Cutters Wireline Service, Inc. A Cased Hole Wireline Company

RADIAL CEMENT BOND LOG

Company	CUB CREEK ENERGY
Well	MARKHAM 3
Field	WATTENBERG
County	WELD
State	COLORADO
Country	USA

Company CUB CREEK ENERGY
Well MARKHAM 3
Field WATTENBERG
County WELD
State COLORADO Country USA

Location: API # : 05-123-43249-0000
NWSE
LAT: 40.268710 LONG: -105.023130
SHL: 2357' FSL & 1515' FEL
SEC 32 TWP 4N RGE 68W

Other Services
NONE

Permanent Datum GROUND LEVEL Elevation 5042'
Log Measured From KELLY BUSHING = 17'
Drilling Measured From KELLY BUSHING

Elevation
K.B. 5059'
D.F. 5058'
G.L. 5042'

Date	14 SEPTEMBER 2016
Run Number	ONE
Depth Driller	12101
Depth Logger	7658'
Bottom Logged Interval	7658'
Top Log Interval	SURFACE
Open Hole Size	8-3/4"
Type Fluid	WATER
Density / Viscosity	~8.3#
Max. Recorded Temp.	223 DEG F
Estimated Cement Top	SEE LOG
Time Well Ready	ROA
Time Logger on Bottom	10:30
Equipment Number	W-060
Location	WINDSOR, CO
Recorded By	Z. EMICK
Witnessed By	T. THOMAS

Borehole Record				Tubing Record		
Run Number	Bit	From	To	Size	Weight	From	To
ONE	13-1/2"	0'	1540'				
TWO	8-3/4"	1540'	12106'				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9-5/8"	36#	0'	1539'
Prot. String				
Production String	5-1/2"	17#	0'	12101'
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 NOT CORRELATED TO ANY OTHER LOG

FREE PIPE READING = 72mV

LOG RAN WITH 0 PSI ON CASING

FLOAT COLLAR @ 7597'

THANK YOU FOR CHOOING CUTTERS WIRELINE SERVICE

Calibration Report

Database File: markham 3.db
Dataset Pathname: pass4
Dataset Creation: Wed Sep 14 10:43:57 2016 by Log 7.0 B1

Temperature Calibration Report

Serial Number: TEMP_CMPRB_1375_01
Tool Model: Comprobe
Performed: Wed Apr 27 14:32:04 2011

	Reference	Reading
Low Reference:	32.00 degF	320.00 cps
High Reference:	500.00 degF	5000.00cps

Gain: 0.10
Offset: 0.00
Delta Spacing 1

Gamma Ray Calibration Report

Serial Number: 060109
Tool Model: Probe
Performed: Mon Jan 26 09:19:58 2009

Calibrator Value:	185.2	GAPI
Background Reading:	4.8	cps
Calibrator Reading:	200.0	cps
Sensitivity:	0.9487	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 060112_45
Tool Model: Probe

Calibration Casing Diameter: 5.500 in
Calibration Depth: 7021.142 ft

Master Calibration, performed Wed Sep 14 09:37:21 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.976	0.000	71.921	73.719	-0.000
CAL	0.020	0.878				
5'	0.000	1.971	0.000	71.921	36.492	-0.000
SUM						
S1	0.000	0.798	0.000	100.000	125.367	-0.000
S2	0.000	0.873	0.000	100.000	114.608	-0.000
S3	0.000	0.881	0.000	100.000	113.479	-0.000
S4	0.000	0.980	0.000	100.000	102.027	-0.000
S5	0.000	1.098	0.000	100.000	91.115	-0.000
S6	0.000	1.123	0.000	100.000	89.021	-0.000
S7	0.000	1.058	0.000	100.000	94.559	-0.000
S8	0.000	1.006	0.000	100.000	99.411	-0.000

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.020	0.878	1.000	0.000

Air Zero Calibration, performed Sat Aug 20 05:53:58 2016:

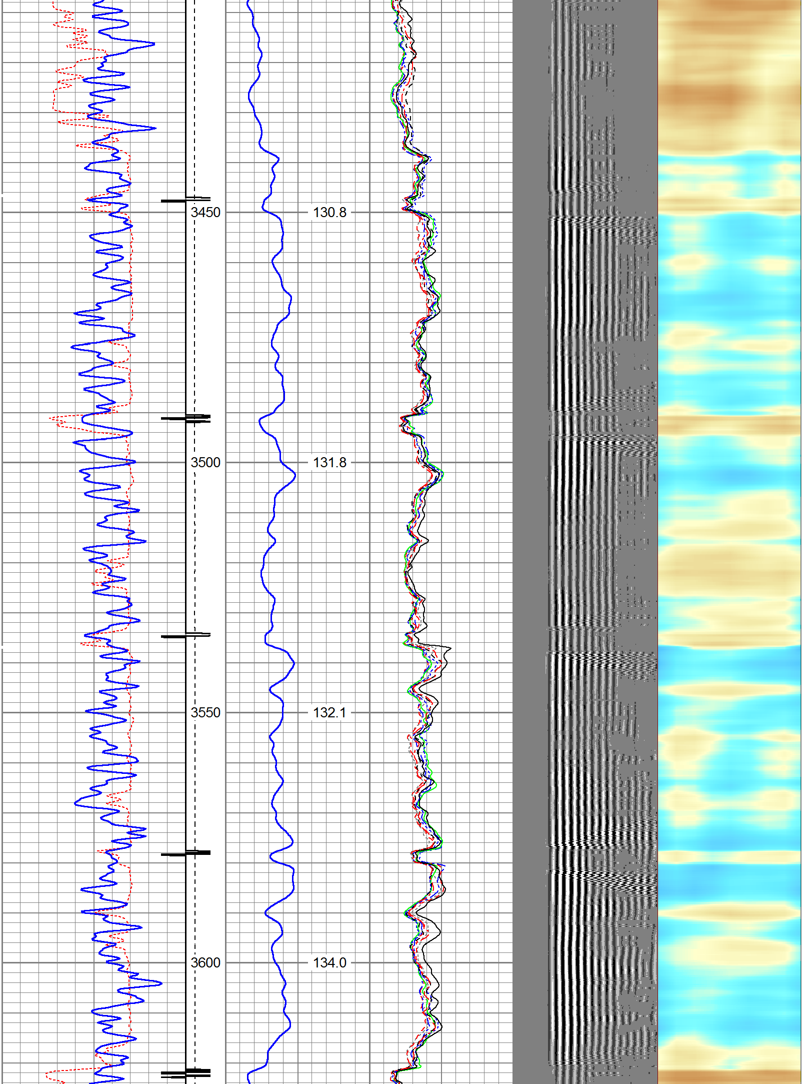
	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000

Cutters Wireline Service, Inc. A Cased Hole Wireline Company

MAIN PASS

5" = 100'

