



# PIONEER

Pioneer Energy Services

## RADIAL BOND LOG WITH GAMMA RAY

Company		GULF EXPLORATION LLC			
Well		BLACK POWDER #2			
Field		WATTENBERG			
County		WELD		State CO	
Location:		API # : 05-123-47681		Other Services	
SEC 10 TWP 7N RGE 63W		600' FSL 1900' FWL		CCL	
Permanent Datum	GL	Elevation	4838'	Elevation	
Log Measured From	KB 23'	Above Perm. Datum		K.B.	4861'
Drilling Measured From	KB			D.F.	N/A
				G.L.	4838'
Date of Service	02-SEP-2020				
Run Number	ONE				
Depth Driller or PBTD	7562'				
Depth Logger	8890'				
Bottom Log Interval	7555'				
Top Log Interval	5735'				
Open Hole Size	8.75"				
Type Fluid	FRESH WATER				
Fluid Level	750'				
Fluid Density	N/A				
Max. Recorded Temperature	N/A				
Max. Wellhead Pressure	ZERO				
Wellhead Connection	7-1/16" 5K				
Estimated Cement Top	6073'				
Unit Number	P-132				
Wireline Size	9/32"				
Location	FT. MORGAN				
Recorded By	E. HESSLER				
Witnessed By	T. MAJORS				
	Size	Wt/Ft	Top	Bottom	
Tubing Record					
Surface Casing	9.625"	32.3#	SURFACE	850'	
Production Casing	5.5"	17#	SURFACE	7600'	
Liner Record					

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

### Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.  
CORRELATED TO OH LOG DATED 21-AUG-2020

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: E. HESSLER	SCBL	FW 1403-33
Operator: A. SPILLMAN	GCT	FW 1306-08
Operator: M. BATREZ		
Operator:		

Top - Bottom


BOREID in 7.875	BOTTEMP degF 100	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 17	MAXAMPL mV 0	MINAMPL mV 1
MINATTN db/ft 0.08	PERFS  No	PPT usec 0	SRFTEMP degF 0	TDEPTH ft 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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			Cable Head-Titan_144 1 7/16" Titan Cable Head	1.03	1.44	2.00
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
			PROBE-RBT-DIGITAL-RBL-DC (FW 1304-33) Probe 2 3/4" Radii Bond-Corrosion Package	8.75	2.75	100.00
WVFS8	12.09					
WVFS7	12.09					
WVFS6	12.09					
WVFS5	12.09					
WVFS4	12.09					
WVFS3	12.09					
WVFS2	12.09					
WVFS1	12.09					
WVFCAL	12.09					
WVF3FT	12.09					
WVF5FT	11.09					
HEADVOLT	7.90					
			Centralizer-275 Probe	2.88	2.75	15.00

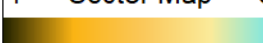
CCL	4.20				
GCT_TEMP	3.41				
GR	2.83		4.69	2.75	60.00
			0.33	1.38	1.00
Dataset: gulf exploration llc_black powder #2_0512347681_02sep2020_scbl.db: field/well/run1/pass9 Total length: 20.56 ft Total weight: 193.00 lb O.D.: 2.75 in					

