RELIANCE OILFIELD SERVICES

Company TEP Rocky Mountain LLC
Well Federal RWF 422-8
Field Rulison
County Garfield
State Colorado

# Radial Cement Bond
# Gamma Ray
# Casing Collar Log

Company TEP Rocky Mountain LLC
Well Federal RWF 422-8
Field Rulison
County Garfield State Colorado
Location: API # : 05-045-24316
SEC 8 TWP 6S RGE 94W
Other Services --

Permanent Datum Ground Level Elevation 5979.6'
Log Measured From Kelly Bushing 24 FT
Drilling Measured From Kelly Bushing

Elevation
K.B. 6003.6'
D.F. 6002.6'
G.L. 5979.6'

| | |
|---|---|
| Date | 09-DEC-2020 |
| Run Number | One |
| Depth Driller | 9525 FT |
| Depth Logger | 9480 FT |
| Bottom Logged Interval | 9468 FT |
| Top Log Interval | Surface |
| Open Hole Size | 8.750" |
| Type Fluid | Water |
| Density / Viscosity | 8.34 lb/gal |
| Max. Recorded Temp. | 252°F |
| Estimated Cement Top | See Log |
| Time Well Ready | ROA |
| Time Logger on Bottom | 10:06 |
| Equipment Number | HD-0359 |
| Location | Grand Junction, CO |
| Recorded By | A. Ellsworth |
| Witnessed By | -- |

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

| Casing Record | Size (in) | Wgt (lbs/Ft) | Grade | Top | Bottom |
|---|---|---|---|---|---|
| Surface Casing | 9 5/8 | 36 | J-55 | Surface | 1041 FT |
| Intermediate #1 | 4 1/2 | 11.6 | P-110 | Surface | 9484 FT |
| Intermediate #2 | | | | | |
| 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 24 FT
Marker Joint logged from 5827 - 5849 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

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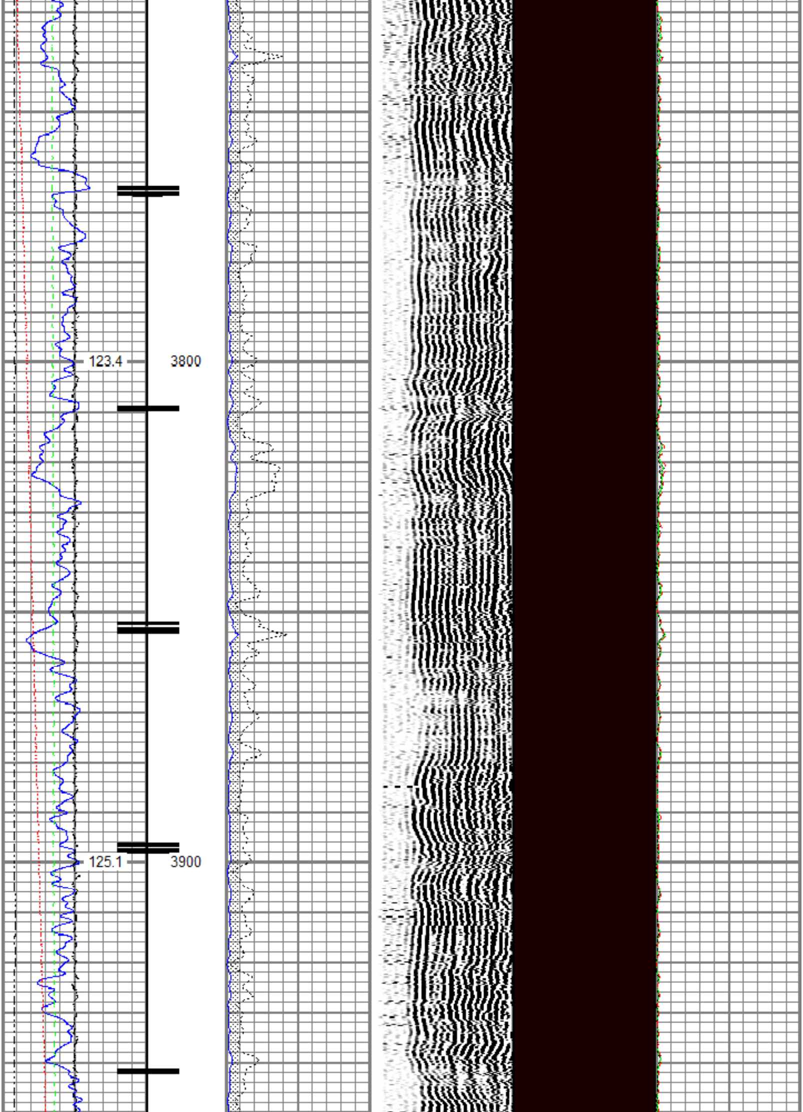
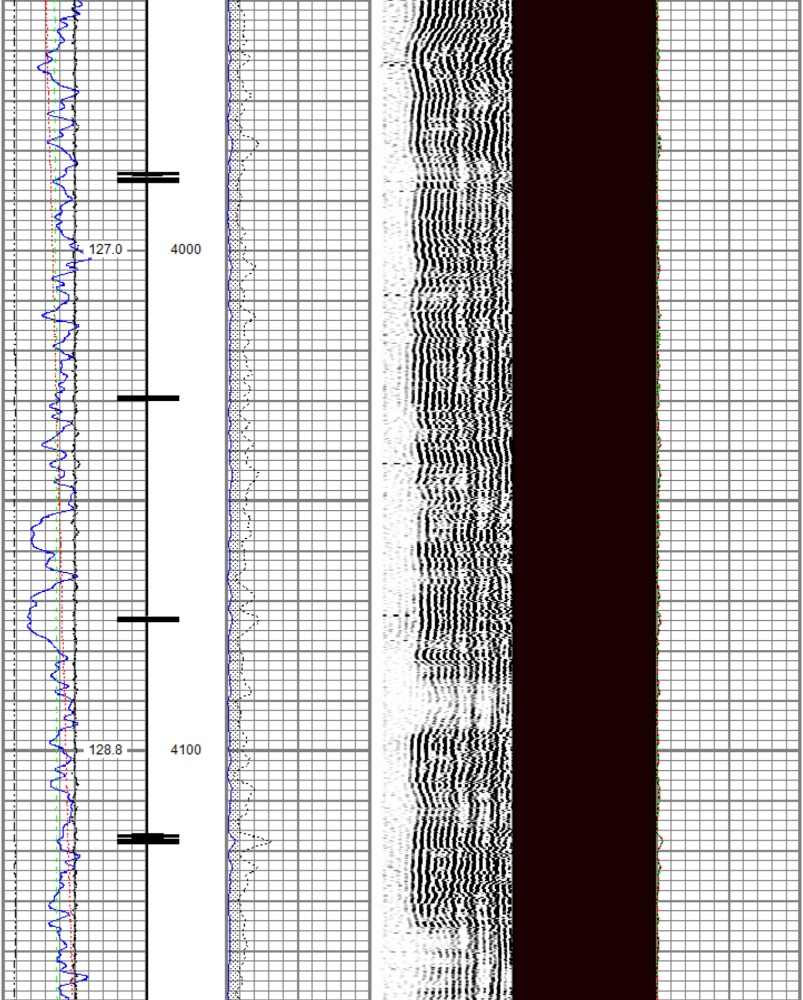
RELIANCE OILFIELD SERVICES

