RELIANCE
OILFIELD SERVICES

# Radial Cement Bond
# Gamma Ray
# Casing Collar Log

Company TEP Rocky Mountain LLC
Well Chevron GM 632-19
Field Grand Valley
County Garfield State Colorado
Location: API # : 05-045-24361
SEC 20 TWP 6S RGE 96W
Other Services: --

| | | | |
|---|---|---|---|
| Permanent Datum | Ground Level | Elevation 5752.1' | Elevation<br>K.B. 5776.1'<br>D.F. ---<br>G.L. 5752.1' |
| Log Measured From | Kelly Bushing | 24 FT | |
| Drilling Measured From | Kelly Bushing | | |

Company TEP Rocky Mountain LLC
Well Chevron GM 632-19
Field Grand Valley
County Garfield
State Colorado

| | |
|---|---|
| Date | 01-FEB-2021 |
| Run Number | One |
| Depth Driller | 7786 FT |
| Depth Logger | 7707 FT |
| Bottom Logged Interval | 7695 FT |
| Top Log Interval | Surface |
| Open Hole Size | 8.750" |
| Type Fluid | Water |
| Density / Viscosity | 8.34 lb/gal |
| Max. Recorded Temp. | 230°F |
| Estimated Cement Top | See Log |
| Time Well Ready | ROA |
| Time Logger on Bottom | 15:00 |
| Equipment Number | HD-0331 |
| Location | Grand Junction, CO |
| Recorded By | Z. Fisher |
| 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 | 1028 FT |
| Intermediate #1 | 4 1/2 | 11.6 | P-110 | Surface | 7745 FT |
| Intermediate #2 | | | | | |
| Liner | | | | | |

<<< Fold Here >>>

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 4564 - 4586 FT
Recorded with 0 PSI Surface Induced Pressure

Thank you for choosing Reliance Oilfield Services, LLC!

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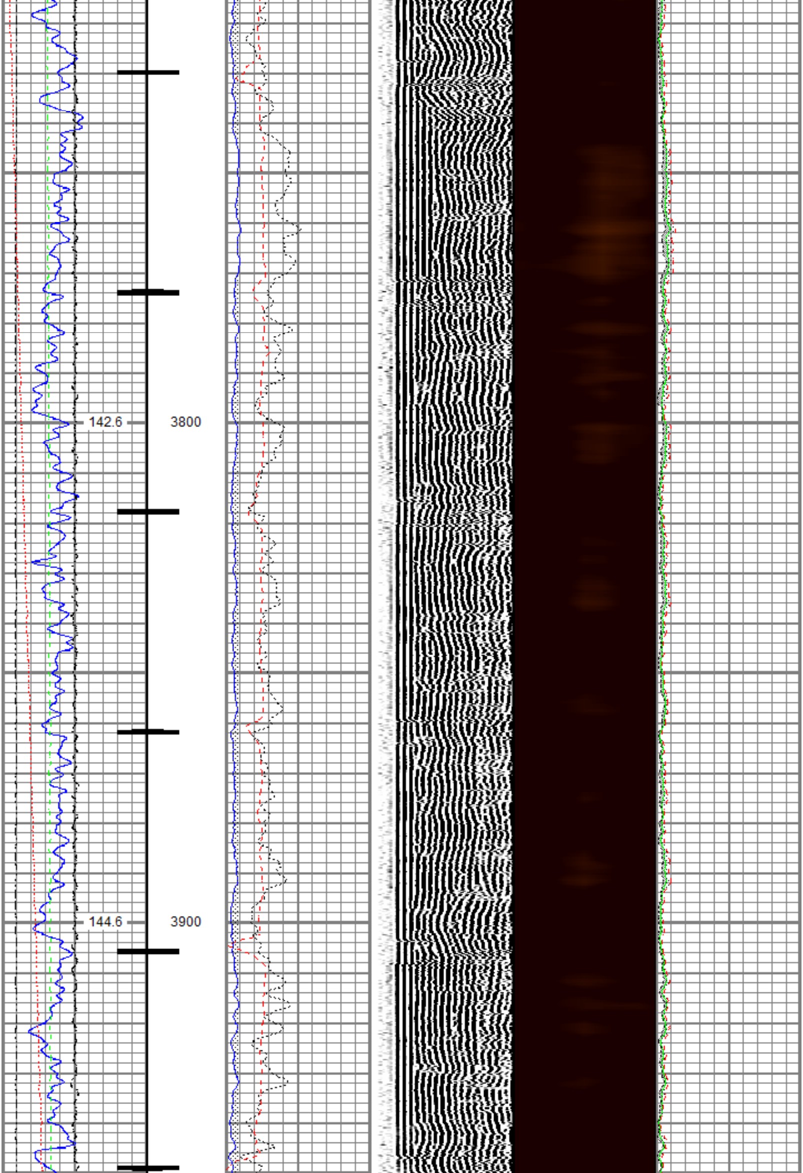
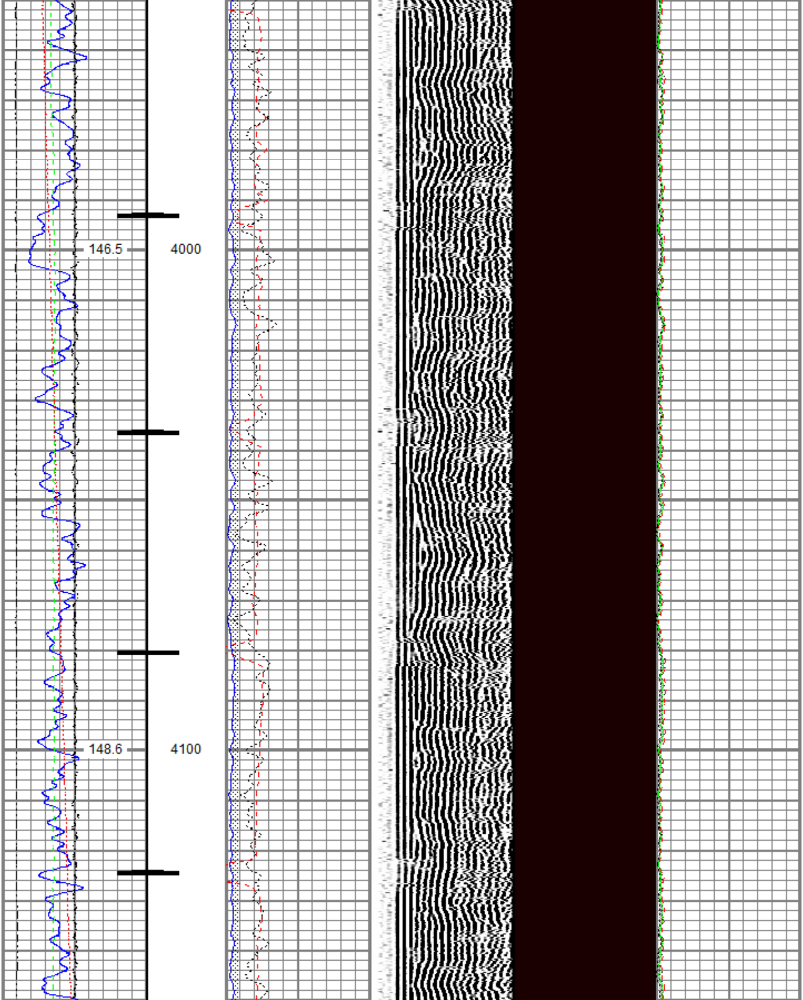
## Main Pass

