# Radial Cement Bond Gamma Ray Casing Collar Log

|  |  |
|---|---|
| Company | TEP Rocky Mountain LLC |
| Well | Federal #RG 413-18-297 |
| Field | Sulfer Creek |
| County | Rio Blanco |
| State | Colorado |

Company TEP Rocky Mountain LLC
Well Federal #RG 413-18-297
Field Sulfer Creek
County Rio Blanco State Colorado

Location: API # : 05-103-12578
SEC 13 TWP 2S RGE 98W

Other Services

Permanent Datum Ground Level Elevation 6667'
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 6697'
D.F. 6696'
G.L. 6667'

|  |  |
|---|---|
| Date | 12-JUL-2024 |
| Run Number | One |
| Depth Driller | 11962' |
| Depth Logger | 11888' |
| Bottom Logged Interval | 11880' |
| Top Log Interval | Surface |
| Open Hole Size | 8.75" |
| Type Fluid | Water |
| Density / Viscosity | 8.34 Lb/Gal |
| Max. Recorded Temp. | 265°F |
| Estimated Cement Top | See Log |
| Time Well Ready | ROA |
| Time Logger on Bottom | 8:00 |
| Equipment Number | 8102 |
| Location | Grand Junction |
| Recorded By | P. Edwards |
| Witnessed By | C. Applegate |

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

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 9.625" | 36 | Surface | 1366' |
| Prot. String |  |  |  |  |
| Production String | 4.5" | 11.6 | Surface | 11952' |
| Liner |  |  |  |  |

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

## Comments

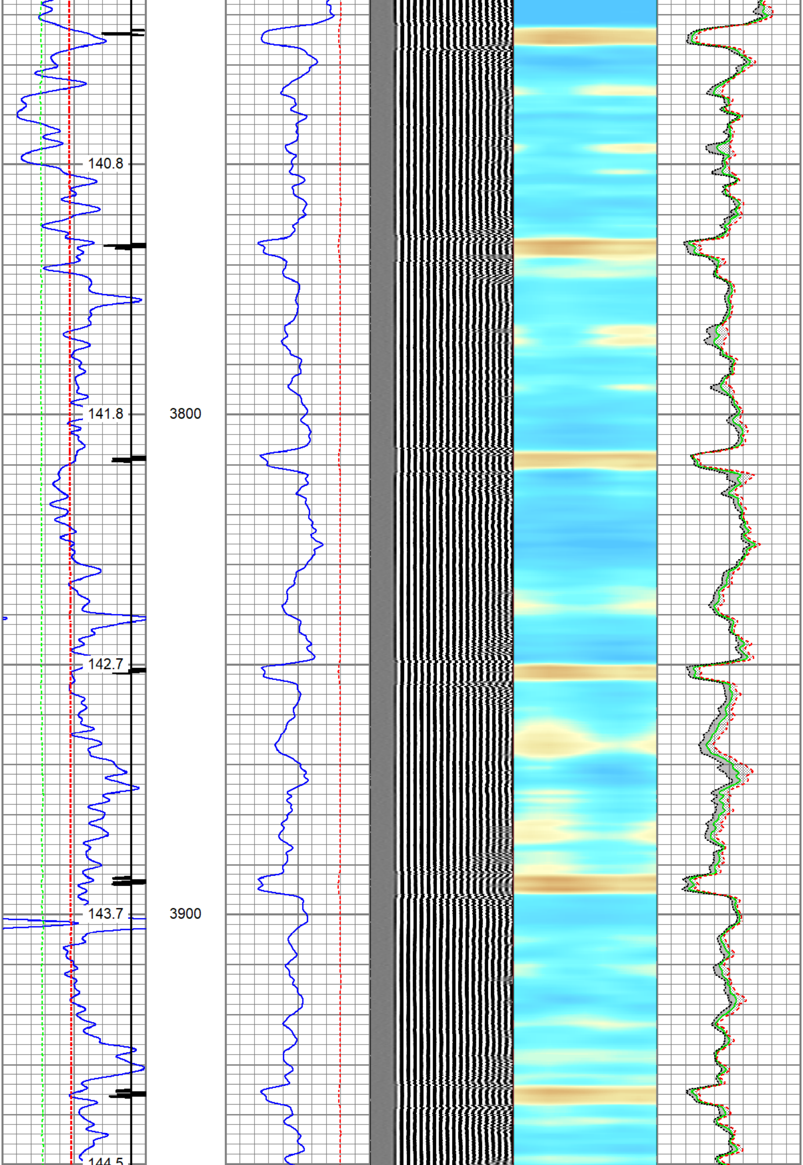
Log ran as per customer request
Depth referenced to Kelly Bushing at 30'
Marker joint logged @ 7276' - 7288'

Thank you for choosing The Wireline Group!

## Main Pass 5" = 100' (0 PSI)

|  |  |
|---|---|
| Database File | terra_rg_413-18-297_rcbl\terra_rg_413-18-297_rcbl.db |
| Dataset Pathname | main |
| Presentation Format | twgrcbl |
| Dataset Creation | Fri Jul 12 12:21:32 2024 |
| Charted by | Depth in Feet scaled 1:240 |

