# CEMENT BOND LOG

| | |
|---|---|
| Company | BONANZA CREEK ENERGY |
| Well | STATE PRONGHORN FED. 13-43-30HNB |
| Field | WATTENBERG |
| County | WELD |
| State | COLORADO |
| Country | USA |

Company BONANZA CREEK ENERGY OPERATING
Well STATE PRONGHORN FED. 13-43-30HNB
Field WATTENBERG
County WELD
State COLORADO Country USA

Location: API # : 05-123-51317
2240 FSL & 596 FWL
LAT: 40.370490, LONG: -104.259480
SEC 30 TWP 5N RGE 61W

Other Services
NONE

| | | | |
|---|---|---|---|
| Permanent Datum | GROUND LEVEL | Elevation | 4526 FT |
| Log Measured From | KELLY BUSHING, 25 FT ABOVE GL | | |
| Drilling Measured From | KELLY BUSHING | | |

Elevation
K.B. 4551 FT
D.F. 4550 FT
G.L. 4526 FT

| | | | |
|---|---|---|---|
| Date | 29-DEC-2021 | | |
| Run Number | ONE | | |
| Depth Driller | 11,274 FT | | |
| Depth Logger | 6296 FT | | |
| Bottom Logged Interval | 6291 FT | | |
| Top Log Interval | SURFACE | | |
| Open Hole Size | NA | | |
| Type Fluid | WATER | | |
| Density / Viscosity | NA | | |
| Max. Recorded Temp. | 211 DEG F | | |
| Estimated Cement Top | 95 FT | | |
| Time Well Ready | 07:00 | | |
| Time Logger on Bottom | 11:15 | | |
| Equipment Number | 504 | | |
| Location | WILLISTON, ND | | |
| Recorded By | SHAUN FERCHAK | | |
| Witnessed By | JOSH JOHNSON | | |

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

| Casing Record | Size | Wgt/Ft | Top | Bottom |
|---|---|---|---|---|
| Surface String | 9.625 IN | 36 LB/FT | SURFACE | 1600 FT |
| Prot. String | | | | |
| Production String | 5.5 IN | 17 LB/FT | SURFACE | 11,274 FT |
| Liner | | | | |

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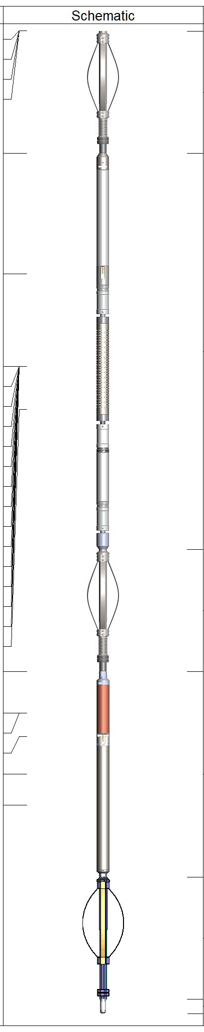
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

FINAL

LOG MEASURED FROM KB AT 25'

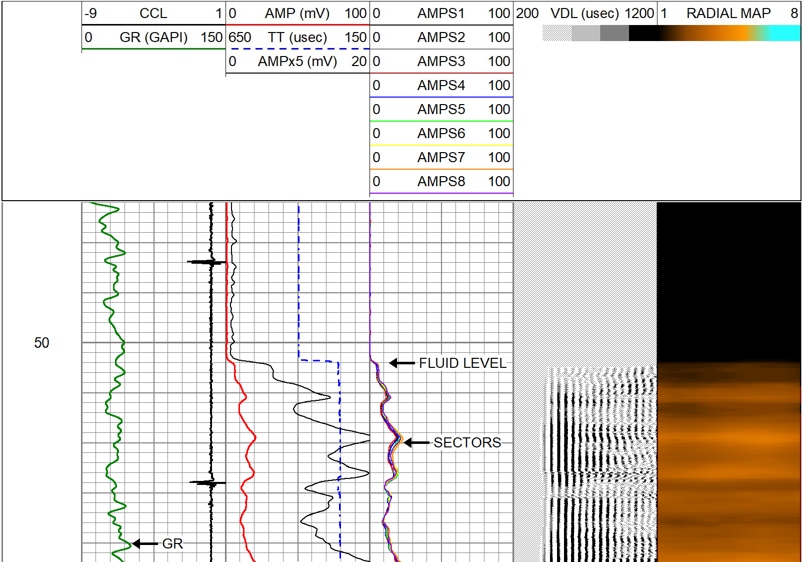
| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb |
|---|---|---|---|---|---|---|
| GCT_FMWR | 22.80 |  | | | | |
| mSec_Count | 22.80 | | | | | |
| RBT_Status | 22.80 | | | | | |
| Error_Ct | 22.80 | | CENT-BC275-0000<br>Probe 2.75" Bowspring Centralizer | 2.83 | 2.75 | 24.00 |
| RBT_HV | 19.97 | | | | | |
| RBT_Temp | 17.17 | | | | | |
| RBT_ACCZ | 15.02 | | RBT8-RADII-275T (FW2103-061)<br>Probe 2.75" RADII 8 Sector Bond Tool w/ Temperature | 9.20 | 2.75 | |
| RBT_ACCY | 15.02 | | | | | |
| RBT_ACCX | 15.02 | | | | | |
| WVFSYNC | 15.02 | | | | | |
| WVFS8 | 15.02 | | | | | |
| WVFS7 | 15.02 | | | | | |
| WVFS6 | 15.02 | | | | | |
| WVFS5 | 15.02 | | | | | |
| WVFS4 | 15.02 | | | | | |
| WVFS3 | 15.02 | | | | | |
| WVFS2 | 15.02 | | | | | |
| WVFS1 | 15.02 | | | | | |
| WVFCAL | 15.02 | | CENT-BC275-0000<br>Probe 2.75" Bowspring Centralizer | 2.83 | 2.75 | 24.00 |
| WVF3FT | 15.02 | | | | | |
| WVF5FT | 14.02 | | | | | |
| GCT_HV | 7.94 | | | | | |
| CCL$2 | 6.97 | | | | | |
| CCL$1 | 6.97 | | | | | |
| GCT_Temp | 6.42 | | | | | |
| GR | 5.56 | | GCacc-GCT275-0000 (FW2103-050)<br>Probe 2.75" Gamma Ray - CCL w/ Temp | 4.77 | 2.75 | 55.00 |
| GCT_IntTemp | 4.83 | | | | | |
| | | | CENT-PTS275<br>BC275-0000 Centralizer | 2.83 | 2.75 | 24.00 |
| | | | Plug-FA108-0000<br>1.38" Bull Plug | 0.33 | 1.38 | 1.00 |