Database File: markham 3.db
Dataset Pathname: pass4
Presentation Format: rbl55
Dataset Creation: Wed Sep 14 10:43:57 2016 by Log 7.0 B1
Charted by: Depth in Feet scaled 1:240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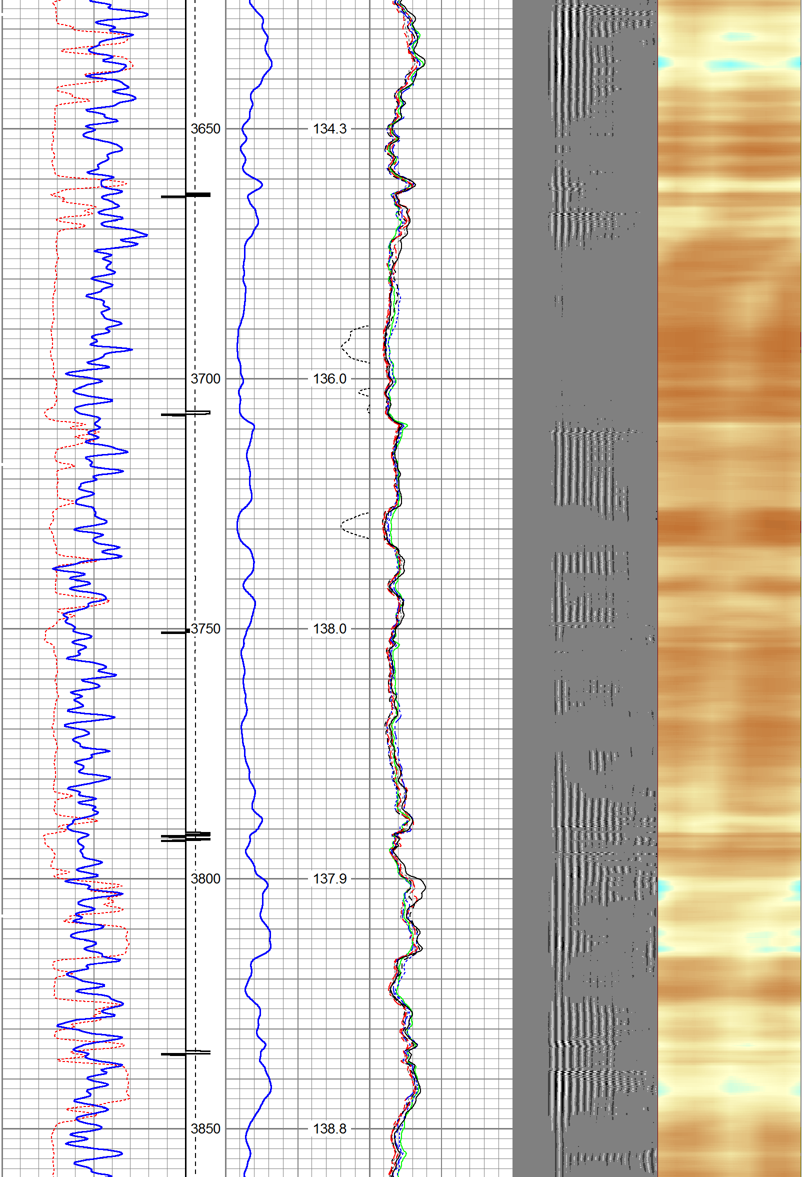
134.0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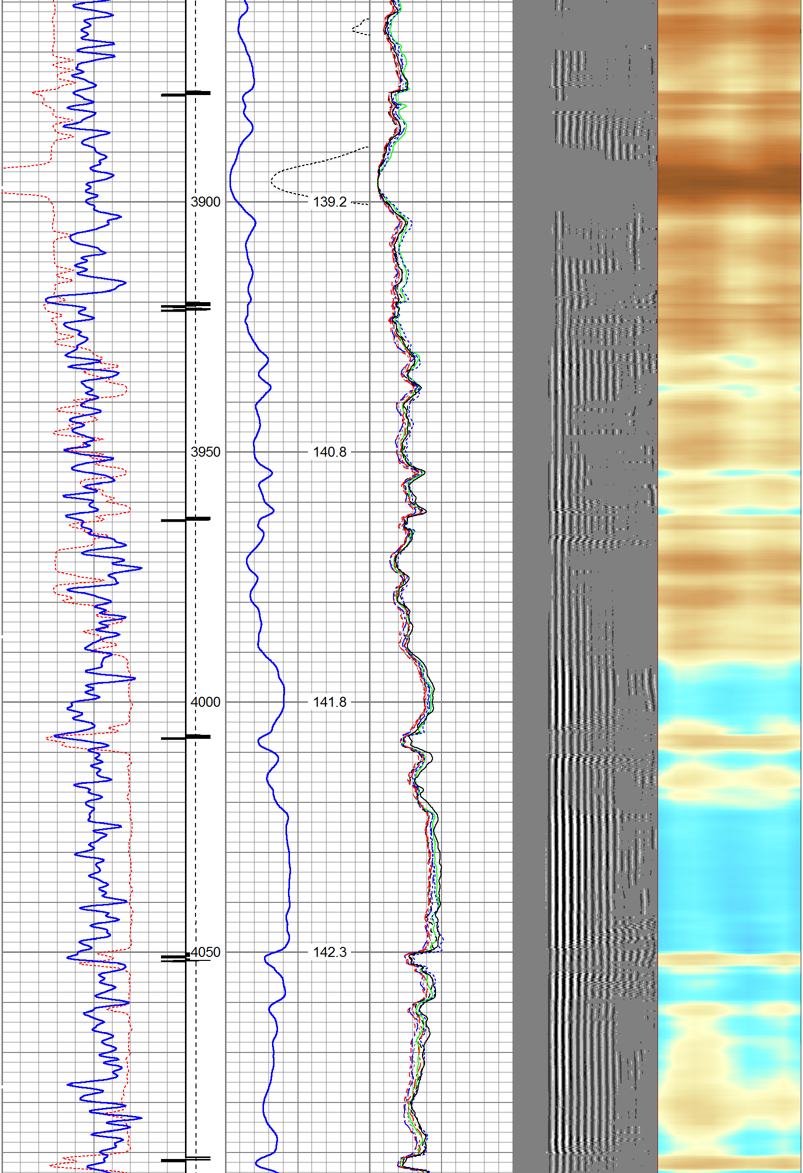
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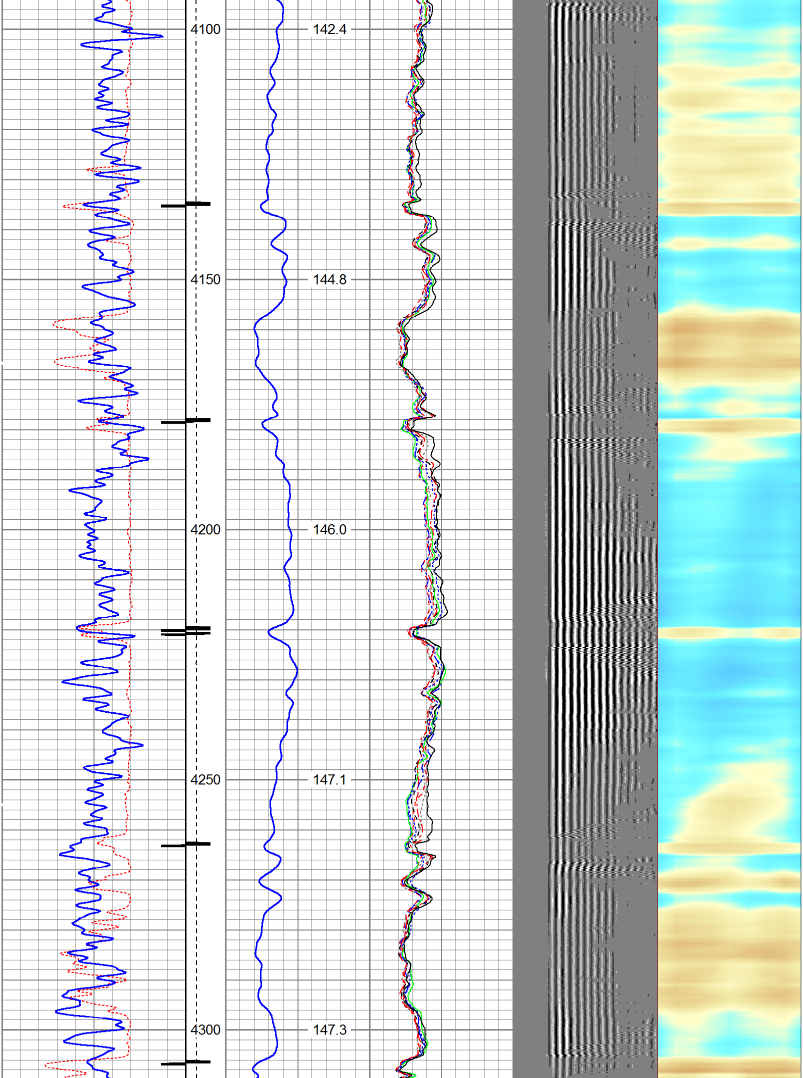
