



**Weatherford**

**SECUREVIEW  
ULTRAVIEW/BONDVIEW  
CEMENT ANALYSIS**

COMPANY **EXTRACTION OIL & GAS**  
 WELL **HESTER FARMS F36-HN**  
 FIELD **WATTENBERG**  
 PROVINCE/COUNTY **WELD**  
 COUNTRY/STATE **USA / COLORADO**  
 LOCATION

SEC 31 TWP 7N RGE 66W Other Services  
 Latitude  
 Longitude  
 API Number 05-123-42001-00  
 Permanent Datum **GROUND LEVEL, Elevation 4888 feet**  
 Log Measured From **KB, 28 feet above Permanent Datum**  
 Drilling Measured From **KB @ 28'**  
 Elevations:  
 KB 4916.00  
 DF 4916.00  
 GL 4888.00

| PERFORATION RECORD |                     | Shot          | Number   | Depth From | Depth To |
|--------------------|---------------------|---------------|----------|------------|----------|
| Date               | Run Number          | Density       | of Shots | feet       | feet     |
| 31-DEC-2016        | ONE                 |               |          |            |          |
|                    | 170369881           |               |          |            |          |
|                    | URS/CBT             |               |          |            |          |
|                    | Depth Driller       | 11940.00      |          |            |          |
|                    | Depth Logger        | 6600.00       |          |            |          |
|                    | Top Log Interval    | 0.00          |          |            |          |
|                    | Bottom Log Interval | 6600.00       |          |            |          |
|                    | Hole Fluid Type     | WATER         |          |            |          |
|                    | Hole Fluid Level    | 0.00          |          |            |          |
|                    | Restriction ID      | 4.767         |          |            |          |
|                    | Max Recorded Temp   |               |          |            |          |
|                    | Well Head Pressure  | 0.00          |          |            |          |
|                    | Well Head Equipment |               |          |            |          |
|                    | Time Well Ready     | ROA           |          |            |          |
|                    | Time Logger Bottom  | SEE LOG       |          |            |          |
|                    | Unit                | 14338         | 9.625    | 36.00      | 0.00     |
|                    | Equipment Name      | WSSSE         | 5.500    | 20.00      | 0.00     |
|                    | Base                | CASPER        |          |            |          |
|                    | Recorded By         | P. MAZUR      |          |            |          |
|                    | Witnessed By        | NOT WITNESSED |          |            |          |

### CASING / TUBING RECORD

| Type | Grade | TypeJoint | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
|------|-------|-----------|-------------|-----------------|-----------------|------------------|
|      |       |           | 9.625       | 0.00            | 1563.00         | 36.00            |
|      |       |           | 5.500       | 0.00            | 11940.00        | 20.00            |

### REMARKS

ULTRASONIC RADIAL SCANNER LOG CORRELATED TO RIG KB @ 28 FT ABOVE GROUND LEVEL

BELOW SURFACE CASING THE TOOL HAD MANY AREAS WHERE IT EXPERIENCED DECENTRALIZATION DUE TO DEVIATION AND DOG LEGS IN THE CASING. IT SHOULD BE NOTED THAT THIS DECENTRALIZATION OF THE TOOL GREATLY AFFECTS THE READINGS RECORDED OVER THESE INTERVALS

ECCENTERICITY IS IN TRACK 1 AND REFLECTED BY FOUR STRIPES ALTERNATING LIGHT AND DARK IN THE AMPLITUDE AND IMPDEANCE MAPS. AT THESE POINTS THE READS ARE INVALID.

ALSO THE CASING SHOWED SIGNS OF BEING IN DIRCT CONTACT WITH THE FORMATION WHICH LEADS TO SPIKING IN THE THICKNESS CURVES

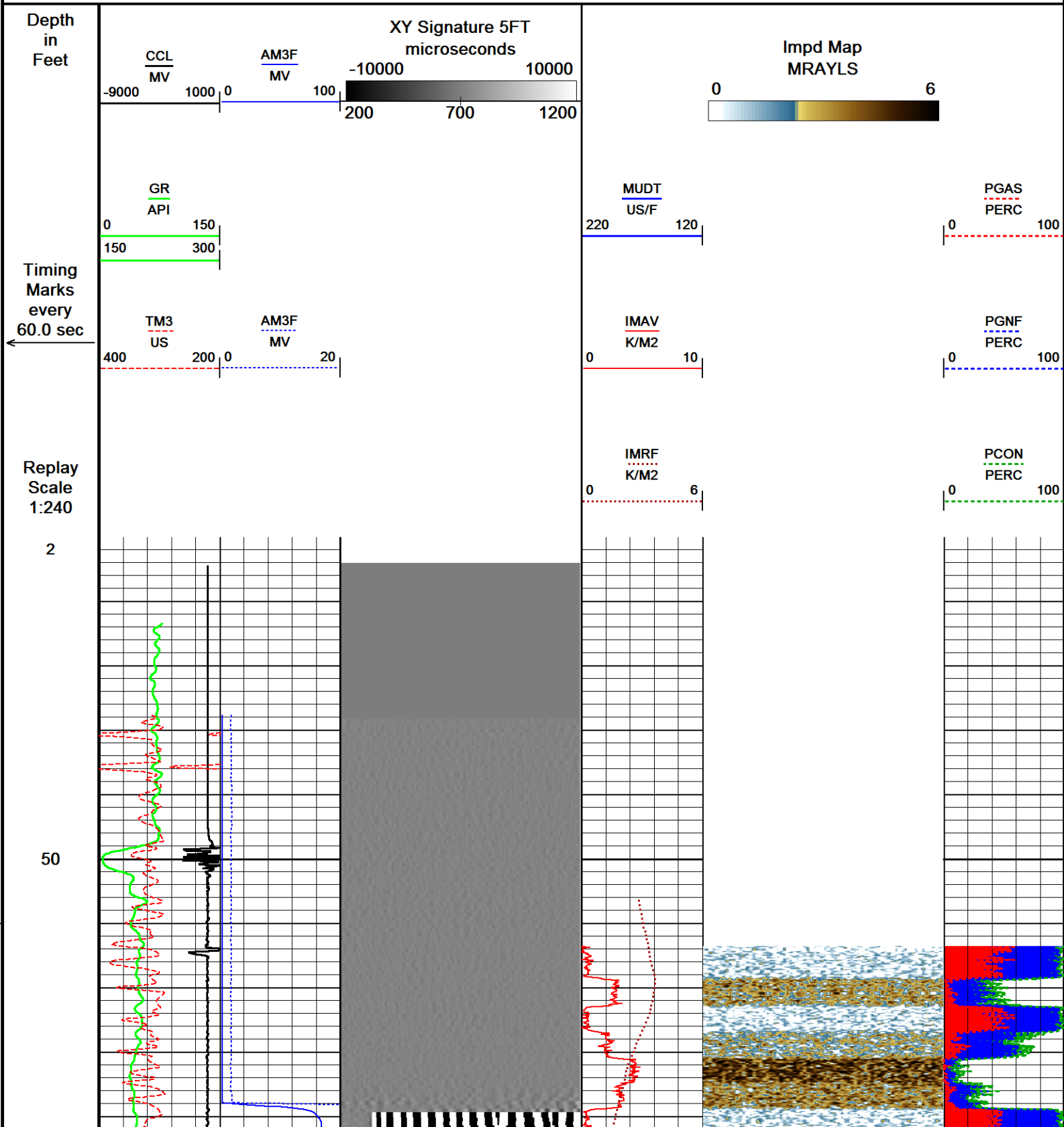
THE DEPTH OF LOGGING WAS STARTED AT THE POINT AT WHICH THE TOOL WAS DEVIATED ENOUGH THAT IT CAUSED THE HEAD ON THE ULTRASONIC TOOL TO STOP ROTATING

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY

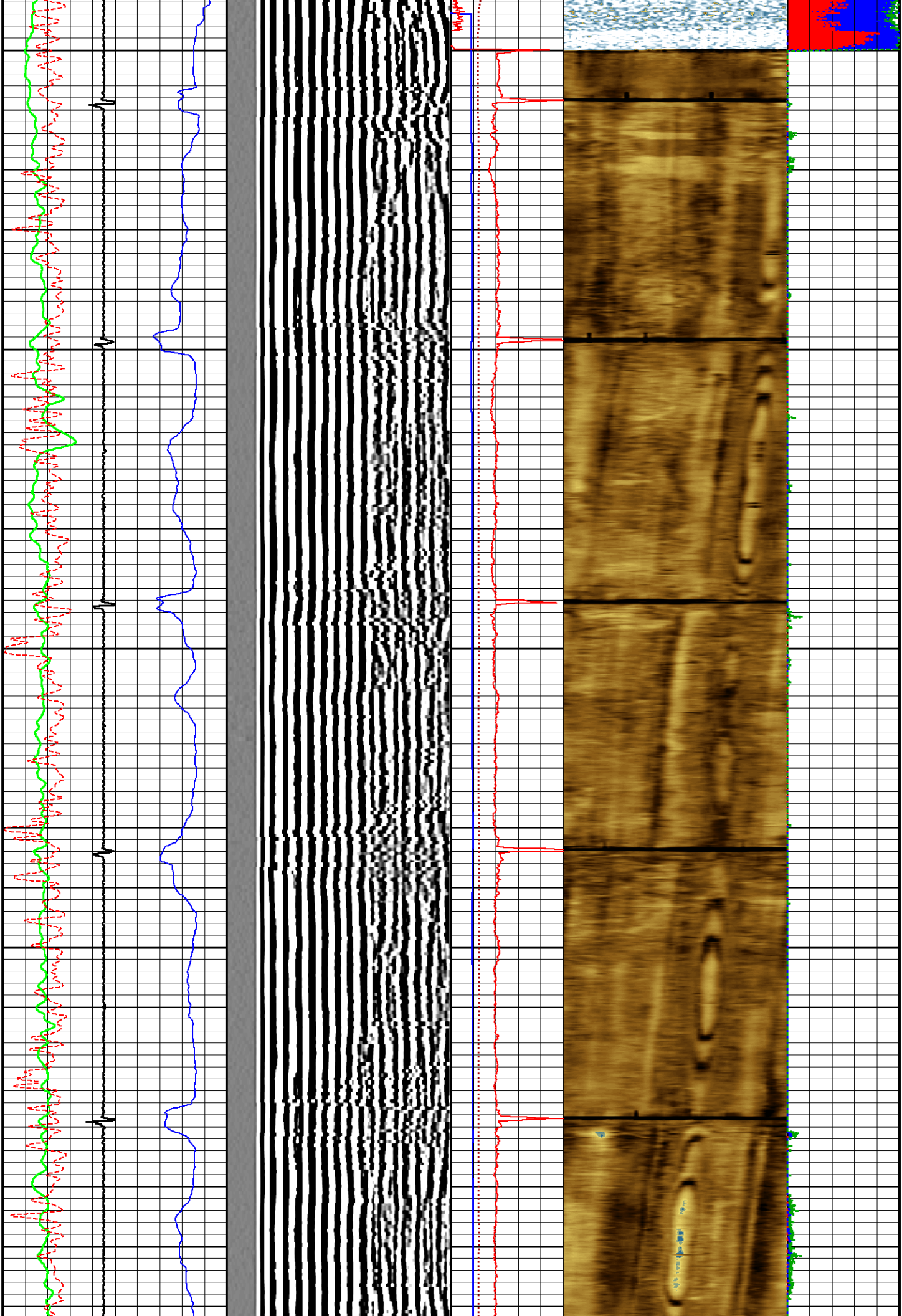
assumptions are not made, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

**MAIN PASS**

Depth Based Data - Maximum Sampling Increment 2.5cm Plotted on 05-JAN-2017 12:35  
 Filename: C:\Logs\Extraction\HESTER FARMS F-36...HESTER FARMS F-36HN MAIN PASS\_001.dta Recorded on 05-JAN-2017 09:51  
 System Versions: Logged with 16.05.3841 Plotted with 16.05.3841



