMP | BOREID in 7.875 | BOTTEMP degF 100 | CASEOD in 5.5 | CASETHCK in 0.361 | CASEWGHT lb/ft 20 | MAXAMPL mV 71.9 | MINAMPL mV 1 |
| MINATTN db/ft 0.08 | PERFS No | PPT usec 261 | SRFTEMP degF 0 | TDEPTH ft 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



MAIN LOG

Database File

Dataset Pathname

Presentation Format

Dataset Creation

Charted by

verdad_sonic star1101-16h rcbl_05-123-49003_2021-08-october.db

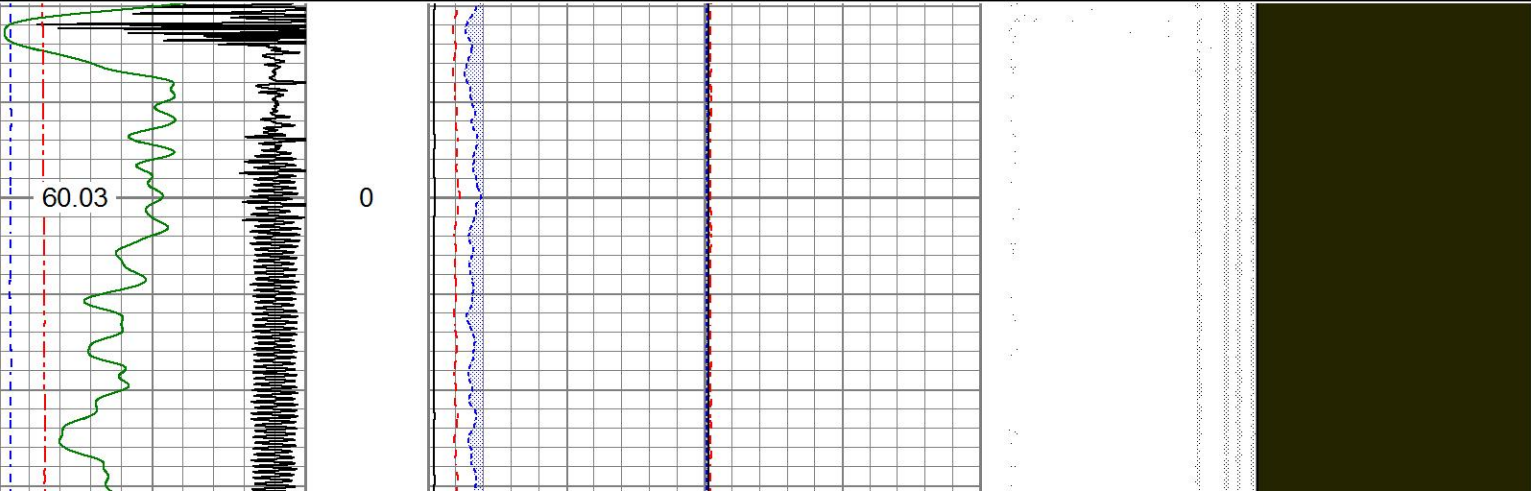
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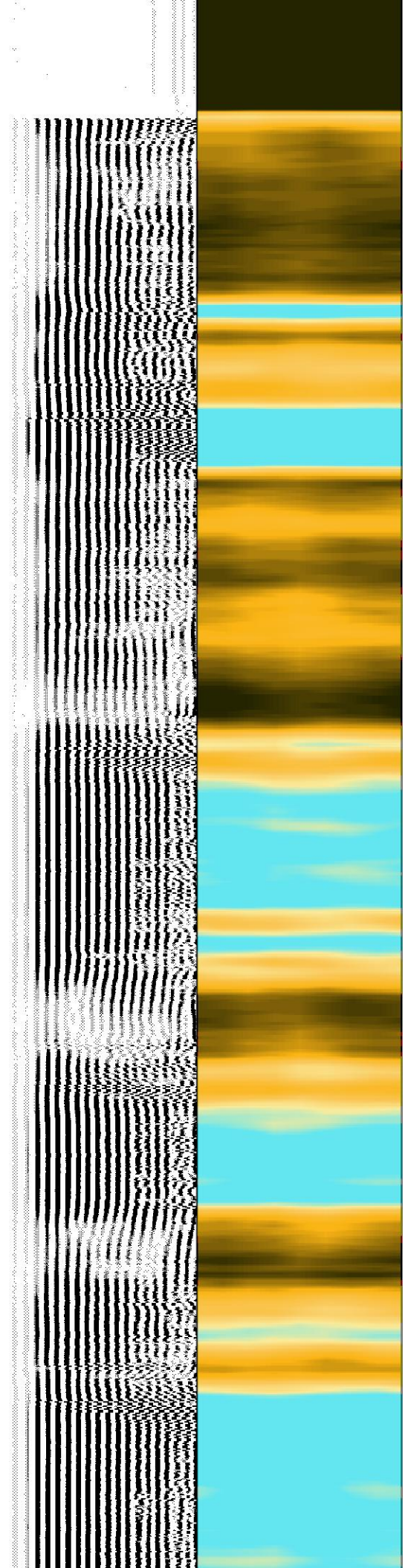
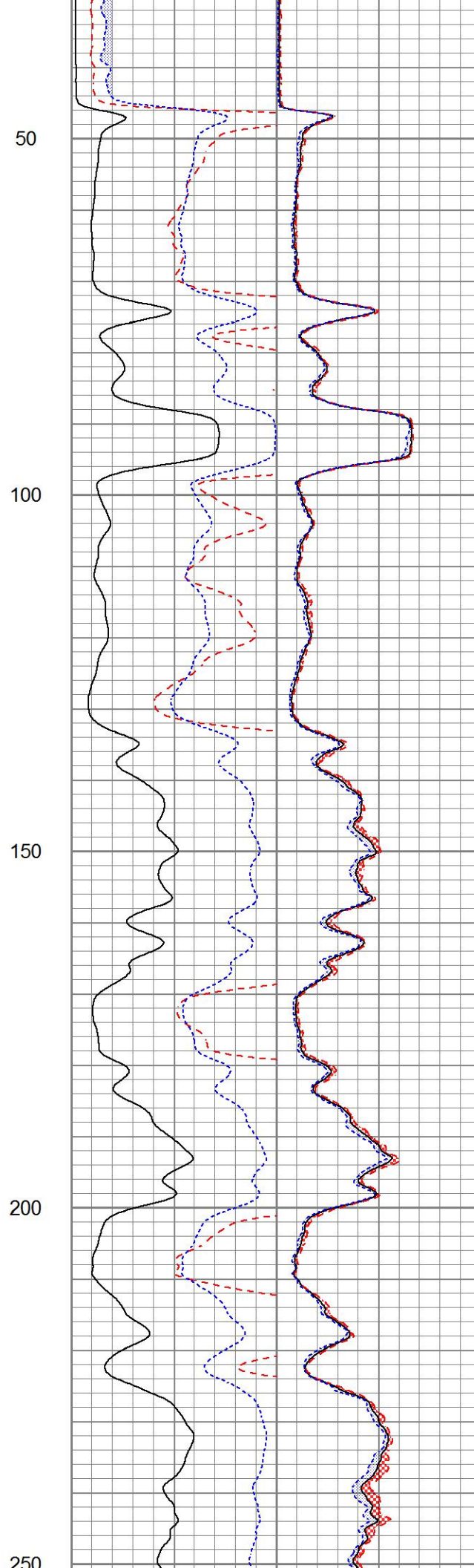
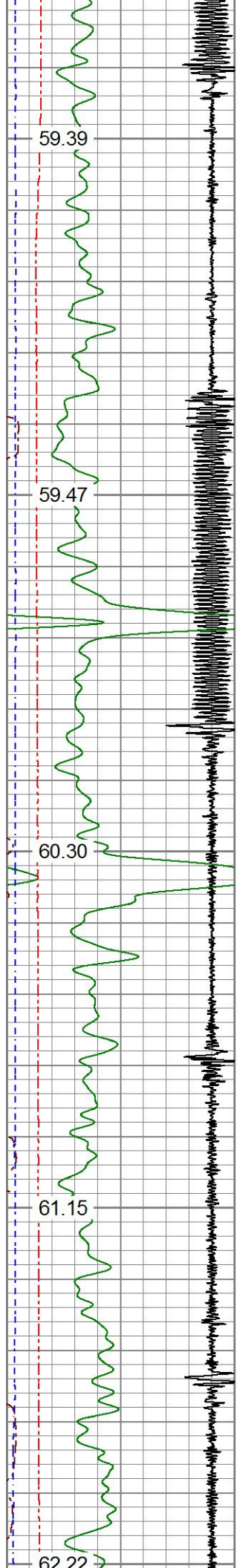
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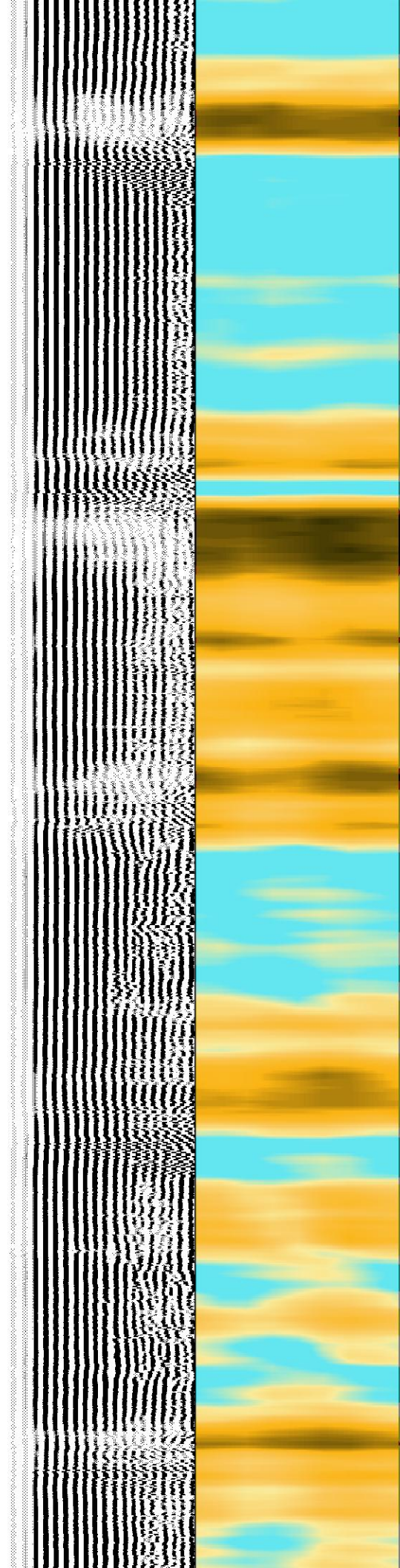
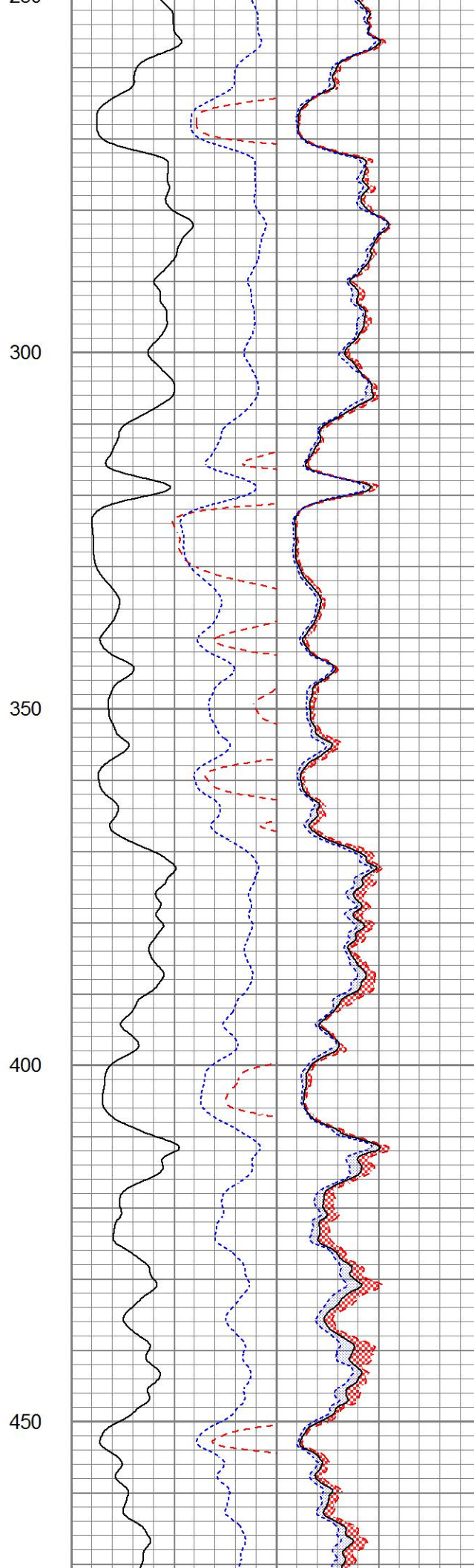
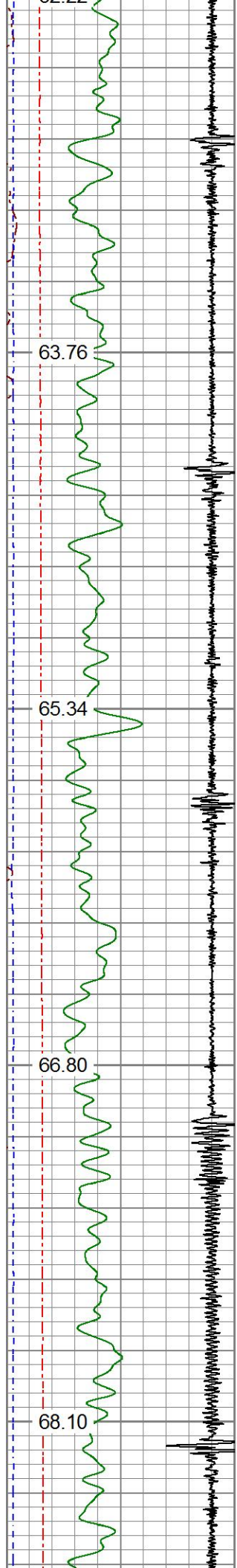
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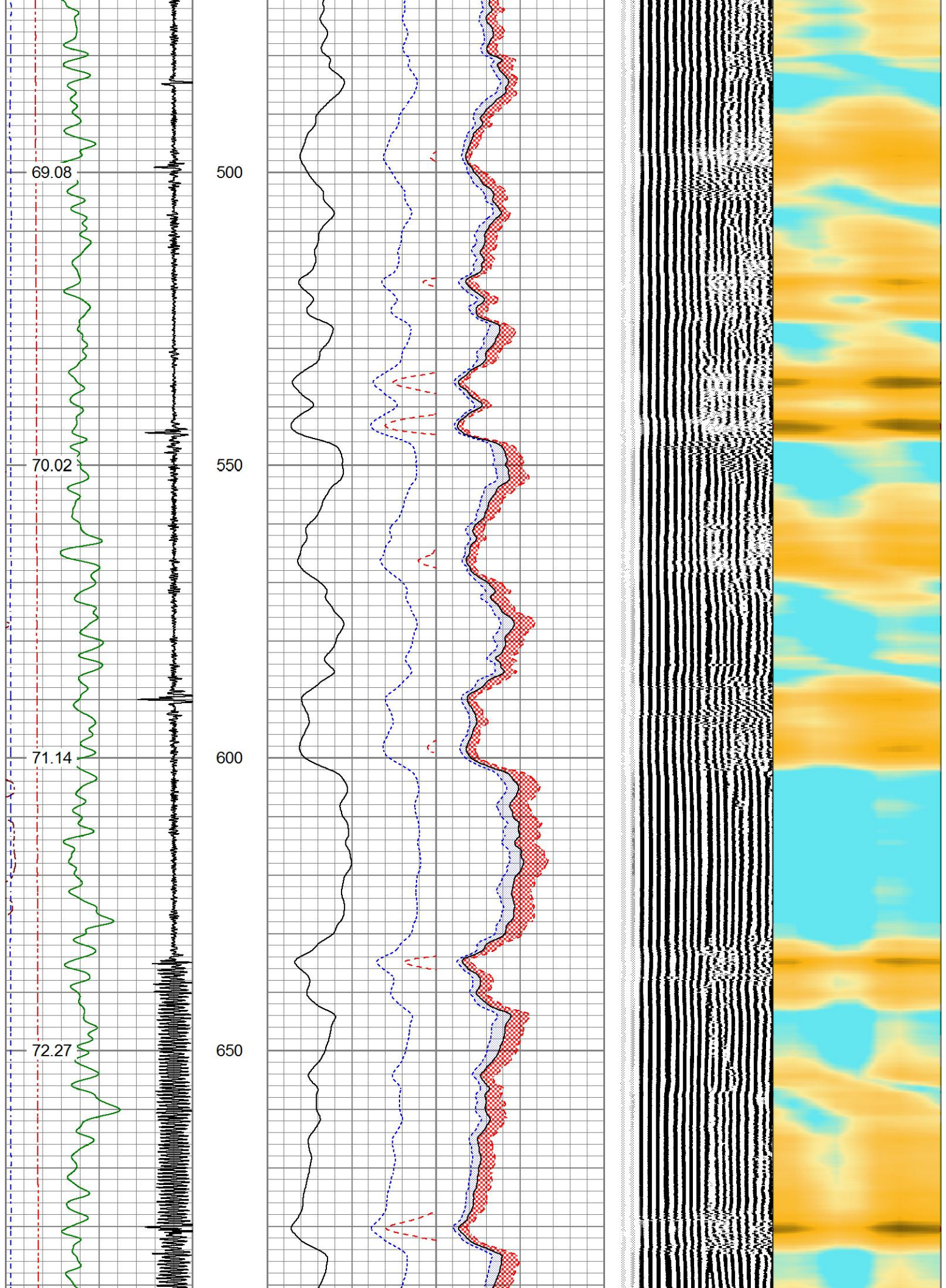
Depth in Feet scaled 1:240

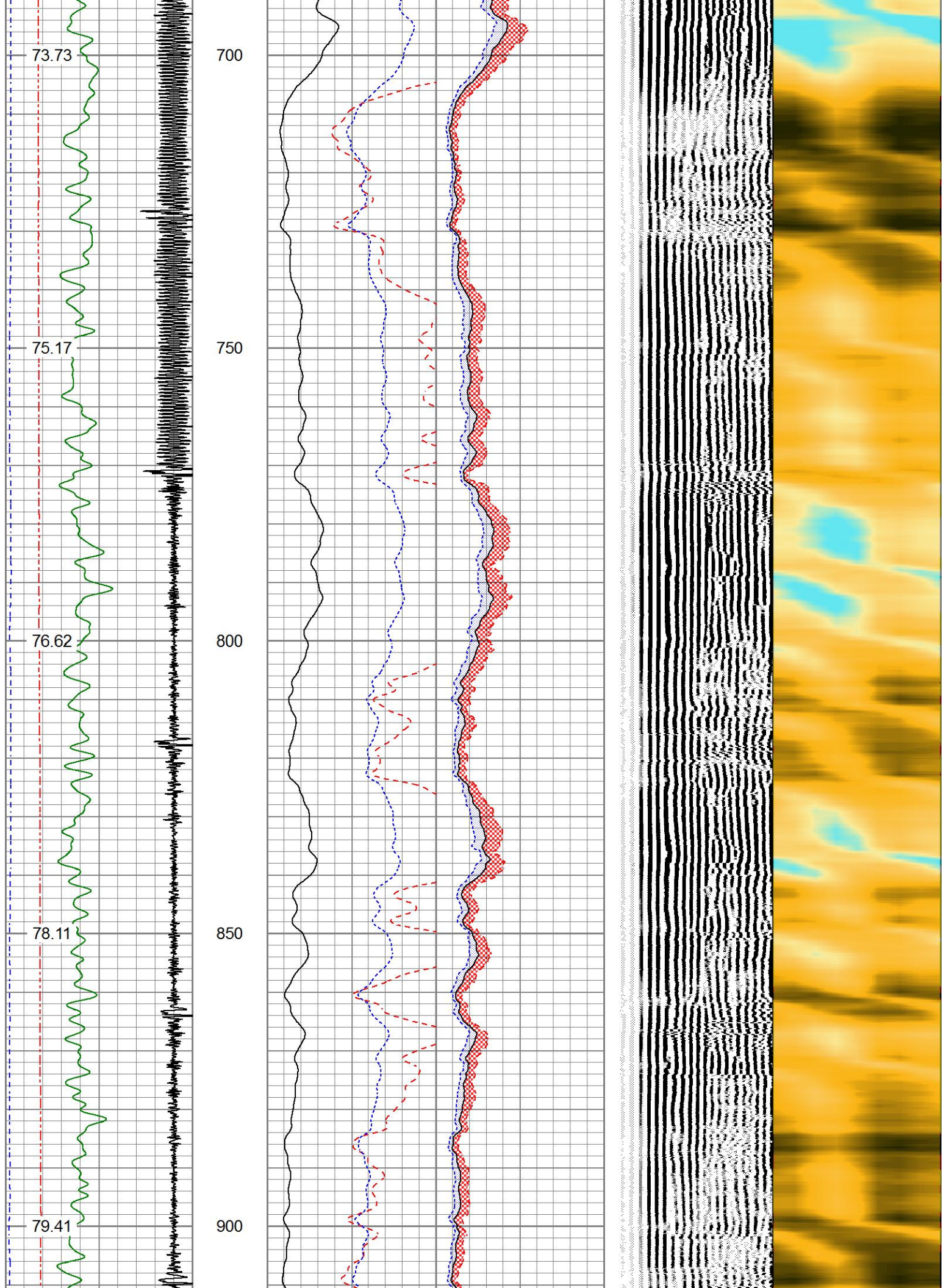
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|-----------------------------------|-------------------------------|-----------------------------|---------------------|---|------------|---|
| 3Ft Travel Time 270 (usec) 170 | 3' Amplitude 0 (mV) 100 | Sector Amplitude Average | 200 VDL (usec) 1200 | 1 | Sector Map | 8 |
| -9 Collar Locator 1 | 3' Amplified Amplitude X 5 | 0 150 | | | | |
| Gamma Ray 0 (GAPI) 150 | 0 (mV) 20 | Sector Amplitude Maximum | | | | |
| 0 LineTension (lb)2000 | 1 Bond Index 0 | 0 150 | | | | |
| Line Speed -100 (ft/min) 100 | | Sector Amplitude Minimum | | | | |
| TEMP (degF) | | 0 150 | | | | |

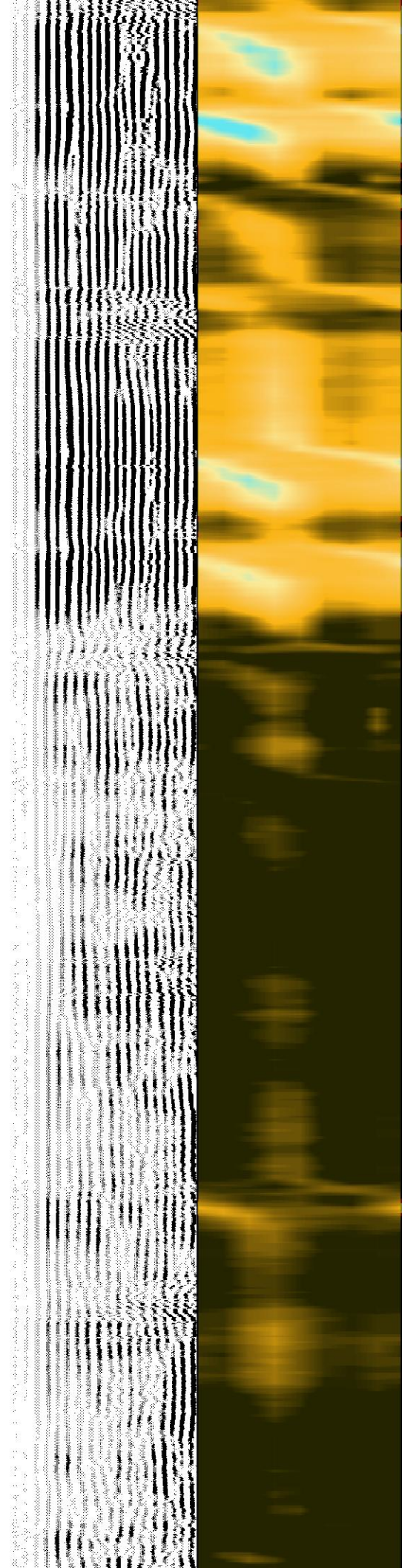
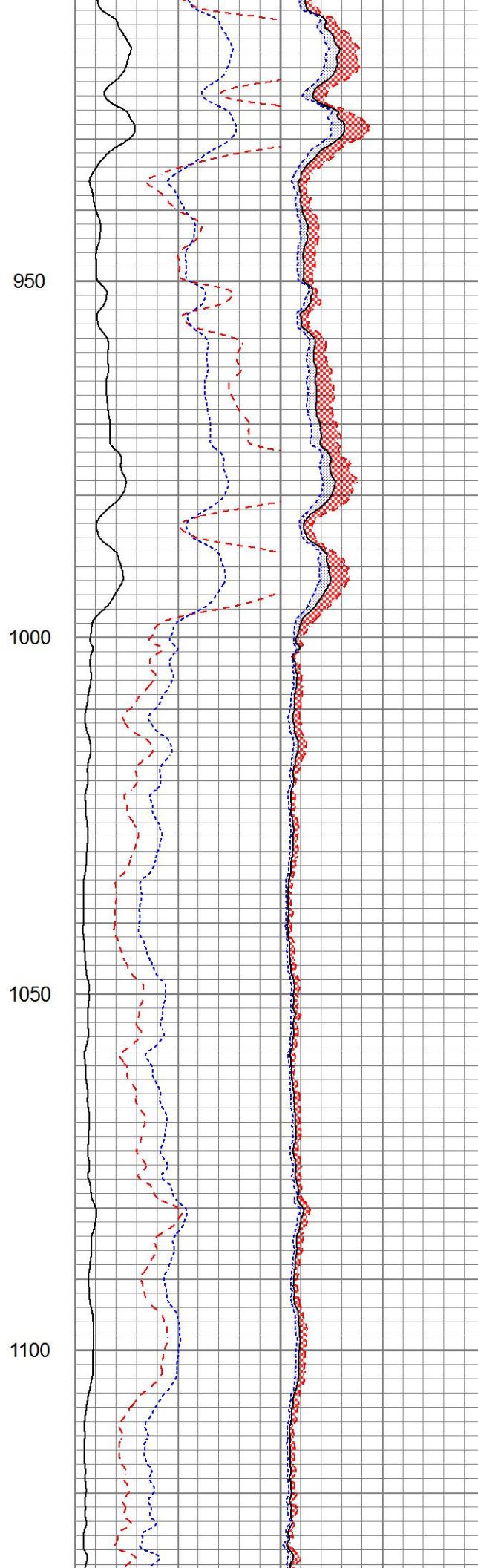
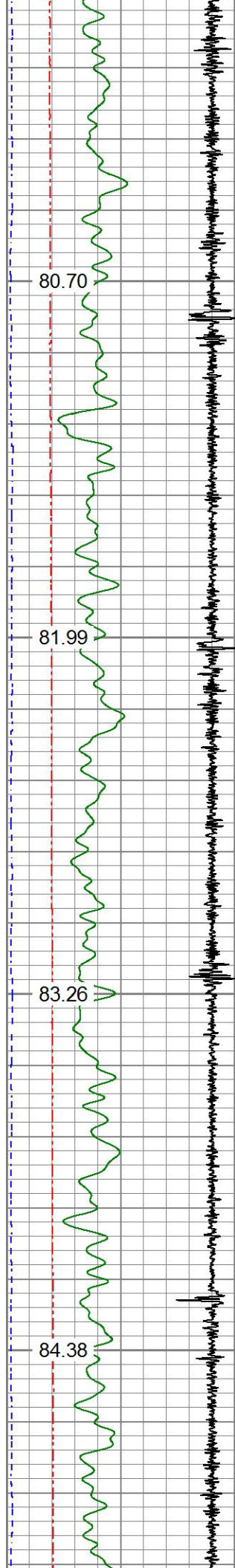