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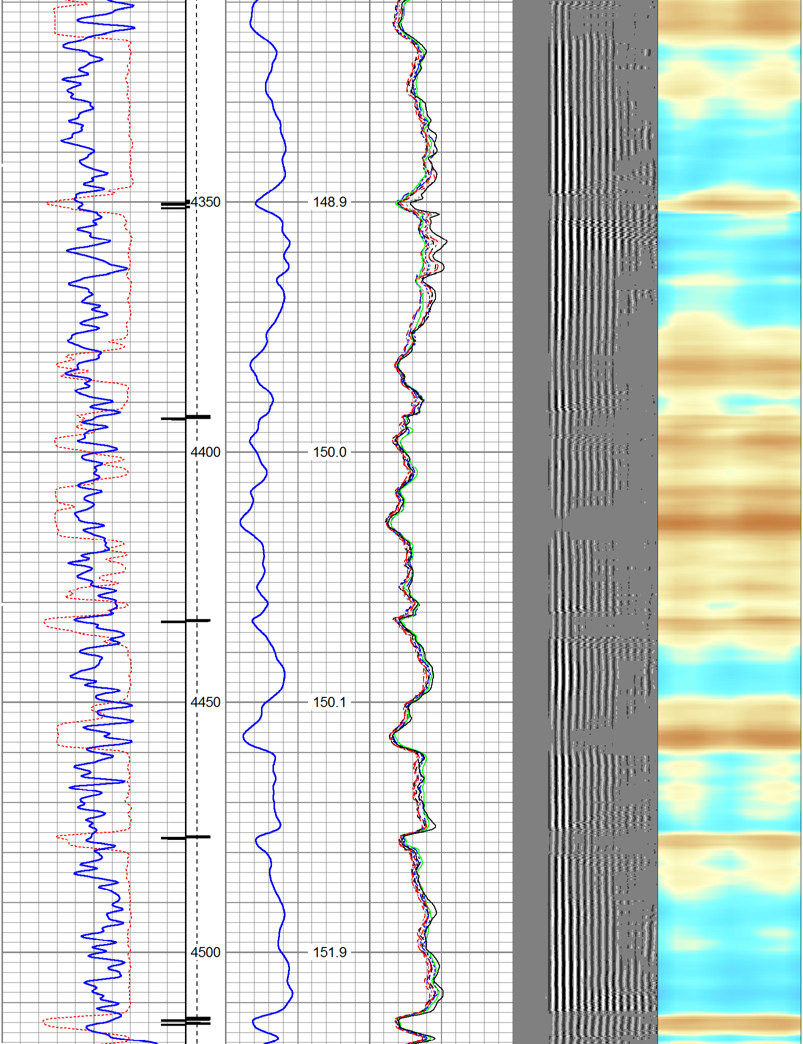
147.3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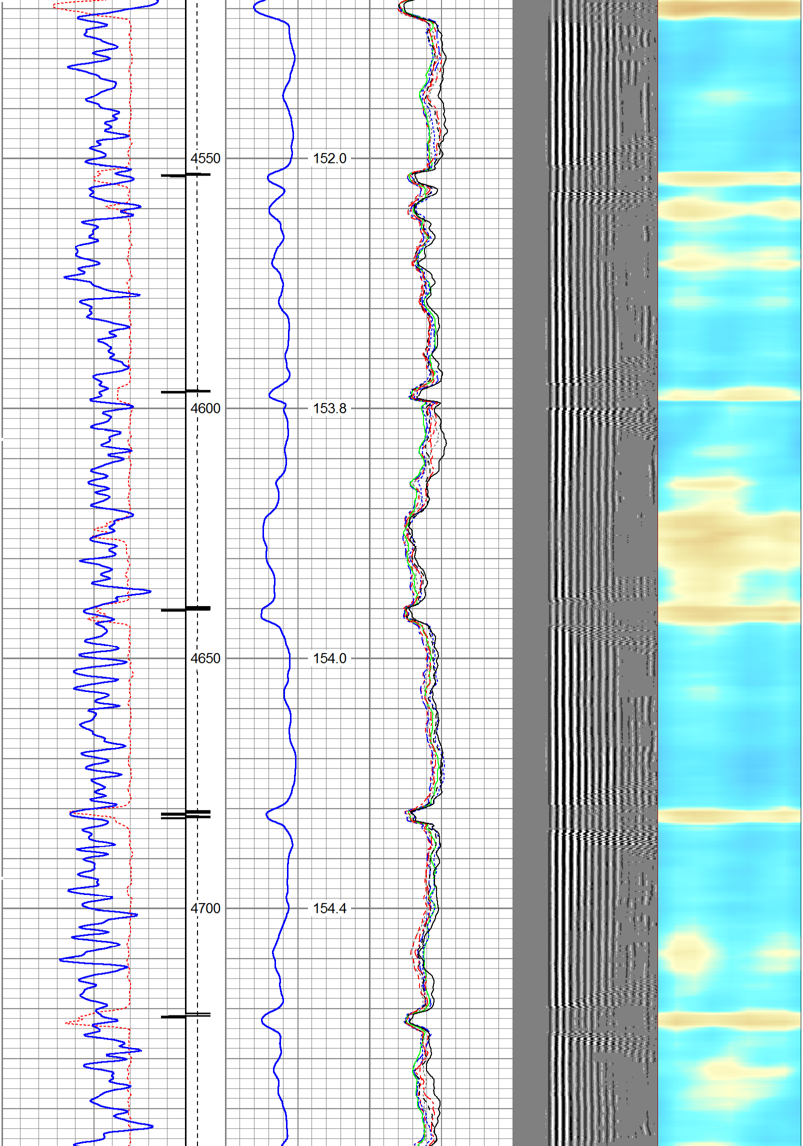
151.9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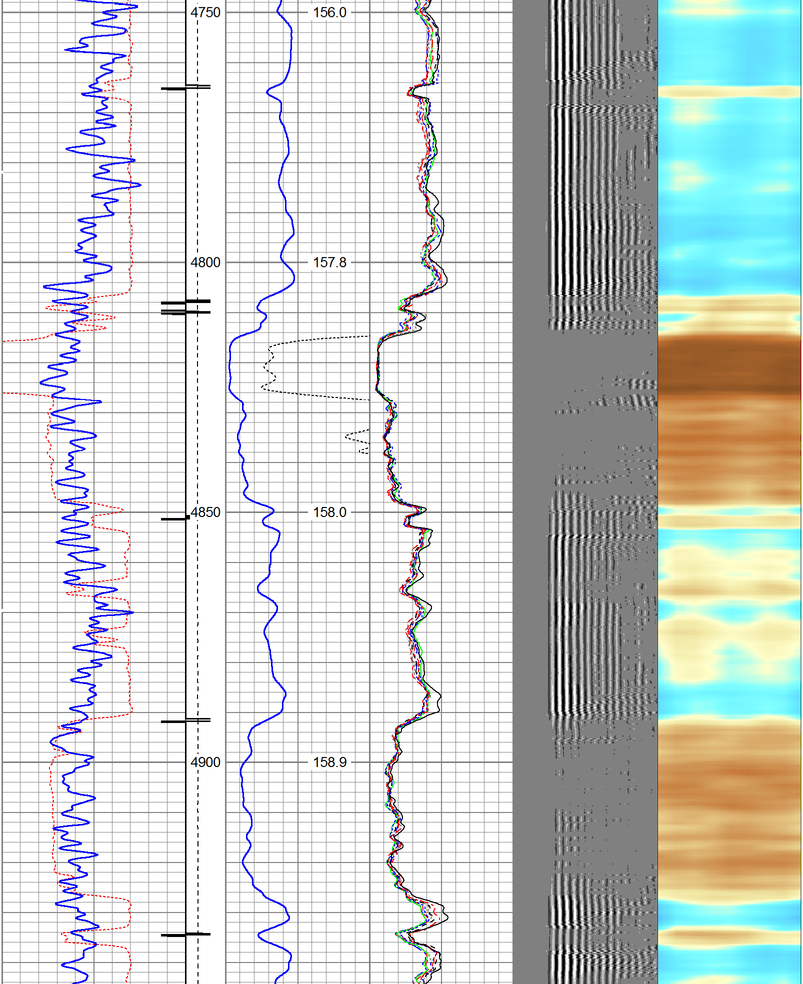
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158.0
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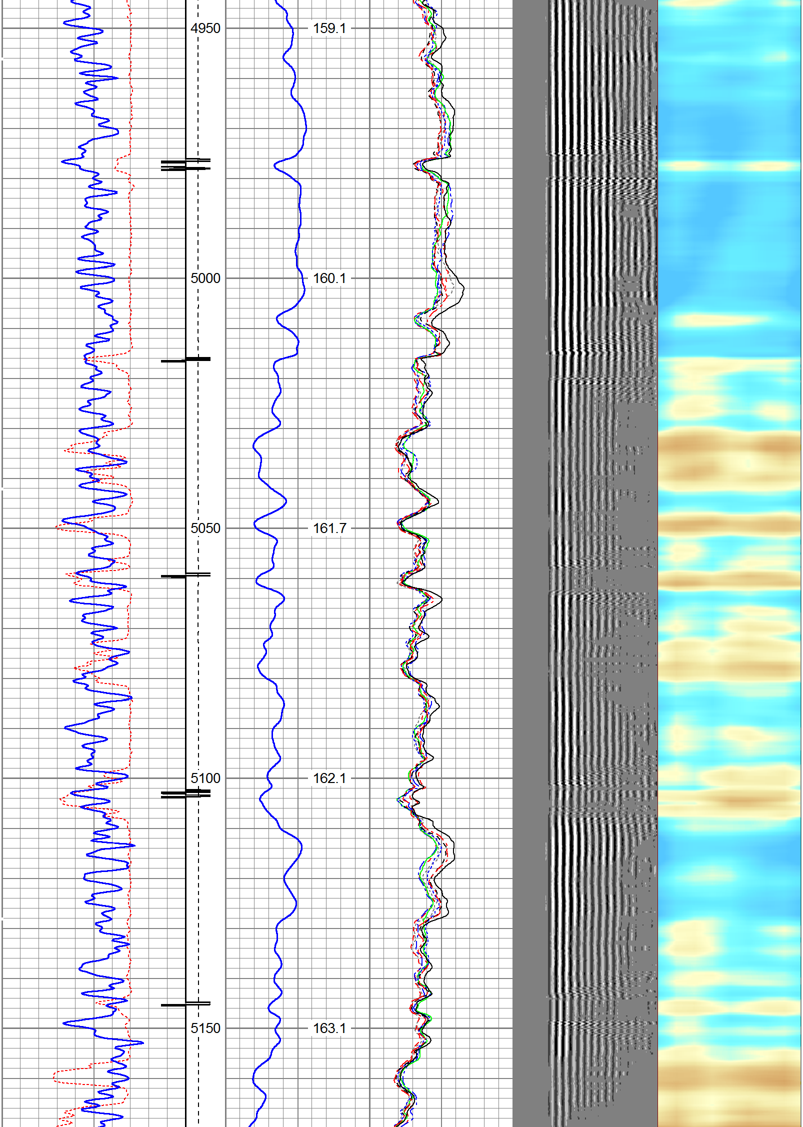
