CEMENT BOND LOG

Company	Extraction Oil & Gas
Well	Berthoud Farms 8e-10-5c
Field	Wattenberg
County	Weld
State	Colorado

Company Extraction Oil & Gas
Well Berthoud Farms 8e-10-5c
Field Wattenberg
County Weld State Colorado

API # : 05-123-45720
Location:

Surface:
1545' FSL & 894' FEL

SEC: 7 TWP: 4N RGE: 68W

Other Services

Elevation
K.B. 5062'
D.F. ----
G.L. 5033'

Permanent Datum: Ground Level Elevation: 5033'
Log Measured From: Kelly Bushing , 29' ft. above Permanent Datum.
Drilling Measured From: Kelly Bushing

Date	6/5/2018		
Run Number	ONE		
Plug Back T.D. Driller	----		
Plug Back T.D. Logger	----		
Bottom Logged Interval	6144'		
Top Log Interval	Surface		
Type Fluid	Water		
Density / Viscosity	8.4PPG		
Max. Recorded Temp.	185° F		
Time Logger on Bottom	0155		
Equipment Number	GD164		
Location	Casper, Wy		
Recorded By	Garrett Graham		
Witnessed By	Mr. Torres		

Casing Record				Tubing Record			
Size	Weight	From	To	Size	Weight	From	To
9 5/8"	36#	Surface	1500'				
5 1/2"	20#	Surface	13538'				

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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 # : RM0618PCBW592
Your Crew Today: Eric R. and Daniel H.
Log Correlated to: Well Head

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	130'
40 % Bond	130'
60 % Bond	130'
80 % Bond	1151'
100 % Bond	2826'

Comments

Estmated Cement Top @ 130'
(20% Bond)

Marker Joint Located @ 5560'

Thank you for using Gyrodata

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

Log Variables

Databasec:\programdata\warrior\data\20180605_extraction_bf_8e_10_5c_cbl\20180605_extraction
Dataset field/well/run1/Main/_vars_

