# CEMENT BOND LOG

| | |
|---|---|
| **Company** | **Extraction Oil & Gas** |
| **Well** | **Coyote Trails 34S-20-11C** |
| **Field** | **Wattenburg** |
| **County** | **Weld** |
| **State** | **Co** |

API # : 05-123-45991
Location:

1146' FSL & 2121' FEL
Lat. 40.017974
Long. -105.006639

SEC: 28 TWP: 1N RGE: 68W

Other Services

Elevation
K.B. 5299'
D.F. 5297'
G.L. 5270'

Company Extraction Oil & Gas
Well Coyote Trails 34S-20-11C
Field Wattenburg
County Weld
State Co

Permanent Datum: Ground Level Elevation: 5270'
Log Measured From: Kelly Bushing , 29 ft. above Permanent Datum.
Drilling Measured From: Kelly Bushing

| | | | |
|---|---|---|---|
| Date | 4/16/2018 | | |
| Run Number | ONE | | |
| Plug Back T.D. Driller | --- | | |
| Plug Back T.D. Logger | ---- | | |
| Bottom Logged Interval | 8844' | | |
| Top Log Interval | Surface | | |
| Type Fluid | ----- | | |
| Density / Viscosity | ----- | | |
| Max. Recorded Temp. | 250°F | | |
| Time Logger on Bottom | 12:31 | | |
| Equipment Number | GD112 | | |
| Location | Casper | | |
| Recorded By | Garrett Graham | | |
| Witnessed By | Jose | | |

| Casing Record | | | | Tubing Record | | | |
|---|---|---|---|---|---|---|---|
| Size | Weight | From | To | Size | Weight | From | To |
| 9 5/8" | 36# | Surface | 1500' | | | | |
| 5 1/2" | 20# | Surface | 18716' | | | | |
| | | | | | | | |
| | | | | | | | |

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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.

Ticket # : RM0418PCBW438
Your Crew Today: Daniel H. Eric R. And John B.
Log Correlated to: Surface

## Cement Data

| | |
|---|---|
| Date Cemented | ----- |
| Primary / Squeeze | Primary |
| Type / Weight | ---- |
| Main Pass Press. | 0 PSI |
| Repeat Pass Press. | 0 PSI |

## Bond Index

| Index % | Est Top Depth |
|---|---|
| 20 % Bond | 251' |
| 40 % Bond | 265' |
| 60 % Bond | 335' |
| 80 % Bond | 1172' |
| 100 % Bond | 1300' |

## Comments

**Estmated Cement Top @ 251'**
**(20% Bond)**

**Marker Joint Located @ 8184'**

Thank you for using Gyrodata

Eric Regnier: Rocky Mountain Wireline Manager EricR@Gyrodata.com

# Log Variables

Databasec:\programdata\warrior\data\2018_04_16_extraction_coyote_trails_34s_20_11c_cb\2018_
Dataset field/well/run1/pass3.1/_vars_

**Top - Bottom**

| BHTEMP_Src | BOREID | BOTTEMP | CASEOD | CASETHCK | CASEWGHT | MAXAMPL | MaxAPIID |
|---|---|---|---|---|---|---|---|
|  | in | degF | in | in | lb/ft | mV | in |
| TEMP | 8.5 | 100 | 5.5 | 0.361 | 20 | 71.9 | 4.923 |

| MaxAPIWall | MINAMPL | MinAPIID | MINATTN | PPT |
|---|---|---|---|---|
| in | mV | in | db/ft | usec |
| 0.361 | 1.9 | 4.751 | 0 | 241 |

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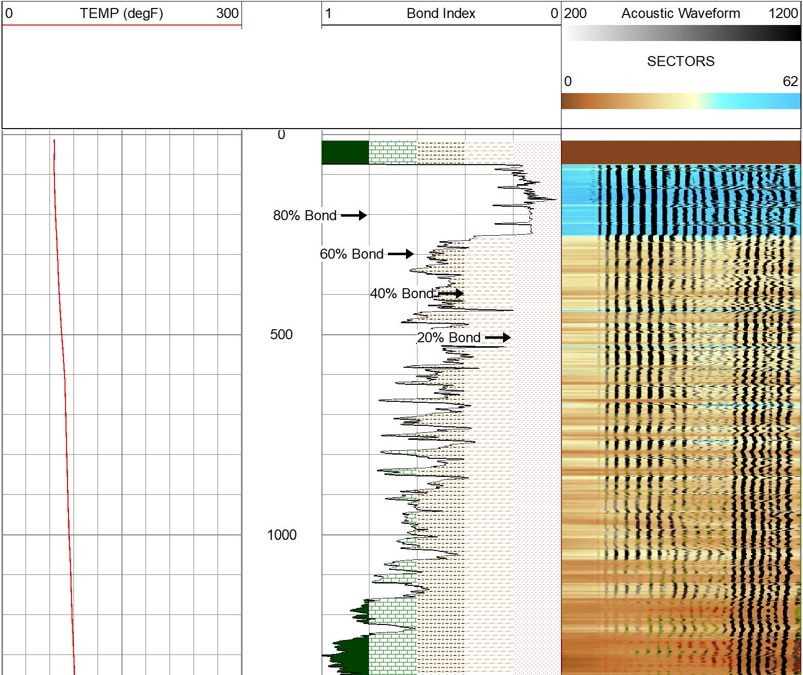
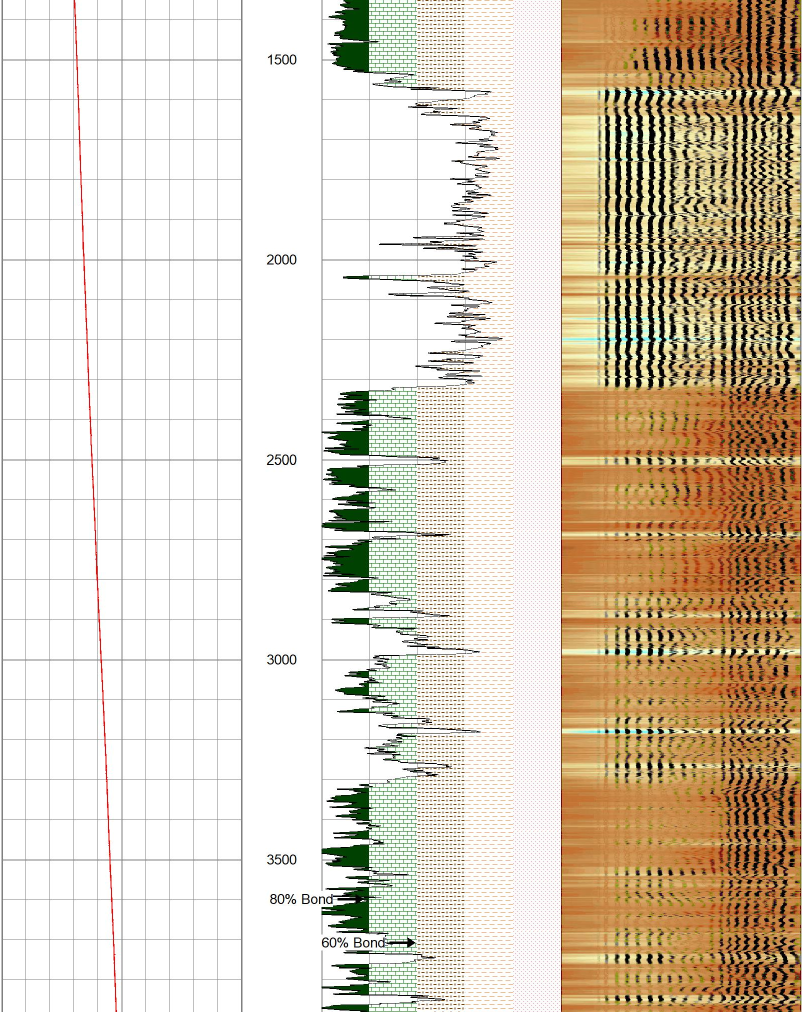
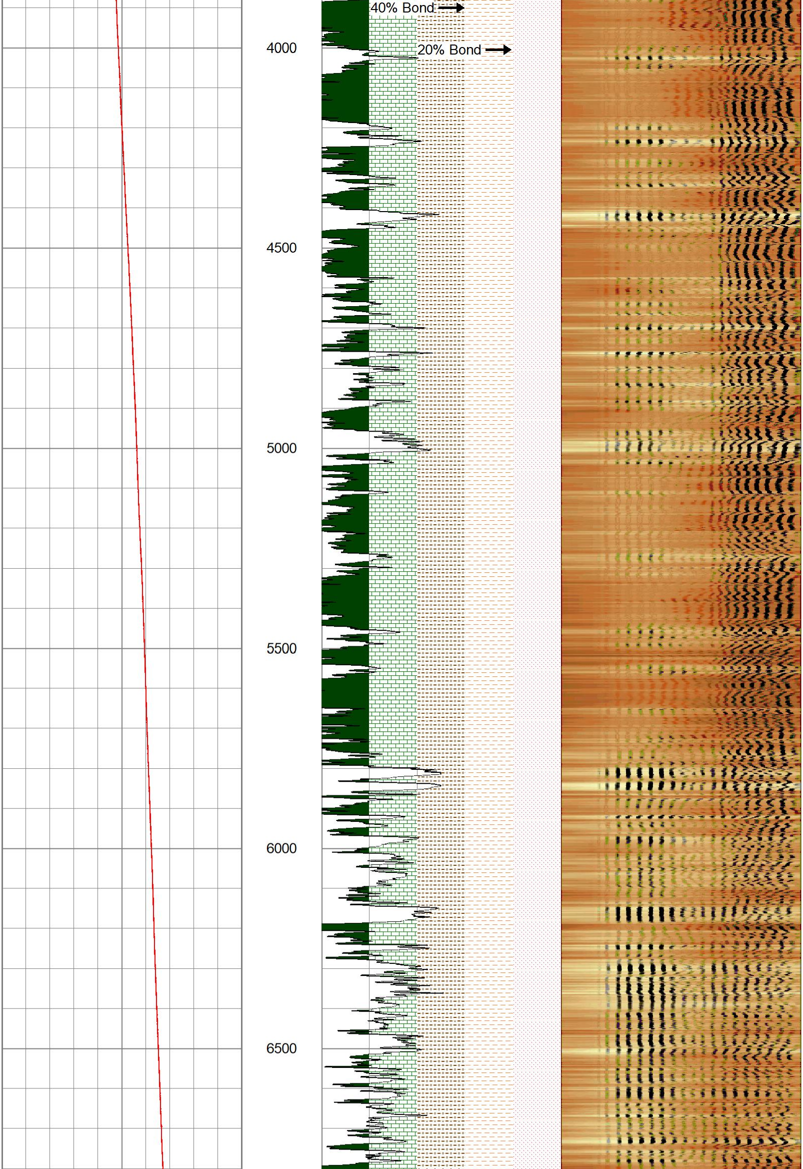
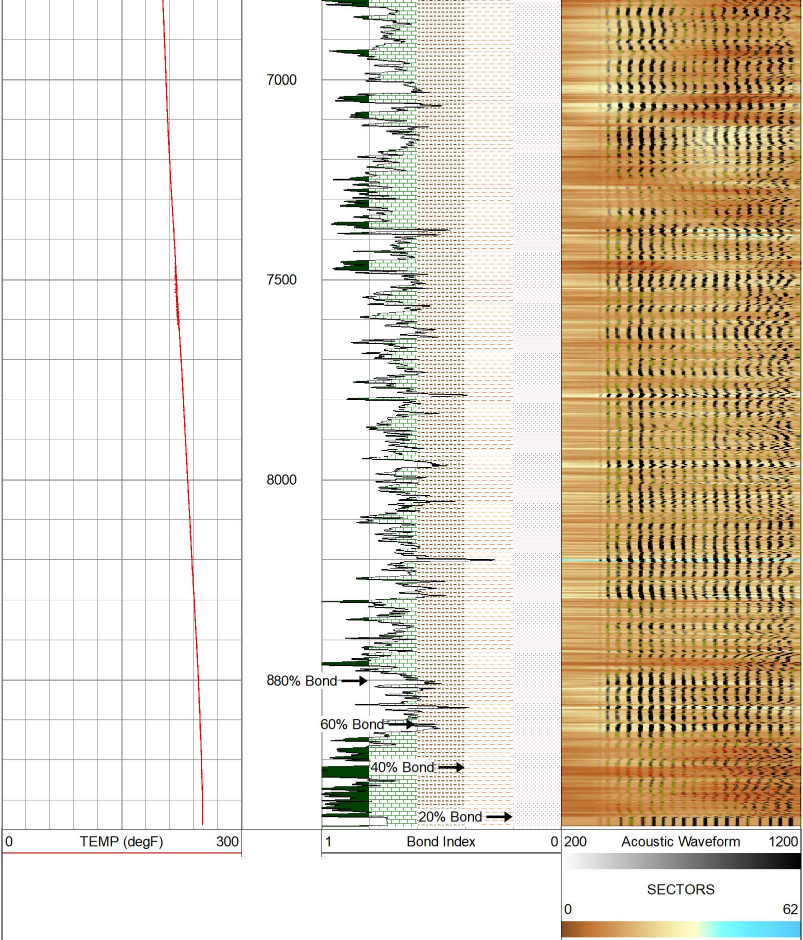
# BOND INDEX

| | |
|---|---|
| Database File | 2018_04_16_extraction_coyote_trails_34s_20_11c_cb\2018_04_16_extraction_coyote_trails_34s_20_11c_ |
| Dataset Pathname | Bond |
| Presentation Format | bndindx_msg-sec |
| Dataset Creation | Mon Apr 16 14:32:08 2018 |
| Charted by | Depth in Feet scaled 1:3000 |