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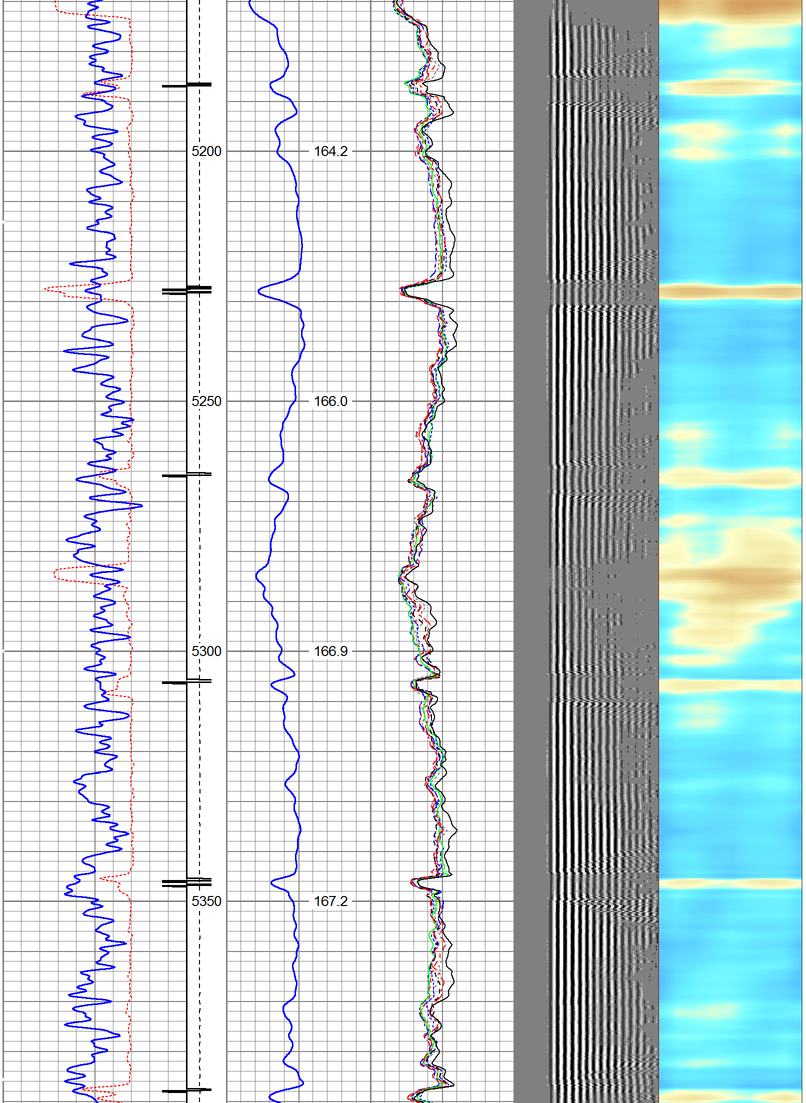
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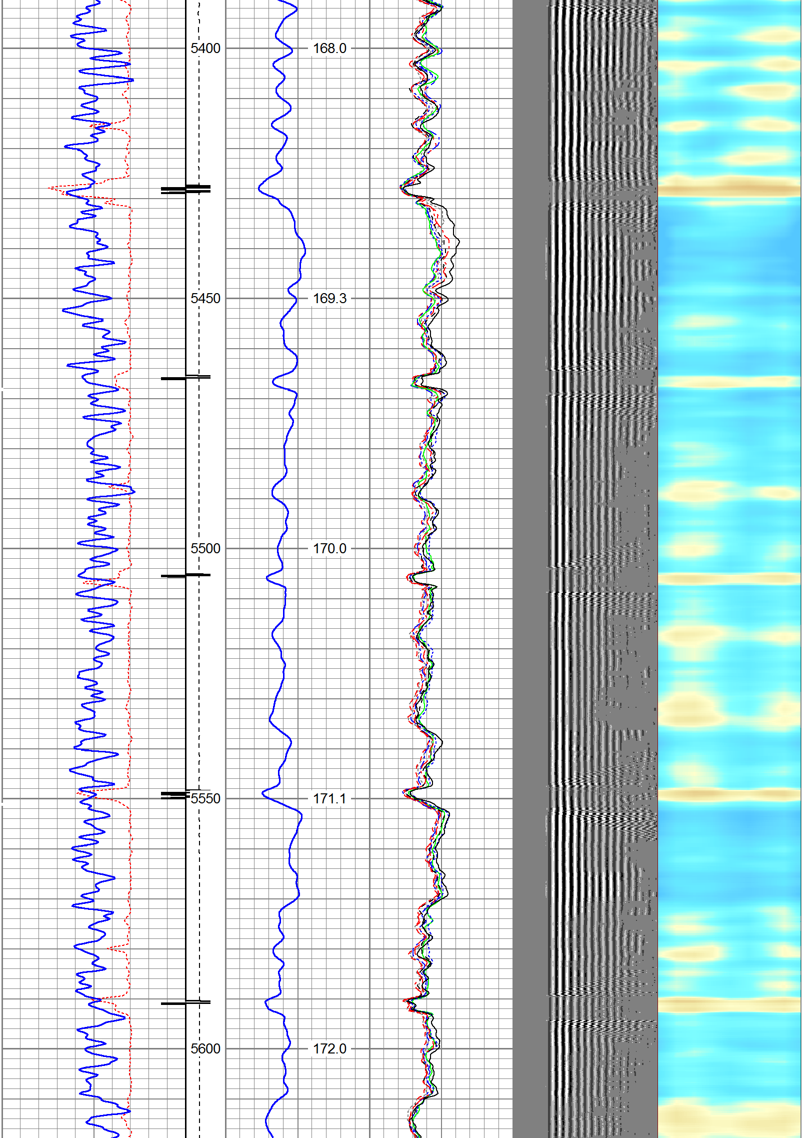
166.9
5350
167.2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5450
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170.0
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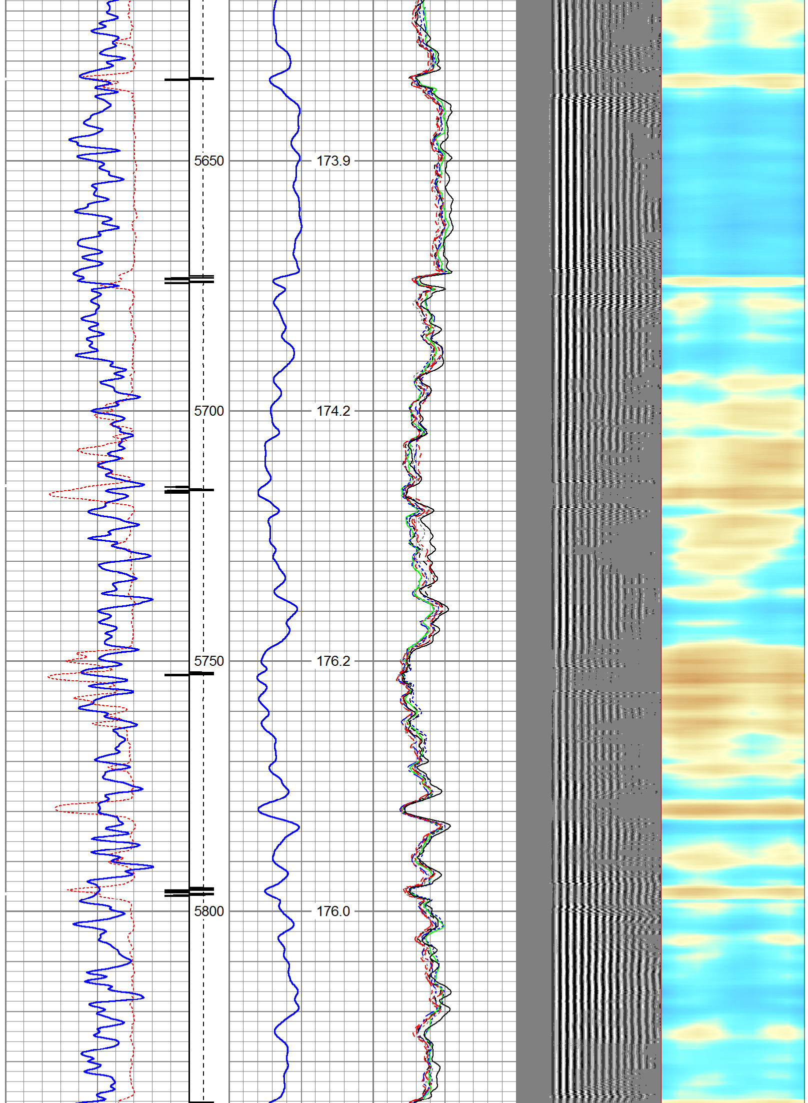
171.1
5600