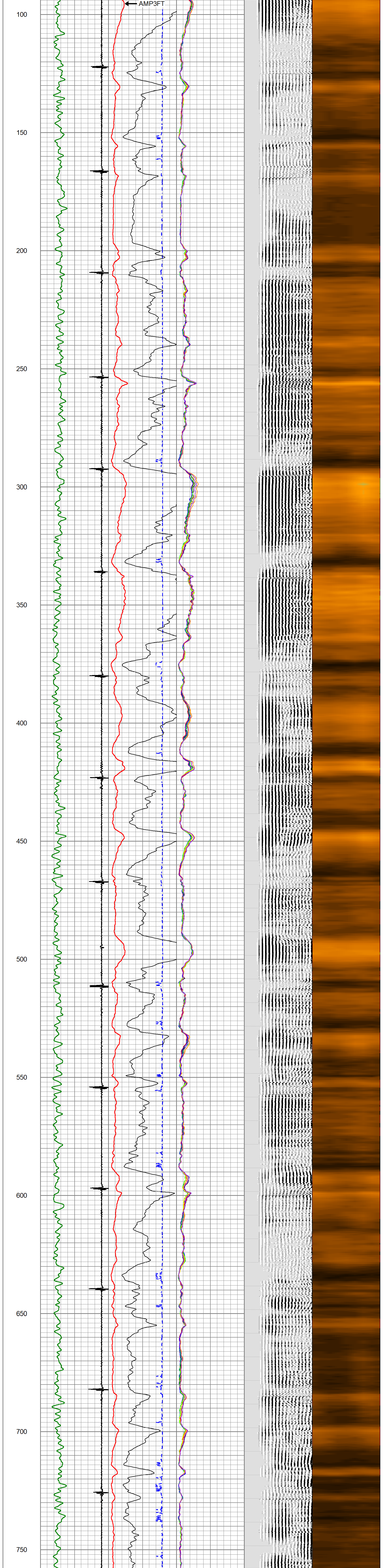
| | |
|---|---|
| Dataset: | civitas_(state_pronghorn_federal_13-43-30hnb)_cbl_12292021.db: field/well/run1/main |
| Total length: | 22.80 ft |
| Total weight: | 128.00 lb |
| O.D.: | 2.75 in |