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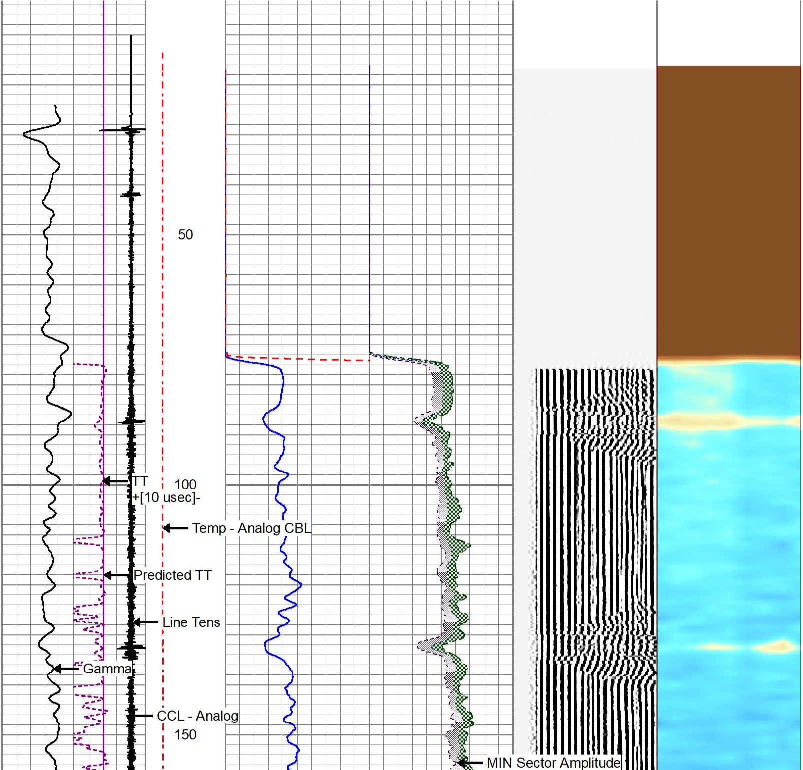
# BOND INDEX

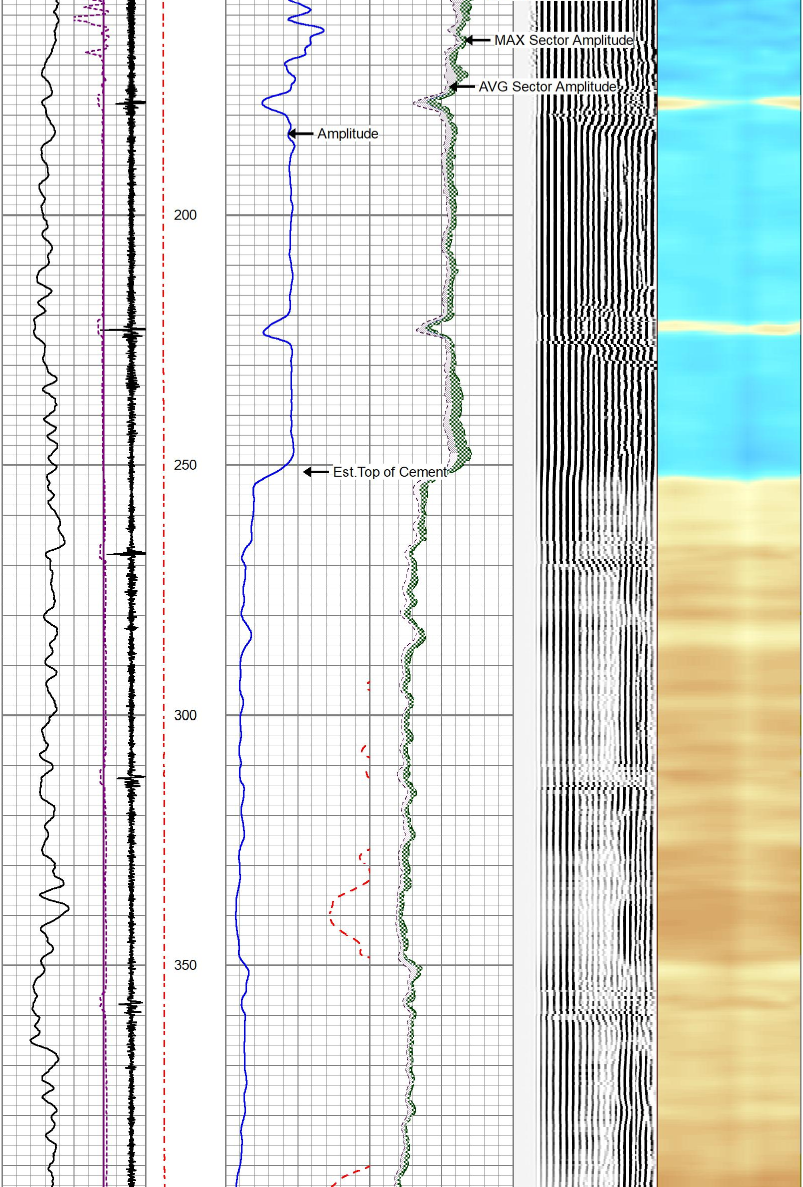
# MAIN PASS - Ran with 0 PSI

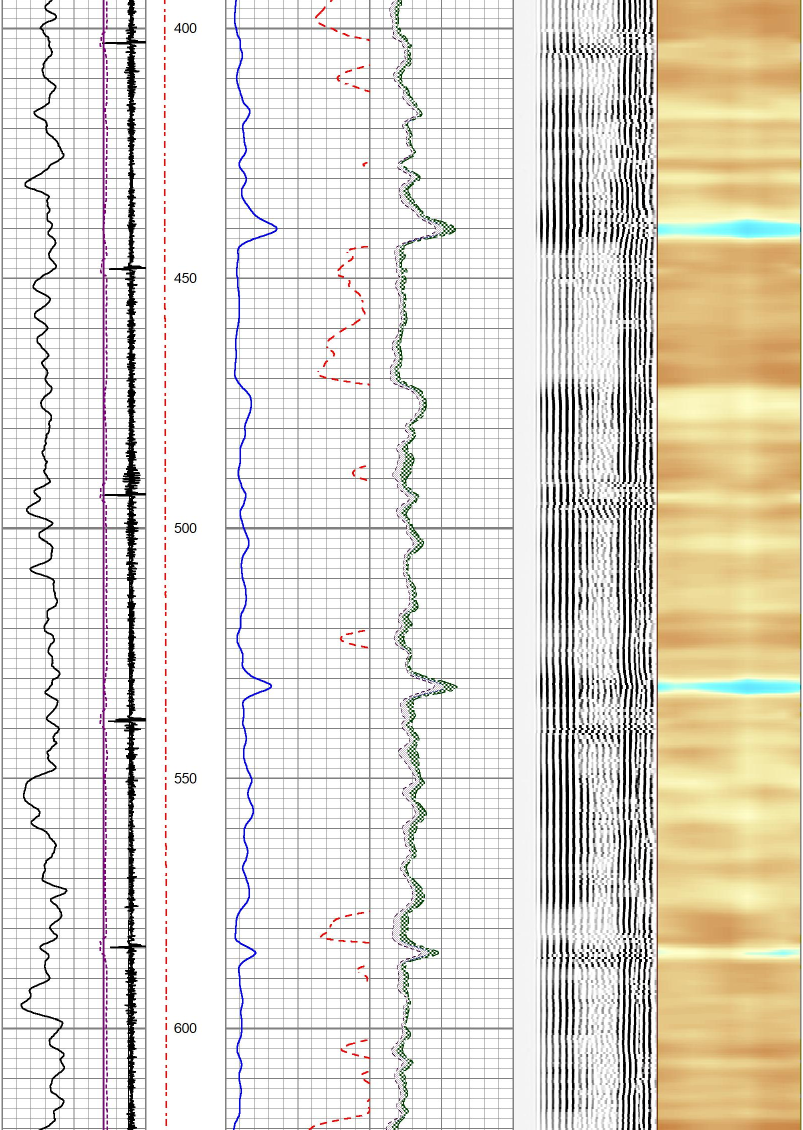
**5 in / 100 ft**

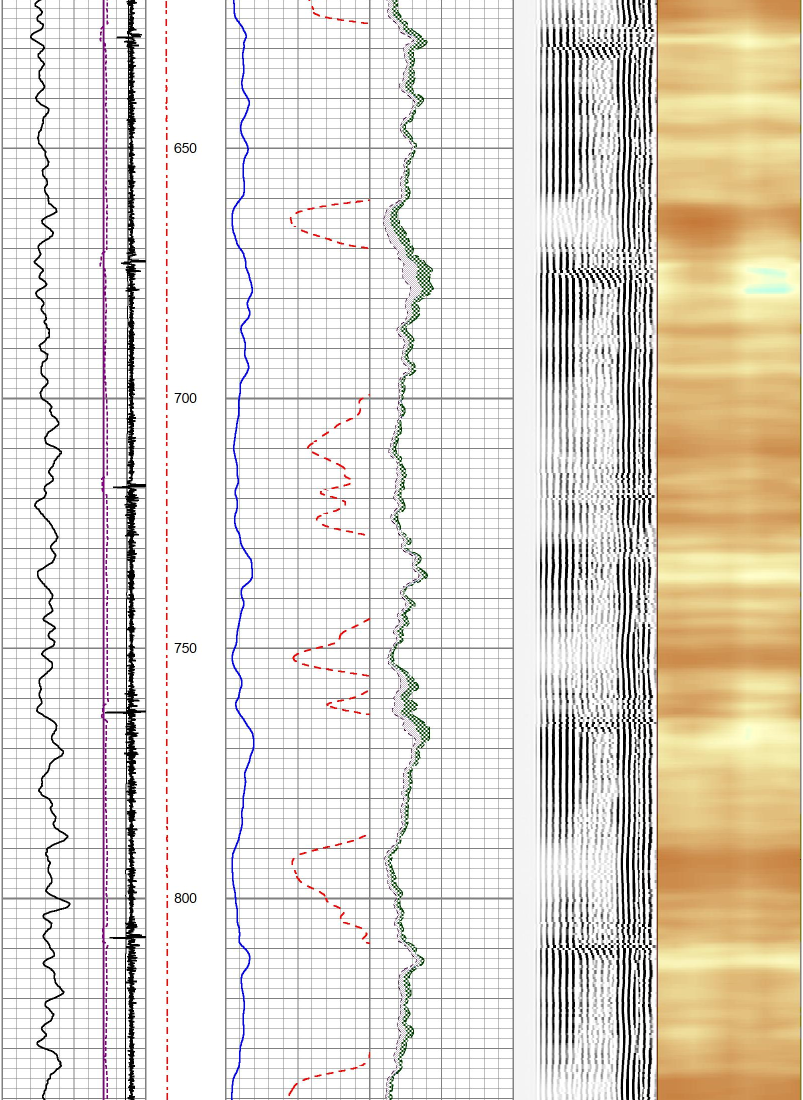
| | |
|---|---|
| Database File | 2018_04_16_extraction_coyote_trails_34s_20_11c_cb\2018_04_16_extraction_coyote_trails_34s_20_11c |
| Dataset Pathname | pass3.1 |
| Presentation Format | rcbl_8s |
| Dataset Creation | Mon Apr 16 14:25:22 2018 |
| Charted by | Depth in Feet scaled 1:240 |

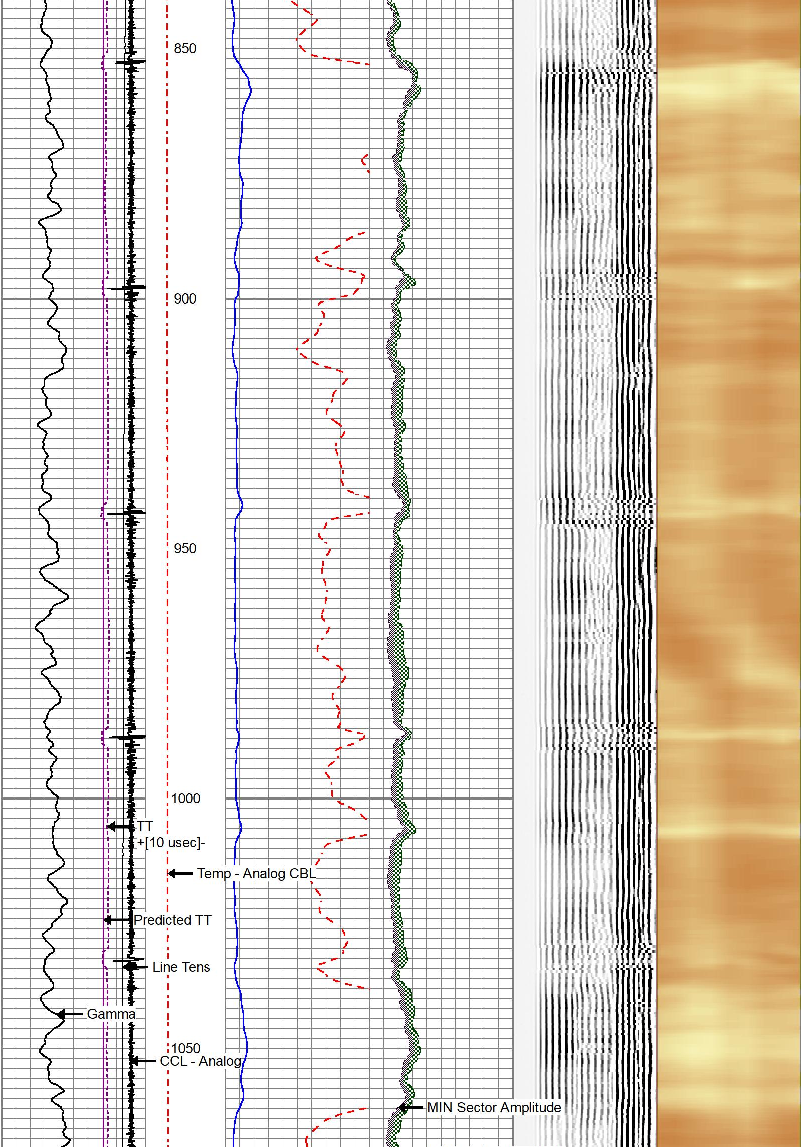
| | | | | | |
|---|---|---|---|---|---|
| CCL - Analog<br>Gamma<br>0 (GAPI) 200<br>300(Line Tens (lb) 0<br>Predicted TT<br>TT<br>+[10 usec]- | np - Analog C<br>(degF)<br>0 300 | 0 Amplitude (mV)100<br>Amplitude x10<br>0 (mV) 10 | AVG Sector Amplitude<br>0 100<br>MAX Sector Amplitude<br>0 100<br>MIN Sector Amplitude<br>0 100 | Acoustic Waveform<br>200 1200 | SECTORS<br>0 72 |