100  
150  
200  
250  
300

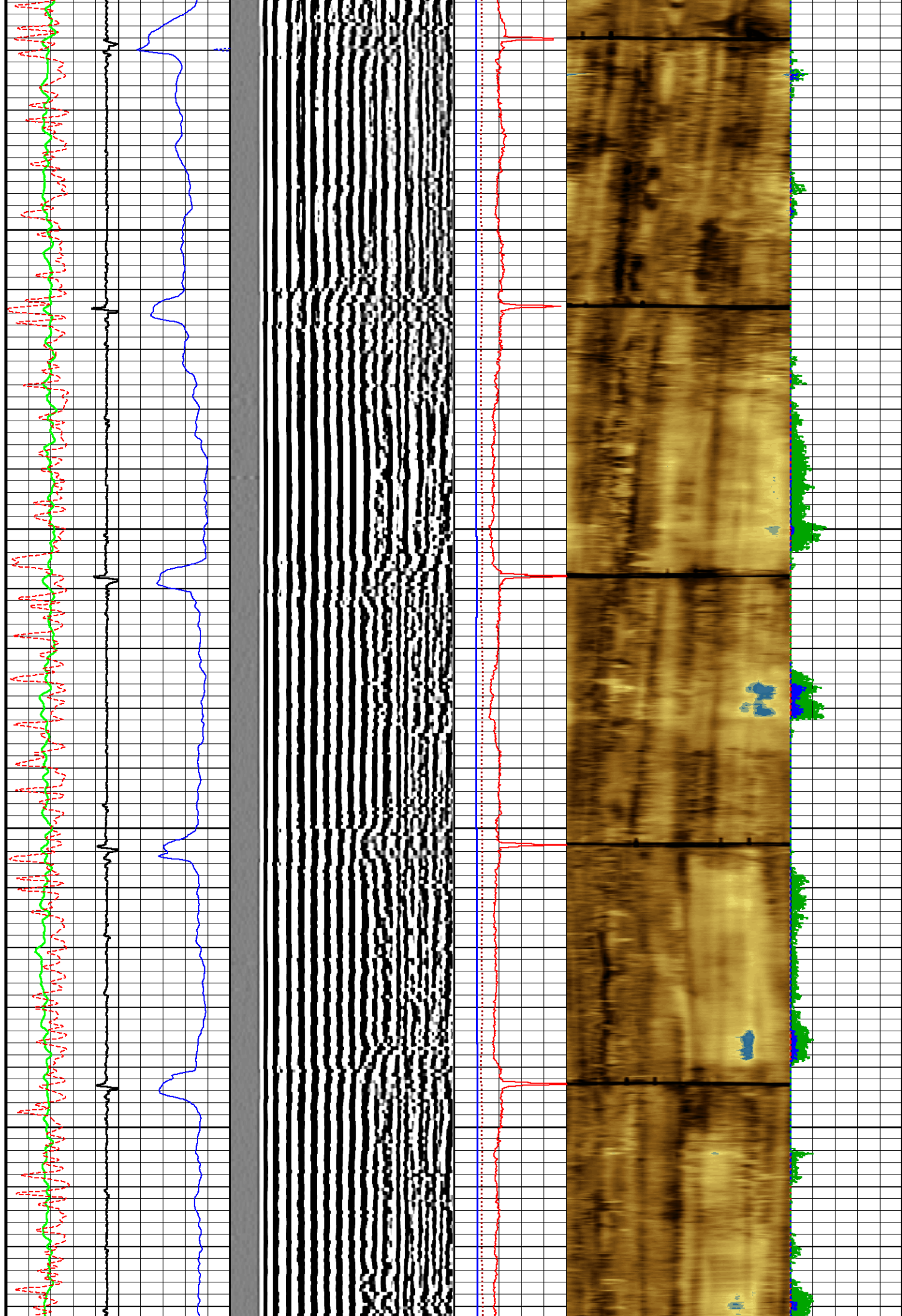


350

400

450

500



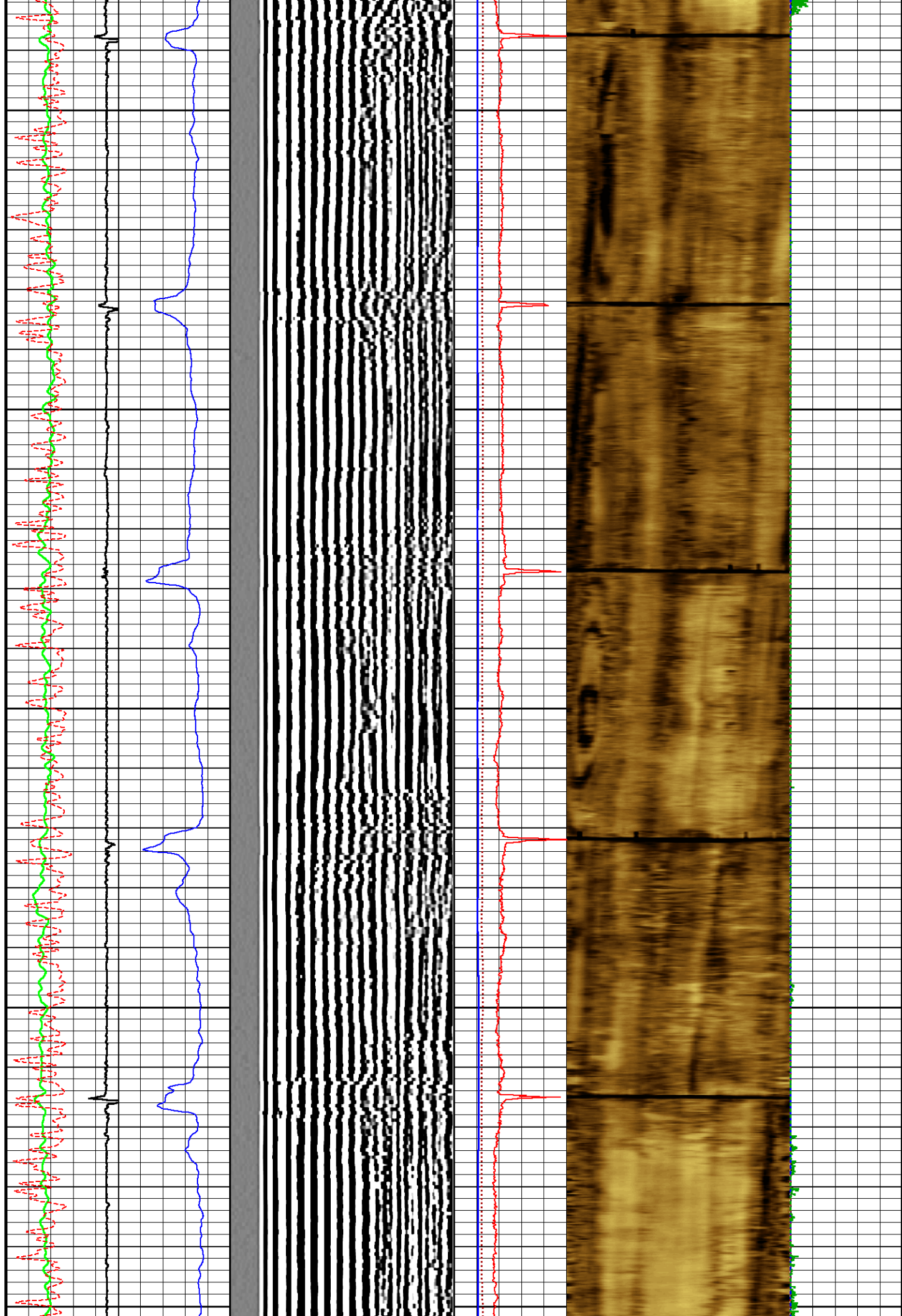
550

600

650

700

750

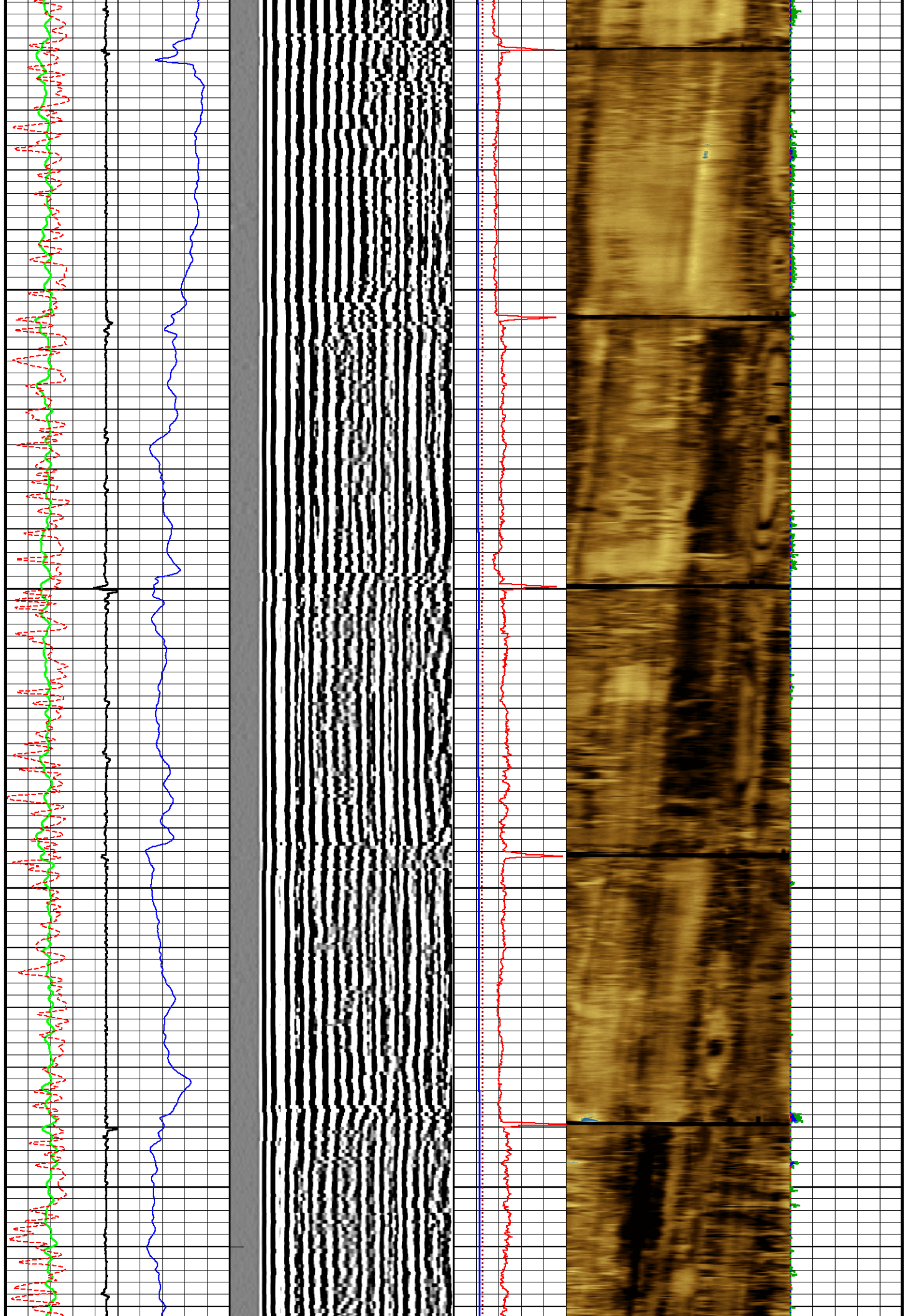


800

850

900

950

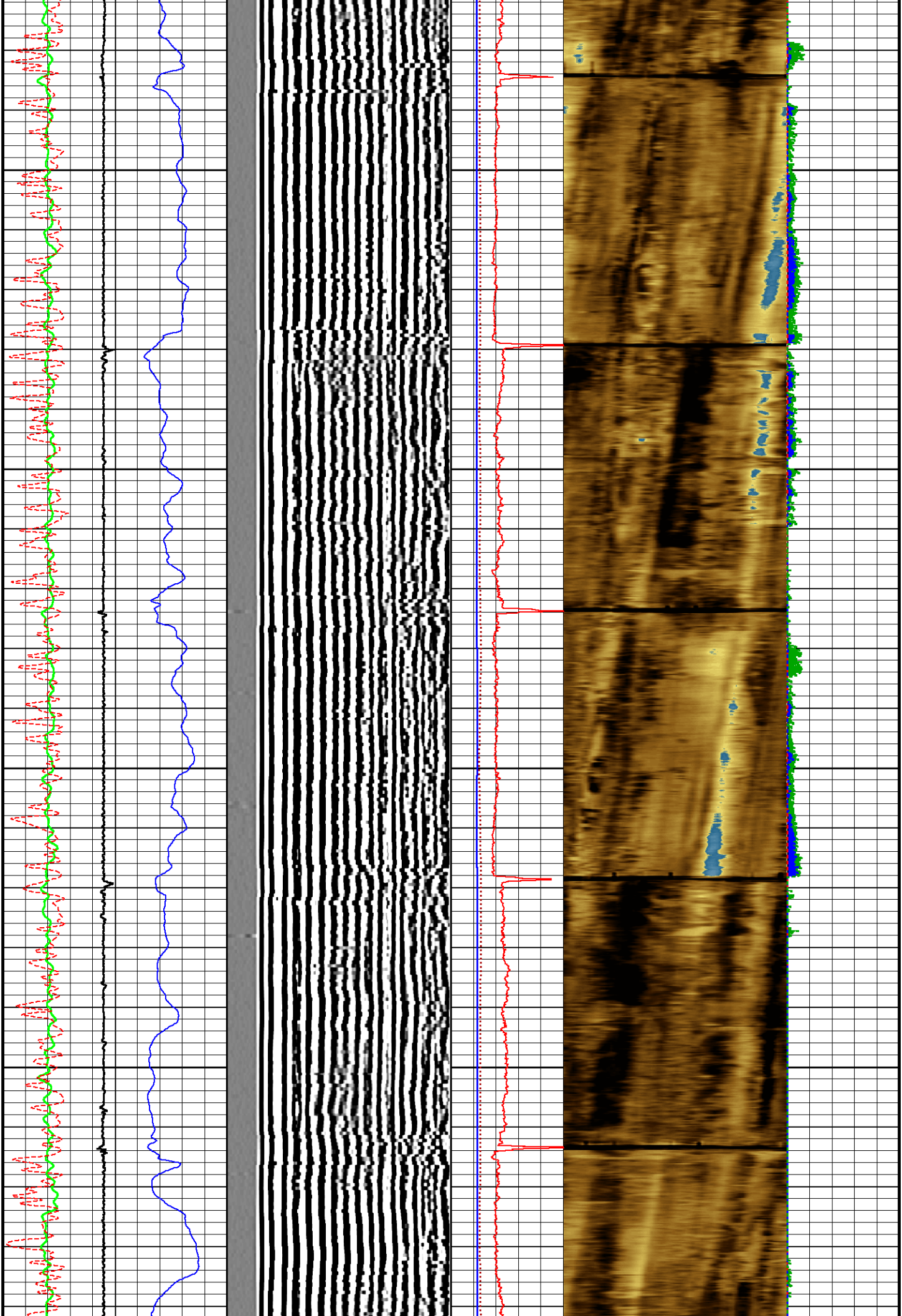


1000

1050

1100

1150



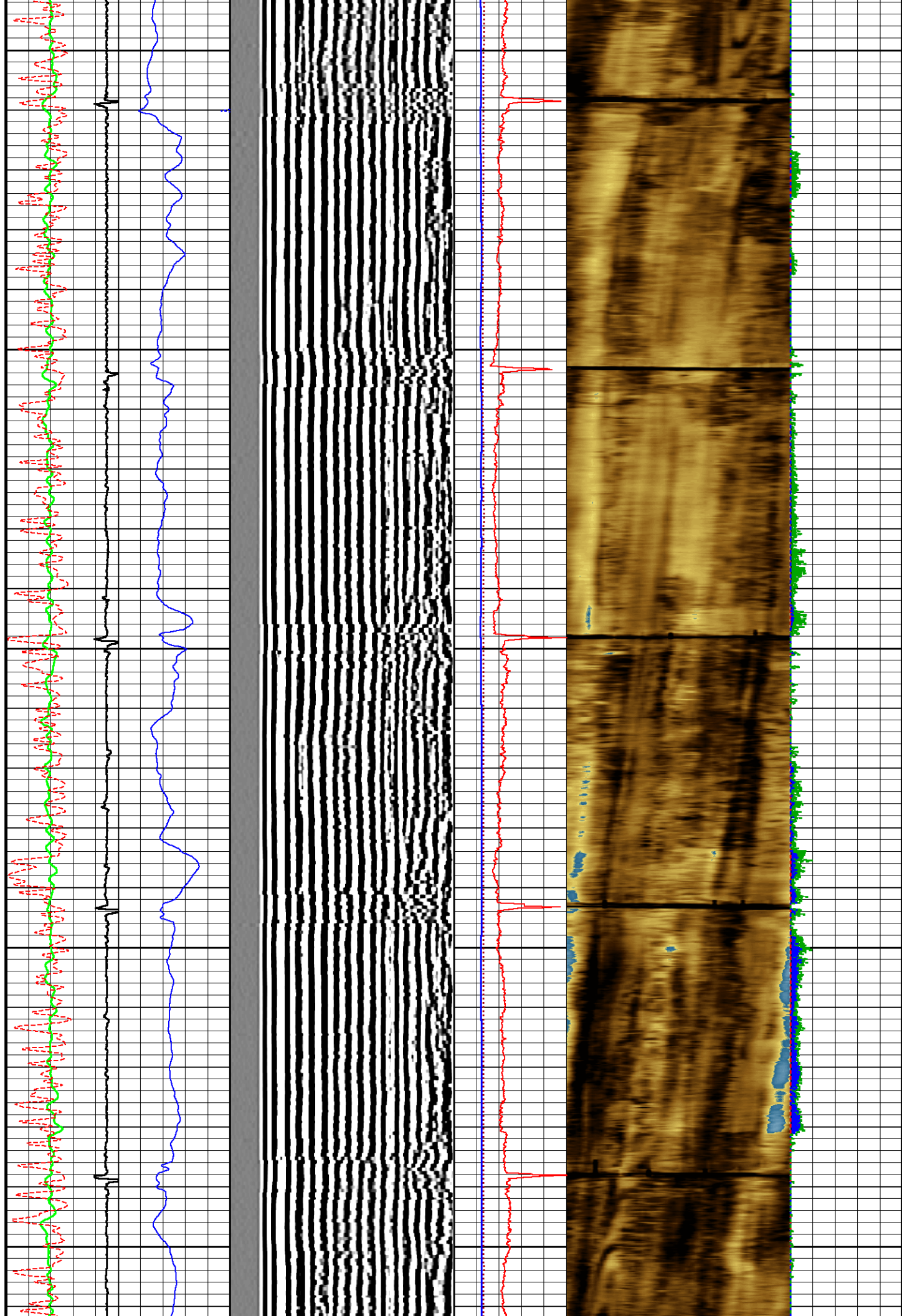
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1250

1300

1350

1400

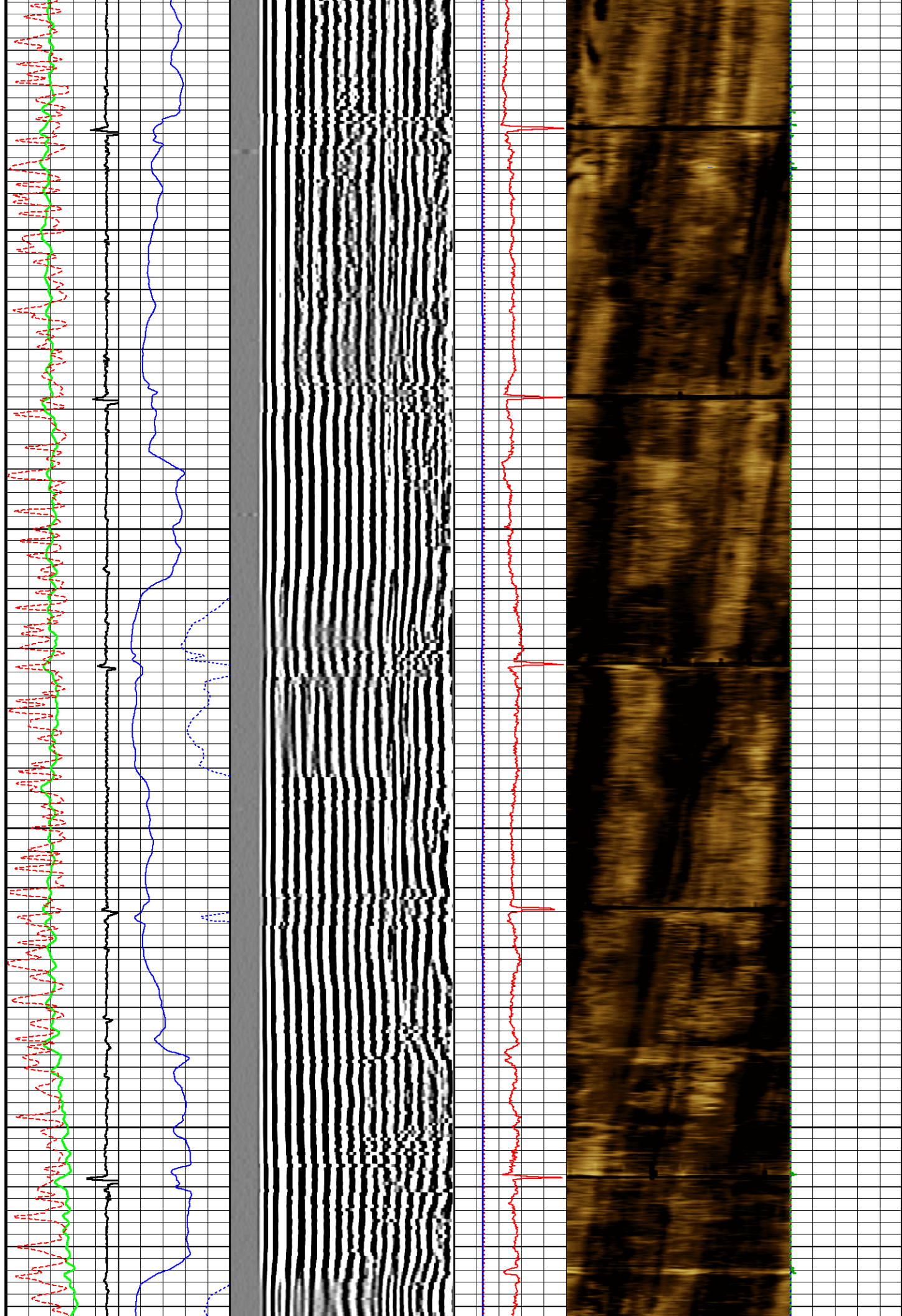


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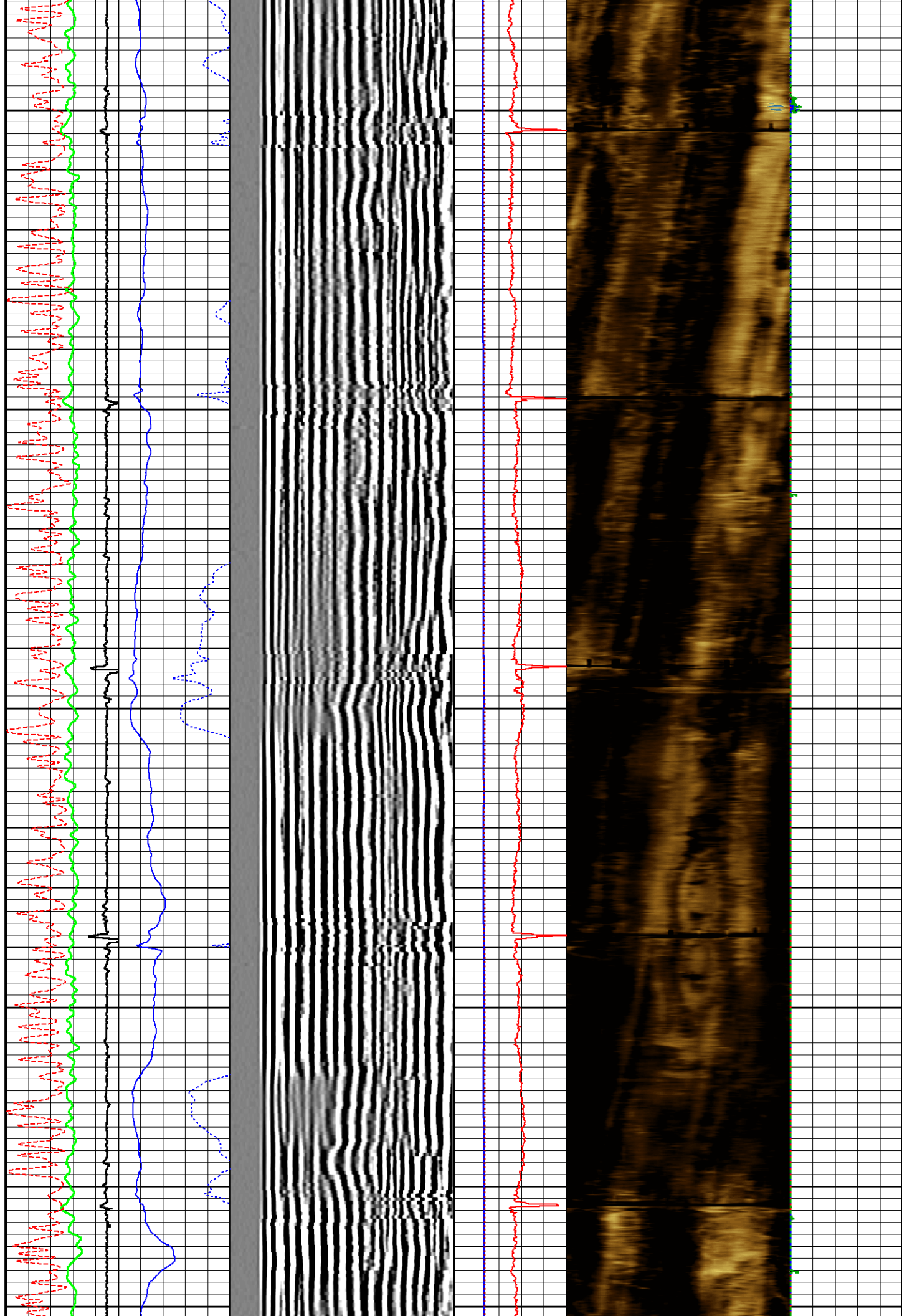
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1550