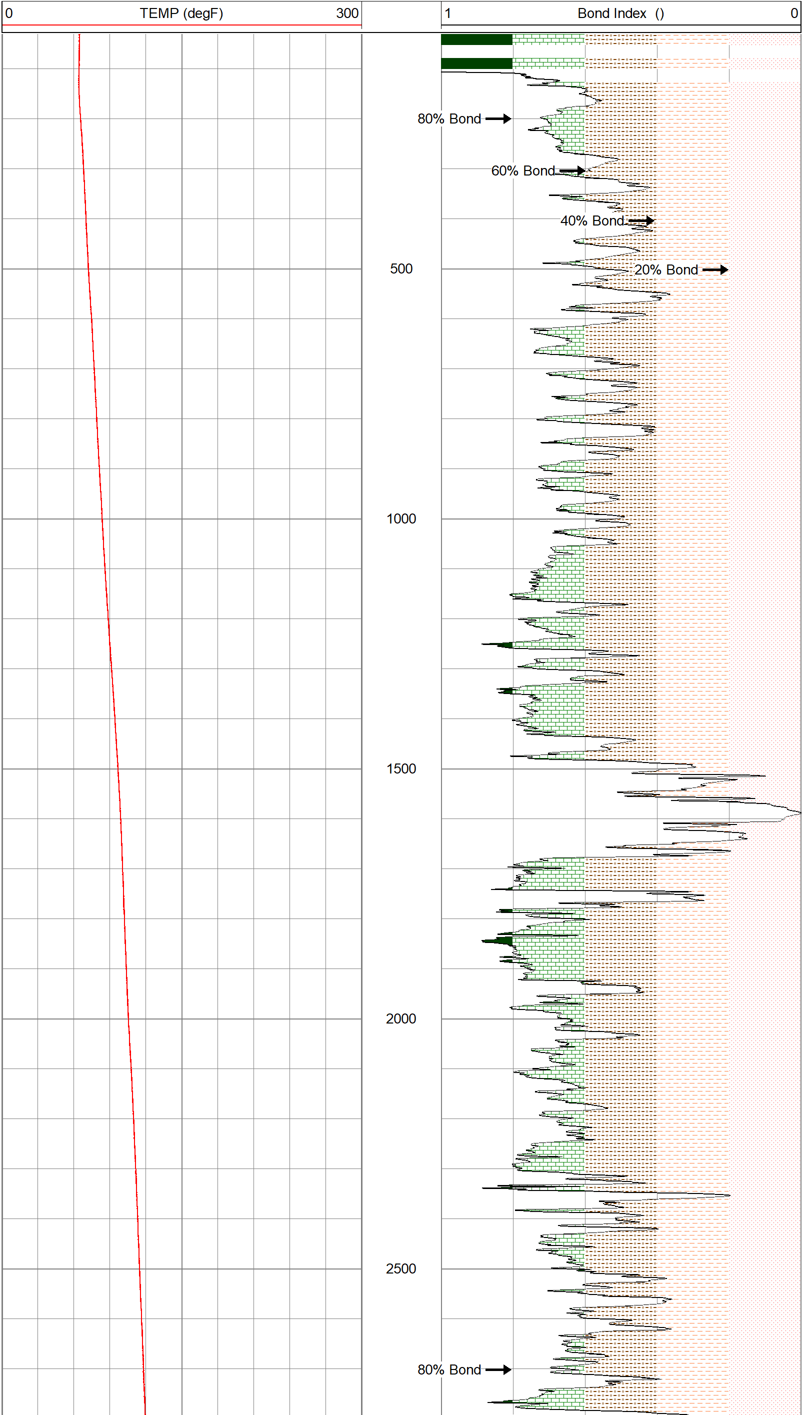
Top - Bottom

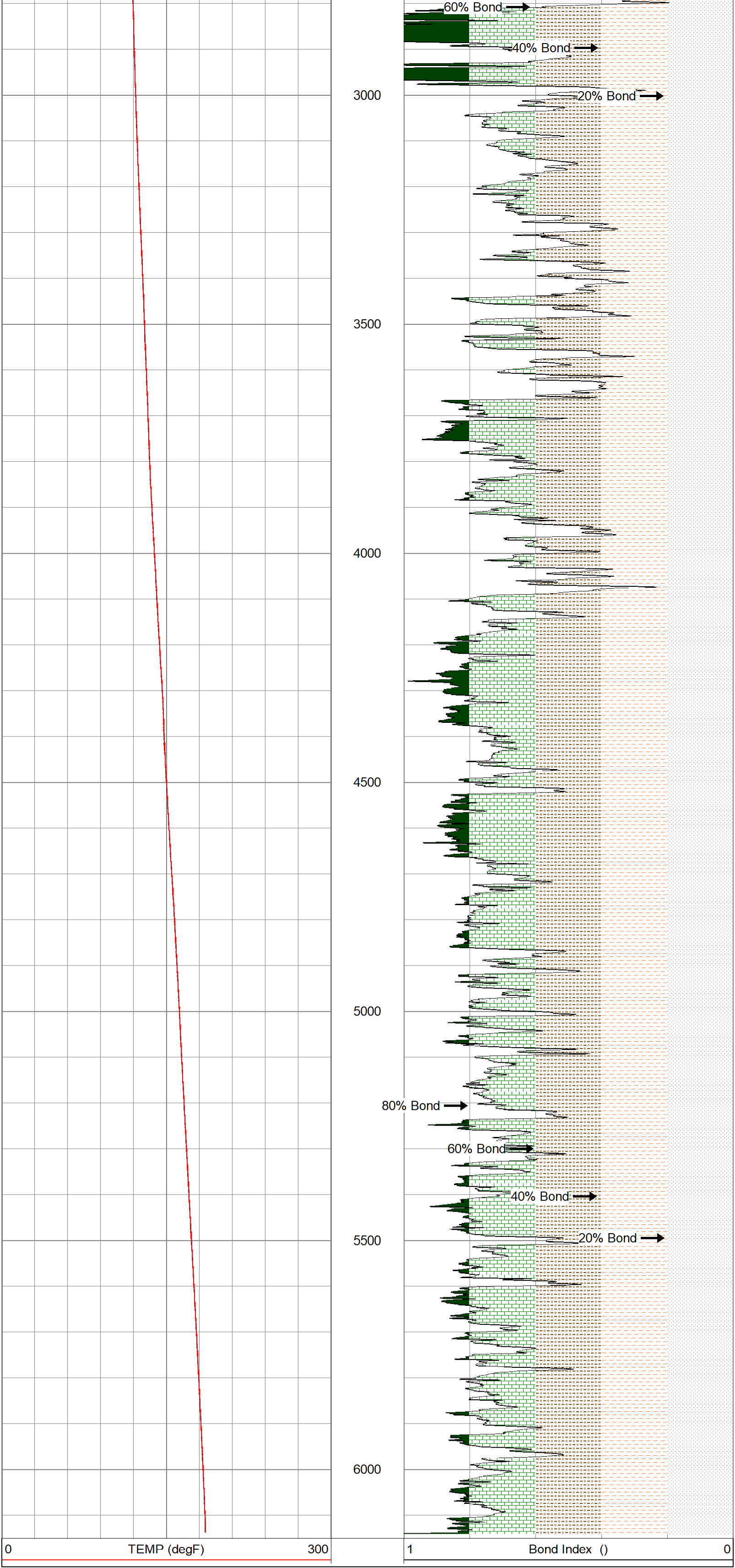
BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV	MaxAPIID in
TEMP	8.5	185	5.5	0.415	20	71.9	4.829

MINAMPL mV	MinAPIID in	MINATTN db/ft	PPT usec	TDEPTH ft
2.6	4.643	0	239	6150

BOND INDEX

Database File	20180605_extraction_bf_8e_10_5c_cbl\20180605_extraction_bf_8e_10_5c_cbl.db
Dataset Pathname	Bond
Presentation Format	bondindex
Dataset Creation	Tue Jun 05 03:53:02 2018
Charted by	Depth in Feet scaled 1:2400