| Gamma Ray | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
|---|---|---|---|---|
| 0 (GAPI) 150 | 0 (mV) 100 | 200 (usec) 1200 |  | 0 120 |
| Line Tension | 3' Amplitude x 5 |  |  | Mimimum Amplitude |
| 0 (lb) 3000 | 0 (mV) 20 |  |  | 0 120 |
| -9 CCL$1 1 | 3' Travel Time |  |  | Maximum Amplitude |
| 0 Temp (degF) 300 | 650 (usec) 150 |  |  | 0 120 |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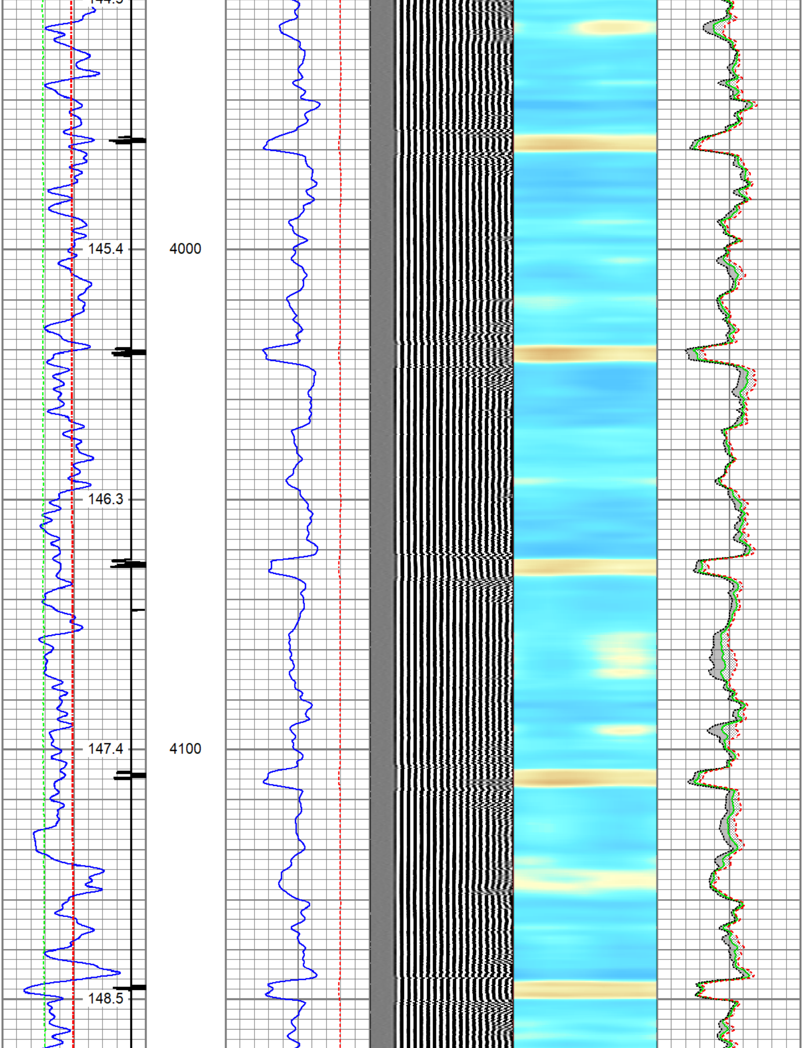
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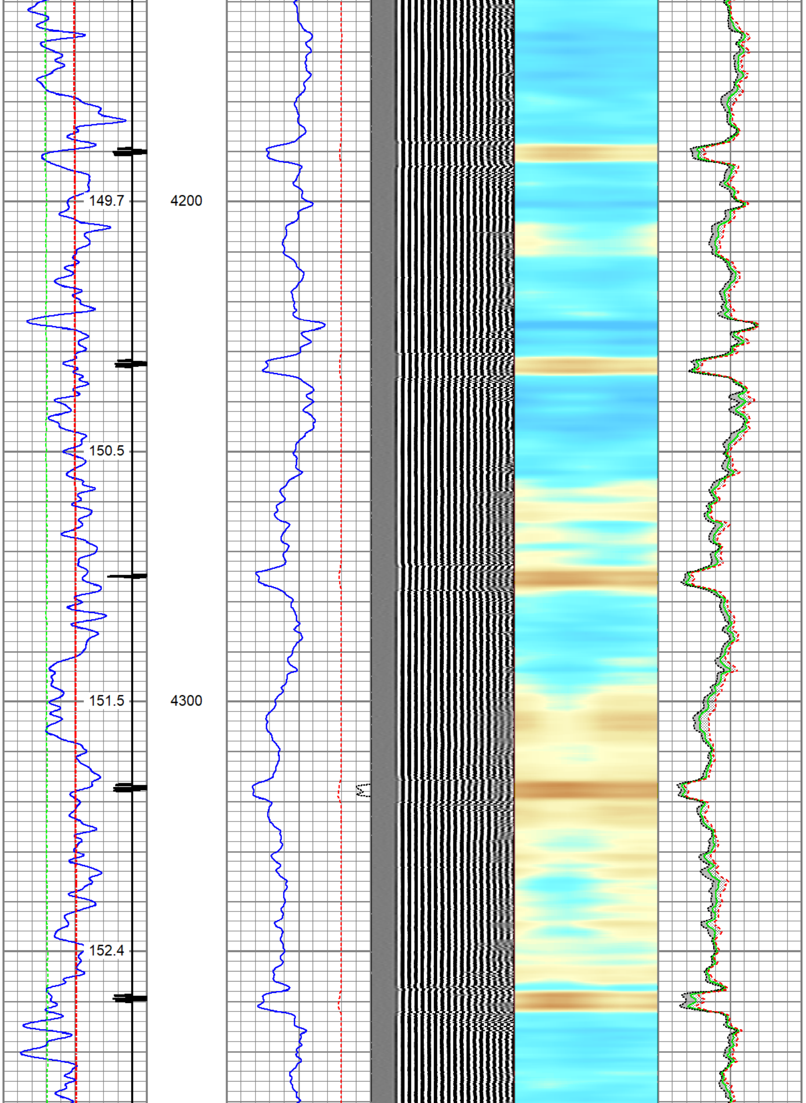
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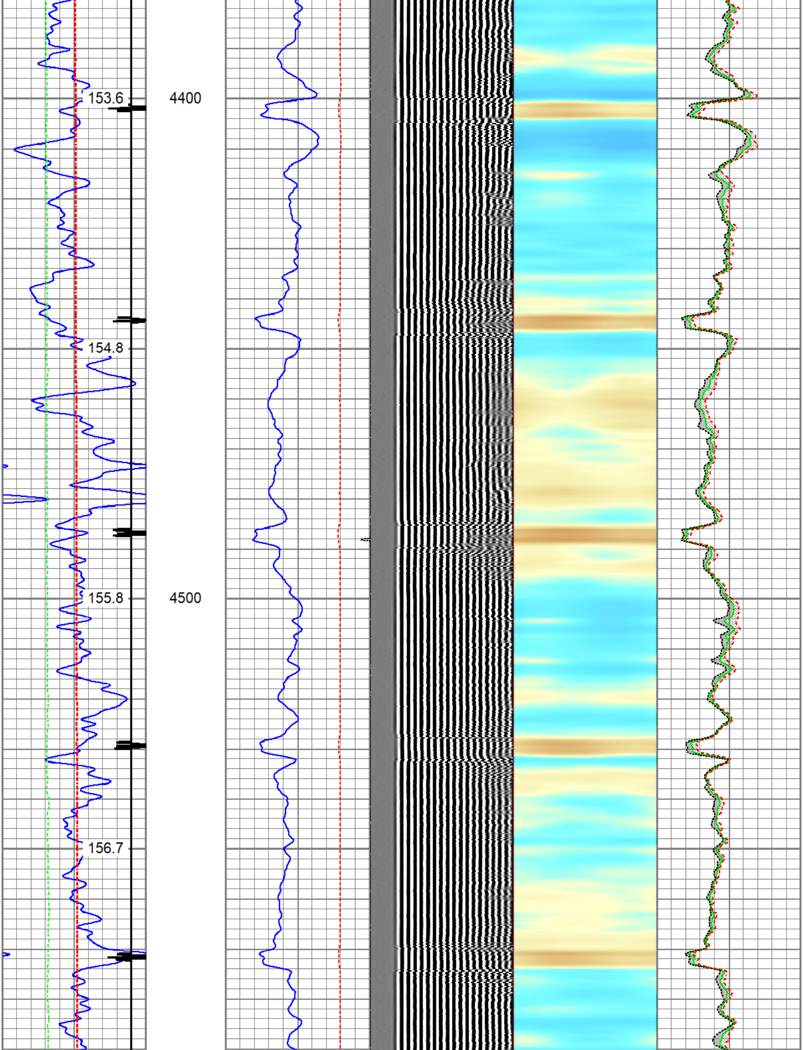