1600



1650  
1700  
1750  
1800  
1850

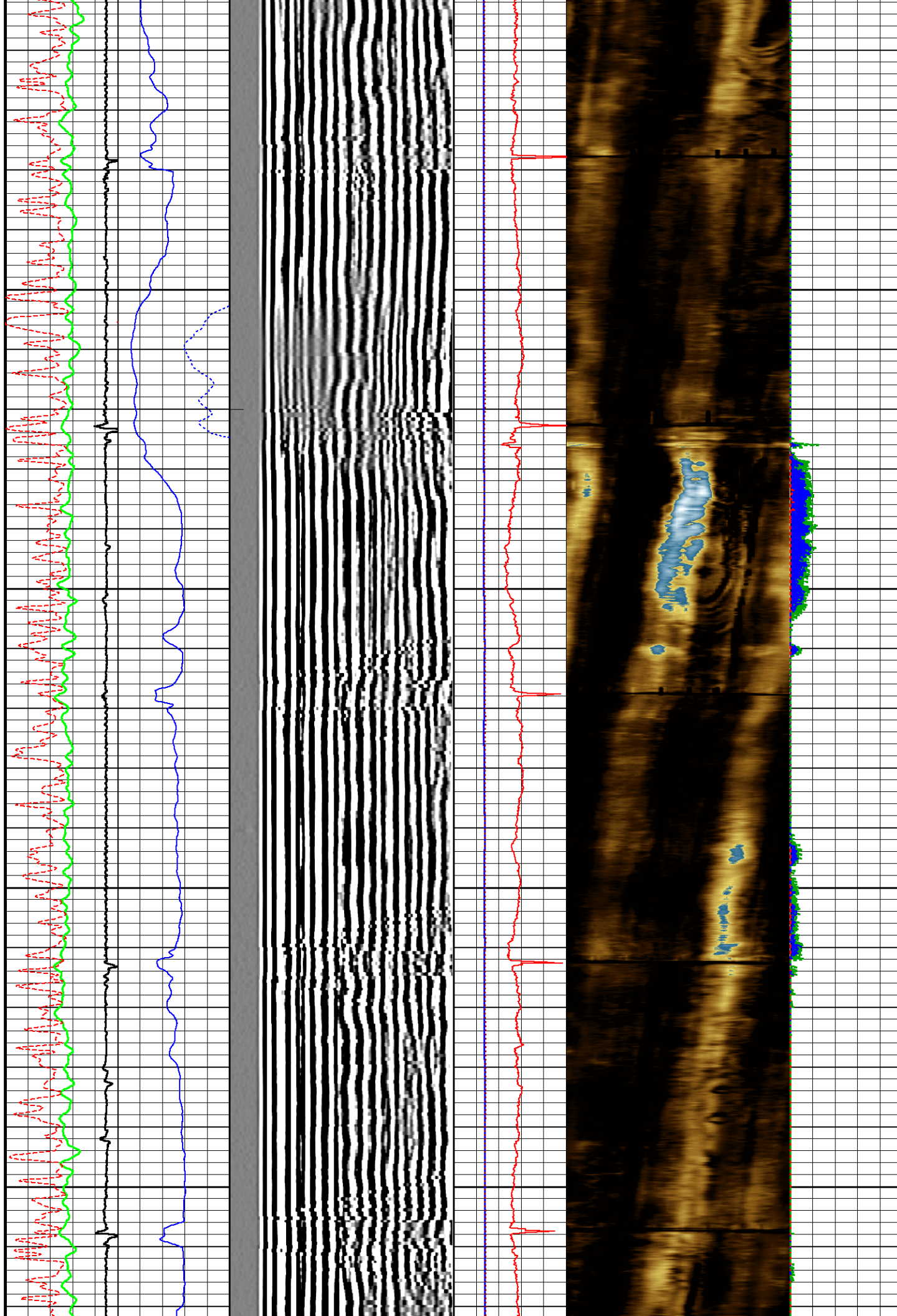


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2000

2050

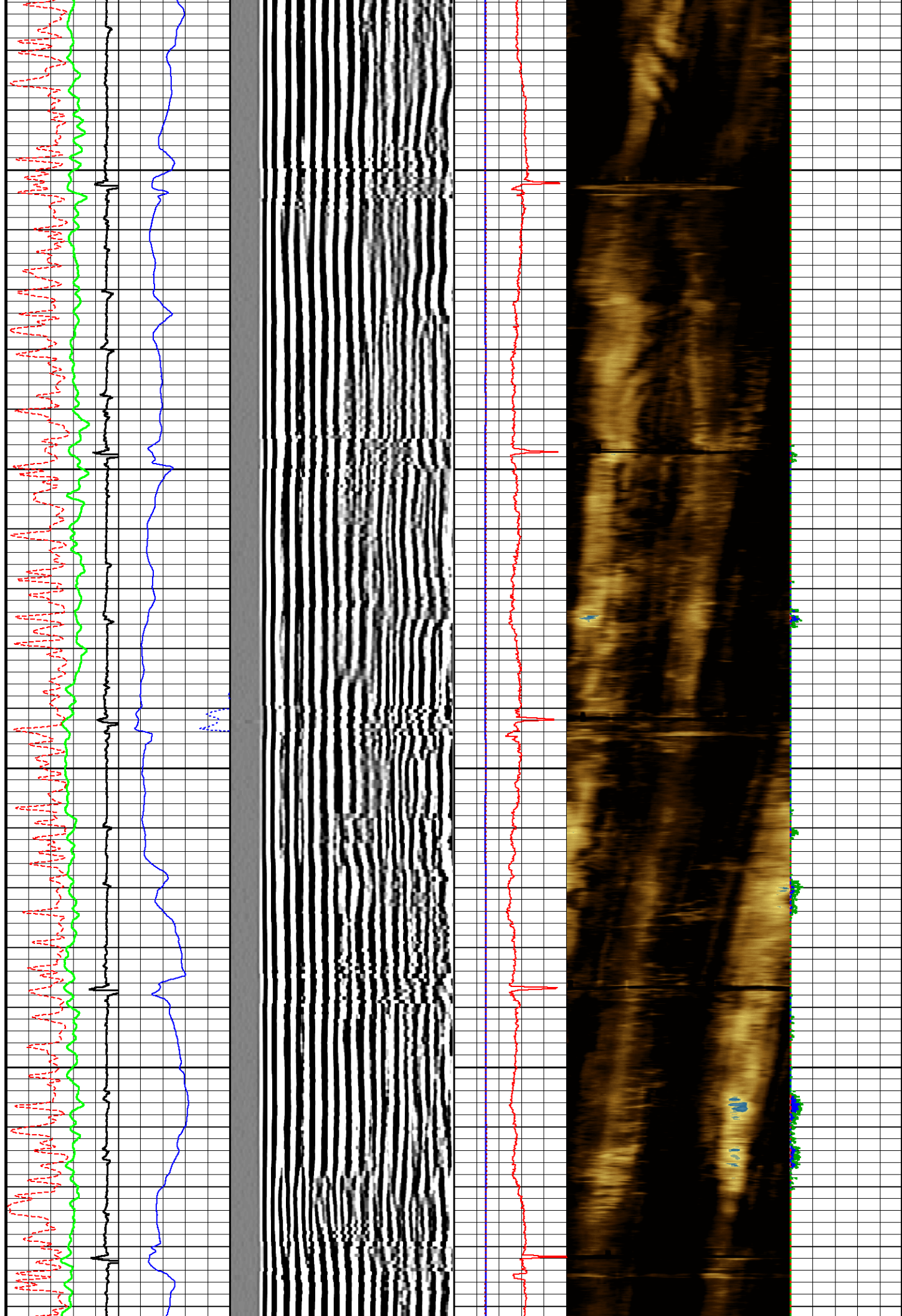


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2150

2200

2250



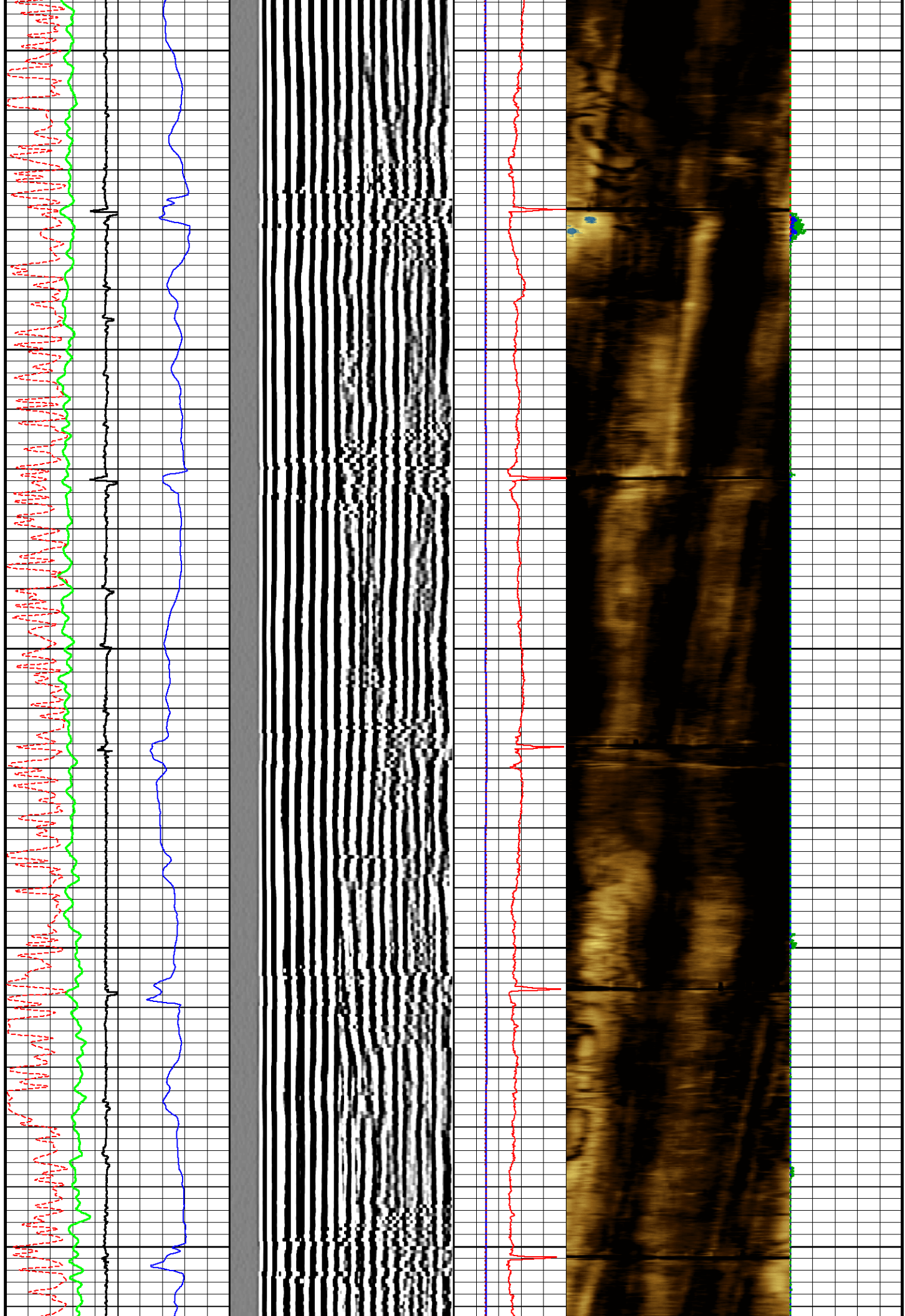
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2350

2400

2450

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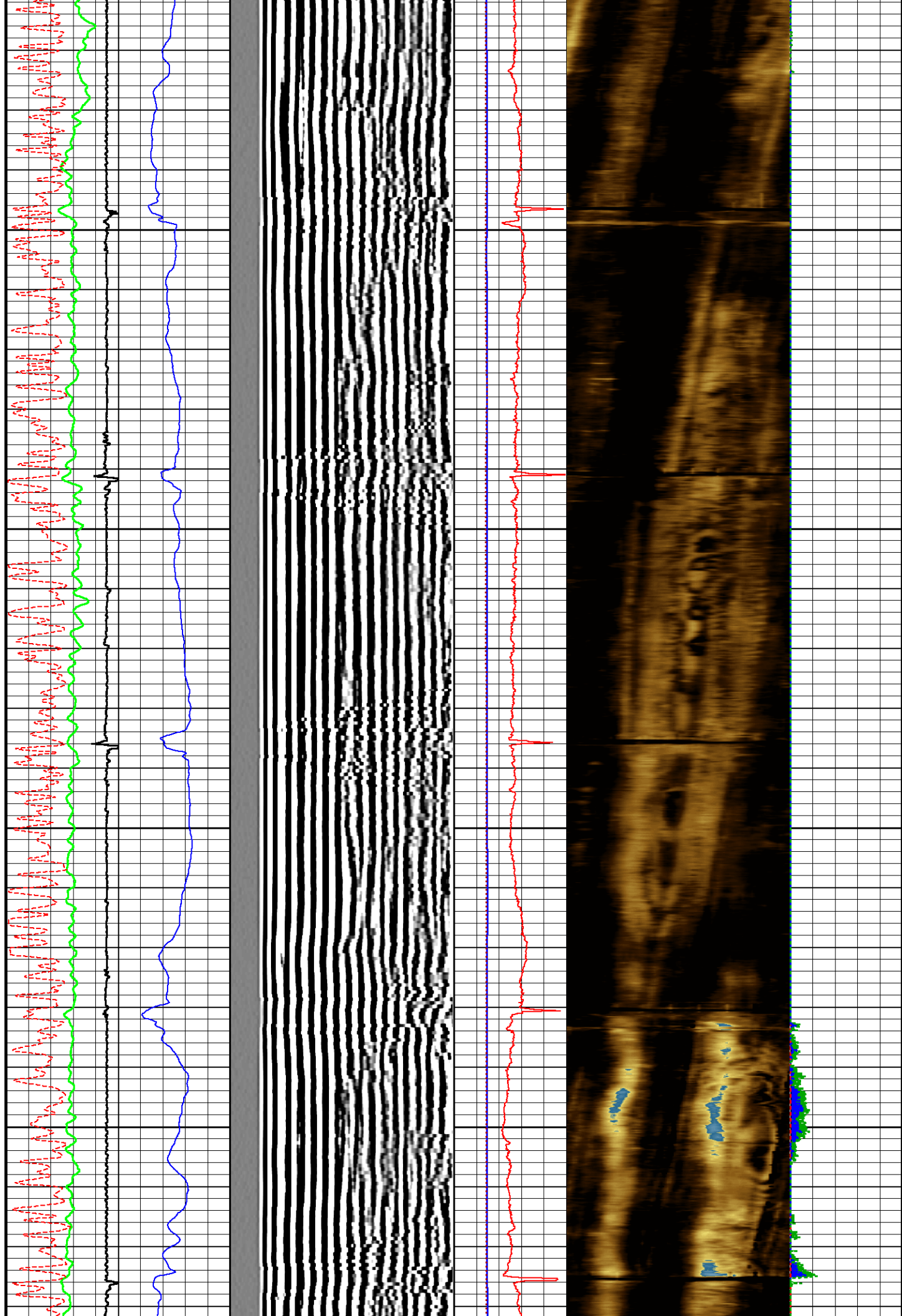