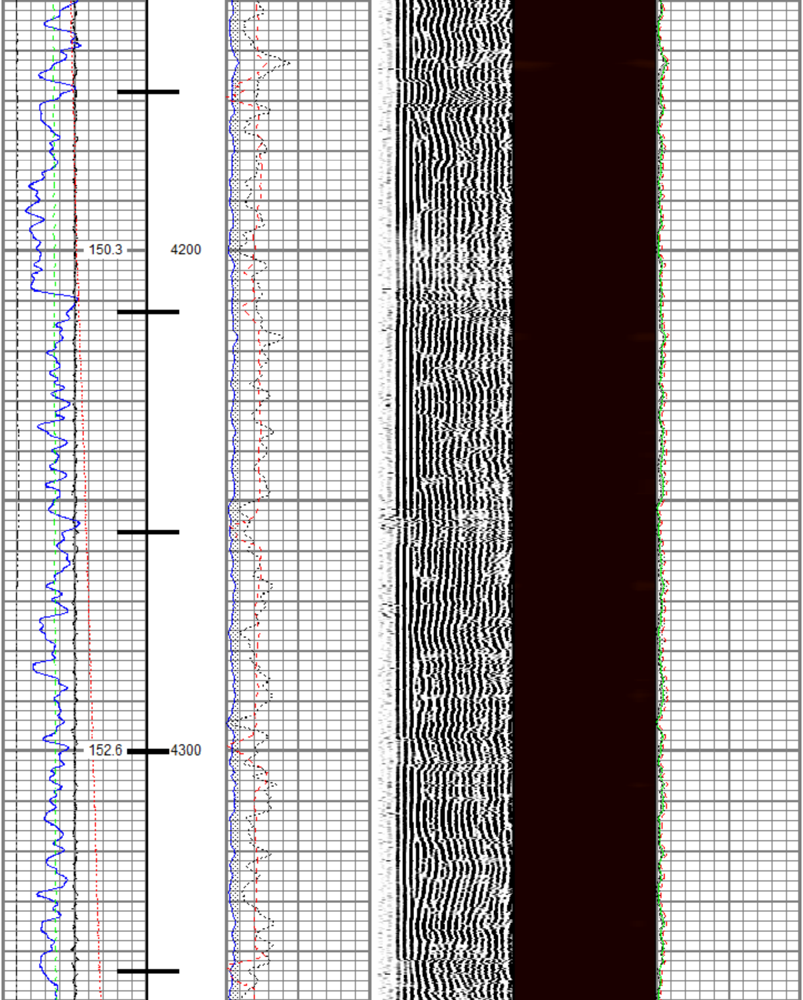
Recorded With 0 PSI Surface Induced Pressure

| | |
|---|---|
| Database File | tep\new folder\tep_chevron gm 632-19_rbl_02-01-21.db |
| Dataset Pathname | main.1 |
| Presentation Format | ros_radii_tep |
| Dataset Creation | Wed Feb 03 13:22:31 2021 |
| Charted by | Depth in Feet scaled 1:240 |

| Gamma Ray | | 3' Amplitude | 5' Variable Density Log | Sector Map | Average Amplitude |
|---|---|---|---|---|---|
| 0 (GAPI) 200 | | 0 (mV) 100 | 200 (usec) 1200 | | 0 150 |
| Casing Collar Locator | | 3' Amplitude x 5 | | | Mimimum Amplitude |
| Line Speed | | 0 (mV) 20 | | | 0 150 |
| -150 (ft/min) 150 | | 3' Travel Time | | | Maximum Amplitude |
| Line Tension | | 300 (usec) 200 | | | 0 150 |
| 0 (lb) 2000 | | | | | |
| Differential Temperature | | | | | |
| -2 (degF) 2 | | | | | |
| Temperature | | | | | |
| 0 (degF) 20 | | | | | |