172.0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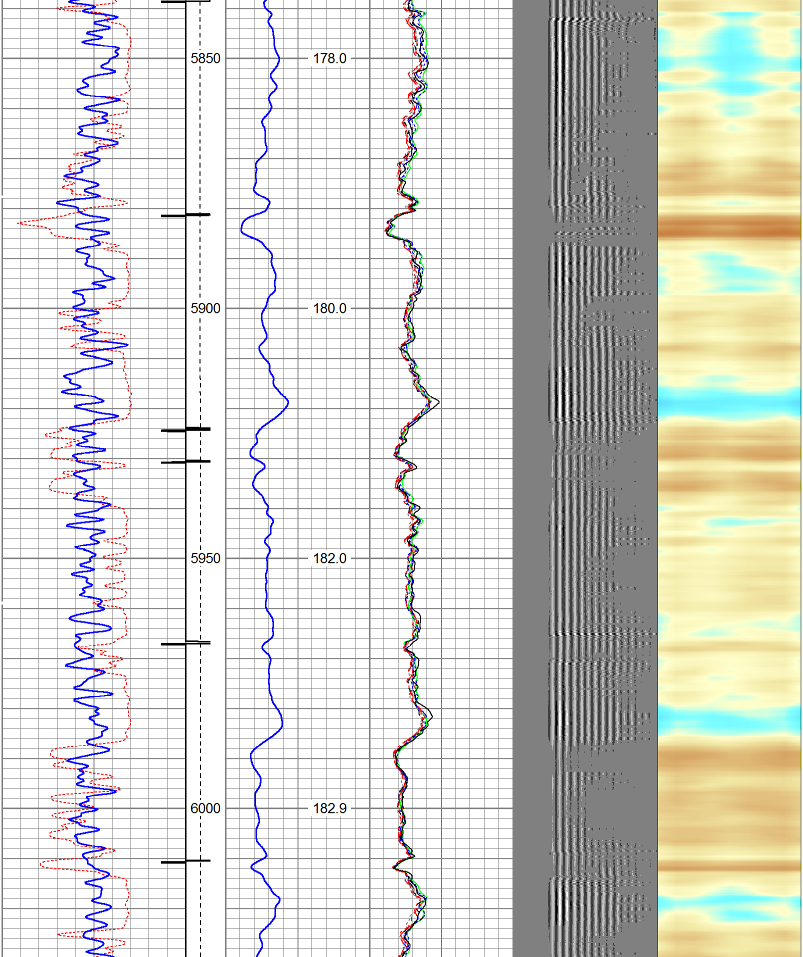
176.0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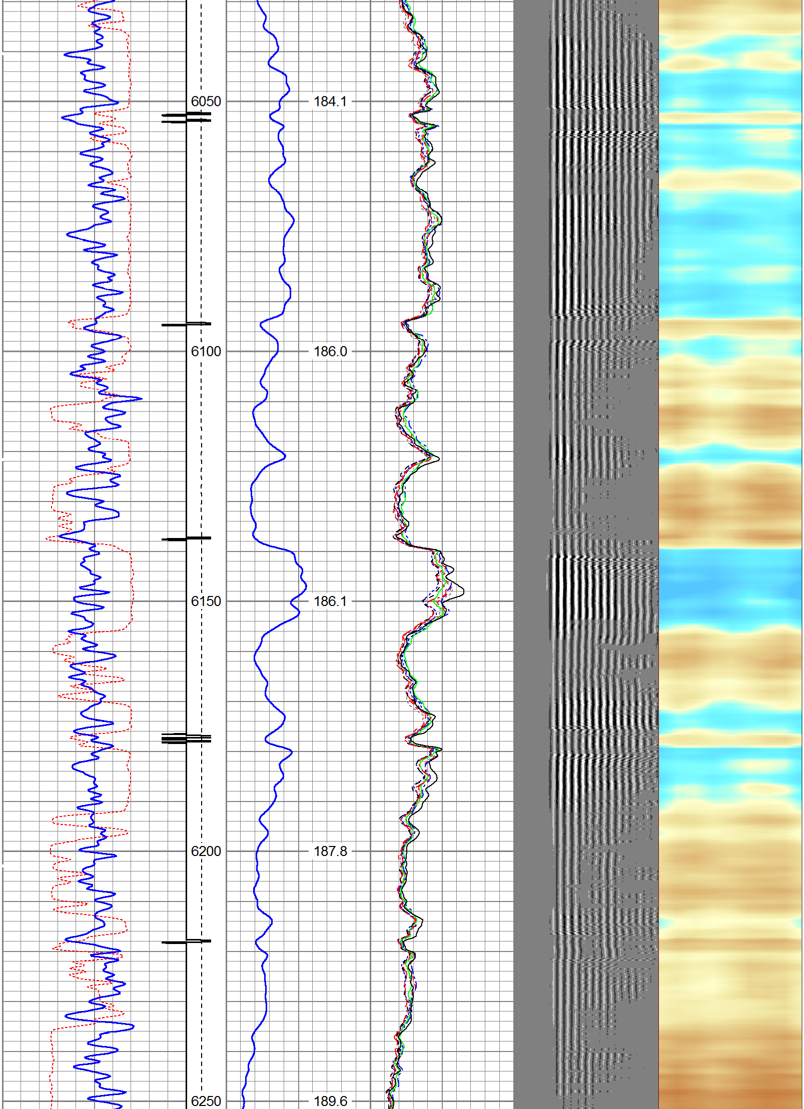
5950
182.0
6000
182.9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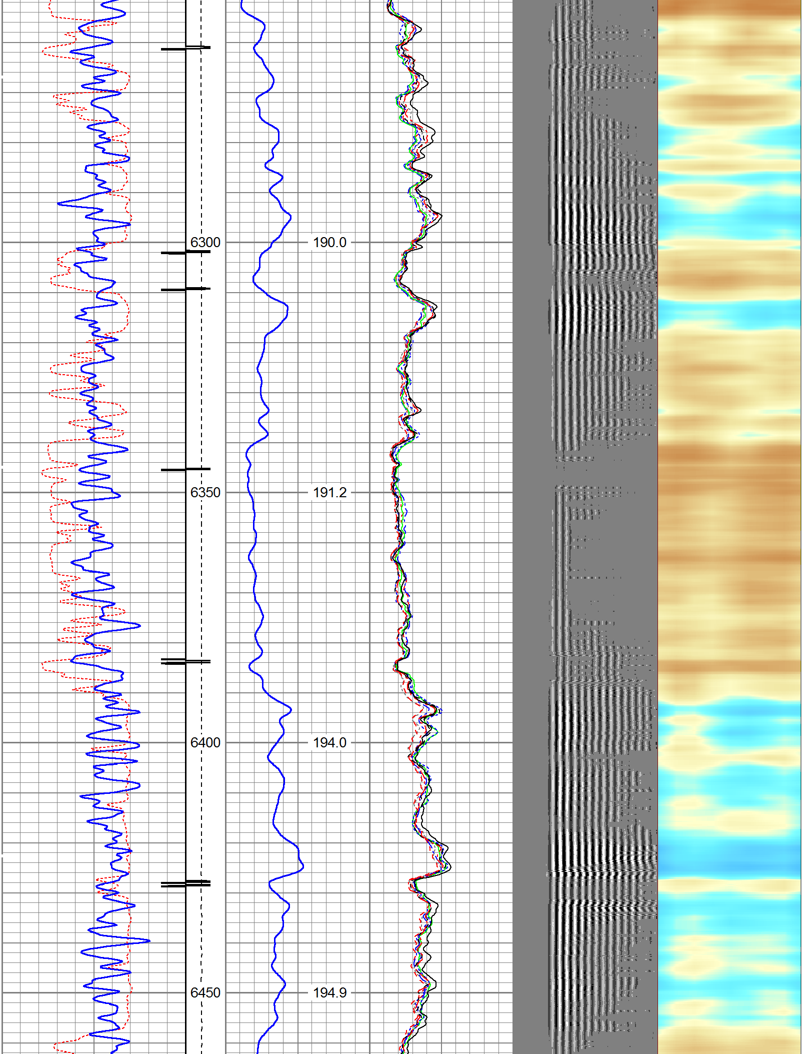
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194.0
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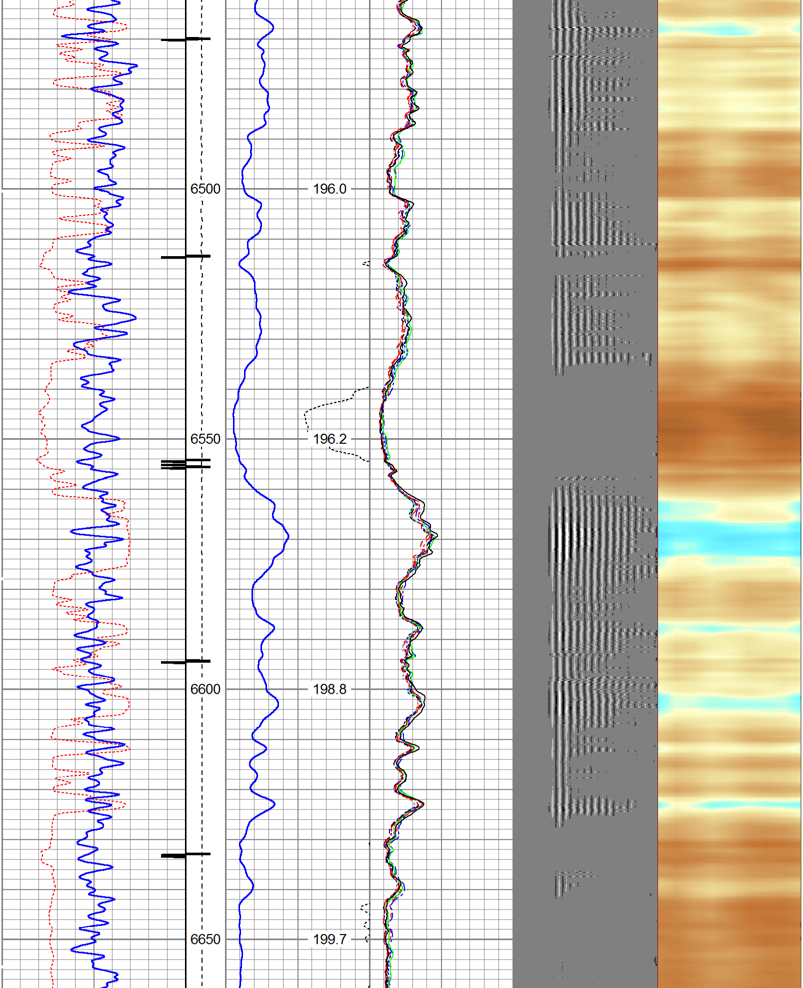