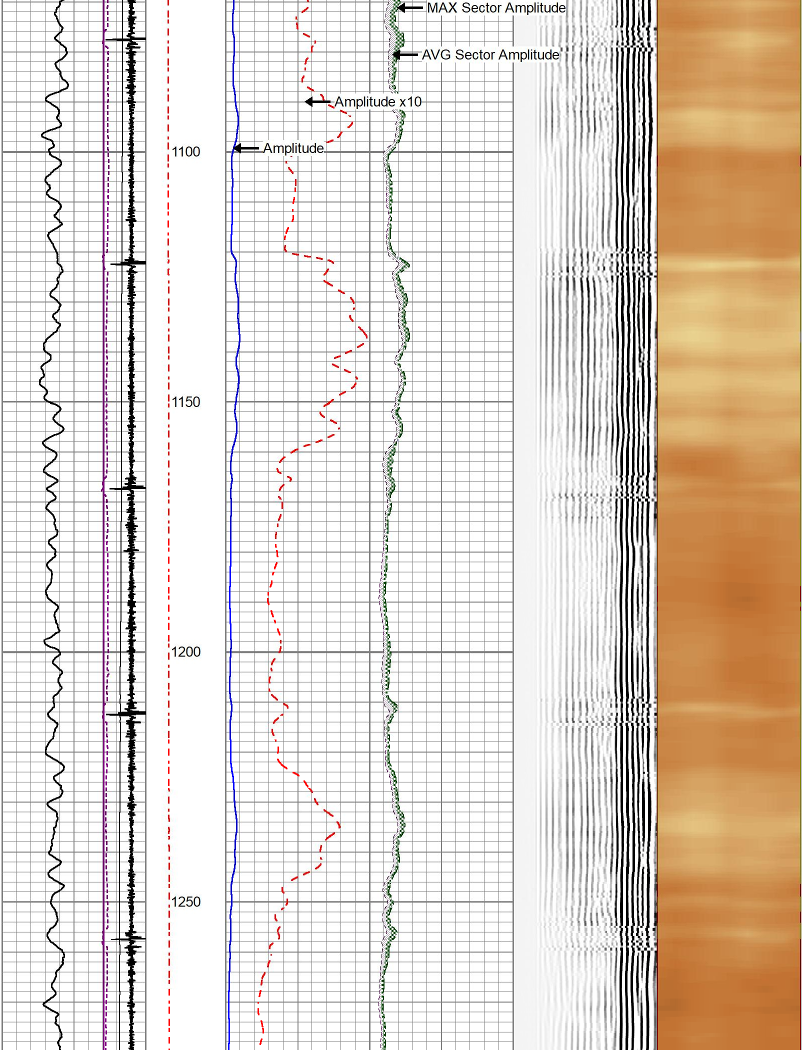


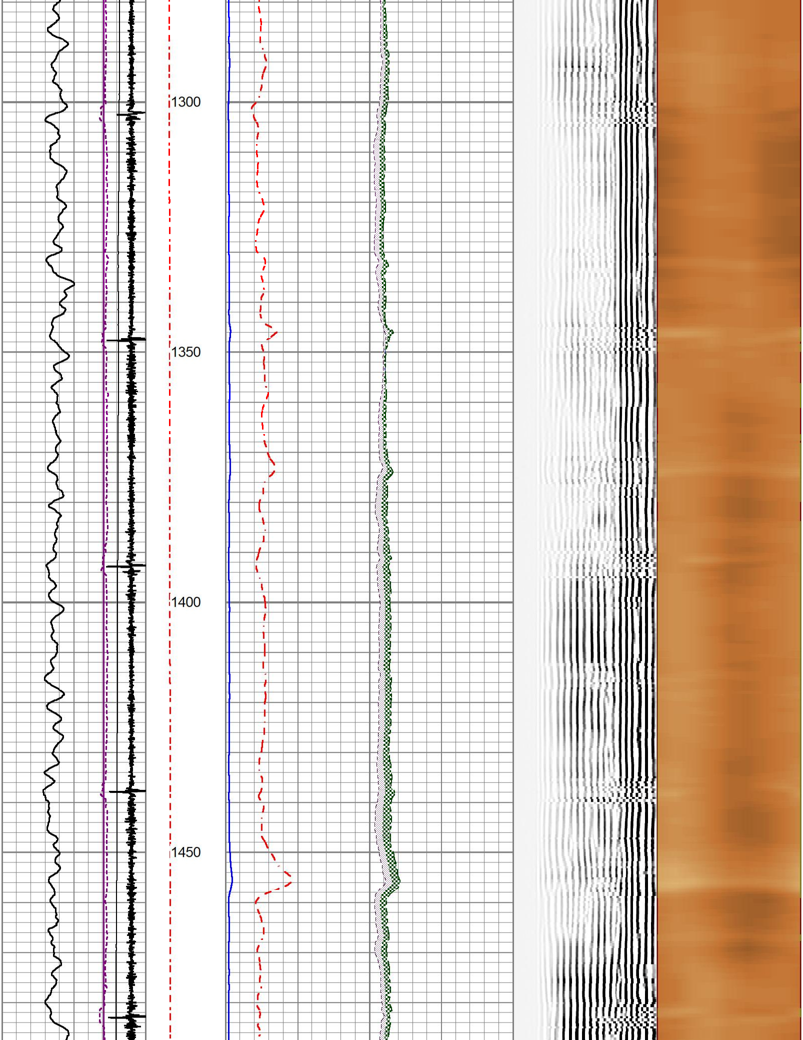


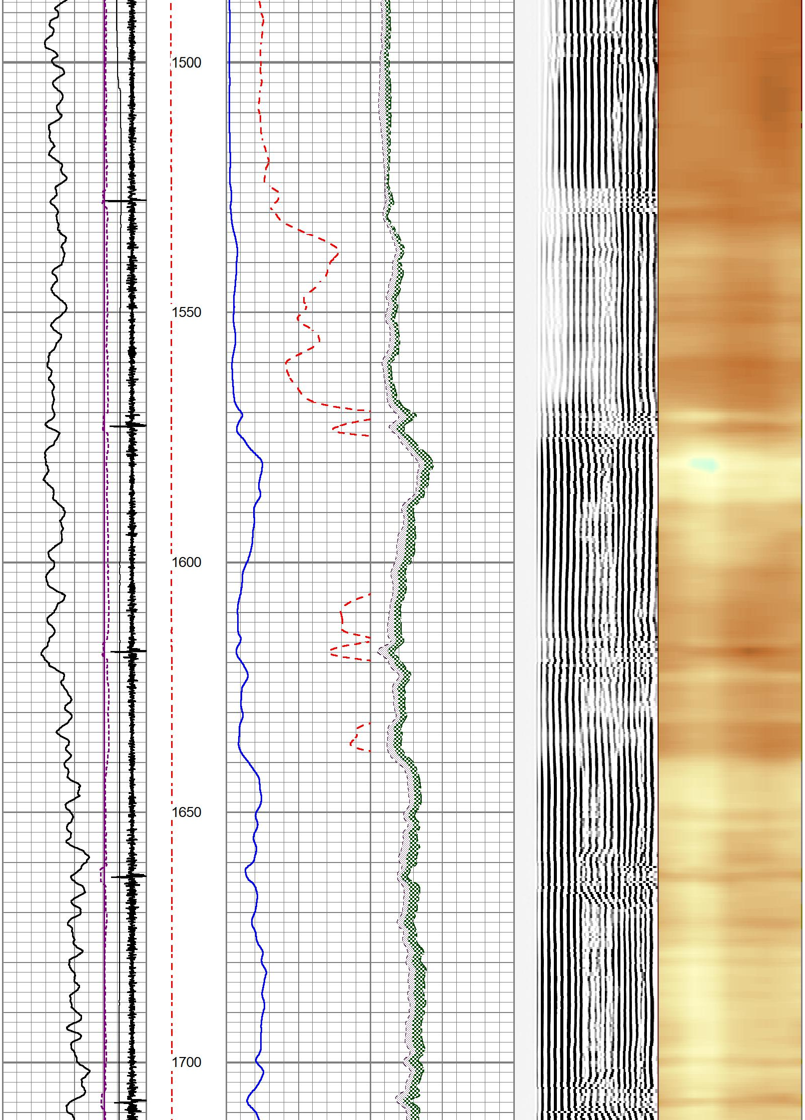


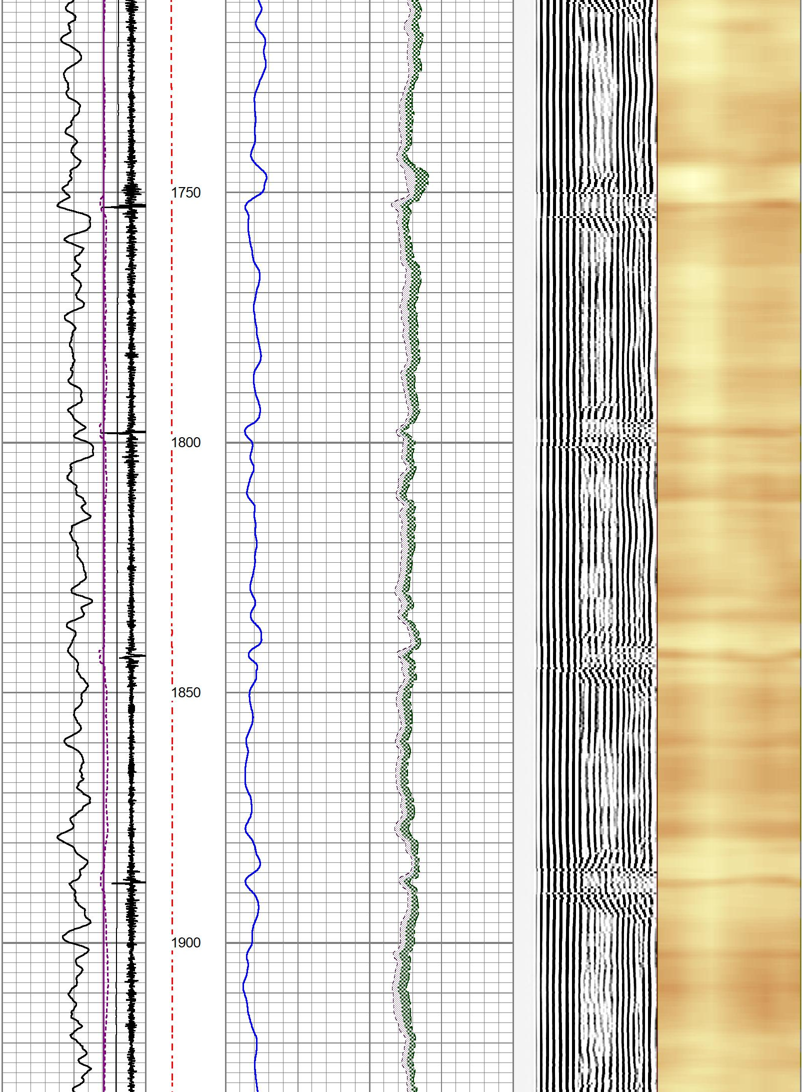


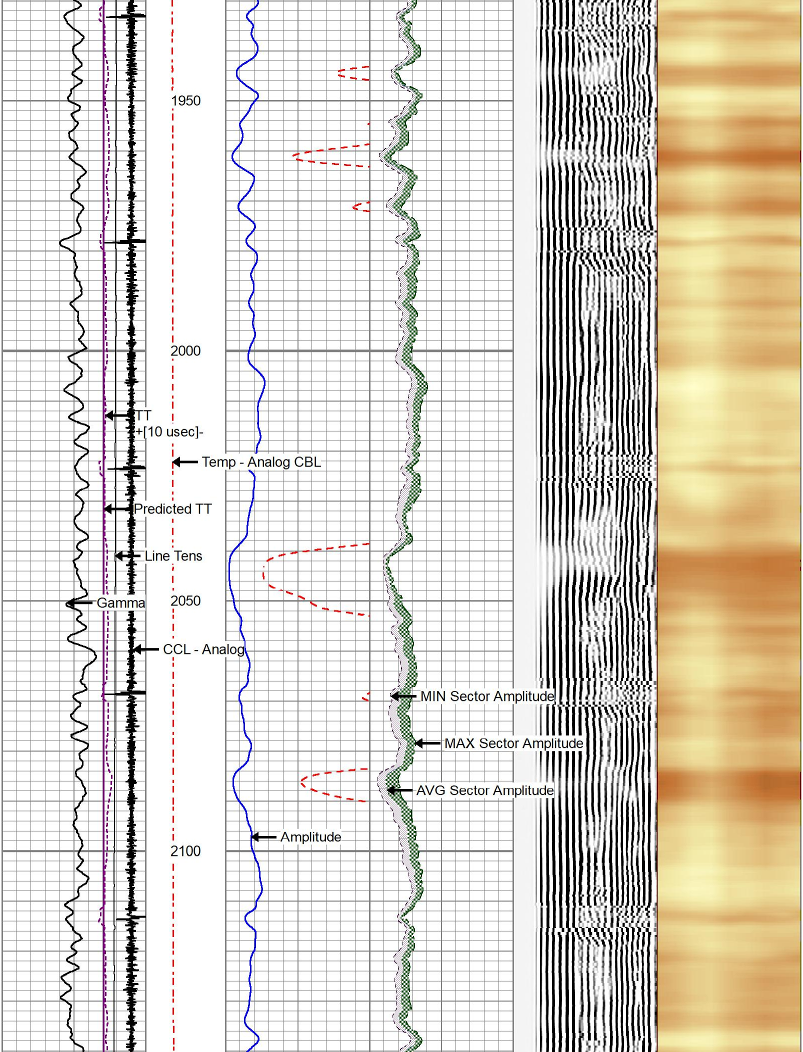


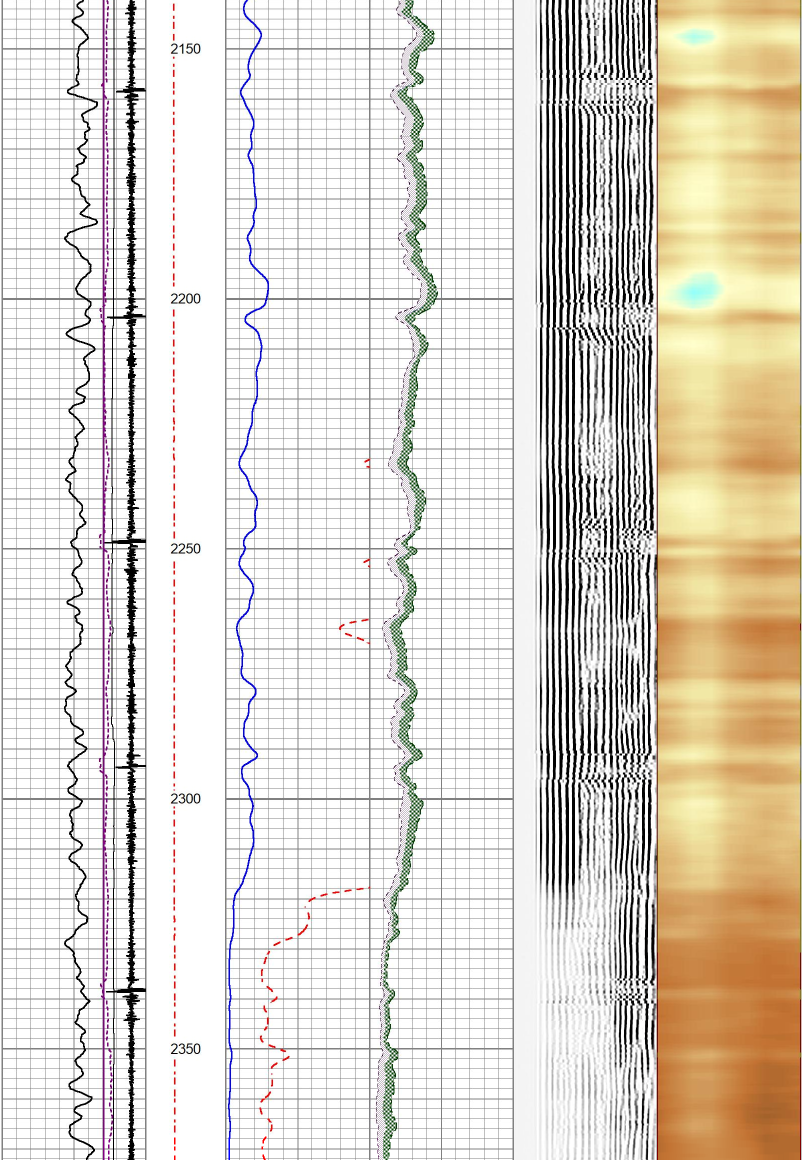


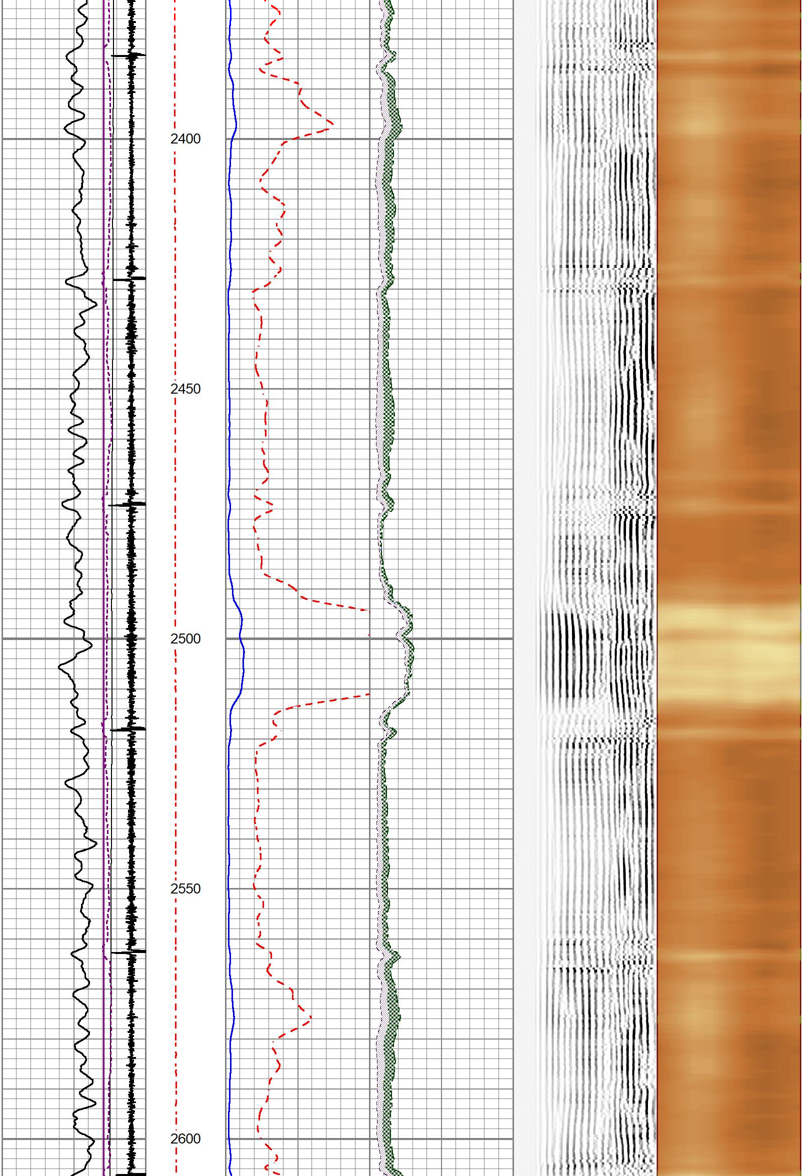