142.6
3800
144.6
3900


146.5
4000
148.6
4100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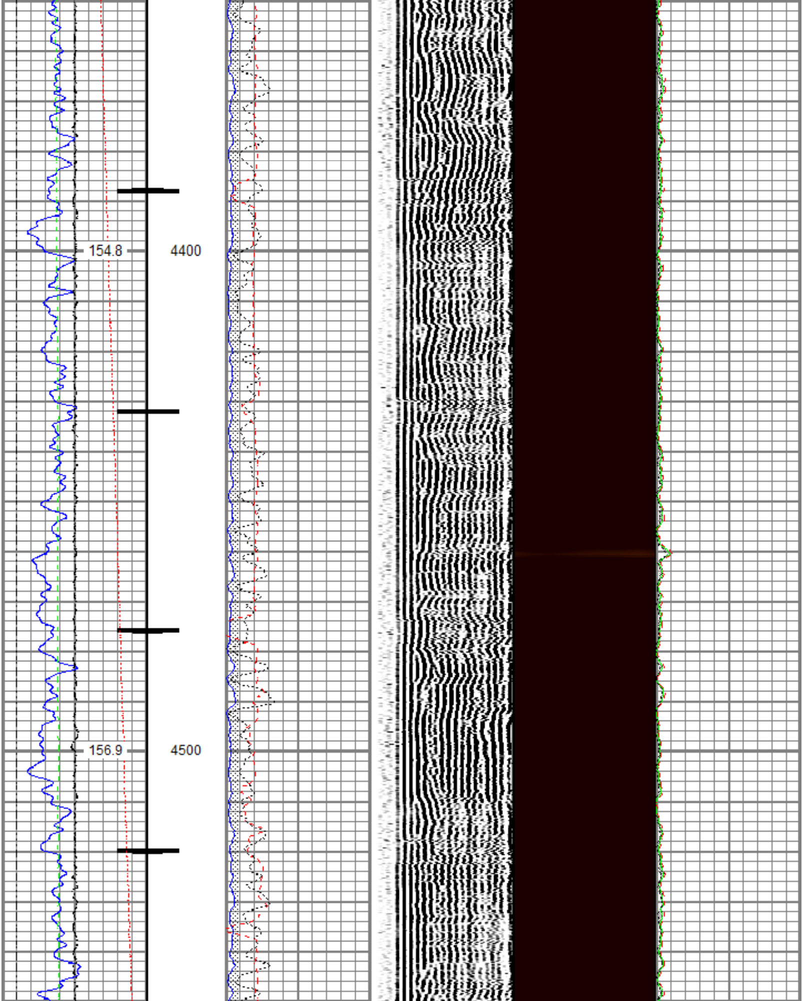
4200
152.6
4300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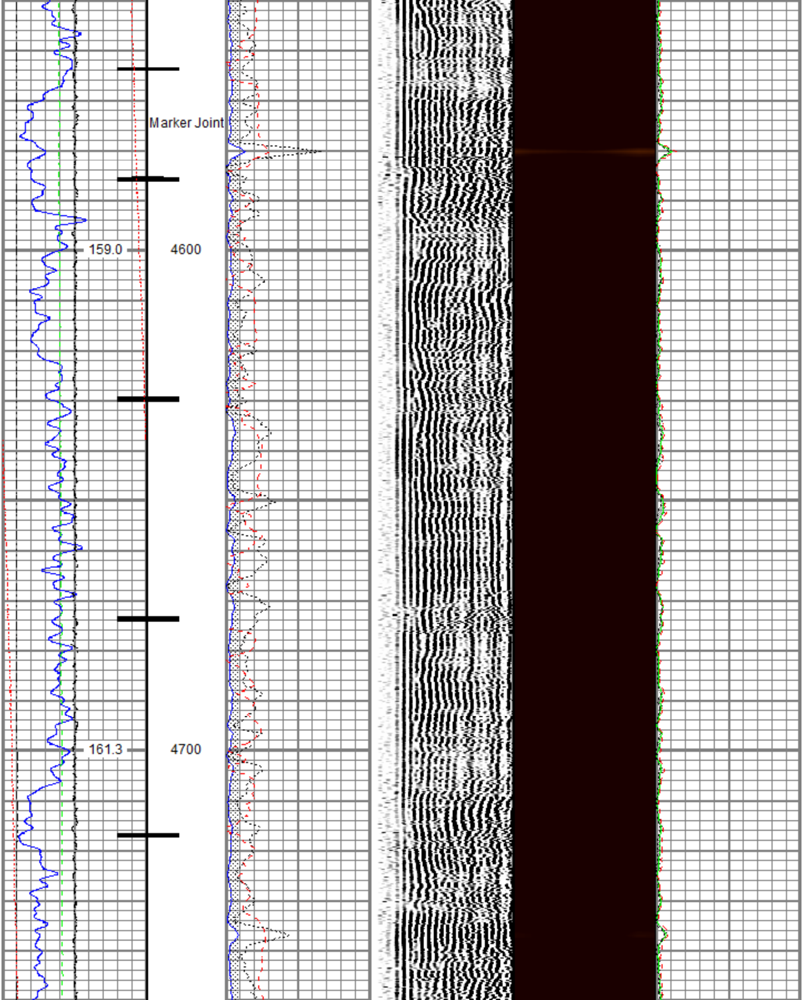
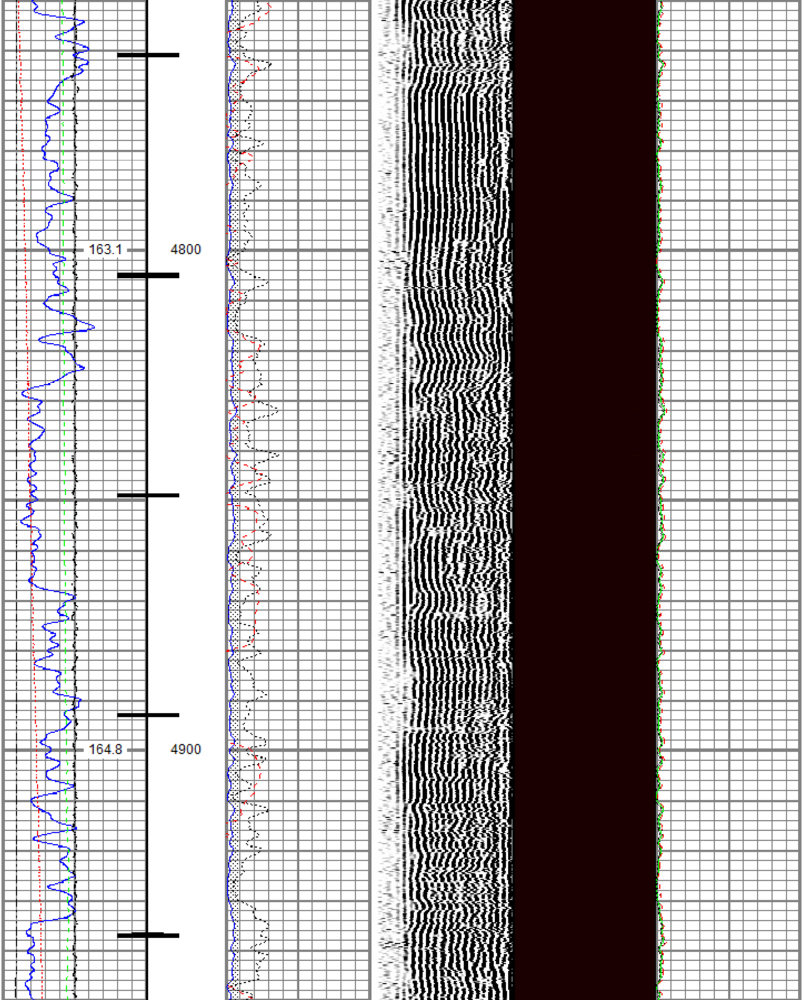
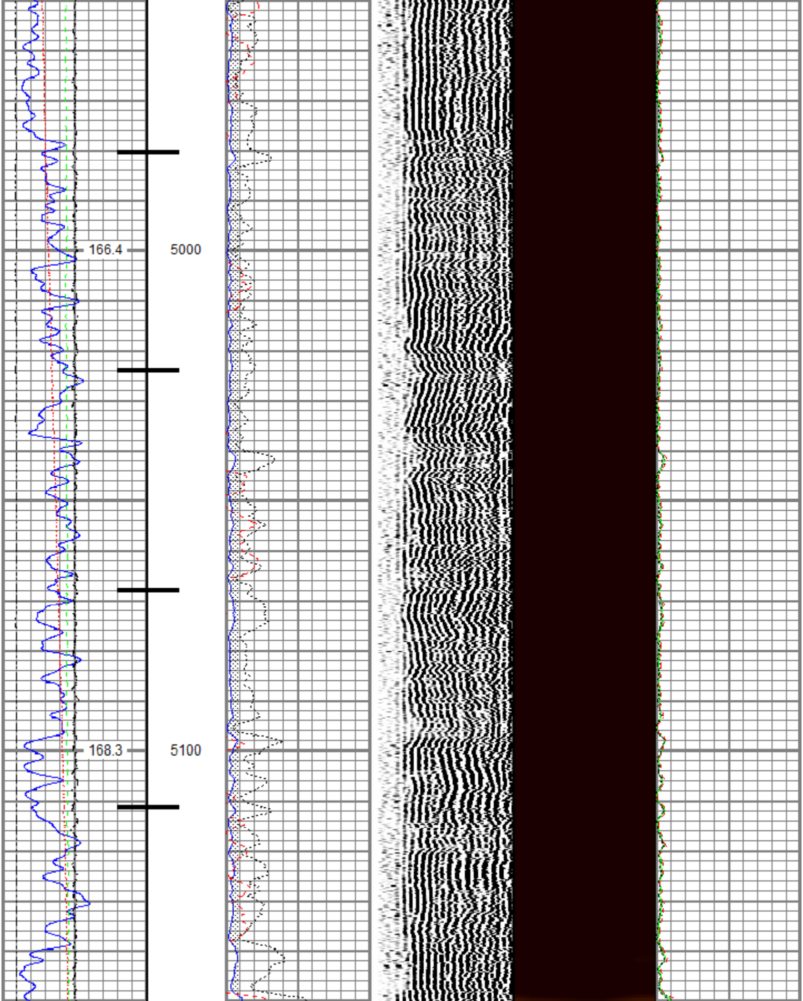
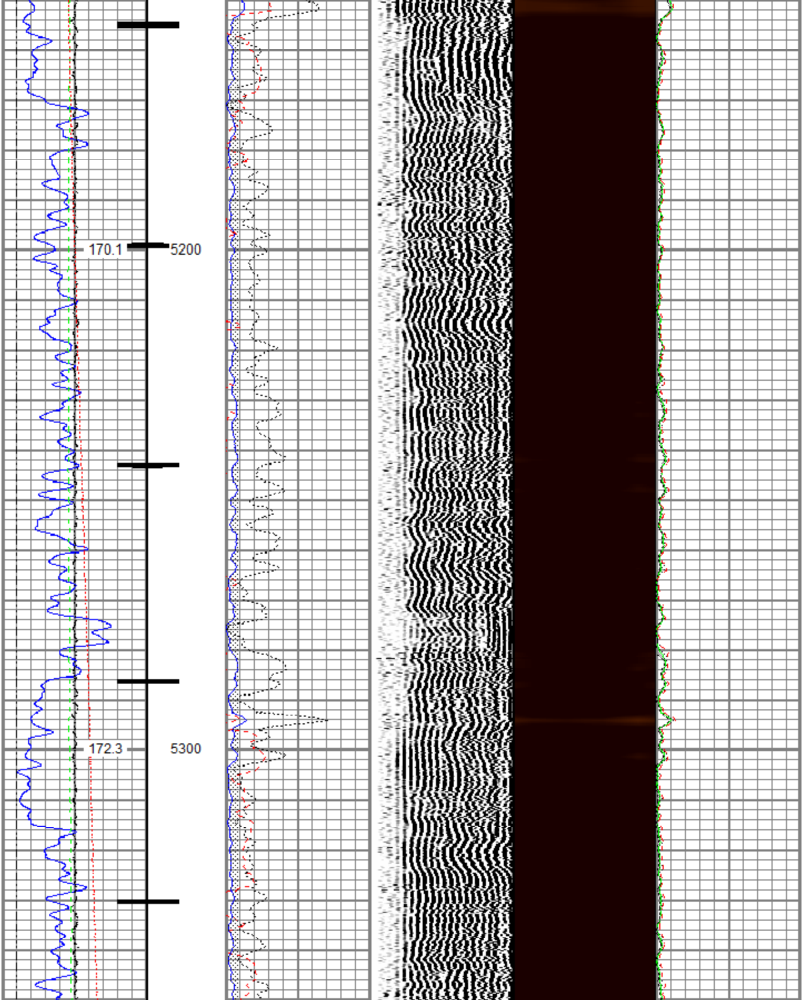
4400
156.9
4500