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BOND INDEX

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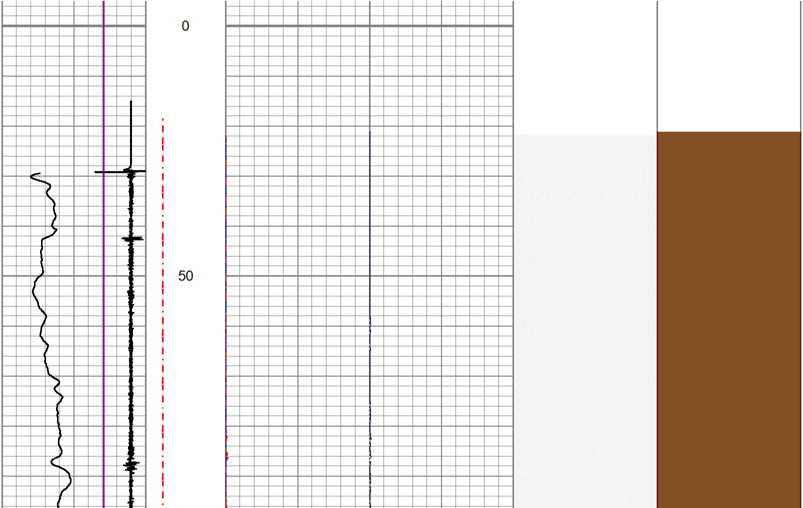
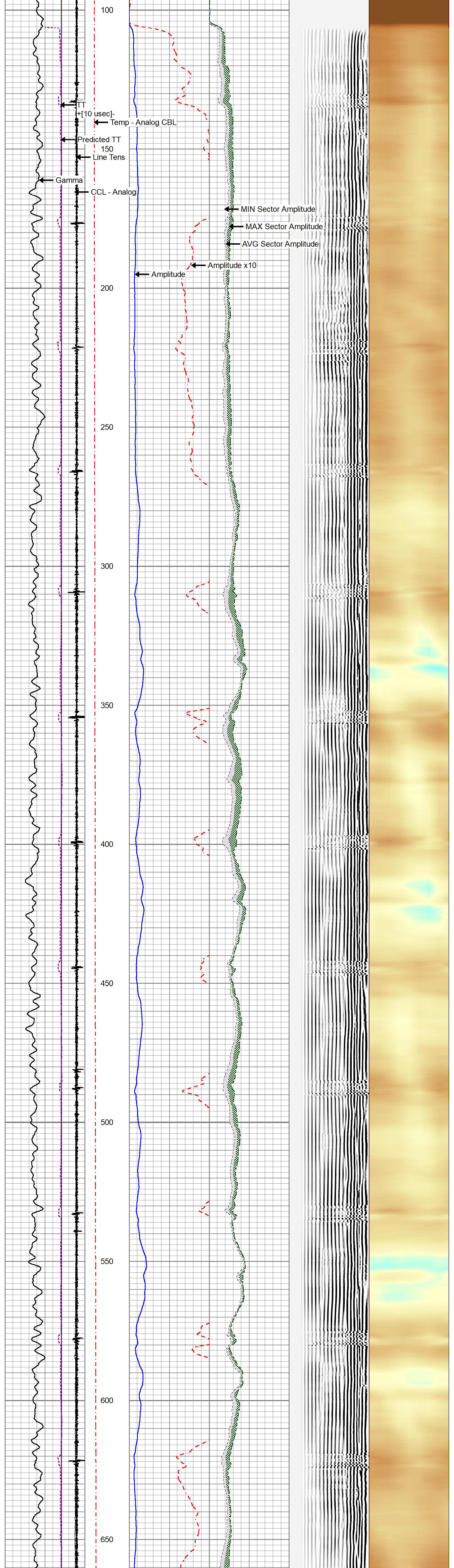
MAIN PASS - Ran with 0 PSI