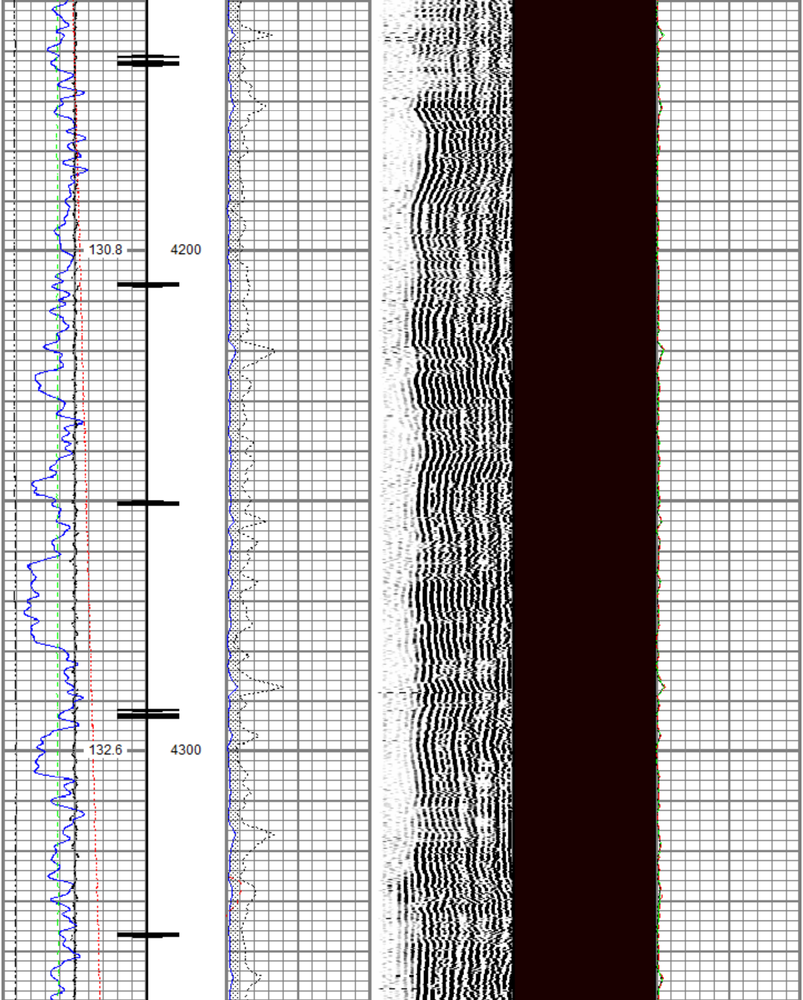
## Main Pass

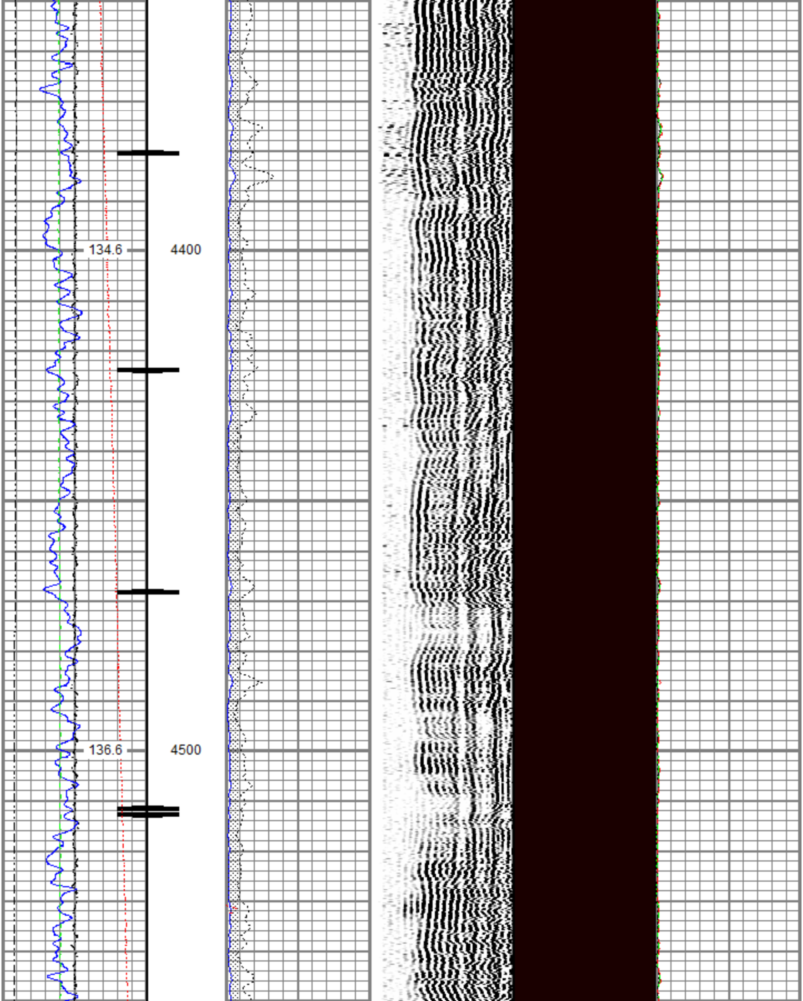
Recorded With 0 PSI Surface Induced Pressure

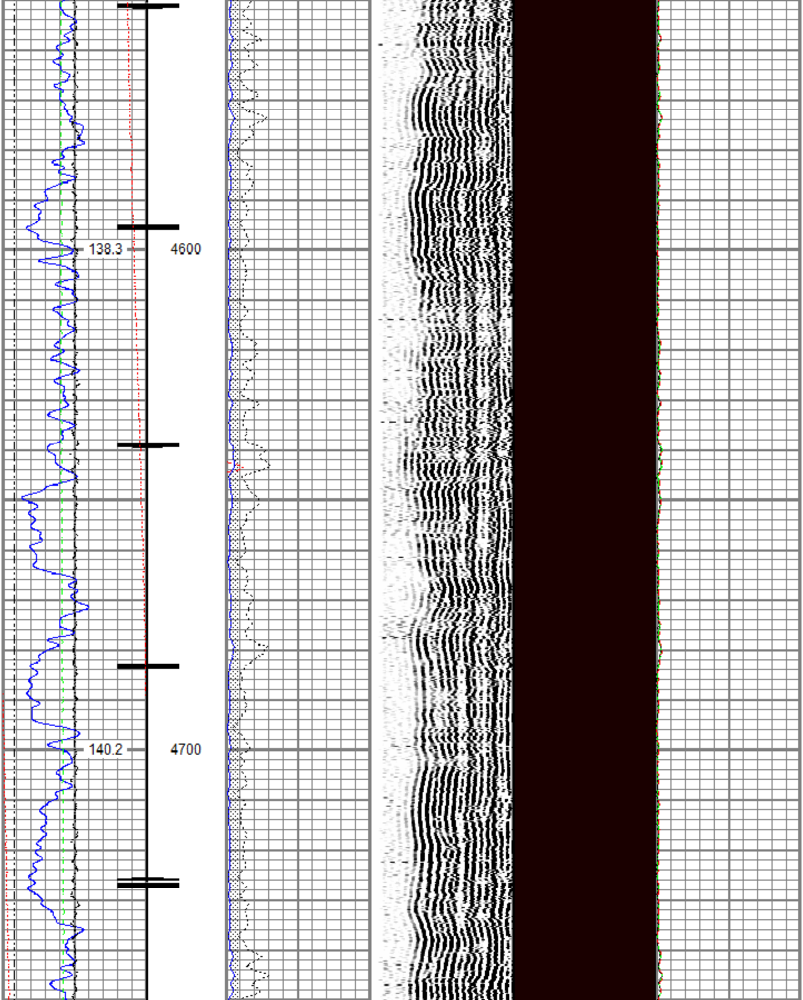
| | |
|---|---|
| Database File | tep\tep_federal rwf 422-8_rbl_12-09-20\tep_federal rwf 422-8_rbl_12-09-20.db |
| Dataset Pathname | Main.1 |
| Presentation Format | ros_radii_tep |
| Dataset Creation | Fri Dec 11 09:38:48 2020 |
| Charted by | Depth in Feet scaled 1:240 |