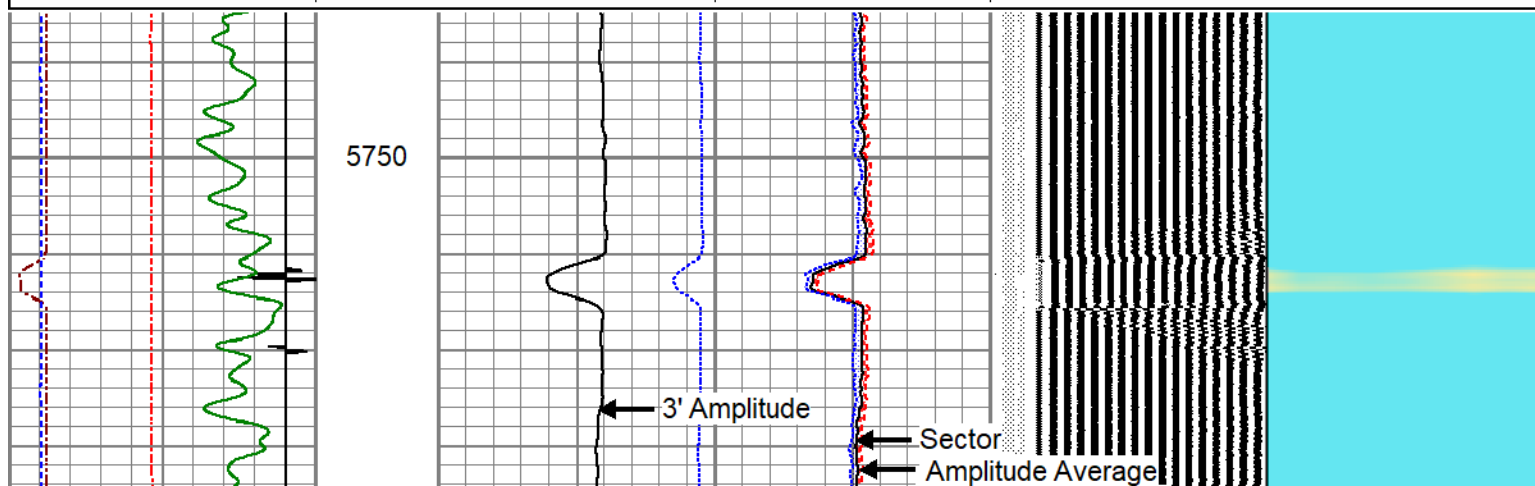


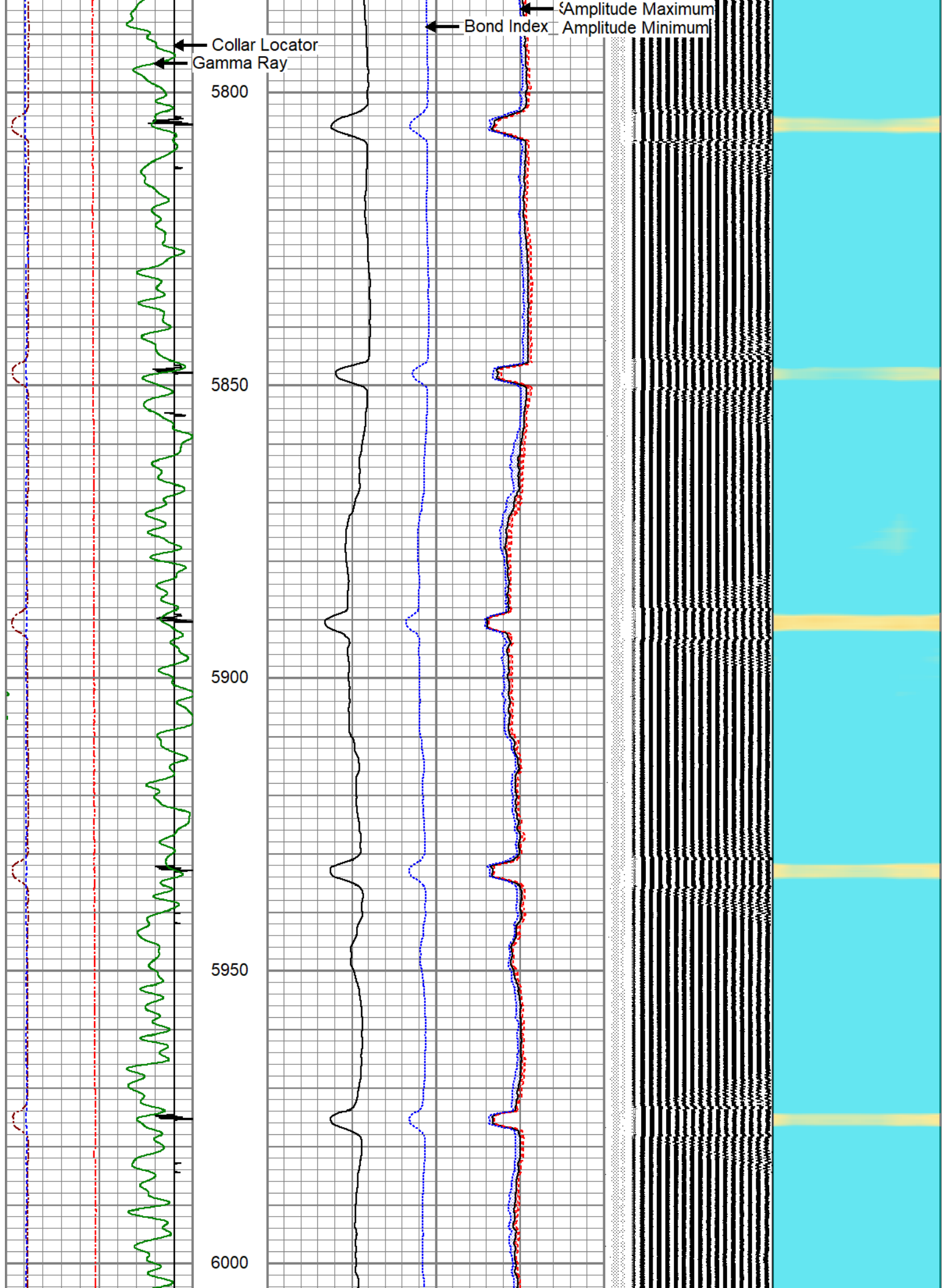
# MAIN LOG

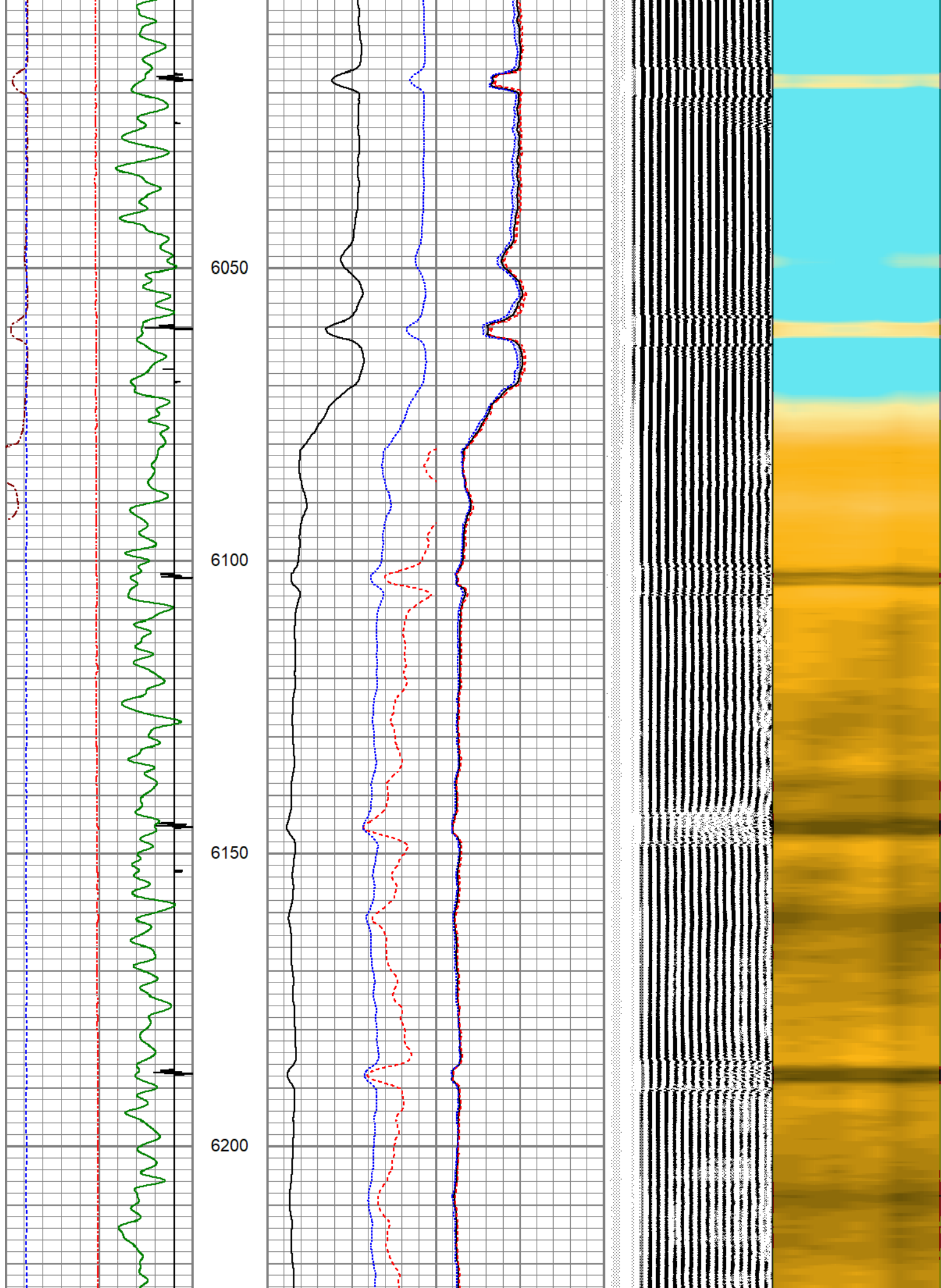
## ZERO PSI APPLIED AT SURFACE

Database File	gulf exploration llc_black powder #2_0512347681_02sep2020_scbl.db
Dataset Pathname	pass5