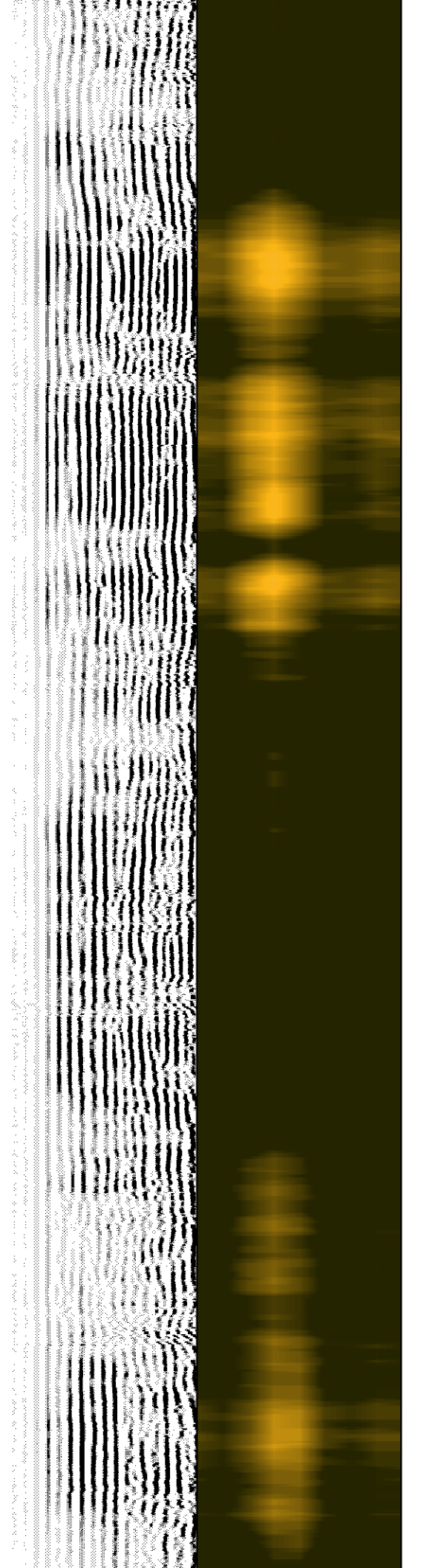
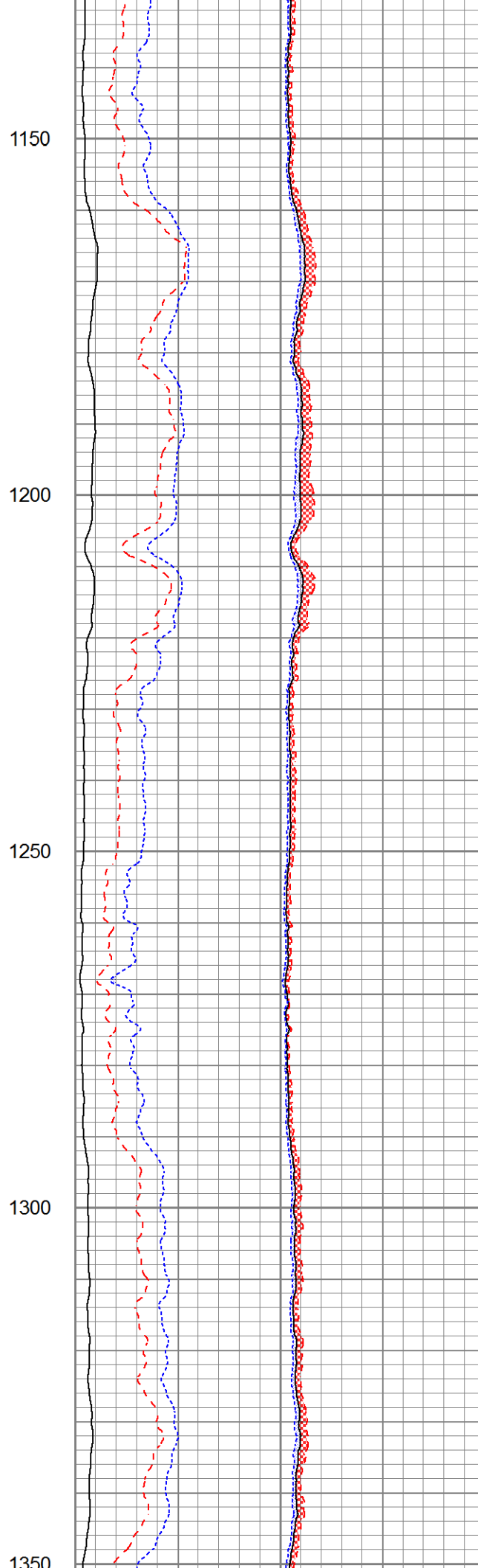
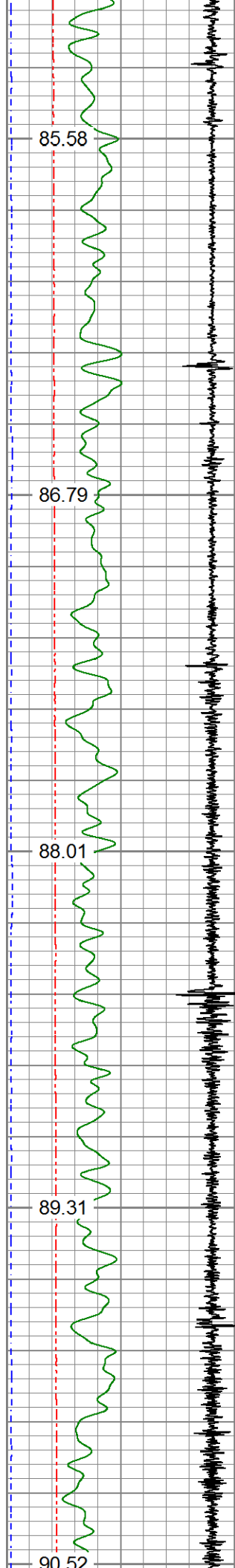


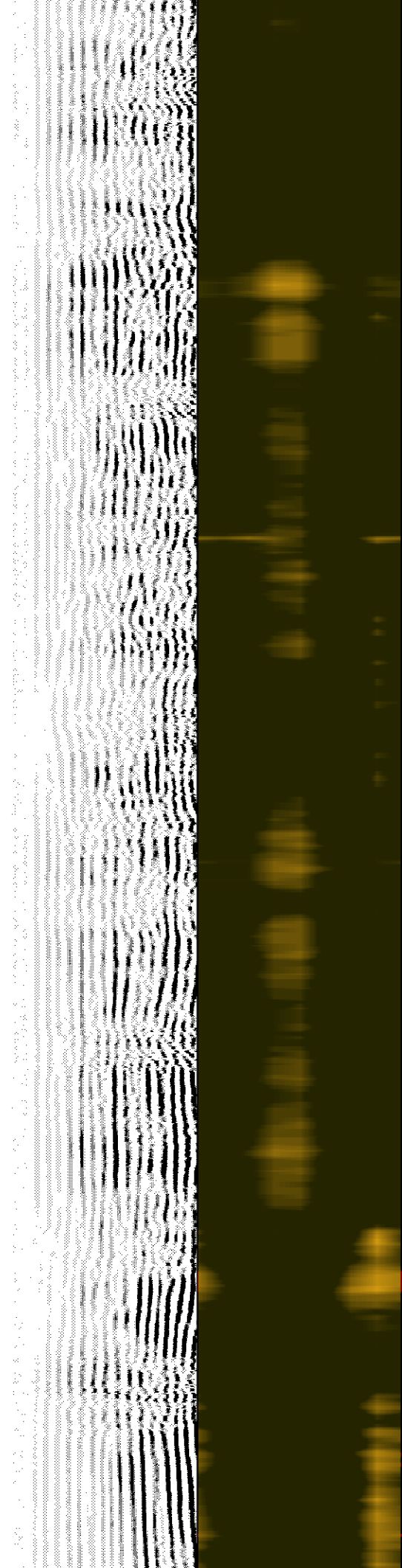
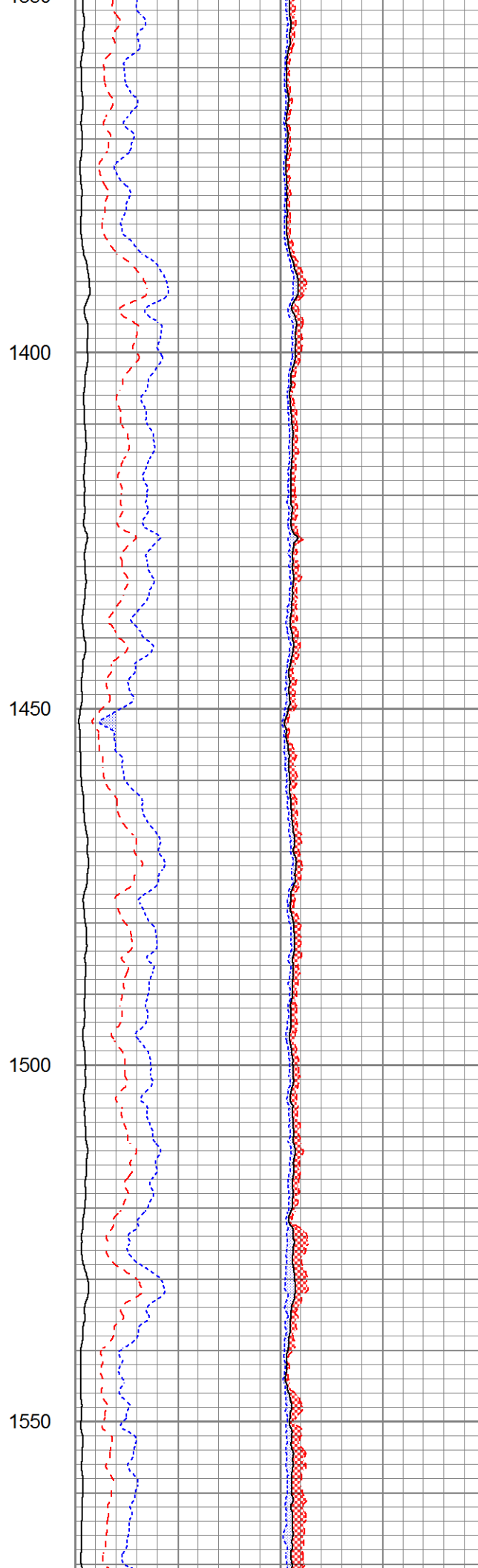
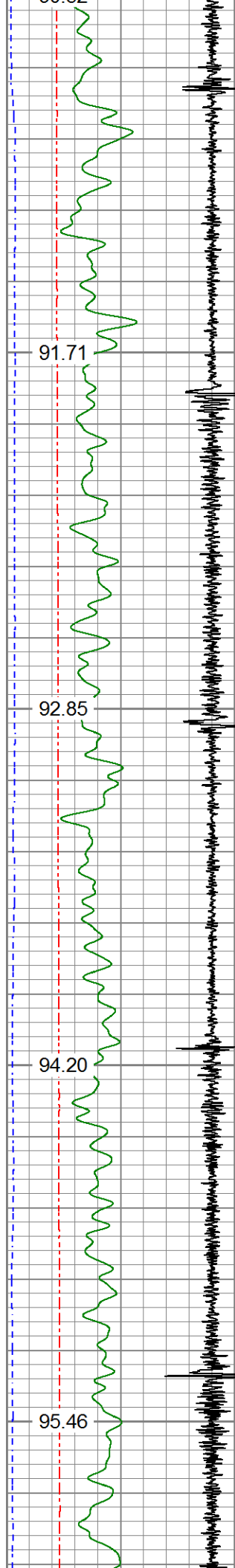


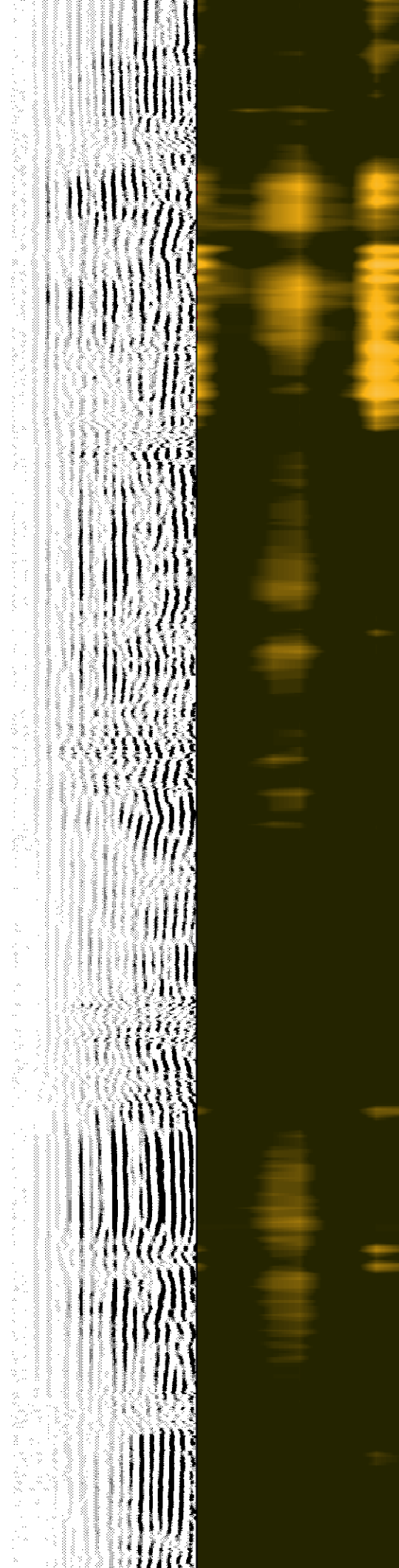
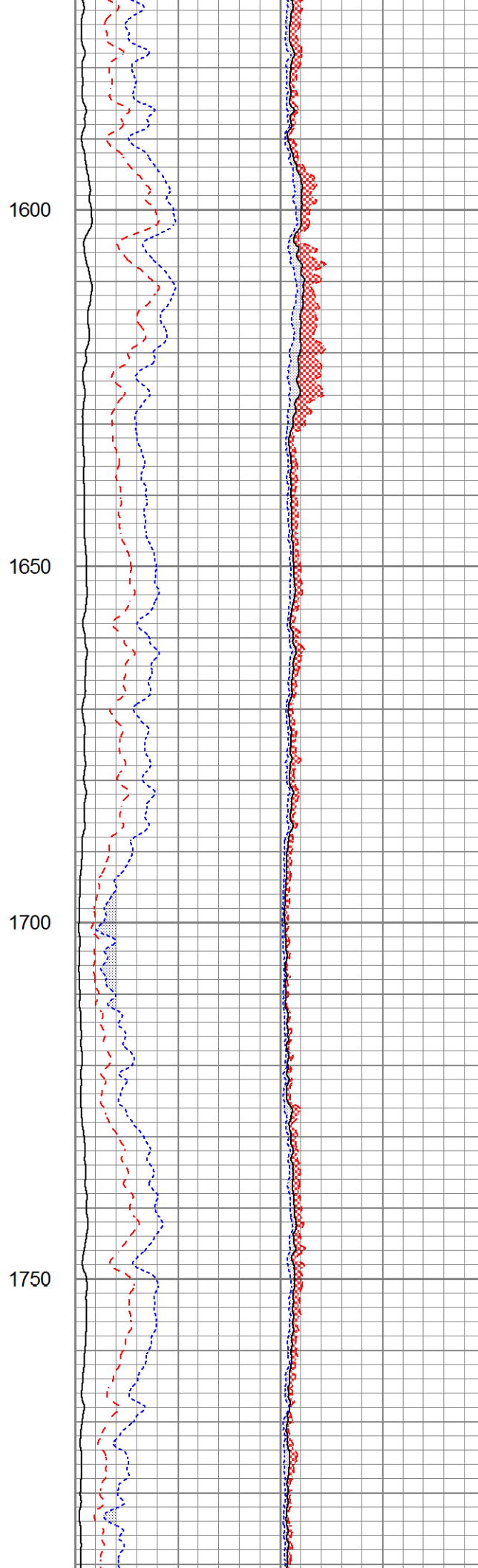
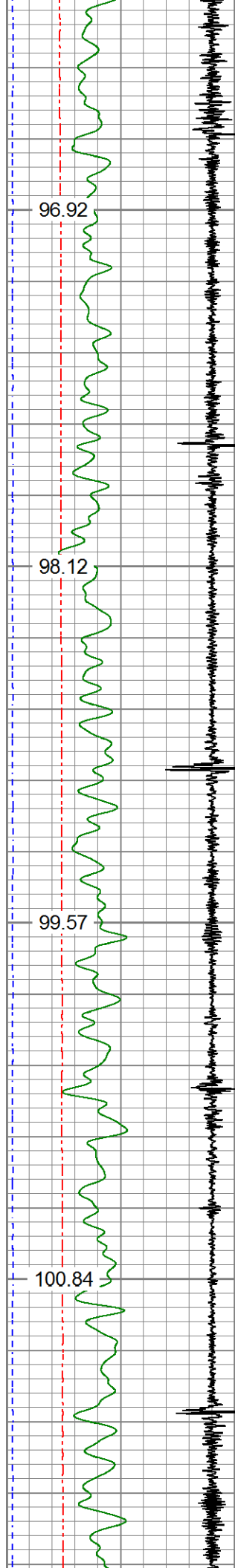


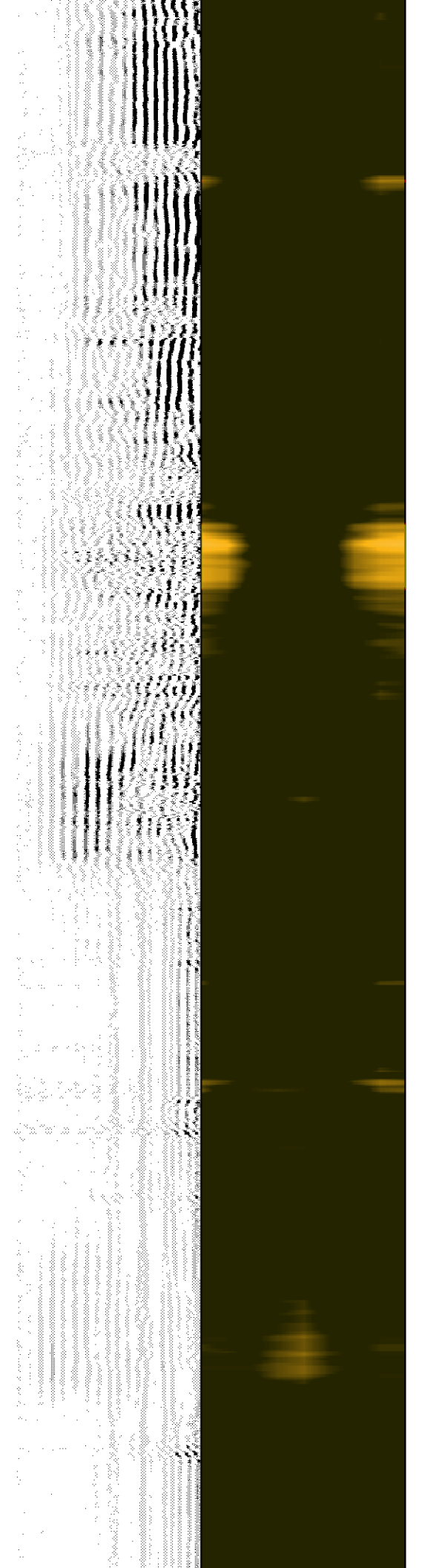
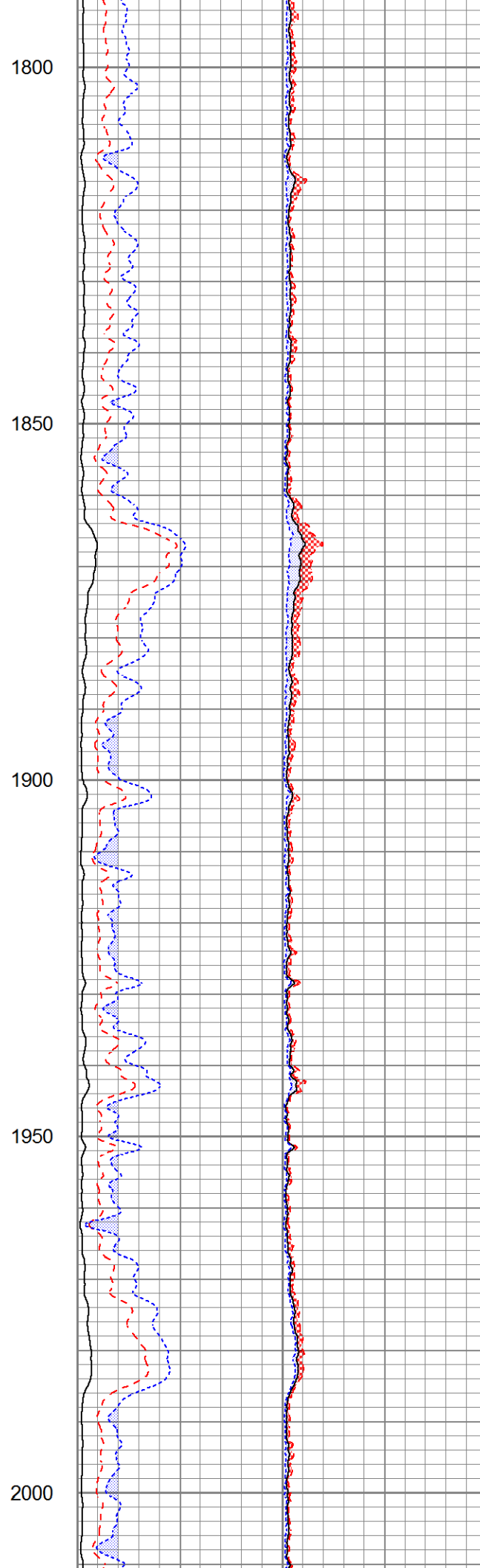
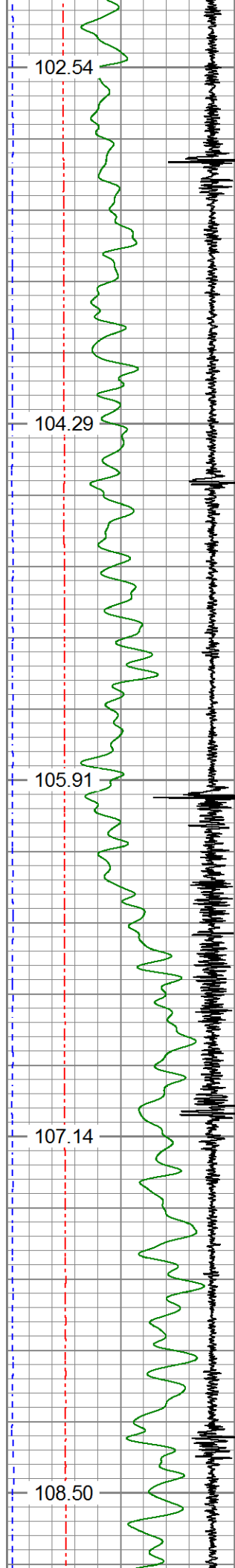


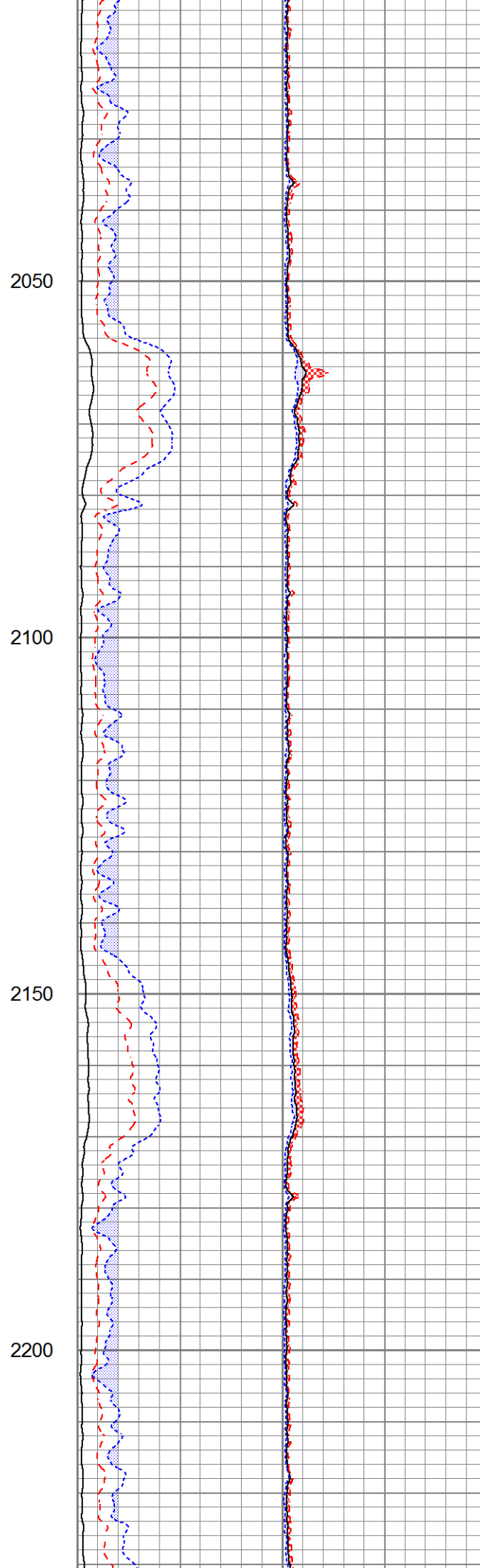
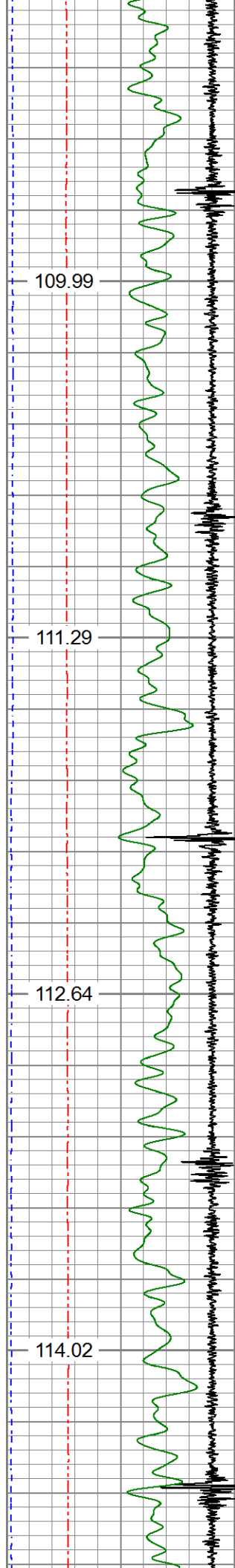