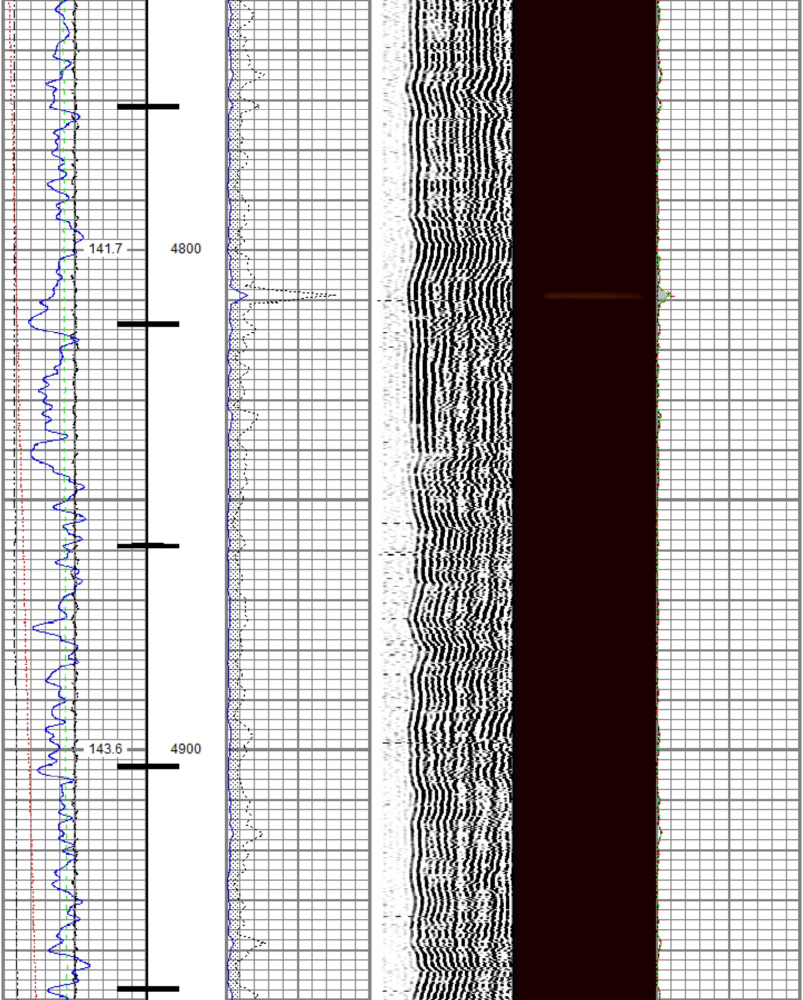

123.4
3800
125.1
3900

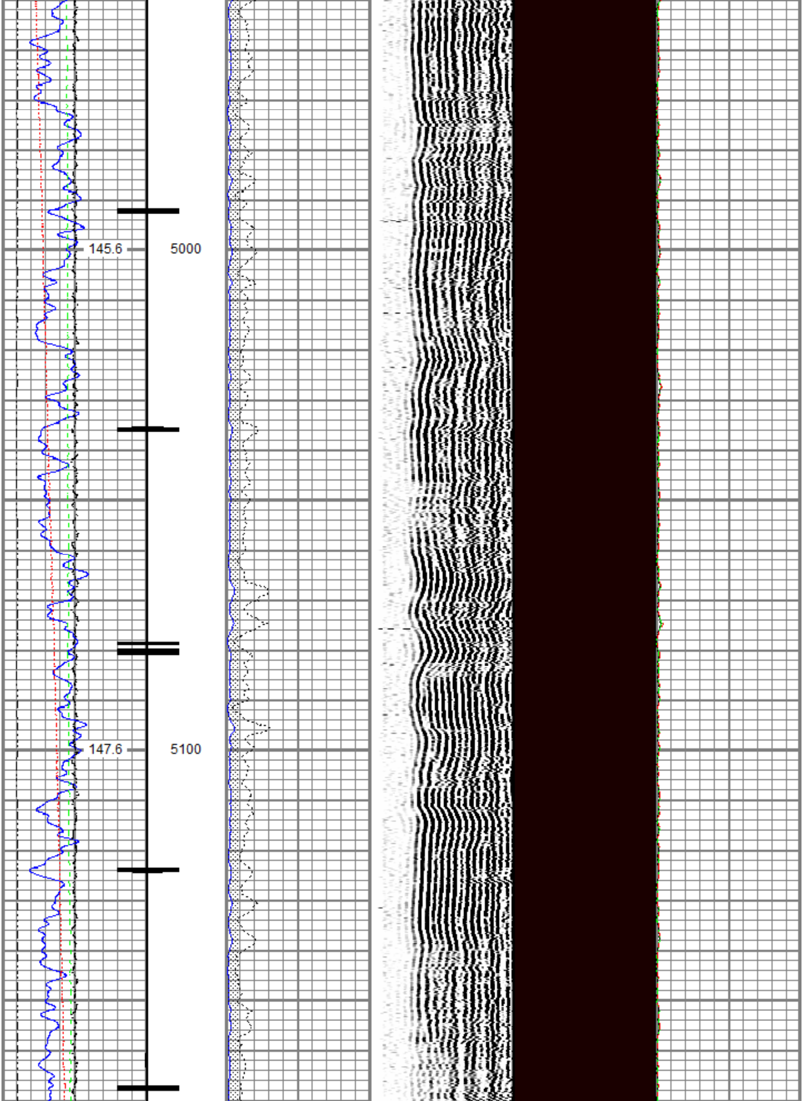

127.0
4000
128.8
4100

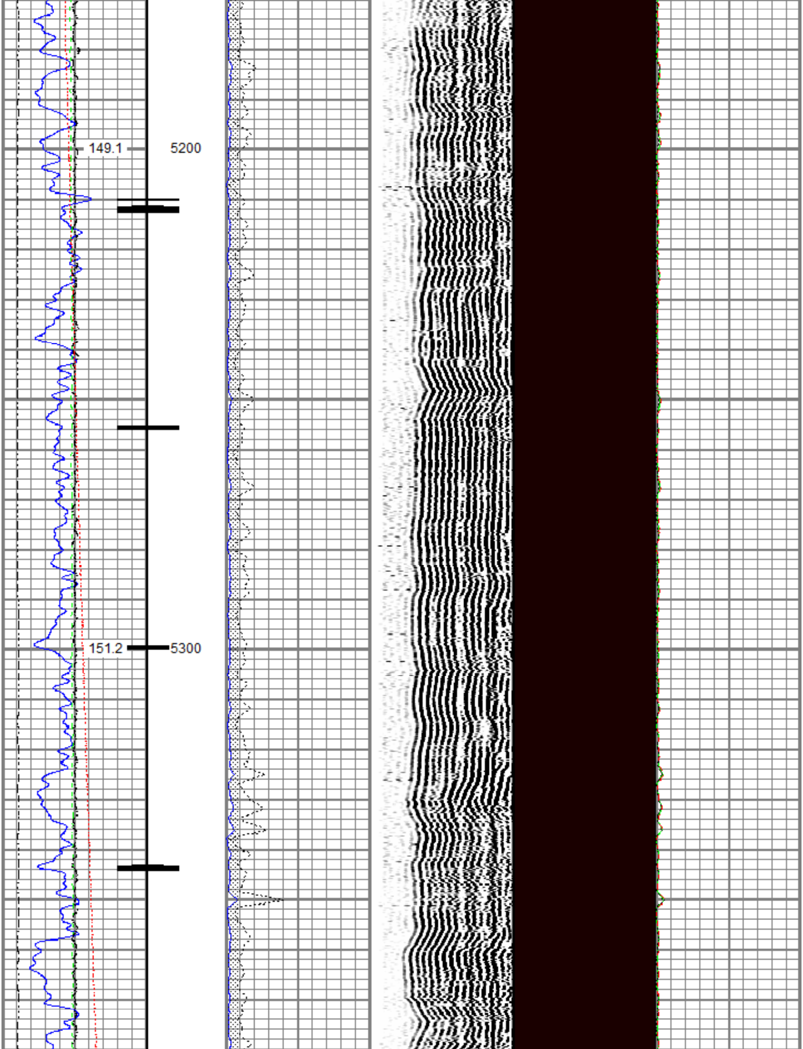

130.8
4200
132.6
4300