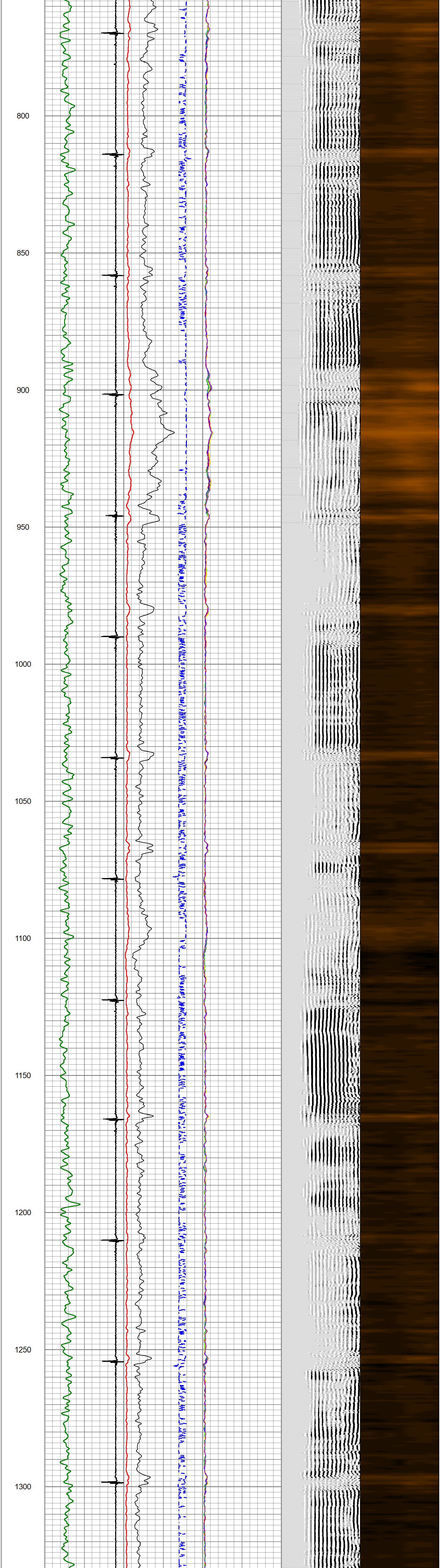
# MAIN PASS

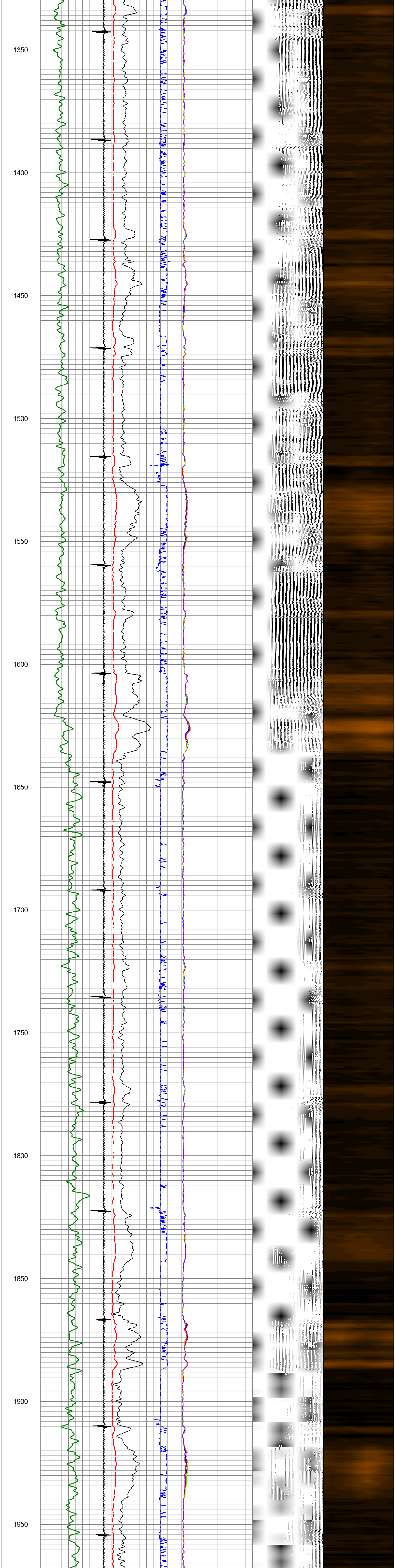
| | |
|---|---|
| Database File | civitas_(state_pronghorn_federal_13-43-30hnb)_cbl_12292021.db |
| Dataset Pathname | merge1.1 |
| Presentation Format | sfww_cbl_oasis-sectors |
| Dataset Creation | Thu Dec 30 03:34:17 2021 |
| Charted by | Depth in Feet scaled 1:240 |

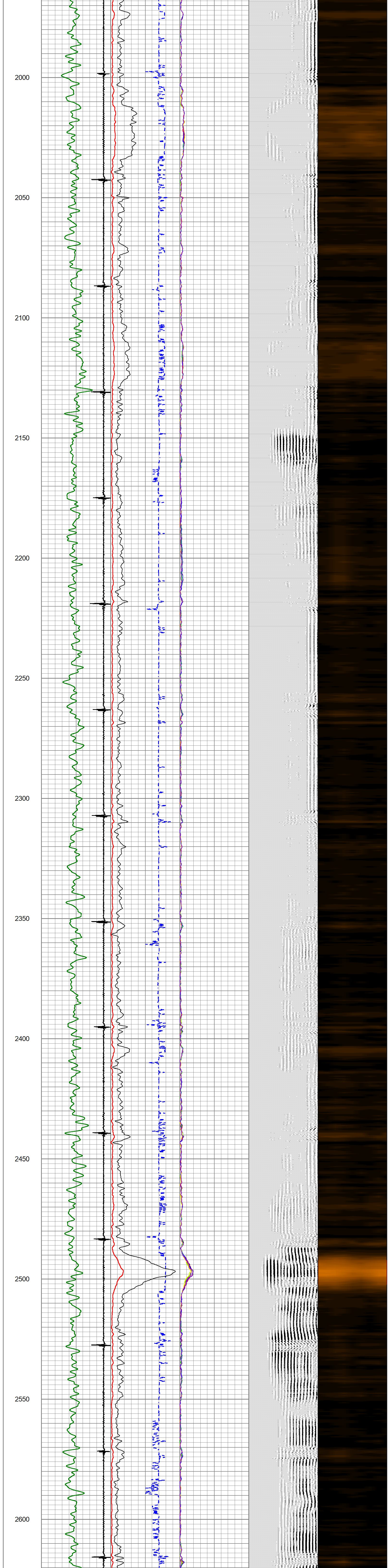
-9 CCL 1
0 GR (GAPI) 150
0 AMP (mV) 100
650 TT (usec) 150
0 AMPx5 (mV) 20
0 AMPS1 100
0 AMPS2 100
0 AMPS3 100
0 AMPS4 100
0 AMPS5 100
0 AMPS6 100
0 AMPS7 100
0 AMPS8 100
200 VDL (usec) 1200
1 RADIAL MAP 8