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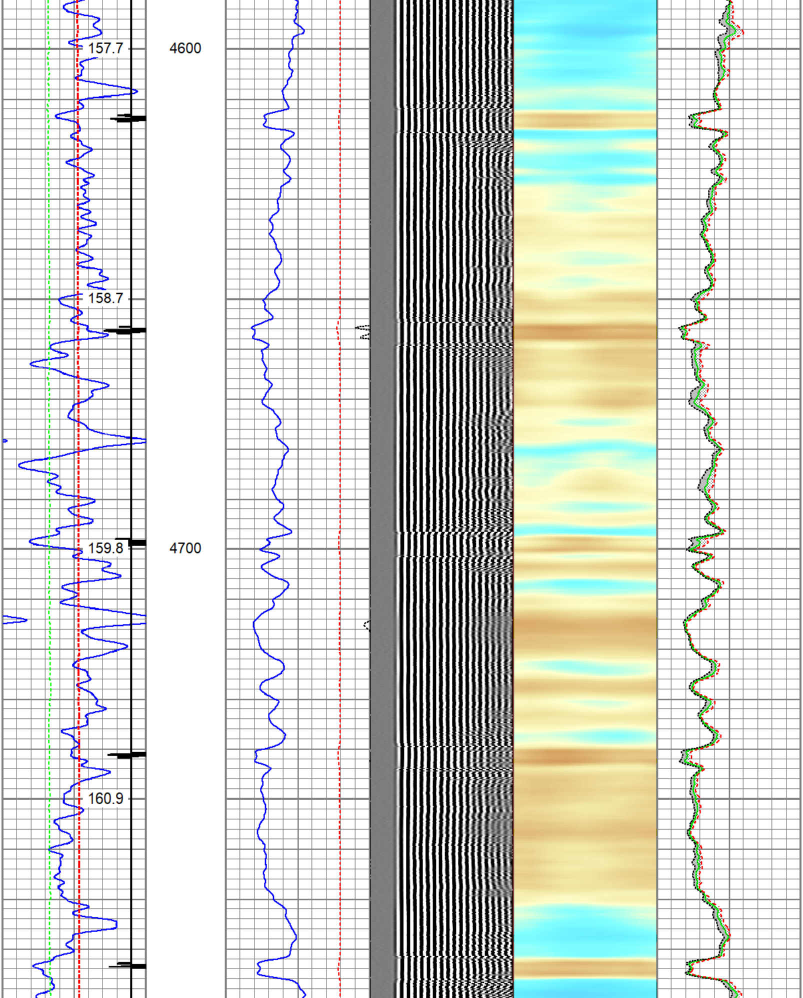
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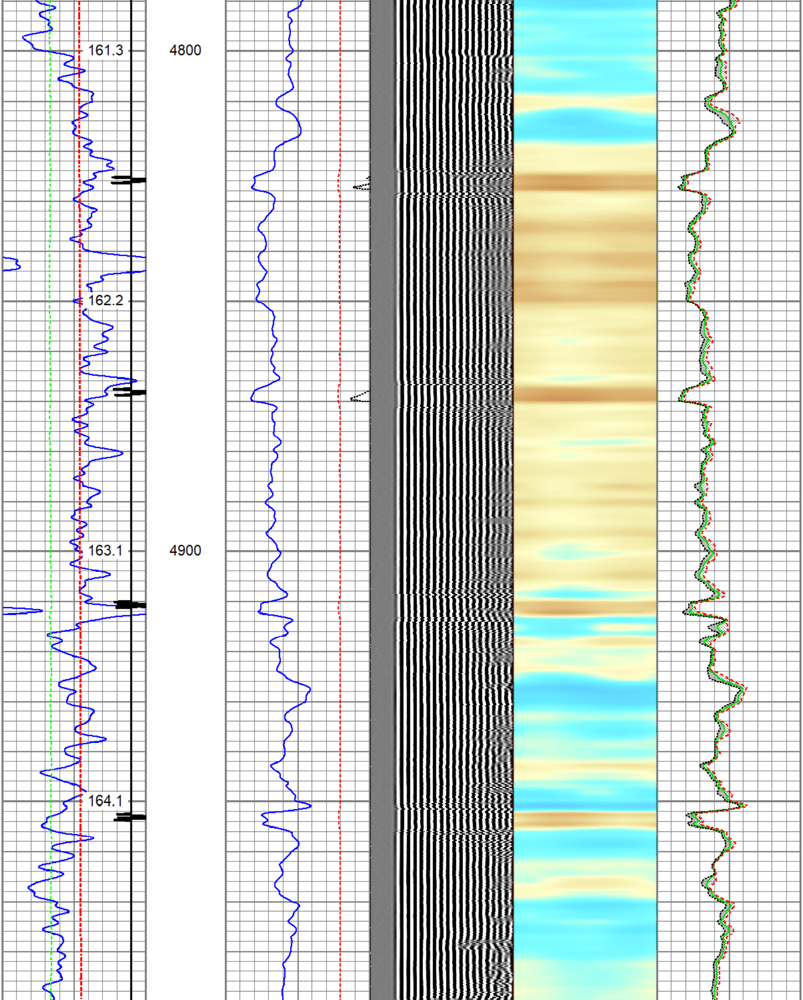
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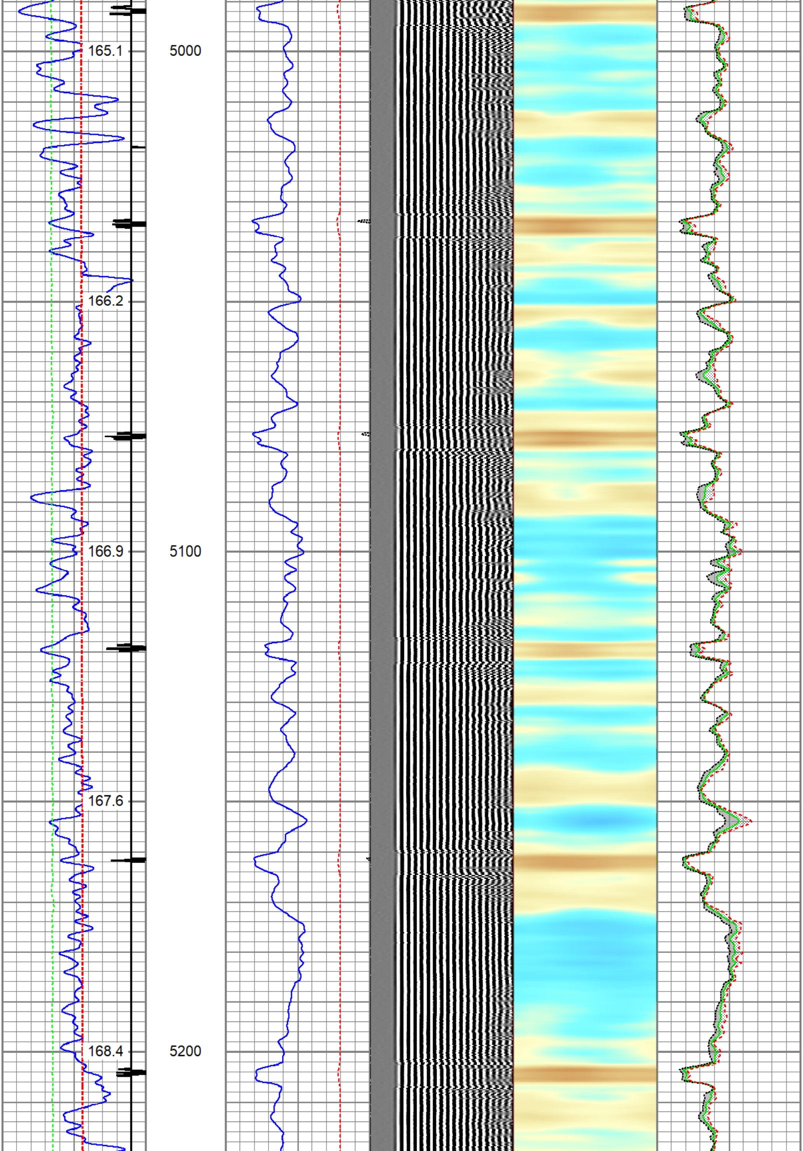
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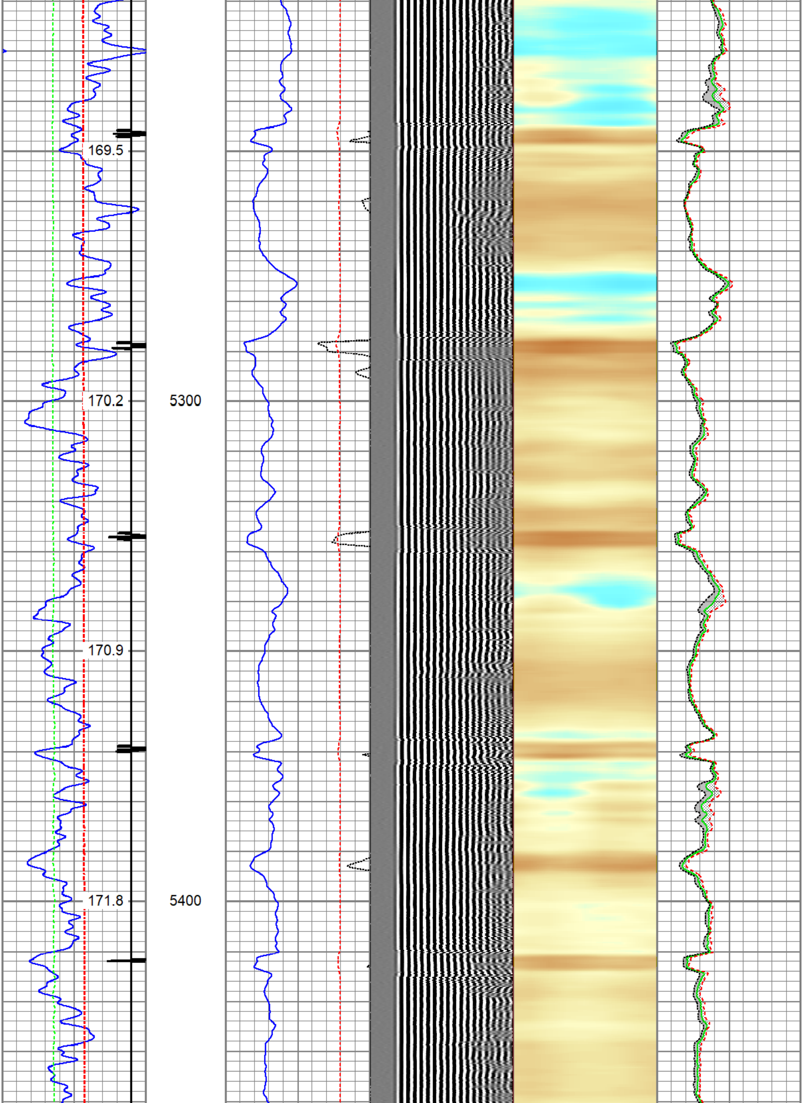
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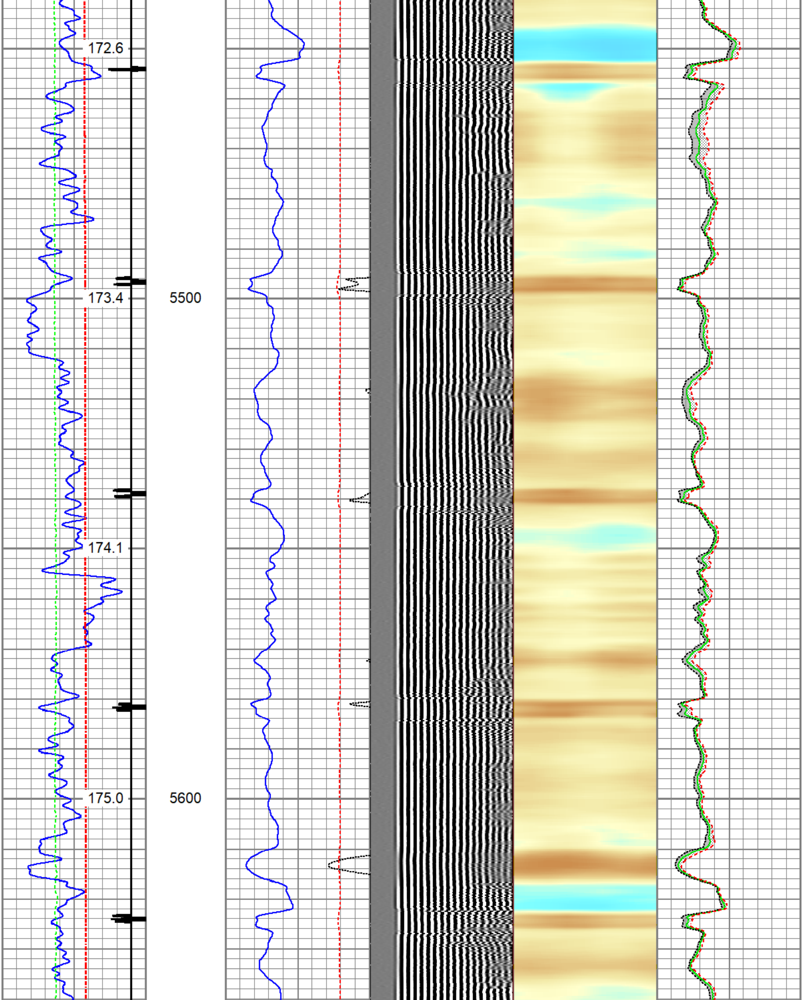
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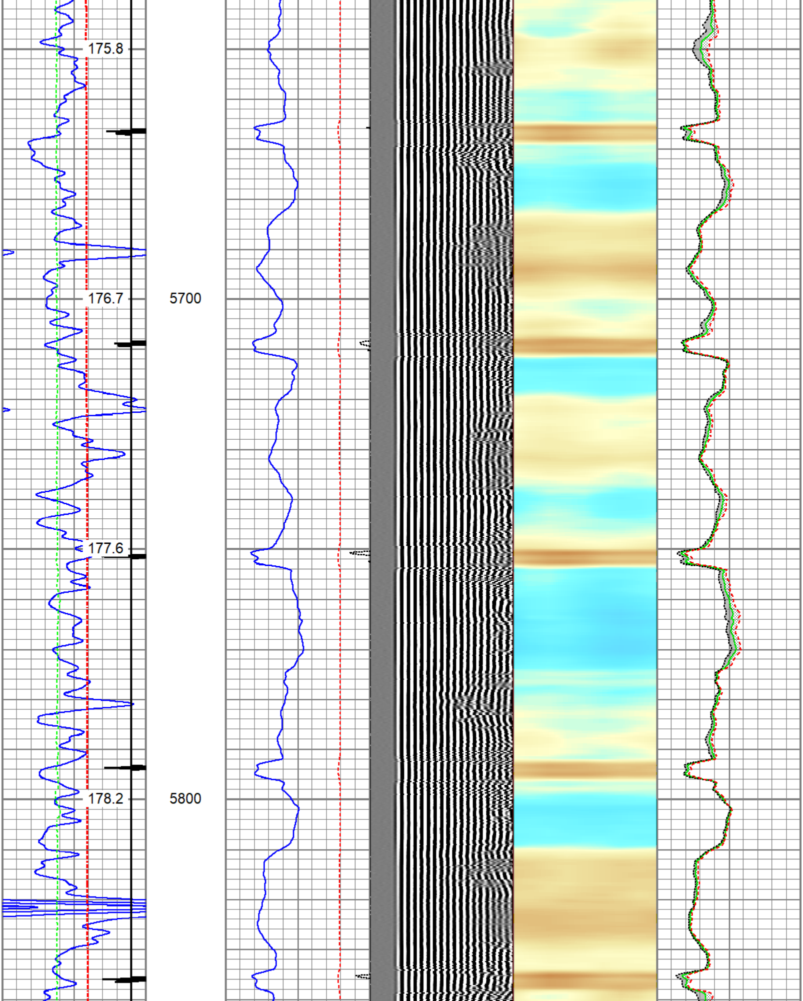
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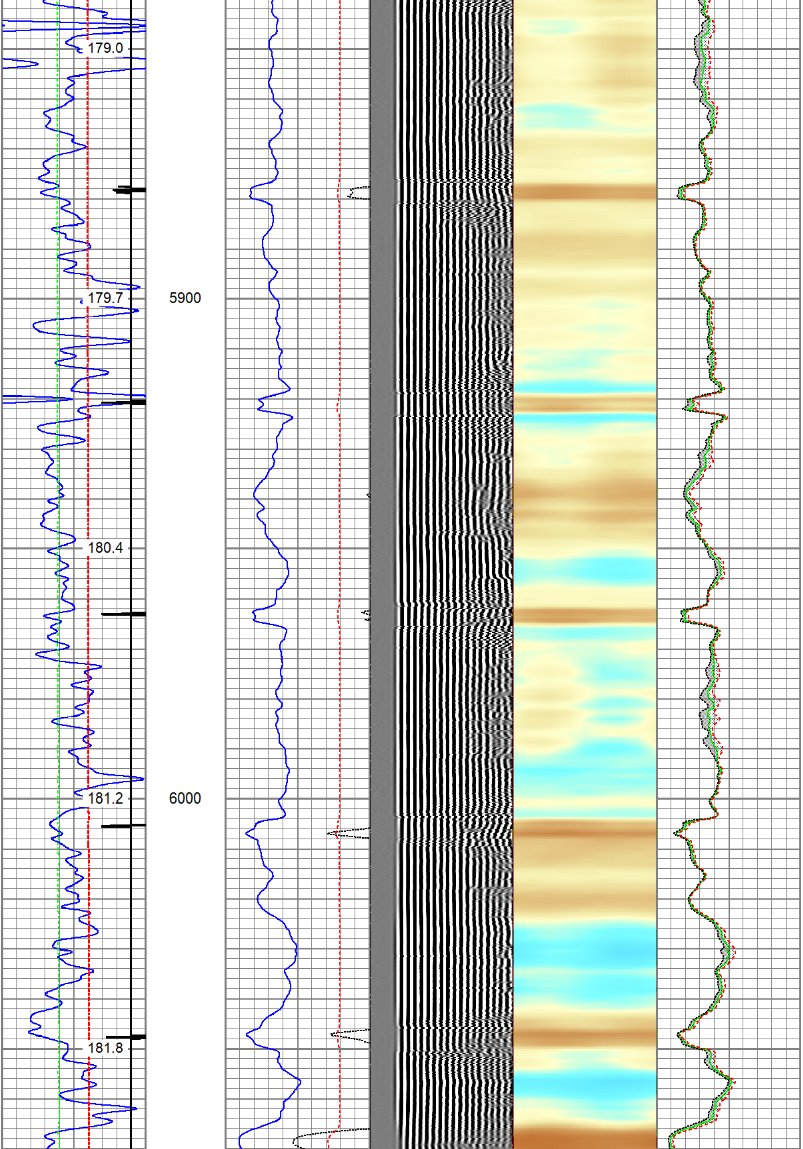