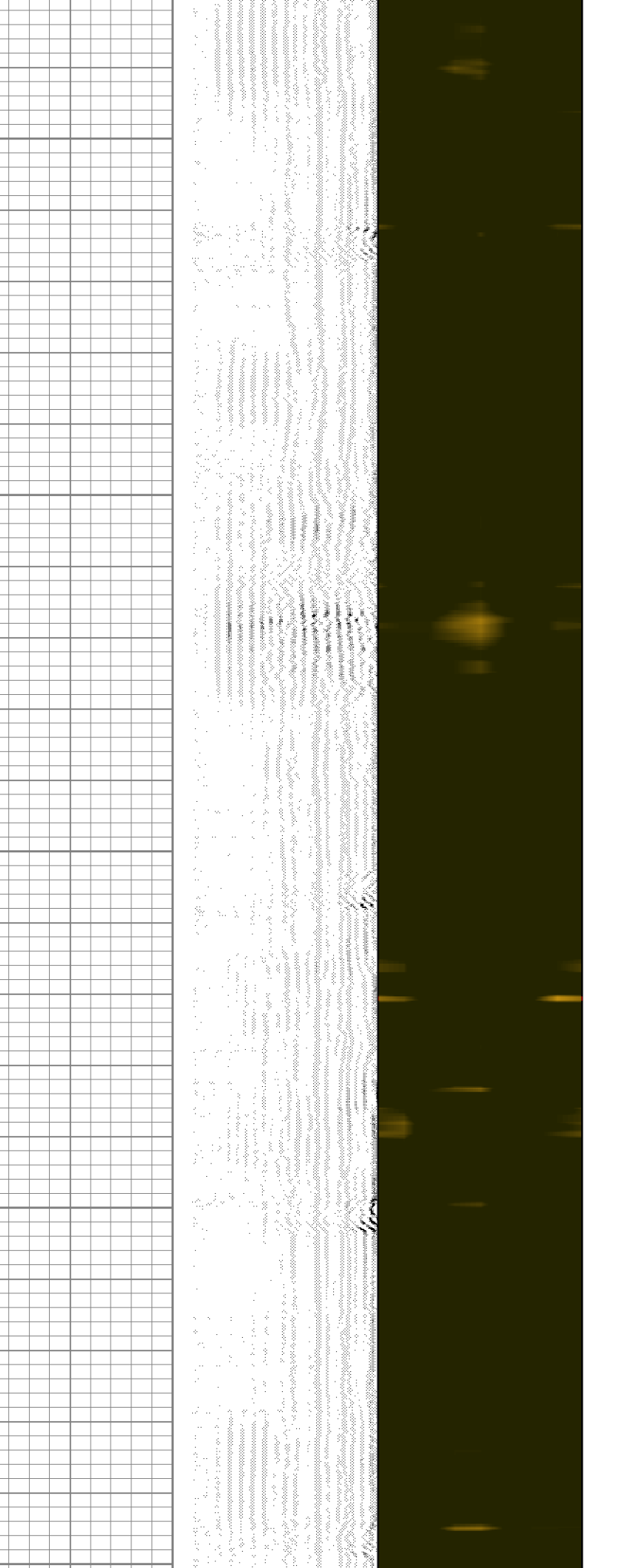
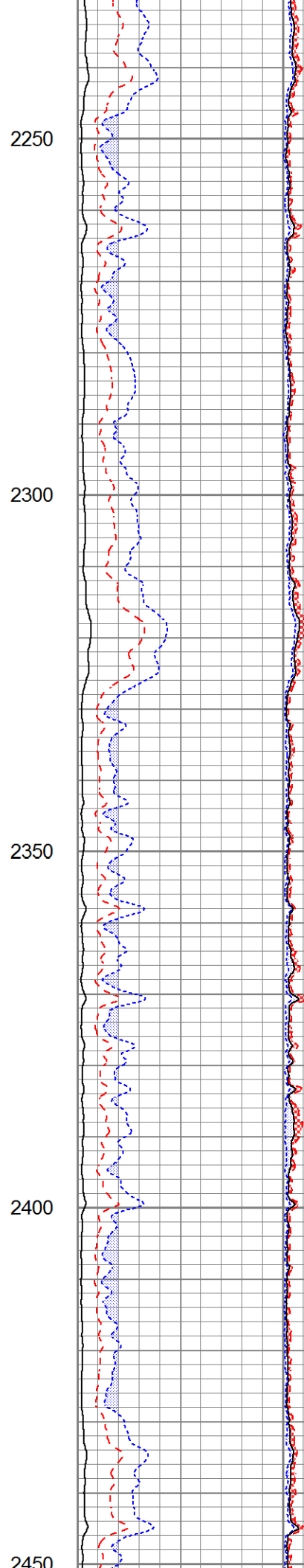
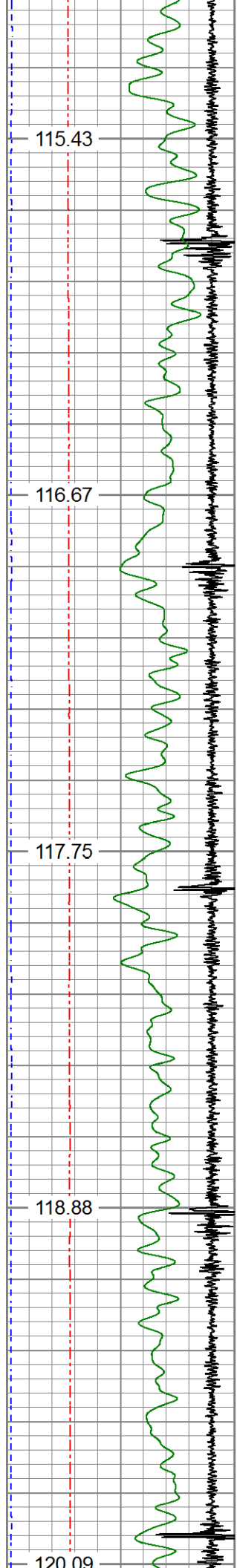


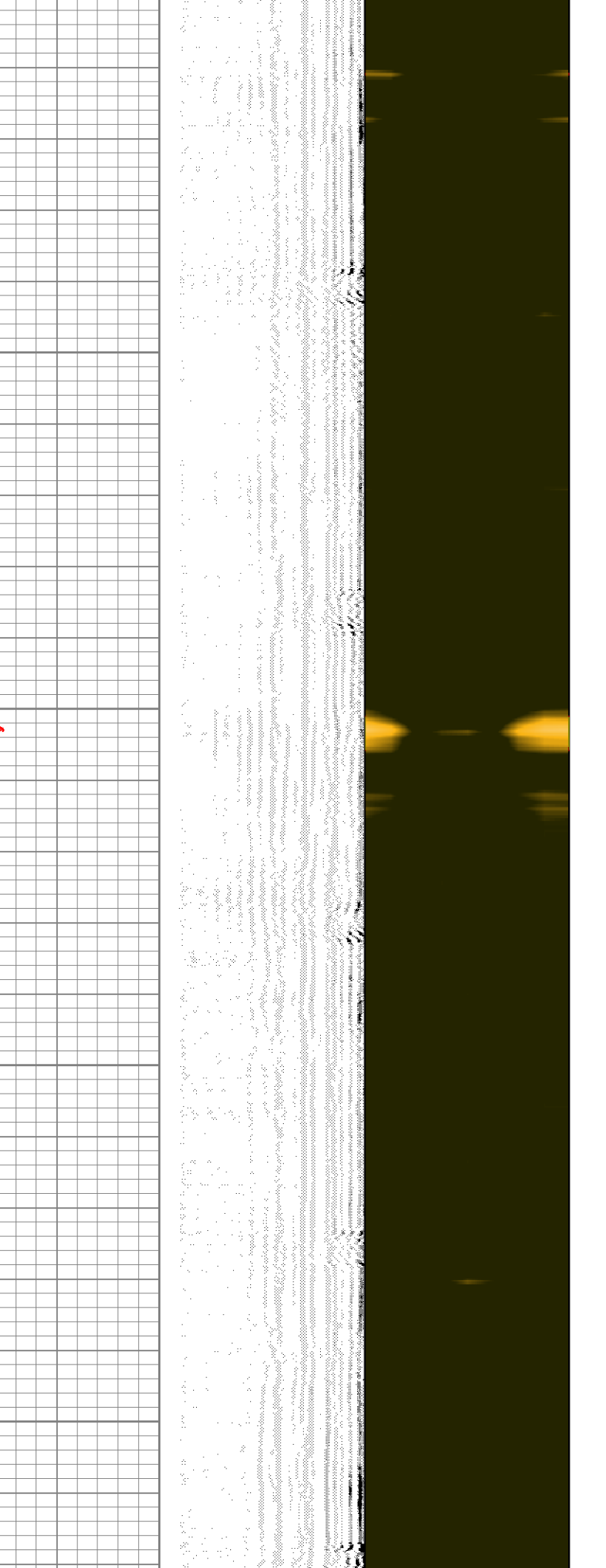
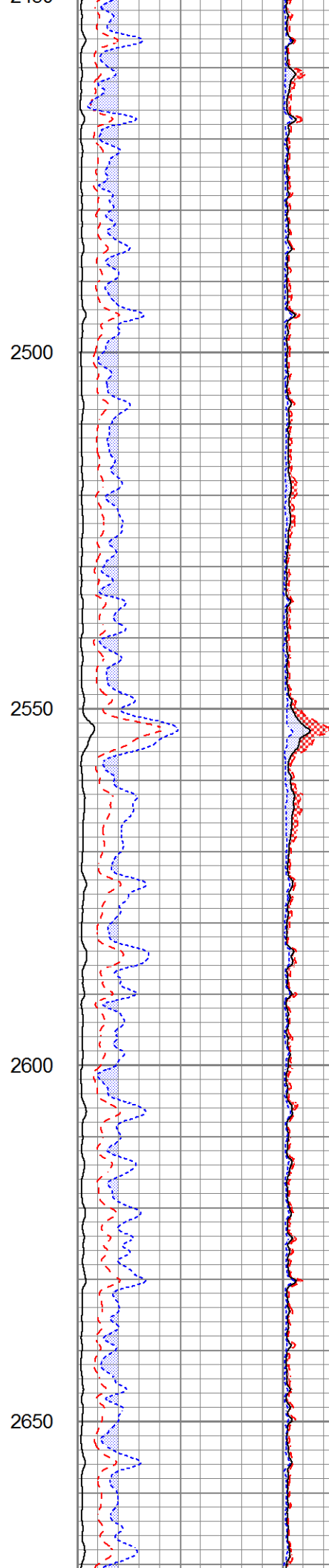
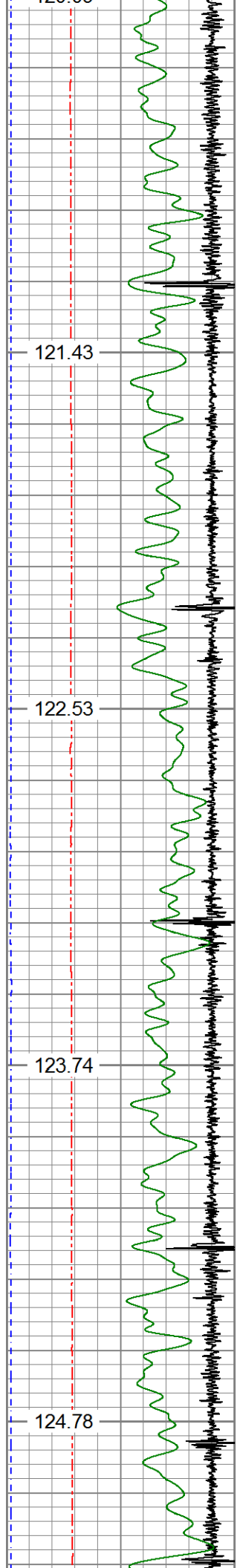


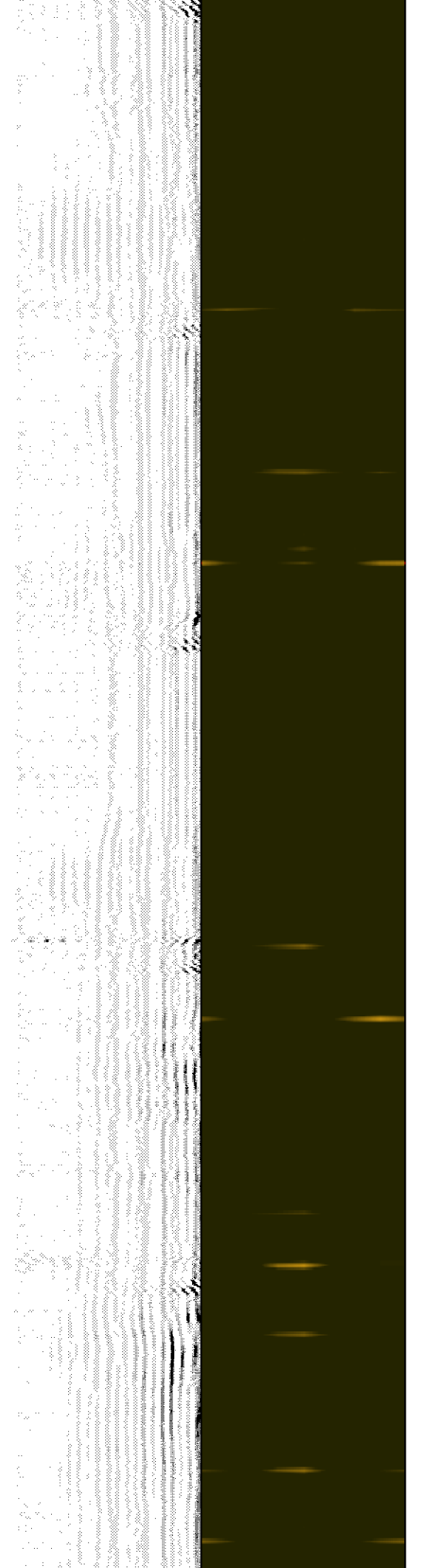
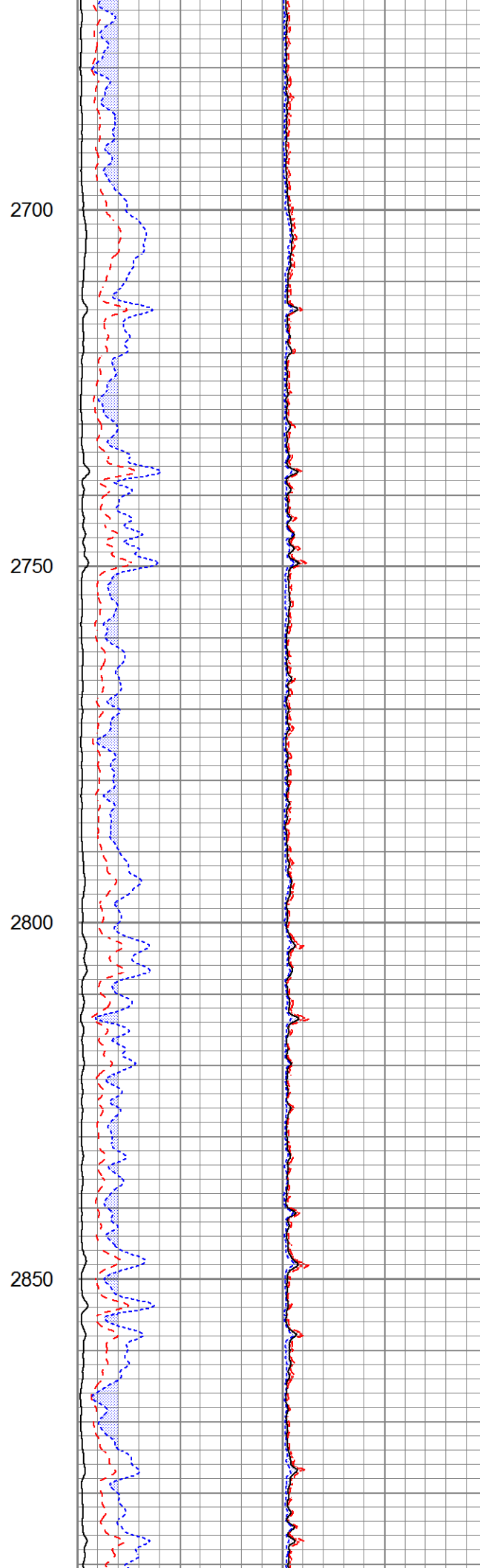
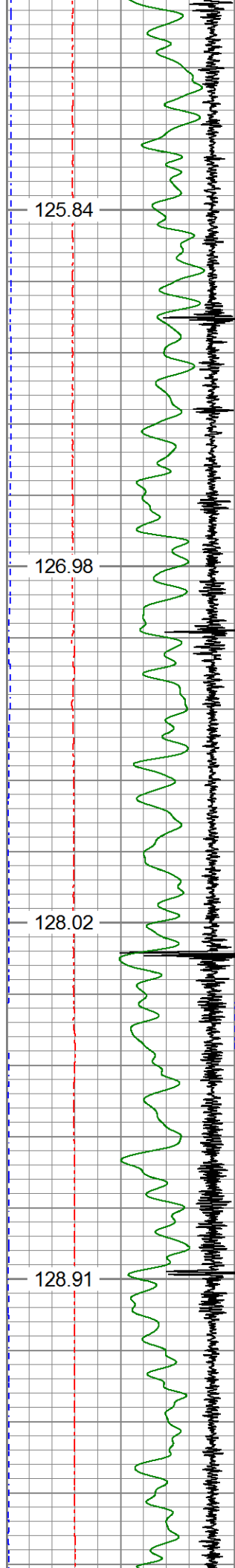


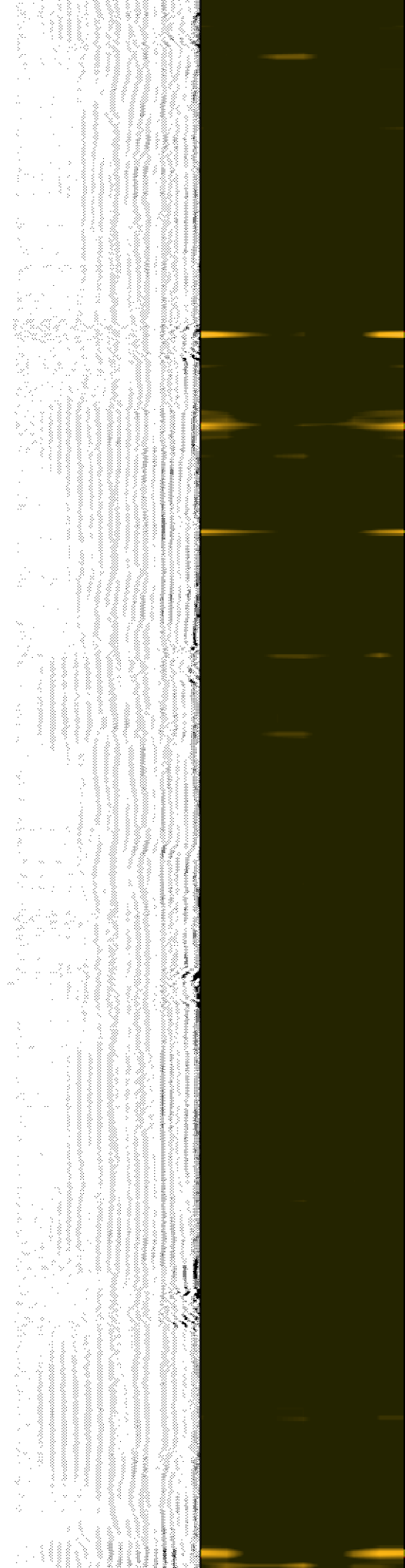
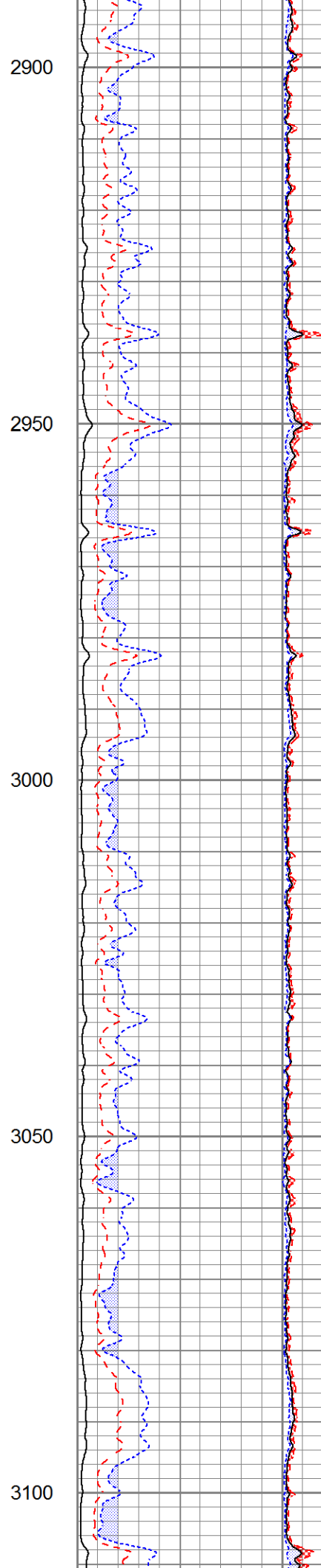
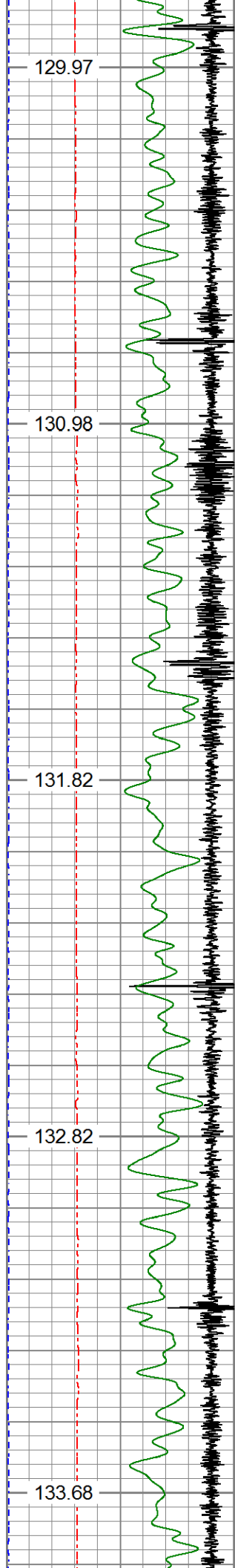


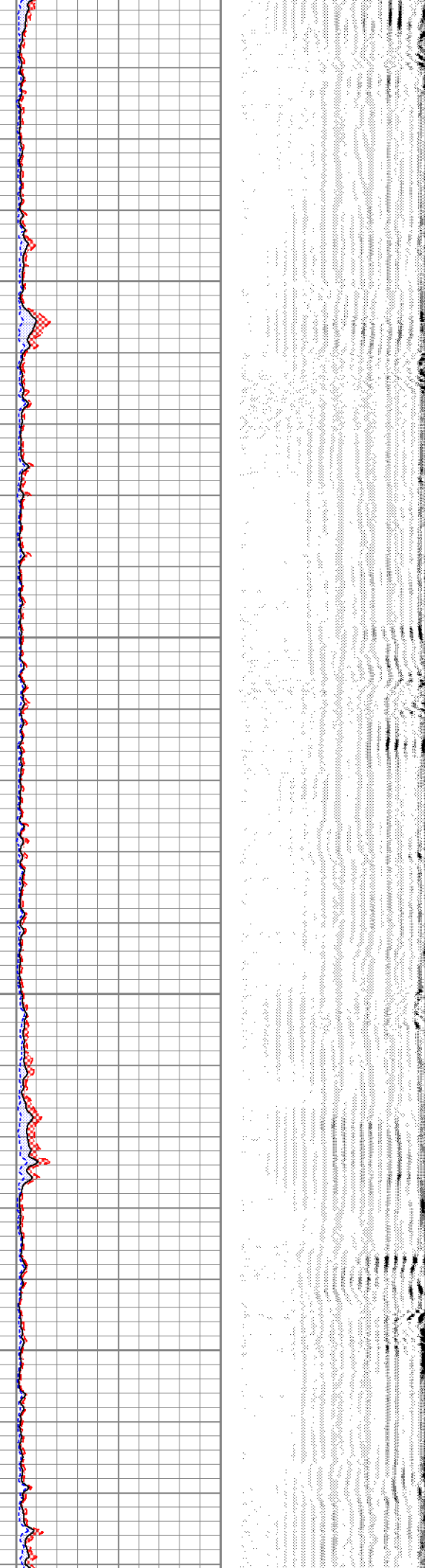
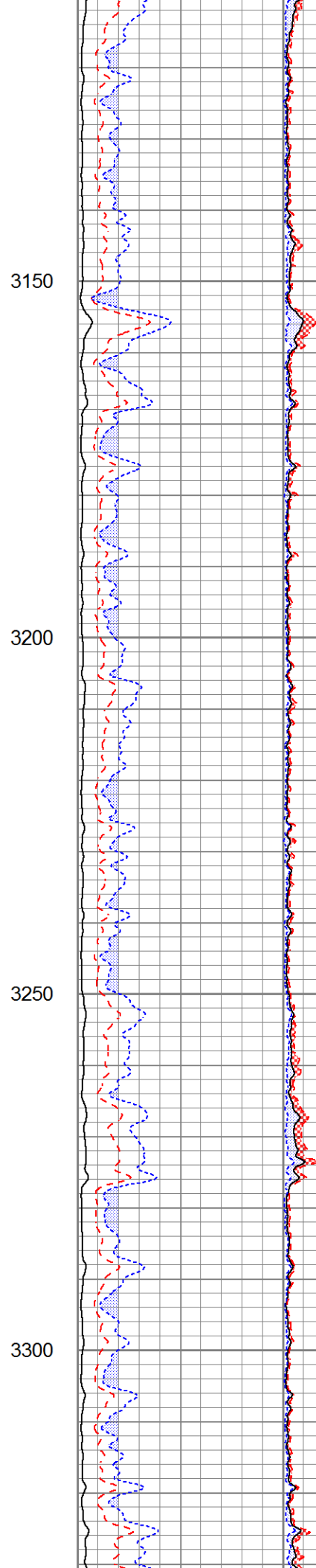
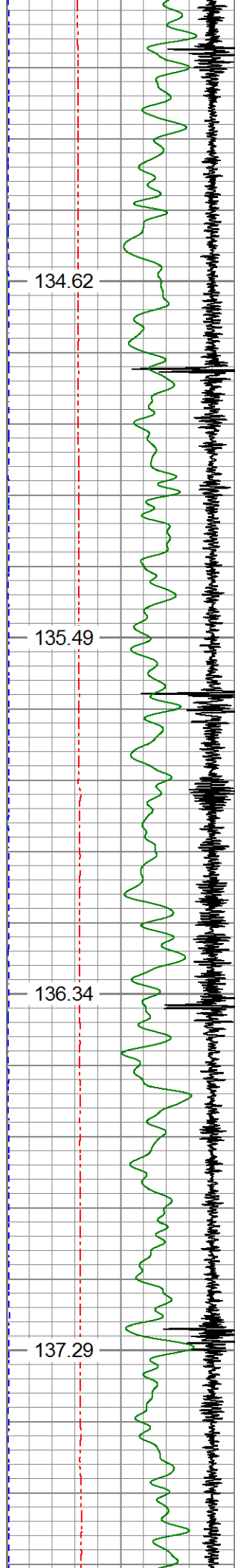