194.9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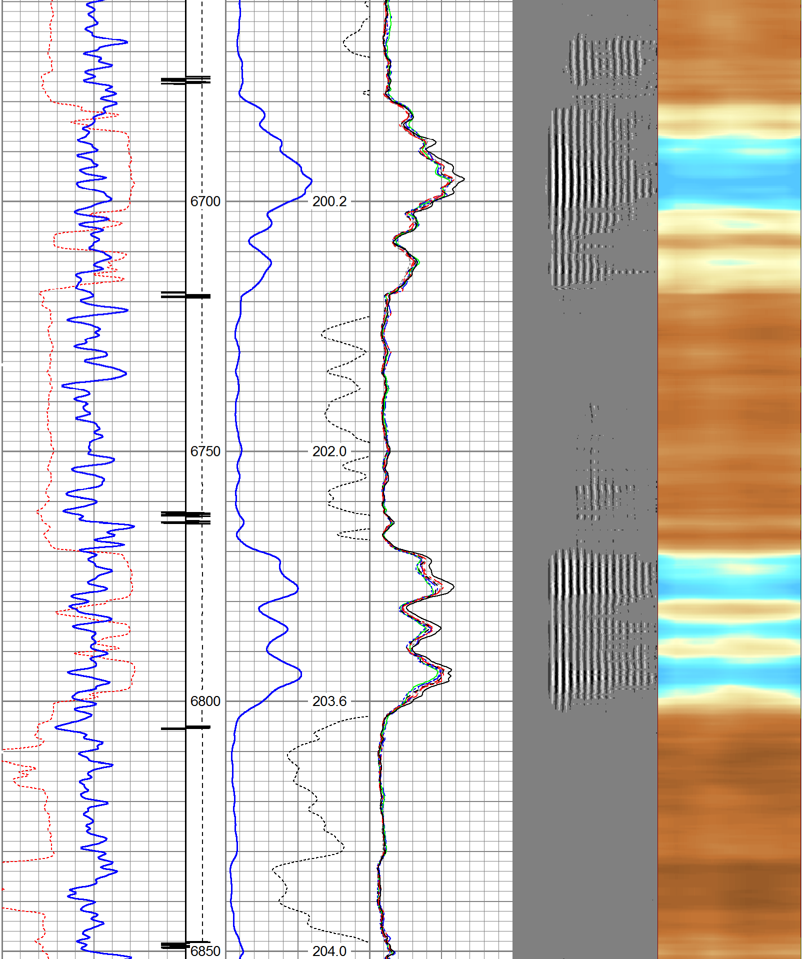
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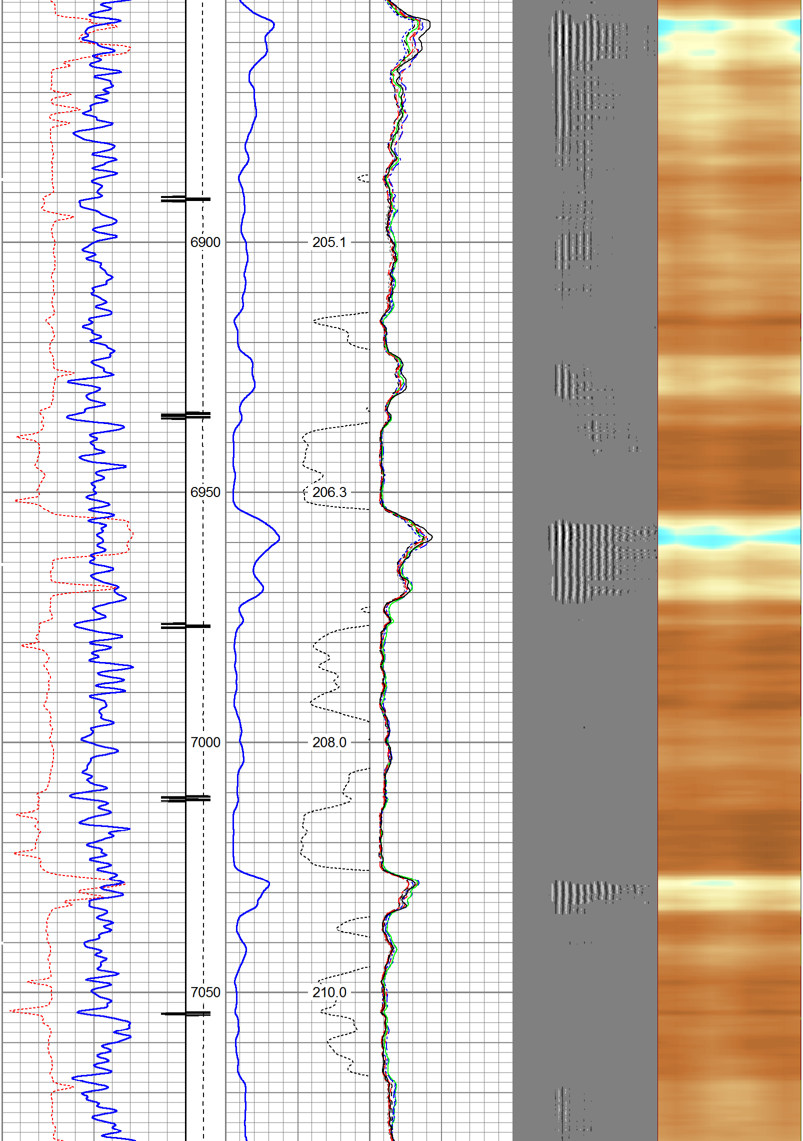
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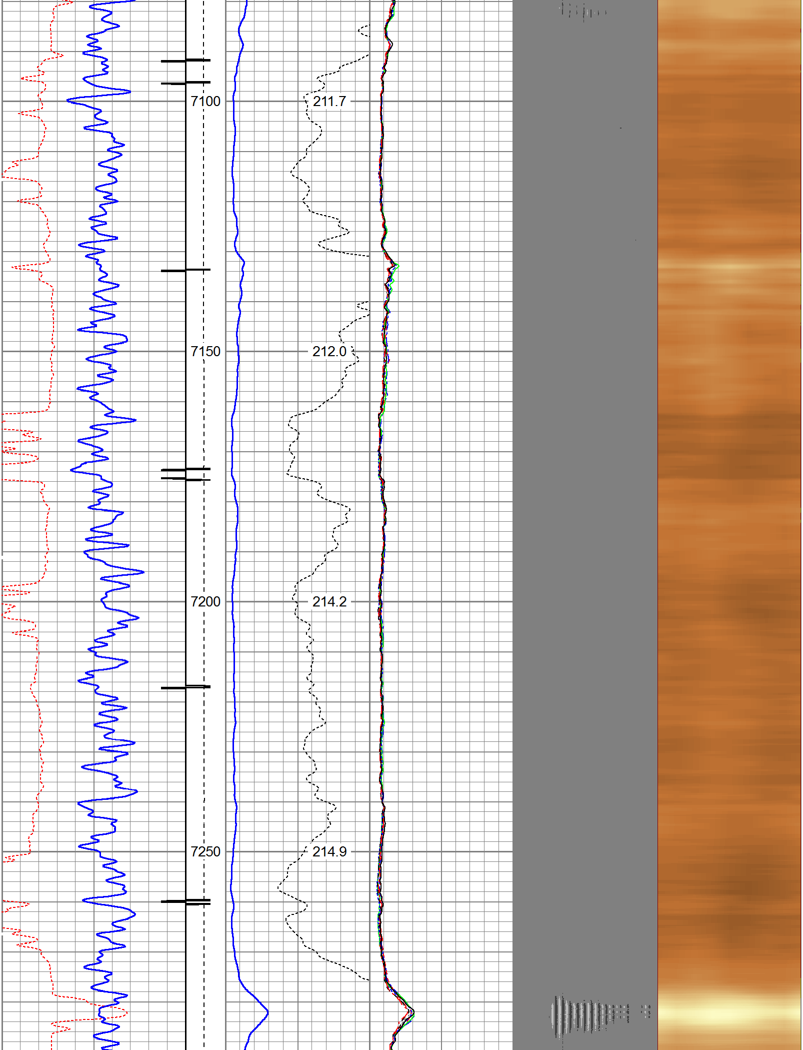
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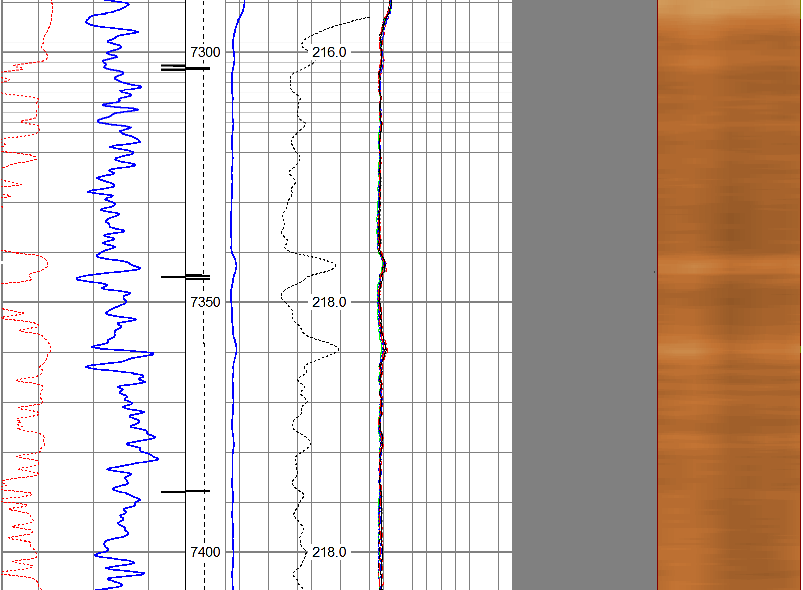
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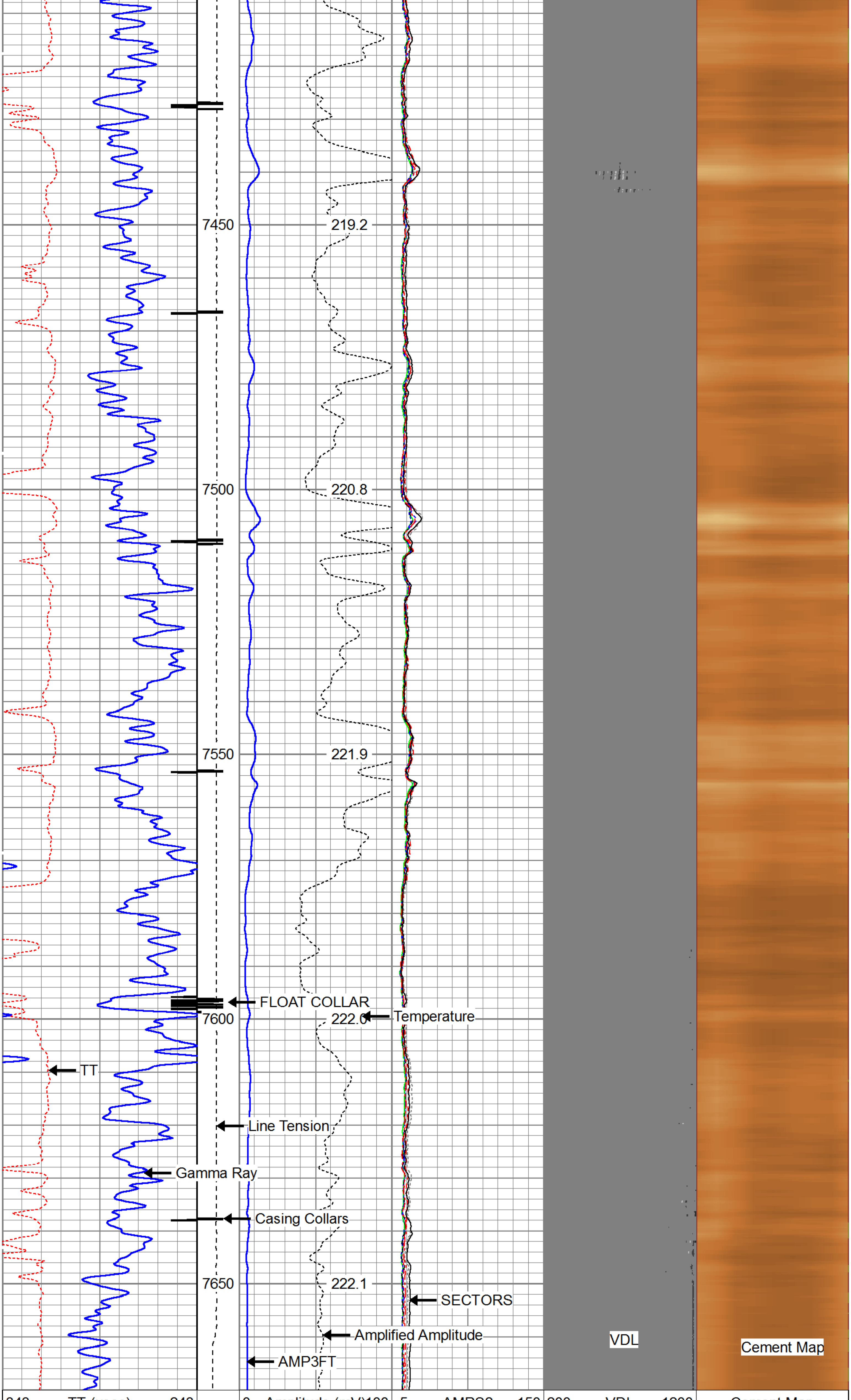