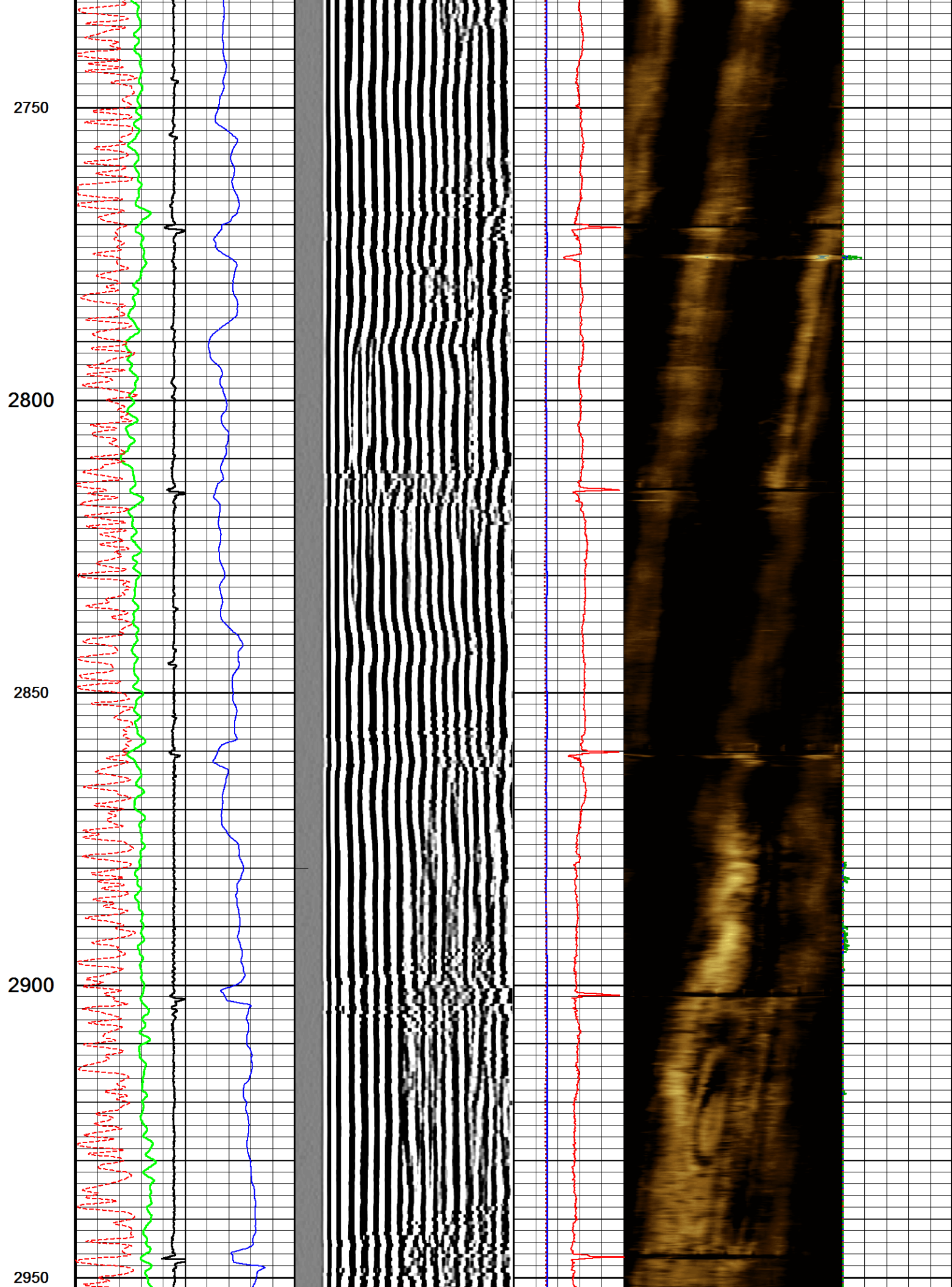
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2600

2650

2700



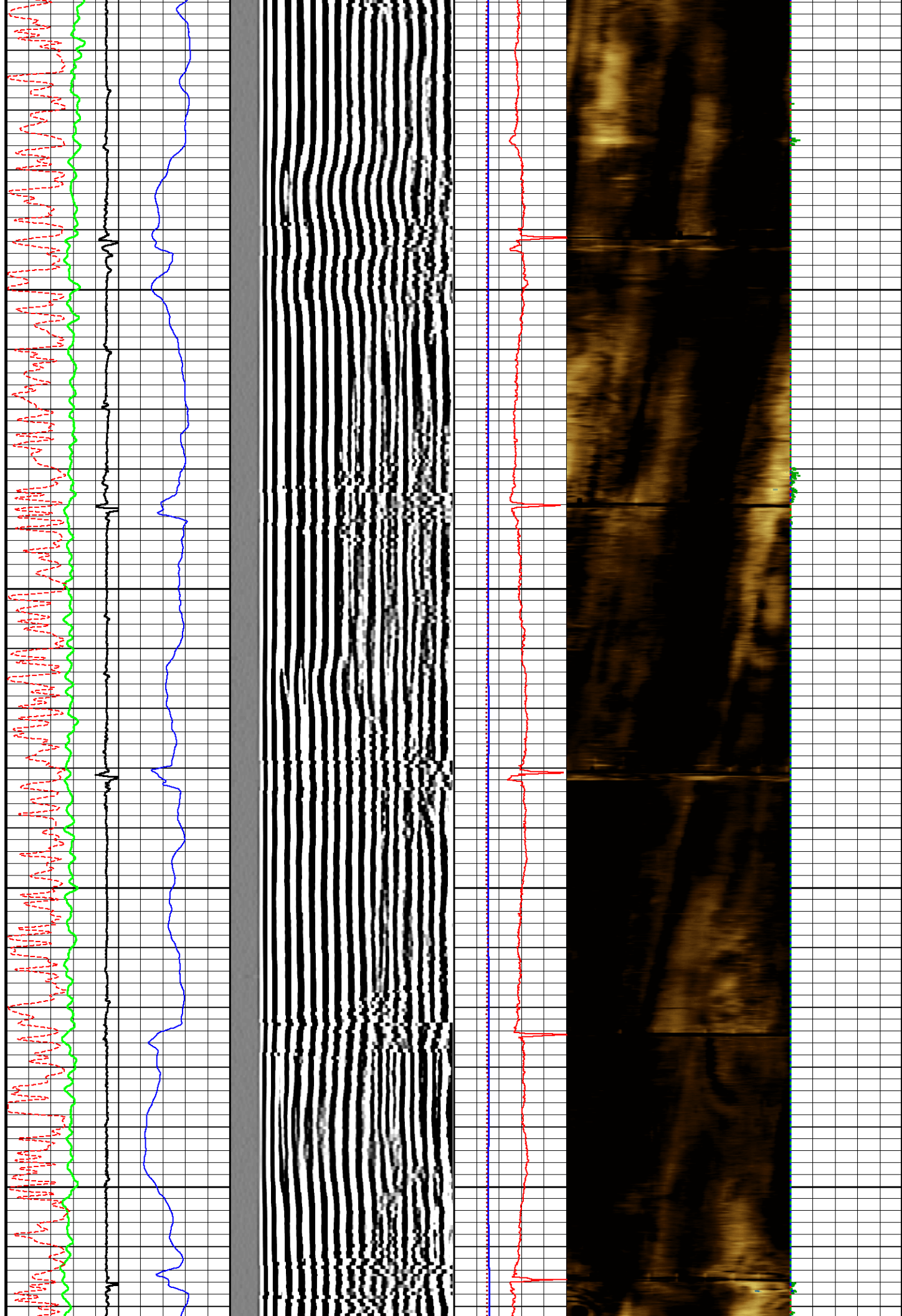


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3050

3100

3150

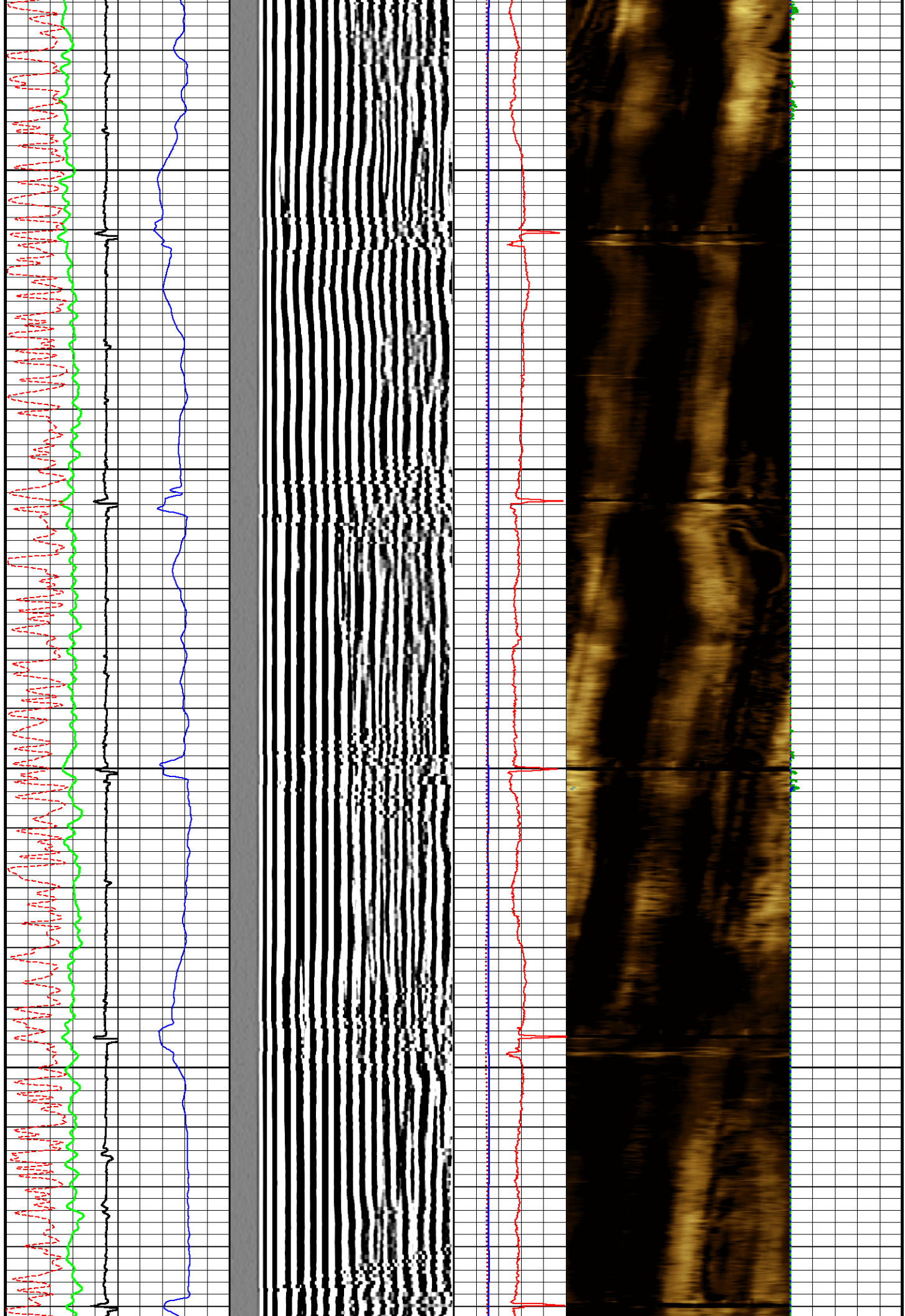


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3250

3300

3350



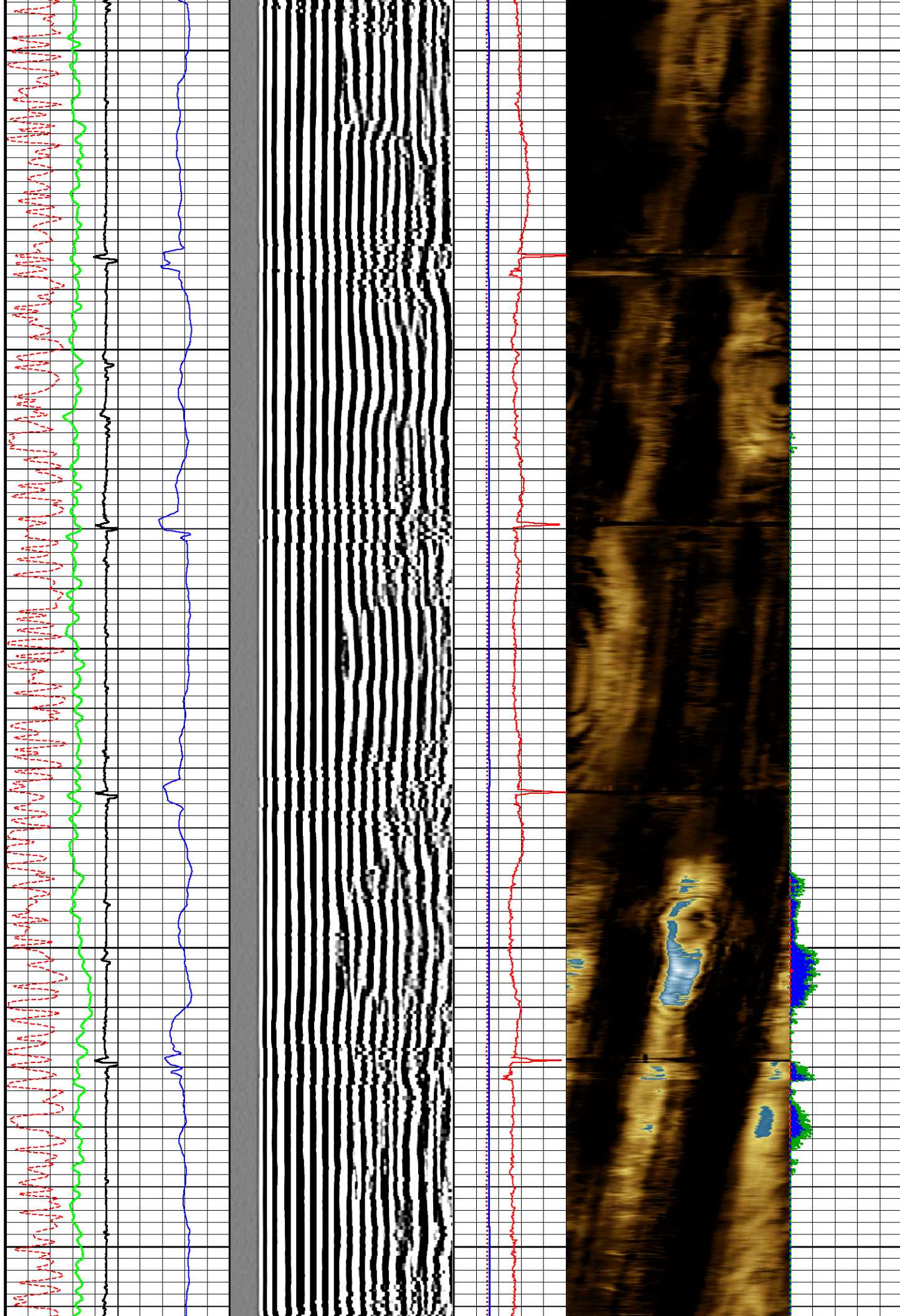
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3450