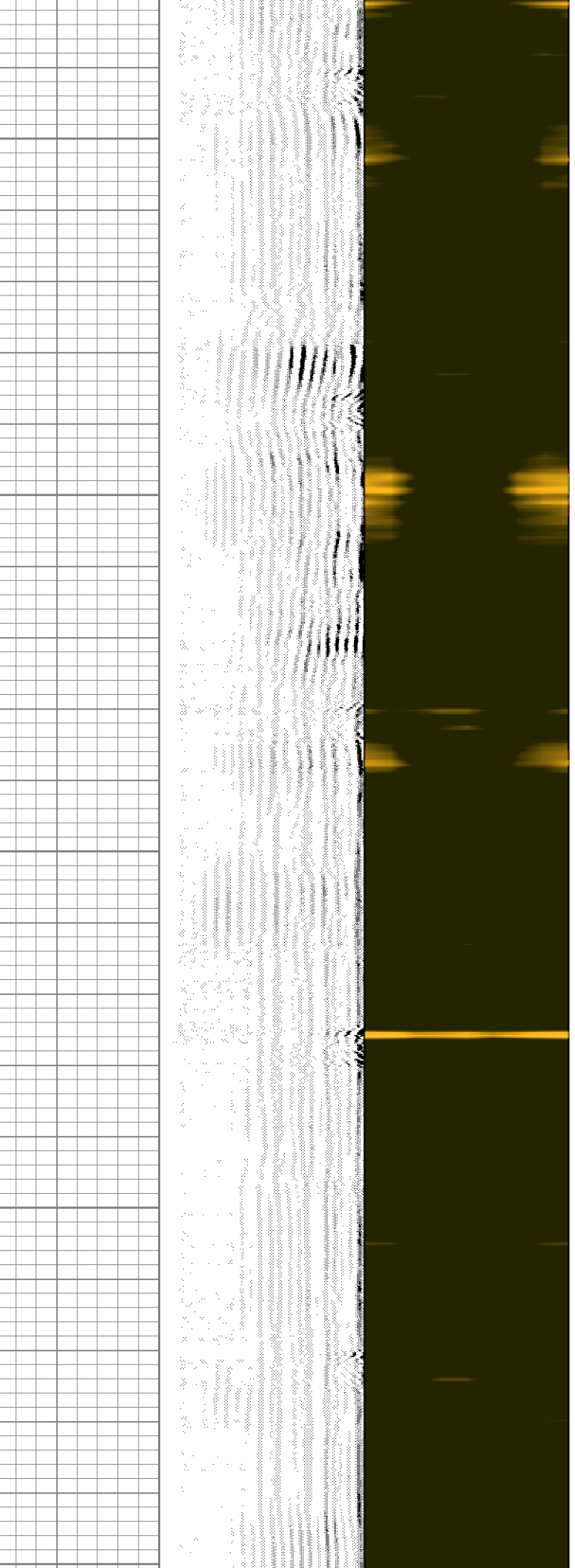
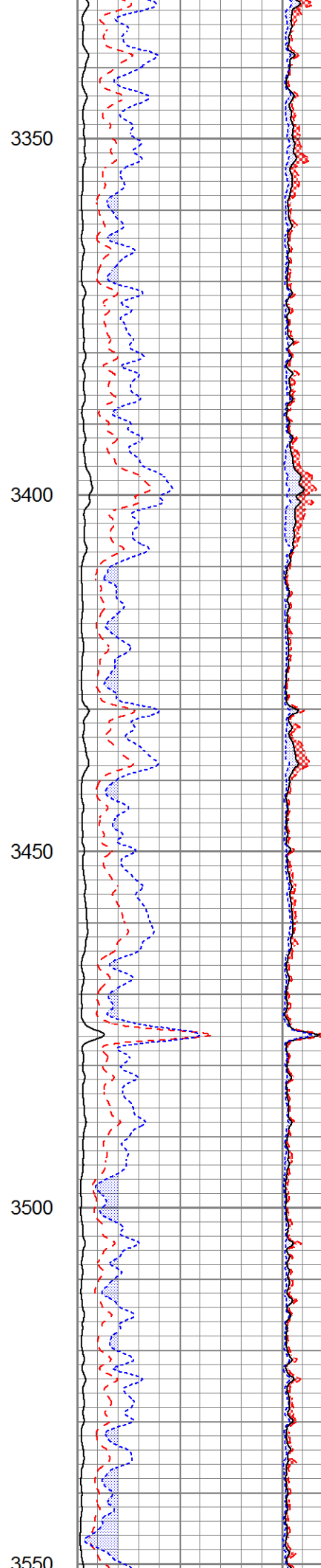
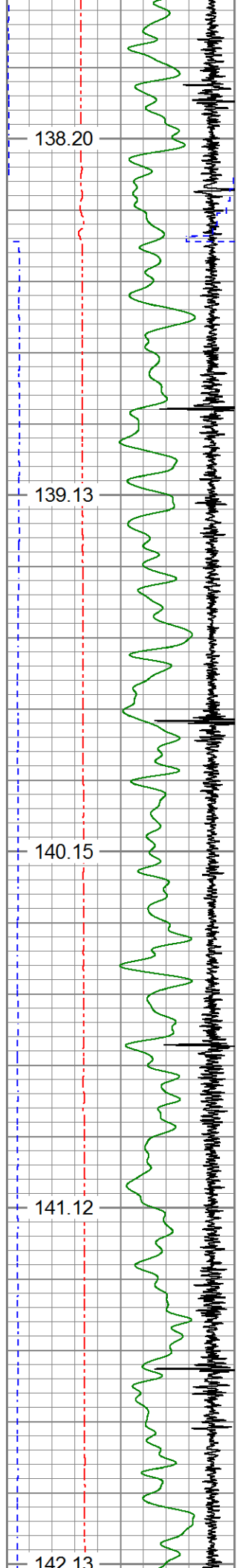


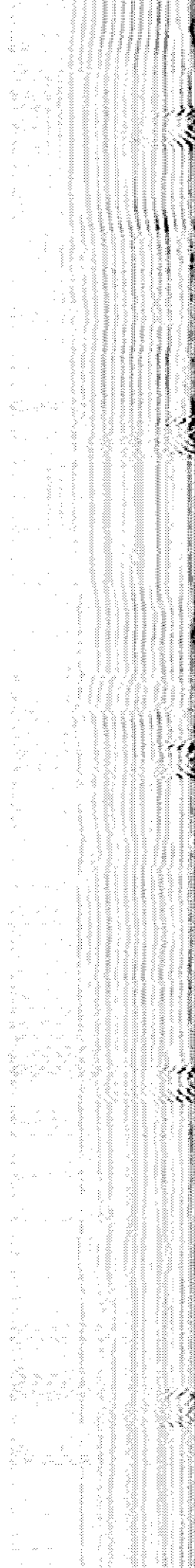
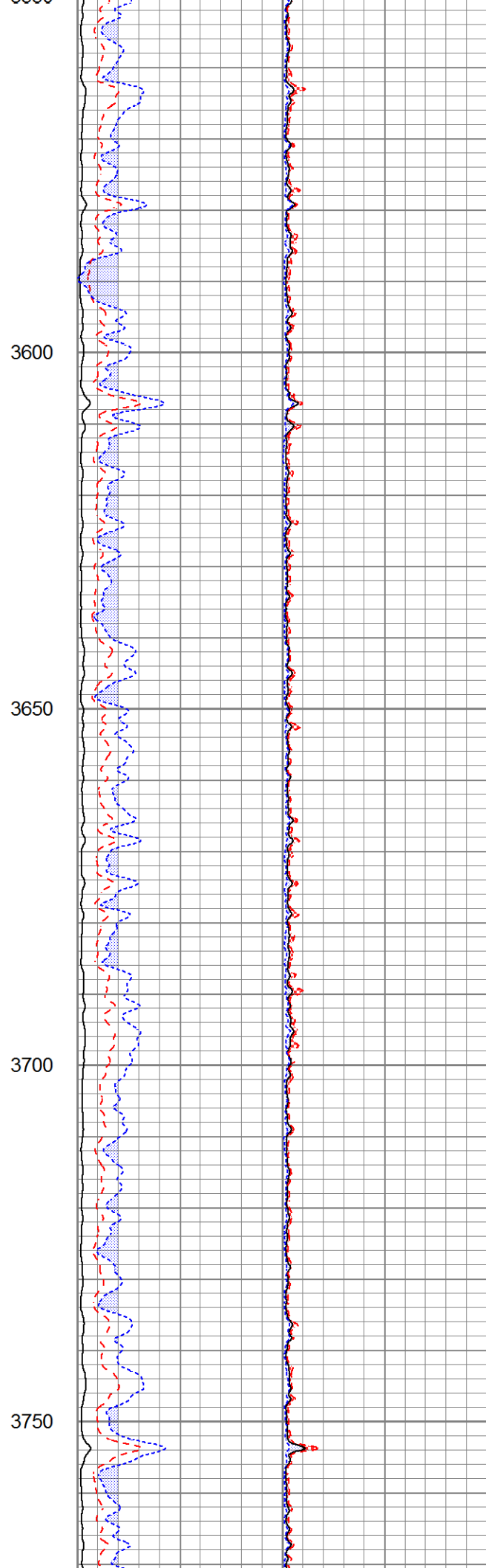
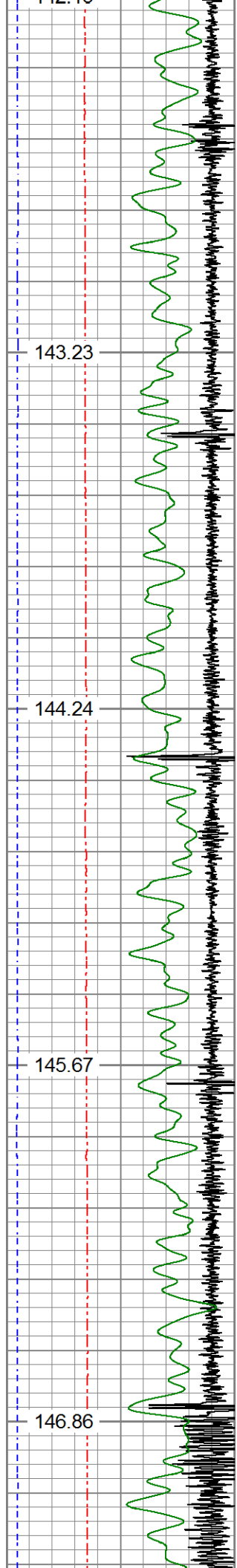


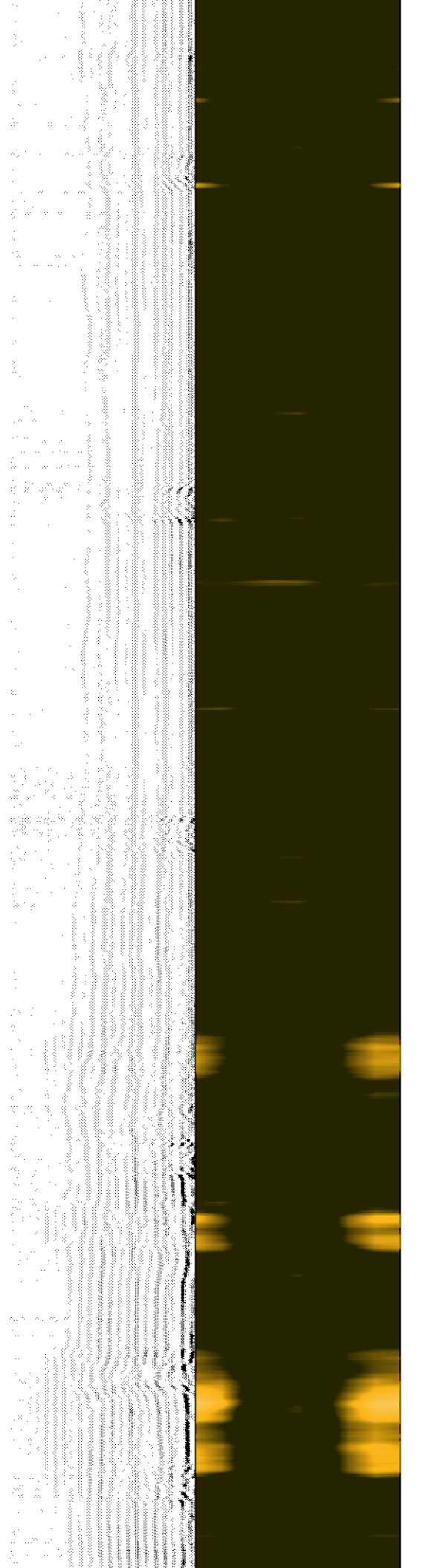
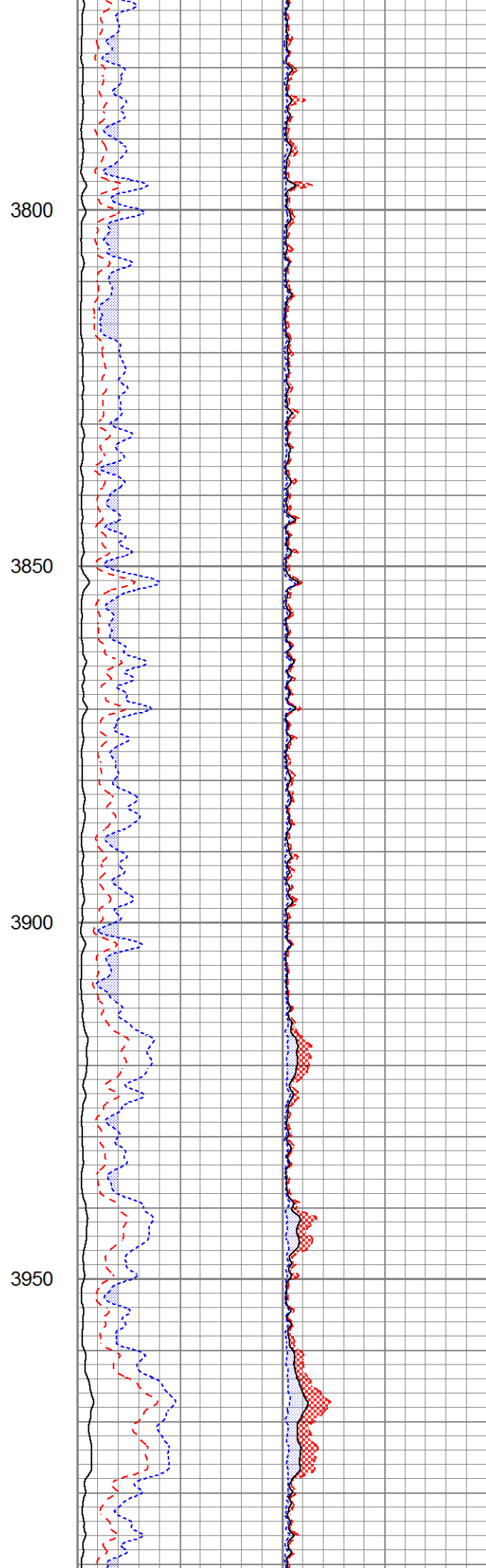
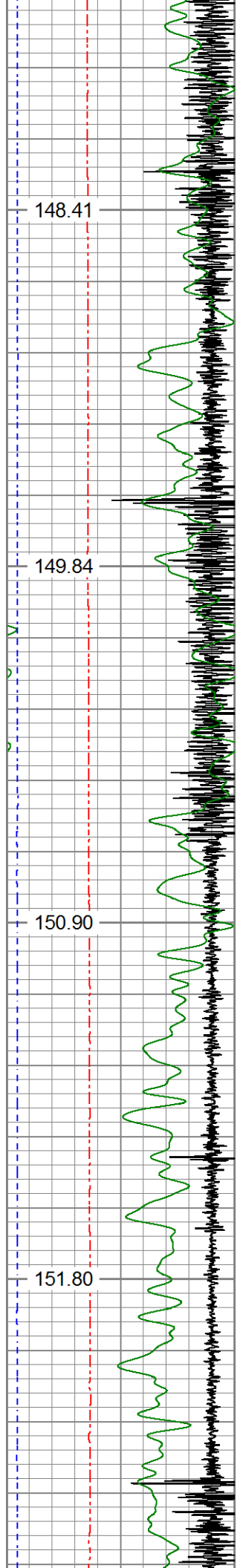


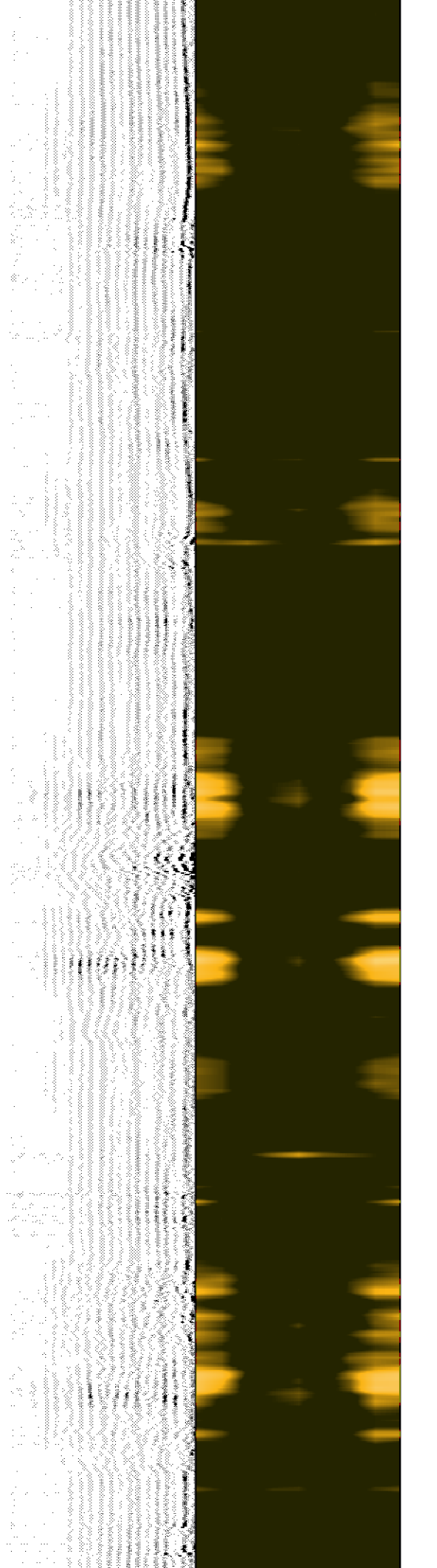
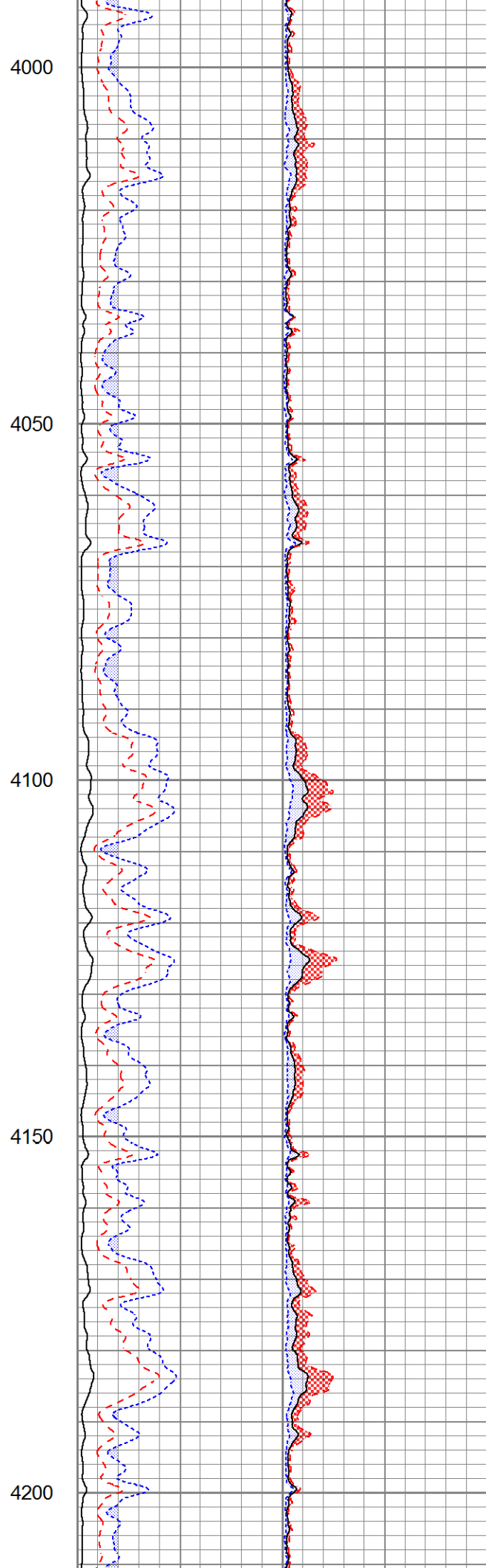
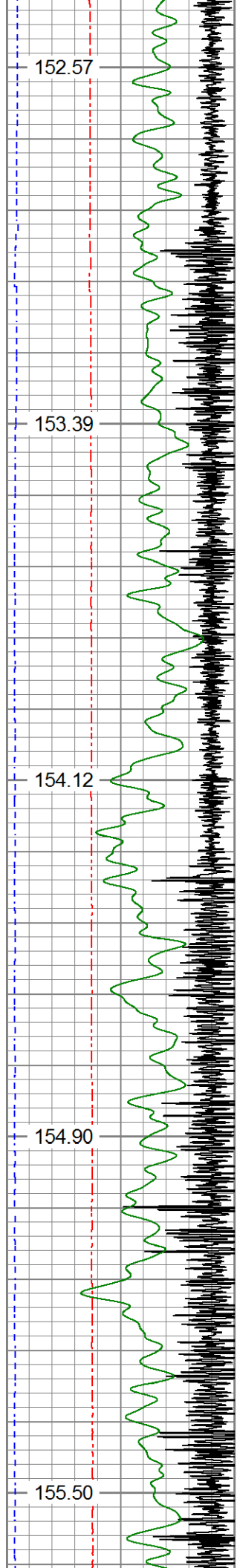


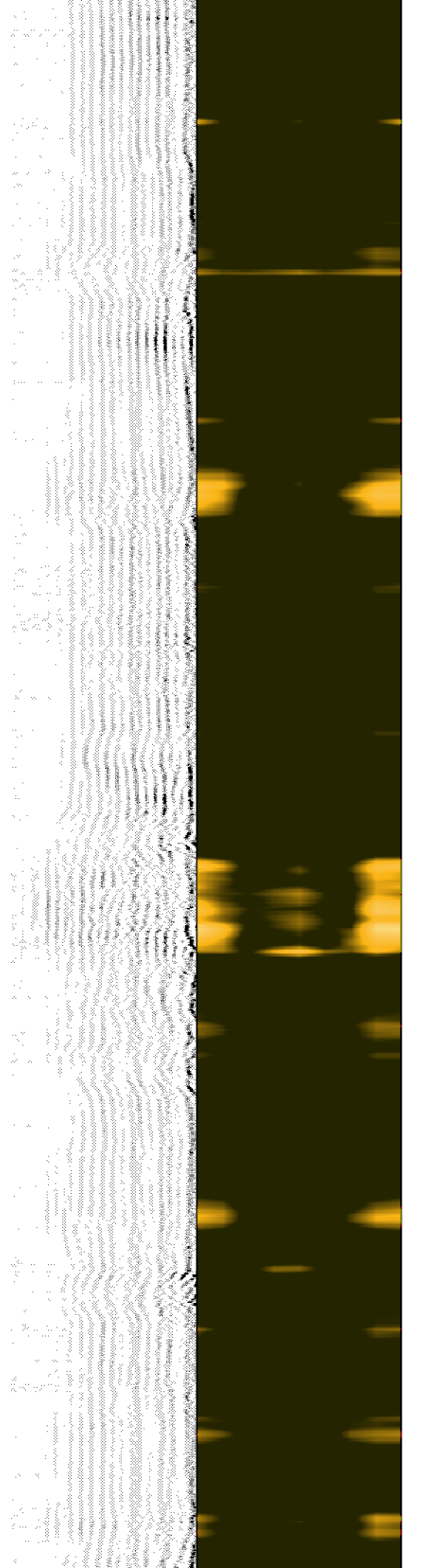
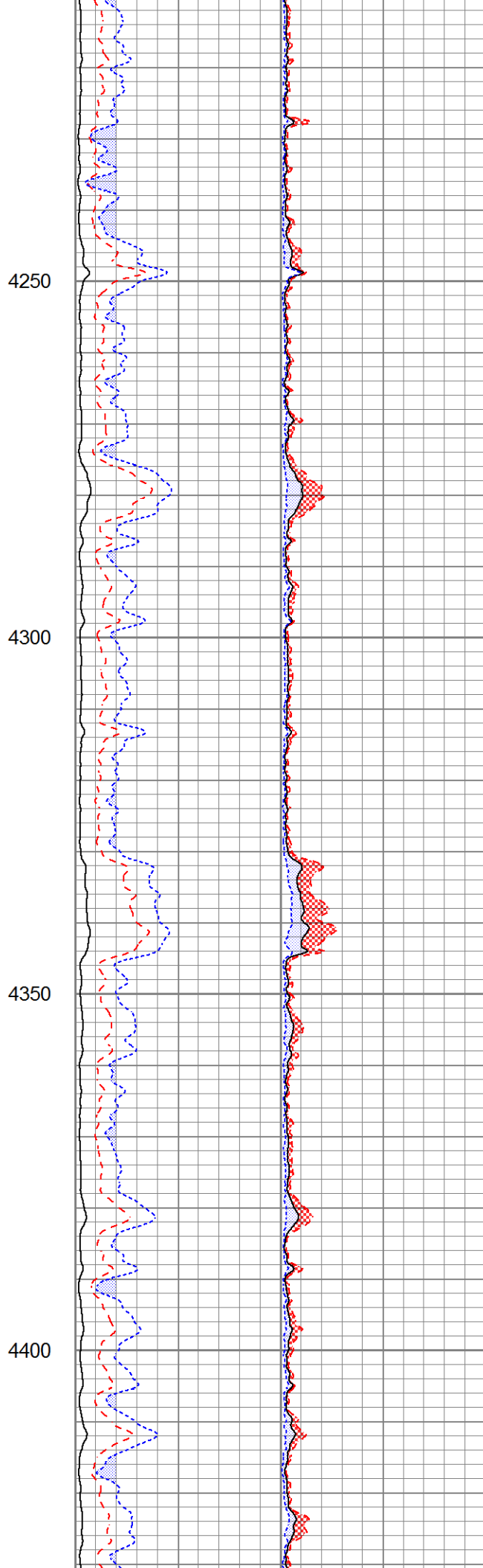
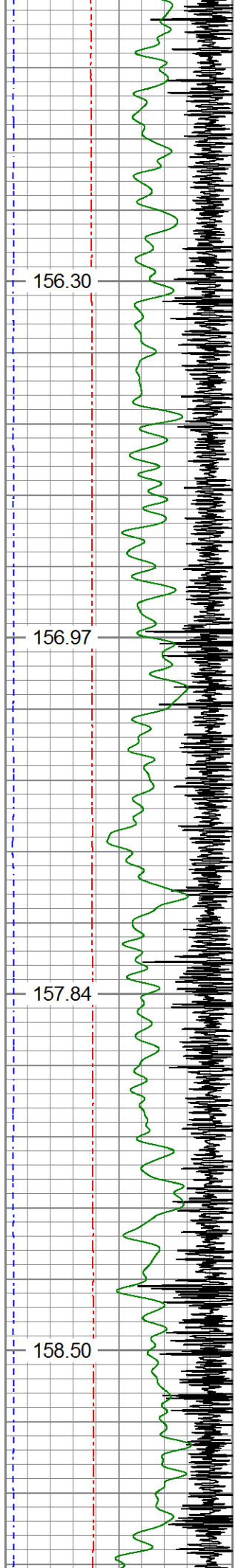