Marker Joint
159.0
4600
161.3
4700


163.1
4800
164.8
4900


166.4
5000
168.3
5100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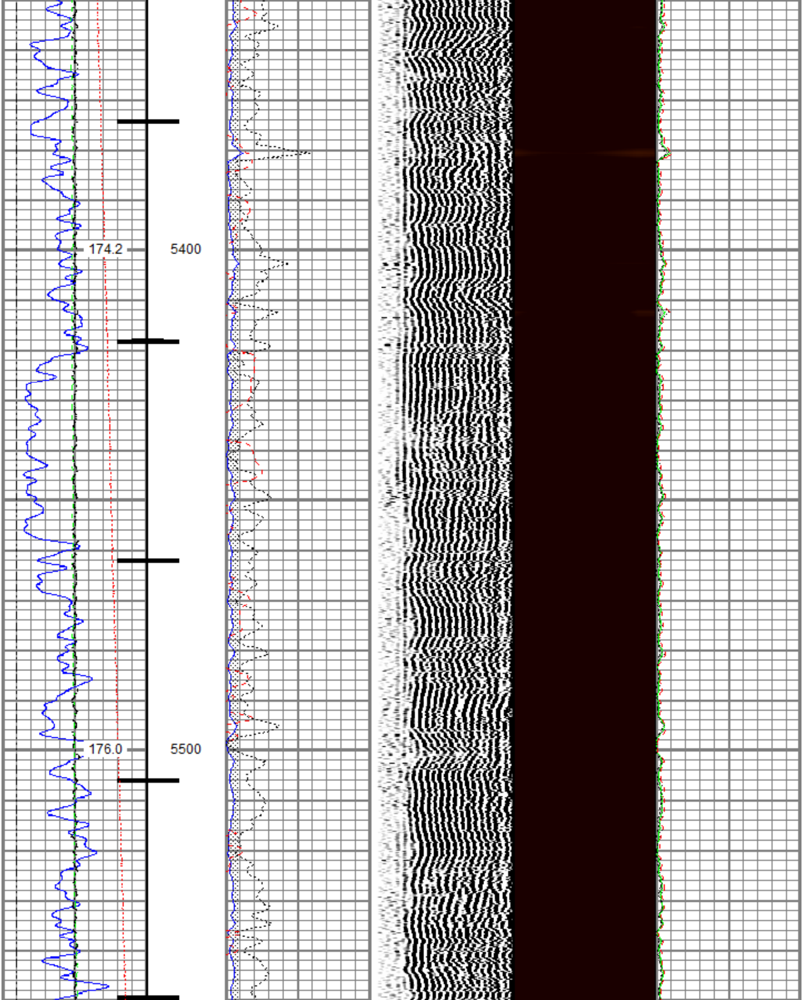
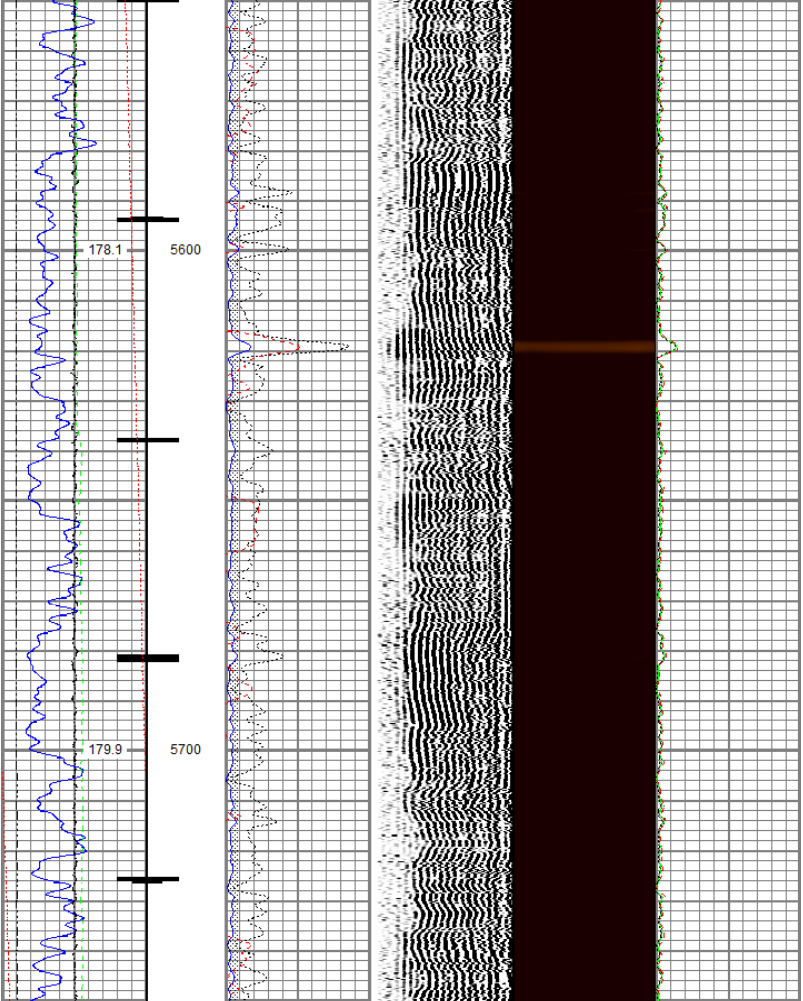
5200
172.3
5300