3500

3550

3600

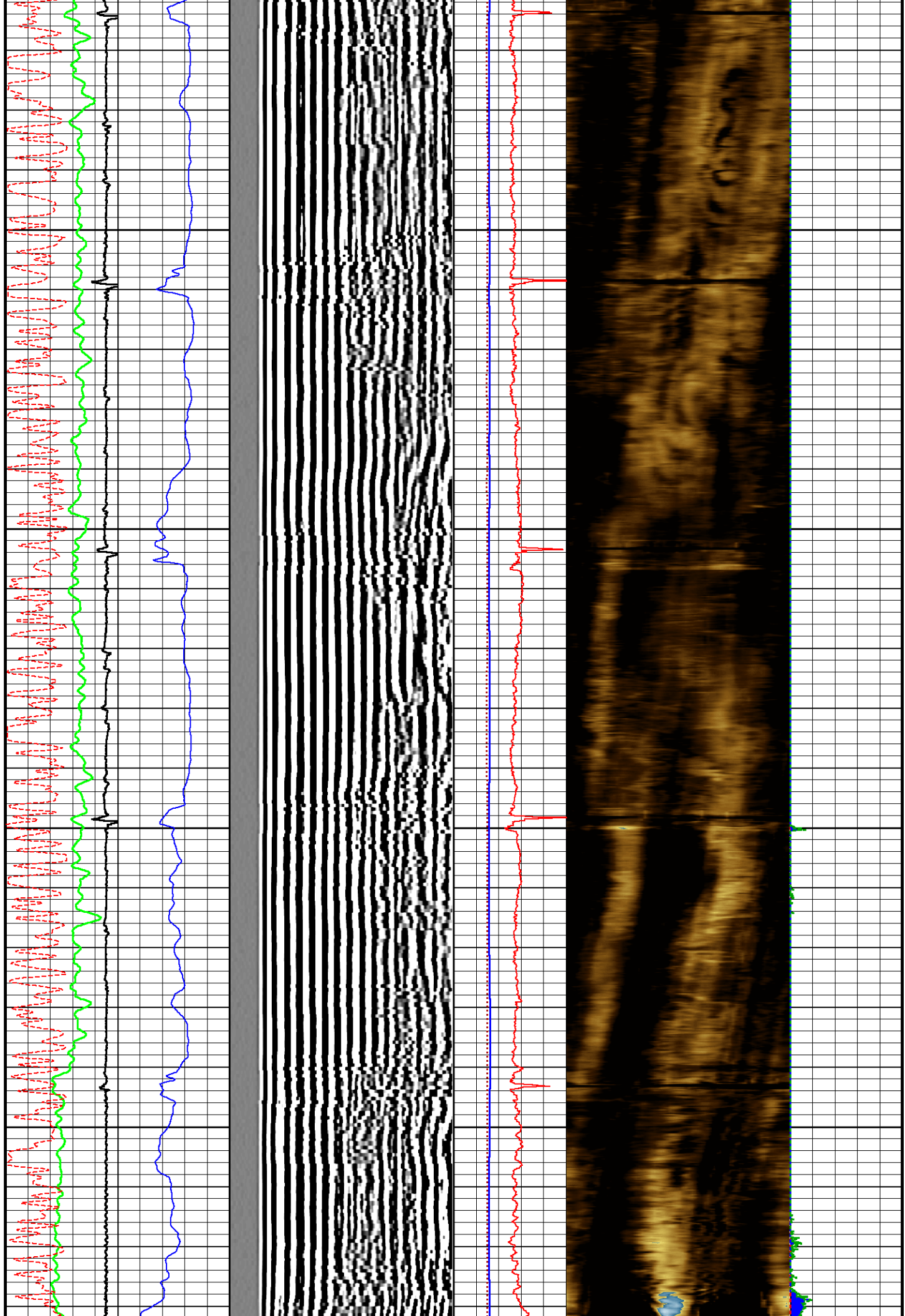


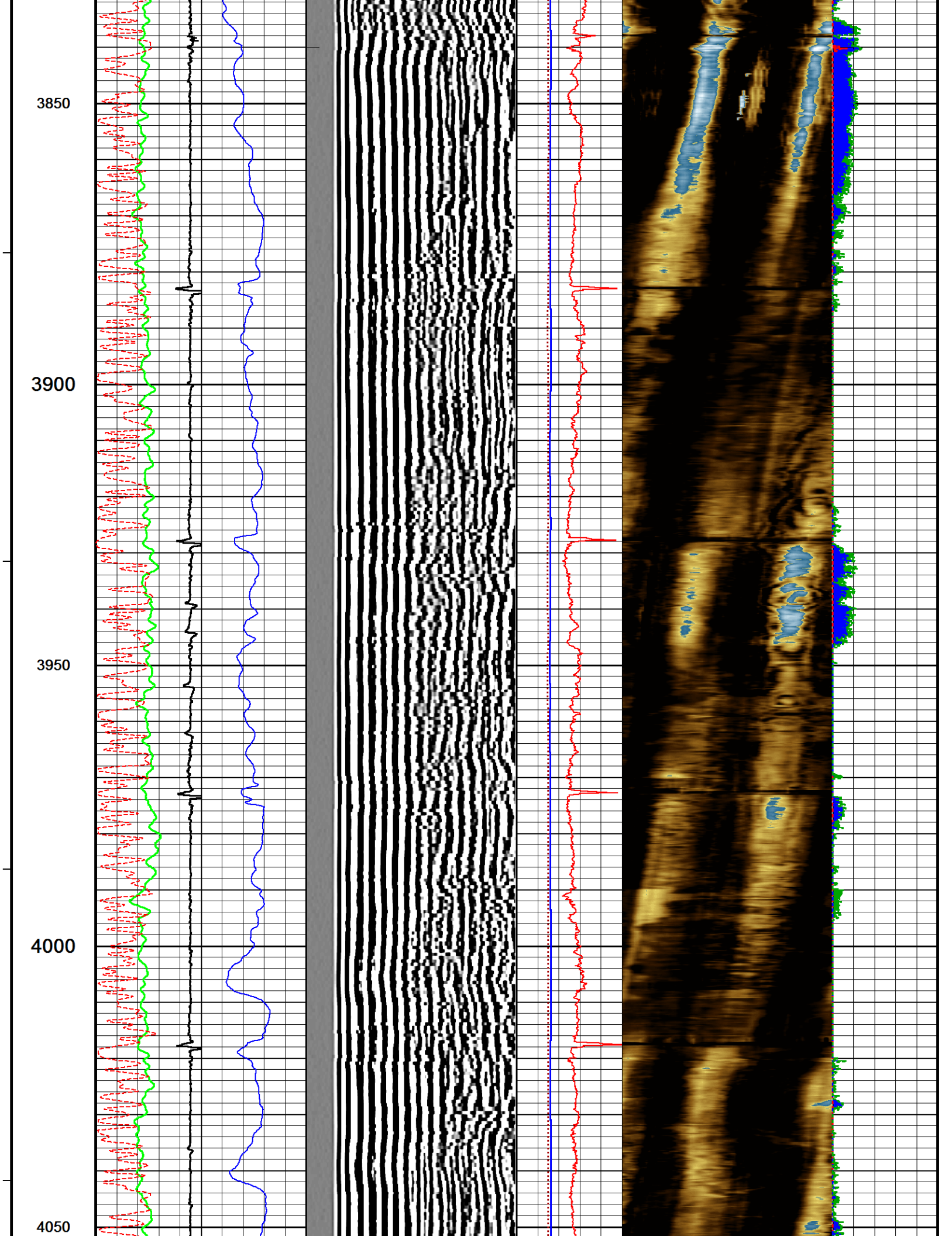
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3700

3750

3800



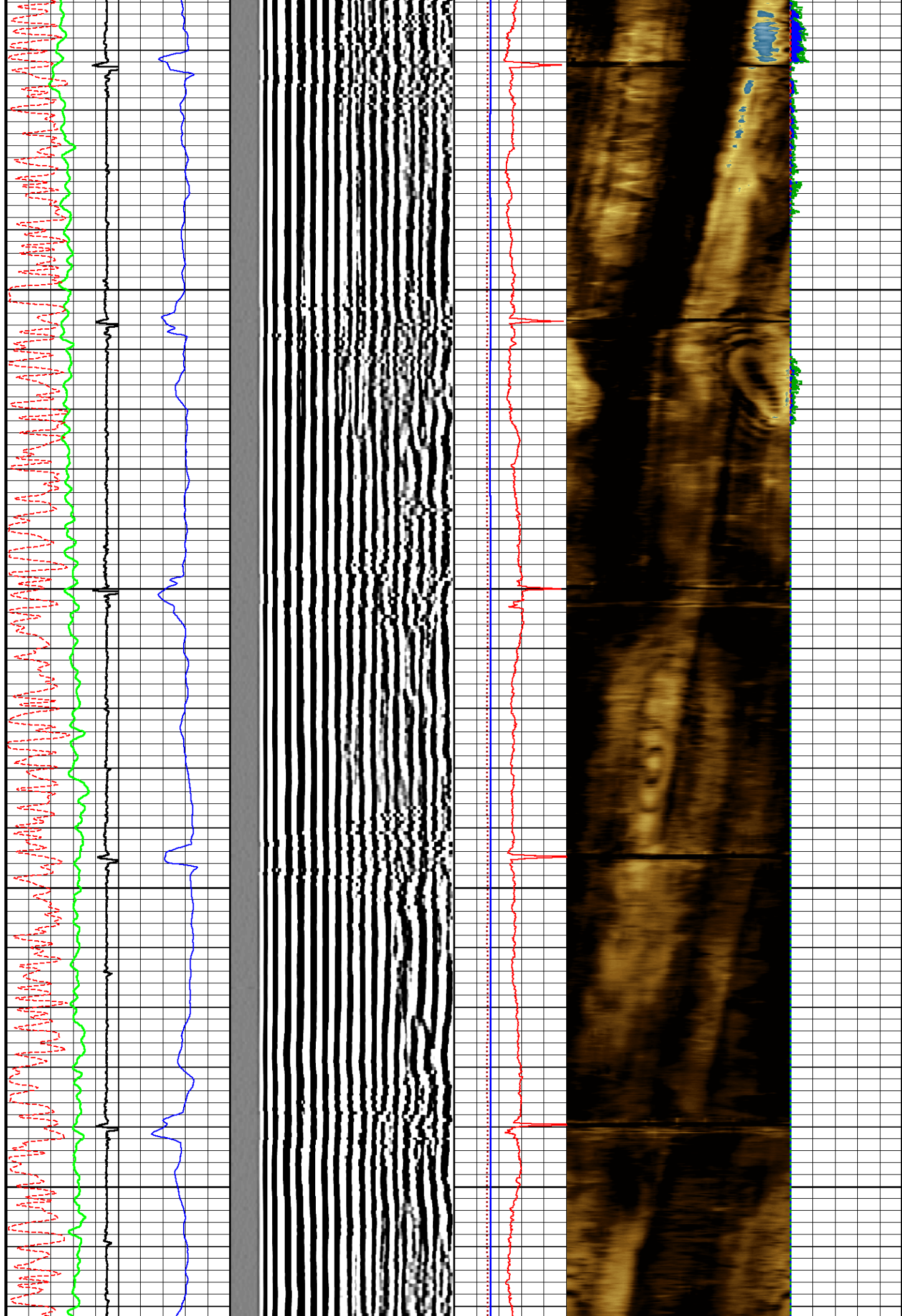


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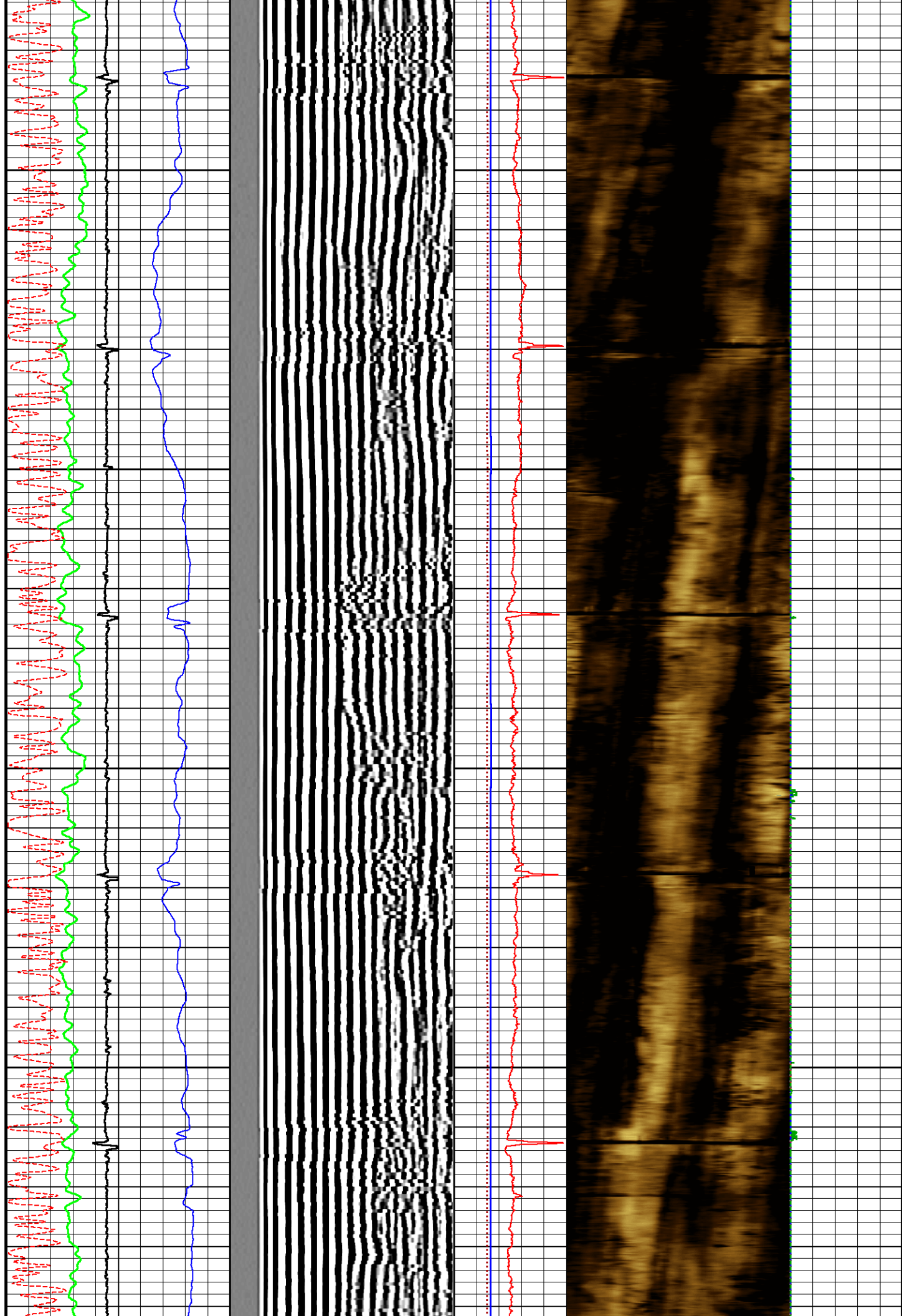


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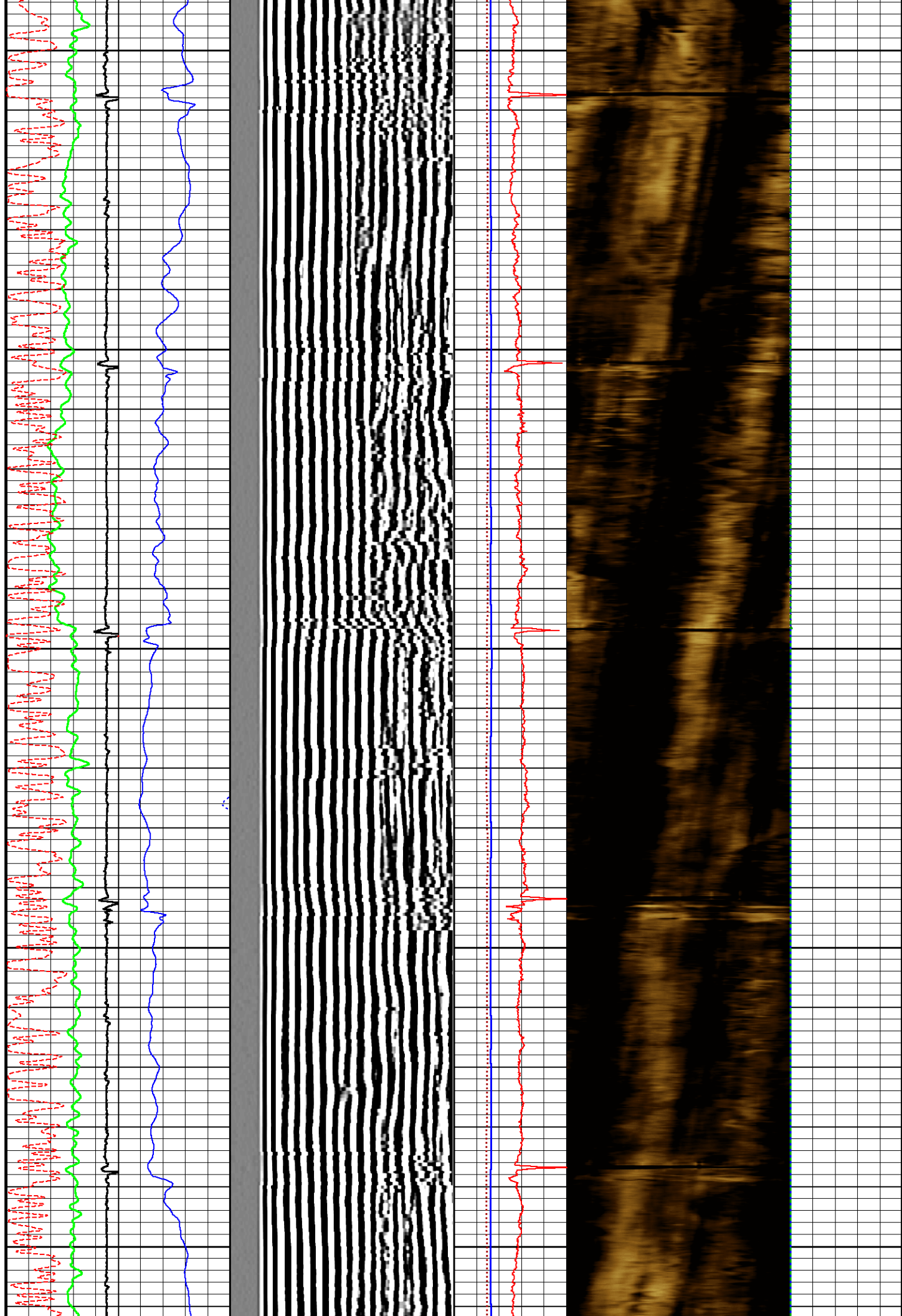
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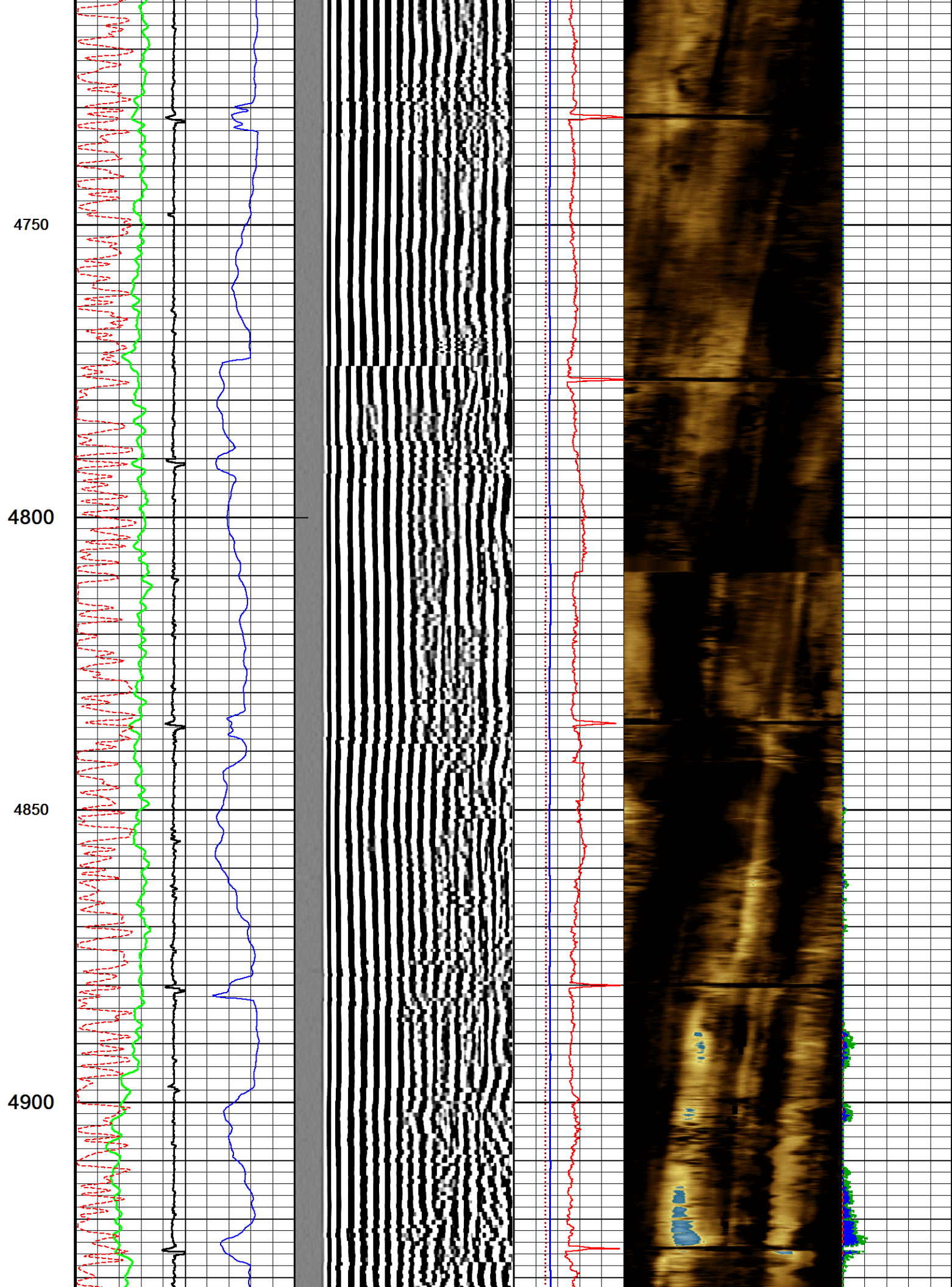
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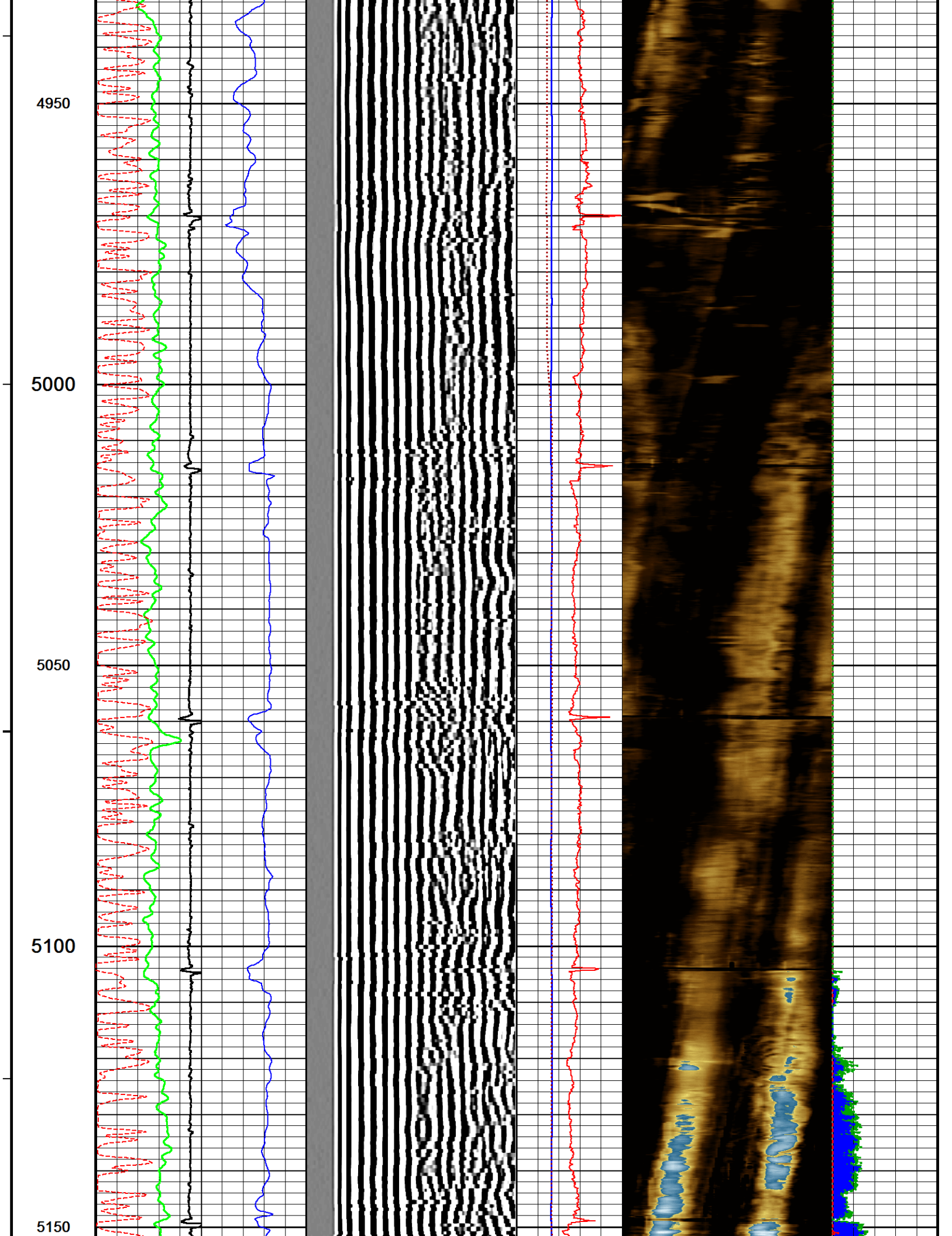
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4500  
4550  
4600  
4650  
4700