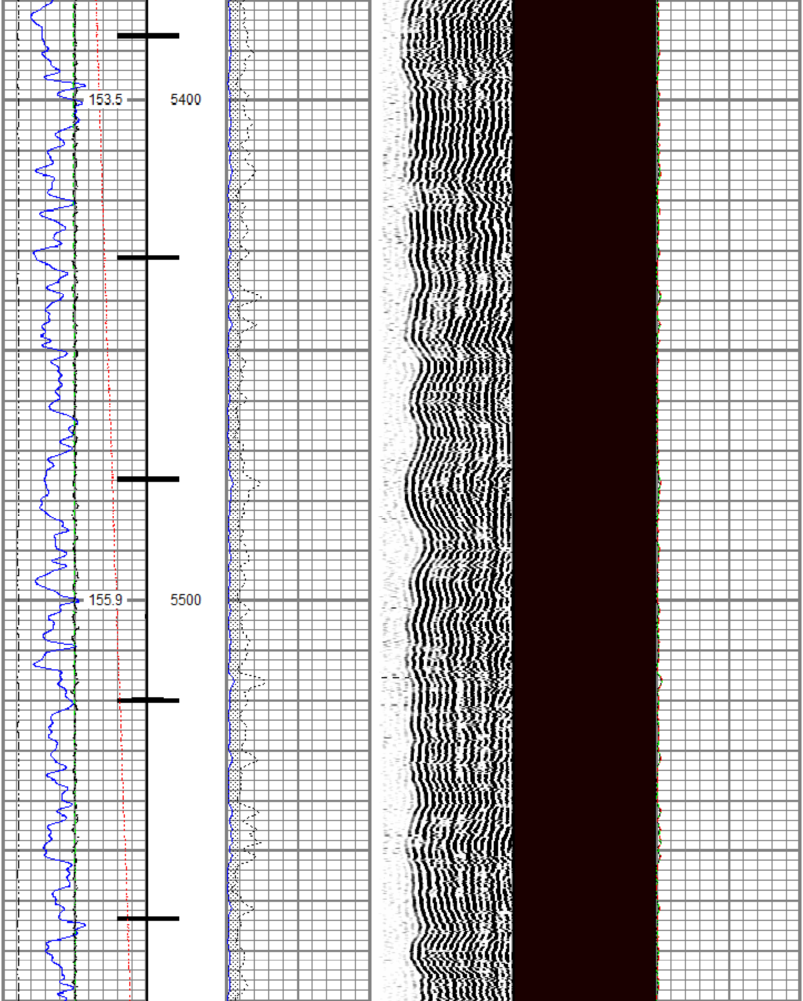

134.6
4400
136.6
4500

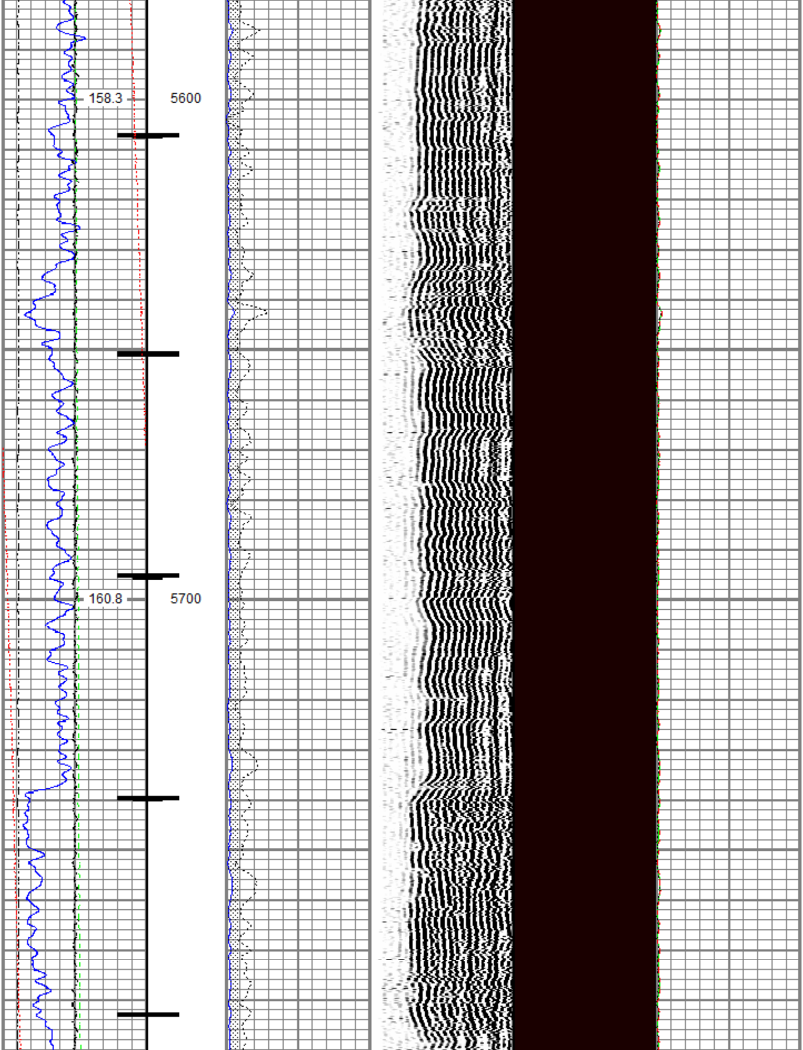

138.3
4600
140.2
4700


141.7
4800
143.6
4900


145.6
5000
147.6
5100


149.1
5200
151.2
5300


153.5
5400