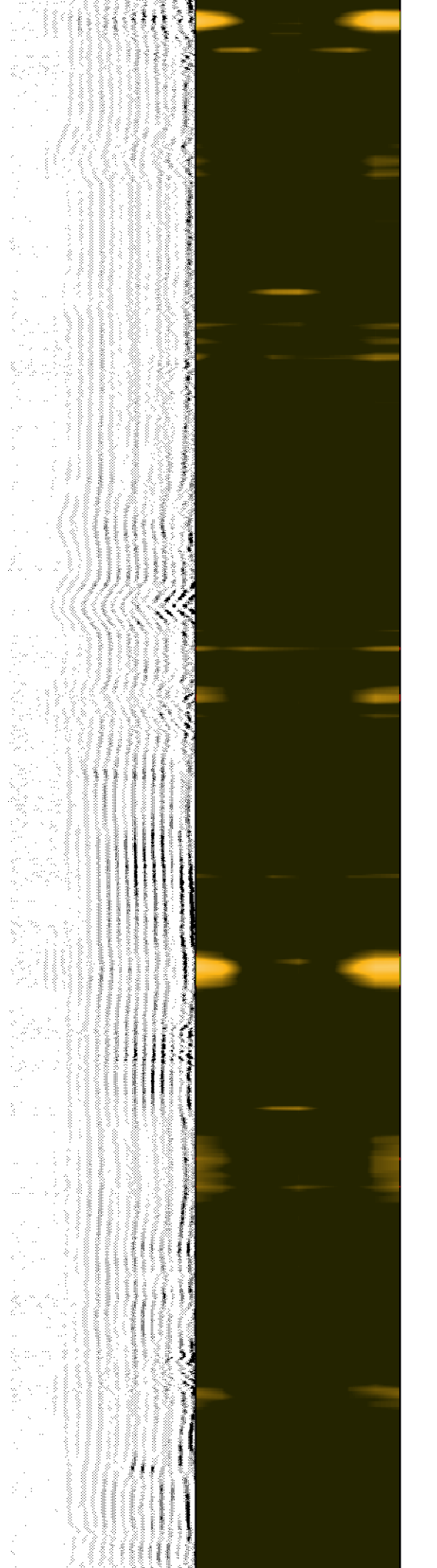
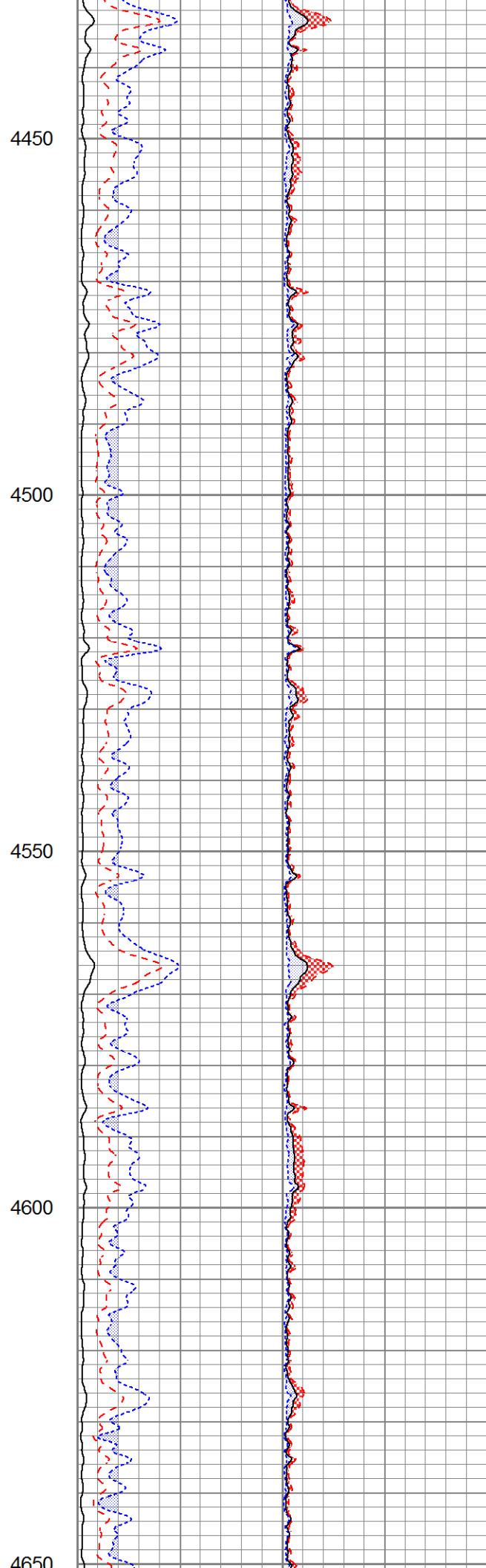
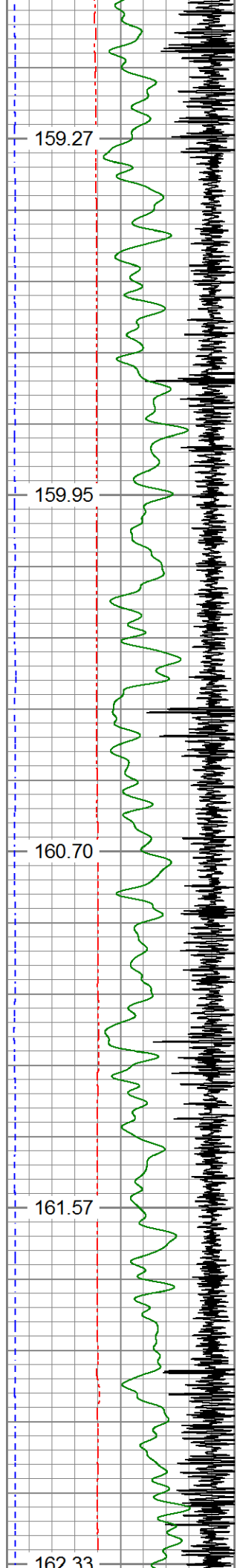


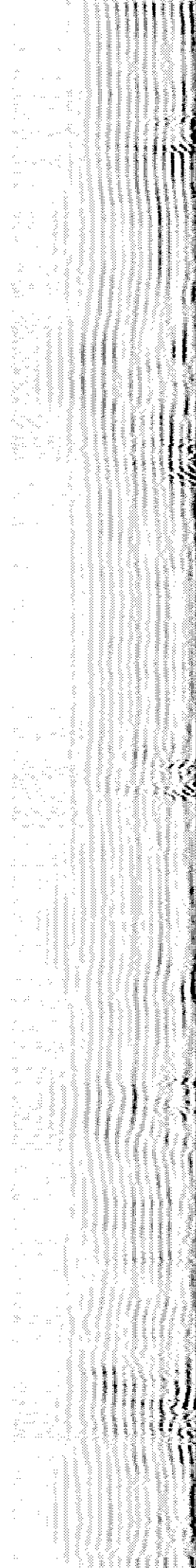
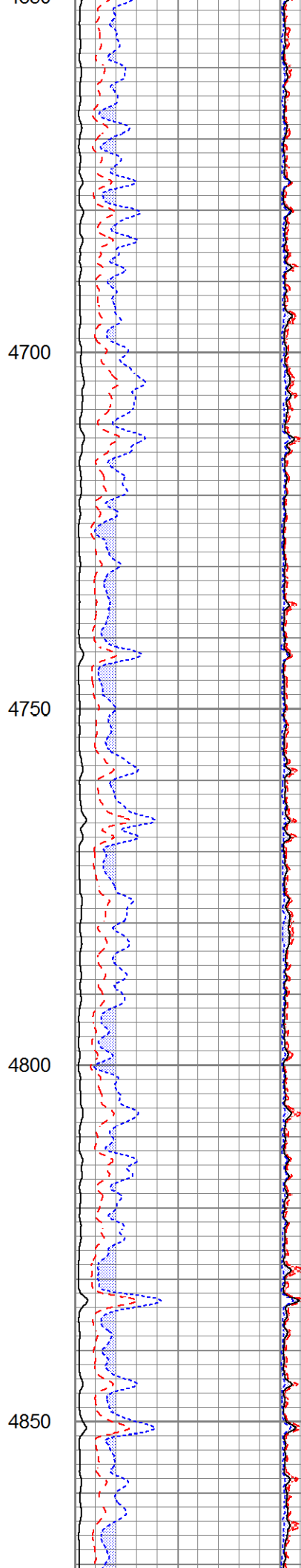
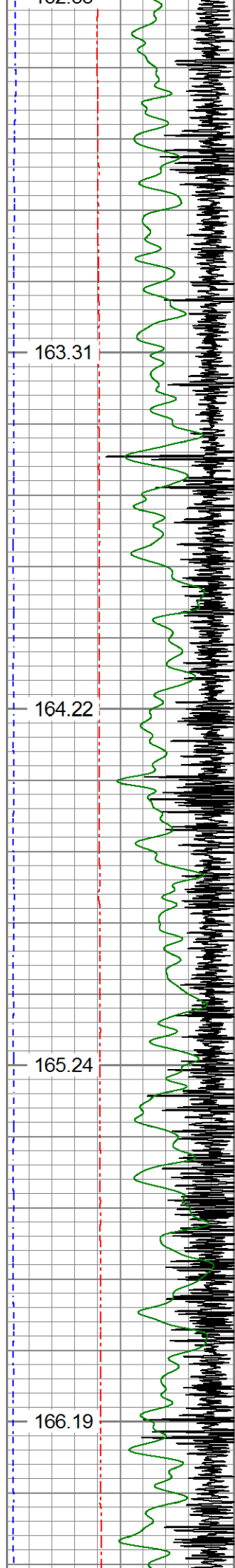


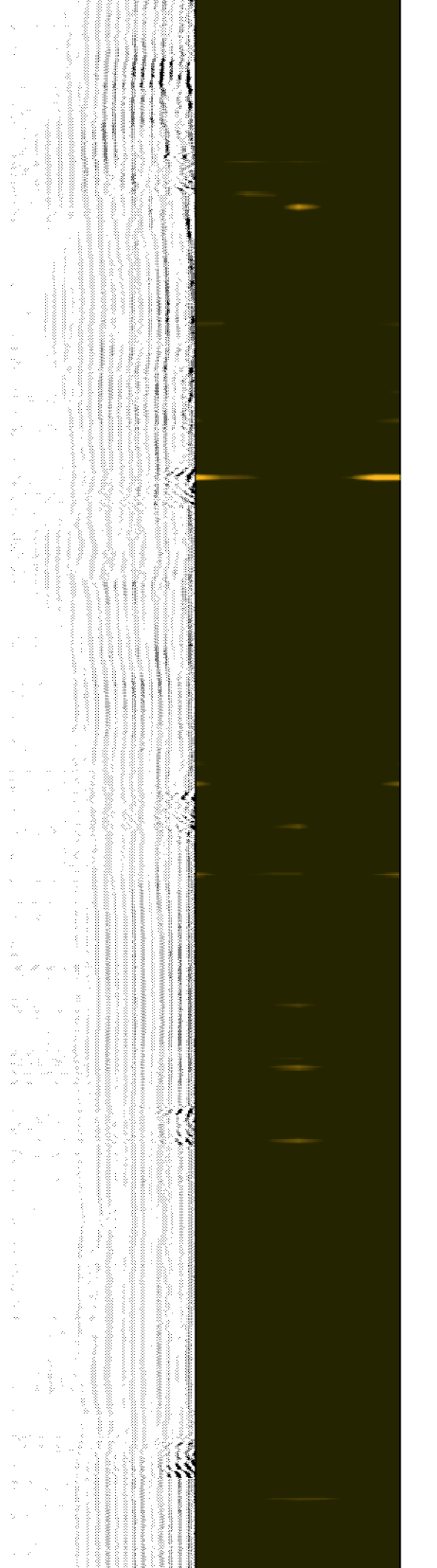
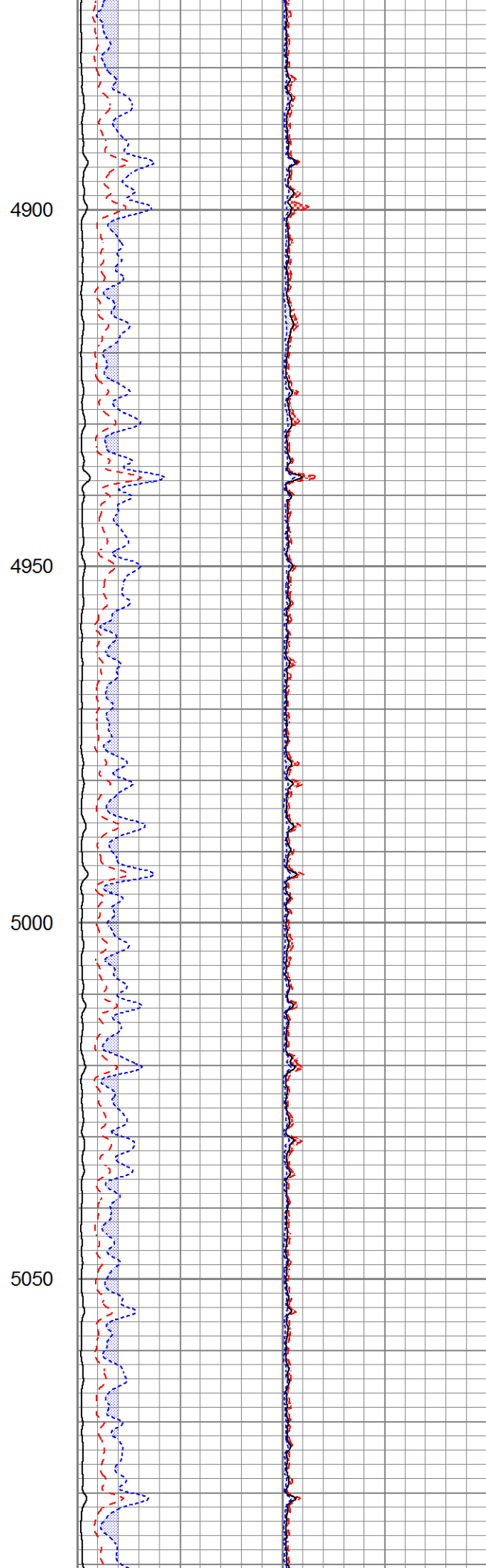
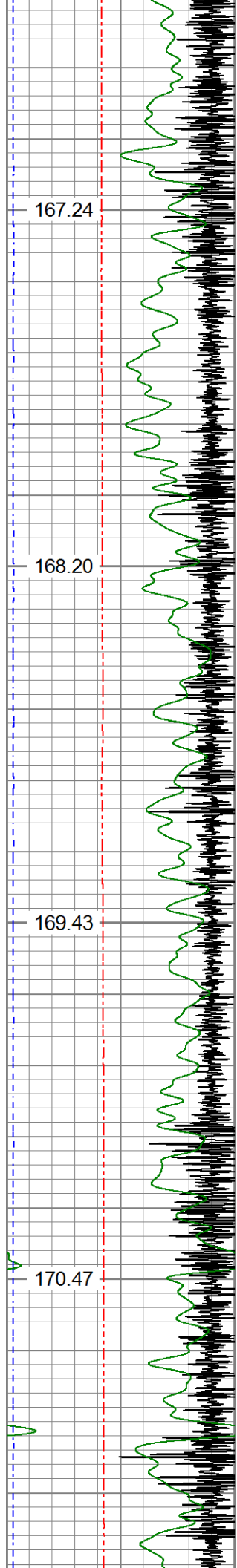


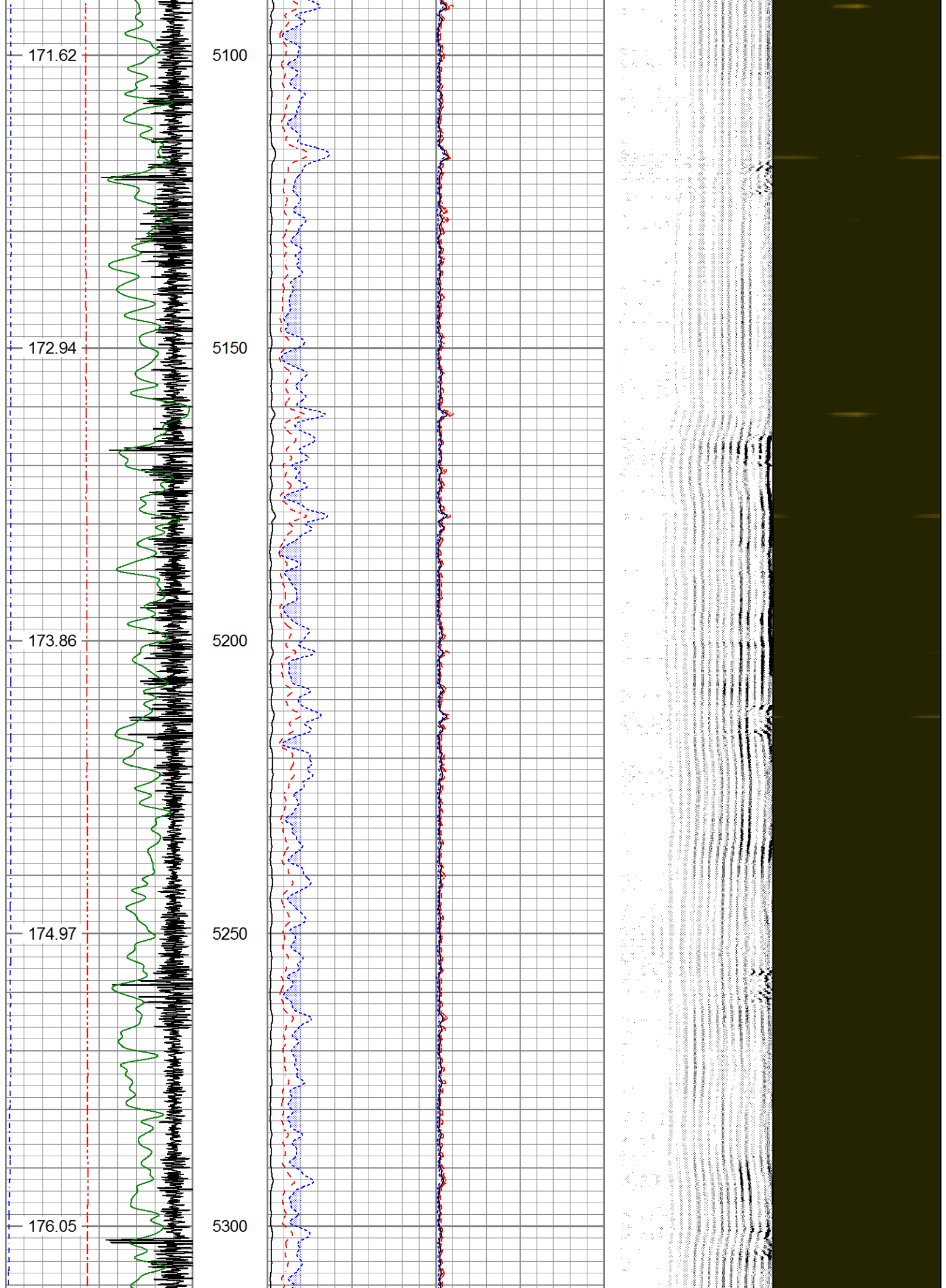


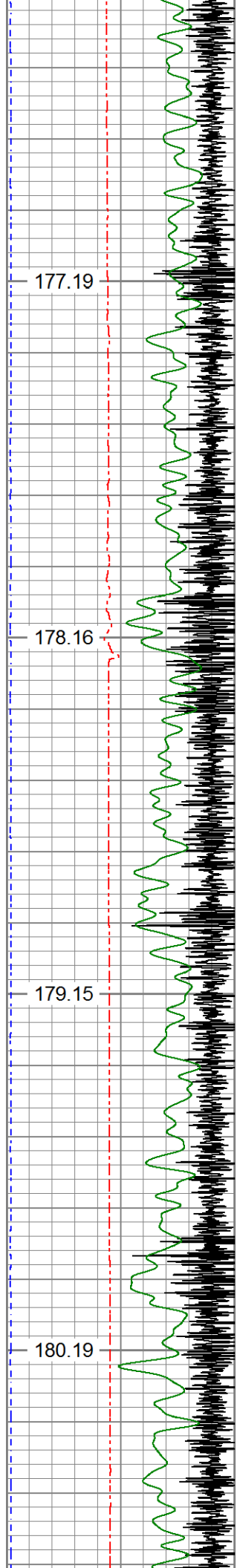










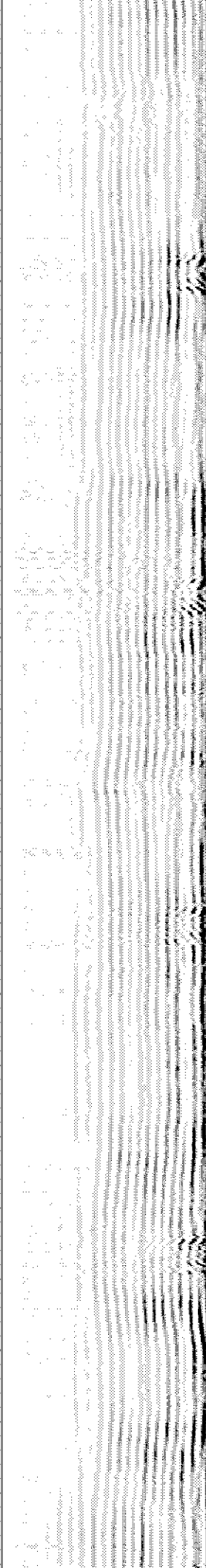
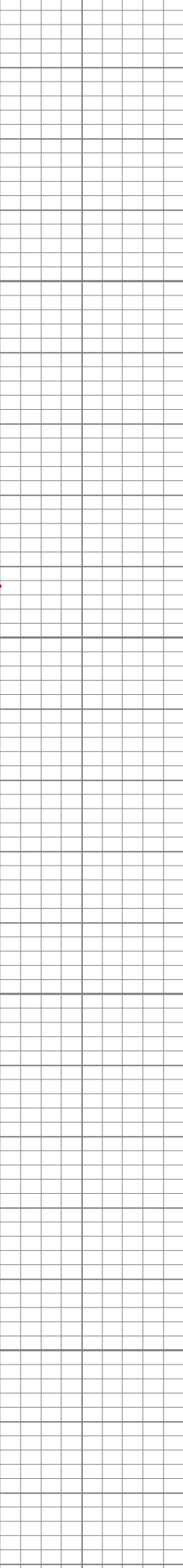
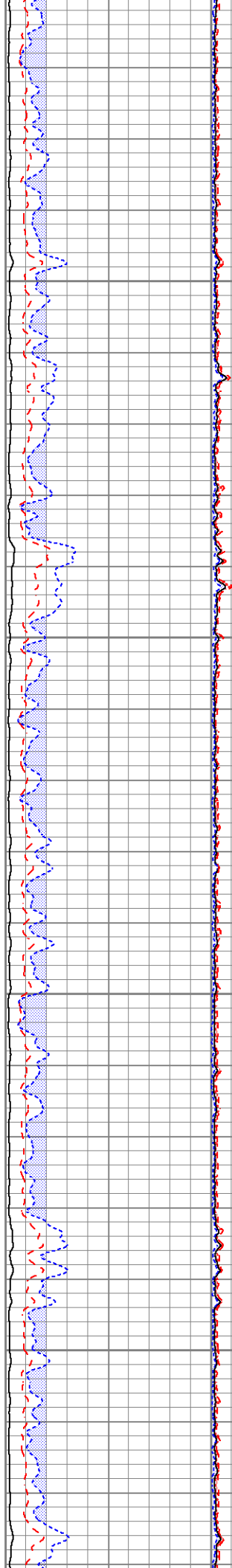