174.2
5400
176.0
5500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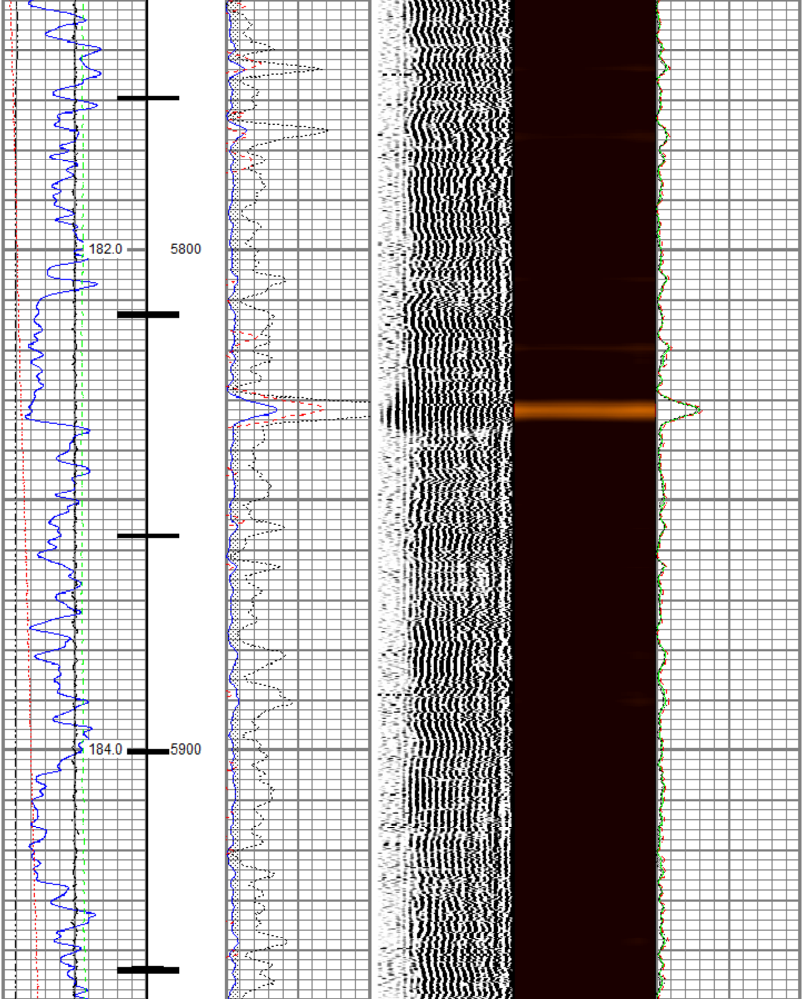
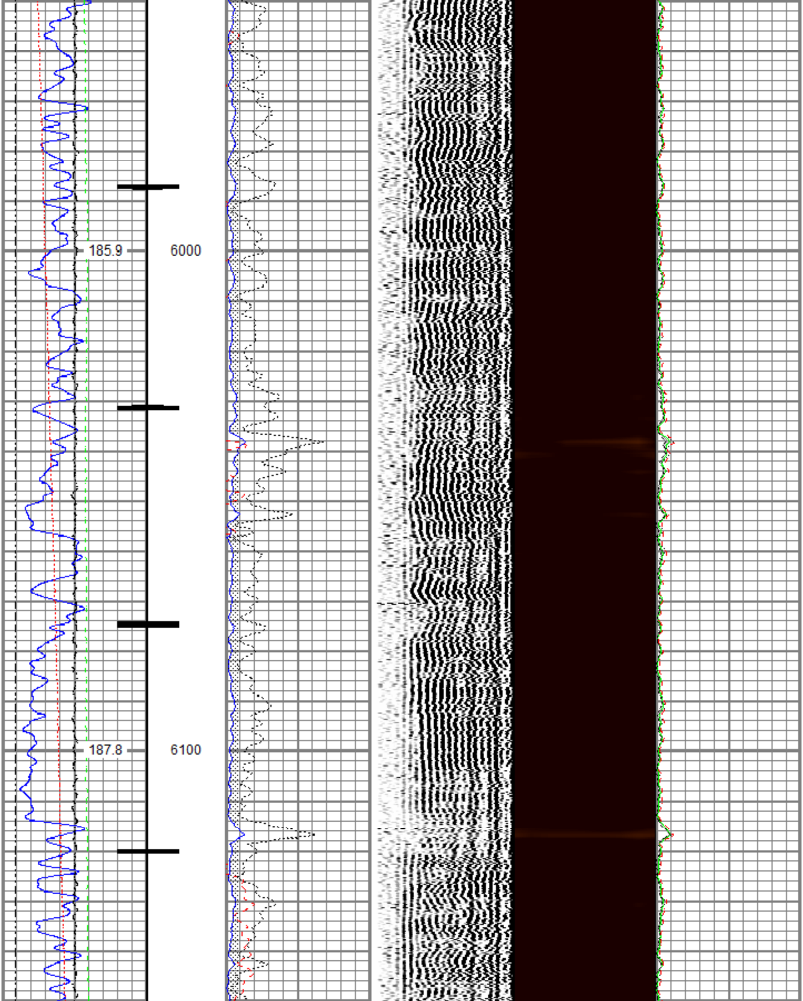
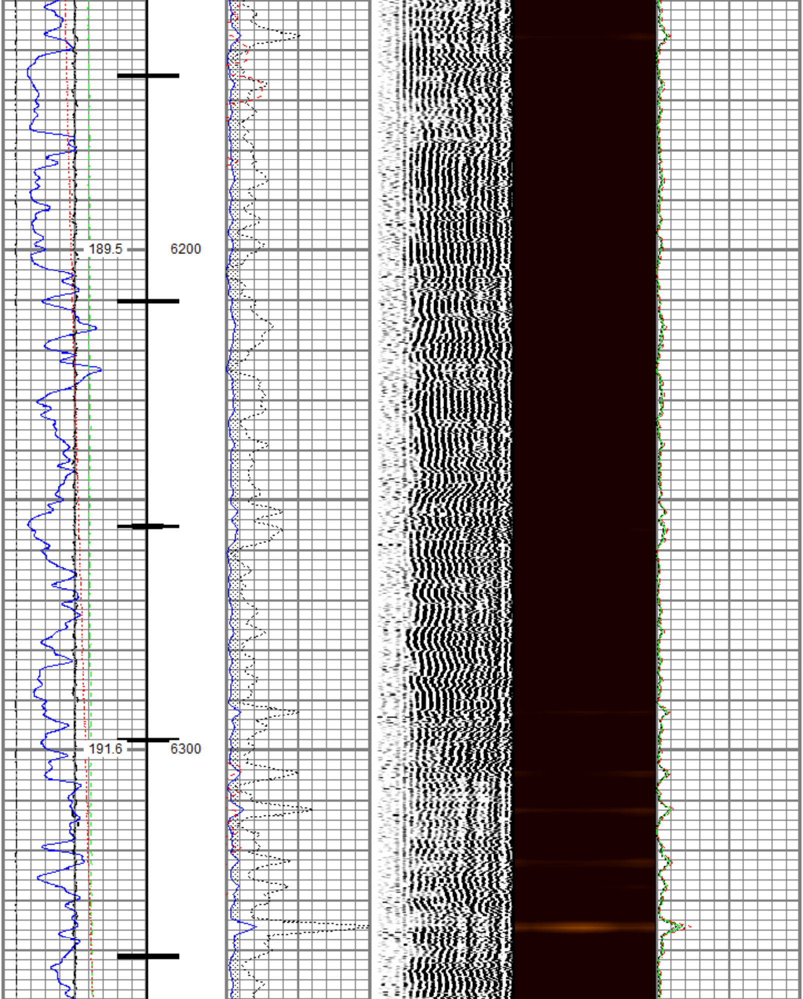
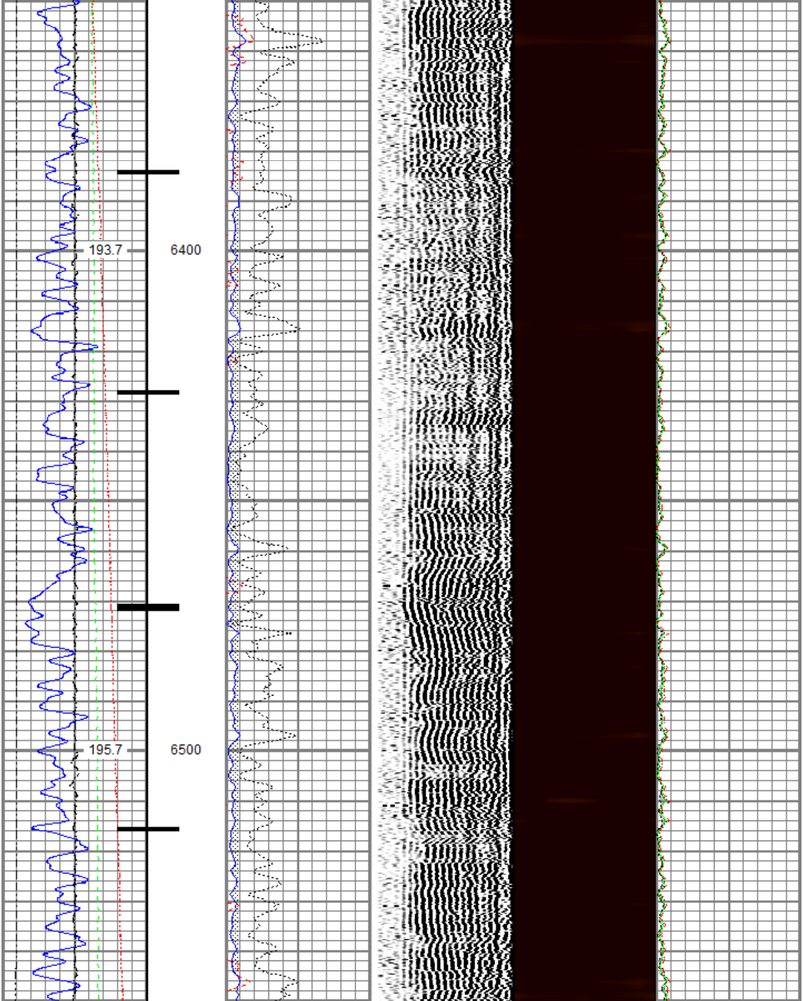
5600
179.9
5700