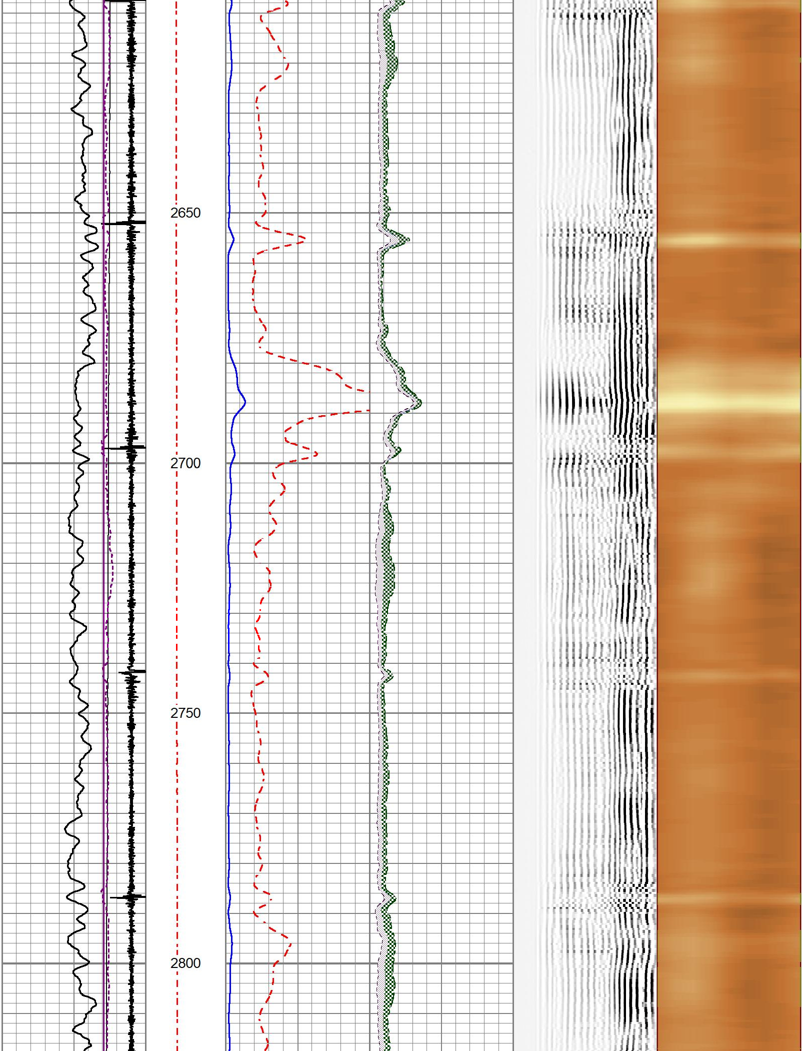


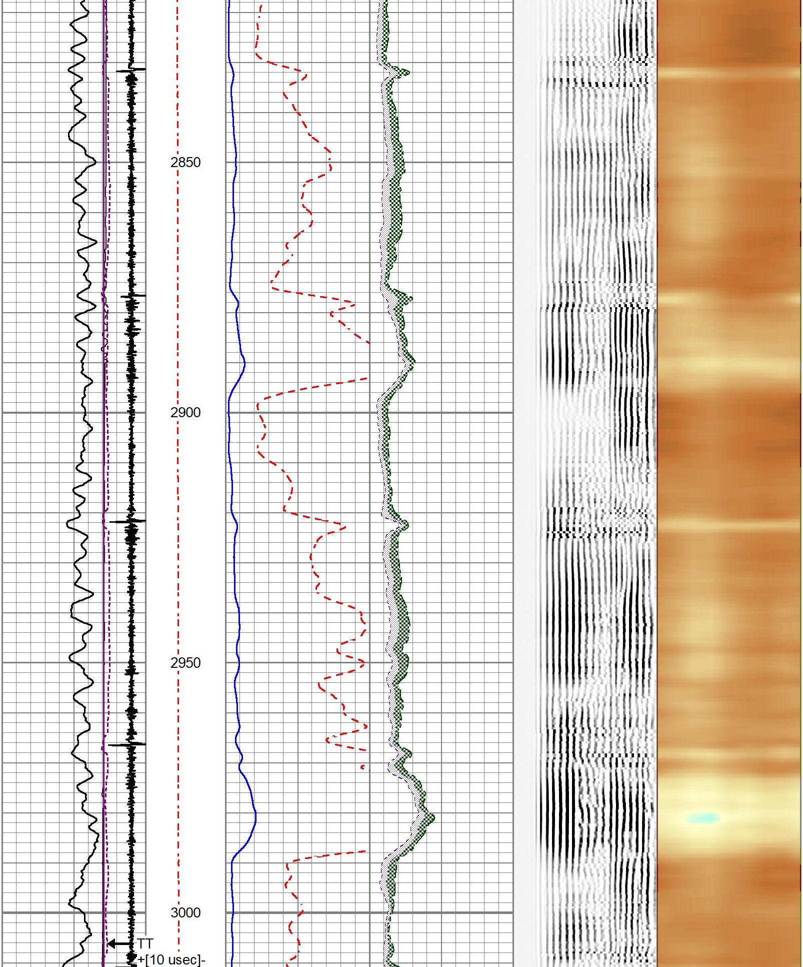


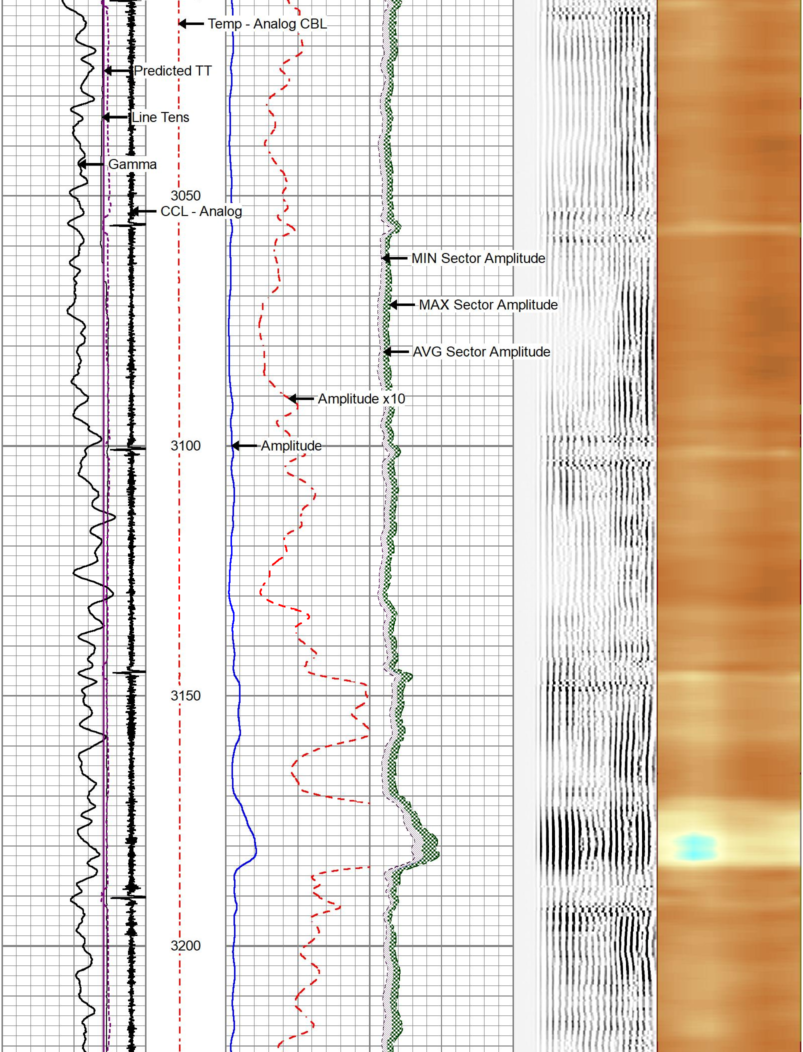


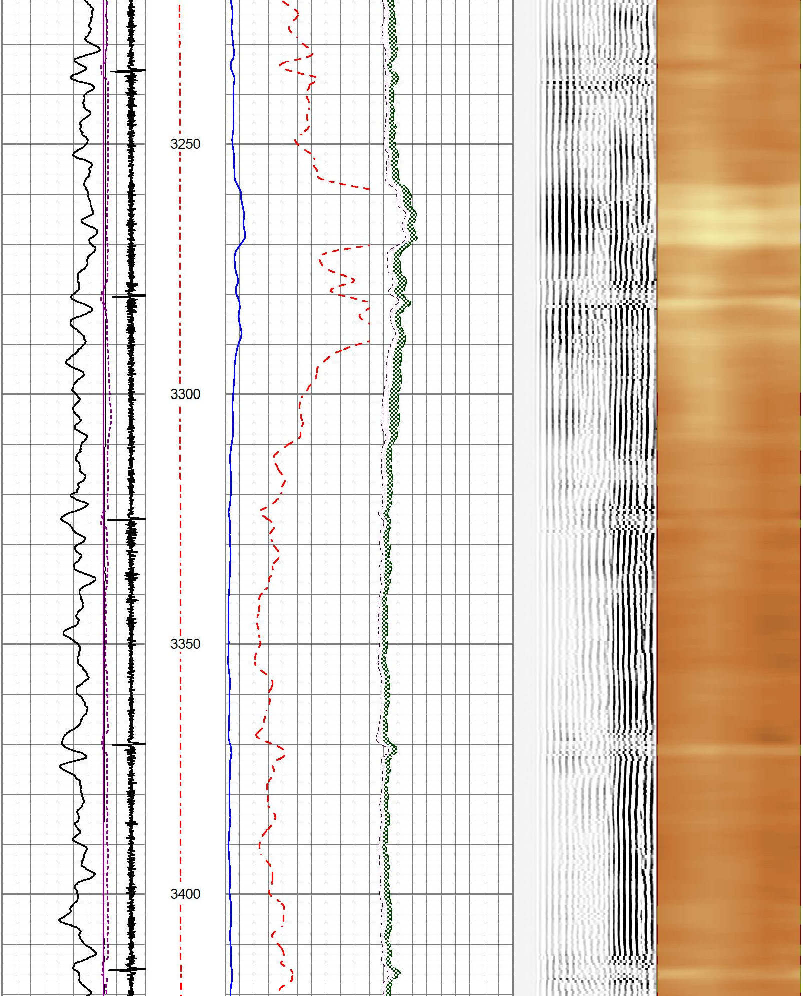


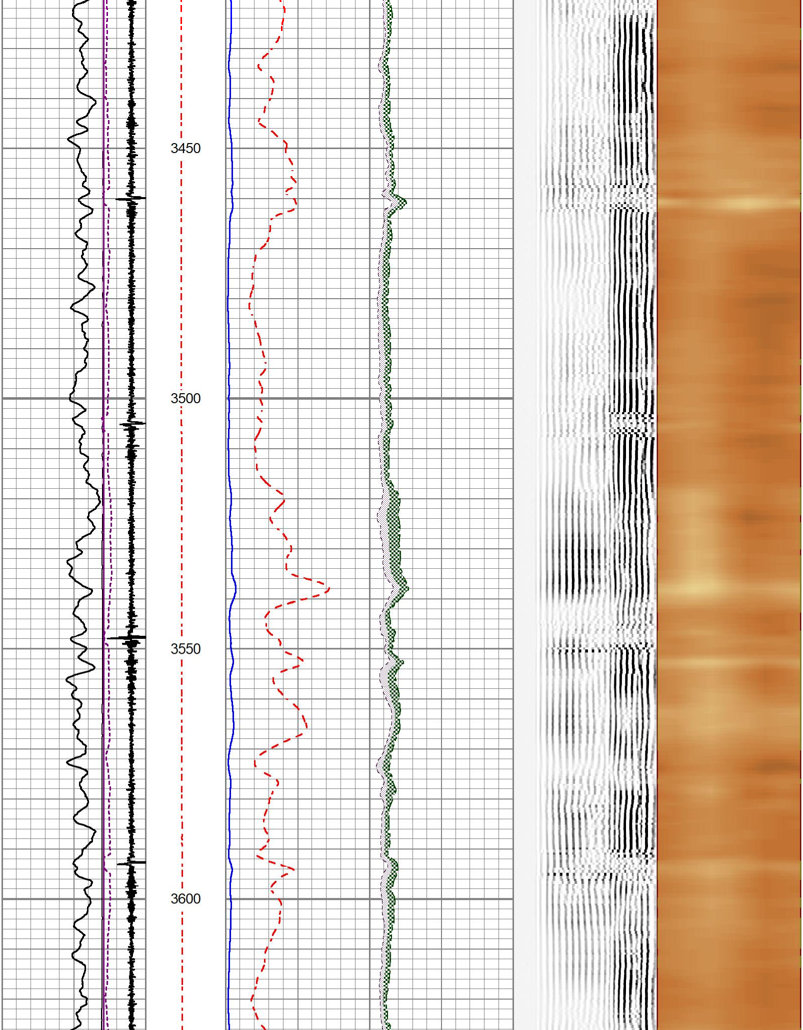


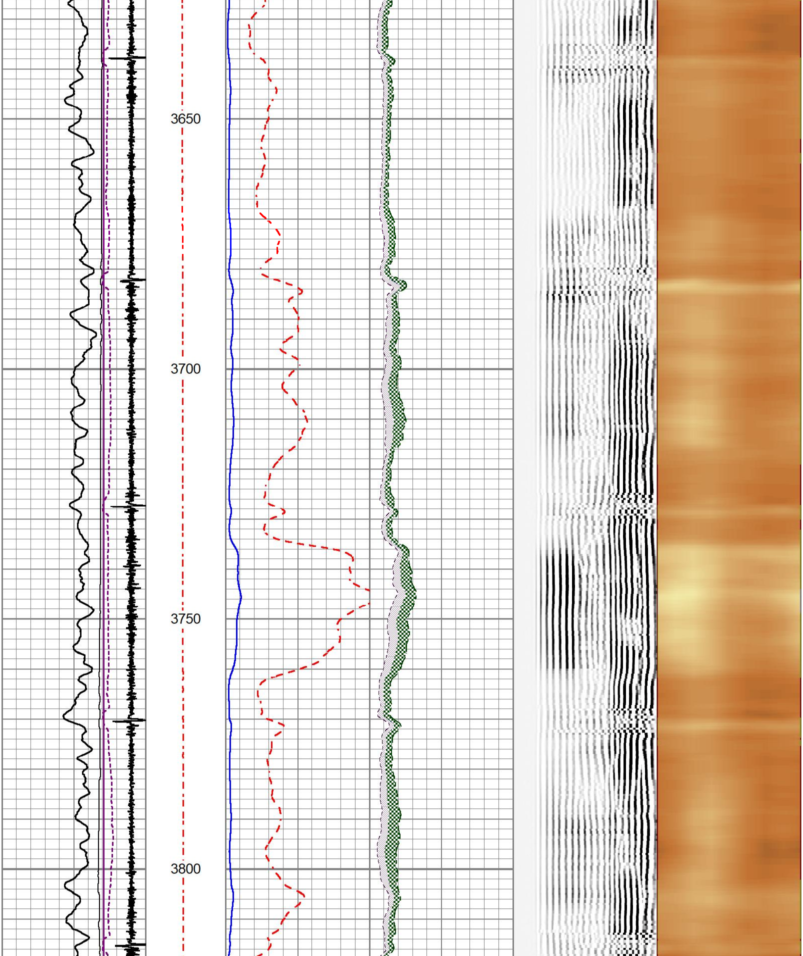