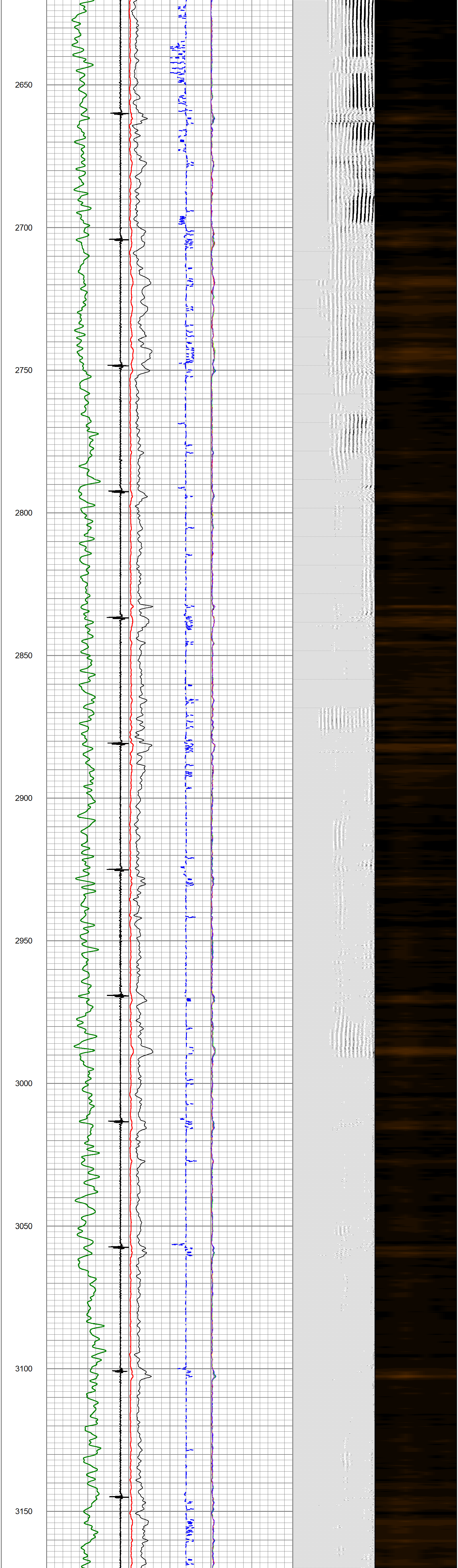


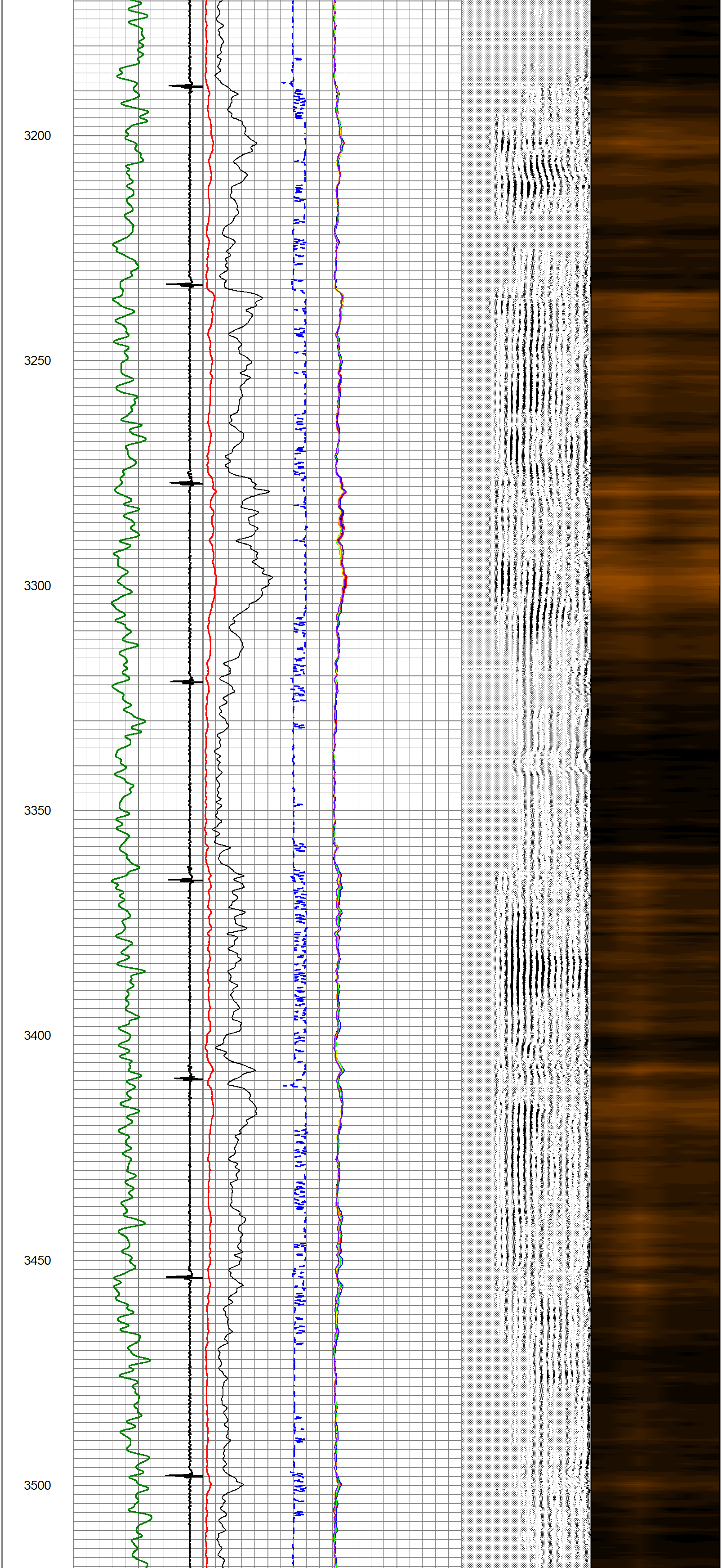


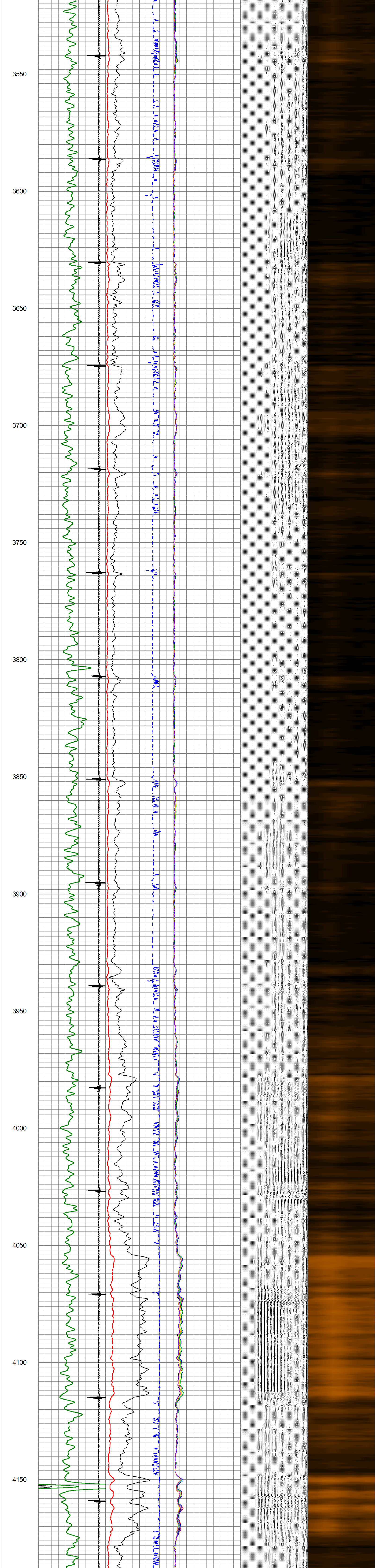


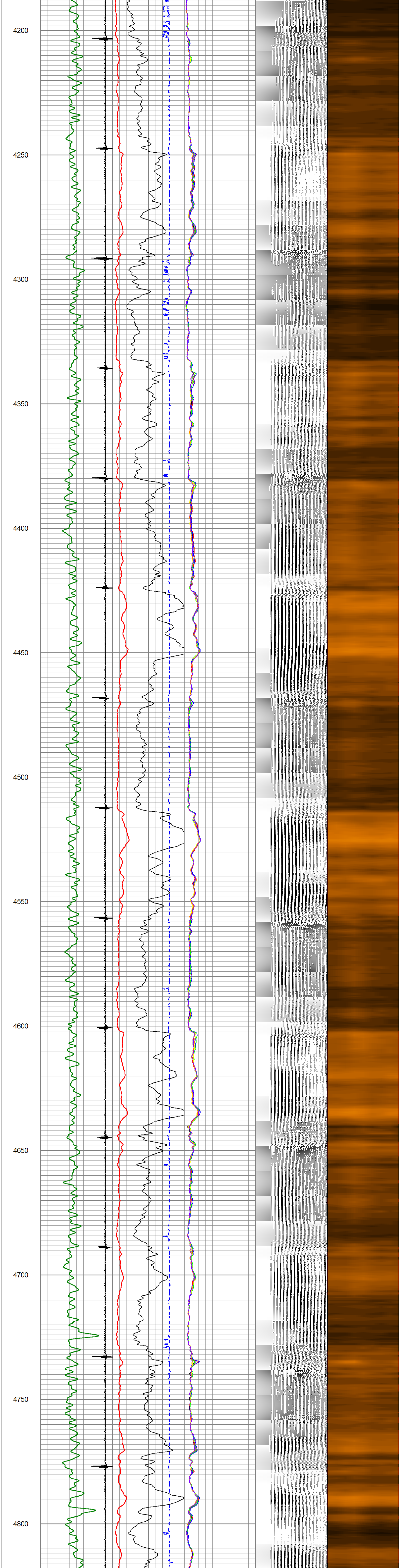