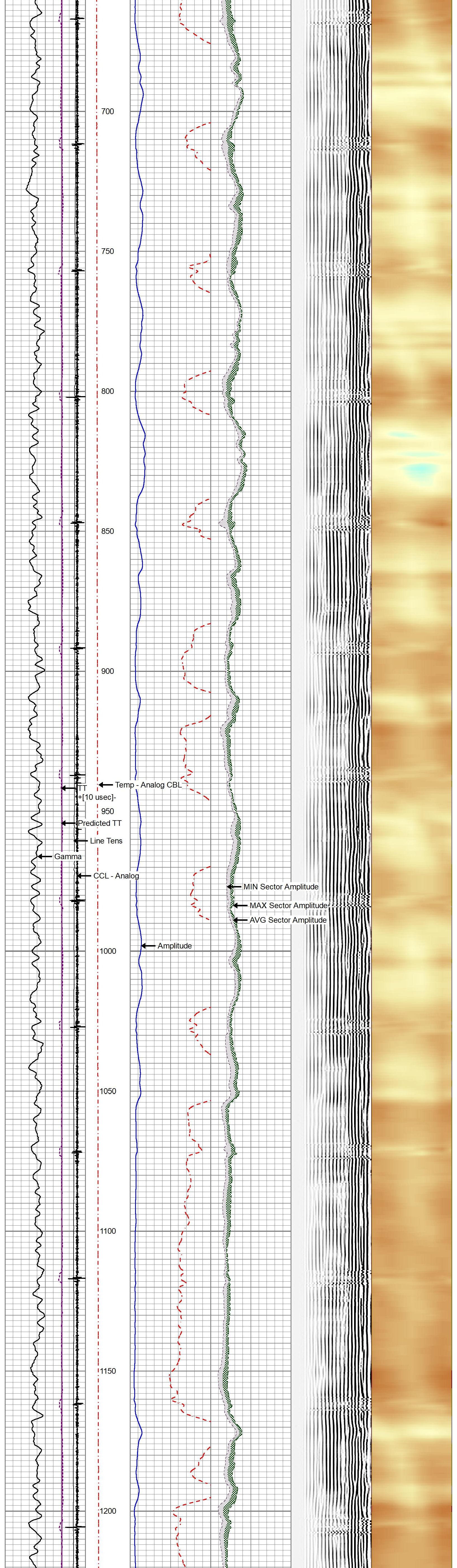
5 in / 100 ft

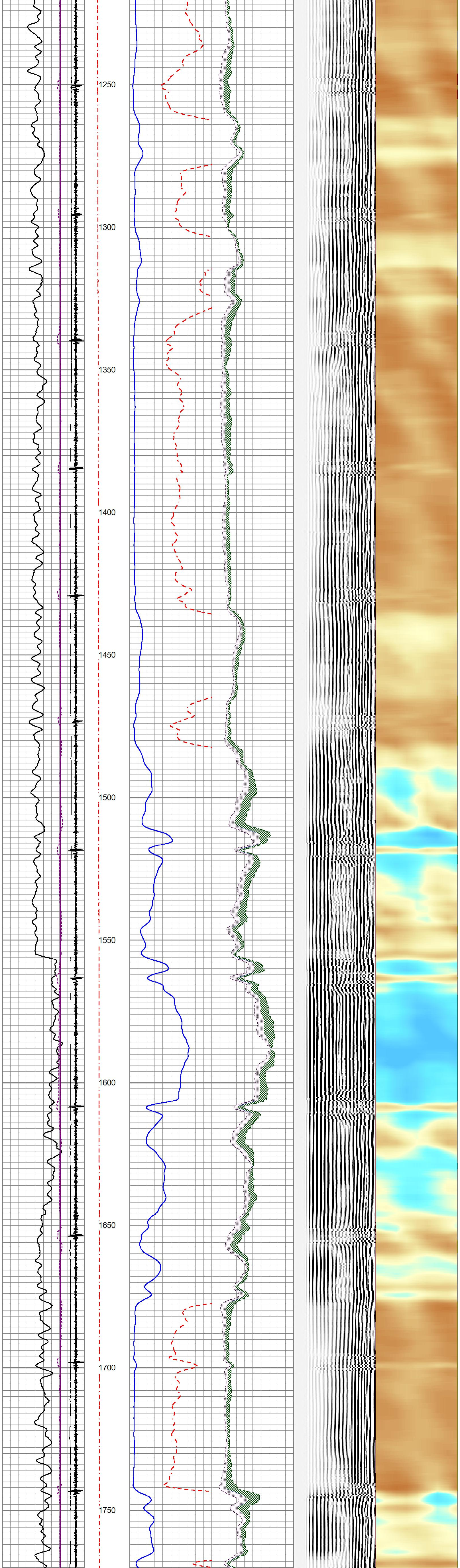
Database File 20180605_extraction_bf_8e_10_5c_cbl\20180605_extraction_bf_8e_10_5c_cbl.db
Dataset Pathname Main
Presentation Format rcbl_8s
Dataset Creation Tue Jun 05 03:32:53 2018
Charted by Depth in Feet scaled 1:240

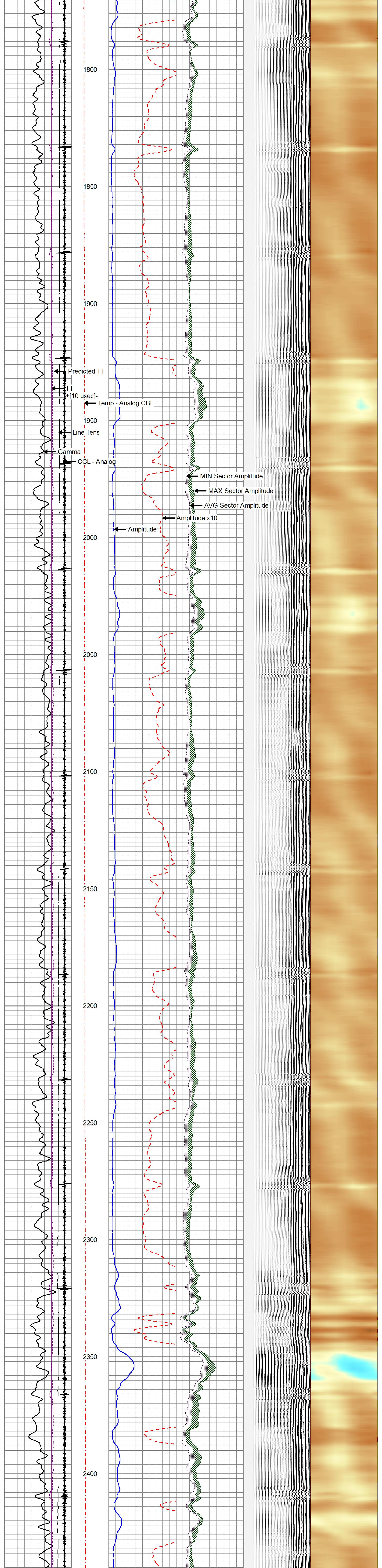
CCL - Analog	np - Analog C	0 Amplitude (mV)100	AVG Sector Amplitude	Acoustic Waveform	SECTORS
Gamma 0 (GAPI) 200	(degF) 0 300	Amplitude x10 0 (mV) 10	0 100	200 1200	0 72
300(Line Tens (lb) 0			MAX Sector Amplitude 0 100		
Predicted TT TT +[10 usec]-			MIN Sector Amplitude 0 100		