155.9
5500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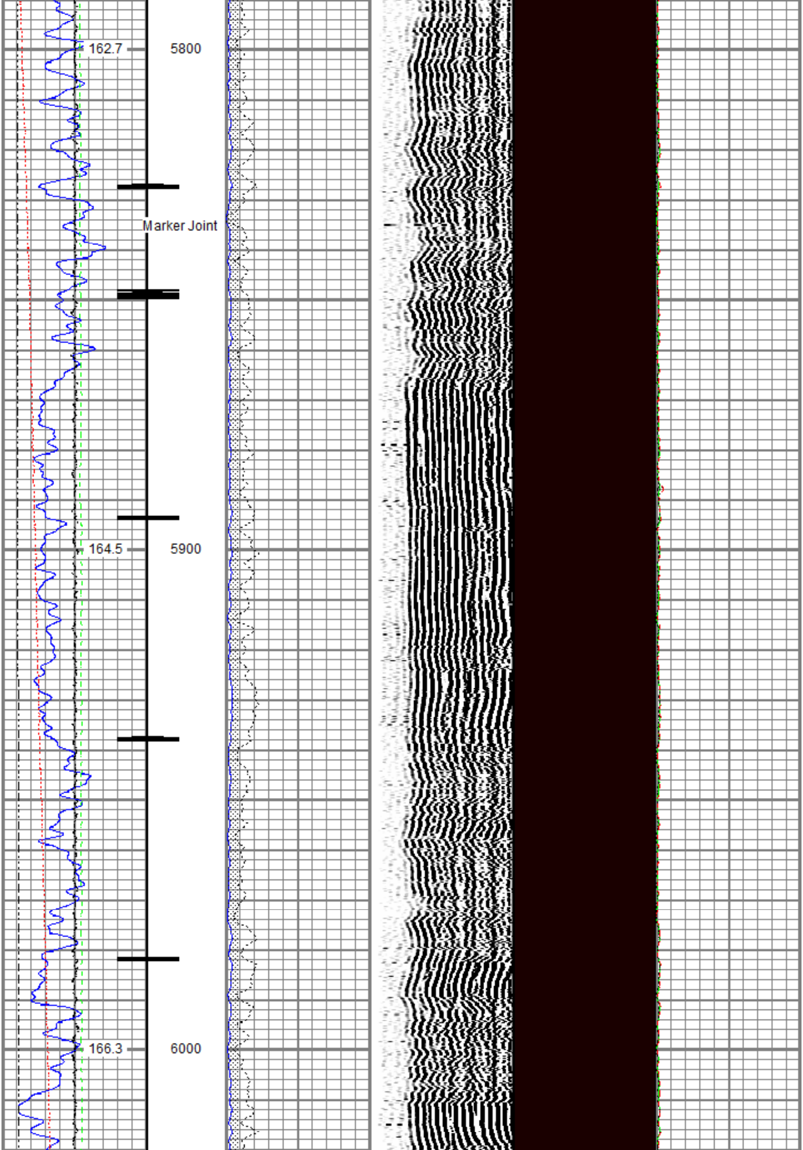
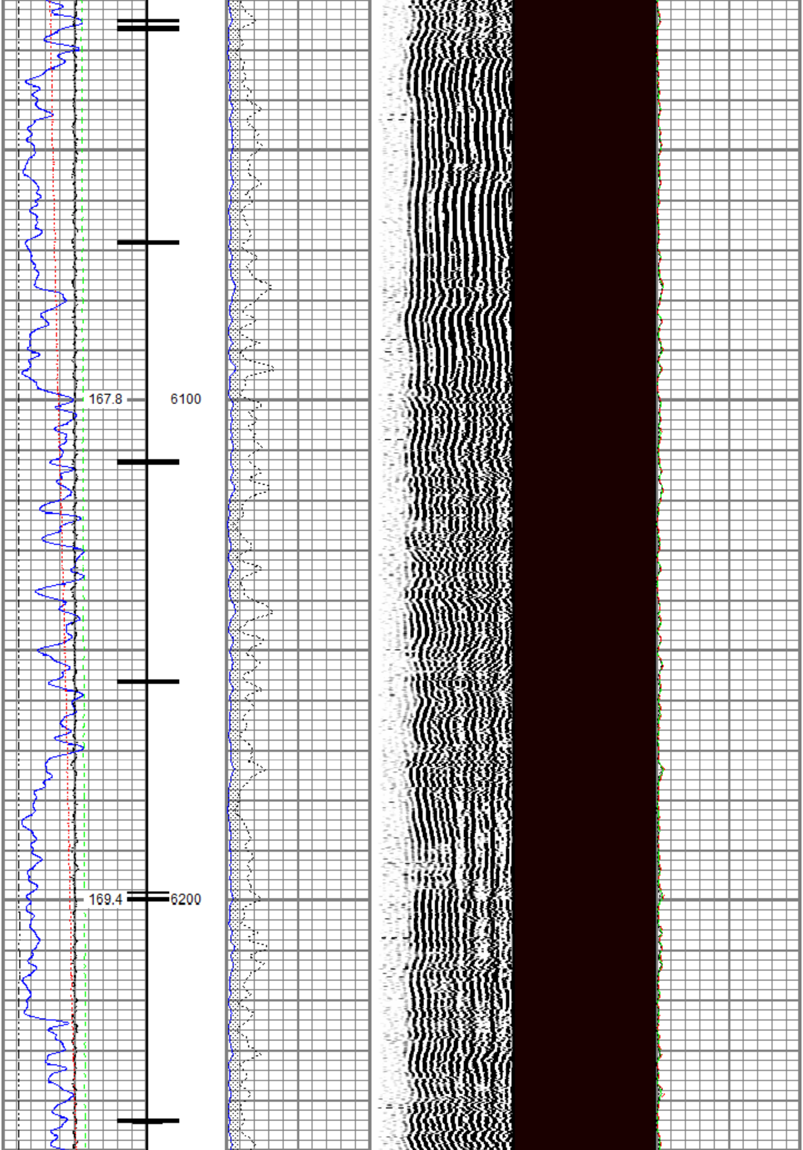
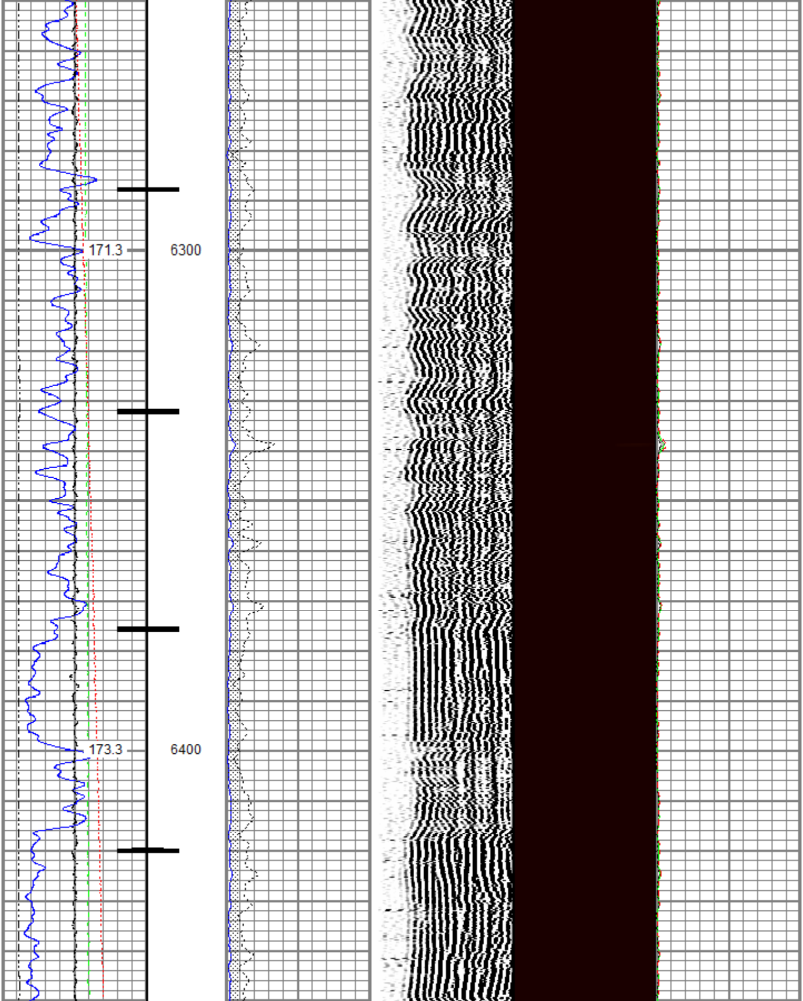
5600
160.8
5700