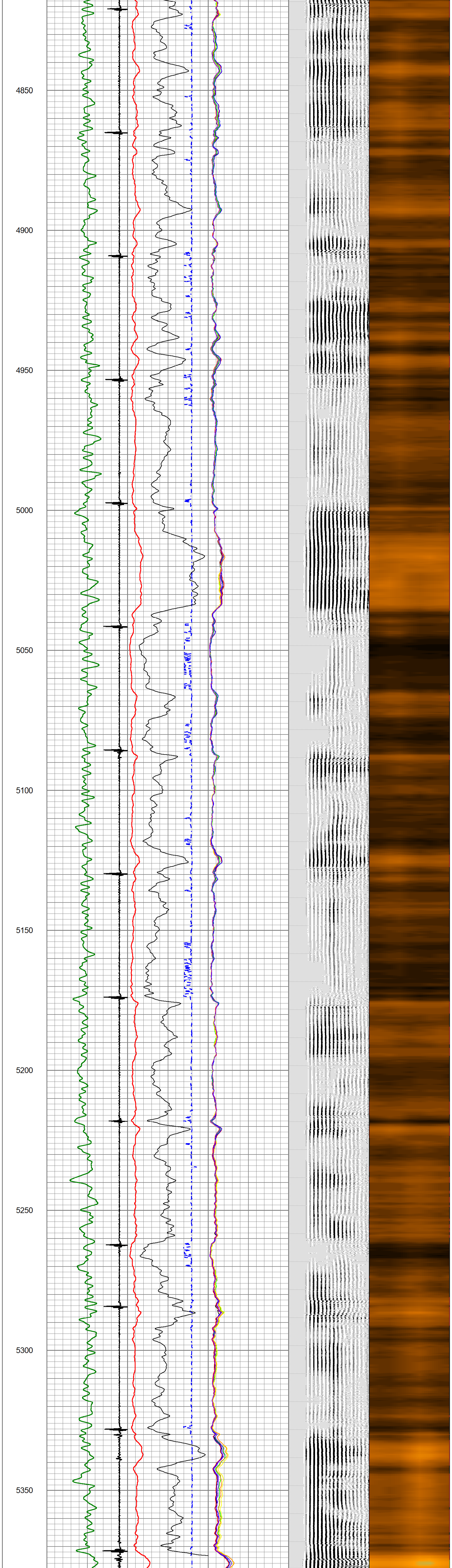


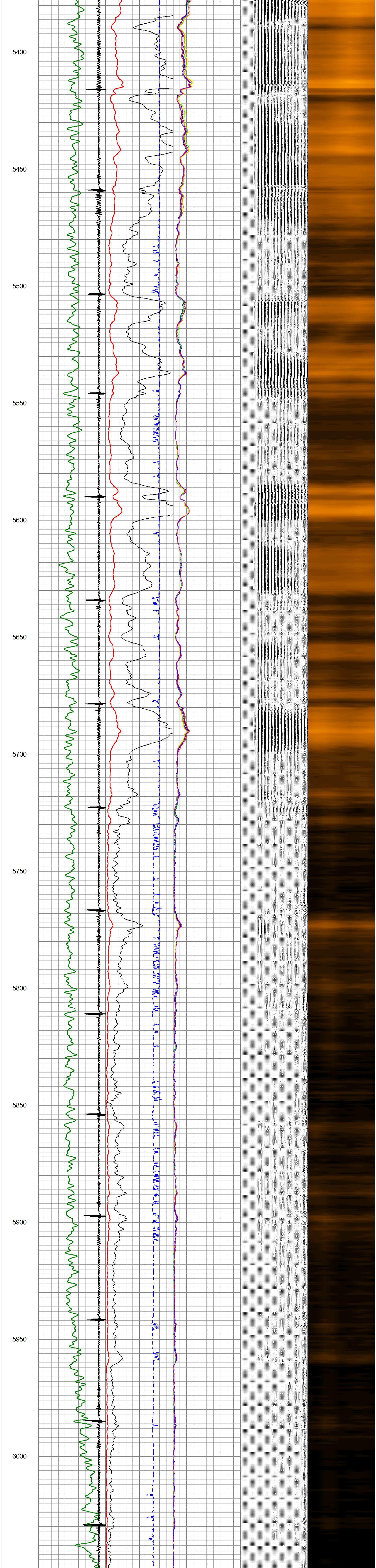


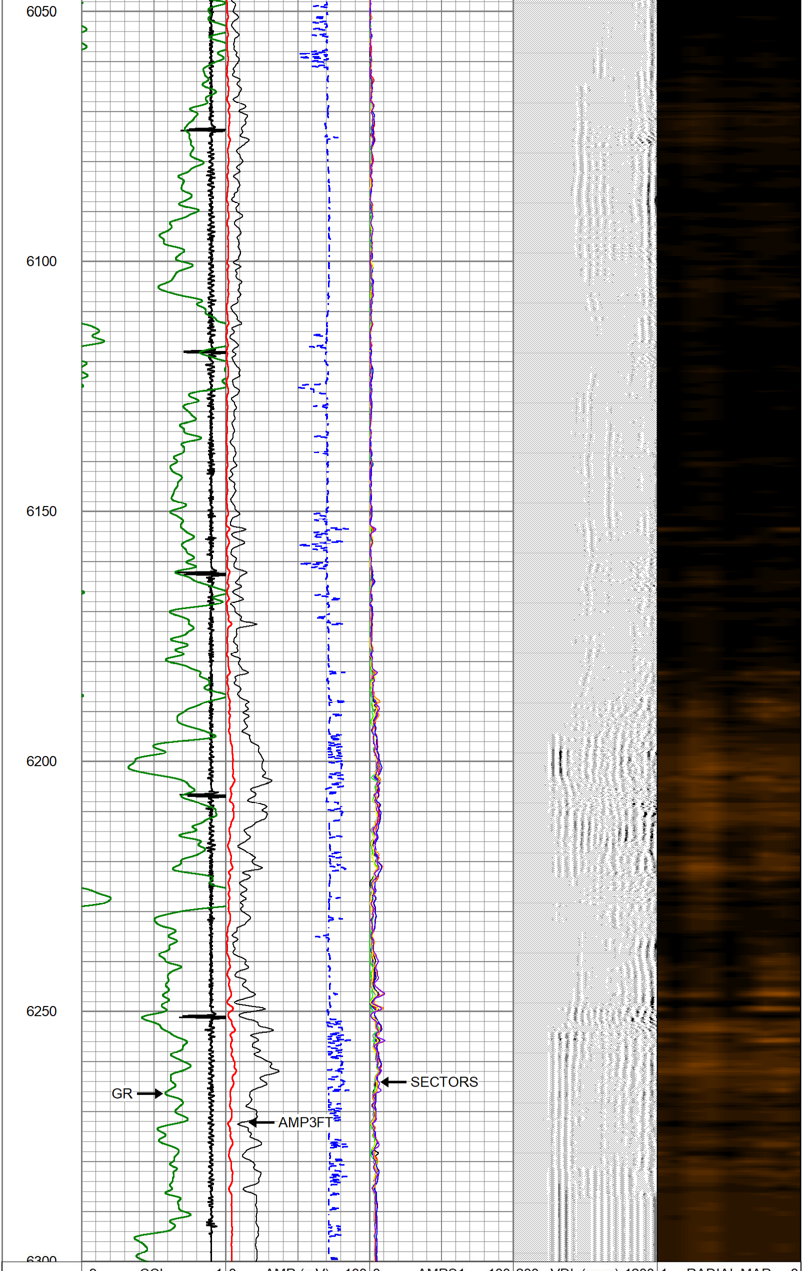












| | | | | |
|---|---|---|---|---|
| -9 CCL 1 | 0 AMP (mV) 100 | 0 