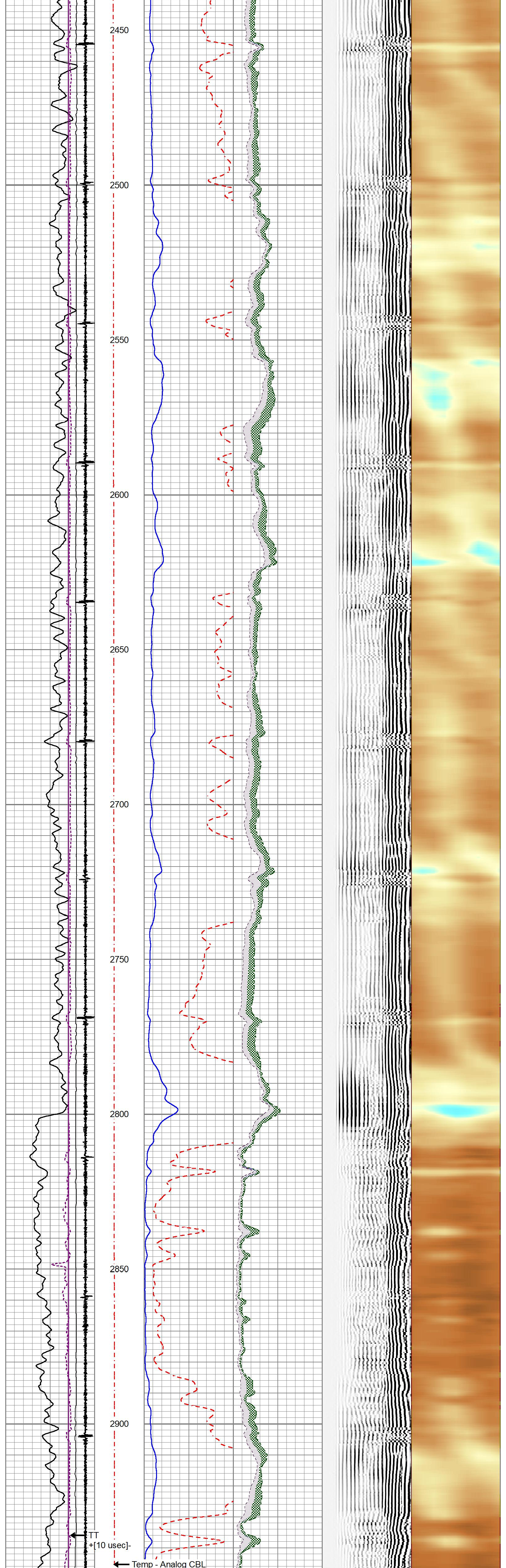


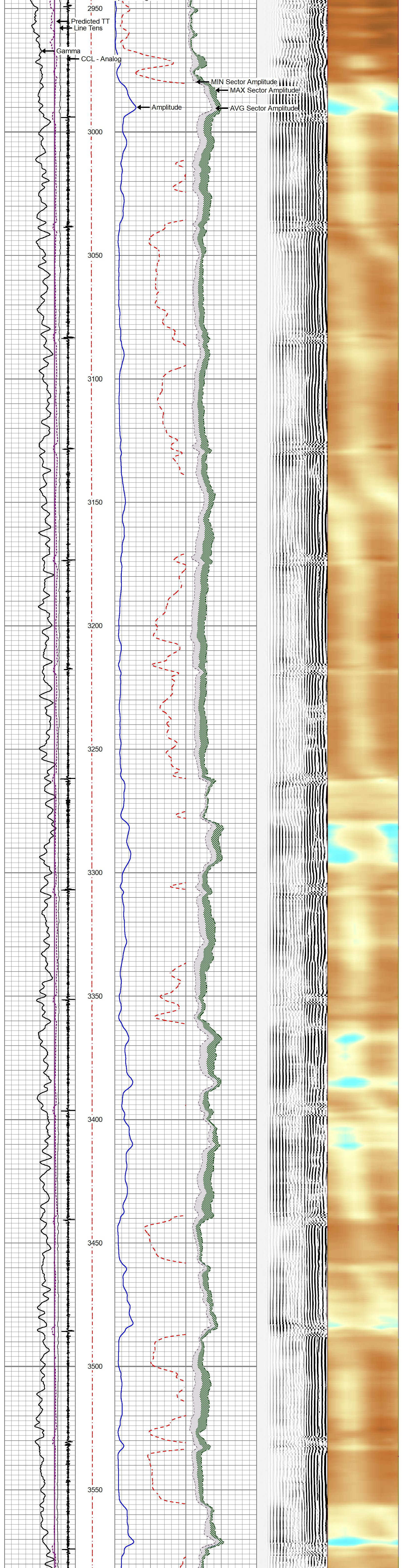


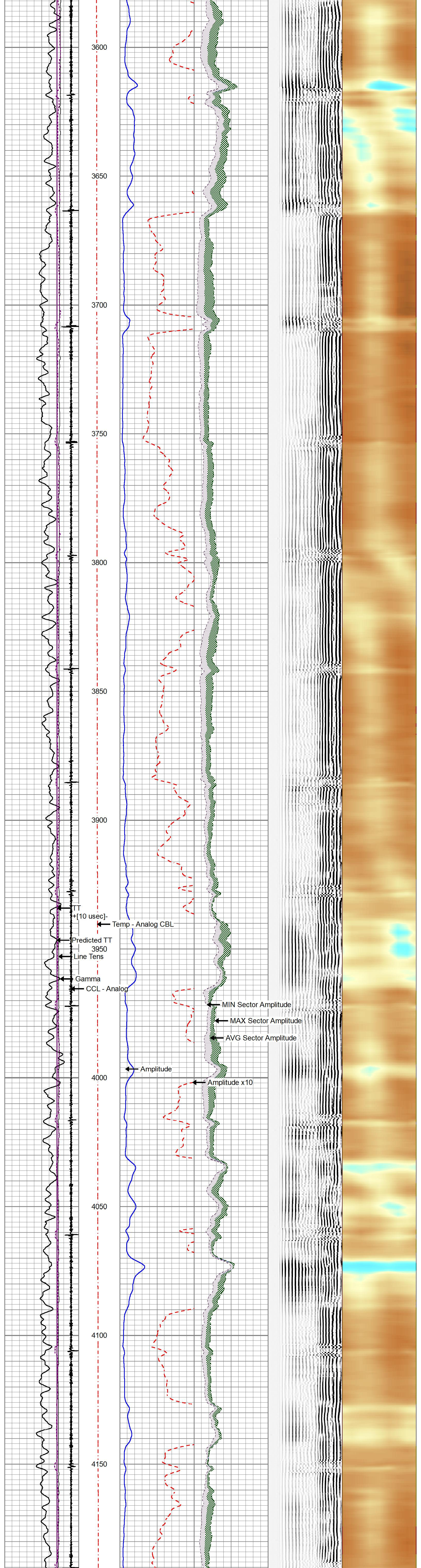


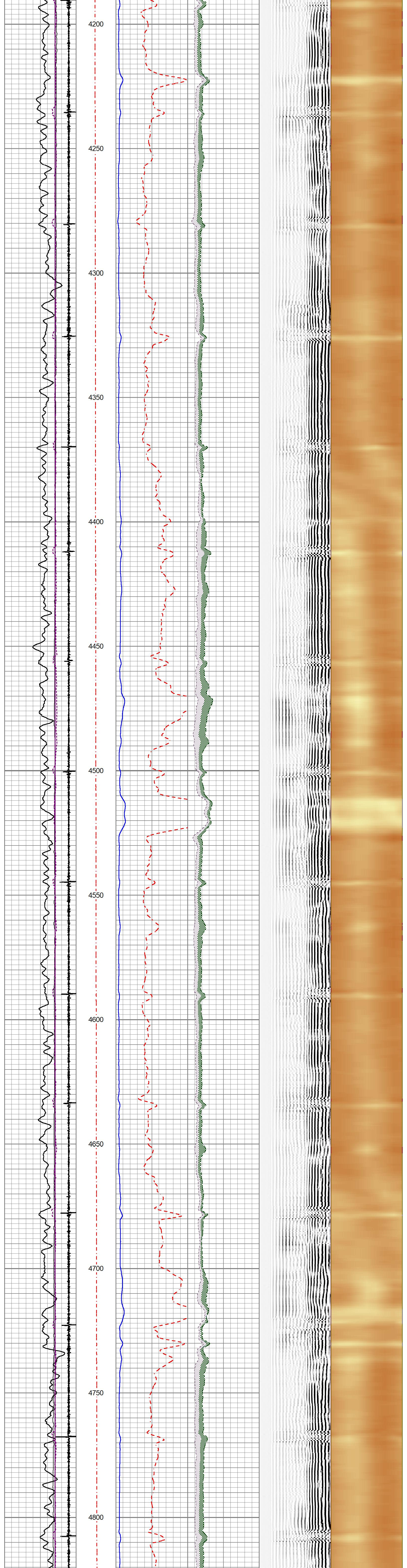


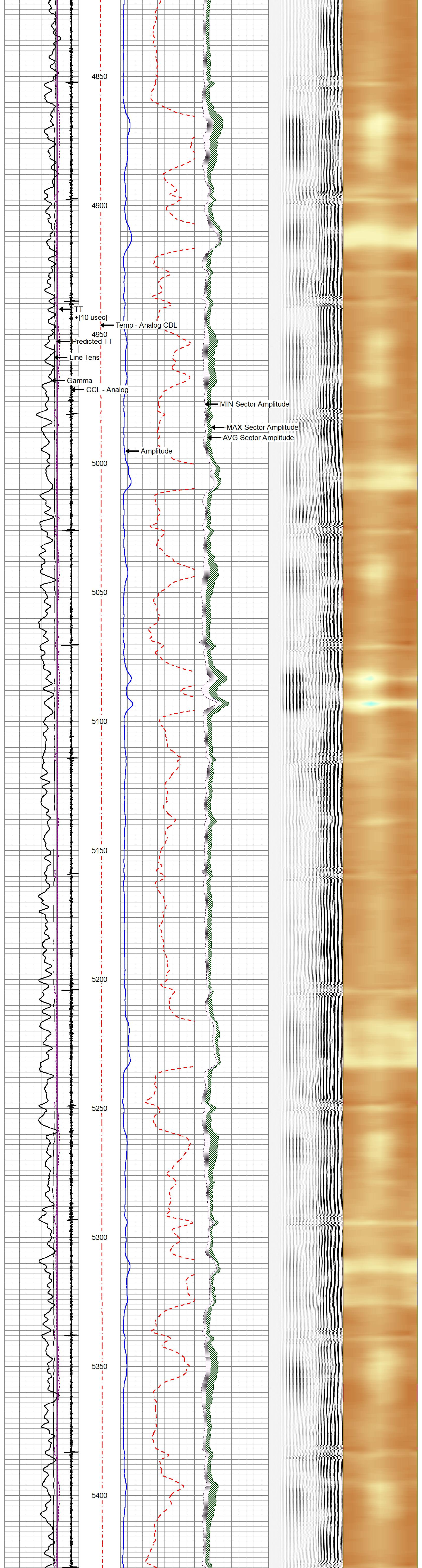