182.0
5800
184.0
5900


185.9
6000
187.8
6100


189.5
6200
191.6
6300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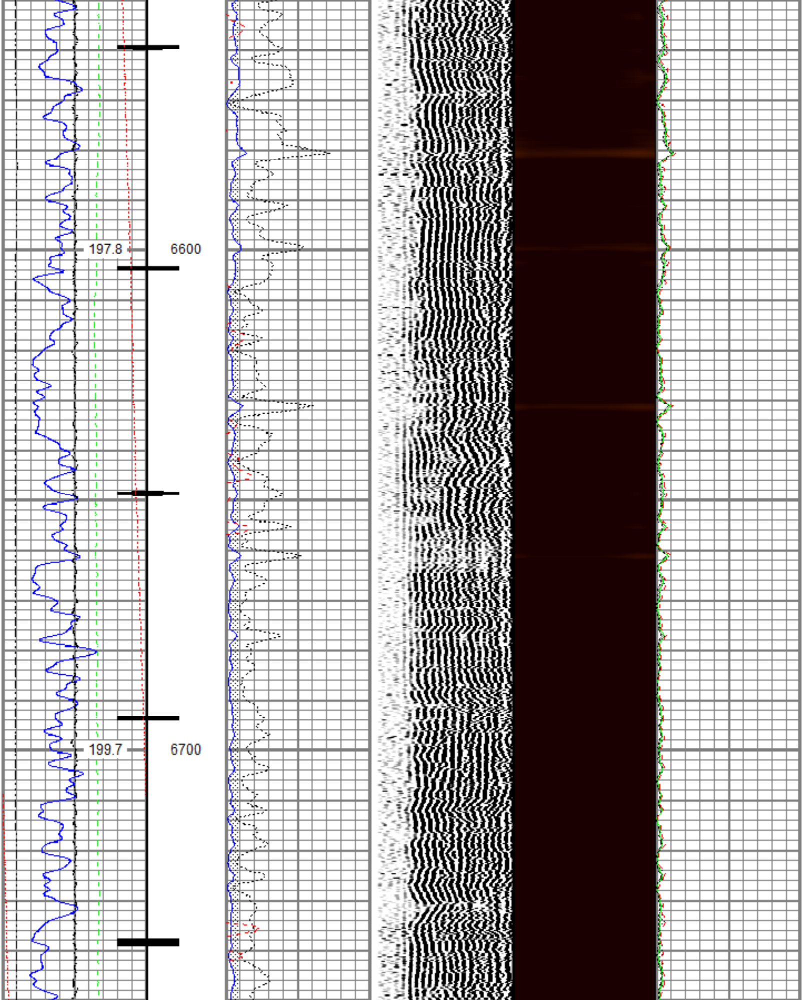
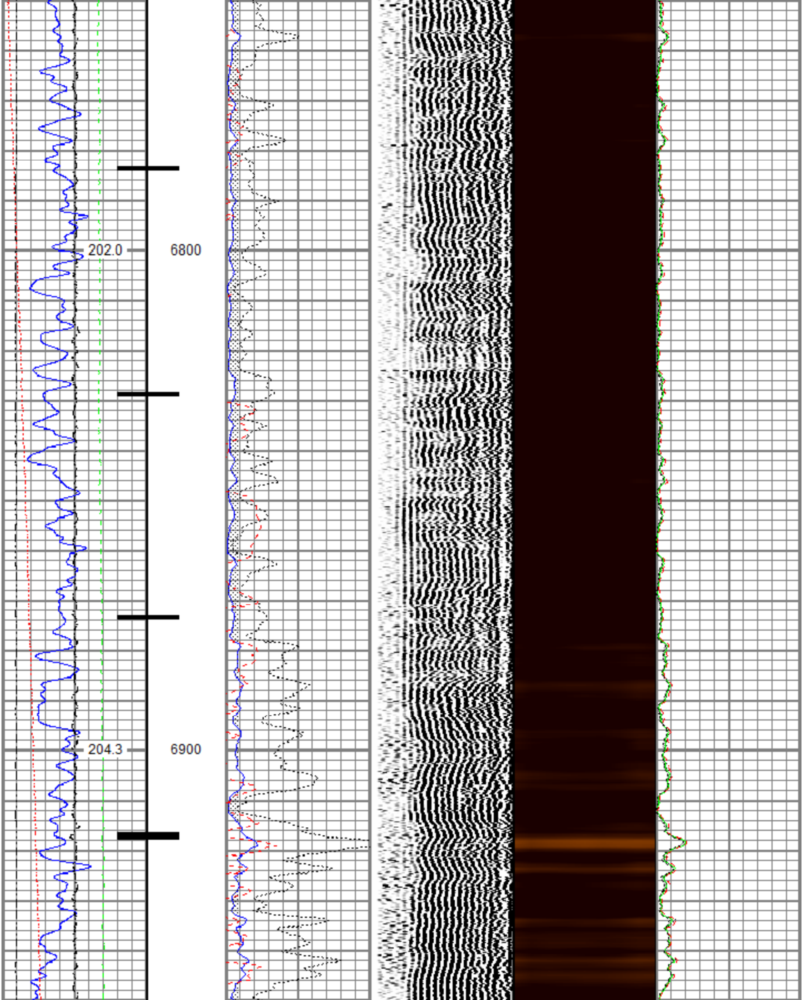
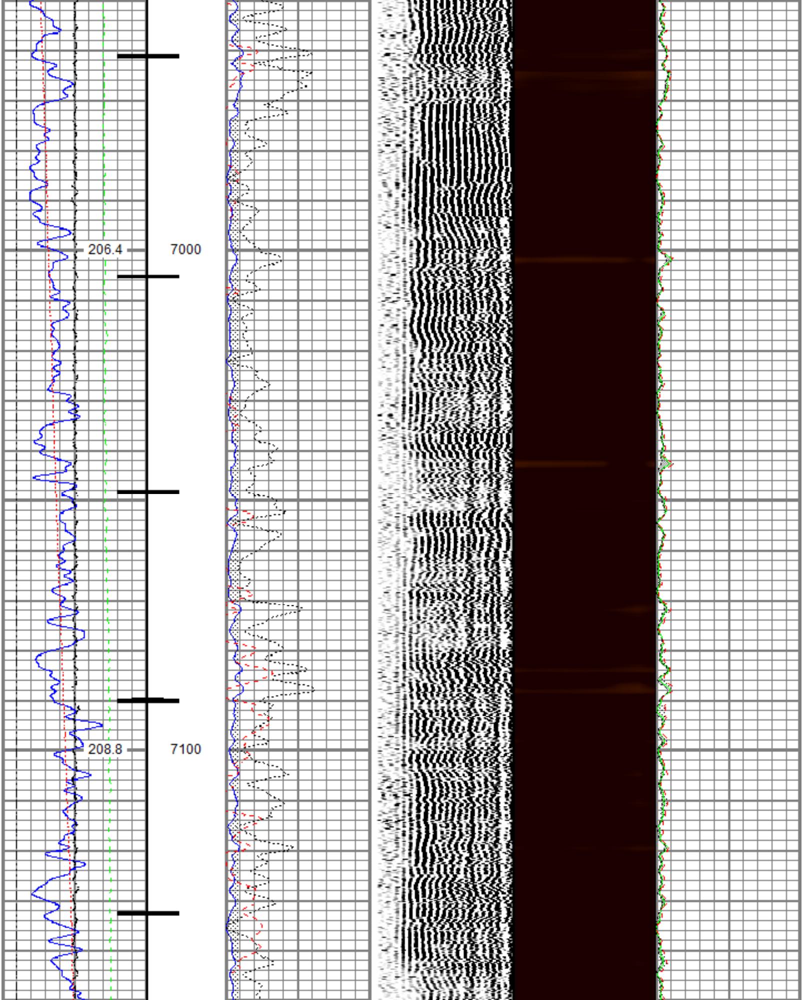
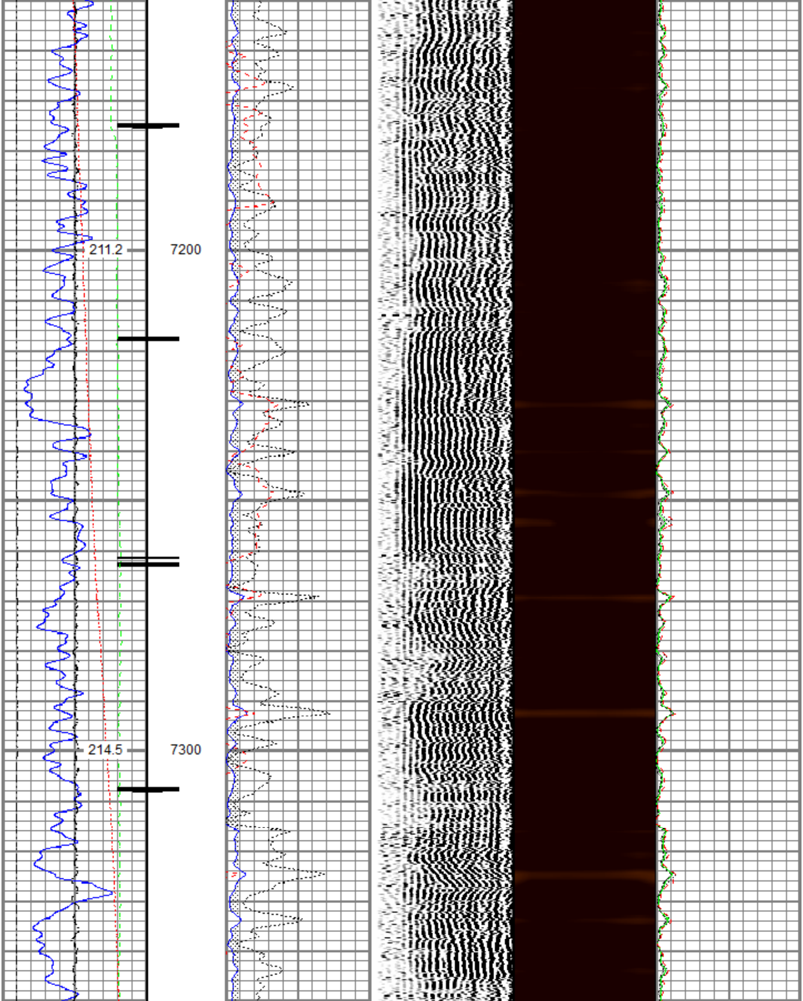
6400
195.7
6500