AMPS1 100 | 200 VDL (usec) 1200 | 1 RADIAL MAP 8 |
| 0 GR (GAPI) 150 | 650 TT (usec) 150 | 0 AMPS2 100 | | |
| | 0 AMPx5 (mV) 20 | 0 AMPS3 100 | | |
| | | 0 AMPS4 100 | | |
| | | 0 AMPS5 100 | | |
| | | 0 AMPS6 100 | | |
| | | 0 AMPS7 100 | | |
| | | 0 AMPS8 100 | | |

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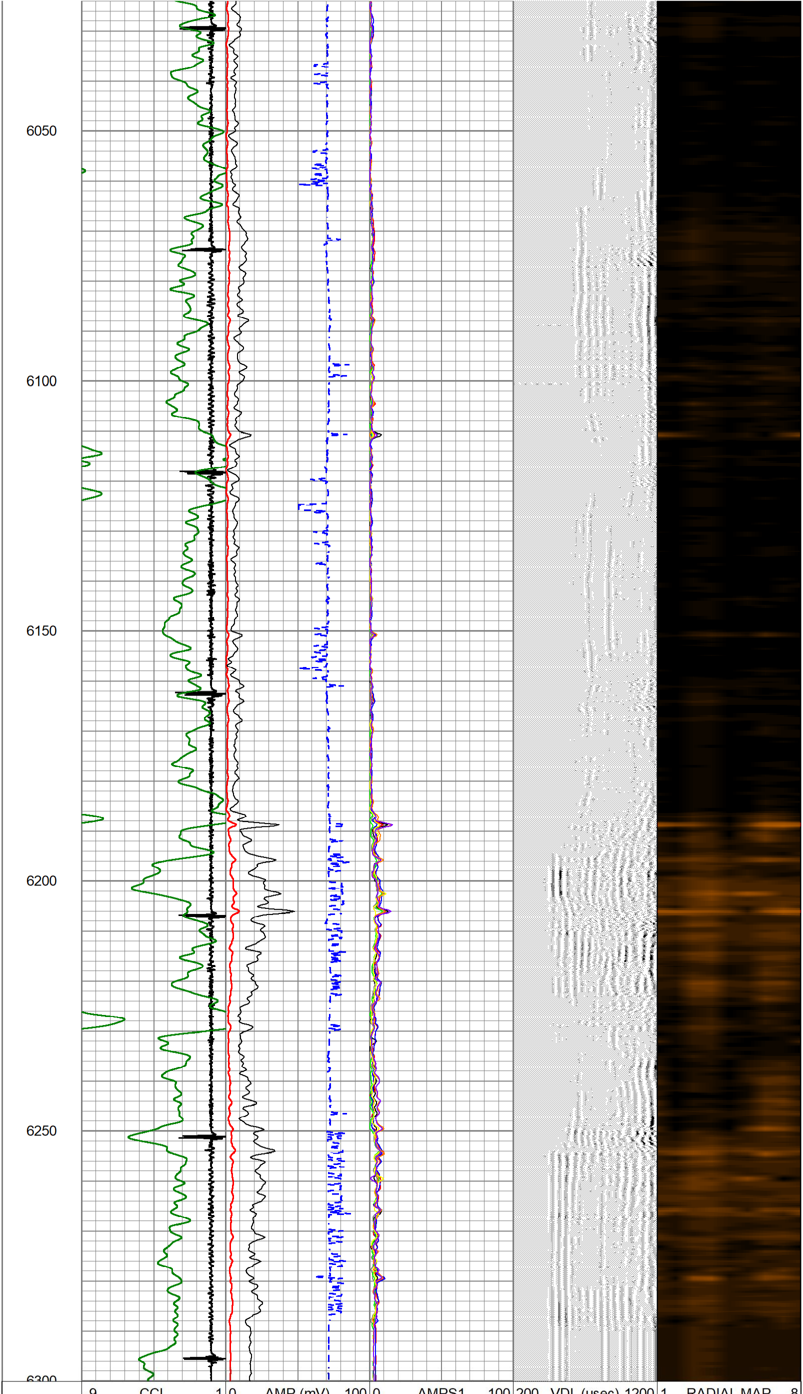
# REPEAT PASS