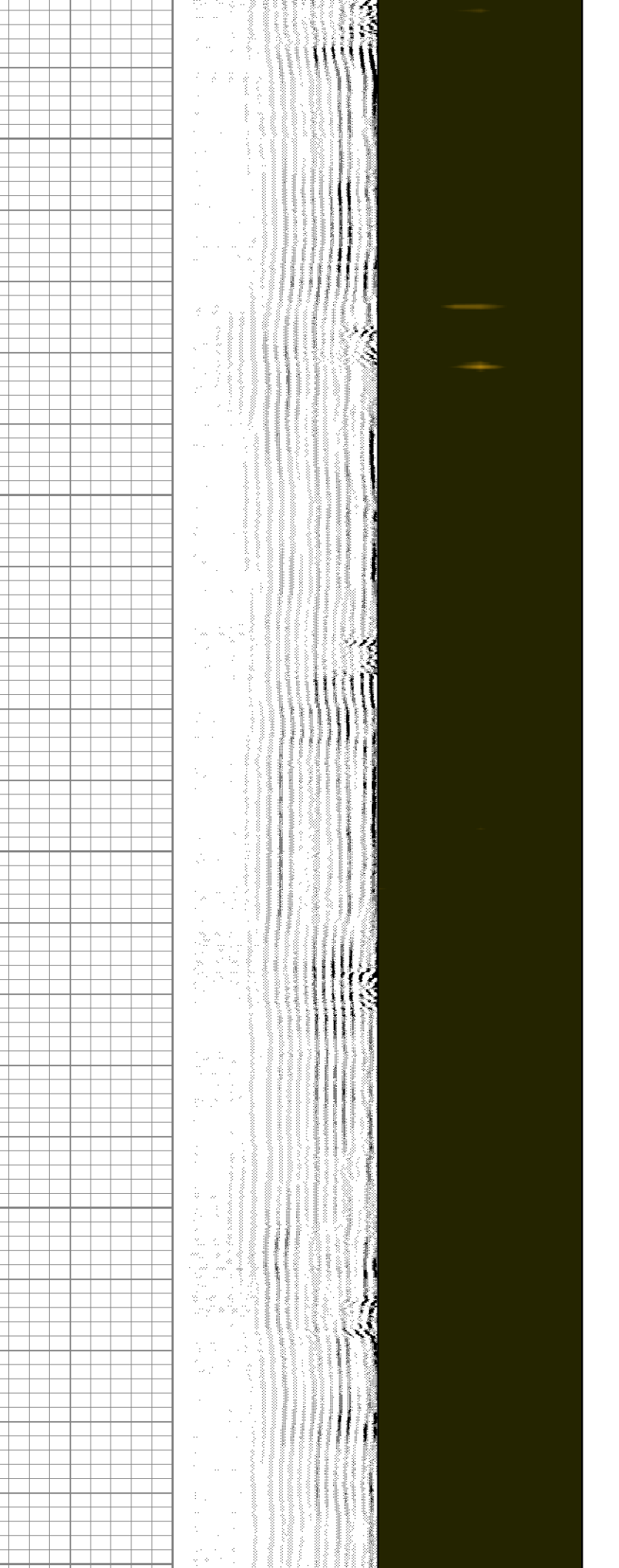
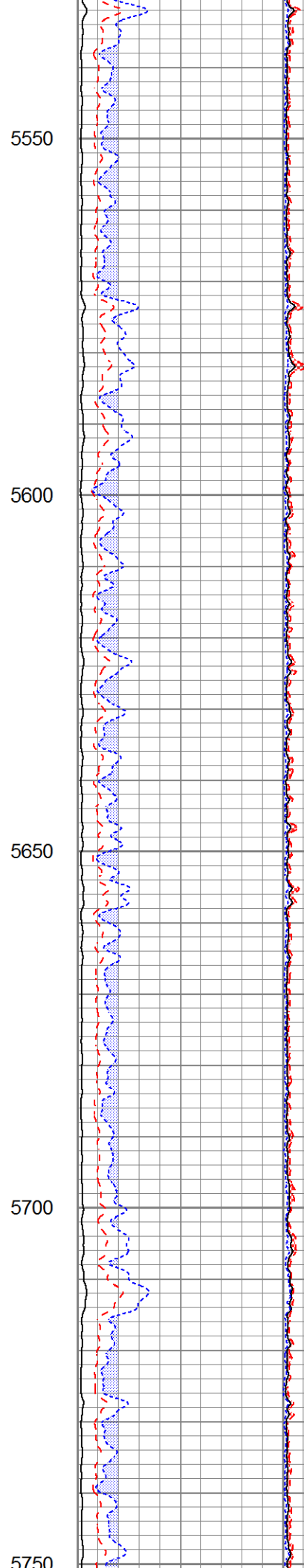
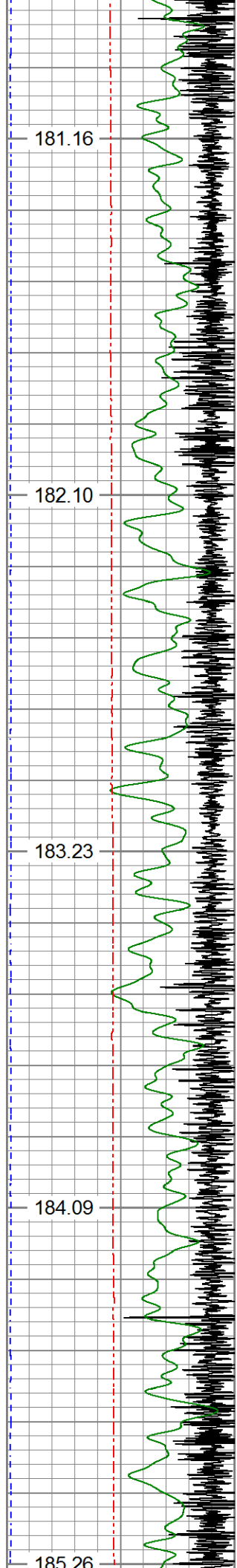
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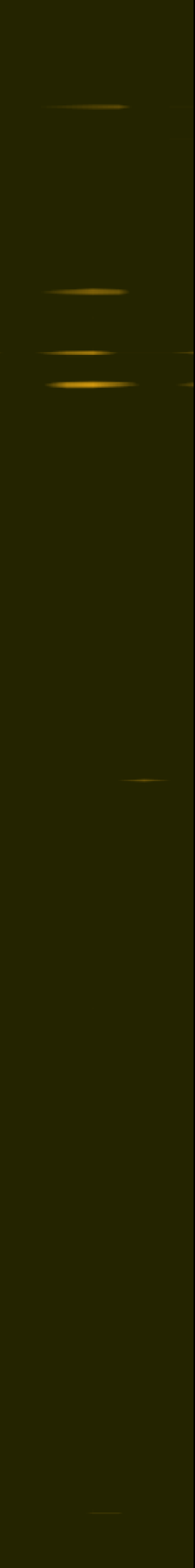
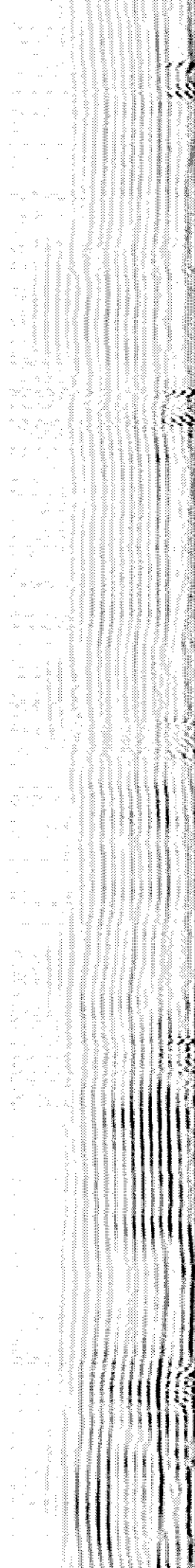
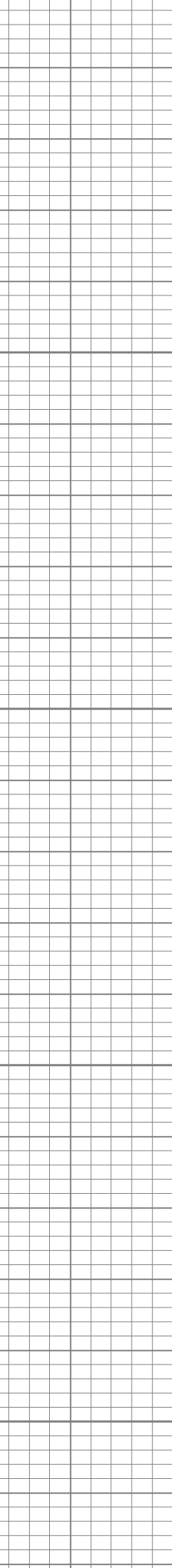
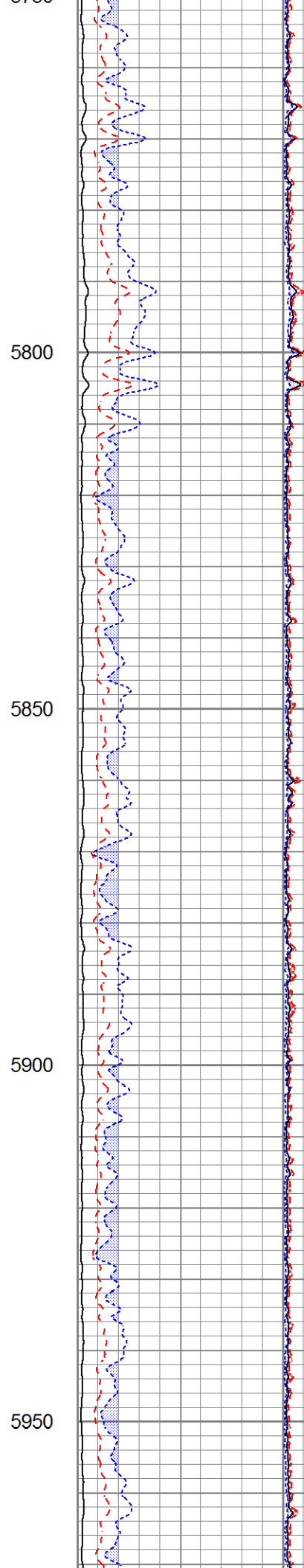
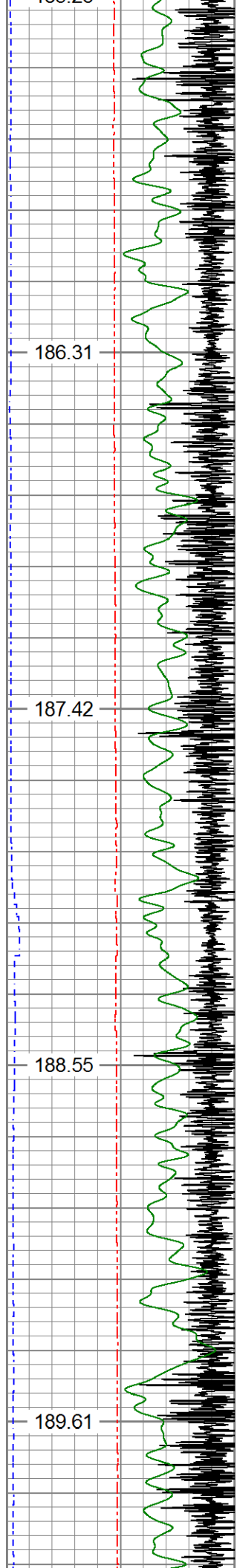
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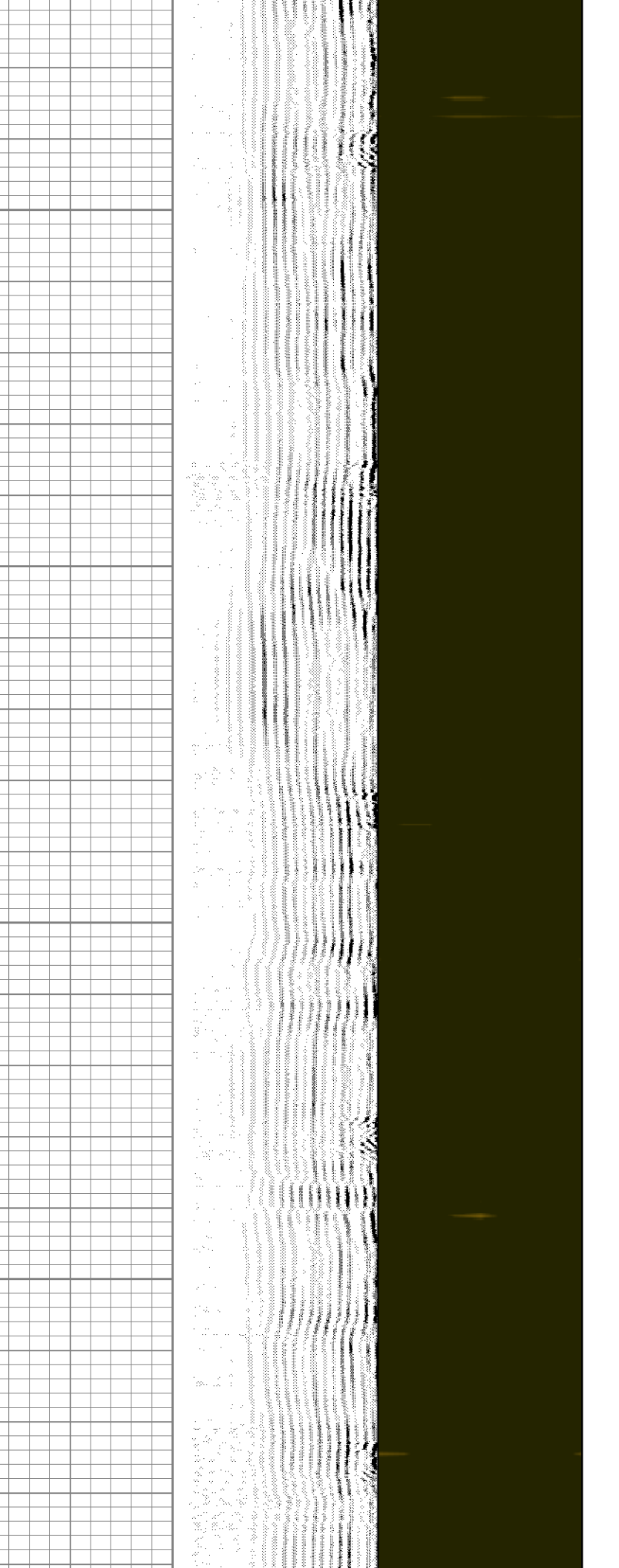
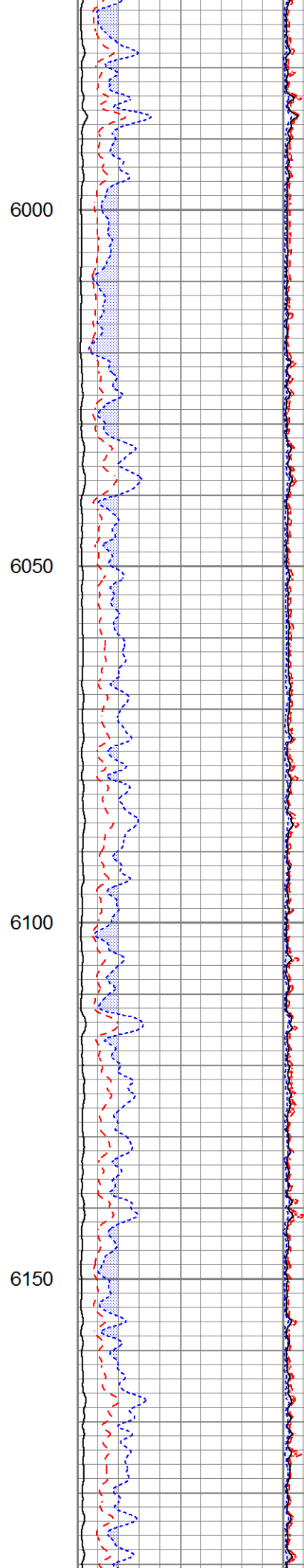
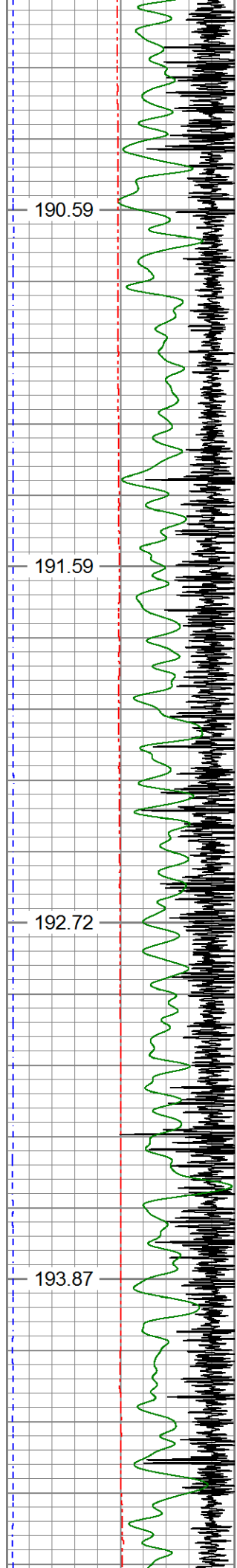
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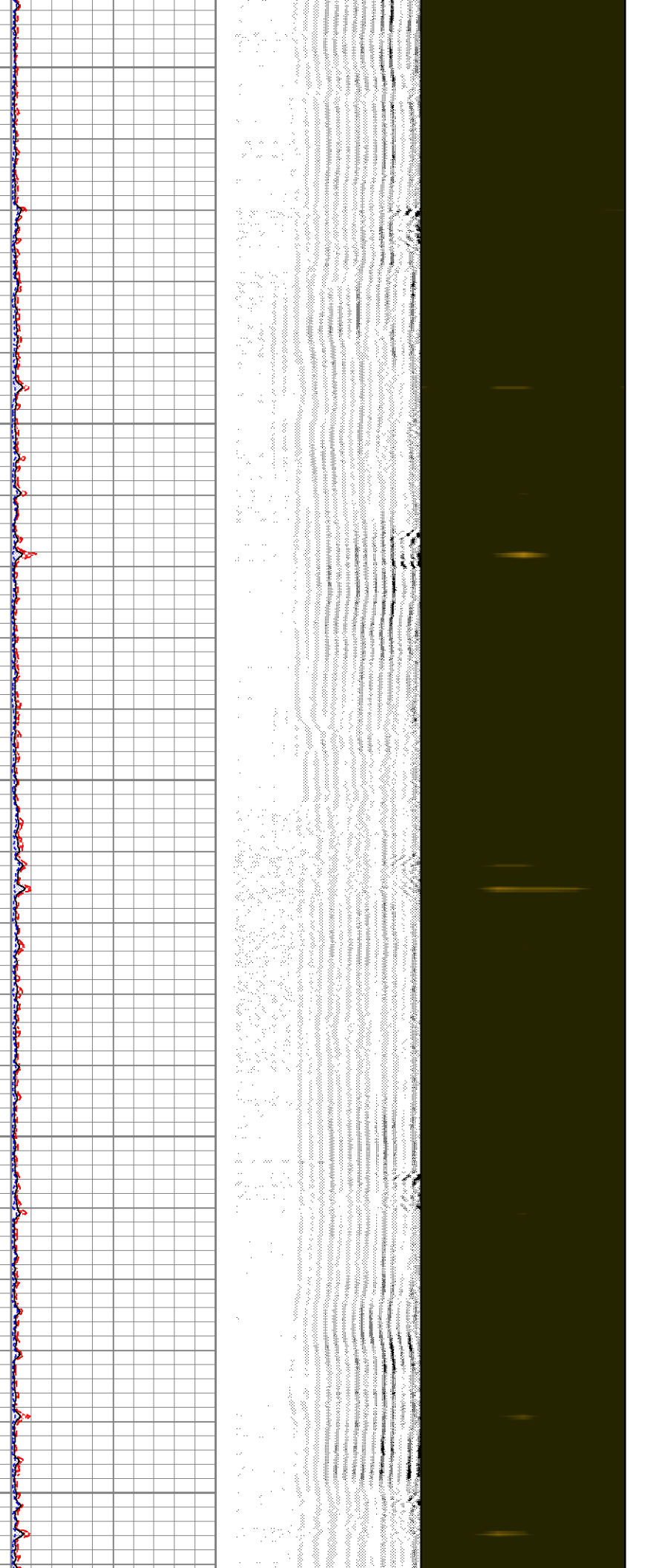
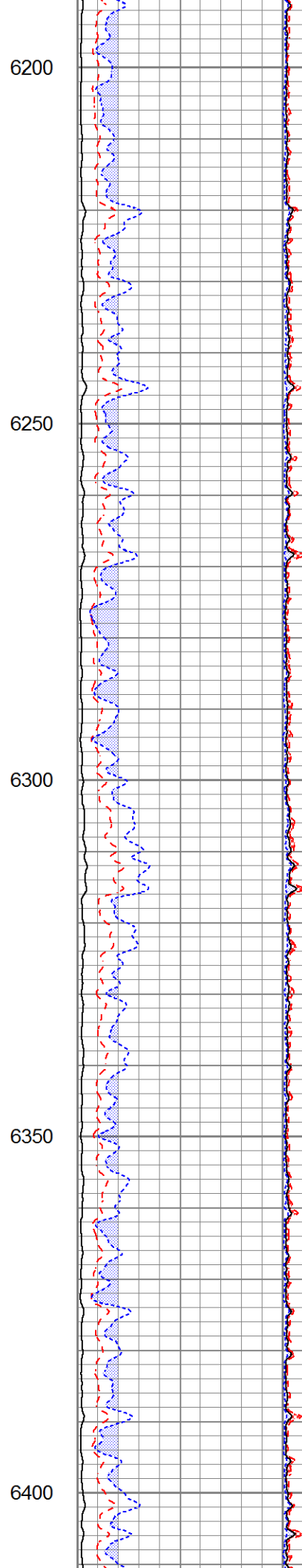
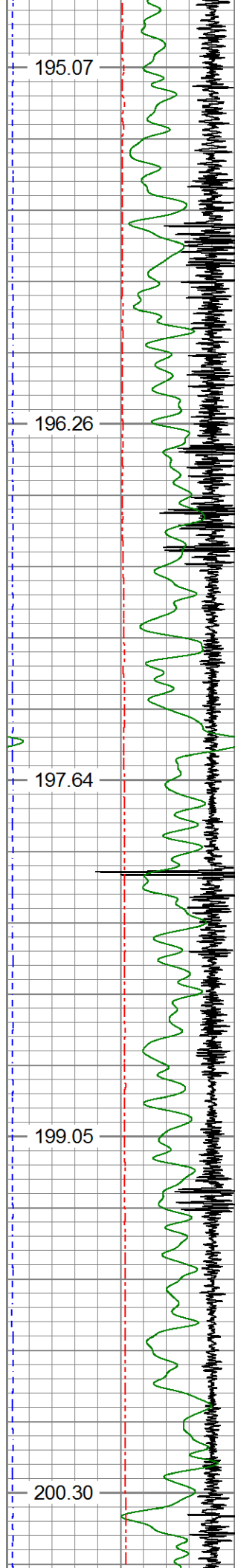
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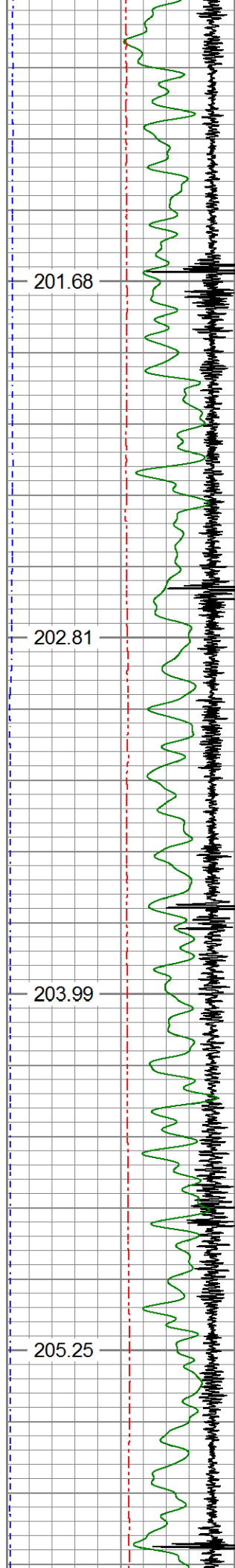