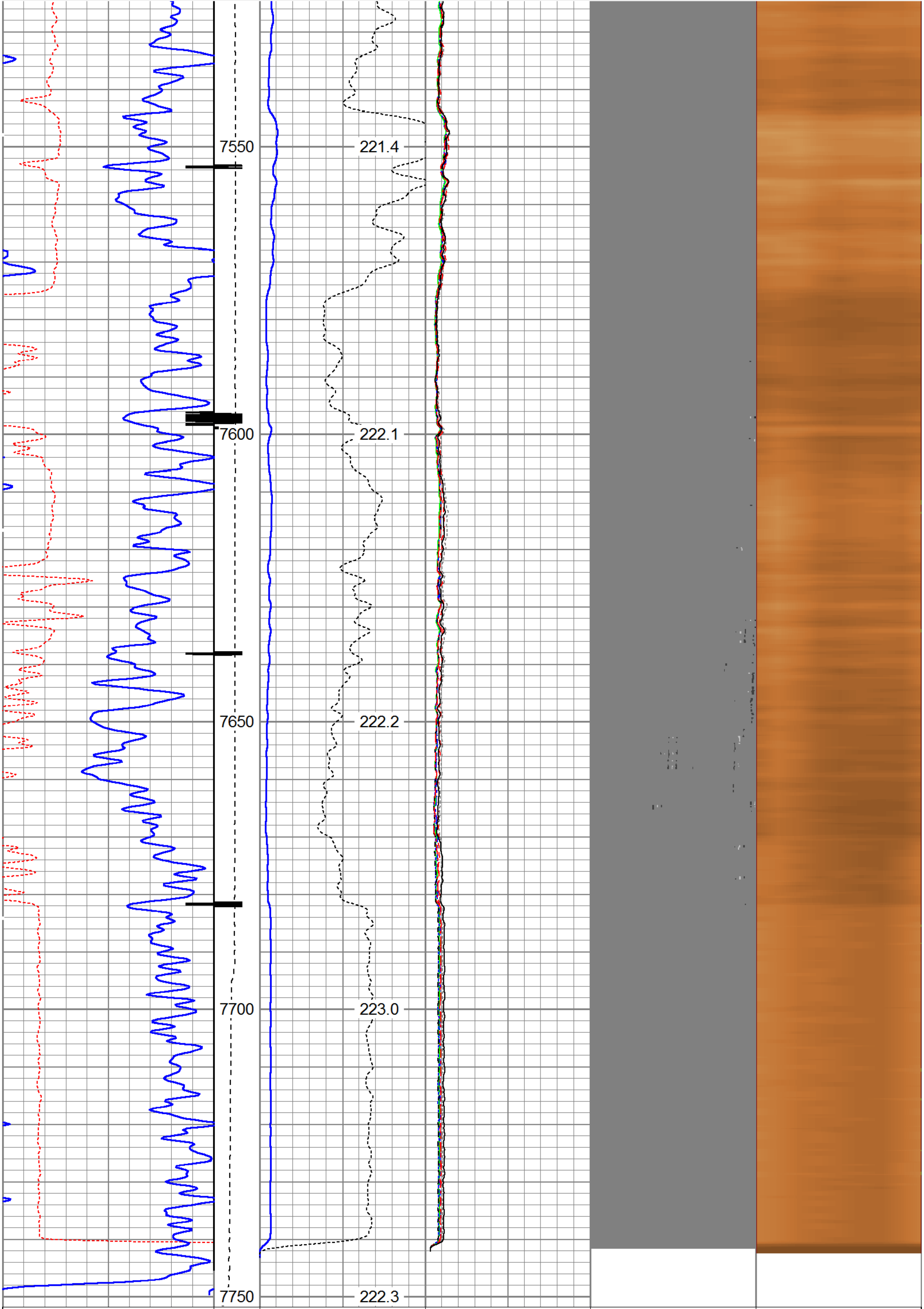
343 TT (usec) 243	LTEN	0 Amplitude (mV)100	-5 AMPS2 150	200 VDL 1200	Cement Map
0 GR (GAPI) 200	(lb)	Amplified Amplitude	-5 AMPS3 150		1 80
CCL	000	0 (mV) 10	-5 AMPS4 150		
		Temperature	-5 AMPS5 150		
		(degF)	-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		
			-5 AMPS1 150		