Database File civitas_(state_pronghorn_federal_13-43-30hnb)_cbl_12292021.db
Dataset Pathname repeat.1
Presentation Format sfww_cbl_oasis-sectors
Dataset Creation Thu Dec 30 03:47:23 2021
Charted by Depth in Feet scaled 1:240

| | | | | |
|---|---|---|---|---|
| -9 CCL 1 | 0 AMP (mV) 100 | 0 AMPS1 100 | 200 VDL (usec) 1200 | 1 RADIAL MAP 8 |
| 0 GR (GAPI) 150 | 650 TT (usec) 150 | 0 AMPS2 100 | | |
| | 0 AMPx5 (mV) 20 | 0 AMPS3 100 | | |
| | | 0 AMPS4 100 | | |
| | | 0 AMPS5 100 | | |
| | | 0 AMPS6 100 | | |
| | | 0 AMPS7 100 | | |
| | | 0 AMPS8 100 | | |



| | | | | |
|---|---|---|---|---|
| -9 CCL 1 | 0 AMP (mV) 100 | 0 AMPS1 100 | 200 VDL (usec) 1200 | 1 RADIAL MAP 8 |
| 0 GR (GAPI) 150 | 650 TT (usec) 150 | 0 AMPS2 100 | | |
| | 0 AMPx5 (mV) 20 | 0 AMPS3 100 | | |
| | | 0 AMPS4 100 | | |

| | | |
|---|---|---|
| 0 | AMPS5 | 100 |
| 0 | AMPS6 | 100 |
| 0 | AMPS7 | 100 |
| 0 | AMPS8 | 100 |

## Calibration Report

| | |
|---|---|
| Database File | civitas_(state_pronghorn_federal_13-43-30hnb)_cbl_12292021.db |
| Dataset Pathname | main |
| Dataset Creation | Wed Dec 29 12:16:07 2021 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | FW2103-050 | |
| Tool Model: | GCT275-0000 | |
| Performed: | Fri Dec 17 23:30:45 2021 | |
| Calibrator Value: | 120.0 | GAPI |
| Background Reading: | 30.0 | cps |
| Calibrator Reading: | 210.0 | cps |
| Sensitivity: | 0.6667 | GAPI/cps |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | FW2103-061 | |
| Tool Model: | RADII-275T | |
| Calibration Casing Diameter: | 5.500 | in |
| Calibration Depth: | -59.033 | ft |

Master Calibration, performed Mon Dec 27 15:17:12 2021:

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | 0.005 | 1.034 | 1.000 | 72.000 | 69.006 | 0.639 |
| CAL | -0.002 | 1.000 | | | | |
| 5' | 0.000 | 0.937 | 1.000 | 72.000 | 75.796 | 0.979 |
| SUM | | | | | | |
| S1 | 0.007 | 1.002 | 0.000 | 72.000 | 72.394 | -0.517 |
| S2 | 0.008 | 0.994 | 0.000 | 72.000 | 73.026 | -0.602 |
| S3 | 0.007 | 0.993 | 0.000 | 72.000 | 73.023 | -0.510 |
| S4 | 0.006 | 0.975 | 0.000 | 72.000 | 74.321 | -0.444 |
| S5 | 0.006 | 0.983 | 0.000 | 72.000 | 73.688 | -0.446 |
| S6 | 0.004 | 0.988 | 0.000 | 72.000 | 73.157 | -0.297 |
| S7 | 0.006 | 0.969 | 0.000 | 72.000 | 74.792 | -0.460 |
| S8 | 0.006 | 1.022 | 0.000 | 72.000 | 70.836 | -0.403 |

Internal Reference Calibration, performed (Not Performed):

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | -0.002 | 1.000 | 1.000 | 0.000 |

Air Zero Calibration, performed Mon Dec 27 15:12:43 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 |

### 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 |

## Log Variables

DatabaseC:\ProgramData\Warrior\Data\civitas_(state_pronghorn_federal_13-43-30hnb)_cbl_12292
Dataset field/well/run1/main/_vars_

**Top - Bottom**

| BOREID in | BOTTEMP degF | CASEOD in | CASETHCK in | CASEWGHT lb/ft | MAXAMPL mV | MINAMPL mV | MINATTN db/ft |
|---|---|---|---|---|---|---|---|
| 7.875 | 100 | 5.5 | 0.304 | 17 | 72 | 1 | 0.8 |

| PERFS | PPT usec | SRFTEMP degF | TDEPTH ft |
|---|---|---|---|
| No | 0 | 0 | 0 |

**Variable Description**

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

SureFire WIRELINE WEST LLC

| | | | |
|---|---|---|---|
| Company | BONANZA CREEK ENERGY OPERATING COMPANY LLC | | |
| Well | STATE PRONGHORN FED. 13-43-30HNB | | |
| Field | WATTENBERG | | |
| County | WELD | | |
| State | COLORADO | Country | USA |