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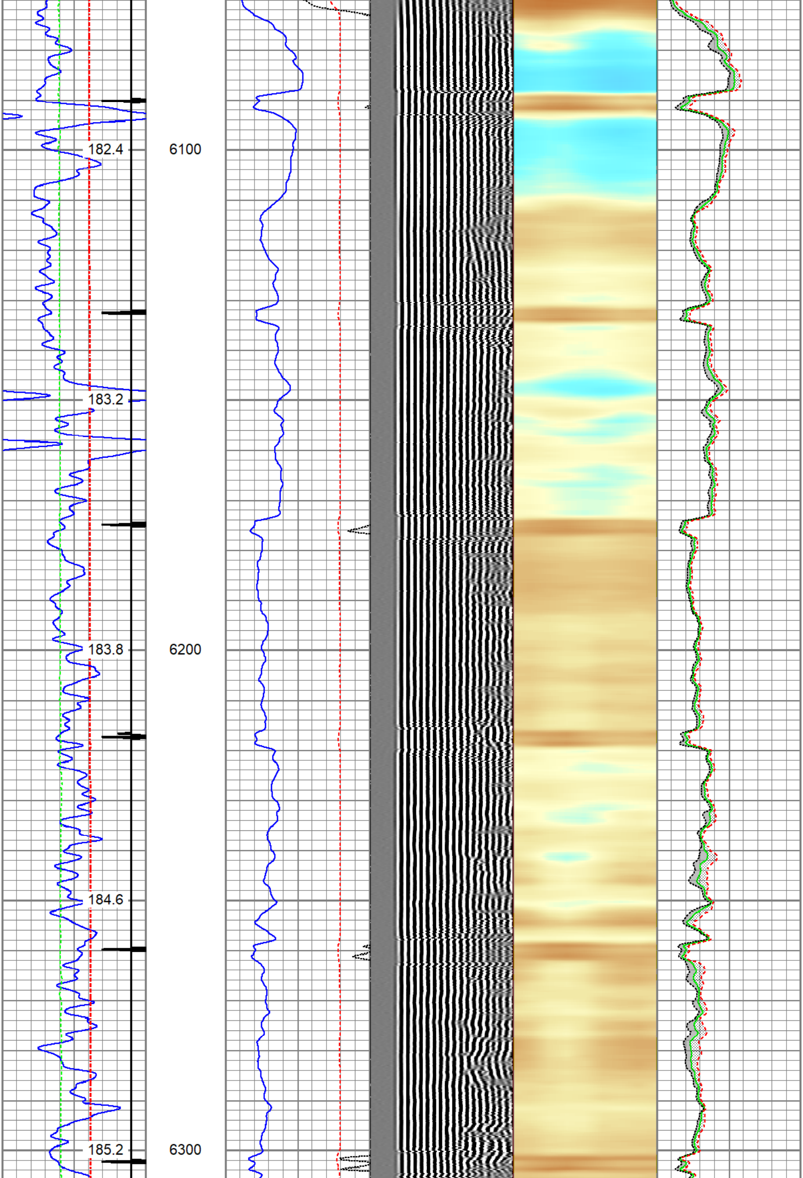
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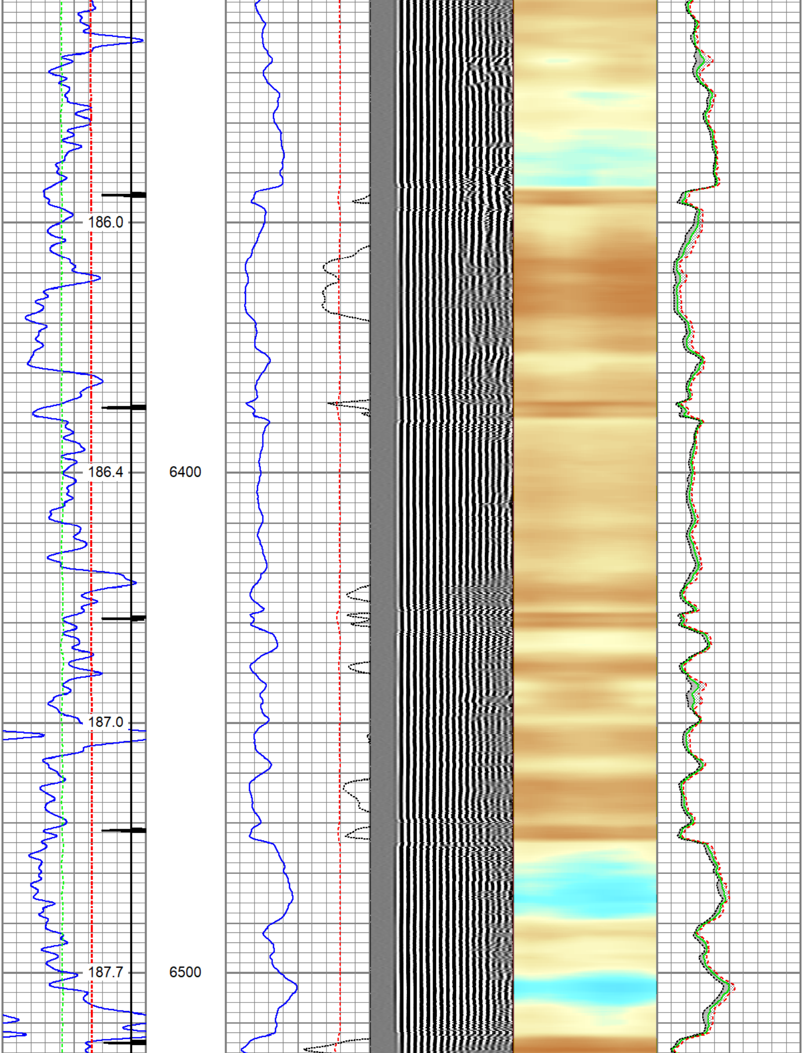
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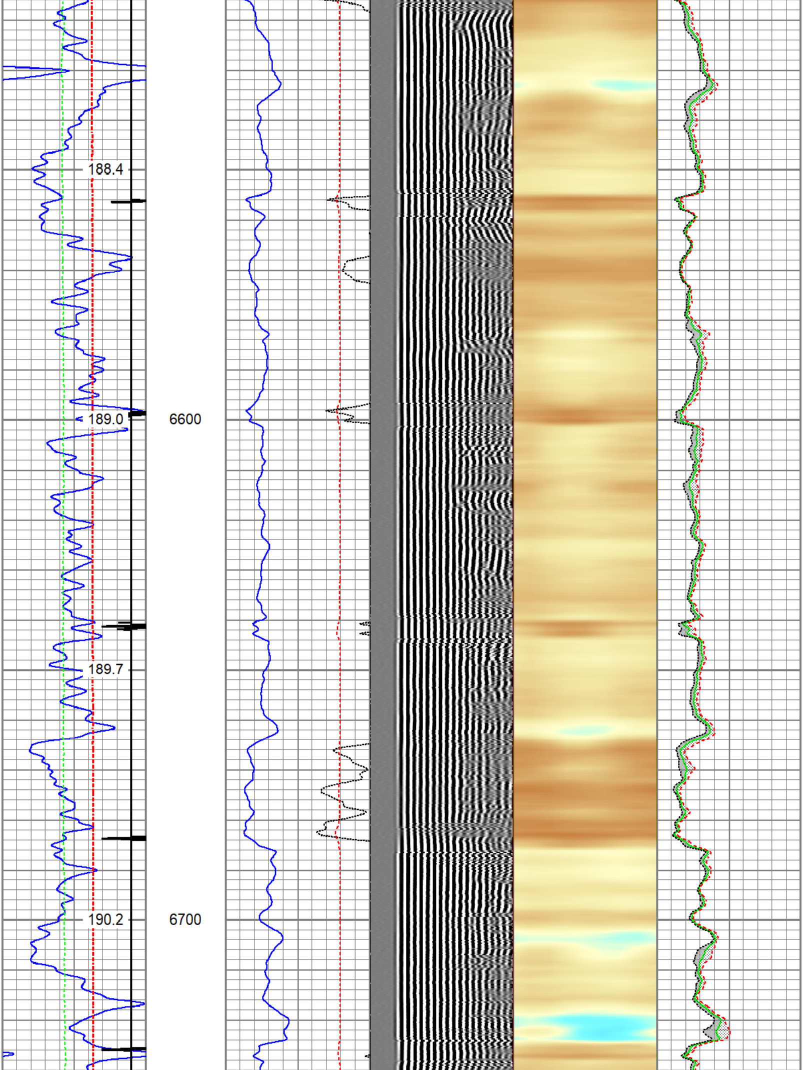
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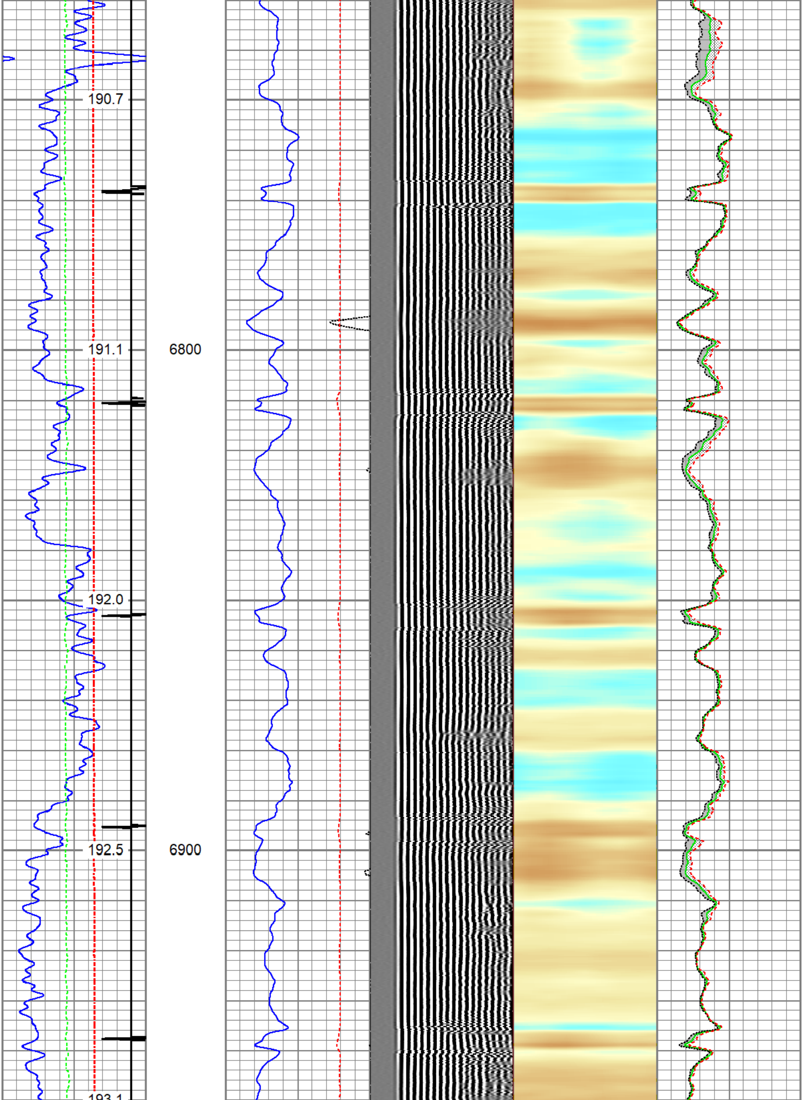
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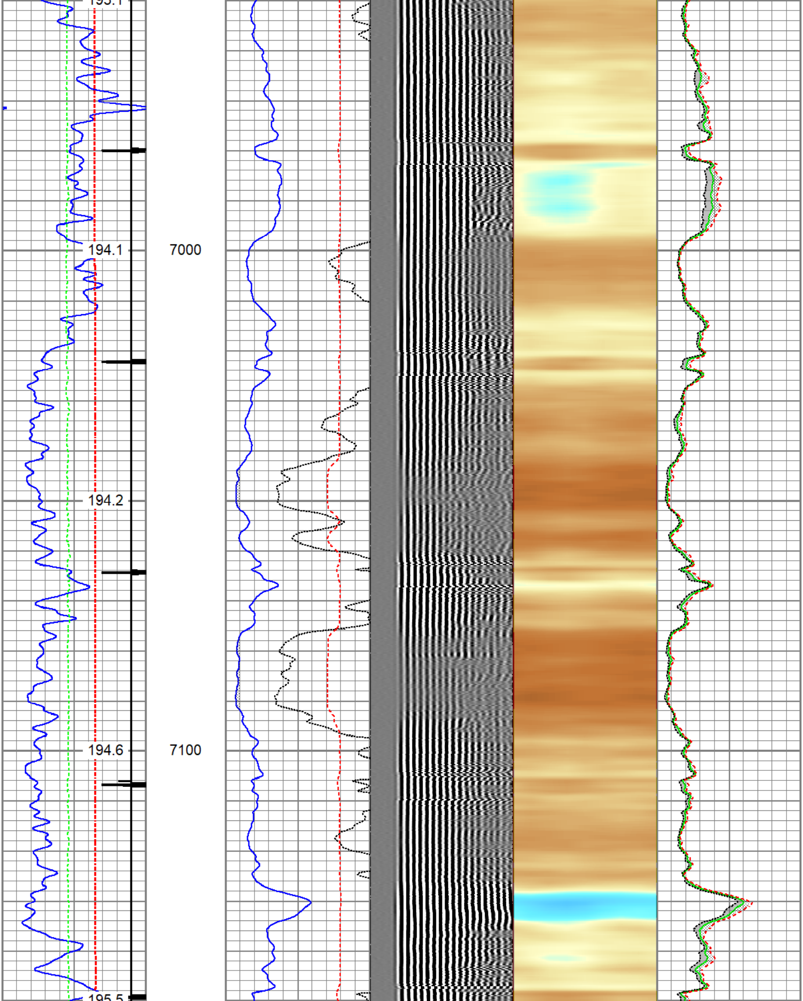
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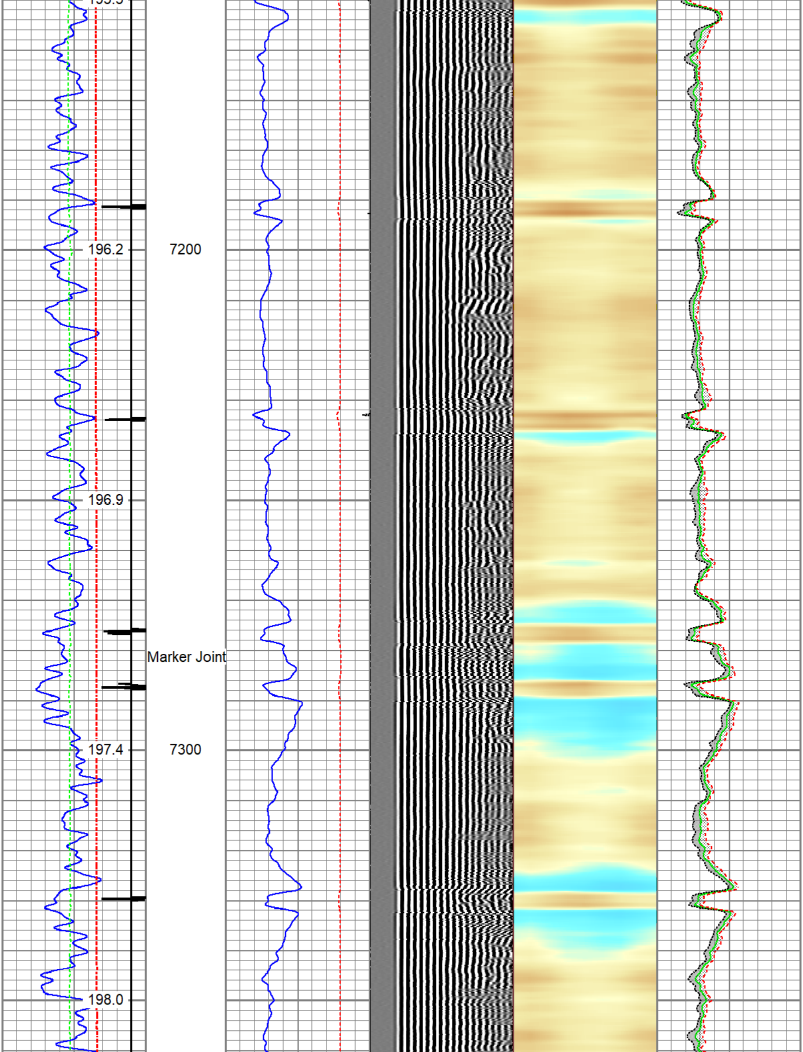
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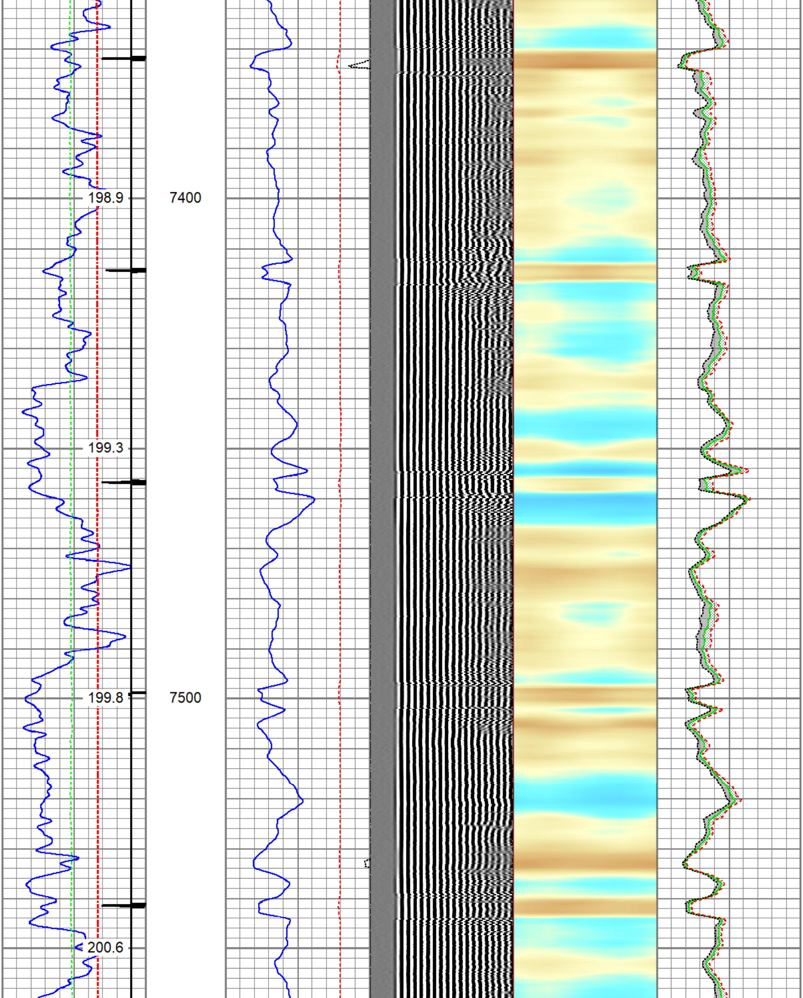