Presentation Format	pinr_scbl
Dataset Creation	Wed Sep 02 07:28:50 2020
Charted by	Depth in Feet scaled 1:240

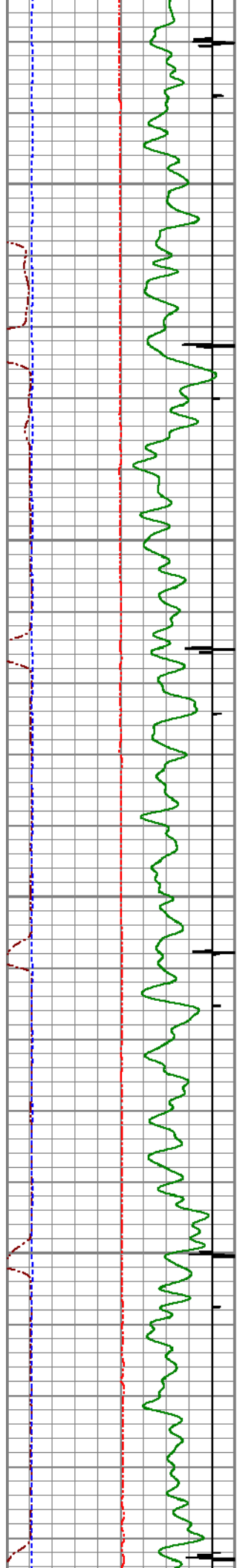
3Ft Travel Time	3' Amplitude	Sector Amplitude Average	VDL	1	Sector Map	8
267 (usec) 167	0 (mV) 100	0 150	200 (usec) 1200			
-9 Collar Locator 1	3' Amplified Amplitude X 5	Sector Amplitude Maximum				
Gamma Ray	0 (mV) 20	0 150				
0 (GAPI) 150	1 Bond Index 0	Sector Amplitude Minimum				
LineTension		0 150				
0 (lb) 2000						
Line Speed						
-100 (ft/min) 100						