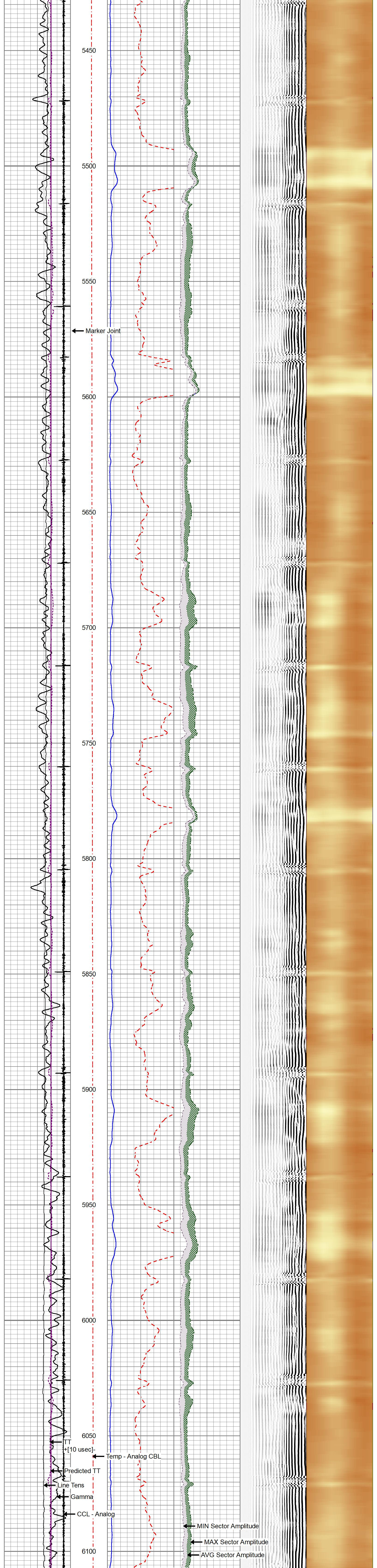


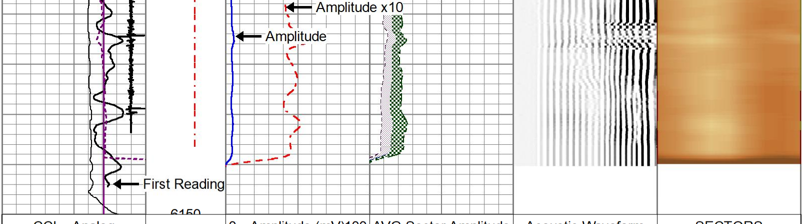












CCL - Analog Gamma 0 (GAPI) 200 300(Line Tens (lb) 0 Predicted TT TT +[10 usec]-	np - Analog C (degF) 0 300	0 Amplitude (mV)100 Amplitude x10 0 (mV) 10	AVG Sector Amplitude 0 100 MAX Sector Amplitude 0 100 MIN Sector Amplitude 0 100	Acoustic Waveform 200 1200	SECTORS 0 72