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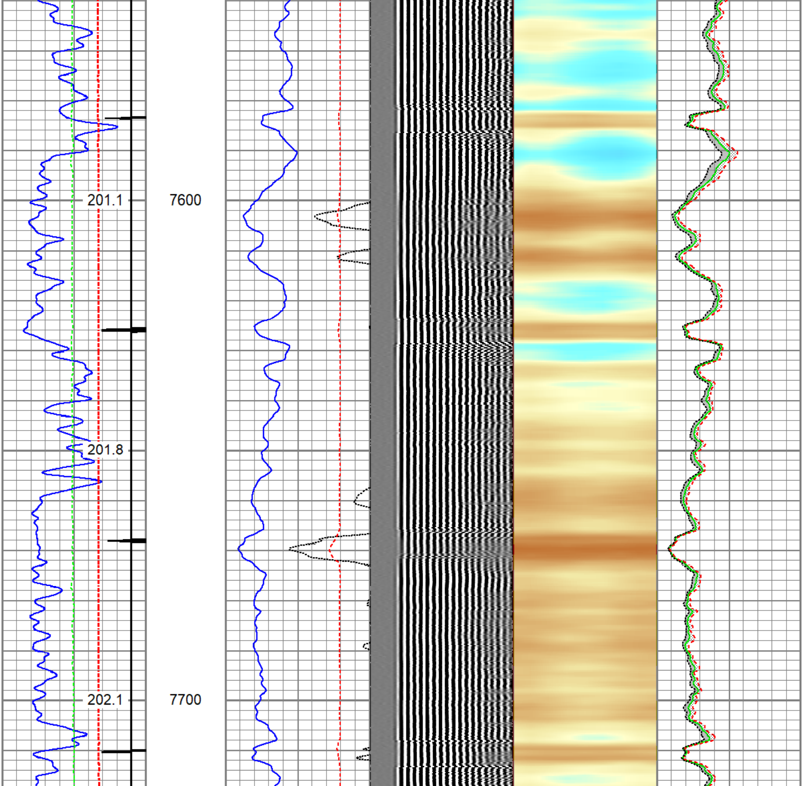
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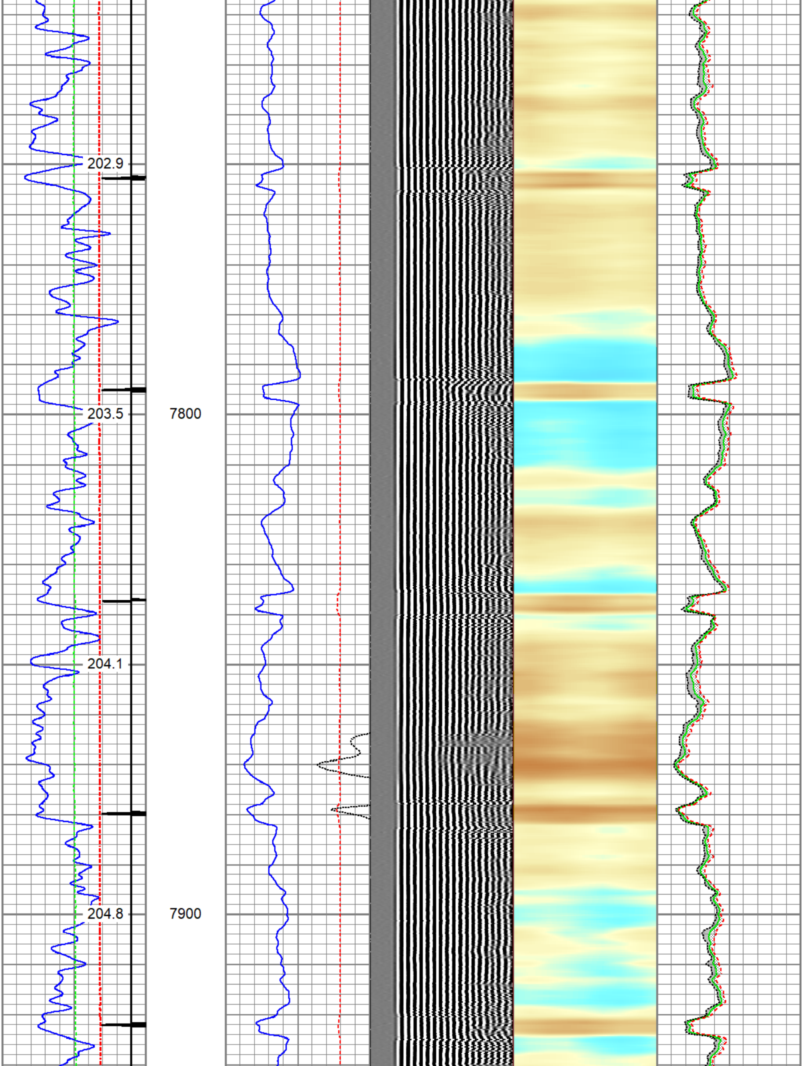
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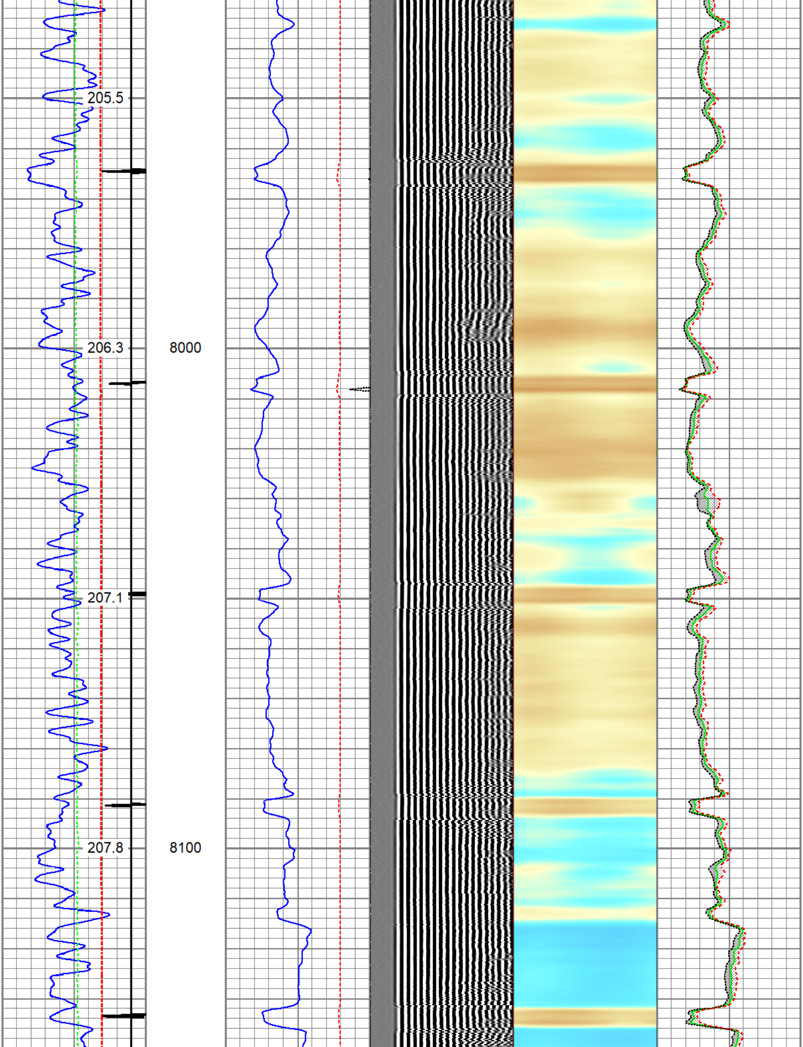
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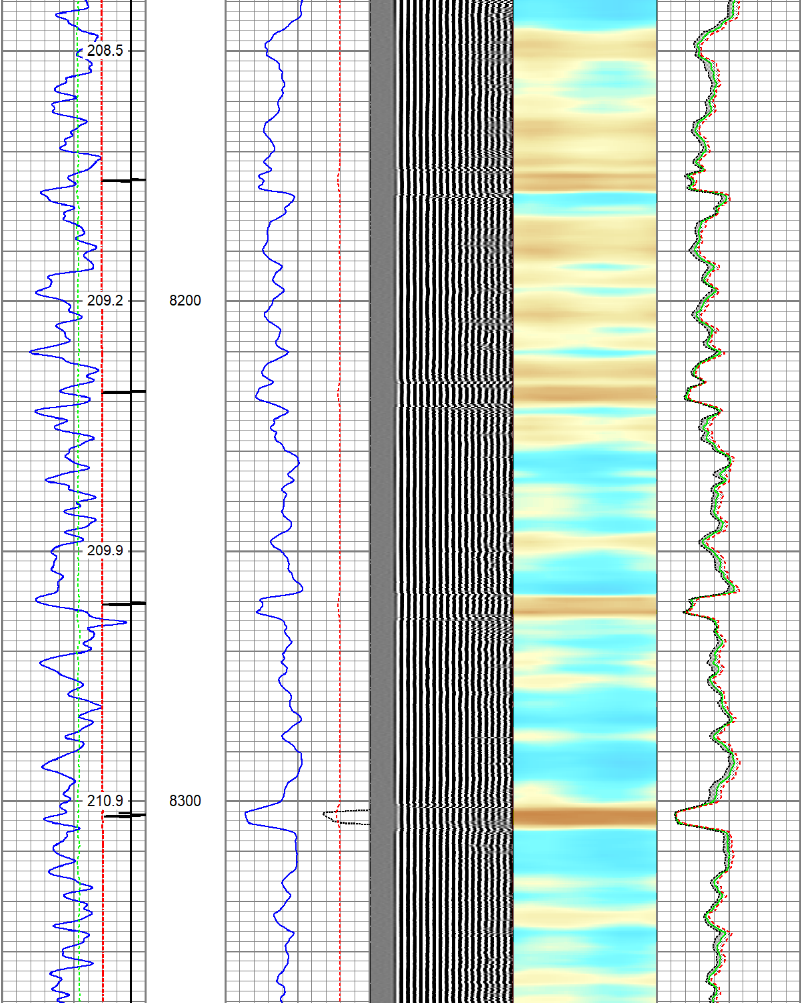
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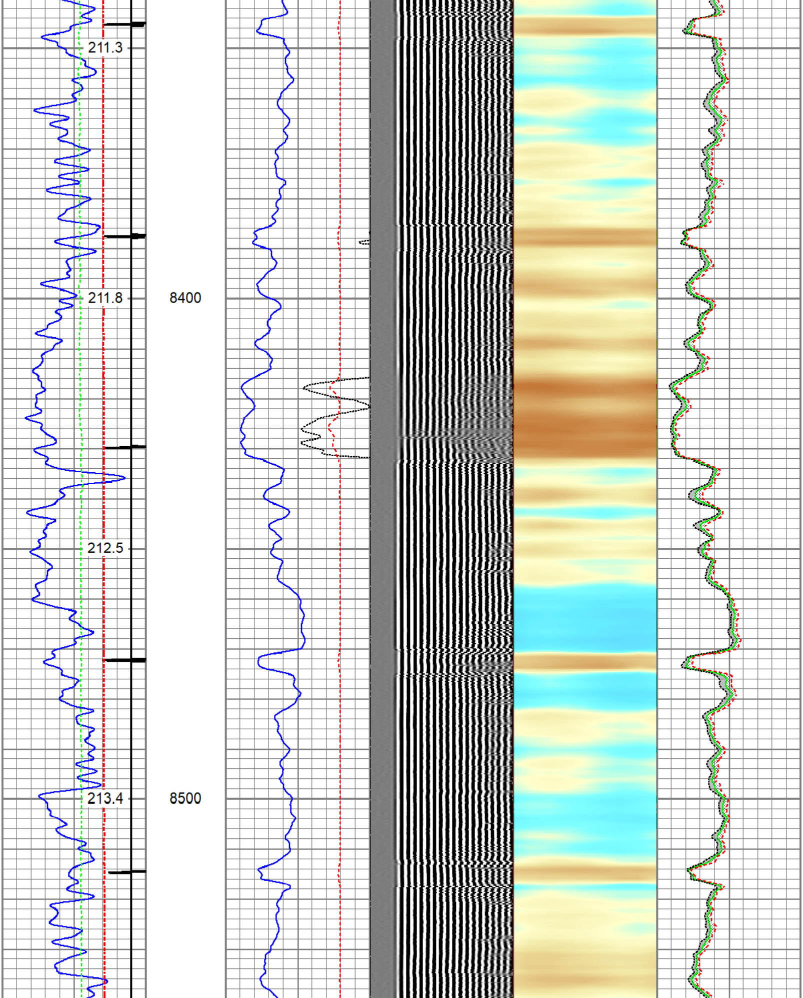
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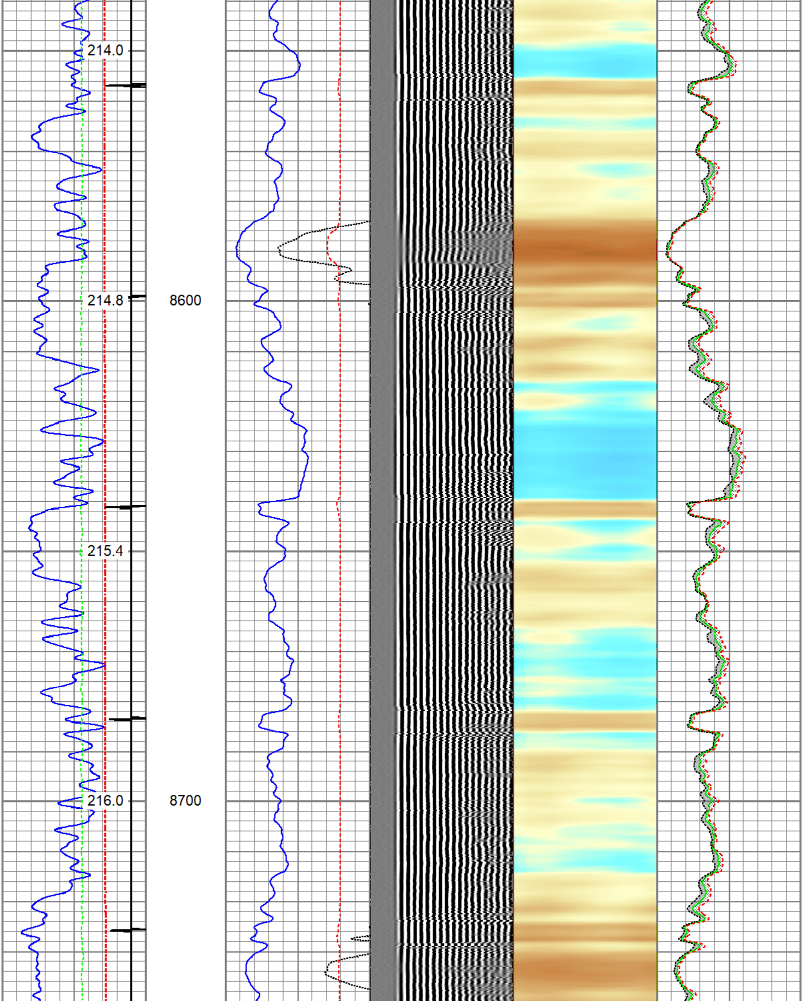
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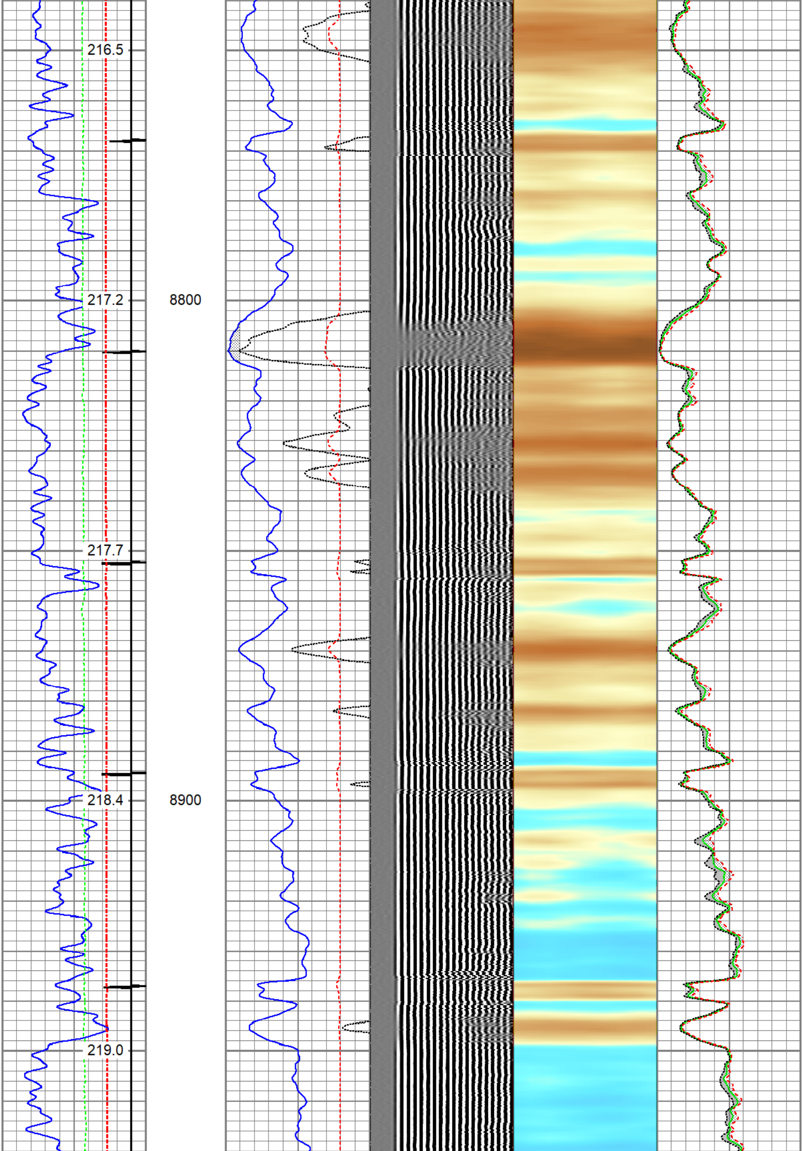