REPEAT PASS

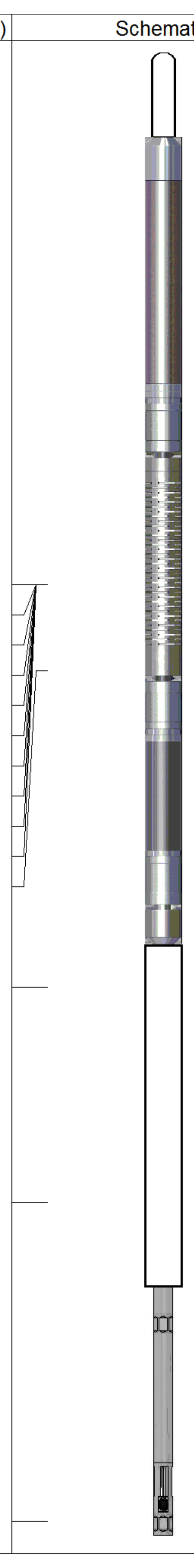
5" = 100'

Database File:	markham 3.db
Dataset Pathname:	pass3
Presentation Format:	rbl55
Dataset Creation:	Wed Sep 14 10:39:03 2016 by Log 7.0 B1
Charted by:	Depth in Feet scaled 1:240

343 TT (usec) 243	LTEN	0 Amplitude (mV)100	-5 AMPS2 150	200 VDL 1200	Cement Map
0 GR (GAPI) 200	(lb)	Amplified Amplitude	-5 AMPS3 150		1 80
CCL	000	0 (mV) 10	-5 AMPS4 150		
		Temperature	-5 AMPS5 150		
		(degF)	-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		
			-5 AMPS1 150		



343 TT (usec) 243	LTEN	0 Amplitude (mV)100	-5 AMPS2 150	200 VDL 1200	Cement Map
0 GR (GAPI) 200	(lb)	Amplified Amplitude	-5 AMPS3 150		1 80
CCL	000	0 (mV) 10	-5 AMPS4 150		
		Temperature	-5 AMPS5 150		
		(degF)	-5 AMPS6 150		
			-5 AMPS7 150		
			-5 AMPS8 150		
			-5 AMPS1 150		

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD-STNDRD (1) Standard Cable Head	1.00	1.69	10.00
			RBT-Probe (060112_45) Probe 2.75" Radii Bond Tool	9.39	2.75	90.00
WVF3FT	11.06					
WVFCAL	11.06					
WVFS1	11.06					
WVFS2	11.06					
WVFS3	11.06					
WVFS4	11.06					
WVFS5	11.06					
WVFS6	11.06					
WVFS7	11.06					
WVFS8	11.06					
WVF5FT	10.06					
CCL	6.38					
			GR-Probe (060109) Probe 2.75" 4 Channel Pulse	4.00	2.75	30.00
GR	3.88					
			TEMP-Comprobe (TEMP_CMPRB_1375_0 Positive pulse Temp tool	2.88	1.38	15.00
TEMP	0.17					

Dataset:	markham 3.db: field/well/run1/pass4
Total Length:	17.27 ft
Total Weight:	145.00 lb
O.D.	2.75 in

Company	CUB CREEK ENERGY
Well	MARKHAM 3
Field	WATTENBERG
County	WELD
State	COLORADO