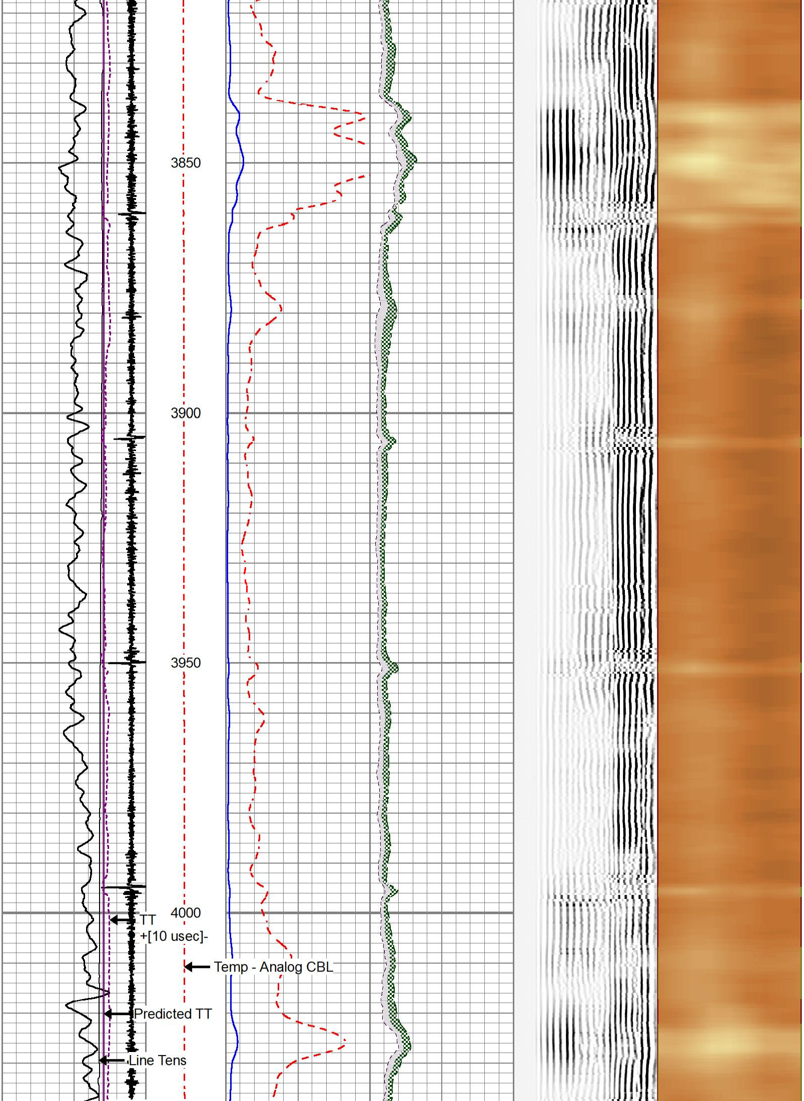

2850
2900
2950
3000
TT
+[10 usec]-

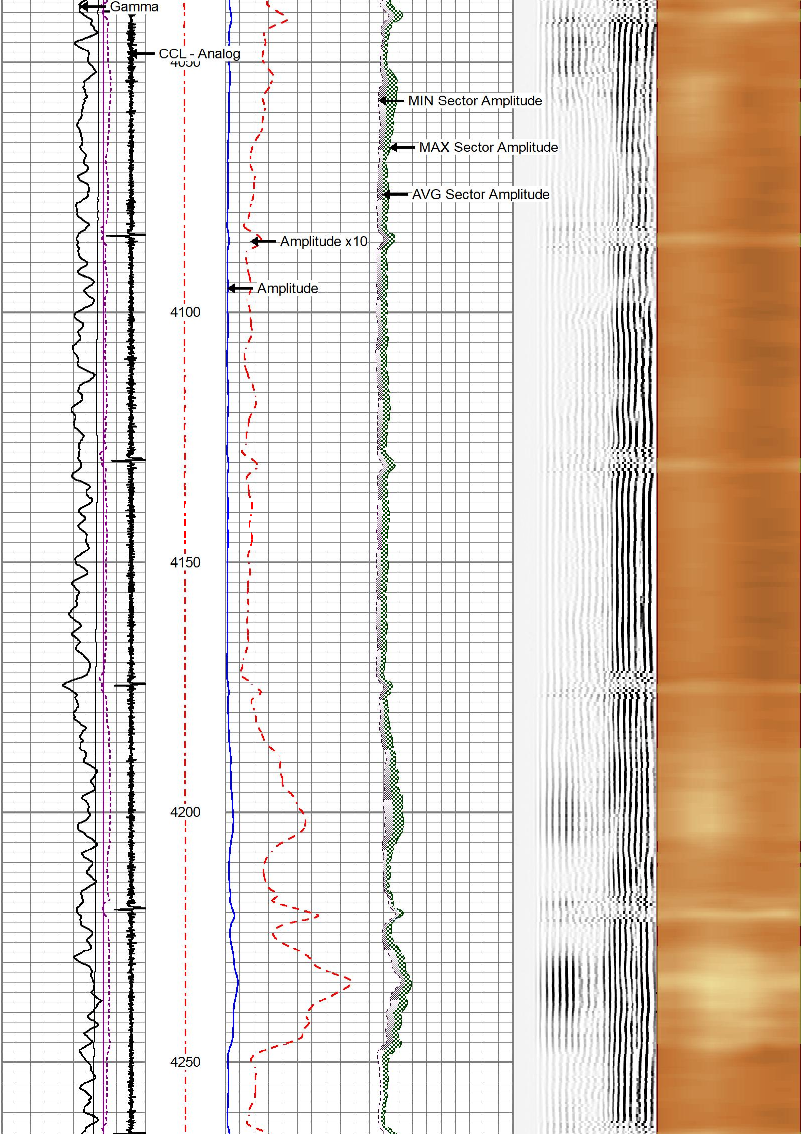

Temp - Analog CBL
Predicted TT
Line Tens
Gamma
3050
CCL - Analog
MIN Sector Amplitude
MAX Sector Amplitude
AVG Sector Amplitude
Amplitude x10
3100
Amplitude
3150
3200