162.7
5800
Marker Joint
164.5
5900
166.3
6000


167.8
6100
169.4
6200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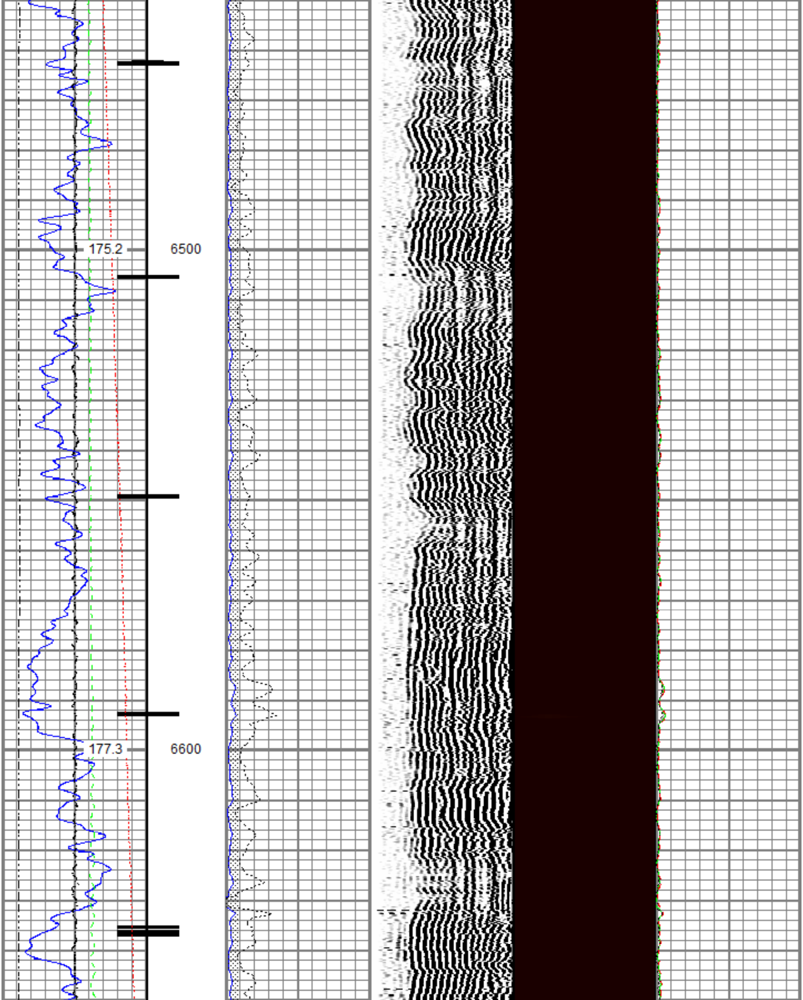
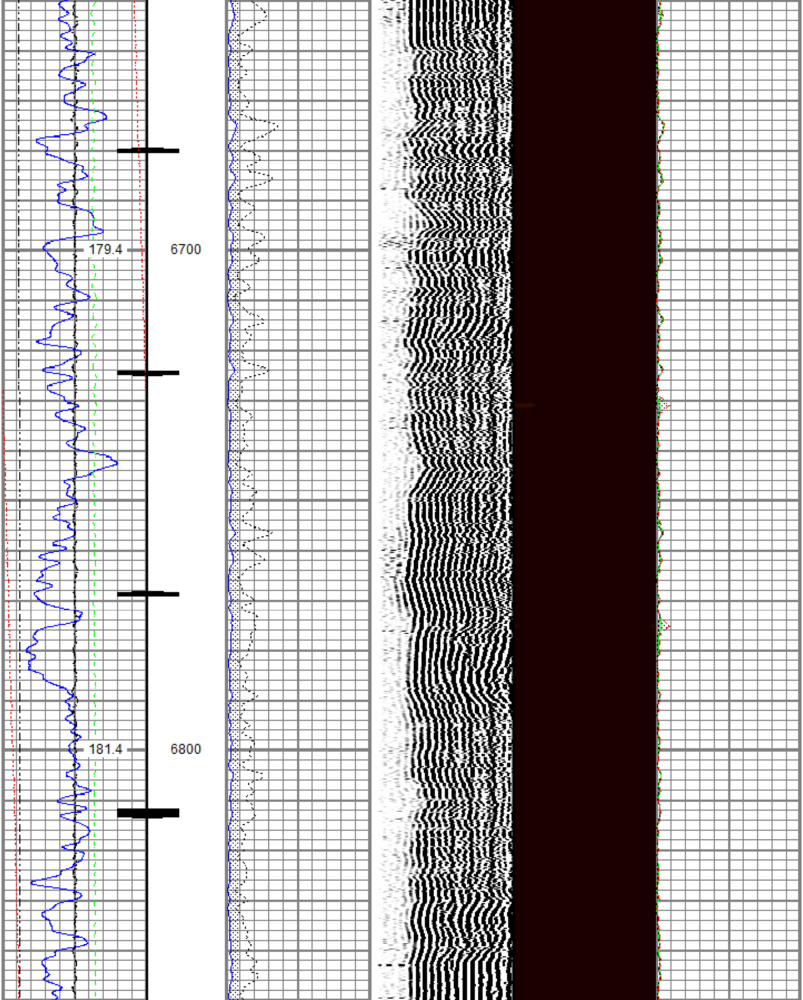
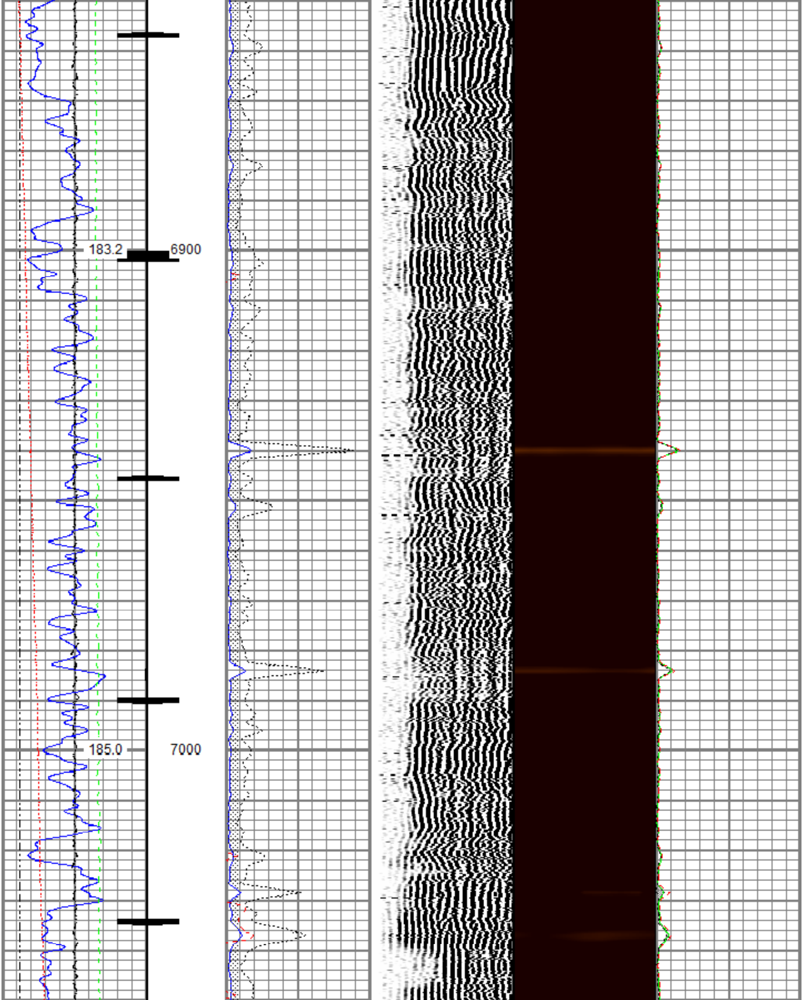
6300
173.3
6400