201.68

202.81

203.99

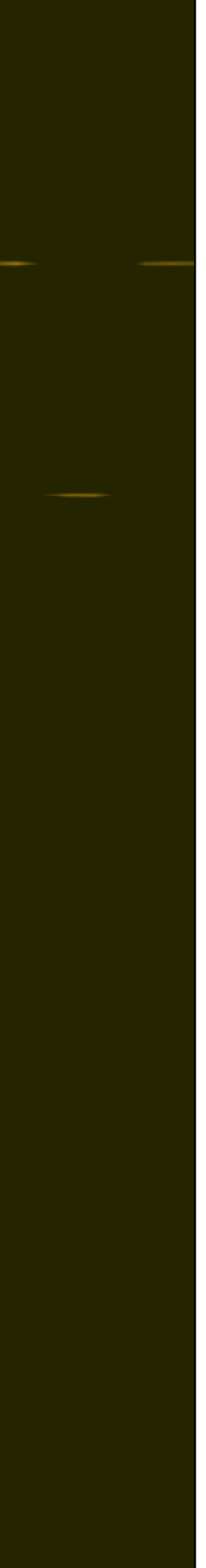
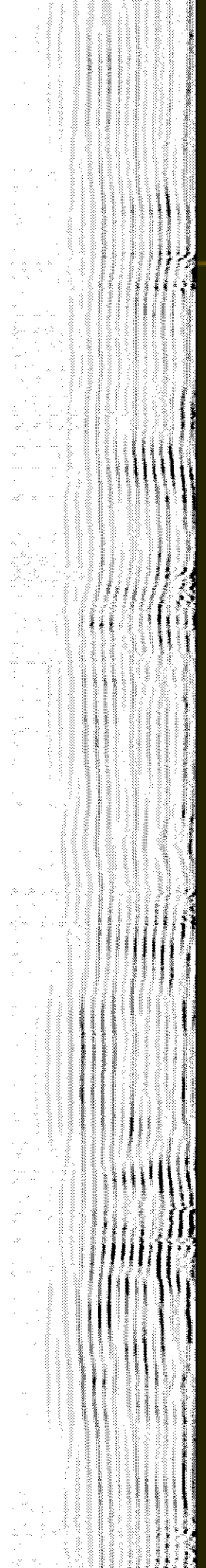
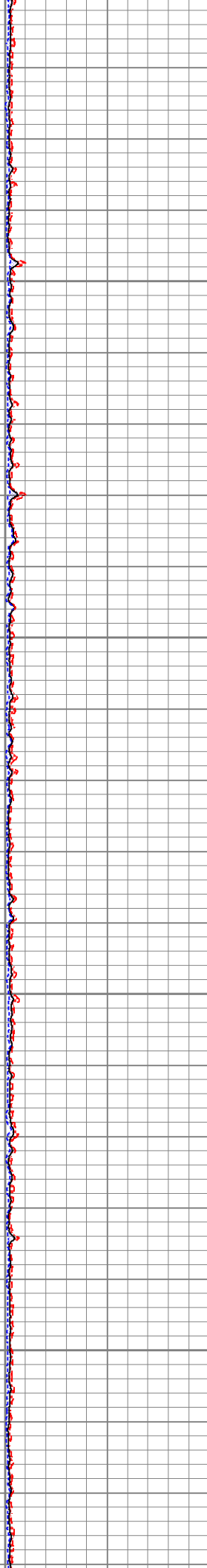
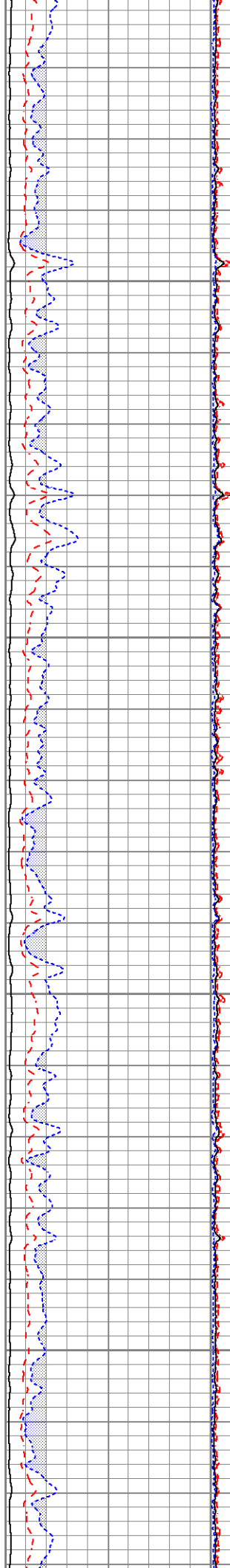
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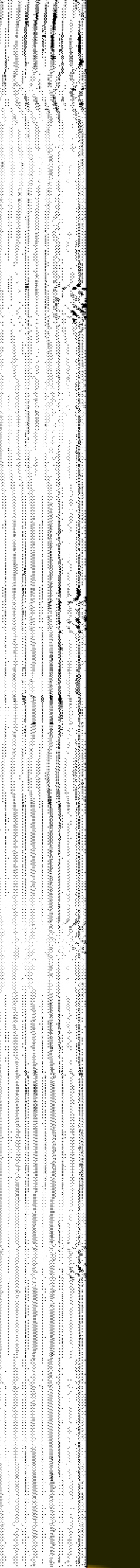
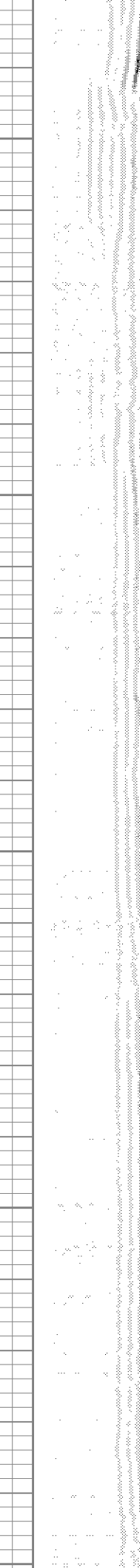
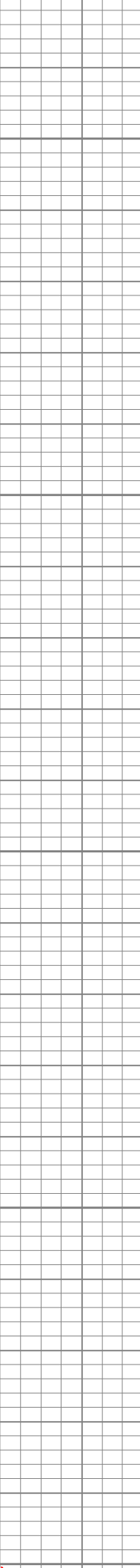
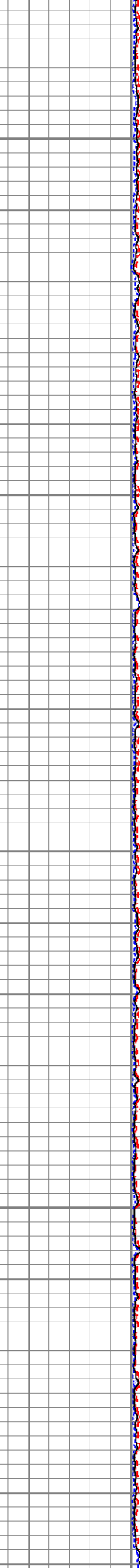
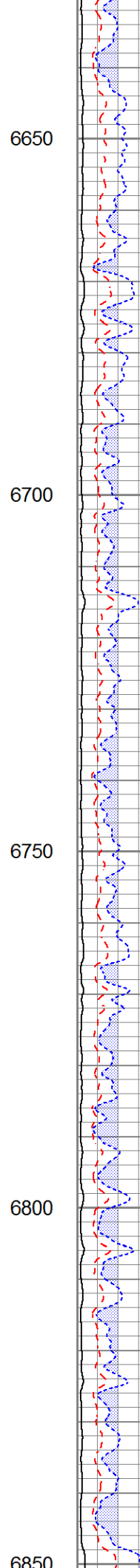
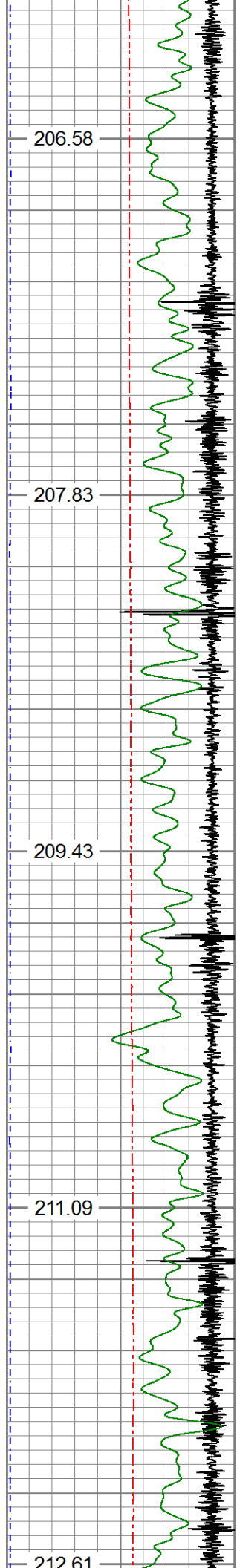
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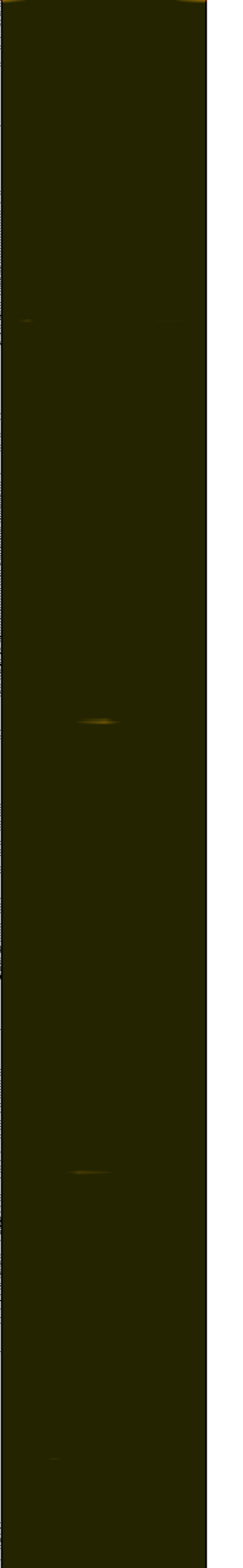
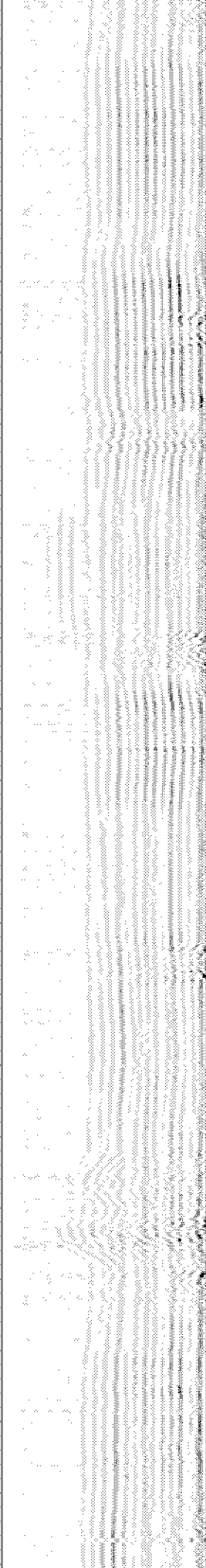
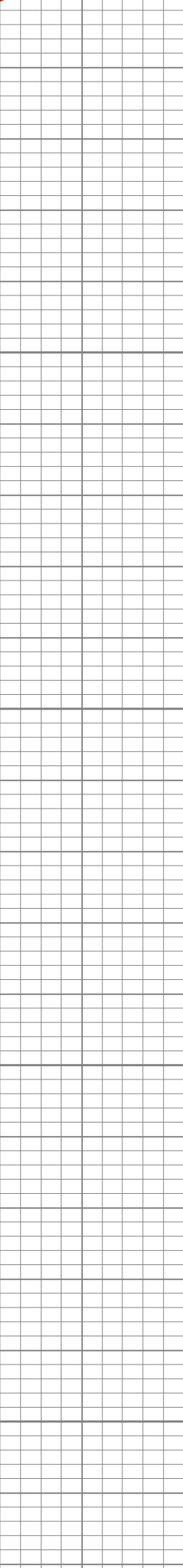
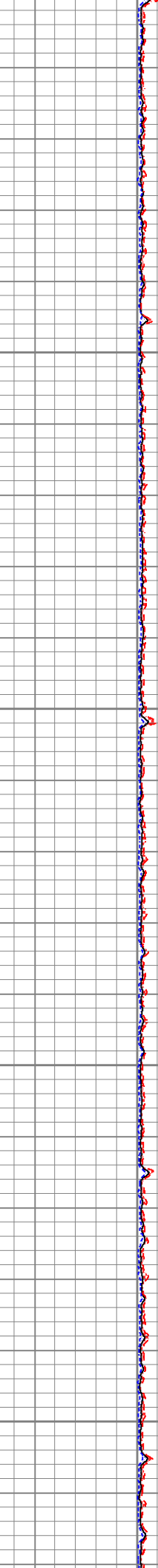
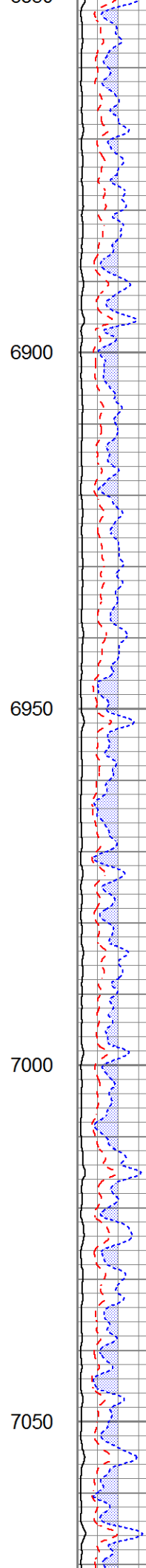
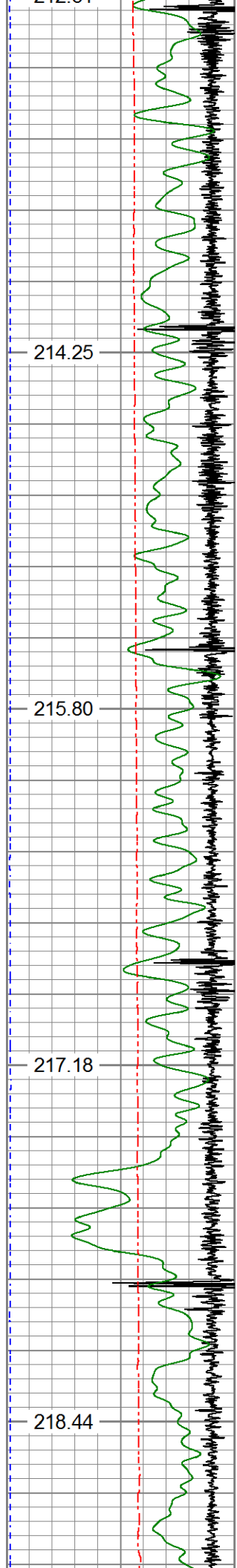
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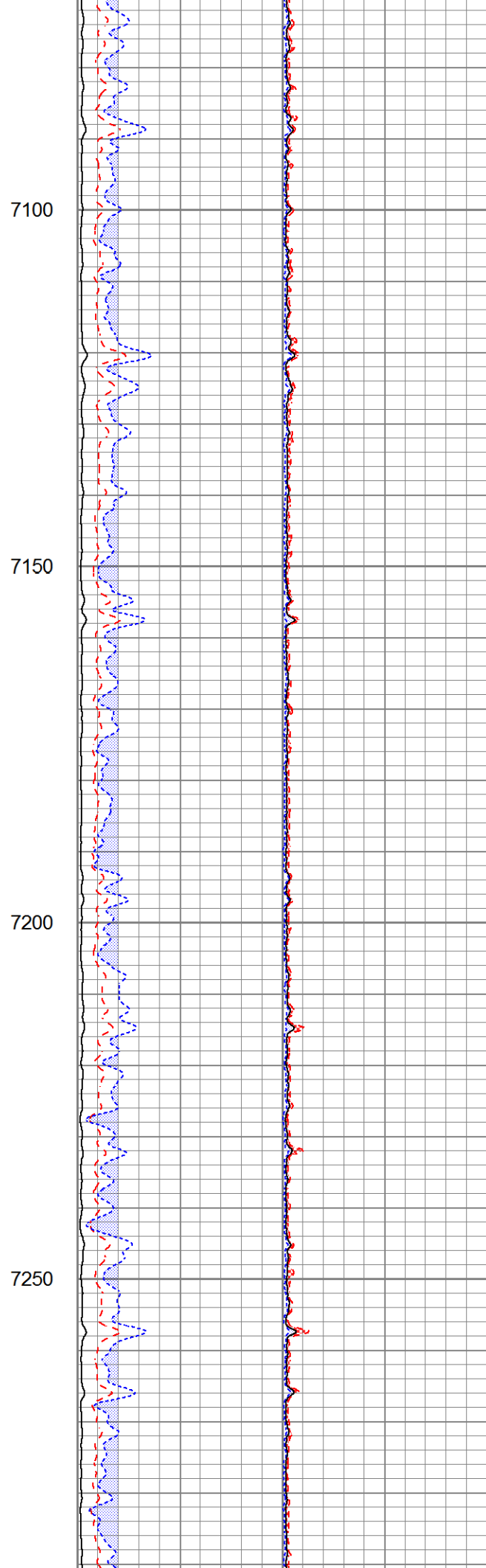
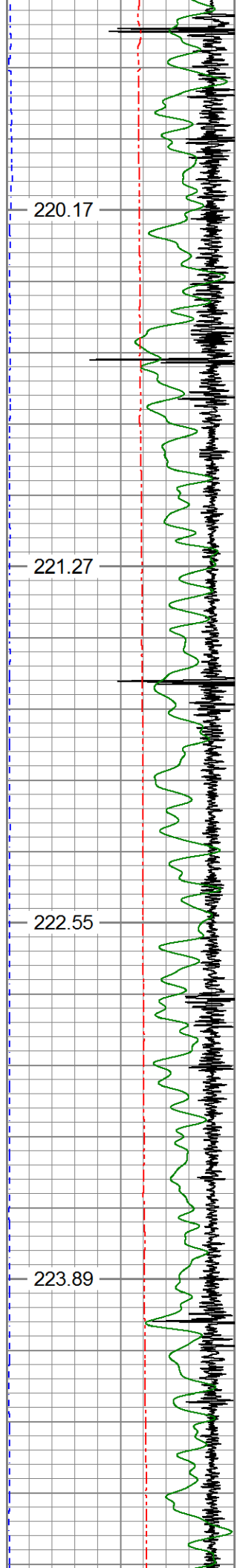
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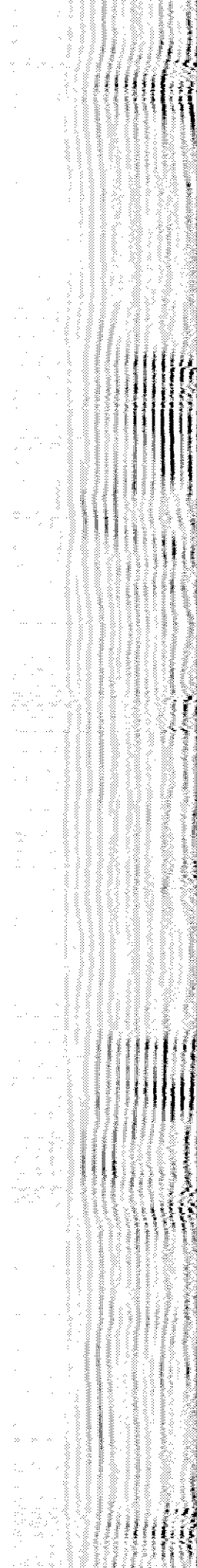
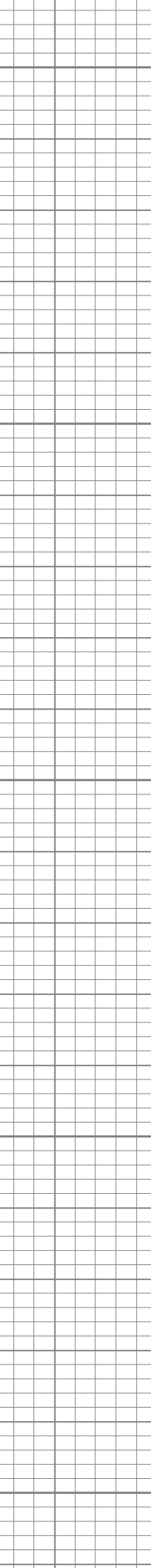
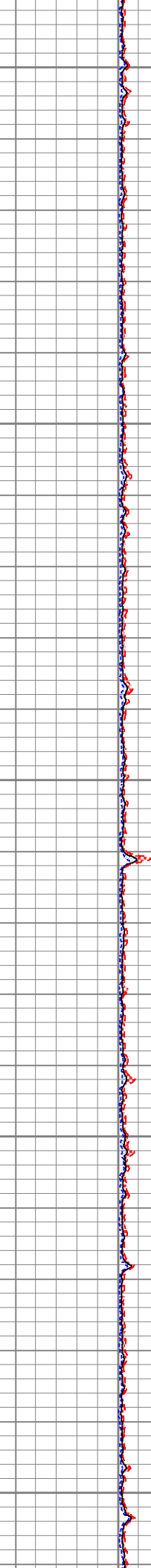
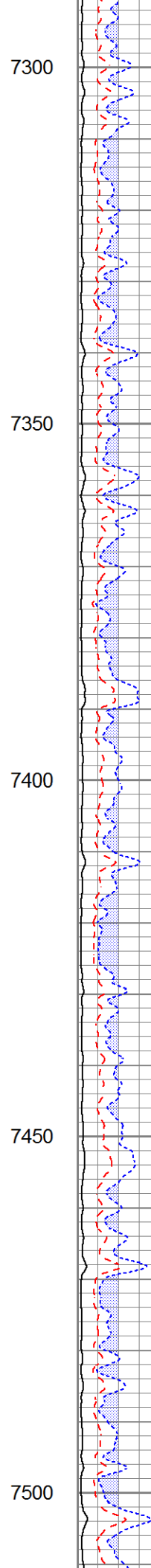
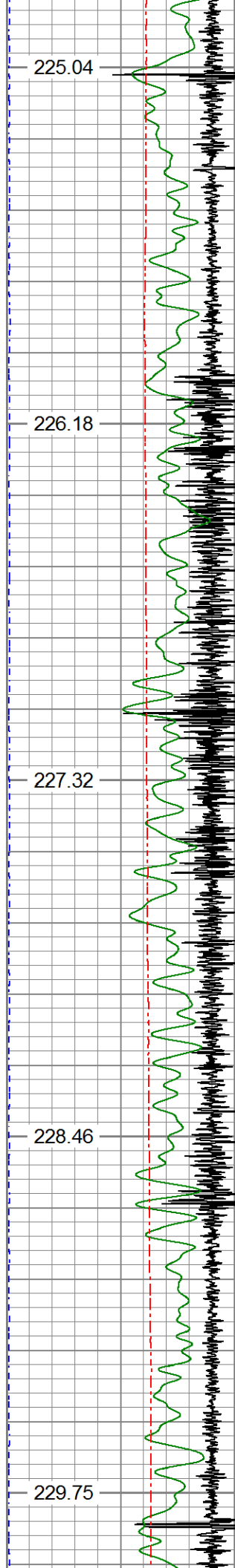
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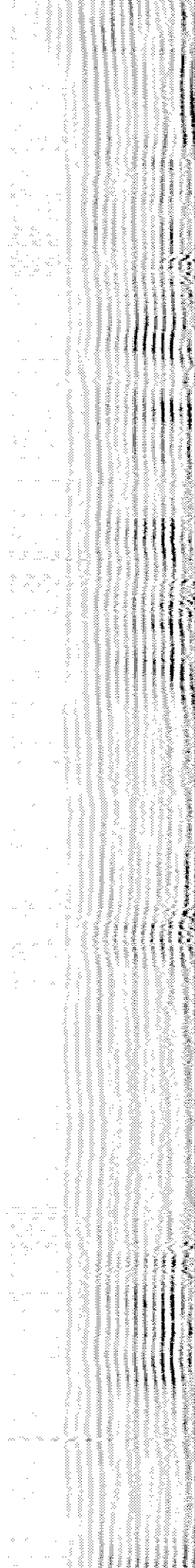
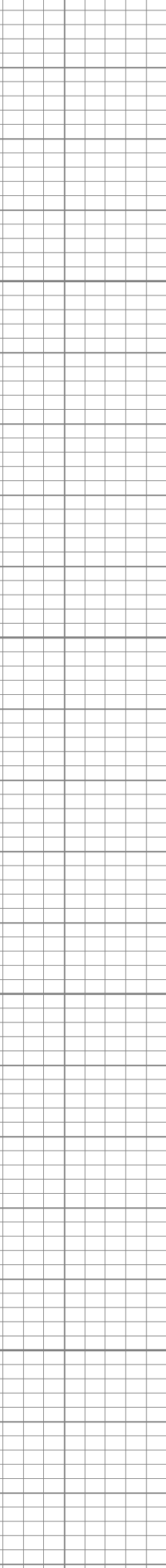
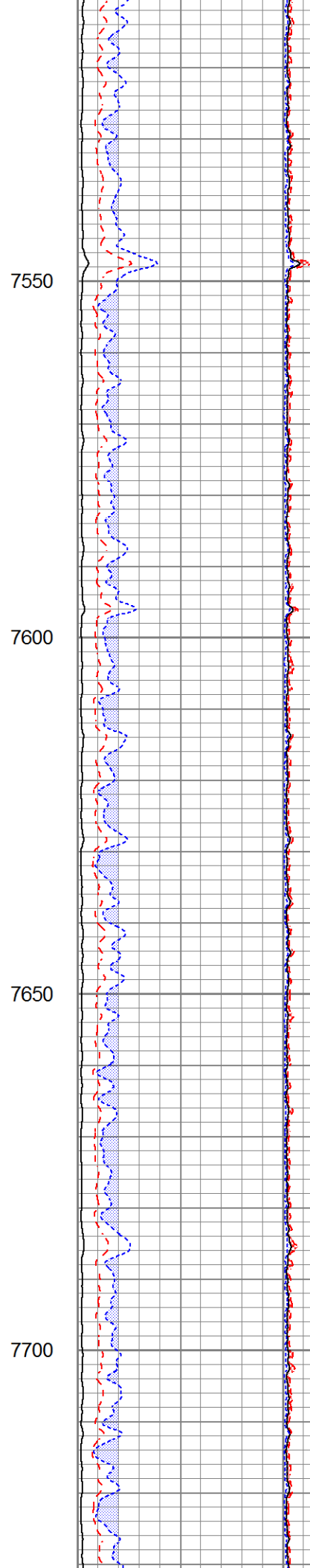
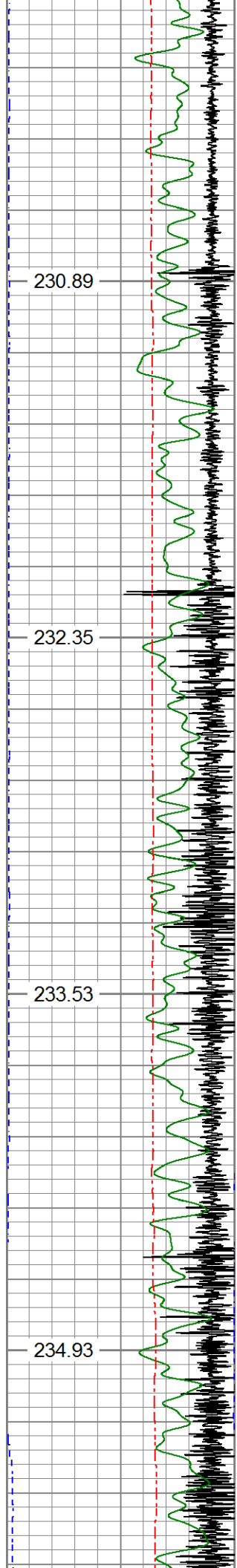


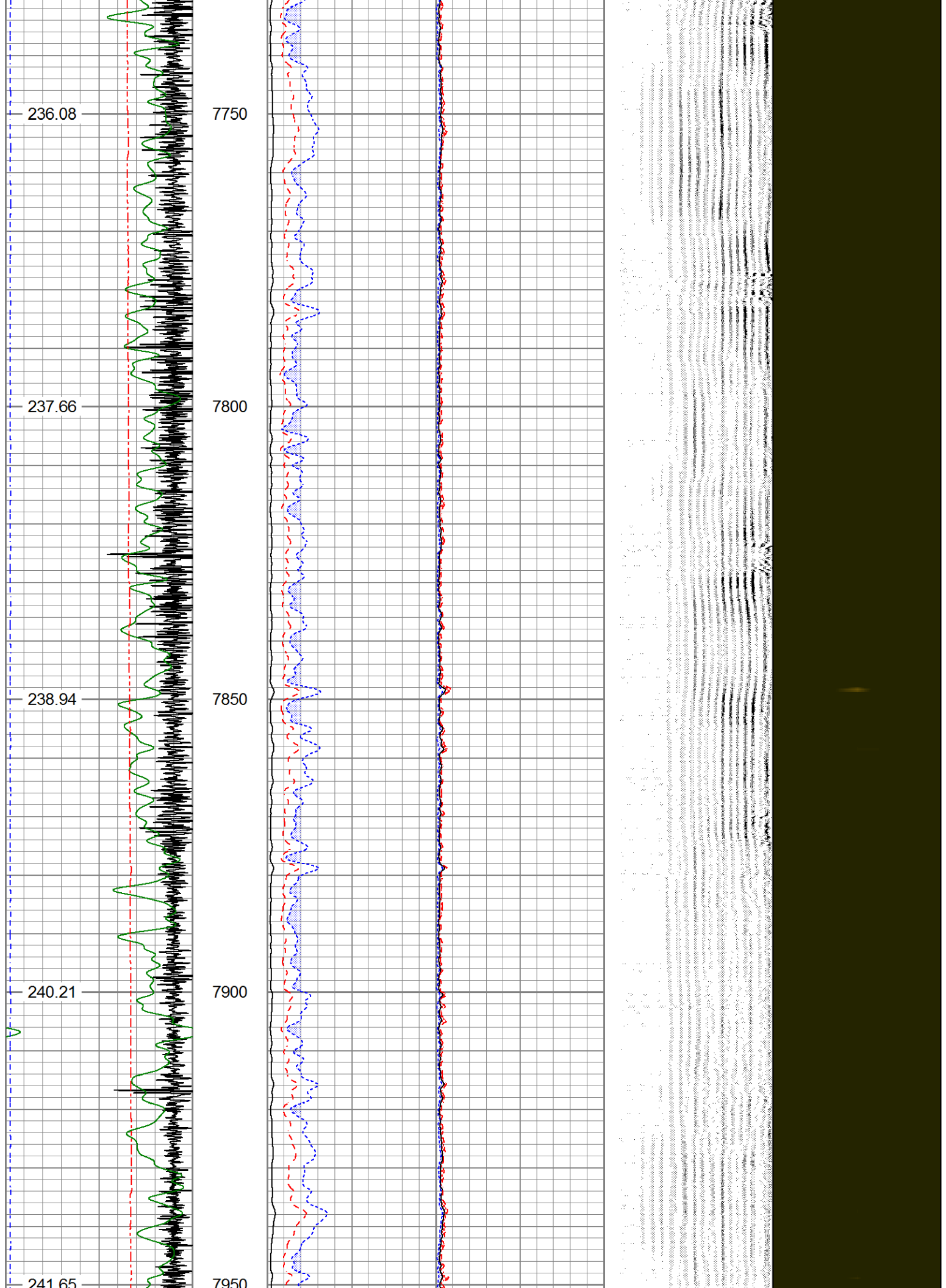


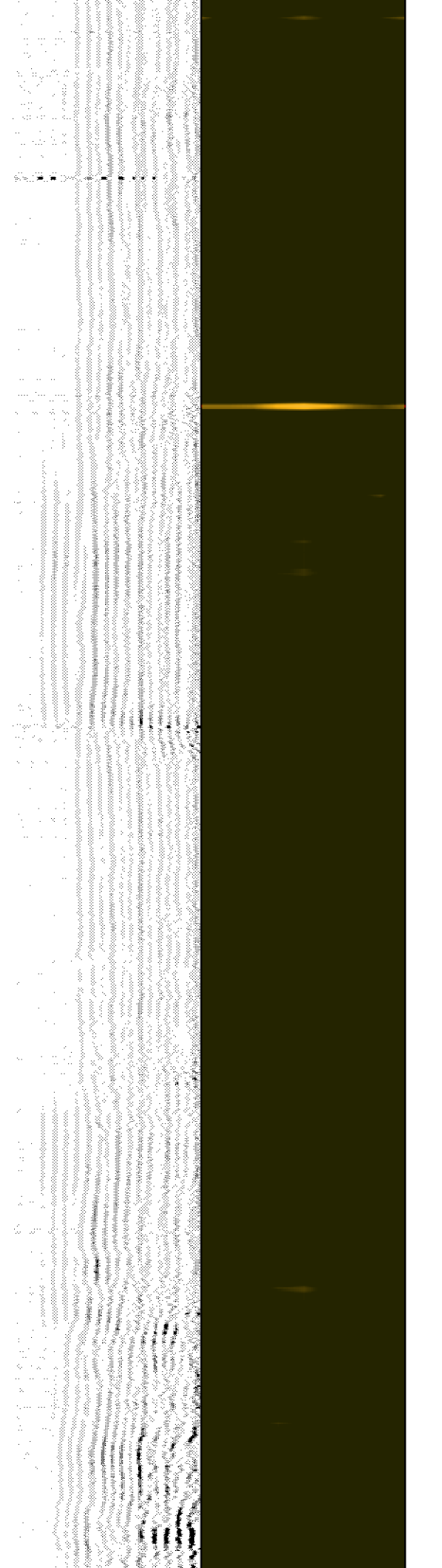
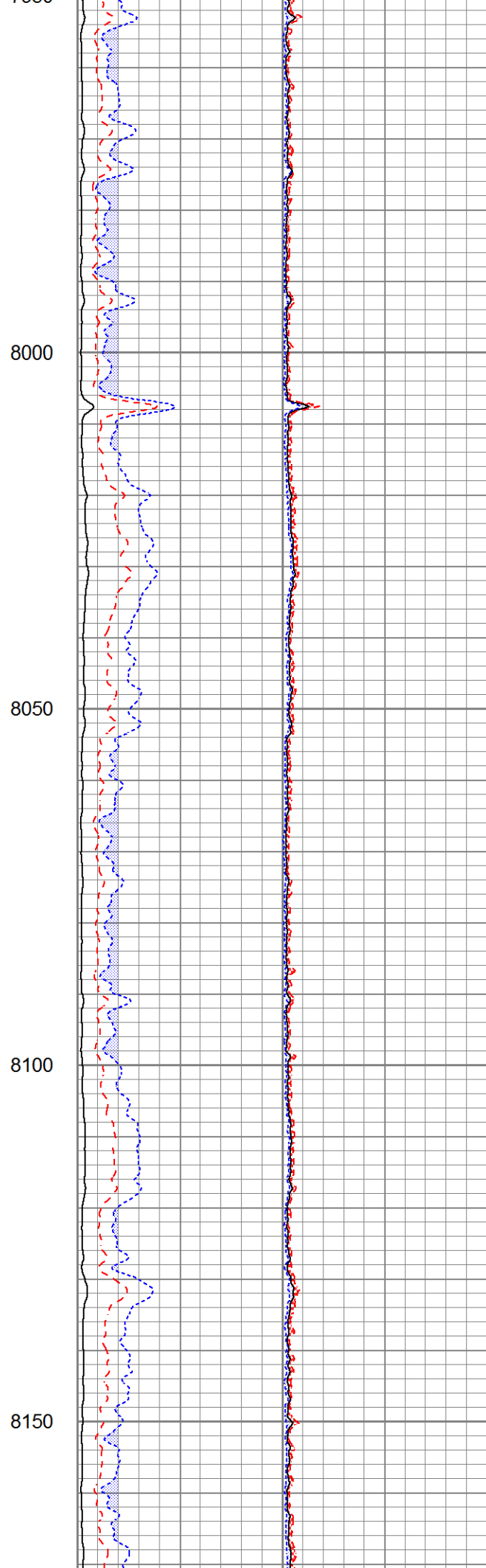
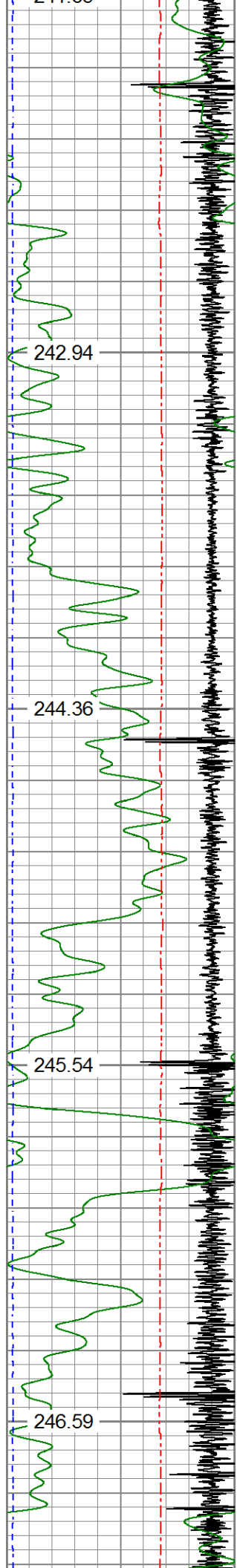