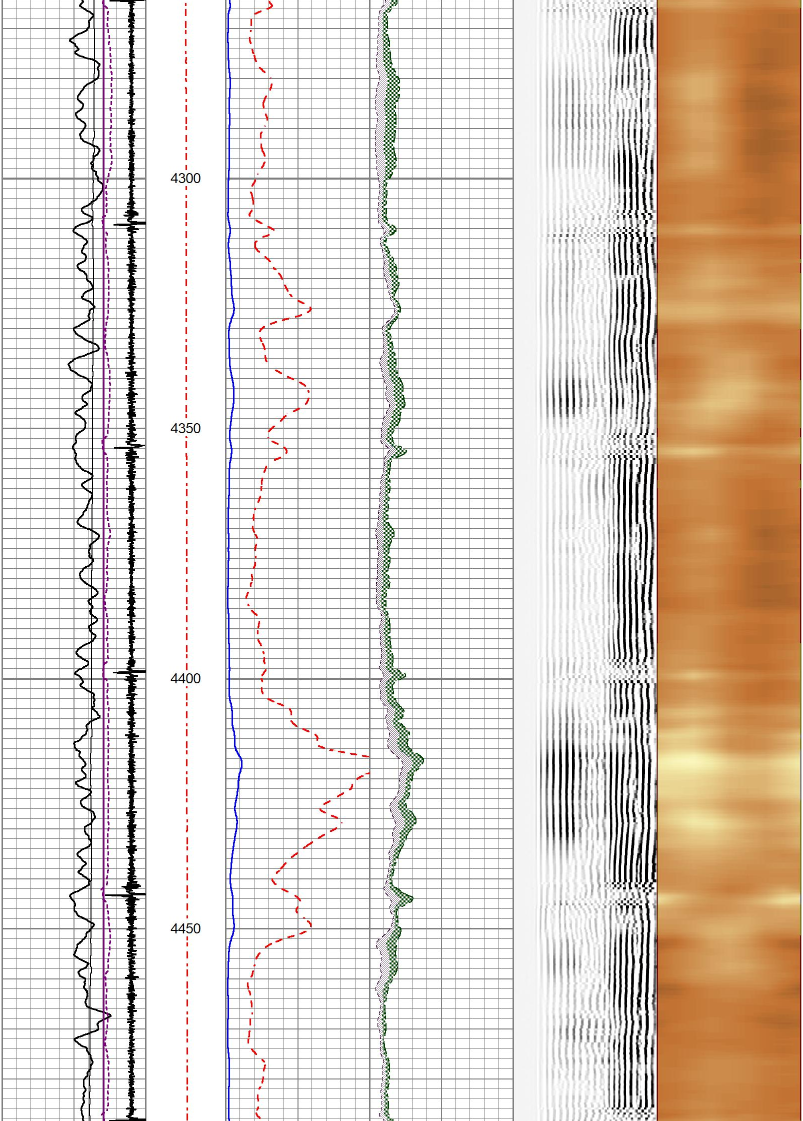

3250
3300
3350
3400

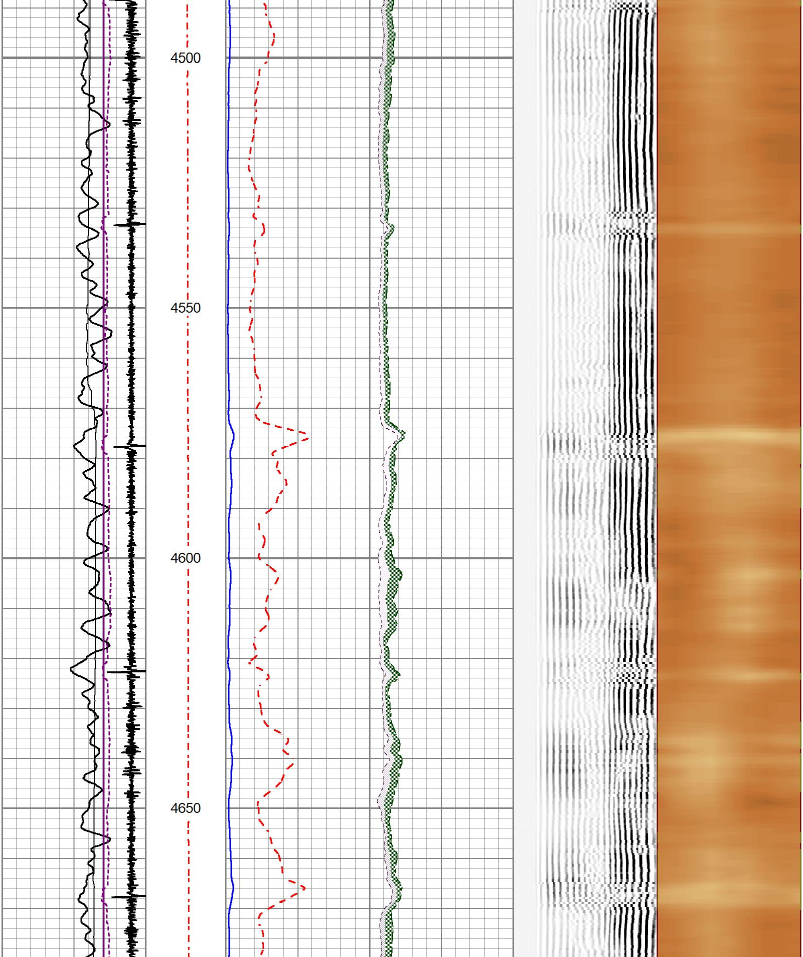

3450
3500
3550
3600

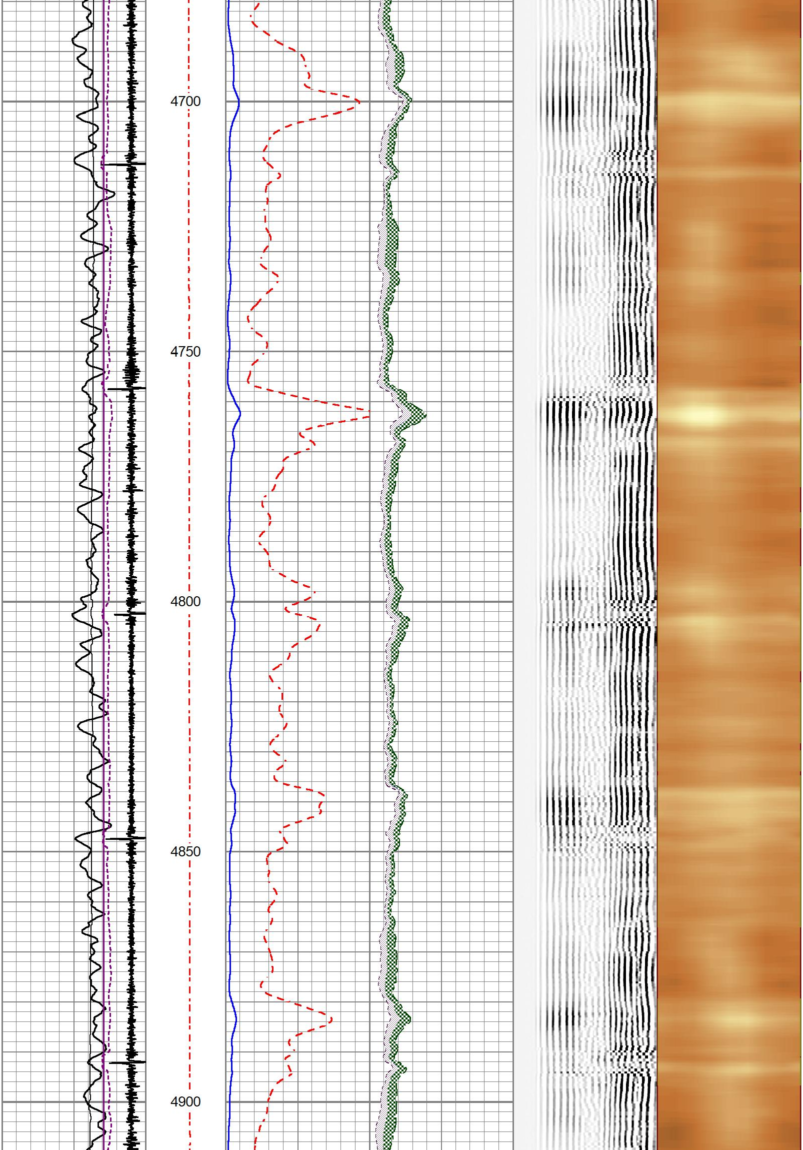

3650
3700
3750
3800

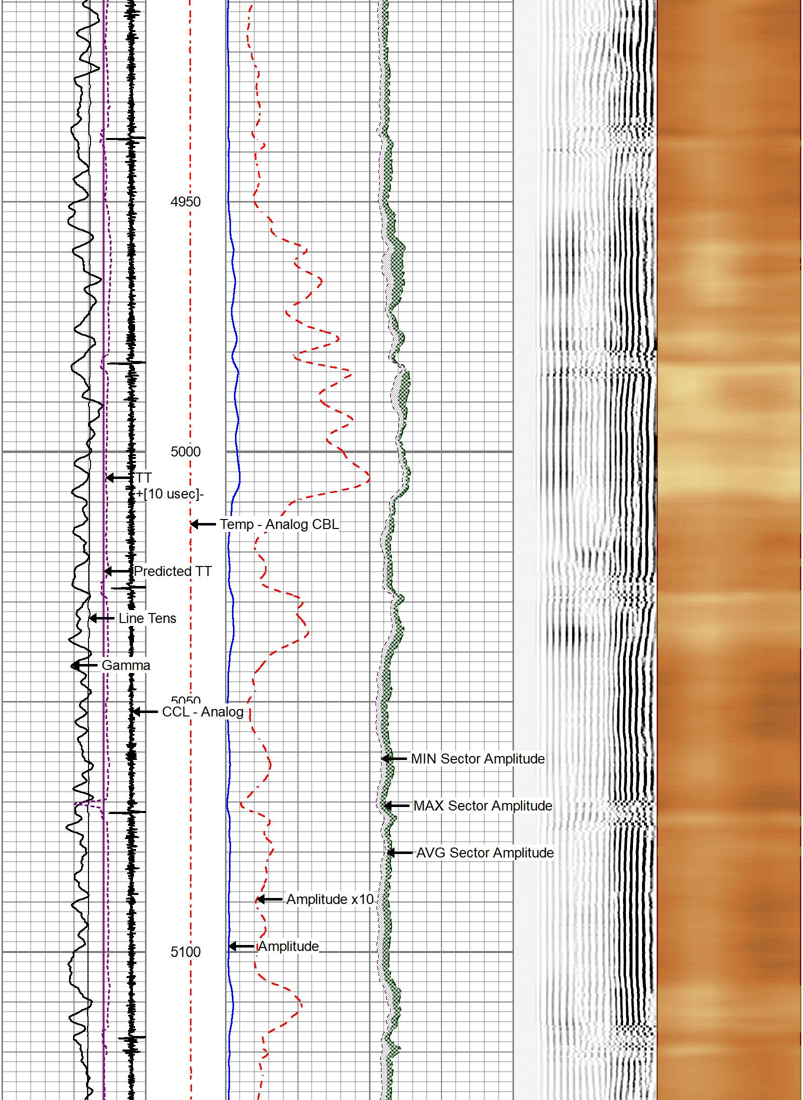

3850
3900
3950
4000
TT
+[10 usec]-
Temp - Analog CBL
Predicted TT
Line Tens

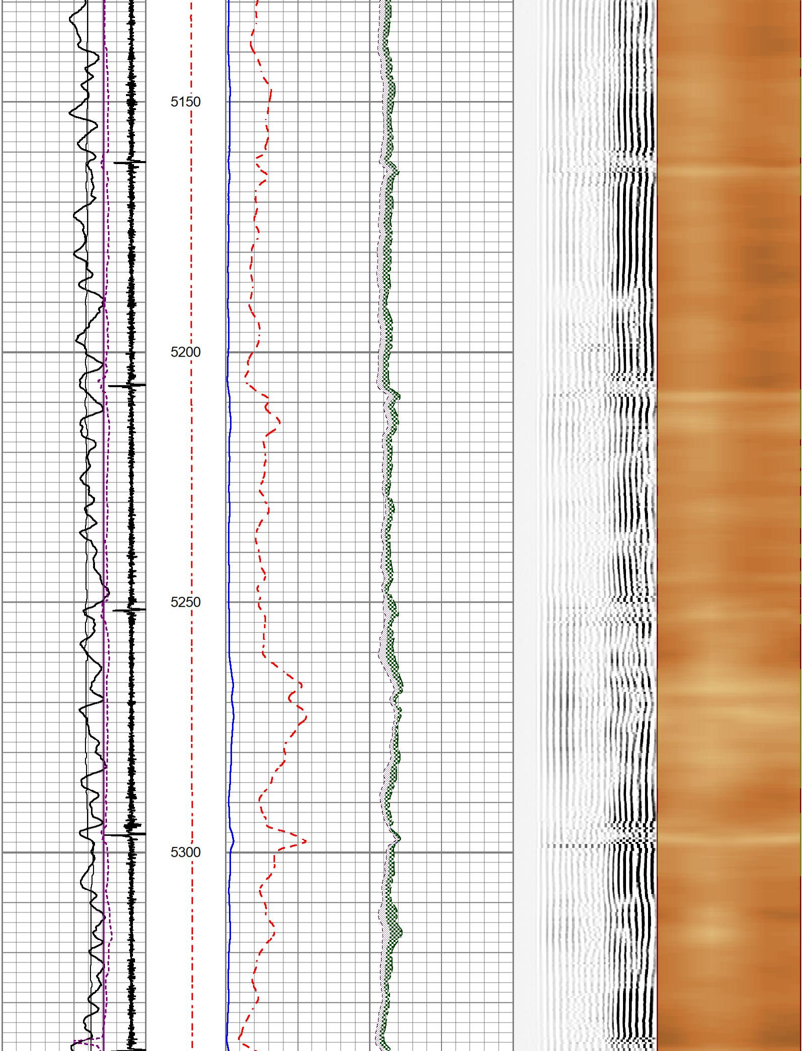

Gamma
CCL - Analog
4050
MIN Sector Amplitude
MAX Sector Amplitude
AVG Sector Amplitude
Amplitude x10
Amplitude
4100
4150
4200
4250

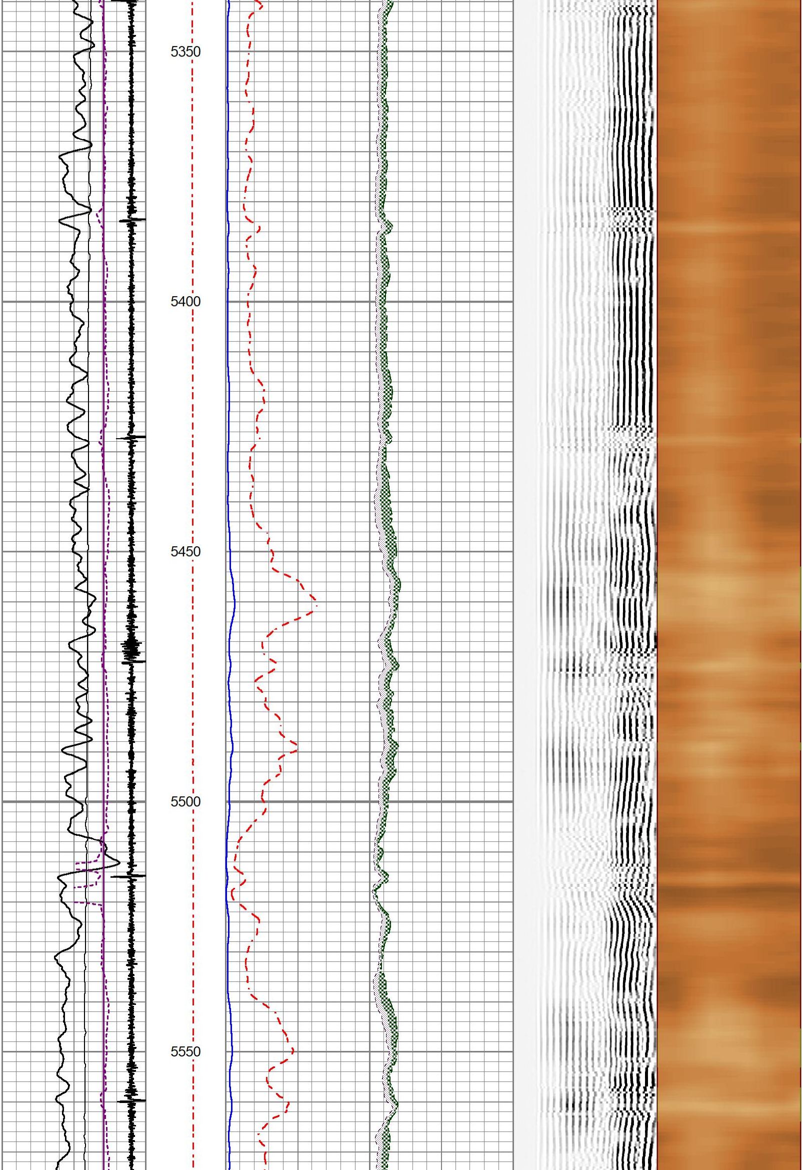

4300
4350
4400
4450


4500
4550
4600
4650


4700
4750
4800
4850
4900


4950
5000
TT
+[10 usec]-
Temp - Analog CBL
Predicted TT
Line Tens
Gamma
5050
CCL - Analog
MIN Sector Amplitude
MAX Sector Amplitude
AVG Sector Amplitude
Amplitude x10
5100
Amplitude