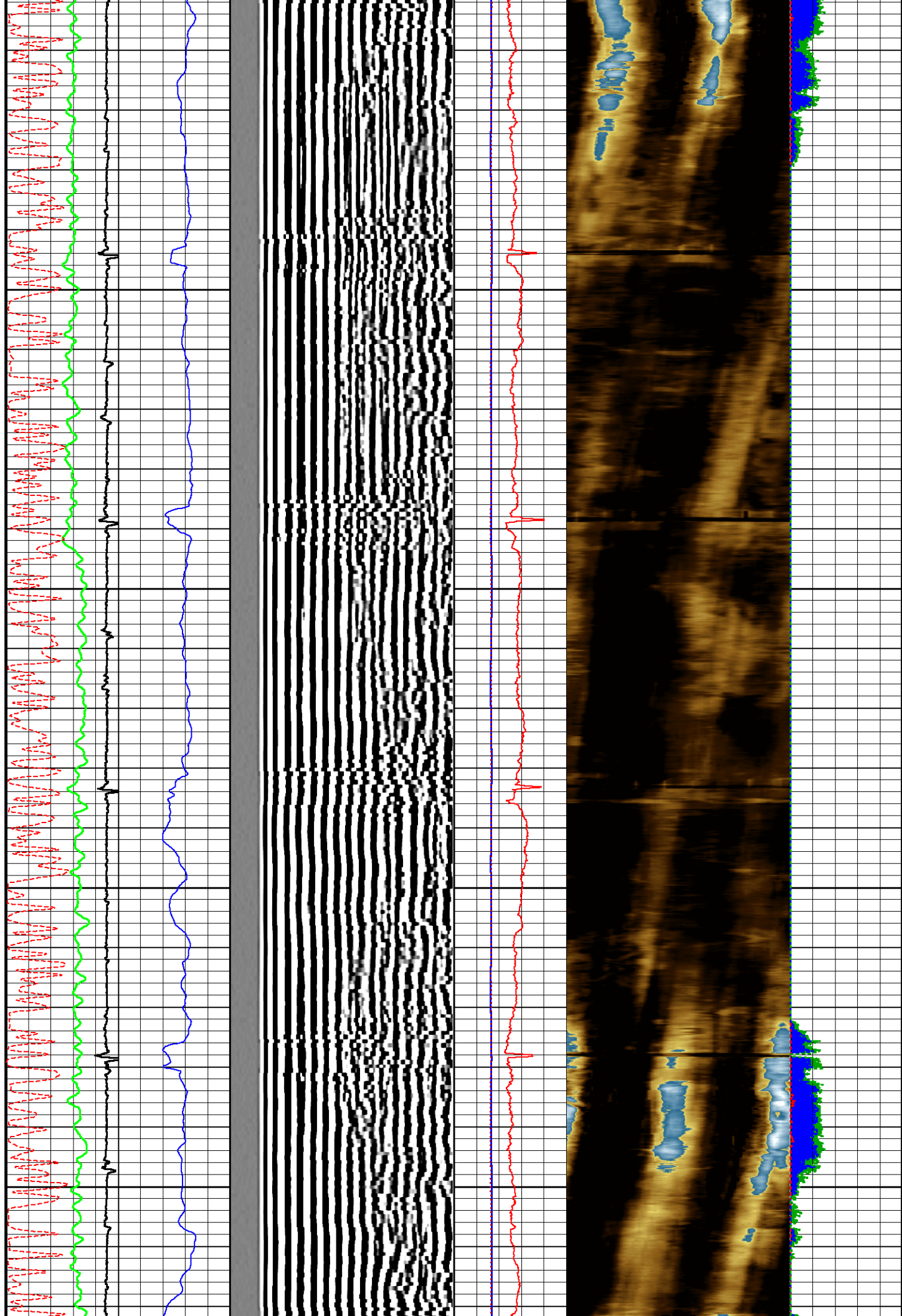


5200

5250

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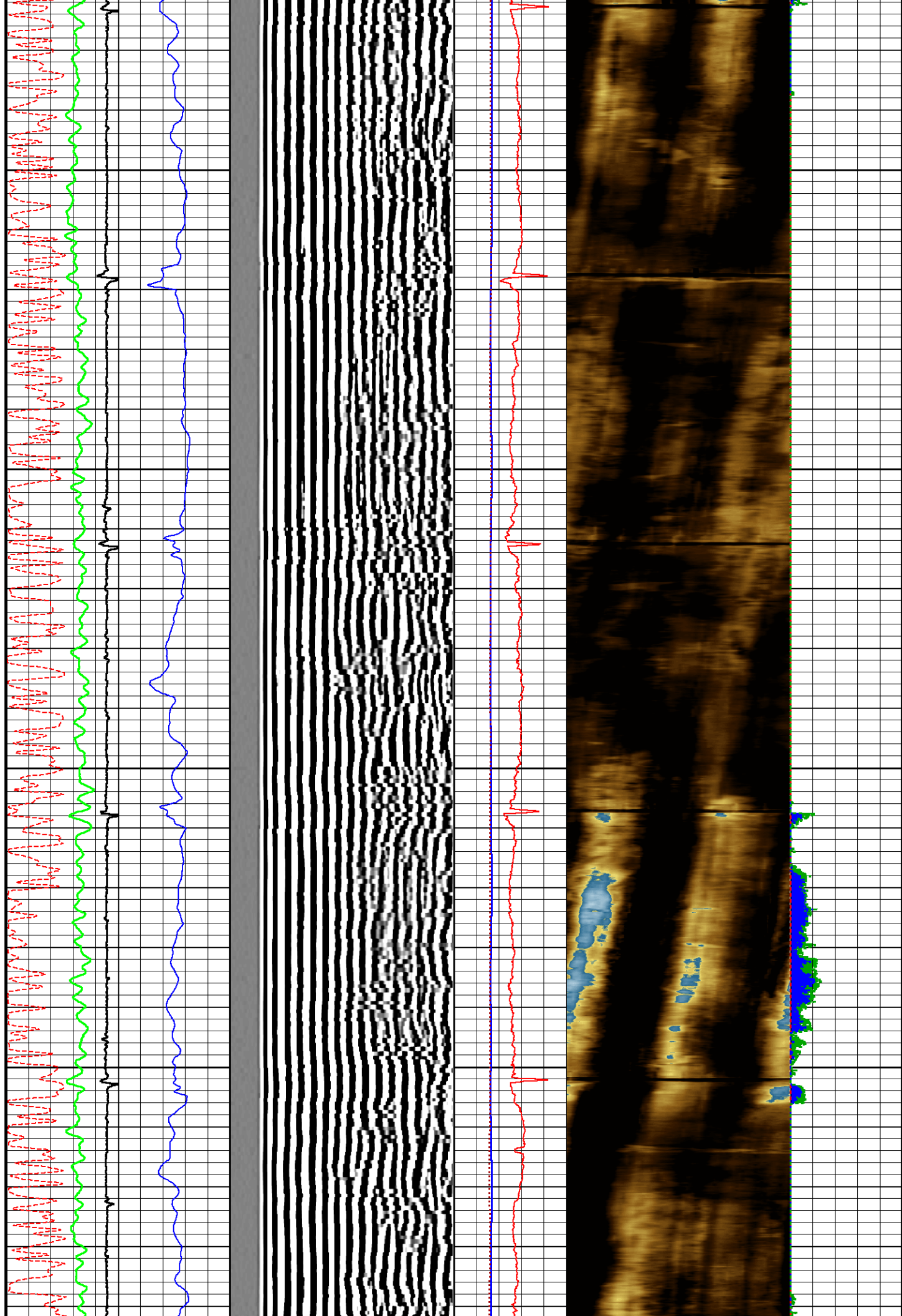


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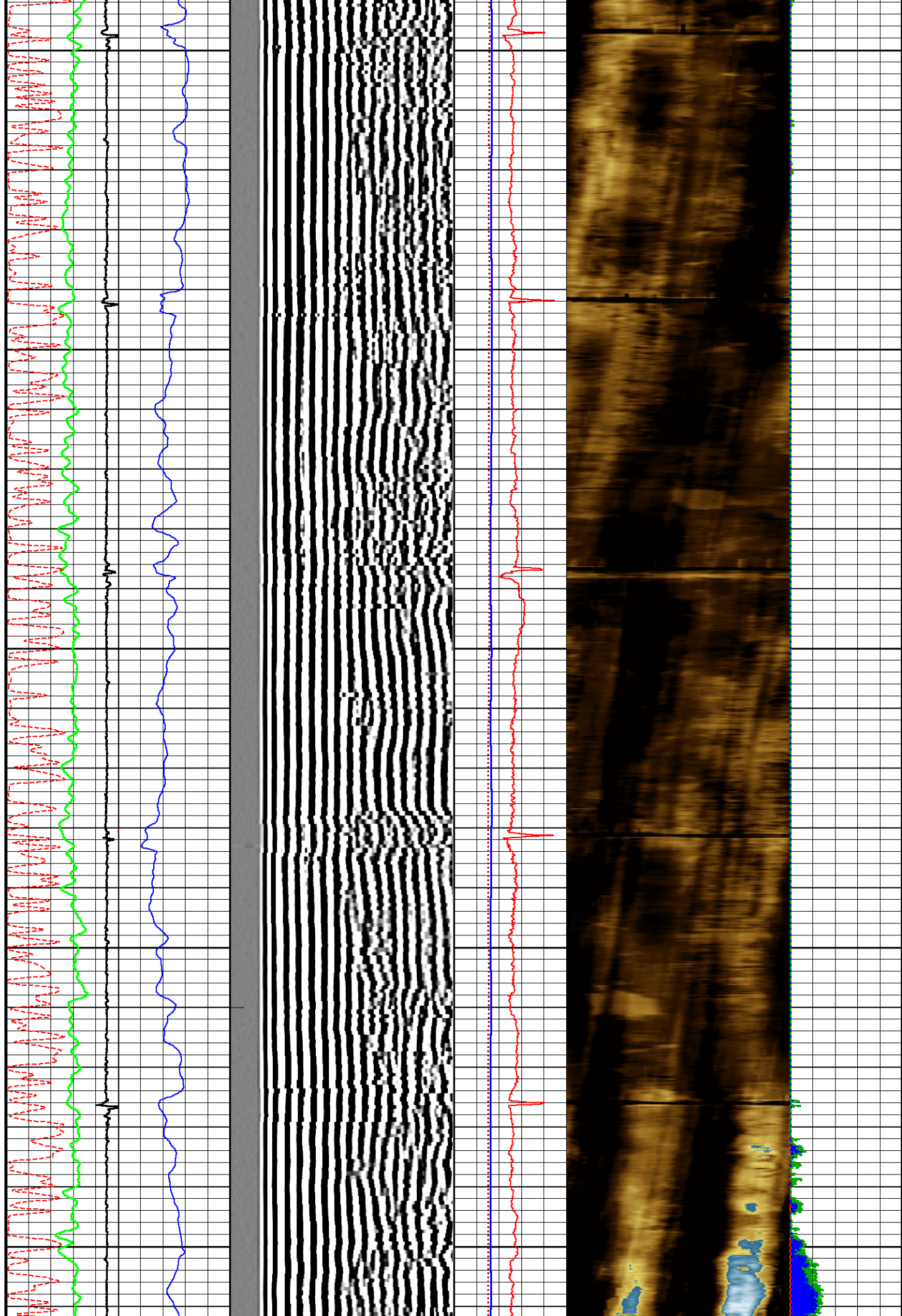
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5500

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5600  
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5700  
5750  
5800