175.2
6500
177.3
6600


179.4
6700
181.4
6800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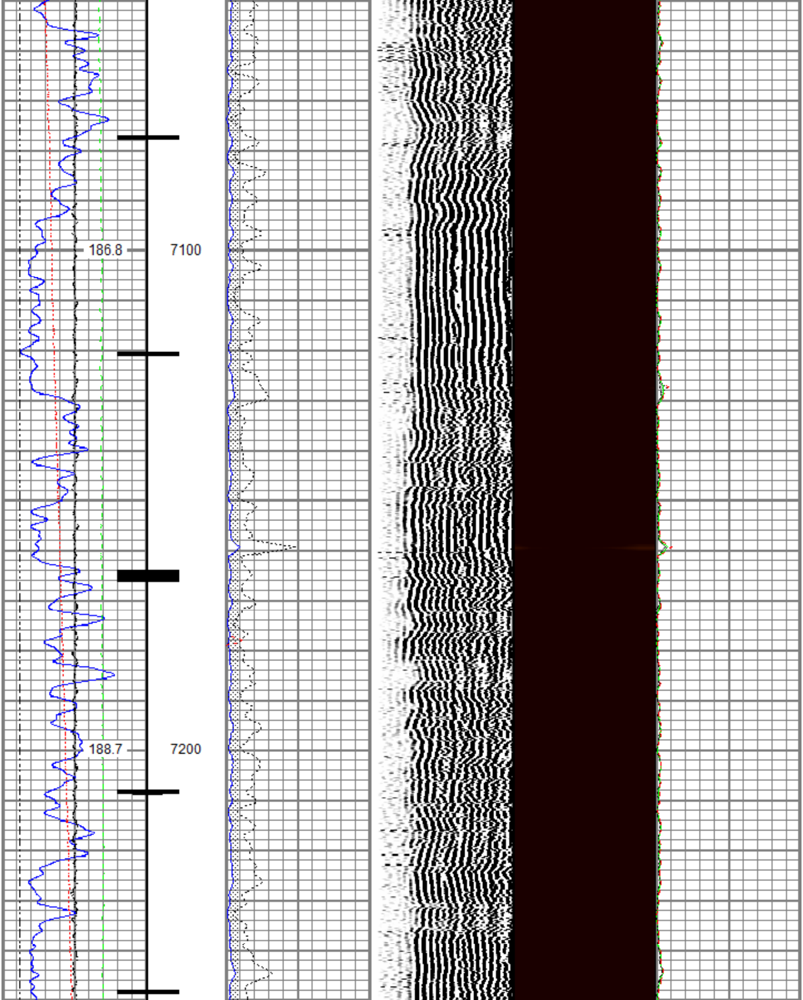
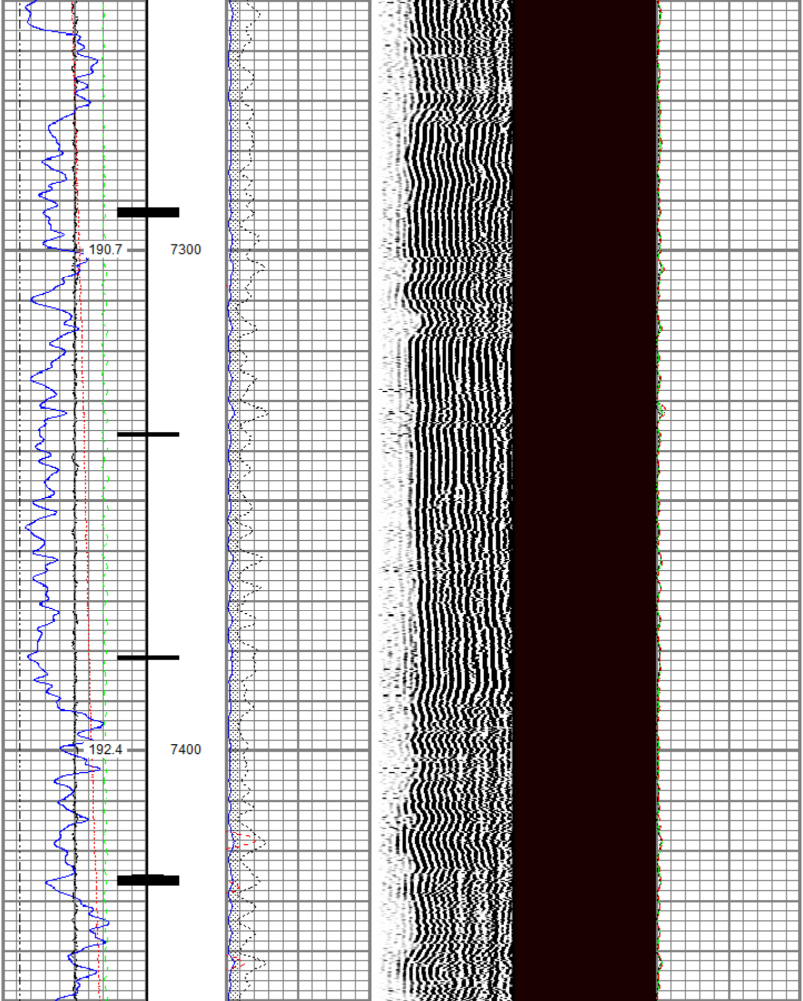
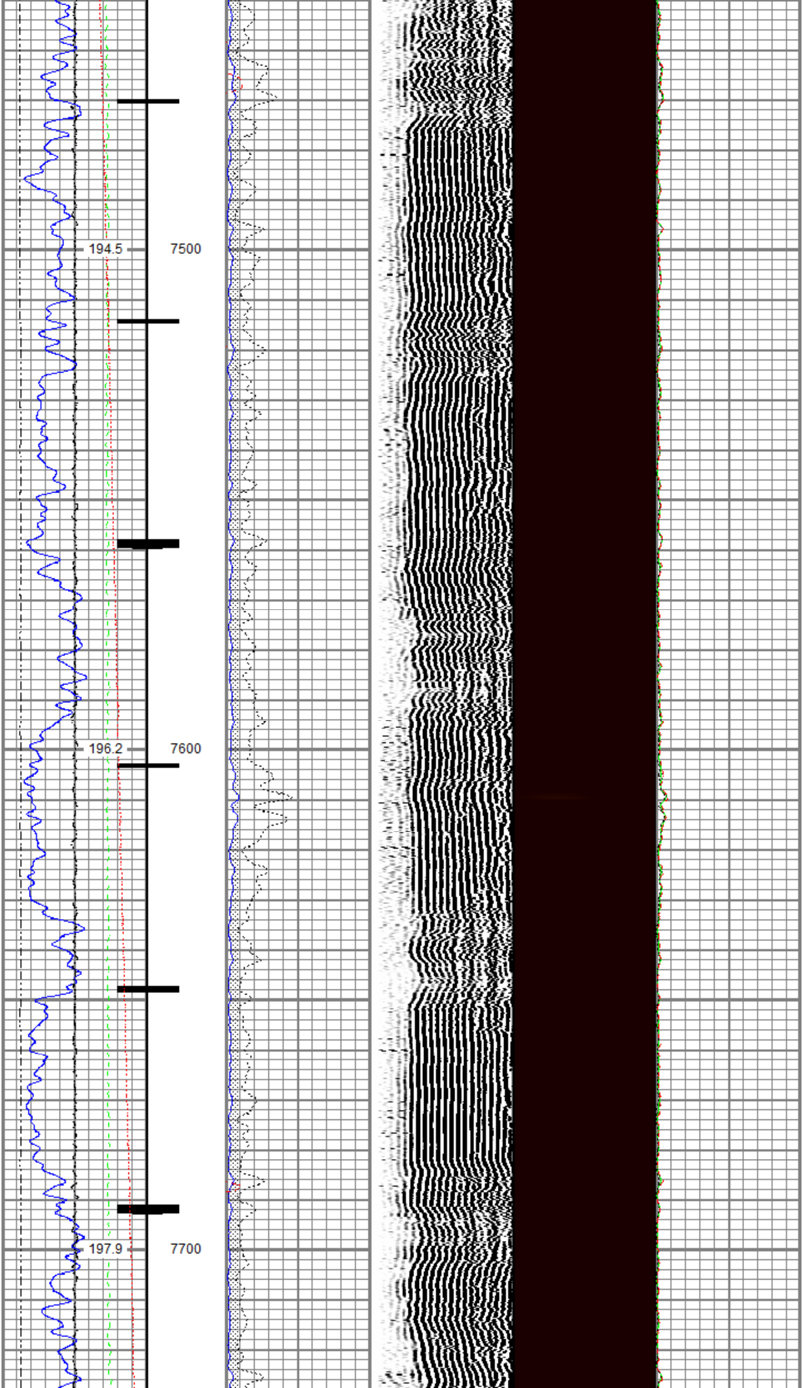
6900
185.0
7000


186.8
7100
188.7
7200


190.7
7300
192.4
7400


194.5
7500
196.2
7600
197.9
7700

Gamma Ray
0 (GAPI) 200
*Casing Collar Locator*
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

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# Repeat Pass

Recorded With 0 PSI Surface Induced Pressure

| | |
|---|---|
| Database File | tep\tep_federal rwf 422-8_rbl_12-09-20\tep_federal rwf 422-8_rbl_12-09-20.db |
| Dataset Pathname | Repeat.2 |
| Presentation Format | ros_radii_tep |
| Dataset Creation | Fri Dec 11 10:10:41 2020 |
| Charted by | Depth in Feet scaled 1:240 |

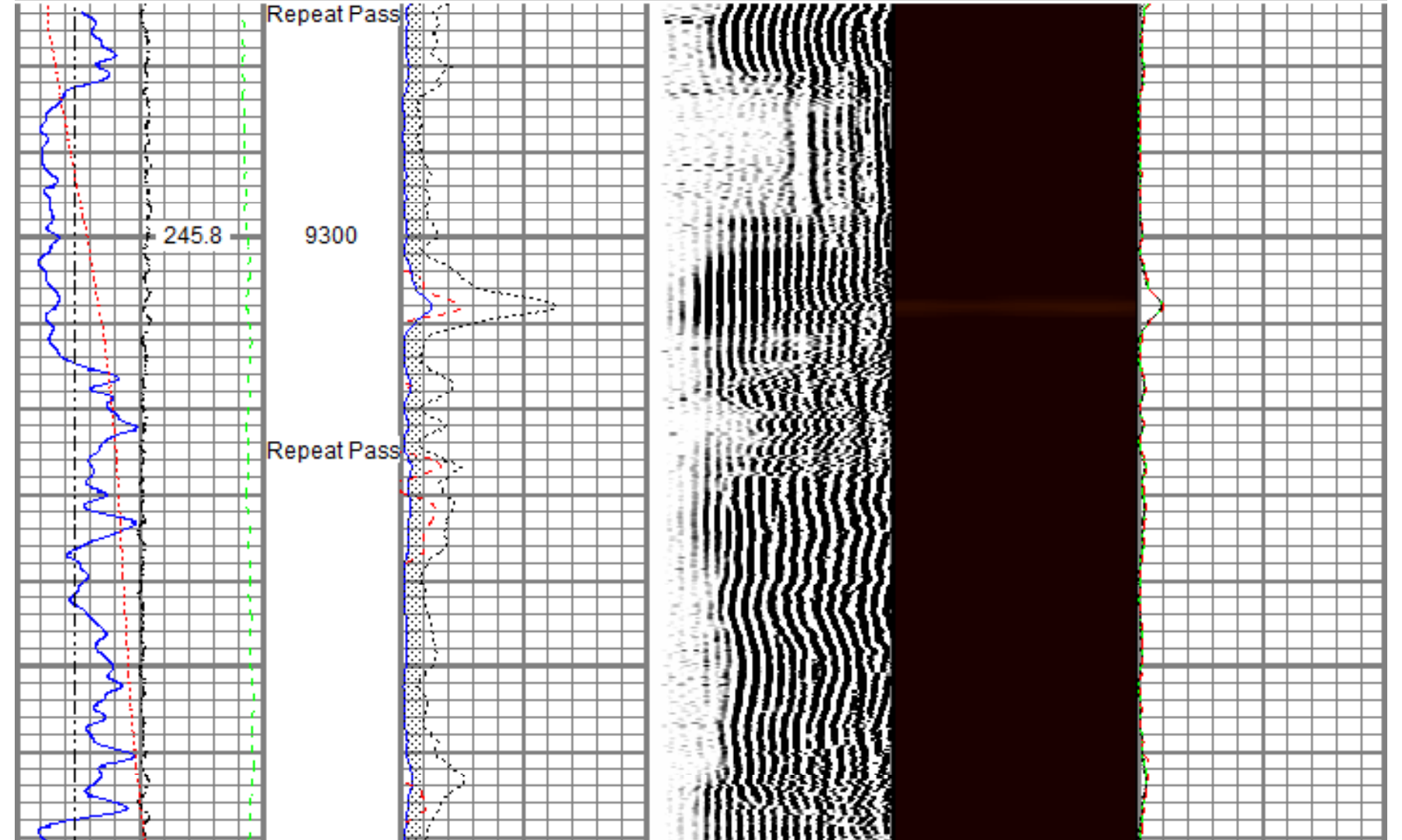
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150