5150
5200
5250
5300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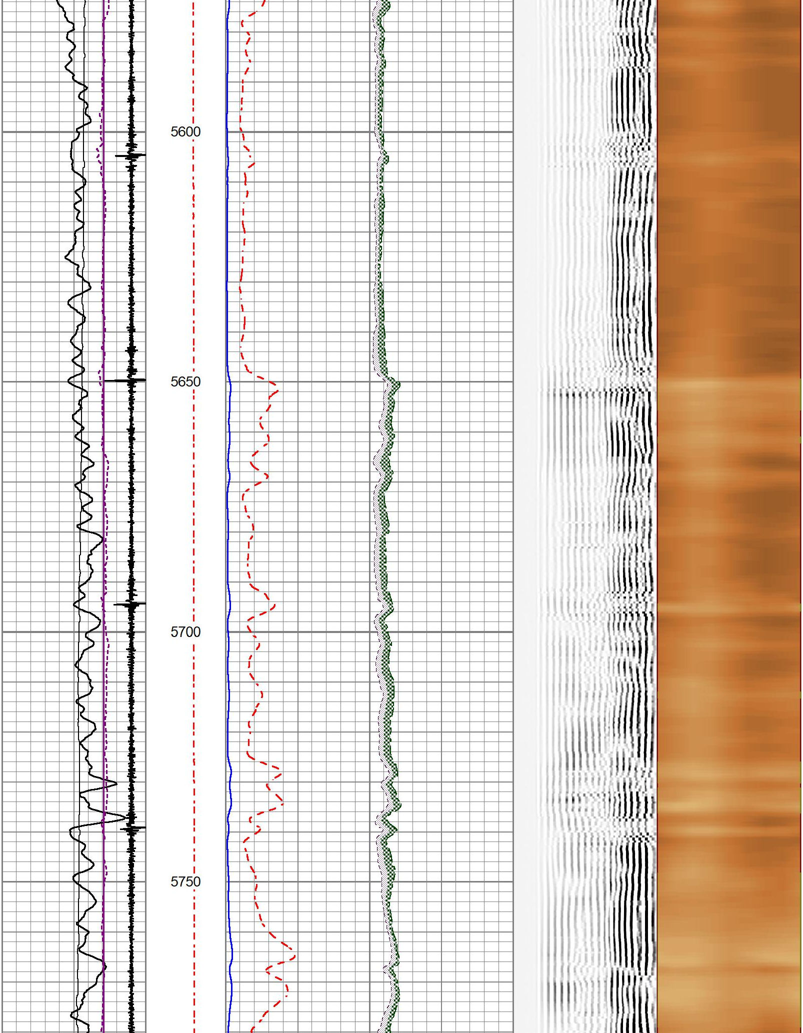
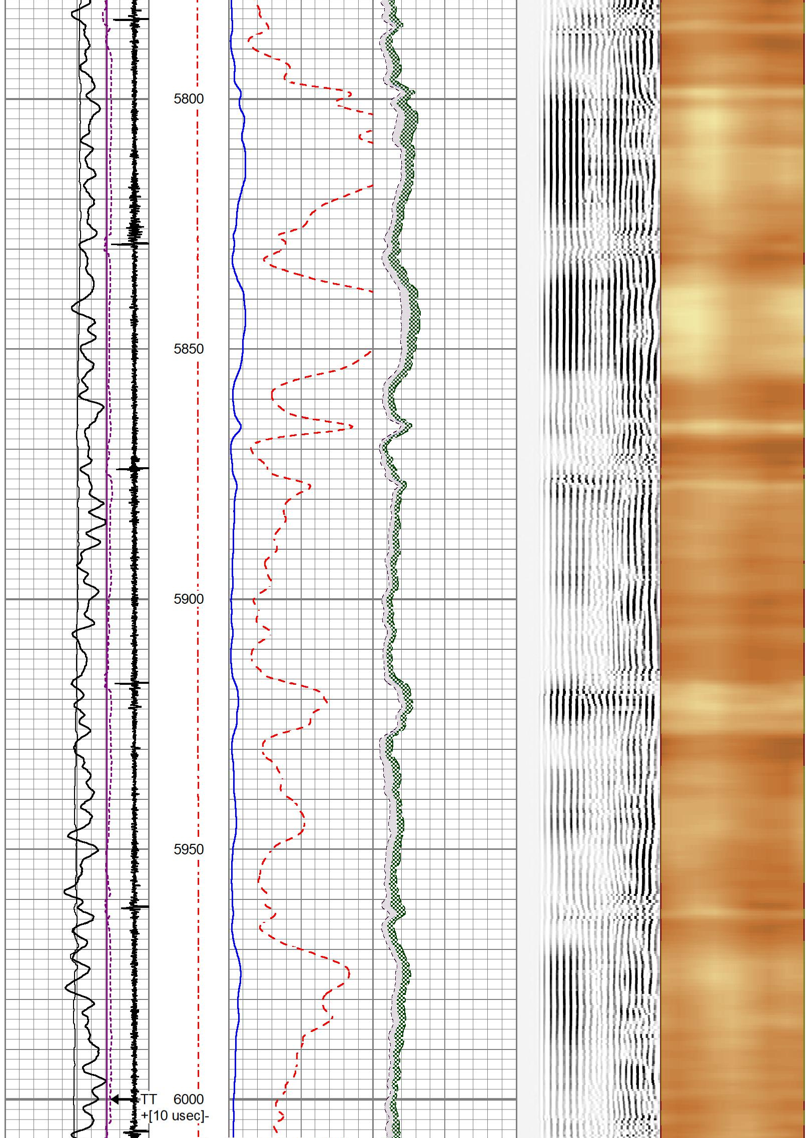
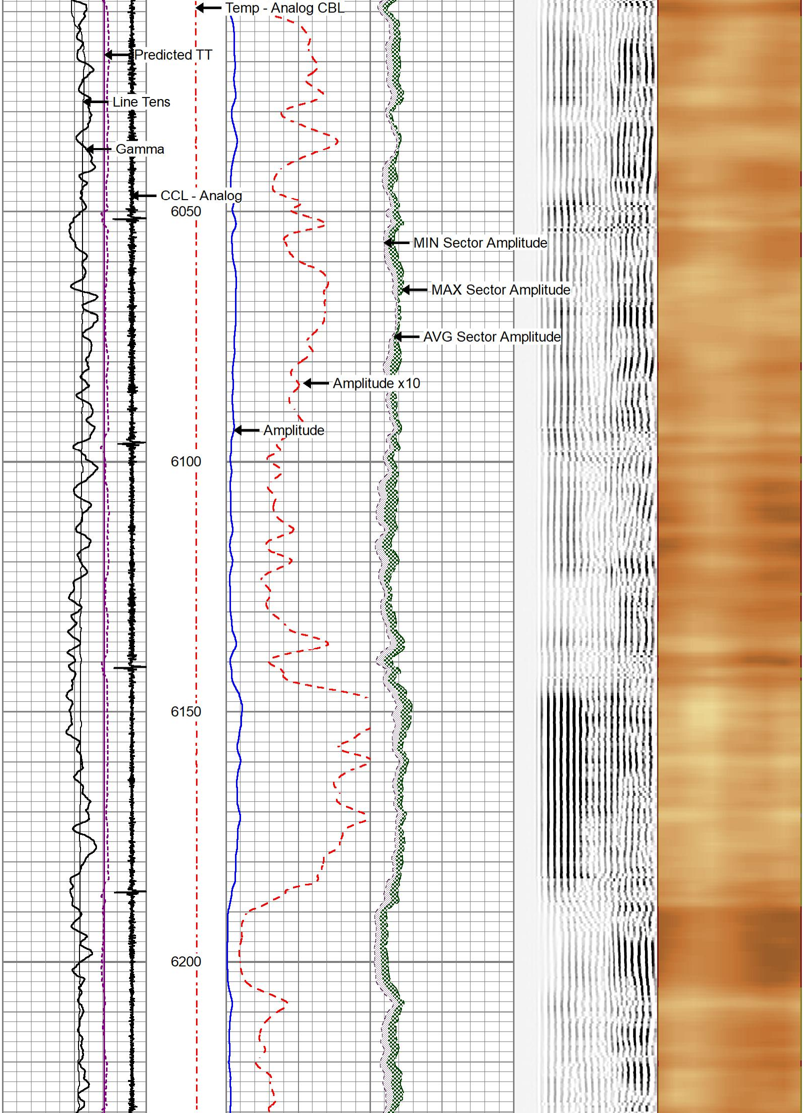
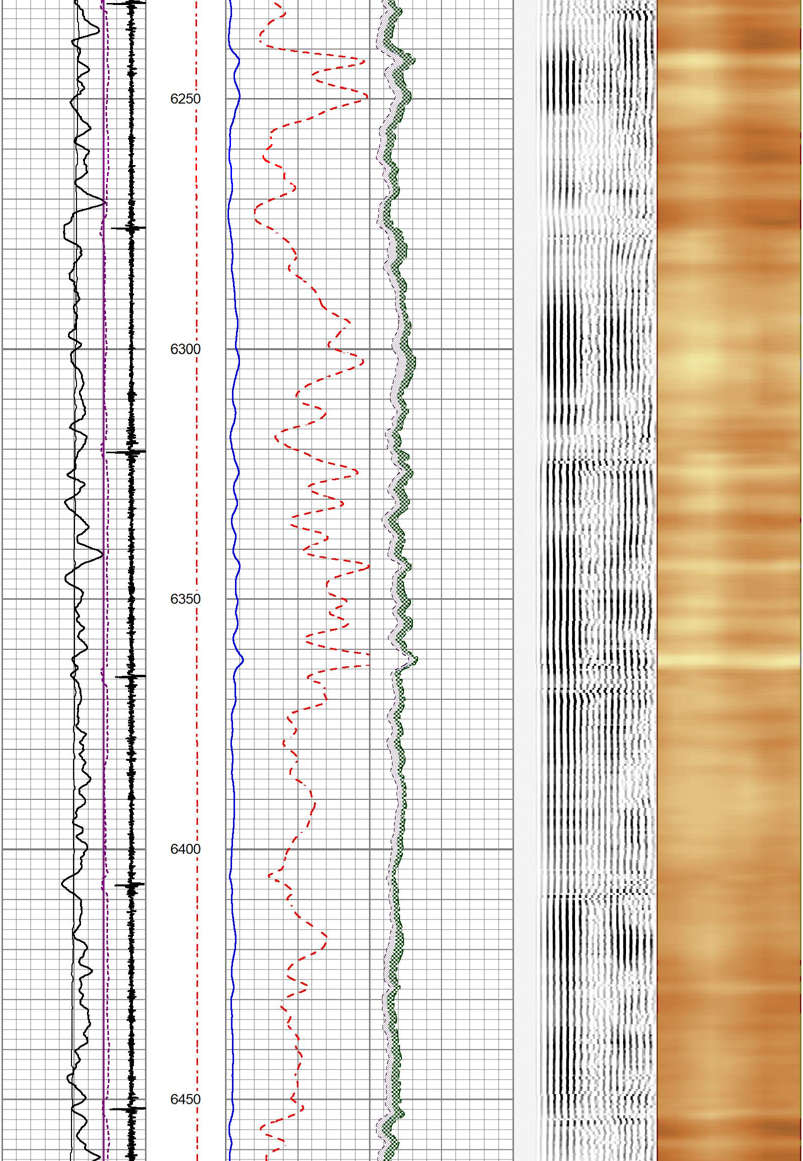
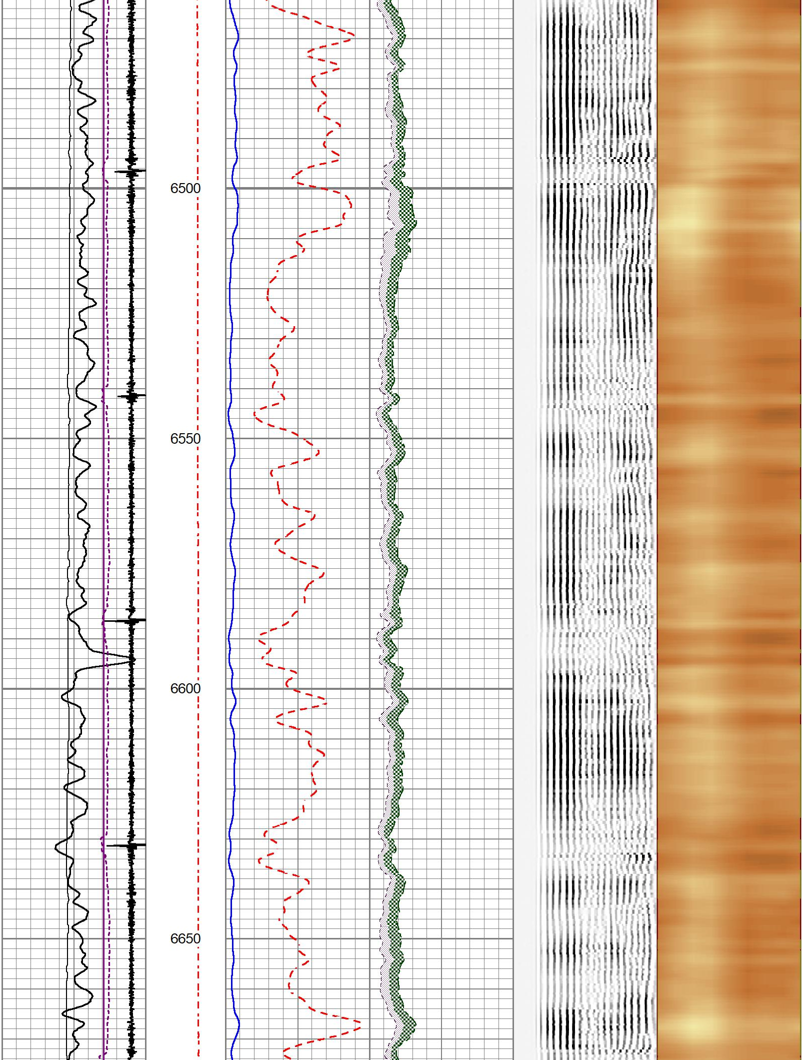
5400
5450
5500
5550