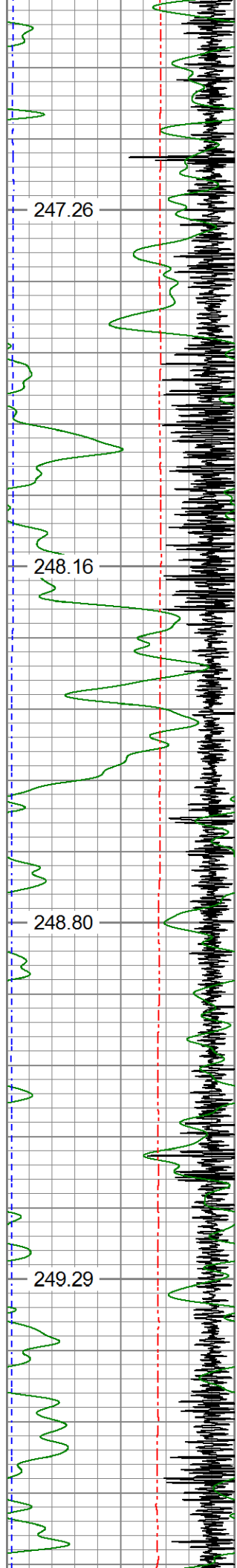










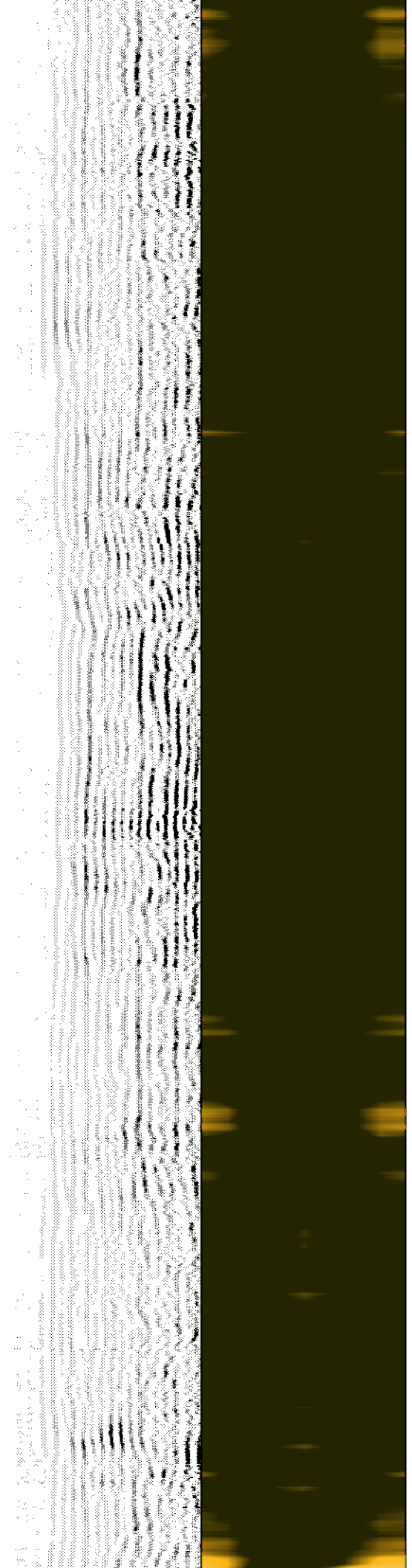
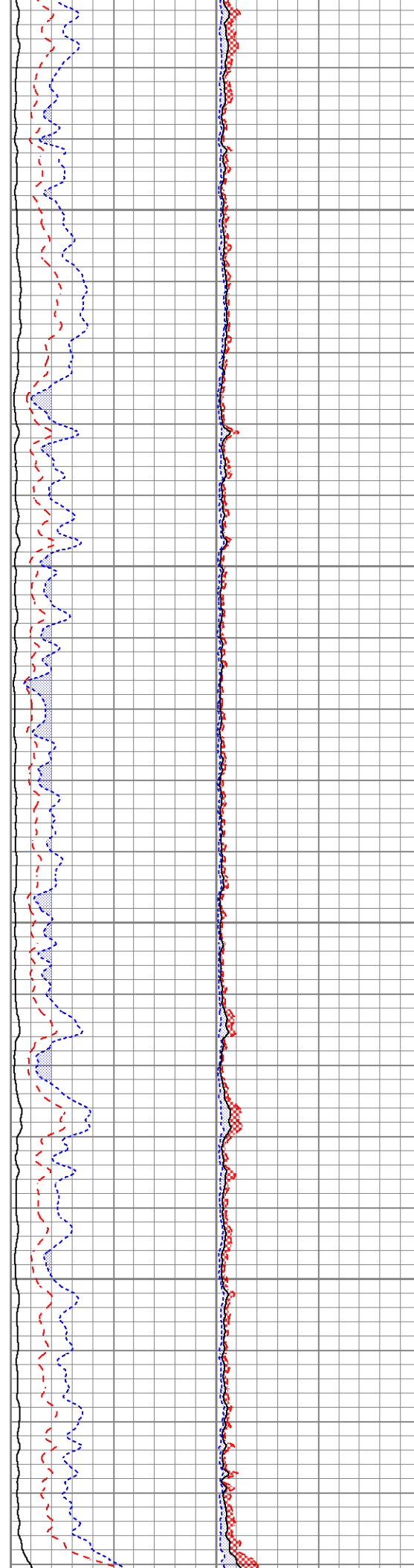


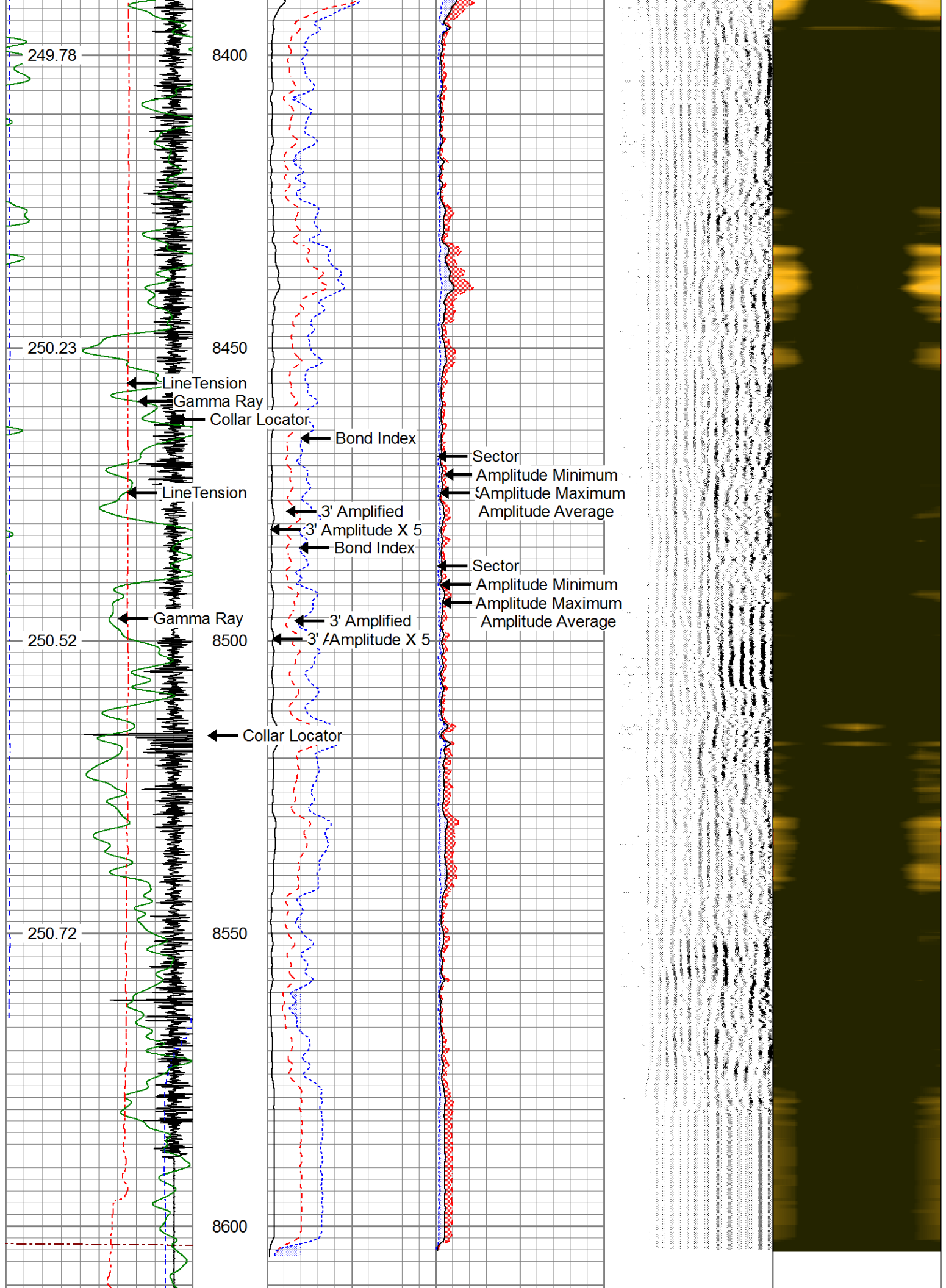
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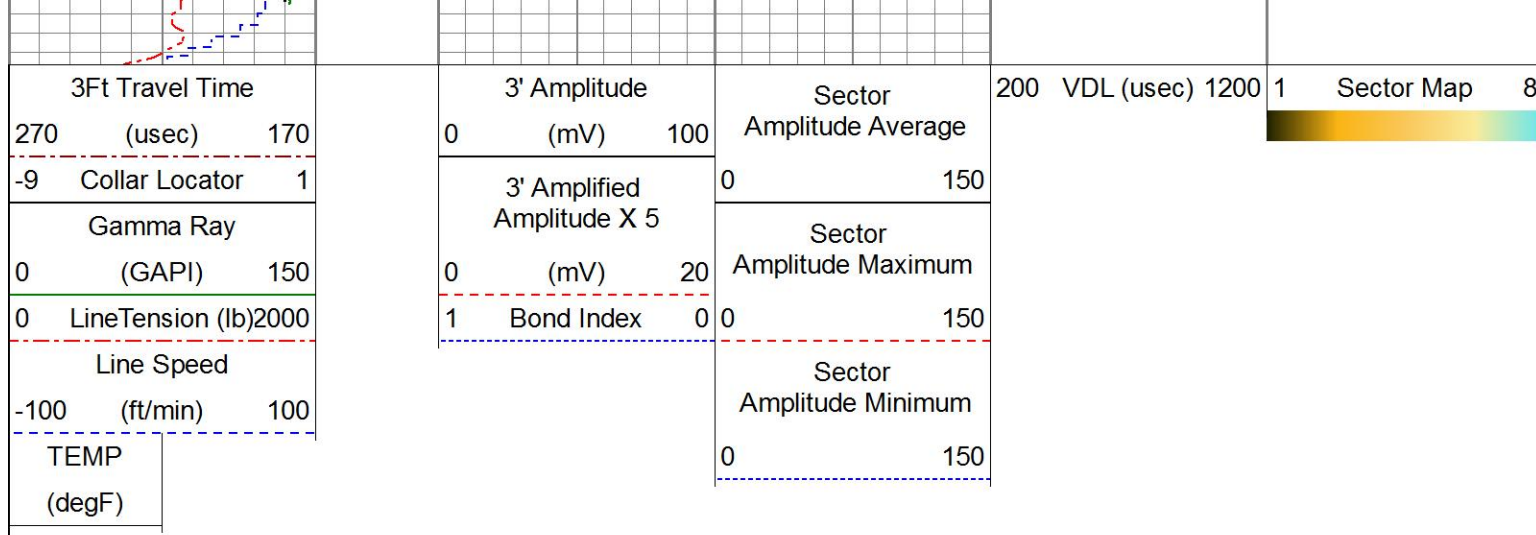
8250


8300

8350





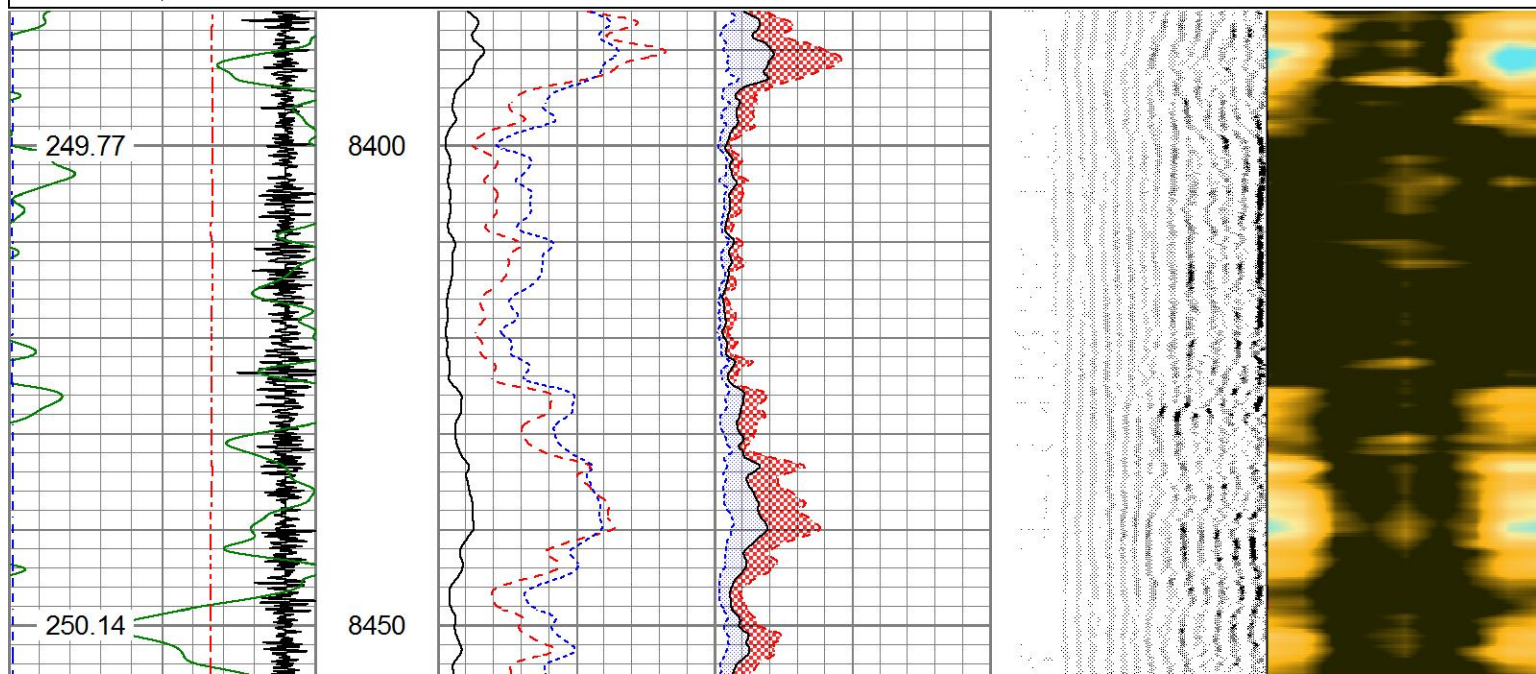
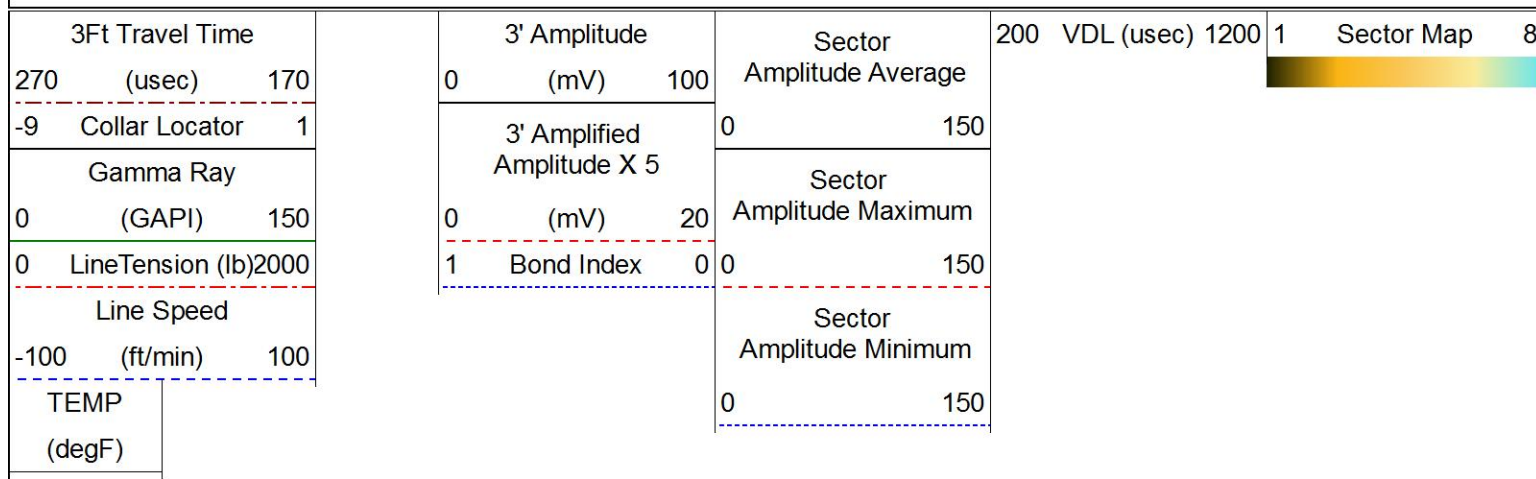


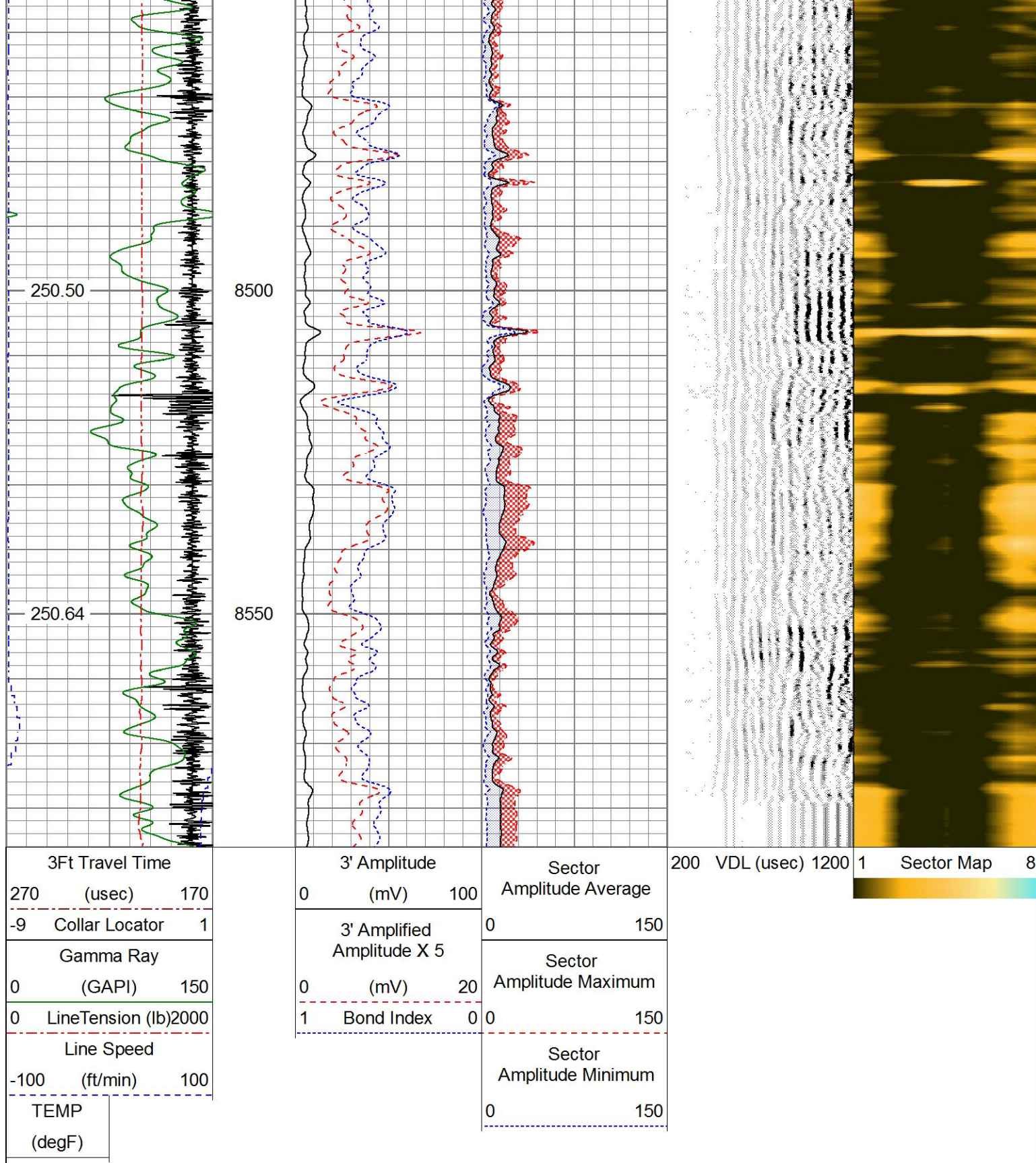


REPEAT SECTION

0 PSI APPLIED AT SURFACE

| | |
|---------------------|--|
| Database File | verdad_sonic star1101-16h rcbl_05-123-49003_2021-08-october.db |
| Dataset Pathname | pass8 |
| Presentation Format | pinr_scbl |
| Dataset Creation | Fri Oct 08 08:40:52 2021 |
| Charted by | Depth in Feet scaled 1:240 |





| Calibration Report | |
|--------------------|--|
| Database File | verdad_sonic star1101-16h rcbl_05-123-49003_2021-08-october.db |
| Dataset Pathname | pass11.1 |
| Dataset Creation | Fri Oct 08 10:14:32 2021 |

Gamma Ray Calibration Report

| | |
|----------------|--------------------------|
| Serial Number: | 120672 |
| Tool Model: | GR/CCL-A |
| Performed: | Fri Jul 23 09:22:20 2021 |

| | | |
|---------------------|--------|----------|
| Calibrator Value: | 1.0 | GAPI |
| Background Reading: | 0.0 | cps |
| Calibrator Reading: | 1.0 | cps |
| Sensitivity: | 1.0000 | GAPI/cps |

| |
|--|
| Segmented Cement Bond Log Calibration Report |
|--|

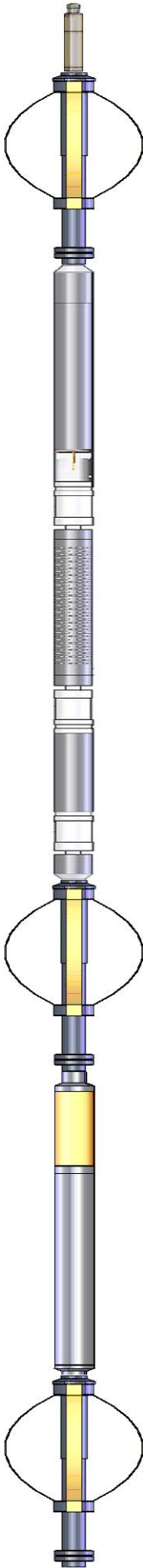
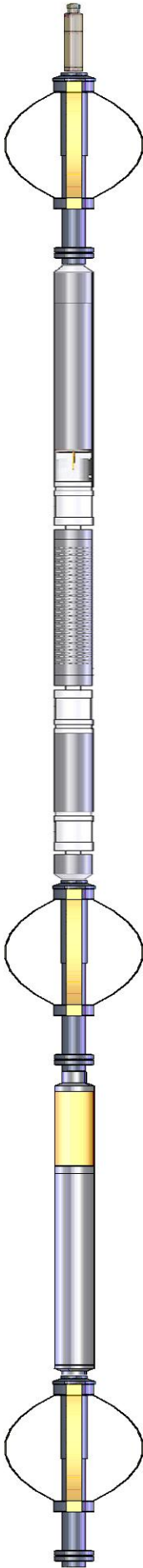
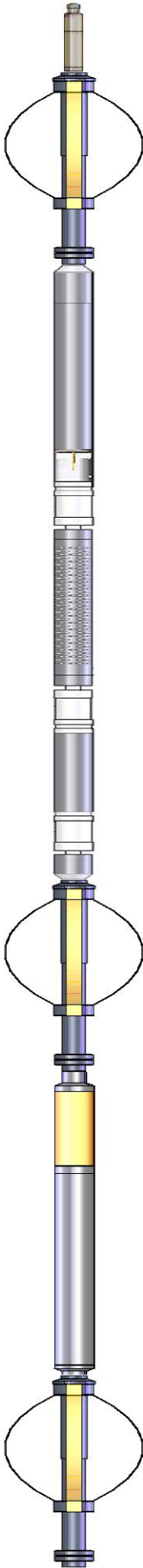
| | | |
|------------------------------|-----------|----|
| Serial Number: | FW1411-68 | |
| Tool Model: | RBL-DCT | |
| Calibration Casing Diameter: | 5.500 | in |
| Calibration Depth: | 507.467 | ft |

| | | | | | | |
|--|---------|-------|-----------------|---------|---------|--------|
| Master Calibration, performed (Derived): | | | | | | |
| | Raw (v) | | Calibrated (mv) | | Results | |
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | -0.003 | 1.018 | 1.000 | 71.921 | 69.438 | 1.205 |
| CAL | -0.001 | 1.486 | | | | |
| 5' | 0.000 | 0.951 | 1.000 | 71.921 | 74.578 | 1.000 |
| SUM | | | | | | |
| S1 | -0.011 | 0.941 | 0.000 | 100.000 | 105.122 | 1.112 |
| S2 | -0.000 | 0.918 | 0.000 | 100.000 | 108.913 | 0.050 |
| S3 | -0.011 | 0.957 | 0.000 | 100.000 | 103.314 | 1.180 |
| S4 | -0.019 | 1.059 | 0.000 | 100.000 | 92.730 | 1.798 |
| S5 | -0.026 | 1.122 | 0.000 | 100.000 | 87.099 | 2.274 |
| S6 | -0.019 | 1.173 | 0.000 | 100.000 | 83.867 | 1.631 |
| S7 | -0.009 | 1.115 | 0.000 | 100.000 | 89.009 | 0.794 |
| S8 | -0.006 | 1.015 | 0.000 | 100.000 | 98.003 | 0.569 |

| | | | | | | |
|---|---------|--|----------------|--|---------|--|
| Air Zero Calibration, performed Fri Oct 08 08:02:11 2021: | | | | | | |
| | Raw (v) | | Calibrated (v) | | Results | |
| | Zero | | Zero | | Offset | |
| 3' | 0.000 | | 0.000 | | 0.000 | |
| 5' | 0.000 | | 0.000 | | 0.000 | |
| SUM | | | | | | |
| S1 | 0.000 | | 0.000 | | 0.000 | |
| S2 | 0.000 | | 0.000 | | 0.000 | |
| S3 | 0.000 | | 0.000 | | 0.000 | |
| S4 | 0.000 | | 0.000 | | 0.000 | |
| S5 | 0.000 | | 0.000 | | 0.000 | |
| S6 | 0.000 | | 0.000 | | 0.000 | |
| S7 | 0.000 | | 0.000 | | 0.000 | |
| S8 | 0.000 | | 0.000 | | 0.000 | |

| |
|--------------------------------|
| Temperature Calibration Report |
|--------------------------------|

| | | | | |
|-----------------|-----------------|------|---------|------|
| Serial Number: | FW1411-68 | | | |
| Tool Model: | RBL-DCT | | | |
| Performed: | (Not Performed) | | | |
| | Reference | | Reading | |
| Low Reference: | 0.00 | degF | 0.00 | degF |
| High Reference: | 1.00 | degF | 1.00 | degF |
| Gain: | 1.00 | | | |
| Offset: | 0.00 | | | |
| Delta Spacing | 1 | | | |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|--|--|-------------|-----------|-------------|
| TEMP | 16.78 |  | Cable Head-Titan_144 1 7/16" Titan Cable Head | 1.03 | 1.44 | 2.00 |
| | | | Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer | 2.88 | 2.75 | 15.00 |
| | | | PROBE-RBT-DIGITAL-RBL-DCT (FW1411-68) Probe 2 3/4" Radii Bond with Temp-Corrosion Package | 9.21 | 2.75 | 105.00 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| WVFS8 | 14.49 | | | | | |
| WVFS7 | 14.49 | | | | | |
| WVFS6 | 14.49 | | | | | |
| WVFS5 | 14.49 | | | | | |
| WVFS4 | 14.49 | | | | | |
| WVFS3 | 14.49 | | | | | |
| WVFS2 | 14.49 | | | | | |
| WVFS1 | 14.49 | | | | | |
| WVFCAL | 14.49 | | | | | |
| WVF3FT | 14.49 | | | | | |
| WVF5FT | 13.49 | | | | | |
| CCL | 6.51 |  | Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer | 2.88 | 2.75 | 15.00 |
| | | | PROBE-GR/CCL-ANALOG-GR/CCL-A (120672) 2 3/4" Gamma with CCL-Analog | 4.54 | 2.75 | 60.00 |
| GR | 3.78 |  | Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer | 2.88 | 2.75 | 15.00 |

Total weight: 212.00 lb
O.D.: 2.75 in



| | |
|---------|---------------------|
| Company | VERDAD RESOURCES |
| Well | Sonic Star 1102-16H |
| Field | Wattenberg |
| County | Weld |
| State | Colorado |