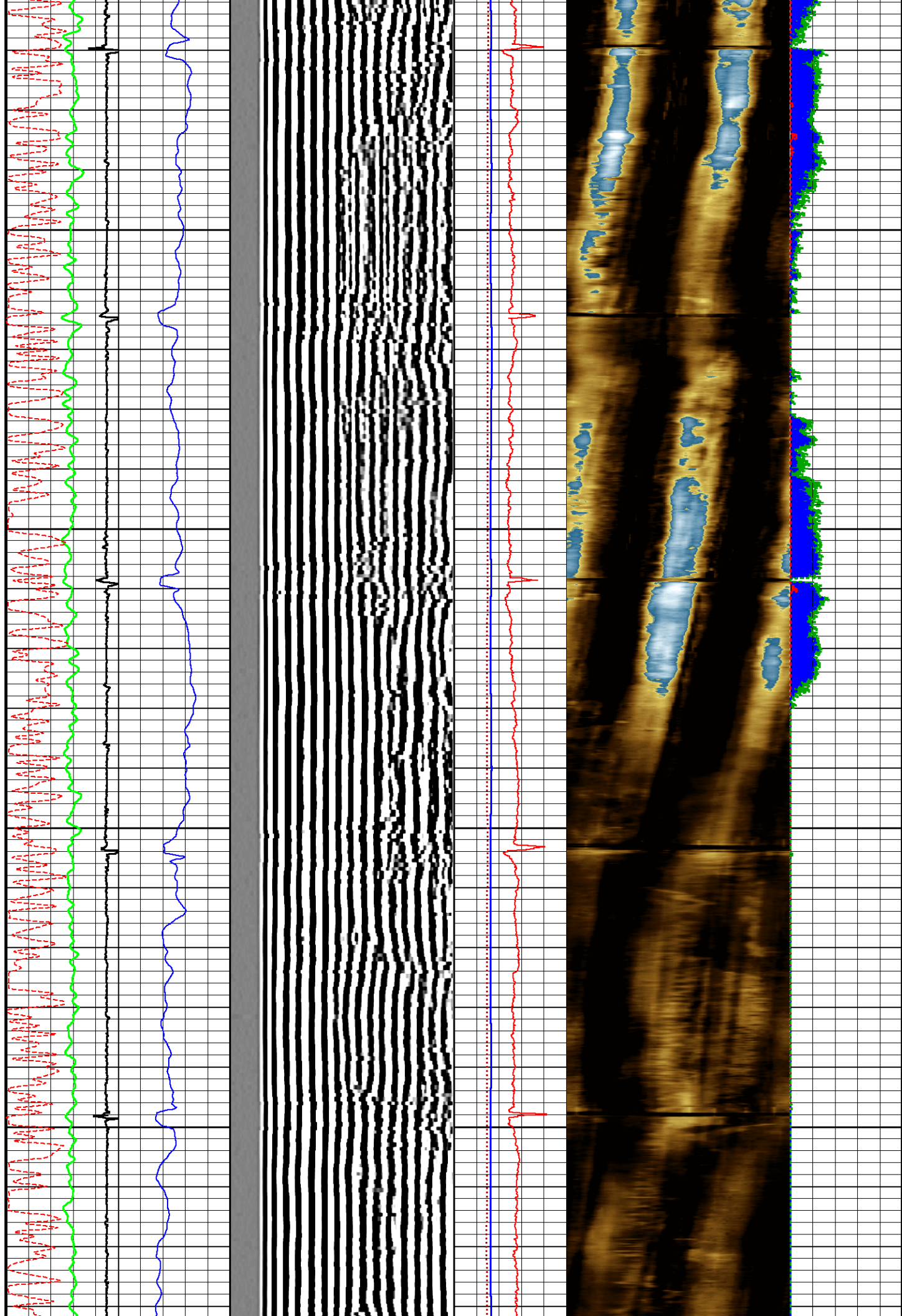


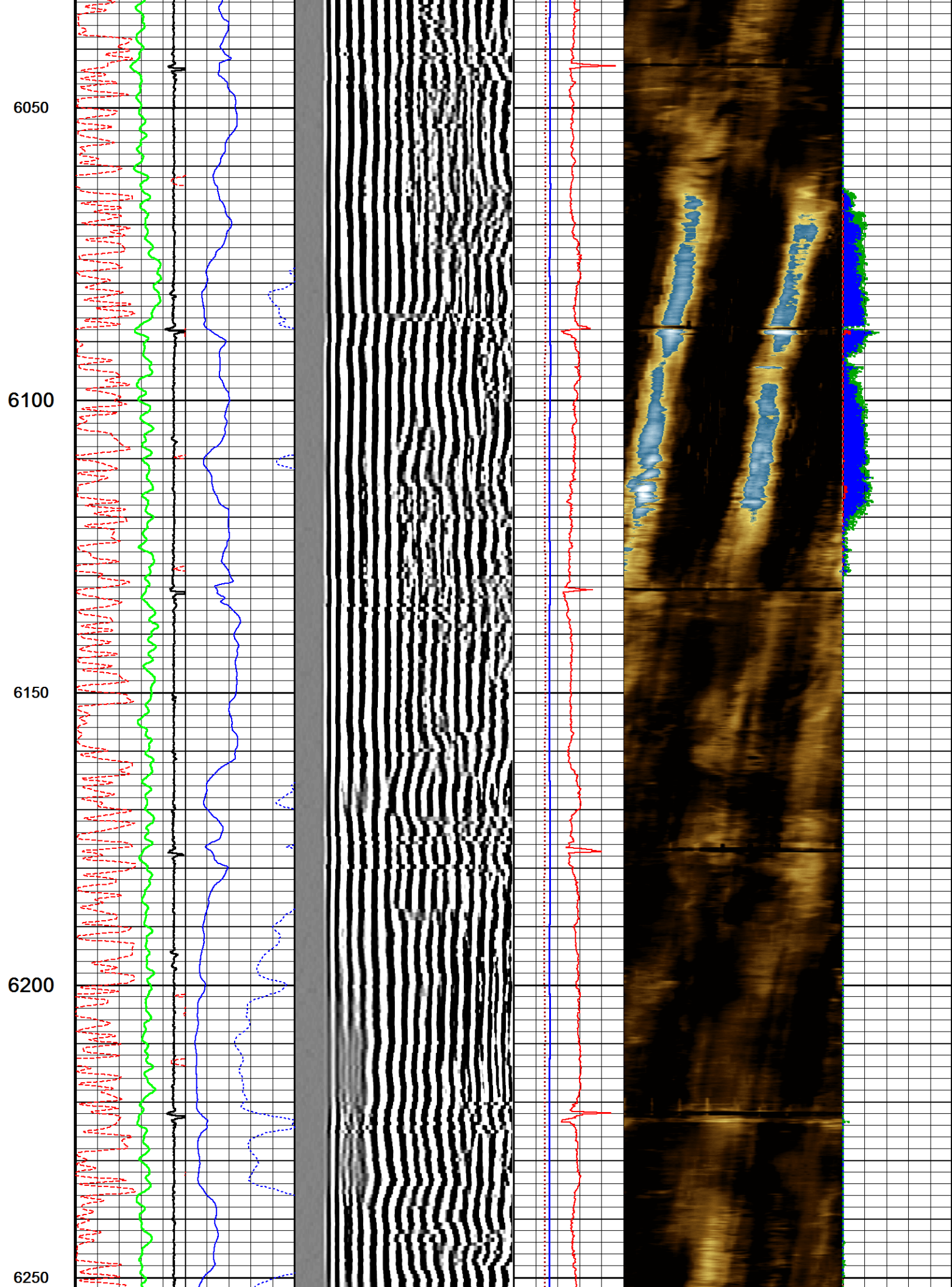
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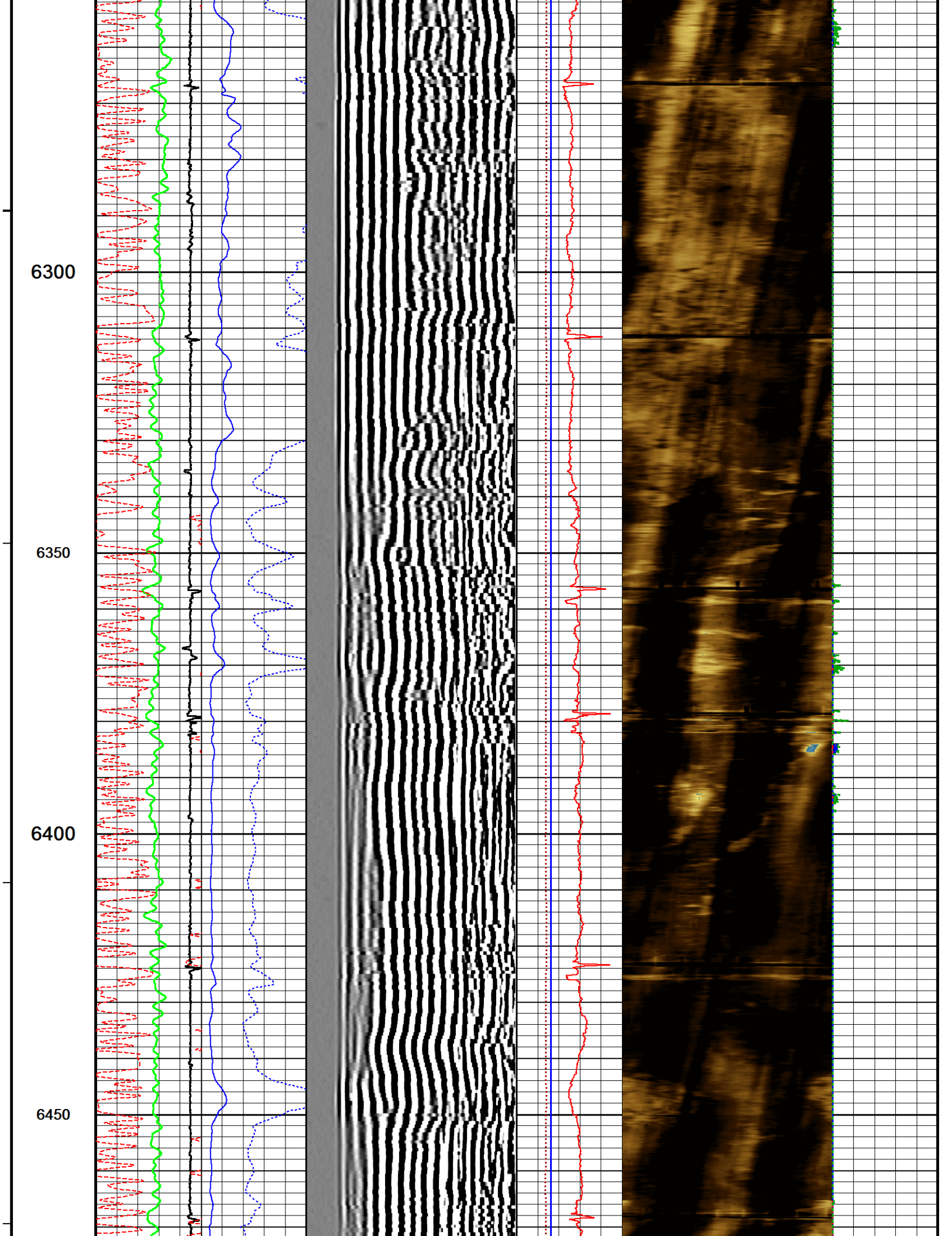
5900

5950

6000







6500

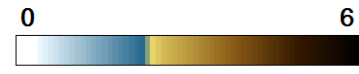
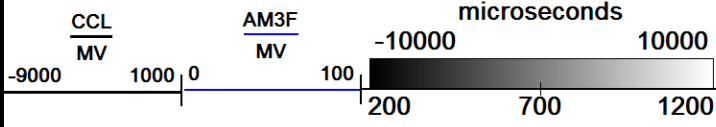
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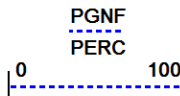
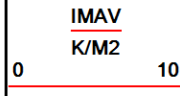
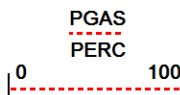
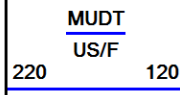
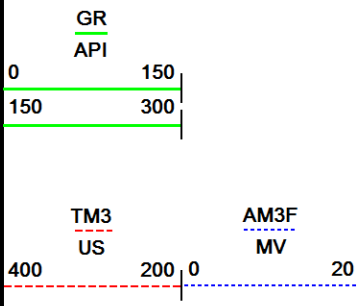
Depth  
in  
Feet

XY Signature 5FT  
microseconds

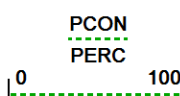
Impd Map  
MRAYLS



Timing  
Marks  
every  
60.0 sec

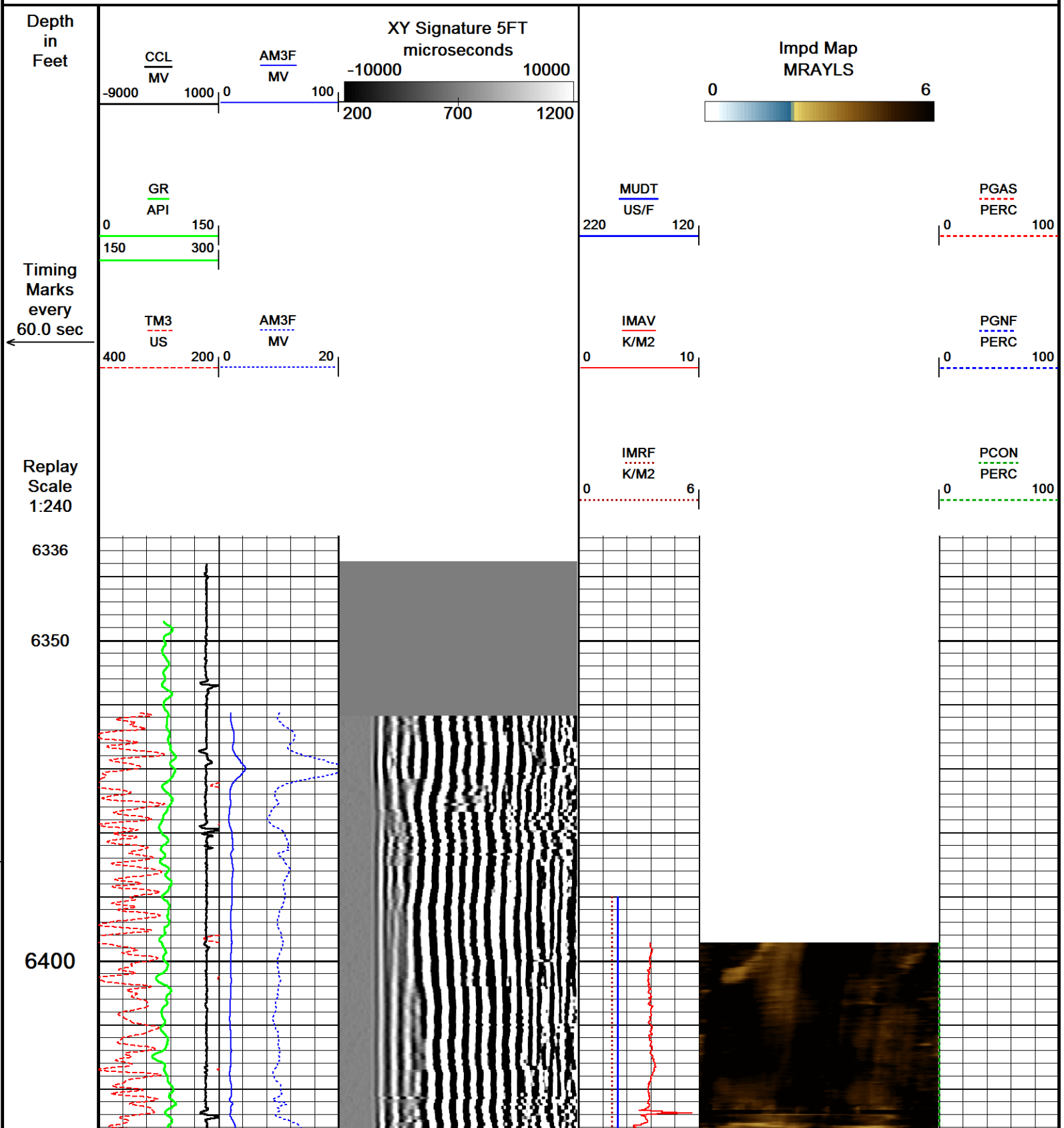


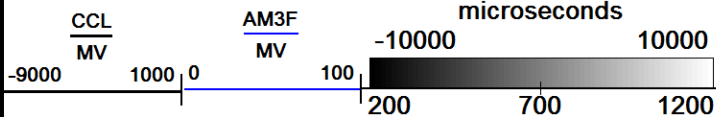
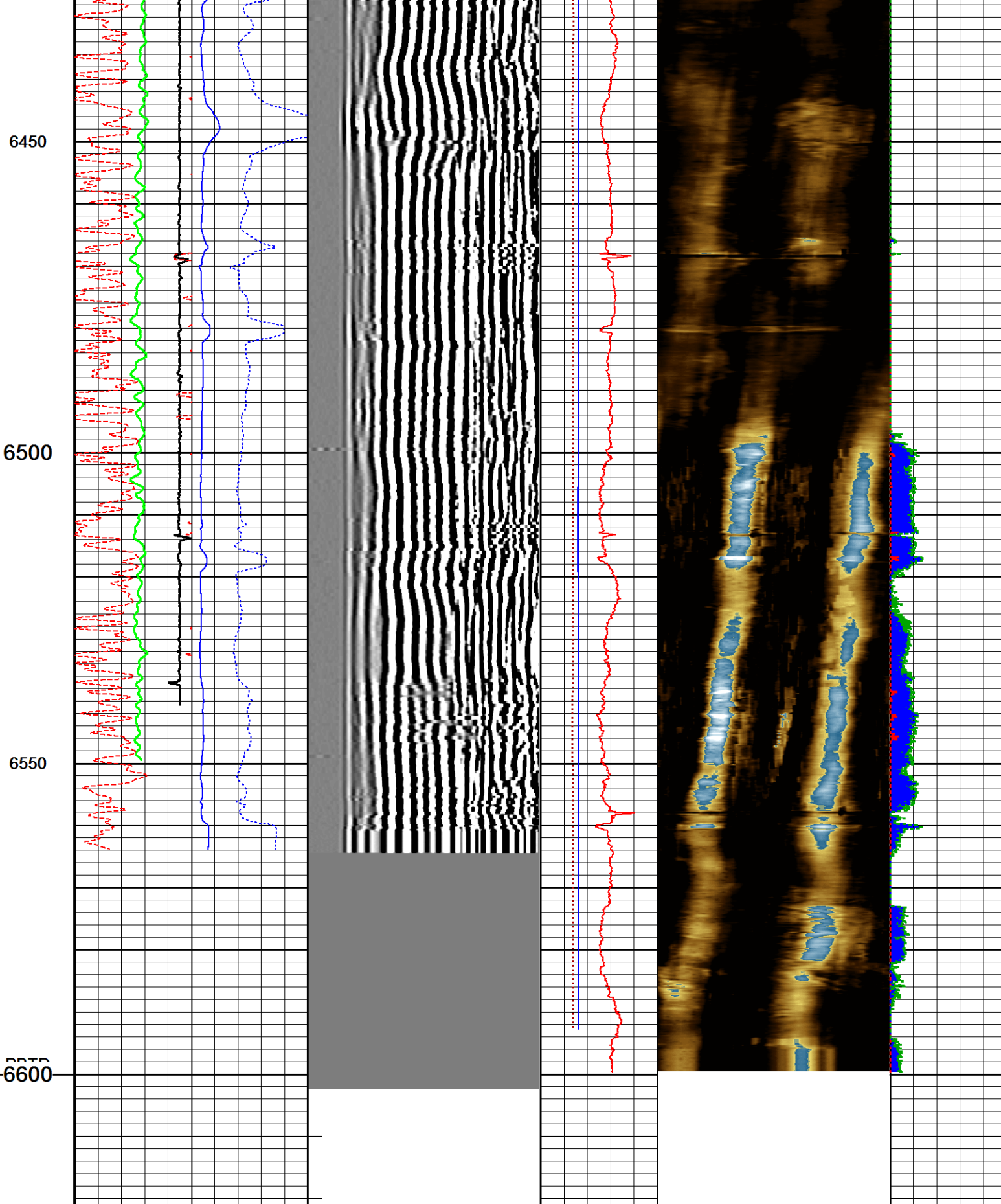
Replay  
Scale