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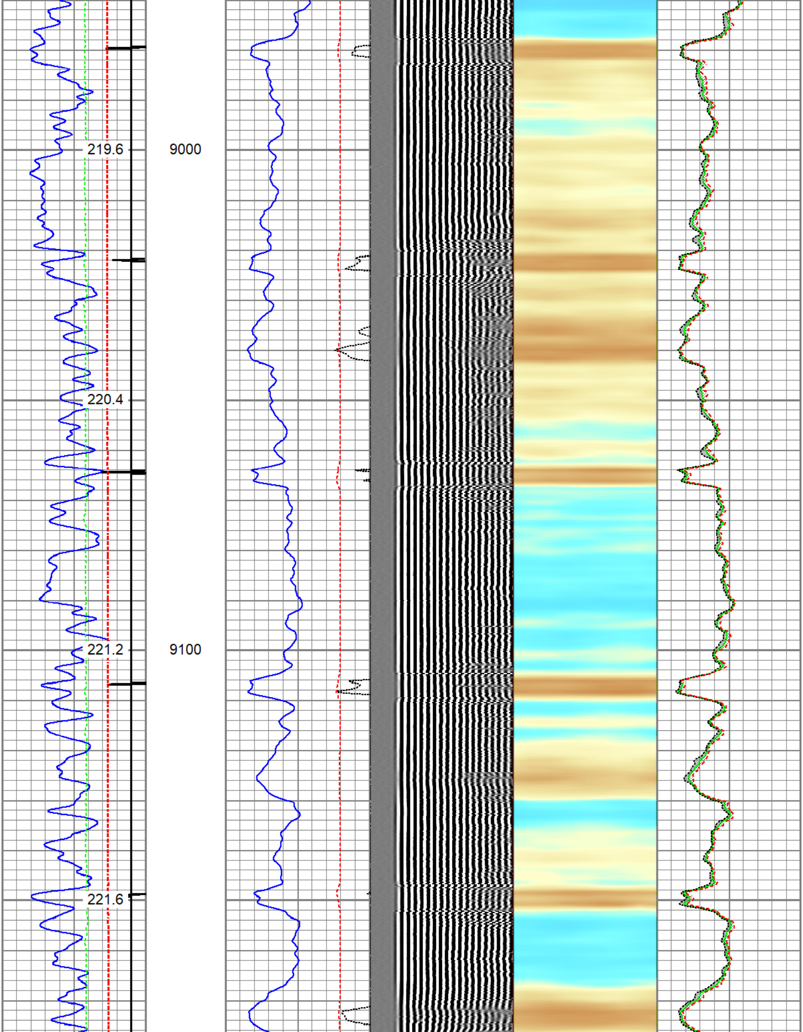
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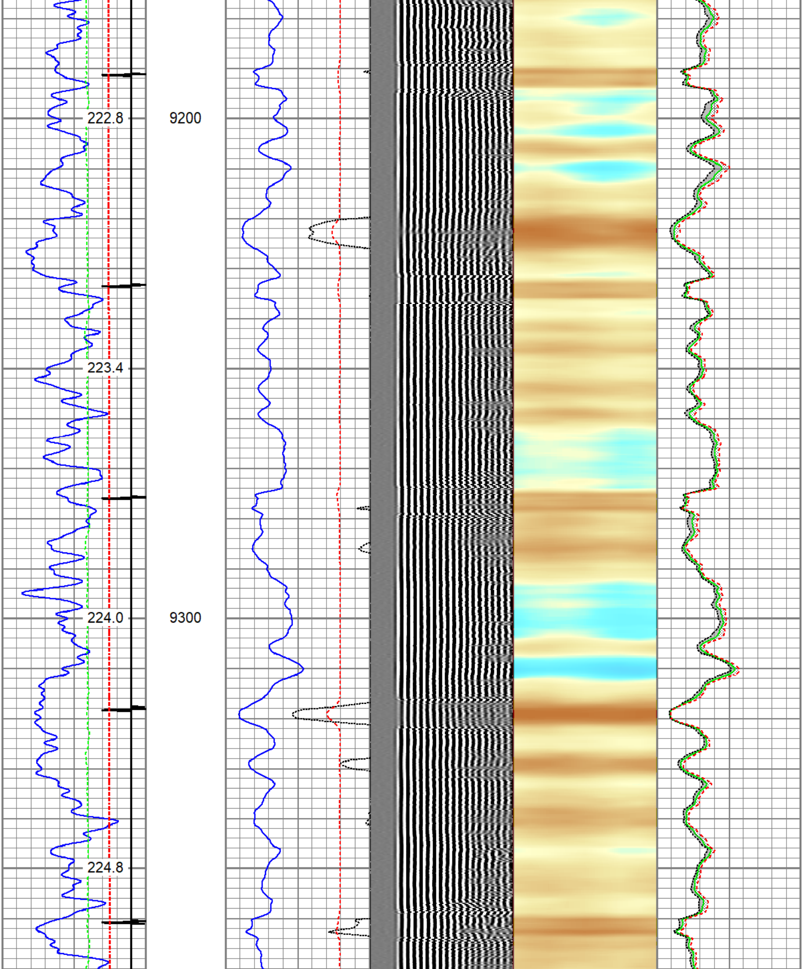
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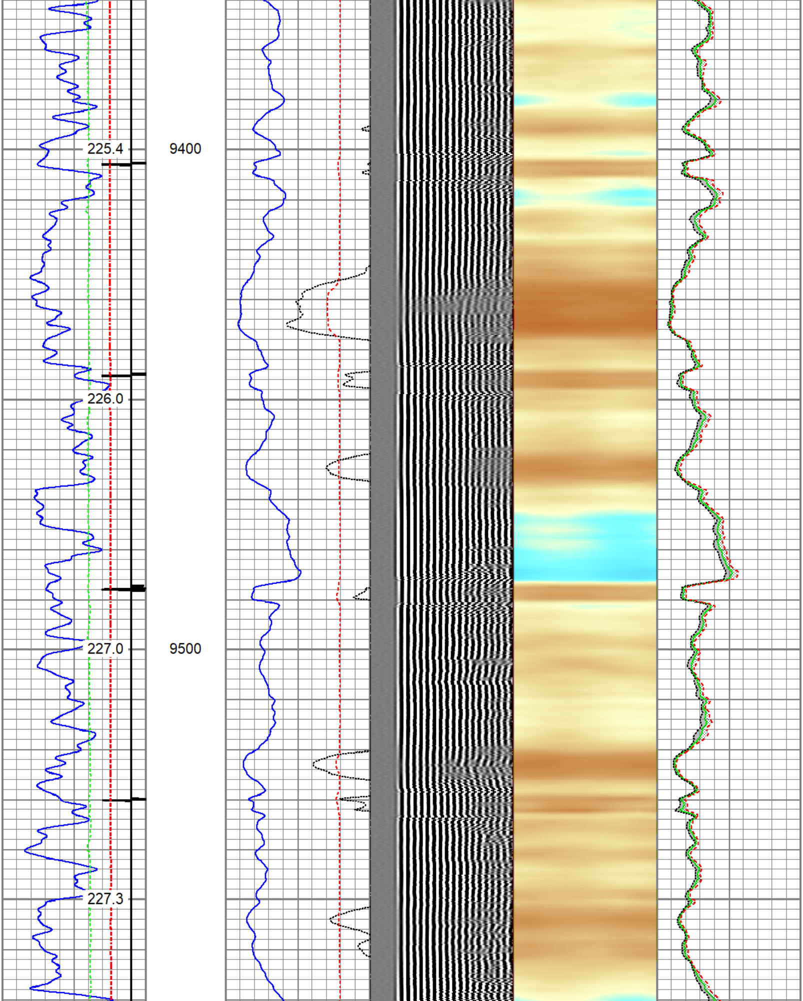
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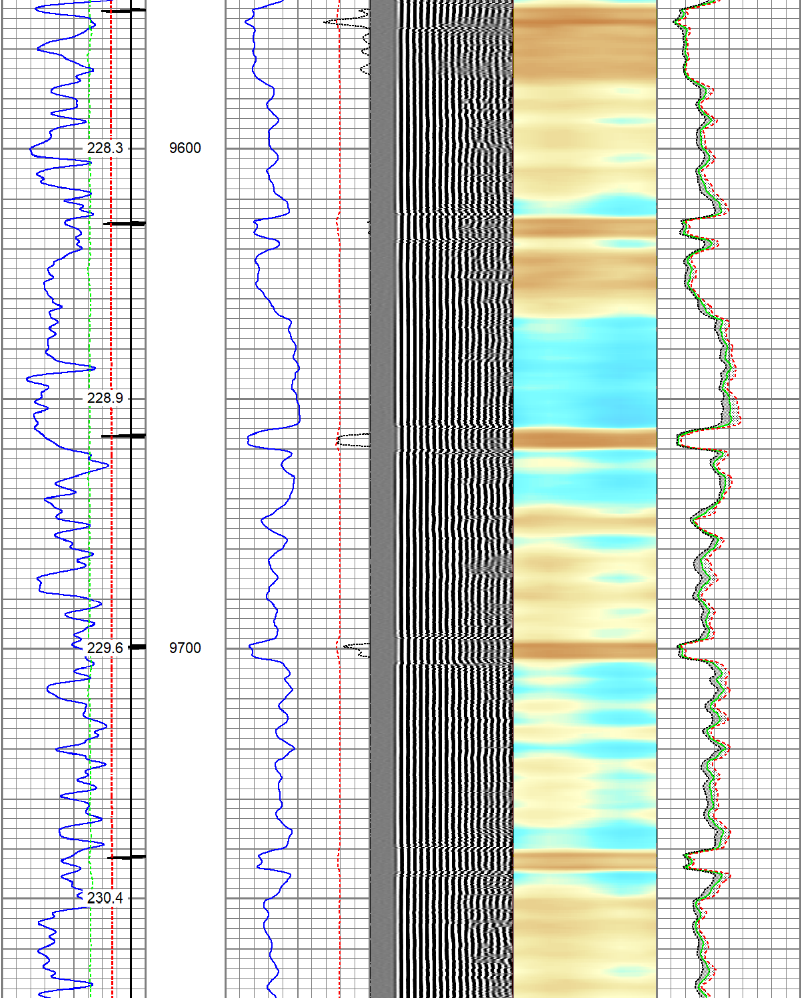
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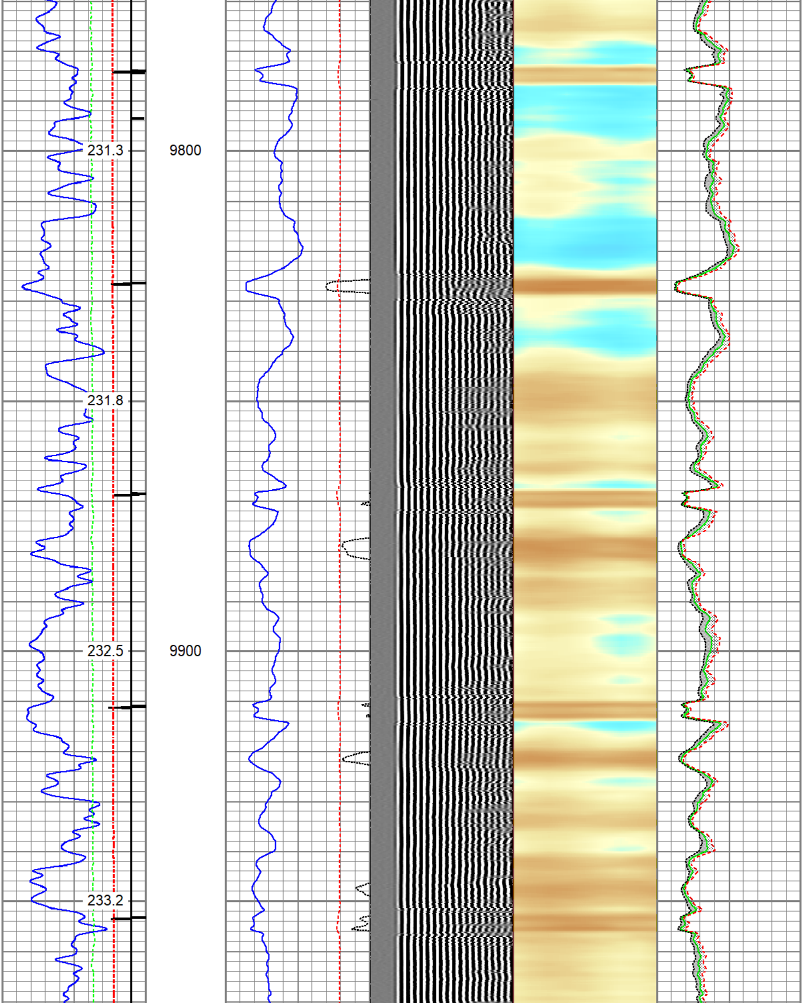
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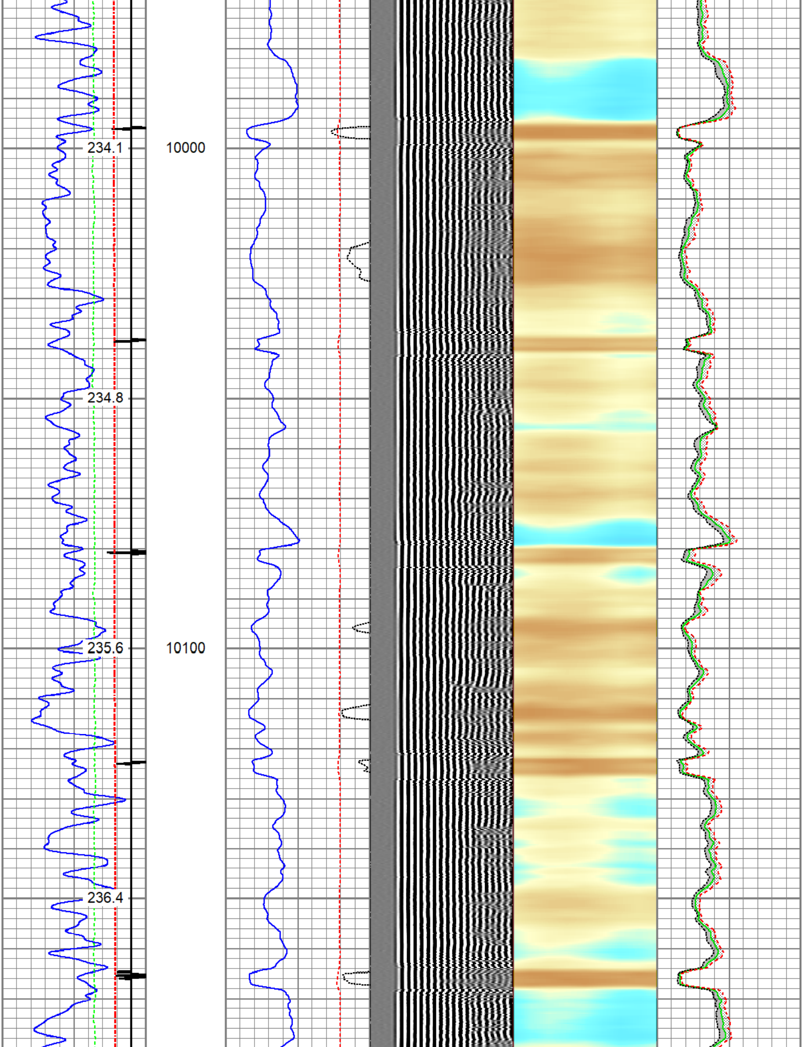
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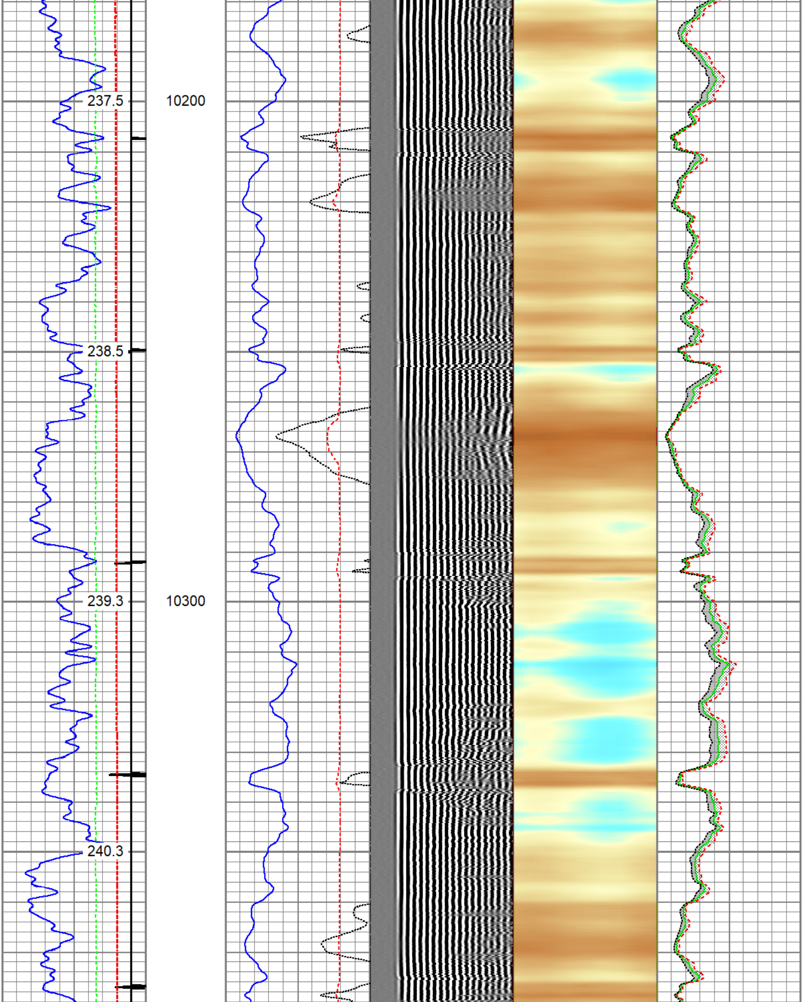