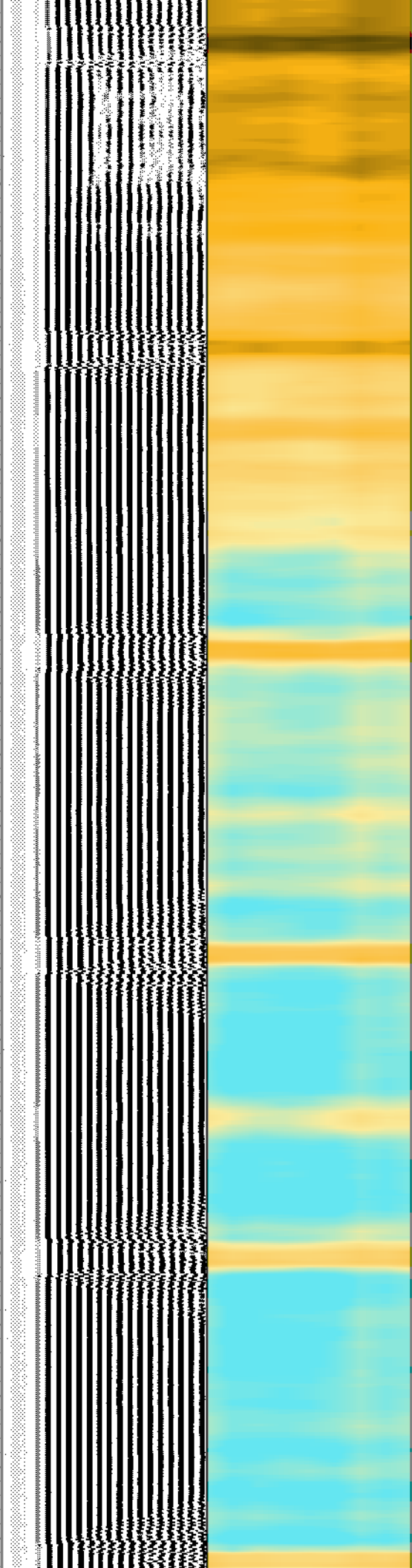
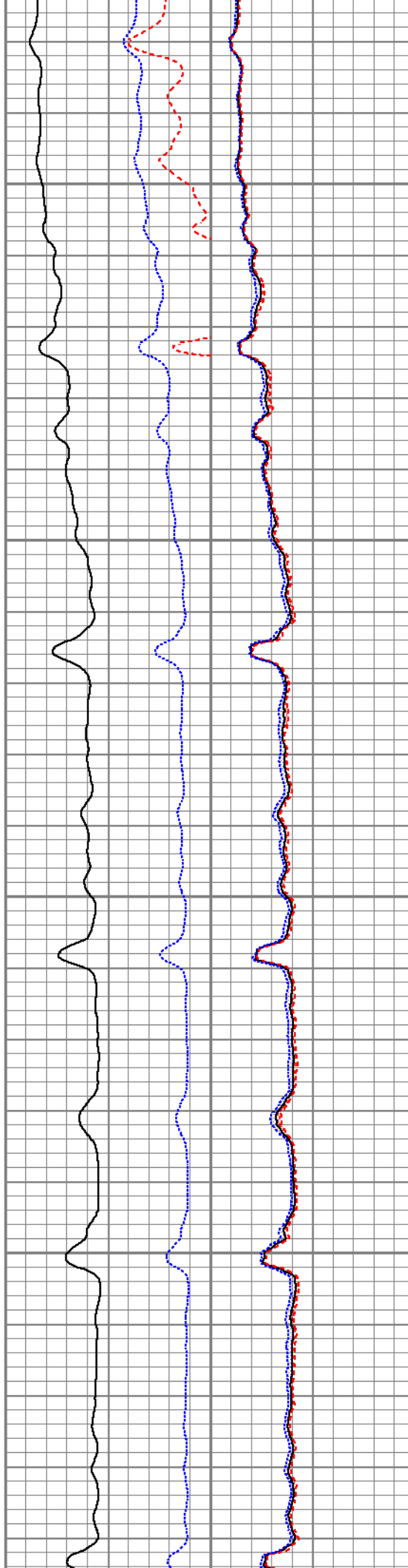