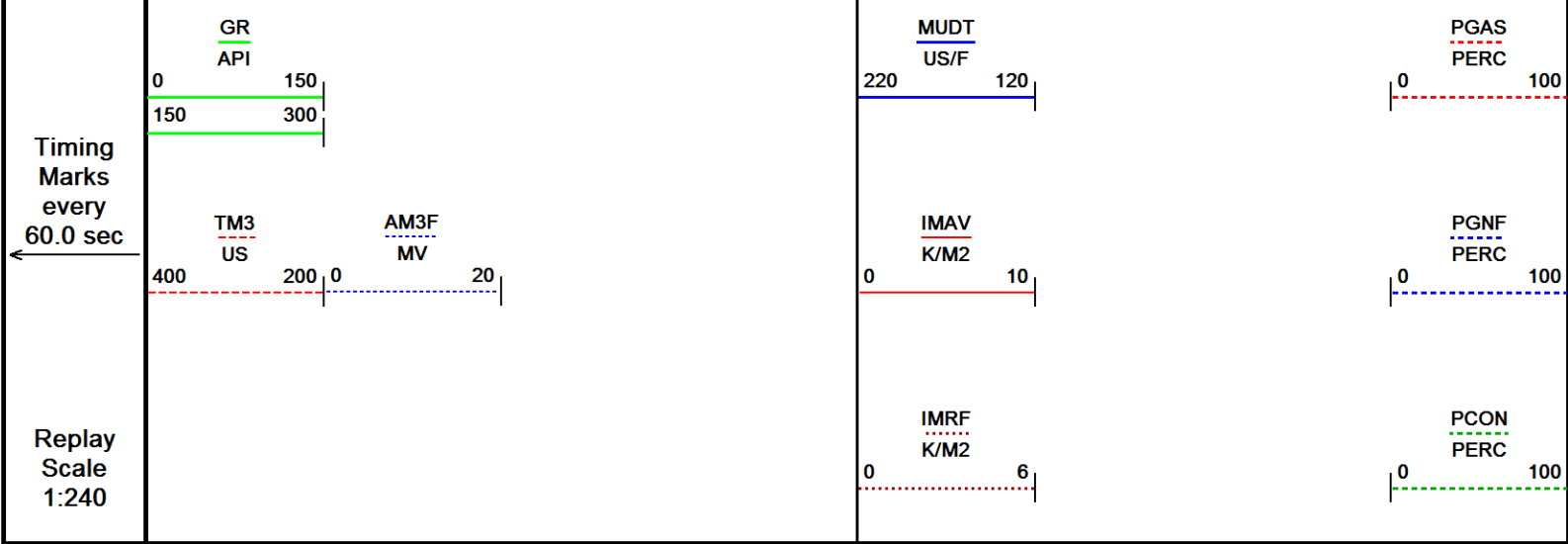


MAIN PASS

REPEAT PASS







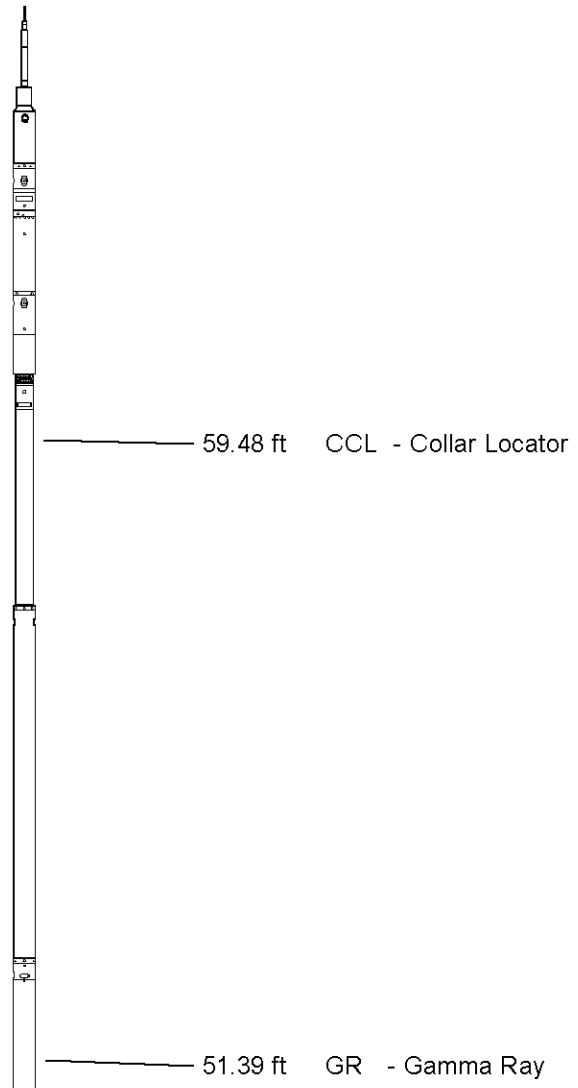
Depth Based Data - Maximum Sampling Increment 2.5cm  
 Plotted on 05-JAN-2017 12:37  
 Filename: C:\Logs\Extraction\HESTER FARMS F-...\HESTER FARMS F-36HN REPEAT PASS\_001.dta  
 Recorded on 05-JAN-2017 10:03  
 System Versions: Logged with 16.05.3841 Plotted with 16.05.3841

↑ REPEAT PASS ↑

### DOWNHOLE EQUIPMENT

C:\Logs\Extraction\HESTER FARMS F-36HN\HESTER FARMS F-36HN MAIN PASS\_001.dta

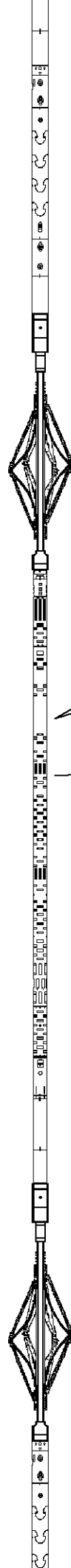
- Mono-Cablehead  
MCH-AA 0 LG: 1.03 ft WT: 2.2 lb OD: 1.457 in
  
- Crossover 11-pin to 55-pin  
XOV-KA 125 LG: 1.46 ft WT: 13.2 lb OD: 3.386 in
  
- Swivel Head 55 pin  
SWH-CC 173 LG: 2.72 ft WT: 77.2 lb OD: 3.346 in
  
- Casing Collar Locator, 55 pin  
CCL-WA 142 LG: 3.01 ft WT: 19.8 lb OD: 2.756 in
  
- Communication Cartridge 55pin 3-3/8in  
WCC-DA 125 LG: 4.60 ft WT: 63.9 lb OD: 3.386 in
  
- Gamma Ray  
UGR-JD 223 LG: 4.60 ft WT: 81.6 lb OD: 3.386 in



Flexible Joint, URS, 55 Pin  
FTP-FA 131 LG: 4.35 ft WT: 90.4 lb OD: 3.386 in

55 pin Roller Centralizer  
CEN-XA 185 LG: 4.49 ft WT: 86.0 lb OD: 3.386 in

Cement Bond Tool  
CBT-AA 101 LG: 10.75 ft WT: 163.1 lb OD: 3.386 in



36.70 ft AM3F - Amplitude 3FT  
36.70 ft TM3 - Travel Time 3FT

35.70 ft XY5 - XY Signature 5FT

55 pin Roller Centralizer  
CEN-XA 203 LG: 4.49 ft WT: 86.0 lb OD: 3.386 in

Flexible Joint, URS, 55 Pin  
FTP-FA 182 LG: 4.35 ft WT: 90.4 lb OD: 3.390 in

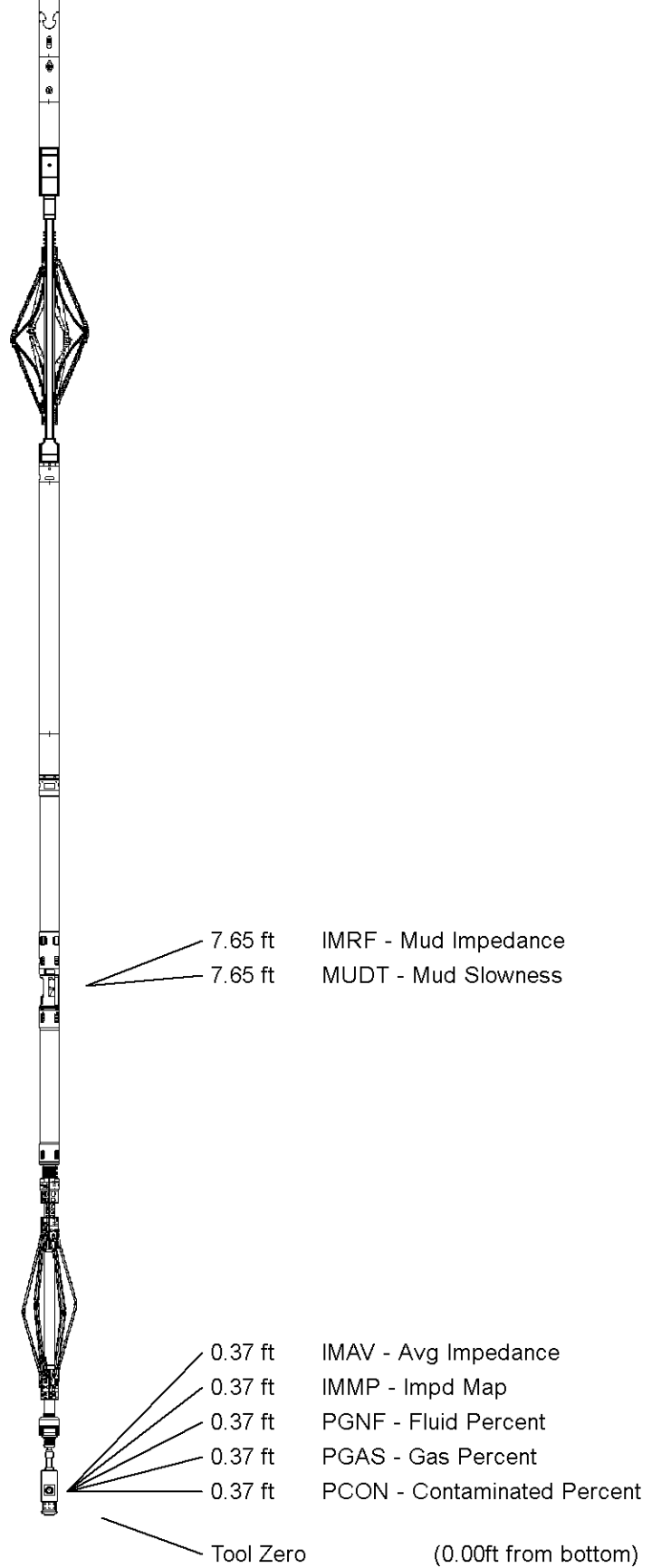
55 pin Roller Centralizer  
 CEN-XA 215 LG: 4.49 ft WT: 86.0 lb OD: 3.386 in

URS Electronics Cartridge  
 UCC-AA 194 LG: 4.51 ft WT: 79.4 lb OD: 3.386 in

URS Sonde Section  
 USS-AB 178 LG: 9.65 ft WT: 167.6 lb OD: 3.386 in

Ultrasonic Radial Scanner Head A  
 USH-AB 136 LG: 1.03 ft WT: 13.2 lb OD: 3.386 in

Total Length: 65.54 ft Weight: 1119.9 lb



All measurements relative to tool zero.

SHOP AND FIELD CALIBRATIONS

C:\Logs\Extraction\HESTER FARMS F-36HN\HESTER FARMS F-36HN MAIN PASS\_001.dta

UGR Field survey cal UGR-JD 223

Field calibration on 03-NOV-2016 11:17

Gamma Ray Field Survey Calibration

Tool Type: UGR-JD  
Calibrator No: TH 047

Serial No: 223

|            |            |          |       |
|------------|------------|----------|-------|
| Background | Calibrator | Standard | Units |
| 89.3       | 548.2      | 155.0    | CPS   |

Delta Counts Per Sec: 458.9                      CPS/API = 2.961

CBT Field Calibration    CBT-AA 101

Field calibration on 08-NOV-2016 08:11

Cement Bond Tool Amplitude Field Calibration

|           |        |           |     |
|-----------|--------|-----------|-----|
| Tool Type | CBT-AA | Serial No | 101 |
|-----------|--------|-----------|-----|

Free Pipe Depth

| Sensor   | Description | Standard(mV) | Measured(mV) |
|----------|-------------|--------------|--------------|
| AMP 3 FT | 100 % Bond  | 1.80         | 0.00         |
|          | Free Pipe   | 55.00        | 444.54       |
| AMP 5 FT | 100 % Bond  | 1.20         | 0.00         |
|          | Free Pipe   | 36.00        | 408.30       |

CBT Constants    CBT-AA 101

Last Edited on 05-JAN-2017 09:51

|                      |            |
|----------------------|------------|
| Min Ampl 100% Bond   | 2.00 MV    |
| Max Ampl 0% Bond     | 90.00 MV   |
| Cement Cmpr Strength | 580 PSI    |
| Casing Size          | 5.50 IN    |
| Casing Weight        | 20.0 LB/F  |
| Casing Velocity      | 57.00 US/F |
| DT Fluid             | 187.0 US/F |
| Maximum Attenuation  | 12.00 DB/F |
| 3' TT Correction     | 0.0 US     |
| Cement Weight        | 0.00 LB/G  |

Ultrasonic Radial Scanner Before Cal    USH-AB 136

Field calibration on 15-NOV-2016 08:41

Ultrasonic Radial Scanner Before Calibration

|           |        |           |     |
|-----------|--------|-----------|-----|
| Tool Type | USH-AB | Serial No | 136 |
|-----------|--------|-----------|-----|

|               |          |         |         |      |
|---------------|----------|---------|---------|------|
|               | Measured | Minimum | Maximum |      |
| Free Pipe     | -999.250 | 0.000   | 0.000   | K/M2 |
| Mud Impedance | 1.500    | 0.000   | 0.000   | K/M2 |

URS Constants    USH-AB 136

Last Edited on 05-JAN-2017 09:51

\*\*\* Well Information \*\*\*

\*\* NOTE \*\*

If `Use General Settings` is set to `OFF`, the `ZHead Cal` and `ZMud Cal` values will be obtained from `Depth Specific Settings` entry

\*\* General Settings \*\*

Use General Settings                    ON  
 ZHead Cal Area Ratio                3.85  
 ZMud Cal Area Ratio                 3.90

\*\* Depth Specific Settings \*\*

| Dpth Intvl<br>Min(F) | Dpth Intvl<br>Max(F) | Cs Sz<br>(IN) | Cs WT<br>(LB/G) | ZHd Cal<br>ARatio | ZMd Cal<br>ARatio | Thk<br>(IN) | Harmnc K<br>Factor |
|----------------------|----------------------|---------------|-----------------|-------------------|-------------------|-------------|--------------------|
| 0.00                 | 1563.00              | 5.50          | 36.00           | 1.50              | 1.50              | 0.36        | 1.00               |
| 0.00                 | 11940.00             | 5.50          | 20.00           | 1.50              | 1.50              | 0.36        | 1.00               |

\*\* Constants \*\*

Thickness calculated from                    ADA  
      Radius Offset                            0.00  
      Mud Slowness Offset                    0.00 US/F  
      Mud Chamber Equation                 Titanium Air Backed  
      Z\_mud at Calibration                 1.60 K/M2  
      Z\_mud Outside                         1.70 K/M2  
      Gas Impedance Cutoff                 0.38 K/M2  
      Fluid Impedance Cutoff                2.30 K/M2  
      Contam Impedance Cutoff              2.70 K/M2  
      Relative Bearing Rotate                OFF  
      RB Offset Angle                        0.00 DEG  
      Cement Density                         14.00 LB/G

|                 |                      |
|-----------------|----------------------|
| COMPANY         | EXTRACTION OIL & GAS |
| WELL            | HESTER FARMS F36-HN  |
| FIELD           | WATTENBERG           |
| PROVINCE/COUNTY | WELD                 |
| COUNTRY/STATE   | USA / COLORADO       |

|                         |      |      |                     |          |      |
|-------------------------|------|------|---------------------|----------|------|
| Elevation Kelly Bushing | 4916 | feet | Bottom Log Interval | 6600.00  | feet |
| Elevation Drill Floor   | 4916 | feet | Depth Driller       | 11940.00 | feet |
| Elevation Ground Level  | 4888 | feet | Depth Logger        | 6600.00  | feet |



**Weatherford**<sup>®</sup>

SECUREVIEW  
 ULTRAVIEW/BONDVIEW  
 CEMENT ANALYSIS