197.8
6600
199.7
6700


202.0
6800
204.3
6900


206.4
7000
208.8
7100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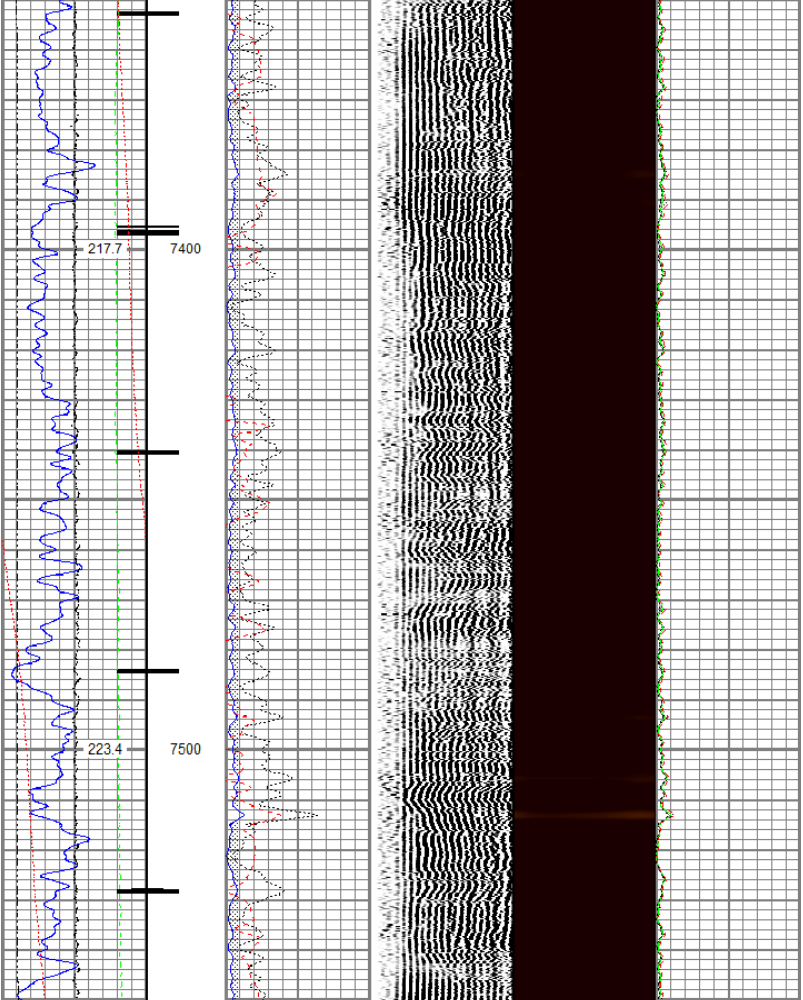
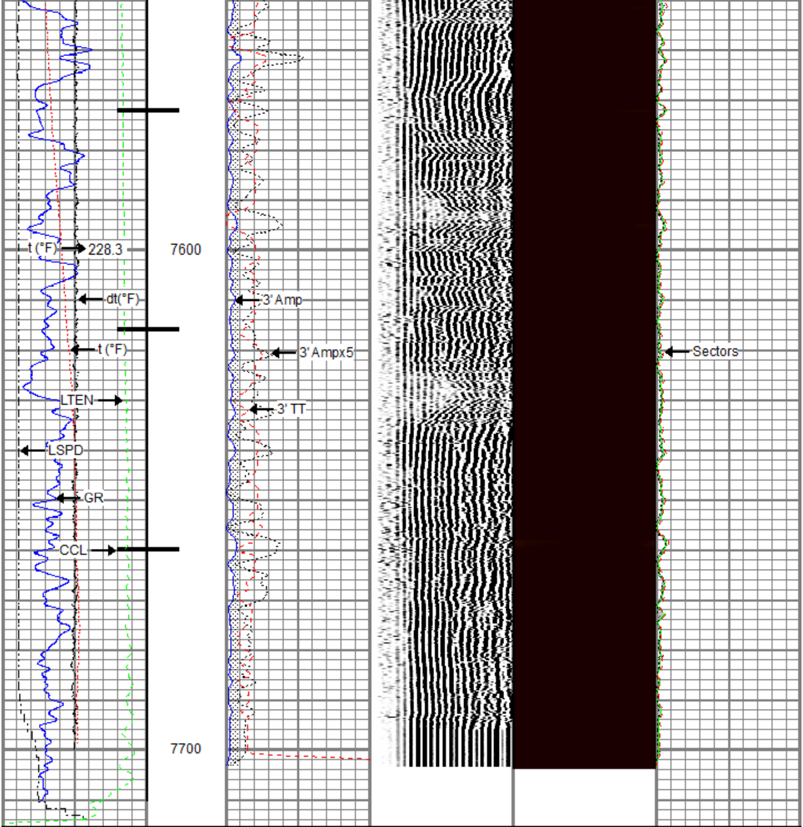
7200
214.5
7300


217.7
7400
223.4
7500


t (°F)
228.3
7600
dt(°F)
3' Amp
3' Ampx5
t (°F)
Sectors
LTEN
3' TT
LSPD
GR
CCL
7700

| | | | | |
|---|---|---|---|---|
| Gamma Ray<br>0 (GAPI) 200 | 3' Amplitude<br>0 (mV) 100 | 5' Variable Density Log<br>200 (usec) 1200 | Sector Map | Average Amplitude<br>0 150 |
| *Casing Collar Locator* | 3' Amplitude x 5<br>0 (mV) 20 | | | Mimimum Amplitude<br>0 150 |
| Line Speed<br>-150 (ft/min) 150 | 3' Travel Time<br>300 (usec) 200 | | | Maximum Amplitude<br>0 150 |
| Line Tension<br>0 (lb) 2000 | | | | |
| Differential Temperature<br>-2 (degF) 2 | | | | |
| Temperature<br>0 (degF) 20 | | | | |