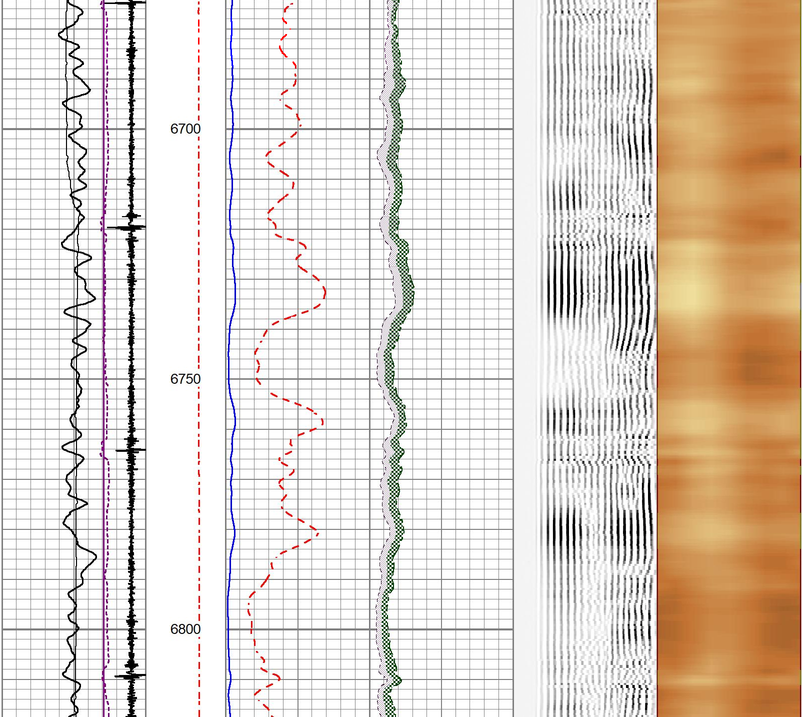

5600
5650
5700
5750


5800
5850
5900
5950
6000
TT
+[10 usec]-


Temp - Analog CBL
Predicted TT
Line Tens
Gamma
CCL - Analog
6050
MIN Sector Amplitude
MAX Sector Amplitude
AVG Sector Amplitude
Amplitude x10
Amplitude
6100
6150
6200


6250
6300
6350
6400
6450


6500
6550
6600
6650


6700
6750
6800

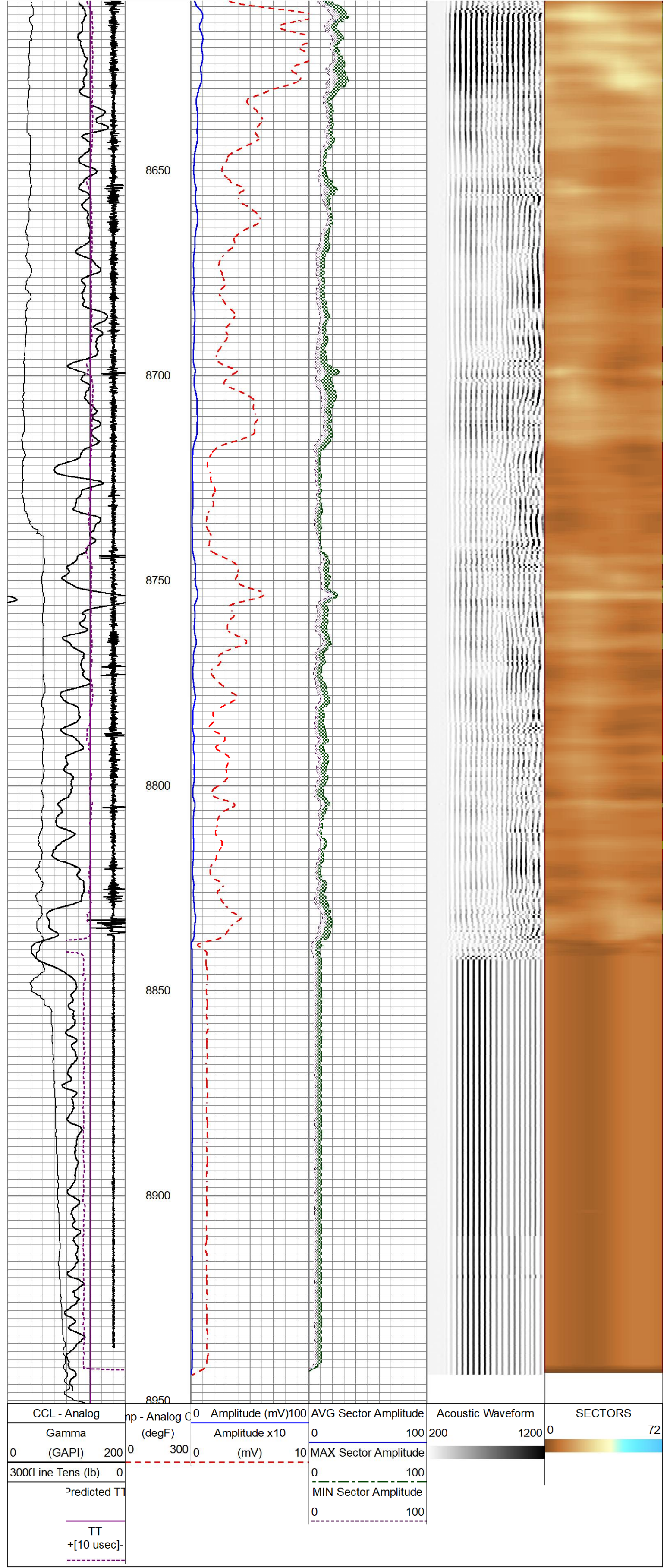
## MAIN PASS - Ran with 0 PSI

5 in / 100 ft

## REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

| | |
|---|---|
| Database File | 2018_04_16_extraction_coyote_trails_34s_20_11c_cb\2018_04_16_extraction_coyote_trails_34s_20_11c |
| Dataset Pathname | pass2.1 |
| Presentation Format | rcbl_8s |
| Dataset Creation | Mon Apr 16 14:46:23 2018 |
| Charted by | Depth in Feet scaled 1:240 |



## REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

### Calibration Report

| | |
|---|---|
| Database File | c:\programdata\warrior\data\2018_04_16_extraction_coyote_trails_34s_20_11c_cb\2018_04_16_extraction_ |
| Dataset Pathname | pass3.1 |
| Dataset Creation | Mon Apr 16 14:25:22 2018 |

### Gamma Ray Calibration Report

| | | |
|---|---|---|
| Serial Number: | ISHV2-03 | |
| Tool Model: | 2 3/4" TekCo | |
| Performed: | Tue Dec 13 00:23:06 2016 | |
| Calibrator Value: | 194.0 | GAPI |
| Background Reading: | 58.9 | cps |
| Calibrator Reading: | 300.8 | cps |
| Sensitivity: | 0.8020 | GAPI/cps |

### Segmented Cement Bond Log Calibration Report

| | | |
|---|---|---|
| Serial Number: | IT4B1-01 | |
| Tool Model: | 2 3/4" RIB Analog | |
| Calibration Casing Diameter: | 7.000 | in |
| Calibration Depth: | 1709.307 | ft |

Master Calibration, performed (Derived):

| | Raw (v) | | Calibrated (mv) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | -0.002 | 1.453 | 0.000 | 62.165 | 42.732 | 0.065 |
| CAL | -0.005 | 0.510 | | | | |
| 5' | -0.000 | 1.263 | 0.000 | 62.165 | 49.203 | 0.022 |
| SUM | | | | | | |
| S1 | 0.023 | 0.770 | 0.000 | 62.165 | 83.212 | -1.886 |
| S2 | 0.021 | 0.867 | 0.000 | 62.165 | 73.446 | -1.531 |
| S3 | 0.021 | 1.006 | 0.000 | 62.165 | 63.110 | -1.332 |
| S4 | 0.018 | 1.136 | 0.000 | 62.165 | 55.557 | -0.972 |
| S5 | 0.023 | 1.180 | 0.000 | 62.165 | 53.729 | -1.214 |
| S6 | 0.026 | 0.907 | 0.000 | 62.165 | 70.569 | -1.855 |
| S7 | 0.026 | 0.873 | 0.000 | 62.165 | 73.317 | -1.872 |
| S8 | 0.024 | 0.771 | 0.000 | 62.165 | 83.215 | -1.992 |

Internal Reference Calibration, performed Fri Aug 25 16:20:58 2017:

| | Raw (v) | | Calibrated (v) | | Results | |
|---|---|---|---|---|---|---|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | -0.005 | 0.510 | 1.000 | 0.000 |

Air Zero Calibration, performed Fri Aug 25 16:20:58 2017:

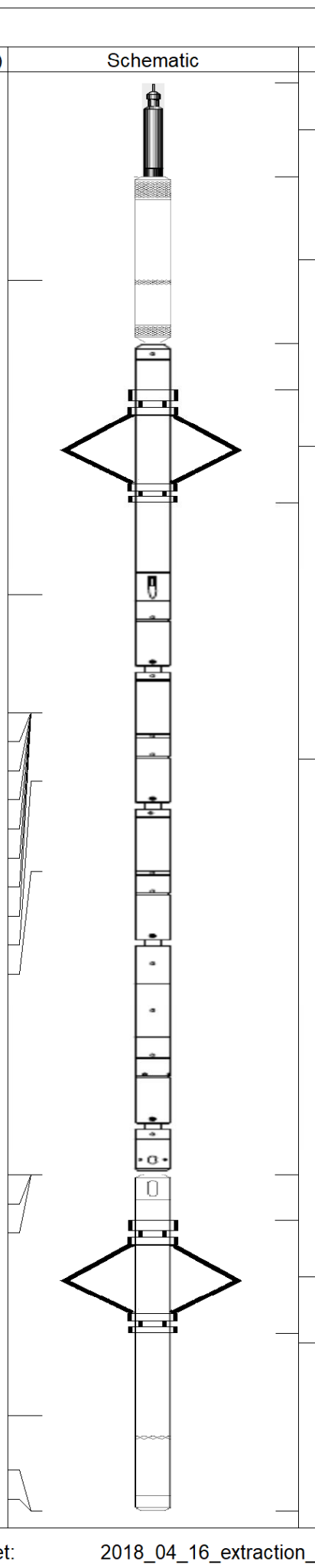
| | Raw (v) | Calibrated (v) | Results |
|---|---|---|---|
| | Zero | Zero | Offset |
| 3' | 0.000 | 0.000 | 0.000 |
| 5' | 0.000 | 0.000 | 0.000 |
| SUM | | | |
| S1 | 0.000 | 0.000 | 0.000 |
| S2 | 0.000 | 0.000 | 0.000 |
| S3 | 0.000 | 0.000 | 0.000 |
| S4 | 0.000 | 0.000 | 0.000 |
| S5 | 0.000 | 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: | IT4B1-01 | |
| Tool Model: | 2 3/4" RIB Analog | |
| Performed: | Fri Aug 26 11:07:15 2016 | |

| | Reference | | Reading | |
|---|---|---|---|---|
| Low Reference: | 0.00 | degF | 0.00 | usec |
| High Reference: | 1.00 | degF | 1.00 | usec |

| | |
|---|---|
| Gain: | 0.33 |
| Offset: | 0.00 |
| Delta Spacing | 1 |

| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb |
|---|---|---|---|---|---|---|
| | |  | CableHead-TitanConeType2 | 1.03 | 1.44 | 3.60 |
| CCL | 13.50 | | CCL_Log-2 3/4" TekCo (IPSN7-03) | 1.83 | 2.75 | 33.00 |
| | | | Antelope-Overbody | 1.25 | 2.75 | |
| TEMP | 10.05 | | | | | |
| WVFS8 | 8.76 | | | | | |
| WVFS7 | 8.76 | | | | | |
| WVFS6 | 8.76 | | RBTA-2 3/4" RIB Analog (IT4B1-01) | 9.13 | 2.75 | 102.00 |
| WVFS5 | 8.76 | | | | | |
| WVFS4 | 8.76 | | | | | |
| WVFS3 | 8.76 | | | | | |
| WVFS2 | 8.76 | | | | | |
| WVFS1 | 8.76 | | | | | |
| WVF3FT | 8.01 | | | | | |
| WVF5FT | 7.01 | | | | | |
| WVFSYNC | 3.68 | | | | | |
| WVFTEMP | 3.68 | | | | | |
| WVFCAL | 3.68 | | | | | |
| | | | Antelope-Overbody | 1.25 | 2.75 | |
| | | | GR_Log-2 3/4" TekCo (ISHV2-03) | 3.68 | 2.75 | 47.00 |
| GR | 1.04 | | | | | |
| LOCTIM | 0.00 | | | | | |
| UTCTIM | 0.00 | | | | | |

| | |
|---|---|
| Dataset: | 2018_04_16_extraction_coyote_trails_34s_20_11c_cbl.db: field/well/run1/pass3.1 |
| Total length: | 15.67 ft |
| Total weight: | 185.60 lb |
| O.D.: | 2.75 in |

| | | | |
|---|---|---|---|
| **Company** | Extraction Oil & Gas | | |
| **Well** | Coyote Trails 34A-20-11C | | |
| **Field** | Wattenburg | | |
| **County** | Weld | | |
| **State** | Co | **Country** | U.S.A. |