MAIN PASS - Ran with 0 PSI

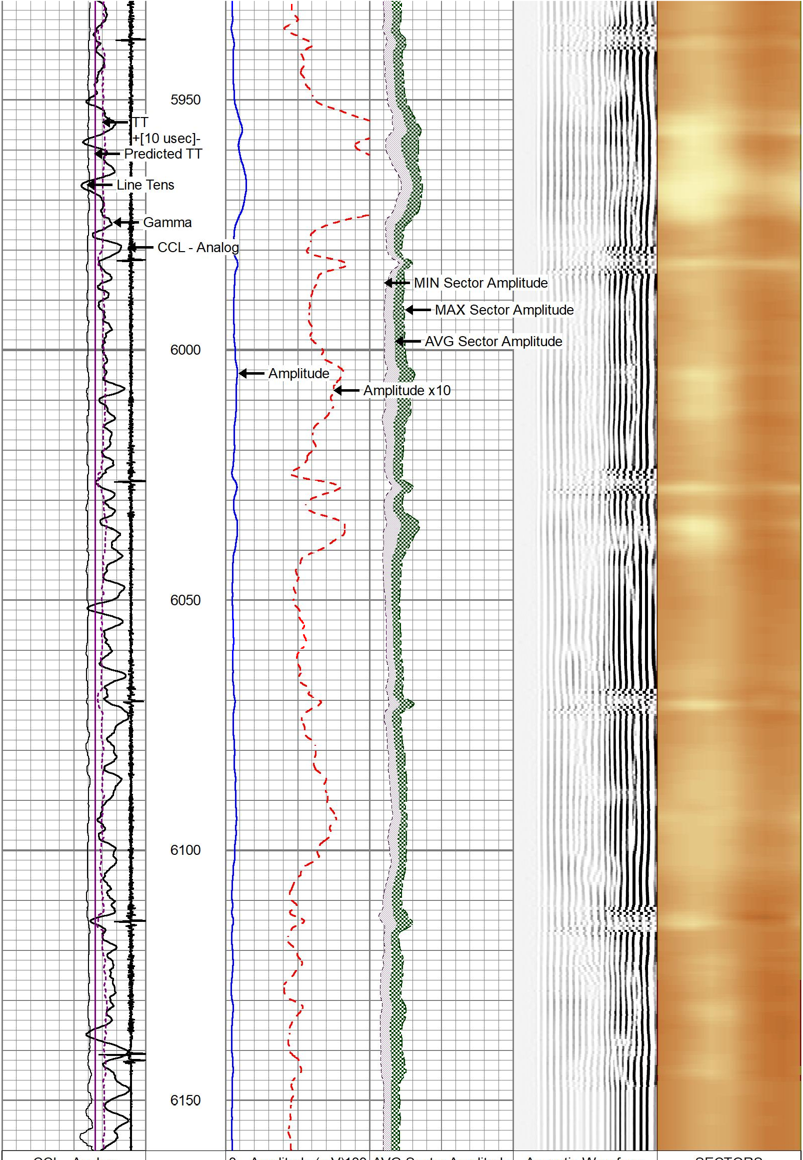
5 in / 100 ft

REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Database File 20180605_extraction_bf_8e_10_5c_cbl\20180605_extraction_bf_8e_10_5c_cbl.db
Dataset Pathname Repeat
Presentation Format rcbl_8s
Dataset Creation Tue Jun 05 03:47:26 2018
Charted by Depth in Feet scaled 1:240

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



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

REPEAT PASS - Ran with 0 PSI

5 in / 100 ft

Calibration Report

Database File C:\ProgramData\Warrior\Data\20180605_extraction_bf_8e_10_5c_cbl\20180605_extraction_bf_8e_10_5c_c
Dataset Pathname Main
Dataset Creation Tue Jun 05 03:32:53 2018

Gamma Ray Calibration Report

Serial Number: ISHV2-02
Tool Model: 2 3/4" TekCo
Performed: Tue Dec 13 00:15:13 2016

Calibrator Value: 194.0 GAPI

Background Reading: 59.8 cps
Calibrator Reading: 287.6 cps

Sensitivity: 0.8516 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: IT4B1-01
Tool Model: 2 3/4" RIB Analog

Calibration Casing Diameter: 5.500 in
Calibration Depth: 0.000 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.005	1.268	0.000	72.000	57.025	-0.305
CAL	0.000	0.290				
5'	0.007	1.367	0.000	72.000	52.942	-0.347
SUM						
S1	0.039	0.947	0.000	72.000	79.271	-3.104
S2	0.025	1.020	0.000	72.000	72.321	-1.788
S3	0.029	1.137	0.000	72.000	64.932	-1.858
S4	0.025	1.275	0.000	72.000	57.576	-1.426
S5	0.033	1.358	0.000	72.000	54.339	-1.770
S6	0.053	1.193	0.000	72.000	63.150	-3.355
S7	0.068	1.120	0.000	72.000	68.439	-4.663
S8	0.059	0.983	0.000	72.000	77.936	-4.577

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	0.290	0.000	0.290	1.000	0.000

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

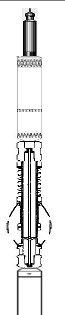
	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Temperature Calibration Report

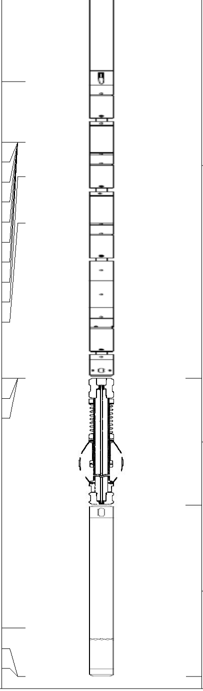
Serial Number: IT4B1-01
Tool Model: 2 3/4" RIB Analog
Performed: Fri Aug 26 11:07:15 2016

	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	18.96		CCL_Log-2 3/4" TekCo (IS2T1-09)	1.83	2.75	33.00
			TekCo-2 3/4"	2.73	2.75	25.00

TEMP	12.78
WVFS8	11.49
WVFS7	11.49
WVFS6	11.49
WVFS5	11.49
WVFS4	11.49
WVFS3	11.49
WVFS2	11.49
WVFS1	11.49
WVF3FT	10.74
WVF5FT	9.74
WVFSYNC	6.41
WVFTEMP	6.41
WVFCAL	6.41
GR	1.04
LOCTIM	0.00
UTCTIM	0.00



RBTA-2 3/4" RIB Analog (IT4B1-01)	9.13	2.75	102.00
TekCo-2 3/4"	2.73	2.75	25.00
GR_Log-2 3/4" TekCo (ISHV2-02)	3.68	2.75	47.00

Dataset: 20180605_extraction_bf_8e_10_5c_cbl.db: field/well/run1/Main
Total length: 21.13 ft
Total weight: 235.60 lb
O.D.: 2.75 in

gyrodata

Company	Extraction Oil & Gas
Well	Berthoud Farms 8e-10-5c
Field	Wattenberg
County	Weld
State	Colorado
Country	U.S.A.