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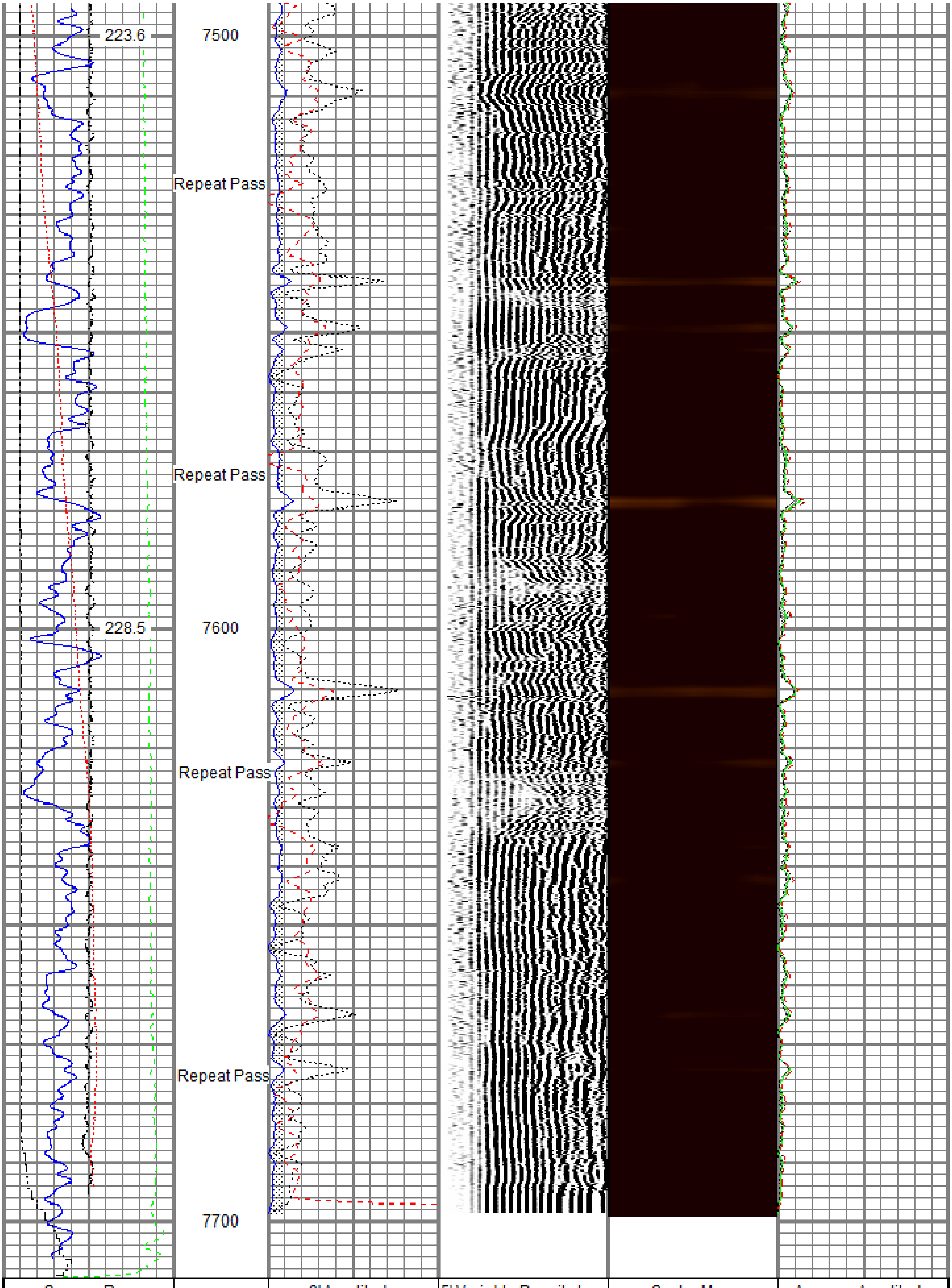
## Repeat Pass

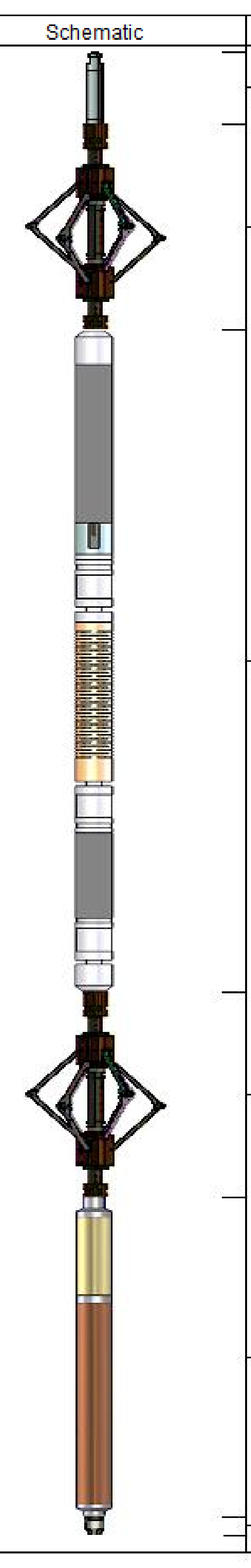
Recorded With 0 PSI Surface Induced Pressure

| | |
|---|---|
| Database File | tep\new folder\tep_chevron gm 632-19_rbl_02-01-21.db |
| Dataset Pathname | repeat.2 |
| Presentation Format | ros_radii_tep |
| Dataset Creation | Wed Feb 03 13:40:50 2021 |
| Charted by | Depth in Feet scaled 1:240 |

| | | | | |
|---|---|---|---|---|
| Gamma Ray<br>0 (GAPI) 200 | 3' Amplitude<br>0 (mV) 100 | 5' Variable Density Log<br>200 (usec) 1200 | Sector Map | Average Amplitude<br>0 150 |
| Line Speed<br>-150 (ft/min) 150 | 3' Amplitude x 5<br>0 (mV) 20 | | | Mimimum Amplitude<br>0 150 |
| Line Tension<br>0 (lb) 2000 | 3' Travel Time<br>300 (usec) 200 | | | Maximum Amplitude<br>0 150 |
| Differential Temperature<br>-2 (degF) 2 | | | | |
| Temperature<br>0 (degF) 20 | | | | |



| | | | | |
|---|---|---|---|---|
| Gamma Ray<br>0 (GAPI) 200 | 3' Amplitude<br>0 (mV) 100 | 5' Variable Density Log<br>200 (usec) 1200 | Sector Map | Average Amplitude<br>0 150 |
| Line Speed<br>-150 (ft/min) 150 | 3' Amplitude x 5<br>0 (mV) 20 | | | Mimimum Amplitude<br>0 150 |
| Line Tension<br>0 (lb) 2000 | 3' Travel Time<br>300 (usec) 200 | | | Maximum Amplitude<br>0 150 |
| Differential Temperature<br>-2 (degF) 2 | | | | |
| Temperature<br>0 (degF) 20 | | | | |

| 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 | 14.19 | | | | | |
| | | | 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 |
| WVFS8 | 11.96 | | | | | |
| WVFS7 | 11.96 | | | | | |
| WVFS6 | 11.96 | | | | | |
| WVFS5 | 11.96 | | | | | |
| WVFS4 | 11.96 | | | | | |
| WVFS3 | 11.96 | | | | | |
| WVFS2 | 11.96 | | | | | |
| WVFS1 | 11.96 | | | | | |
| WVFCAL | 11.96 | | | | | |
| WVF3FT | 11.96 | | | | | |
| WVF5FT | 10.96 | | | | | |
| | | | BTA-MUD<br>BTA 2-3/4" Roller 6 Arm Centralizer with Reversible Ends | 2.92 | 2.72 | 25.00 |
| CCL | 3.88 | | | | | |
| | | | Probe GR-CCL ANL-2750 A (FW1305-083)<br>Probe 2.75" Analog 4 Channel Pulse Gamma Ray/CCL Combined | 4.54 | 2.75 | 55.00 |
| GR | 1.14 | | | | | |
| | | | GO BN-14375<br>GO 1-7/16" Bull Nose with Go Box Top | 0.25 | 1.44 | 1.00 |

| | |
|---|---|
| Dataset: | tep_chevron gm 632-19_rbl_02-01-21.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\new folder\tep_chevron gm 632-19_rbl_02-01-21.db |
| Dataset Pathname | main.1 |
| Dataset Creation | Wed Feb 03 13:22:31 2021 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | FW1305-083 | |
| Tool Model: | 2750 A | |
| Performed: | Sun Nov 12 05:37:57 2017 | |
| Calibrator Value: | 637.0 | GAPI |
| Background Reading: | 95.7 | cps |
| Calibrator Reading: | 982.0 | cps |
| Sensitivity: | 0.7188 | 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: | 31.479 | ft |

Master Calibration, performed (Derived):

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.004 | 0.642 | 0.800 | 81.196 | 125.994 | 0.341 |
| CAL | 0.003 | 0.764 | | | | |
| 5' | 0.007 | 0.674 | 0.800 | 81.196 | 120.488 | 0.005 |
| SUM | | | | | | |
| S1 | 0.003 | 0.581 | 0.000 | 100.000 | 173.049 | -0.525 |
| S2 | 0.010 | 0.618 | 0.000 | 100.000 | 164.350 | -1.601 |
| S3 | 0.008 | 0.656 | 0.000 | 100.000 | 154.266 | -1.266 |
| S4 | 0.006 | 0.692 | 0.000 | 100.000 | 145.735 | -0.905 |
| S5 | 0.006 | 0.683 | 0.000 | 100.000 | 147.612 | -0.892 |
| S6 | 0.005 | 0.654 | 0.000 | 100.000 | 154.020 | -0.737 |
| S7 | 0.004 | 0.612 | 0.000 | 100.000 | 164.629 | -0.740 |
| S8 | 0.007 | 0.606 | 0.000 | 100.000 | 166.820 | -1.170 |

Internal Reference Calibration, performed (Not Performed):

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.003 | 0.764 | 1.000 | 0.000 |

Air Zero Calibration, performed Mon Feb 1 11:12:18 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: | 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 | Chevron GM 632-19 |
| Field | Grand Valley |
| County | Garfield |
| State | Colorado |