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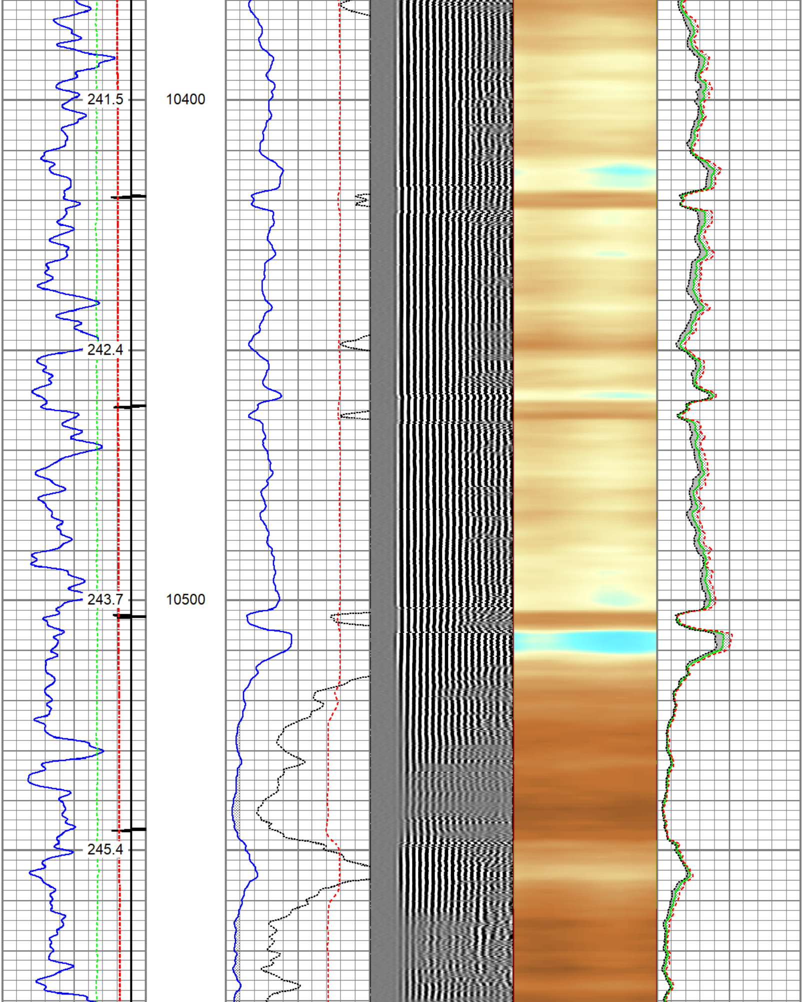
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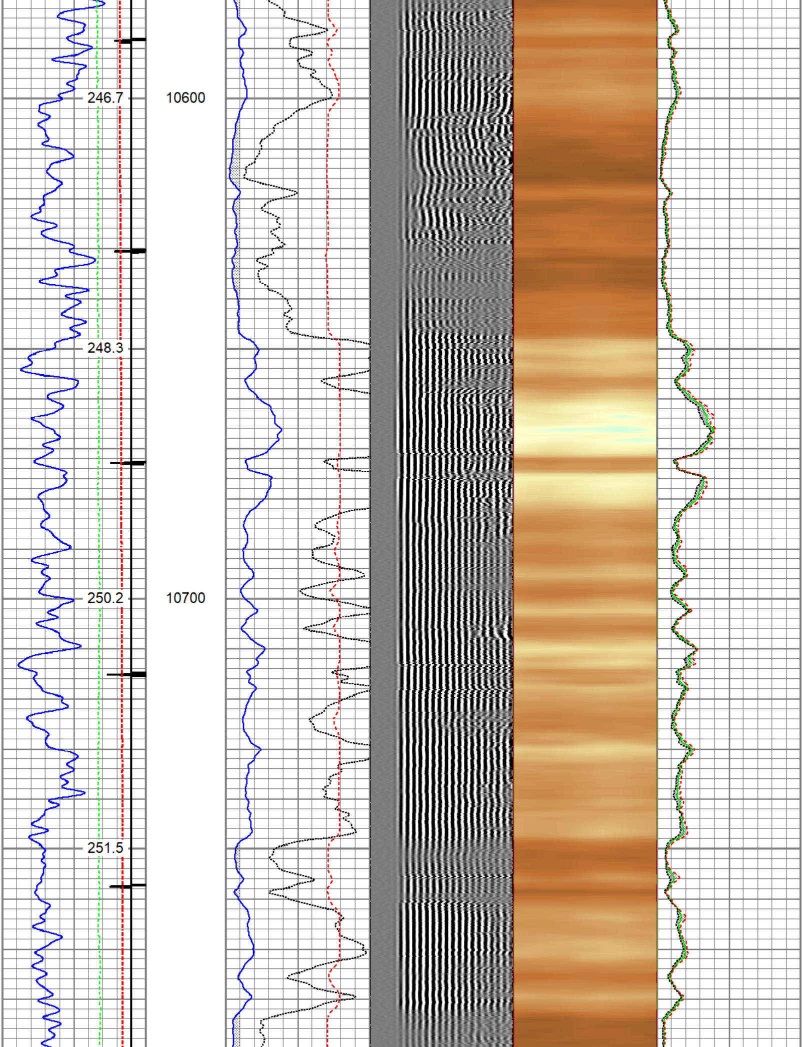
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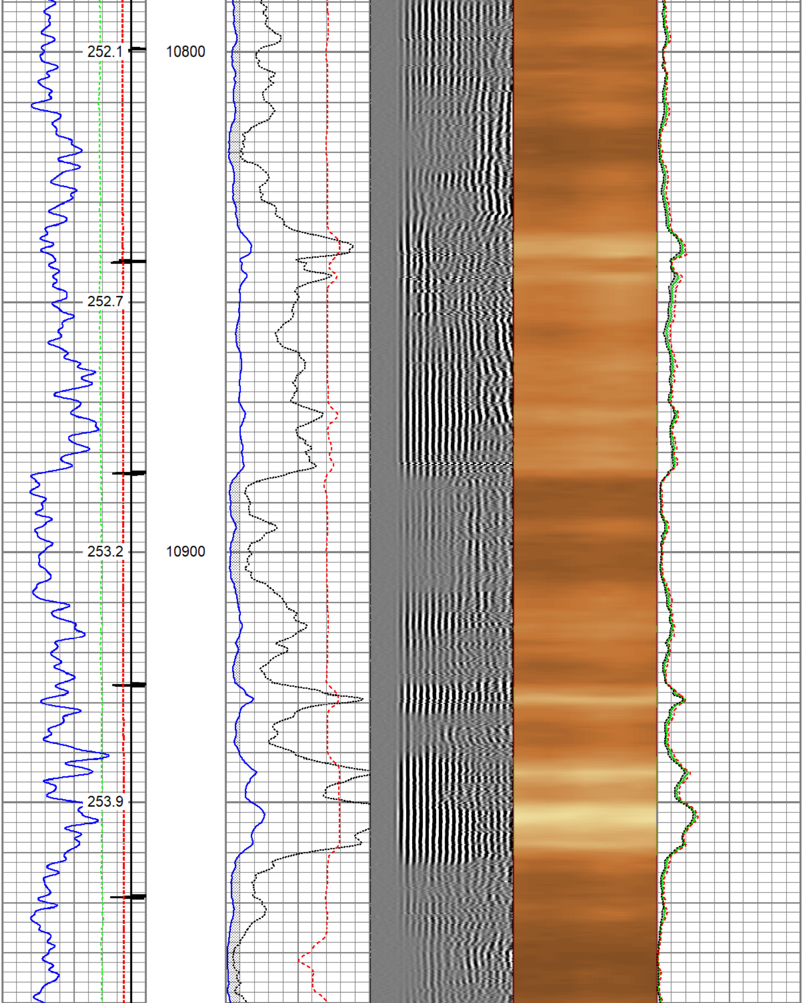
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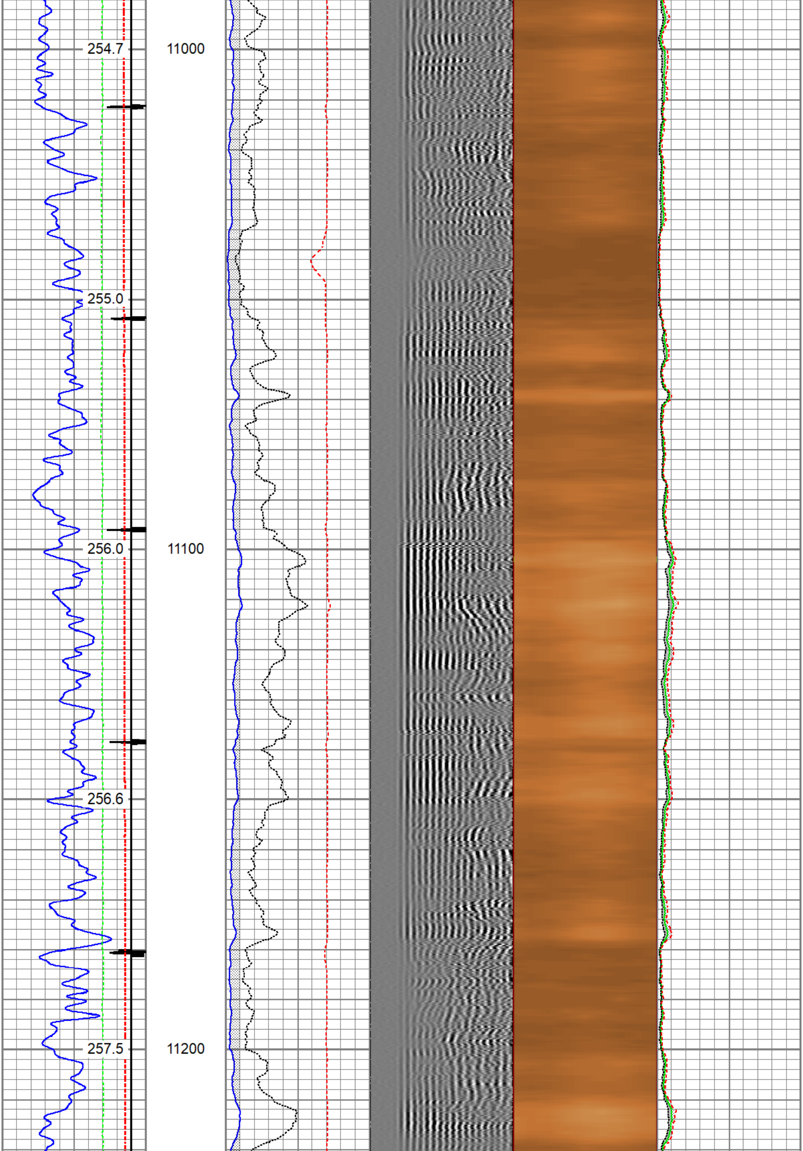
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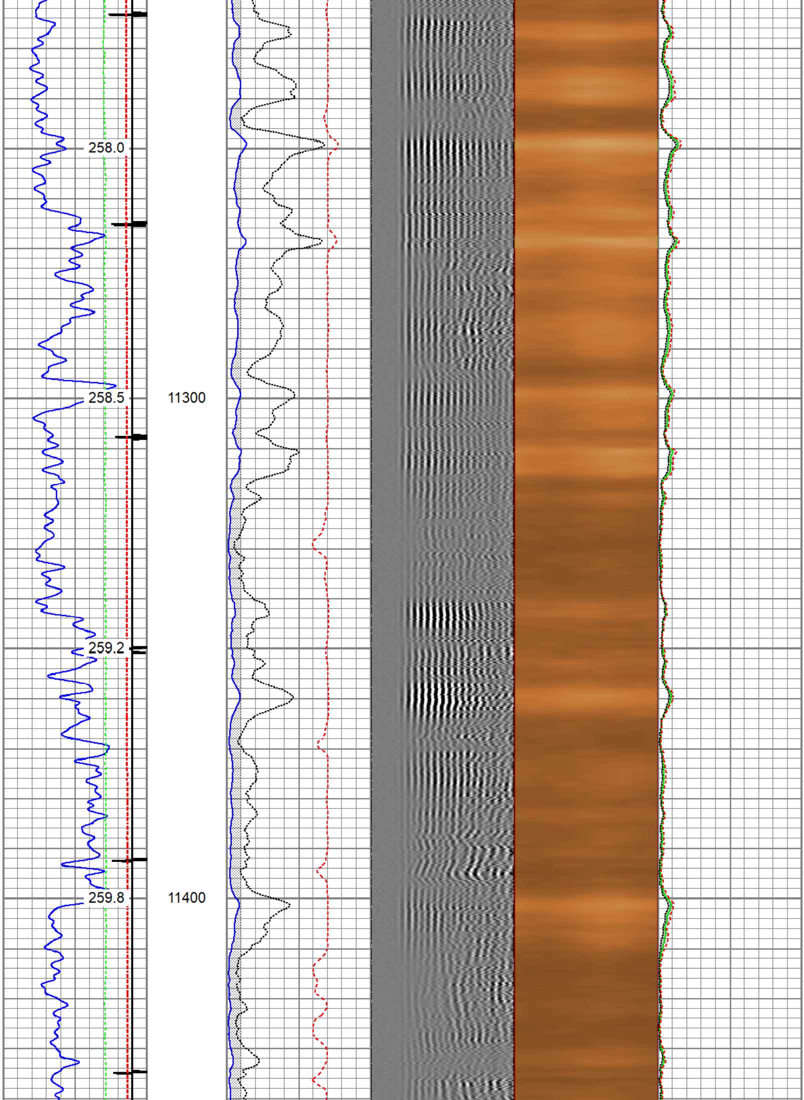
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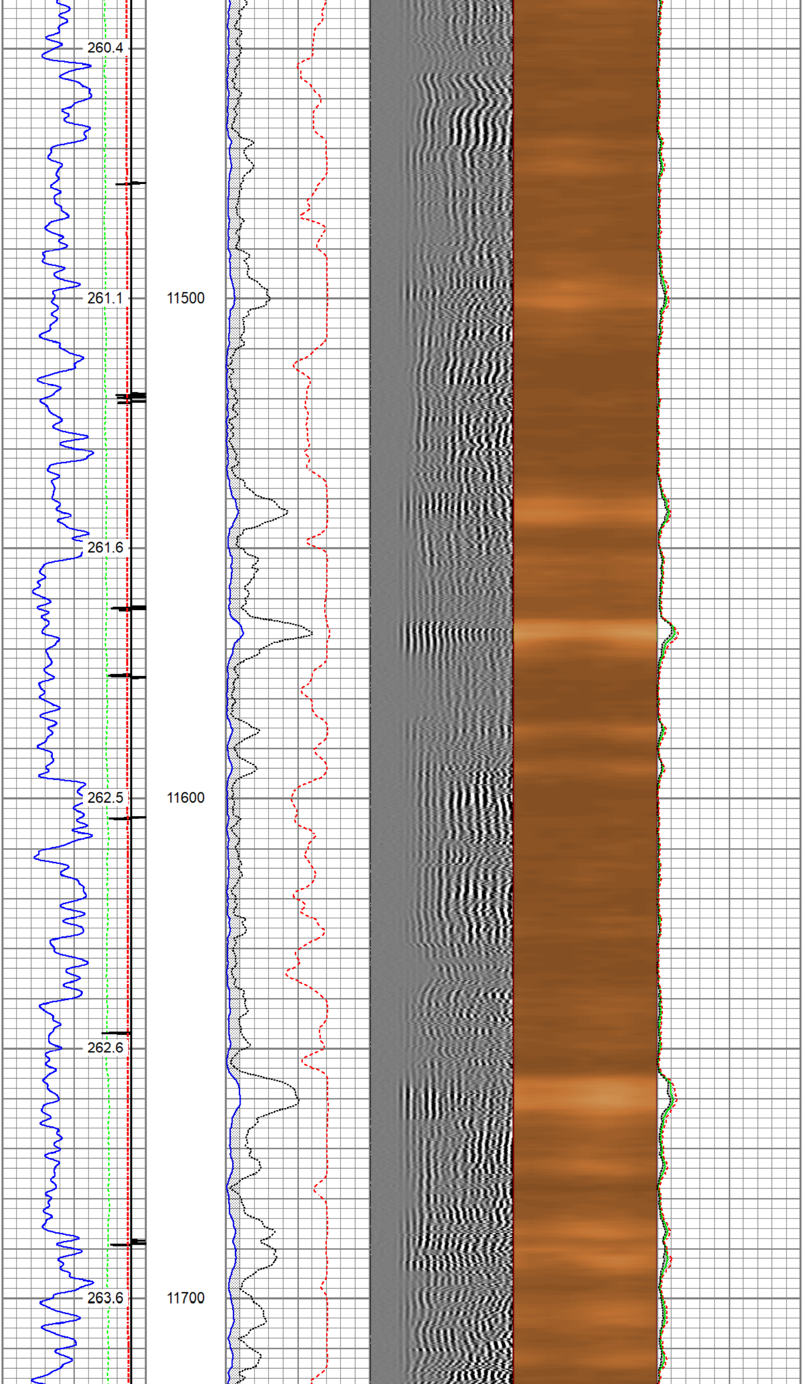
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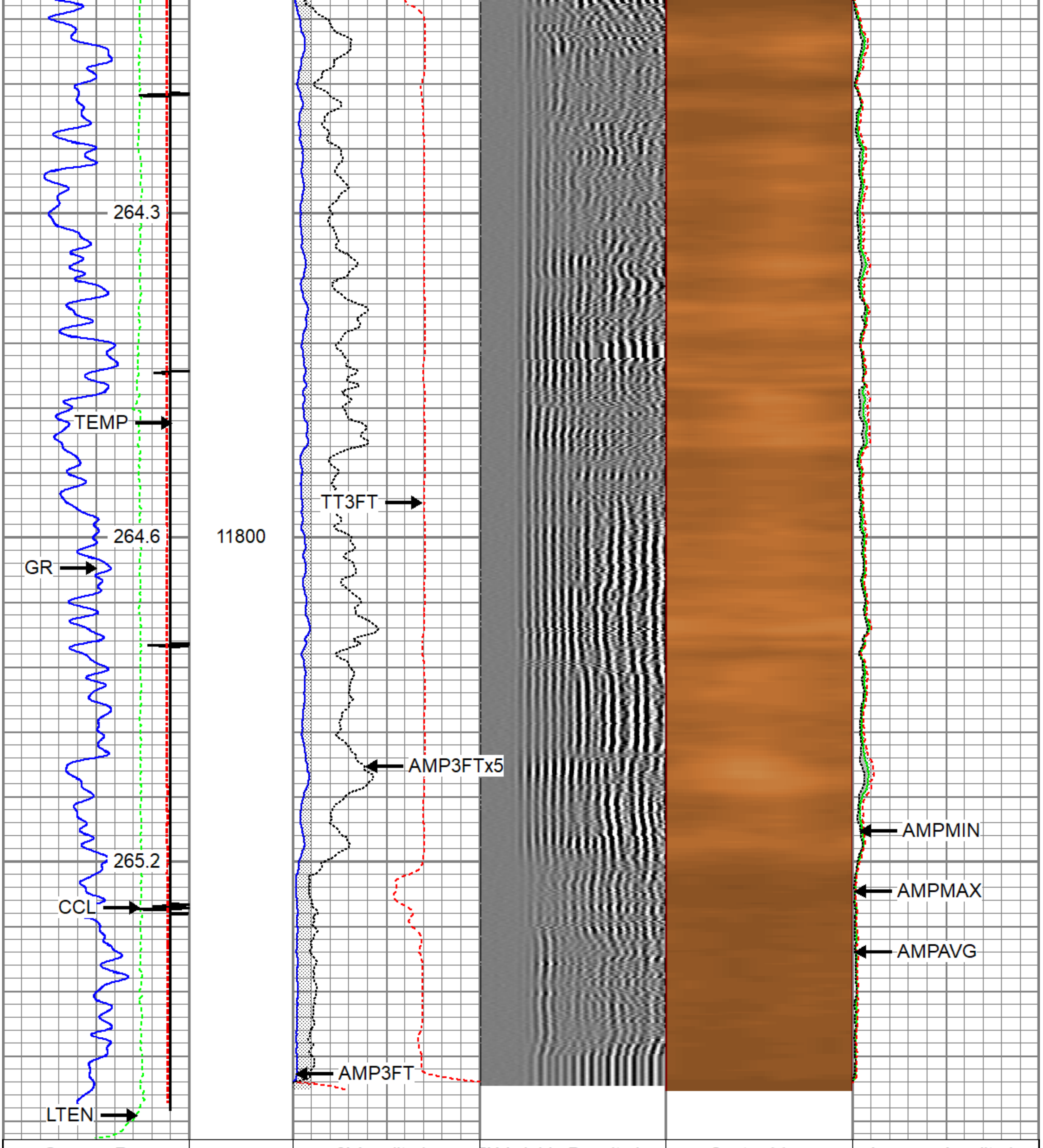
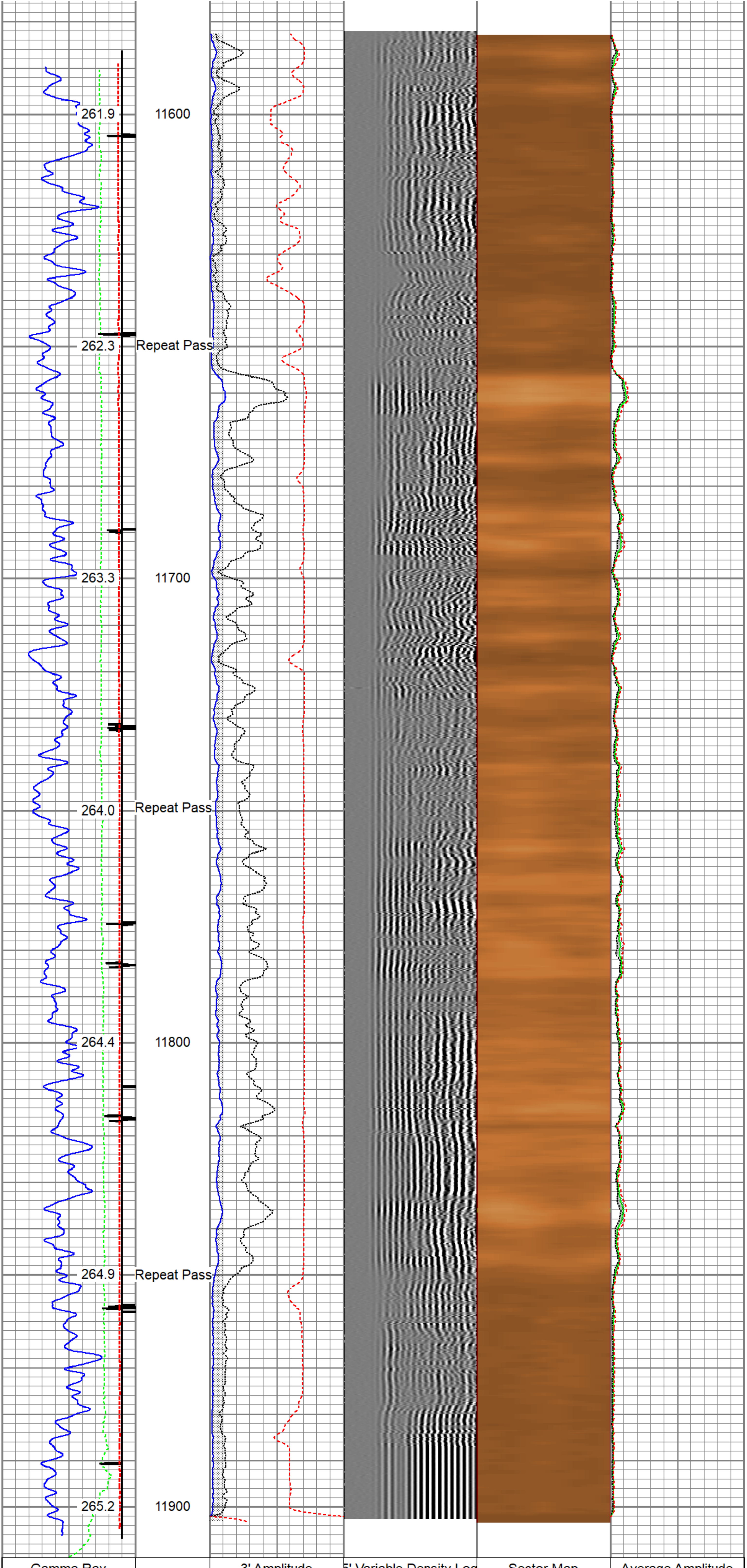