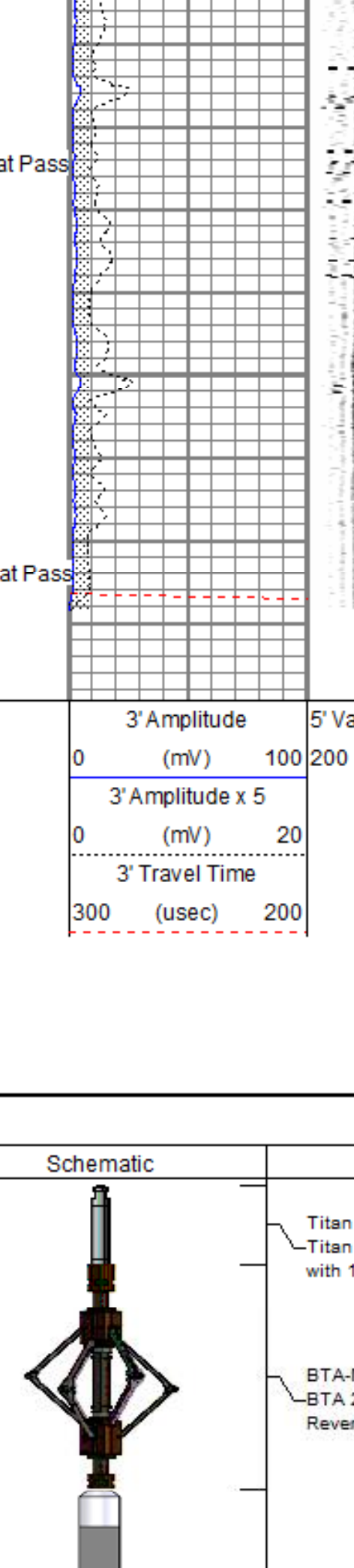
Gamma Ray
0 (GAPI) 200
Line Speed
-150 (ft/min) 150
Line Tension
0 (lb) 2000
Differential Temperature
-2 (degF) 2
Temperature
0 (degF) 20

3' Amplitude
0 (mV) 100
3' Amplitude x 5
0 (mV) 20
3' Travel Time
300 (usec) 200

5' Variable Density Log
200 (usec) 1200

Sector Map

Average Amplitude
0 150
Mimimum Amplitude
0 150
Maximum Amplitude
0 150

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb |
|---|---|---|---|---|---|---|
| | |  | Titan CHD-14375 GO<br>Titan 1-7/16" Assembled Electric Cable Head with 1" Fishing Neck | 1.03 | 1.44 | 3.60 |
| | | | BTA-MUD<br>BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends | 2.92 | 2.72 | 25.00 |
| TEMP<br>WVFS8<br>WVFS7<br>WVFS6<br>WVFS5<br>WVFS4<br>WVFS3<br>WVFS2<br>WVFS1<br>WVFCAL<br>WVF3FT<br>WVF5FT | 14.19<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>11.96<br>10.96 | | Probe Radii-2750 RBT (ROFS-RBT-0002)<br>Probe 2-3/4" Radial Cement Bond Tool with Integral Temperature Sub | 9.39 | 2.75 | 105.00 |
| | | | BTA-MUD<br>BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends | 2.92 | 2.72 | 25.00 |
| CCL<br>GR | 3.88<br>1.14 | | Probe GR-CCL ANL-2750 A (051217)<br>Probe 2.75" Analog 4 Channel Pulse Gamma Ray/CCL Combined | 4.54 | 2.75 | 55.00 |
| | | | GO BN-14375<br>GO 1-7/16" Bull Nose with Go Box Top | 0.25 | 1.44 | 1.00 |

| | |
|---|---|
| Dataset: | tep_federal rwf 422-8_rbl_12-09-20.db: field/well/run1/Main.1 |
| Total length: | 21.05 ft |
| Total weight: | 214.60 lb |
| O.D.: | 2.75 in |

## Calibration Report

| | |
|---|---|
| Database File | c:\programdata\warrior\data\tep\tep_federal rwf 422-8_rbl_12-09-20\tep_federal rwf 422-8_rbl_12-09-20.db |
| Dataset Pathname | Main.1 |
| Dataset Creation | Fri Dec 11 09:38:48 2020 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | 051217 | |
| Tool Model: | 2750 A | |
| Performed: | Mon Oct 01 11:32:35 2018 | |
| Calibrator Value: | 637.0 | GAPI |
| Background Reading: | 115.3 | cps |
| Calibrator Reading: | 1027.7 | cps |
| Sensitivity: | 0.6982 | GAPI/cps |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | ROFS-RBT-0002 | |
| Tool Model: | 2750 RBT | |
| Calibration Casing Diameter: | 4.500 | in |
| Calibration Depth: | 68.342 | ft |

Master Calibration, performed (Derived):

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.005 | 0.740 | 0.800 | 81.196 | 109.394 | 0.222 |
| CAL | 0.003 | 0.800 | | | | |
| 5' | 0.008 | 0.584 | 0.800 | 81.196 | 139.481 | -0.307 |
| SUM | | | | | | |
| S1 | 0.004 | 0.770 | 0.000 | 100.000 | 130.568 | -0.530 |
| S2 | 0.007 | 0.756 | 0.000 | 100.000 | 133.517 | -0.980 |
| S3 | 0.007 | 0.743 | 0.000 | 100.000 | 135.938 | -0.958 |
| S4 | 0.006 | 0.731 | 0.000 | 100.000 | 137.919 | -0.768 |
| S5 | 0.007 | 0.731 | 0.000 | 100.000 | 138.137 | -1.031 |
| S6 | 0.004 | 0.732 | 0.000 | 100.000 | 137.264 | -0.540 |
| S7 | 0.006 | 0.750 | 0.000 | 100.000 | 134.412 | -0.858 |
| S8 | 0.007 | 0.768 | 0.000 | 100.000 | 131.419 | -0.942 |

Air Zero Calibration, performed Wed Dec 09 09:18:04 2020:

| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | 0.004 | 0.000 | -0.000 |
| 5' | 0.004 | 0.000 | 0.001 |
| SUM | | | |
| S1 | -0.001 | 0.000 | -0.000 |
| S2 | 0.004 | 0.000 | 0.000 |
| S3 | 0.002 | 0.000 | 0.001 |
| S4 | 0.004 | 0.000 | -0.001 |
| S5 | 0.002 | 0.000 | 0.002 |
| S6 | 0.005 | 0.000 | -0.002 |
| S7 | 0.003 | 0.000 | 0.000 |
| S8 | 0.004 | 0.000 | -0.001 |

### Temperature Calibration Report

| | | |
|---|---|---|
| Serial Number: | ROFS-RBT-0002 | |
| Tool Model: | 2750 RBT | |
| Performed: | Wed Oct 14 10:20:48 2020 | |
| | Reference | Reading |
| Low Reference: | 100.00 degF | 109.31 degF |
| High Reference: | 235.00 degF | 267.00 degF |
| Gain: | 0.86 | |
| Offset: | 6.43 | |
| Delta Spacing | 1 | |

RELIANCE OILFIELD SERVICES

| | |
|---|---|
| Company | TEP Rocky Mountain LLC |
| Well | Federal RWF 422-8 |
| Field | Rulison |
| County | Garfield |
| State | Colorado |