| Gamma Ray | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
|---|---|---|---|---|
| 0 (GAPI) 150 | 0 (mV) 100 | 200 (usec) 1200 | | 0 120 |
| Line Tension | 3' Amplitude x 5 | | | Mimimum Amplitude |
| 0 (lb) 3000 | 0 (mV) 20 | | | 0 120 |
| -9 CCL$1 1 | 3' Travel Time | | | Maximum Amplitude |
| 0 Temp (degF) 300 | 650 (usec) 150 | | | 0 120 |

## Repeat Pass 5" = 100' (0 PSI)

| | |
|---|---|
| Database File | terra_rg_413-18-297_rcbl\terra_rg_413-18-297_rcbl.db |
| Dataset Pathname | repeat |
| Presentation Format | twgrcbl |
| Dataset Creation | Fri Jul 12 12:16:52 2024 |
| Charted by | Depth in Feet scaled 1:240 |

| Gamma Ray | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
|---|---|---|---|---|
| 0 (GAPI) 150 | 0 (mV) 100 | 200 (usec) 1200 | | 0 120 |
| Line Tension | 3' Amplitude x 5 | | | Mimimum Amplitude |
| 0 (lb) 3000 | 0 (mV) 20 | | | 0 120 |
| -9 CCL$1 1 | 3' Travel Time | | | Maximum Amplitude |
| 0 Temp (degF) 300 | 650 (usec) 150 | | | 0 120 |



| Gamma Ray | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
|---|---|---|---|---|
| 0 (GAPI) 150 | 0 (mV) 100 | 200 (usec) 1200 | | 0 120 |
| Line Tension | 3' Amplitude x 5 | | | Mimimum Amplitude |
| 0 (lb) 3000 | 0 (mV) 20 | | | 0 120 |
| -9 CCL$1 1 | 3' Travel Time | | | Maximum Amplitude |
| 0 Temp (degF) 300 | 650 (usec) 150 | | | 0 120 |

### Calibration Report

| | |
|---|---|
| Database File | c:\programdata\warrior\data\terra_rg_413-18-297_rcbl\terra_rg_413-18-297_rcbl.db |
| Dataset Pathname | main |
| Dataset Creation | Fri Jul 12 12:21:32 2024 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | FW1804-049 | |
| Tool Model: | 50-GCT275-0000 | |
| Performed: | Fri Mar 1 09:45:56 2024 | |
| Calibrator Value: | 162.3 | GAPI |
| Background Reading: | 74.8 | cps |
| Calibrator Reading: | 321.5 | cps |
| Sensitivity: | 0.6579 | GAPI/cps |

### Inclinometer Calibration Report

Performed: Thu Feb 29 15:22:34 2024

| | Low Read. | High Read. | Low Ref. | High Ref. | |
|---|---|---|---|---|---|
| X Accelerometer | -934.00 | 918.00 | -1.00 | 1.00 | gee |
| Y Accelerometer | -908.00 | 917.00 | -1.00 | 1.00 | gee |
| Z Accelerometer | -15.33 | -897.67 | 0.00 | 1.00 | gee |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | 110433 | |
| Tool Model: | Probe275acc | |
| Calibration Casing Diameter: | 4.500 | in |
| Calibration Depth: | 172.633 | ft |

Master Calibration, performed Fri Jul 12 07:02:11 2024:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.014 | 0.769 | 0.250 | 81.196 | 107.230 | -1.276 |
| CAL | 0.011 | 0.748 | | | | |
| 5' | 0.016 | 0.746 | 0.250 | 81.196 | 110.781 | -1.484 |
| SUM | | | | | | |
| S1 | 0.015 | 0.747 | 0.000 | 100.000 | 136.467 | -1.997 |
| S2 | 0.015 | 0.779 | 0.000 | 100.000 | 130.930 | -1.971 |
| S3 | 0.015 | 0.807 | 0.000 | 100.000 | 126.254 | -1.839 |
| S4 | 0.017 | 0.824 | 0.000 | 100.000 | 123.814 | -2.043 |
| S5 | 0.016 | 0.795 | 0.000 | 100.000 | 128.333 | -2.019 |
| S6 | 0.015 | 0.766 | 0.000 | 100.000 | 133.290 | -2.060 |
| S7 | 0.015 | 0.757 | 0.000 | 100.000 | 134.737 | -1.959 |
| S8 | 0.016 | 0.750 | 0.000 | 100.000 | 136.150 | -2.129 |

Internal Reference Calibration, performed (Not Performed):

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.011 | 0.748 | 1.000 | 0.000 |

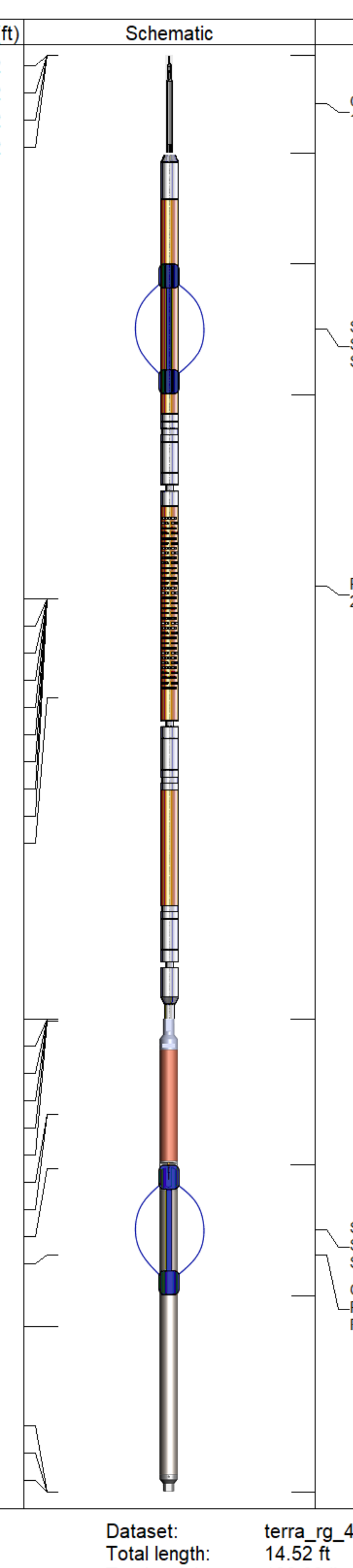
Air Zero Calibration, performed Fri Jul 12 07:02:55 2024:

| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | 0.013 | 0.000 | 0.001 |
| 5' | 0.015 | 0.000 | 0.001 |
| SUM | | | |
| S1 | 0.014 | 0.000 | 0.001 |
| S2 | 0.014 | 0.000 | 0.001 |
| S3 | 0.014 | 0.000 | 0.001 |
| S4 | 0.014 | 0.000 | 0.002 |
| S5 | 0.014 | 0.000 | 0.001 |
| S6 | 0.015 | 0.000 | 0.001 |
| S7 | 0.015 | 0.000 | -0.000 |
| S8 | 0.016 | 0.000 | -0.000 |

### Inclinometer Calibration Report

Performed: (Not Performed)

| | Low Read. | High Read. | Low Ref. | High Ref. | |
|---|---|---|---|---|---|
| X Accelerometer | 0.00 | 1.00 | 0.00 | 1.00 | gee |
| Y Accelerometer | 0.00 | 1.00 | 0.00 | 1.00 | gee |
| Z Accelerometer | 0.00 | 1.00 | 0.00 | 1.00 | gee |



| Sensor | Offset (ft) | Description | Length (ft) | O.D. (in) | Weight (lb) |
|---|---|---|---|---|---|
| GCT_FMWR<br>mSec_Count<br>RBT_Status<br>Error_Ct | 14.52<br>14.52<br>14.52<br>14.52 | Cable-Head-Titan 1 7/16" Cable Head | 1.00 | 1.44 | 1.00 |
| | | SO BS CENT-2750-4500 Slip Over 2-3/4" I.D. for 4-1/2" O.D. Casing Bow Spring Centralizer | 1.33 | 3.25 | 10.00 |
| WVFS8<br>WVFS7<br>WVFS6<br>WVFS5<br>WVFS4<br>WVFS3<br>WVFS2<br>WVFS1<br>WVF3FT<br>WVF5FT | 9.02<br>9.02<br>9.02<br>9.02<br>9.02<br>9.02<br>9.02<br>9.02<br>9.02<br>8.02 | RBT8acc-Probe275acc (110433) 2.75" Radial Corrosion with accelerometer | 8.75 | 2.75 | 110.00 |
| RBT_ACCZ<br>RBT_ACCY<br>RBT_ACCX<br>WVFSYNC<br>WVFCAL<br>GCT_HV<br>CCL$2<br>CCL$1<br>GCT_Temp<br>GR<br>GCT_IntTemp<br>GCT_ACCZ<br>GCT_ACCY<br>GCT_ACCX | 4.77<br>4.77<br>4.77<br>4.77<br>4.77<br>4.76<br>3.81<br>3.81<br>3.26<br>2.39<br>1.67<br>0.00<br>0.00<br>0.00 | SO BS CENT-2750-4500 Slip Over 2-3/4" I.D. for 4-1/2" O.D. Casing Bow Spring Centralizer | 1.33 | 3.25 | 10.00 |
| | | GCT_acc-50-GCT275-0000 (FW1804-049) Probe 2.75" Gamma Ray - CCL w/Temp (Single Pin) | 4.77 | 2.75 | 55.00 |

| | |
|---|---|
| Dataset: | terra_rg_413-18-297_rcbl.db: field/well/run1/main |
| Total length: | 14.52 ft |
| Total weight: | 186.00 lb |
| O.D.: | 3.25 in |

| | | | |
|---|---|---|---|
| Company | TEP Rocky Mountain LLC | | |
| Well | Federal #RG 413-18-297 | | |
| Field | Sulfer Creek | | |
| County | Rio Blanco | State | Colorado |

Radial Cement Bond
Gamma Ray
Casing Collar Log