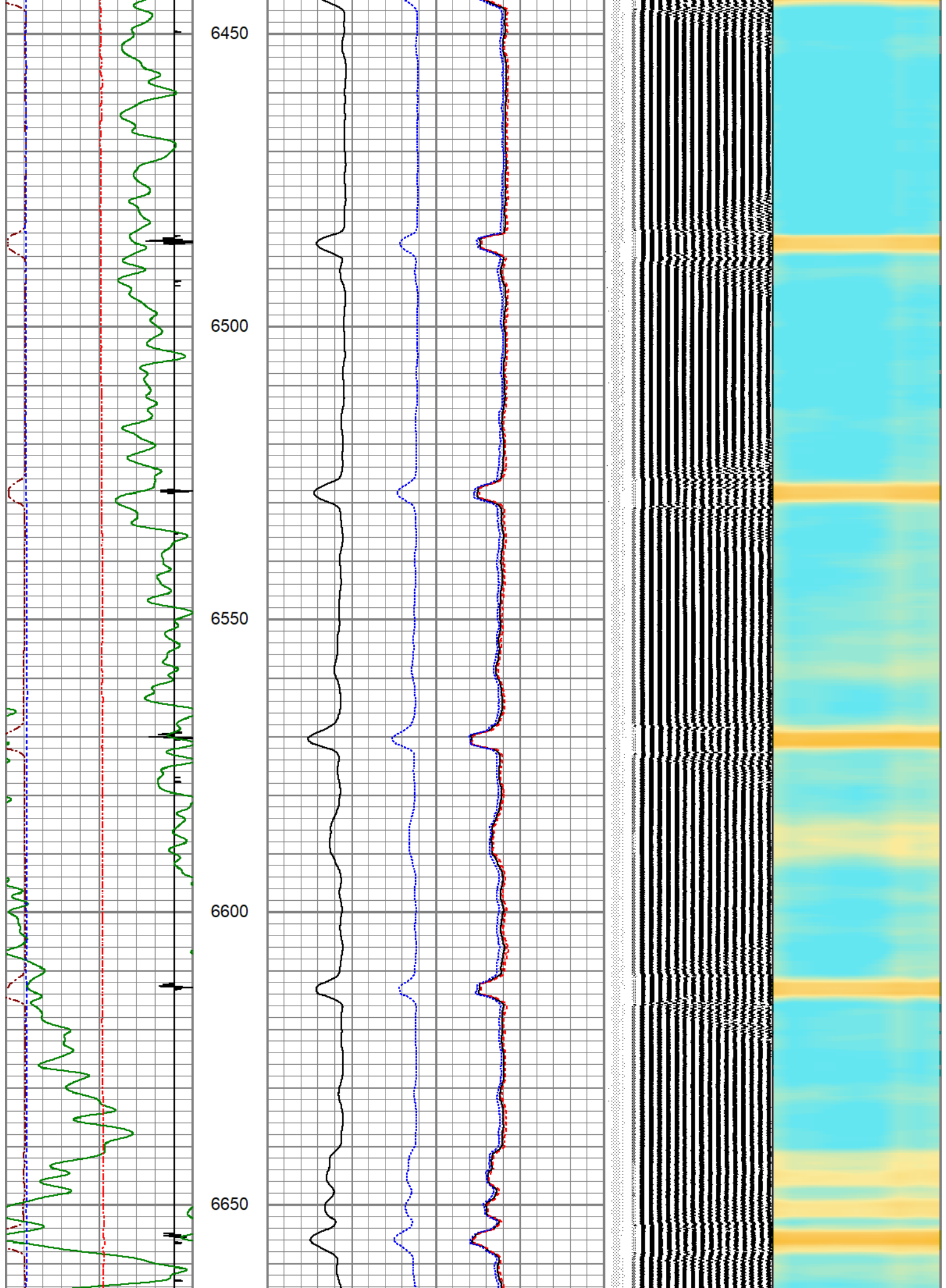
6250

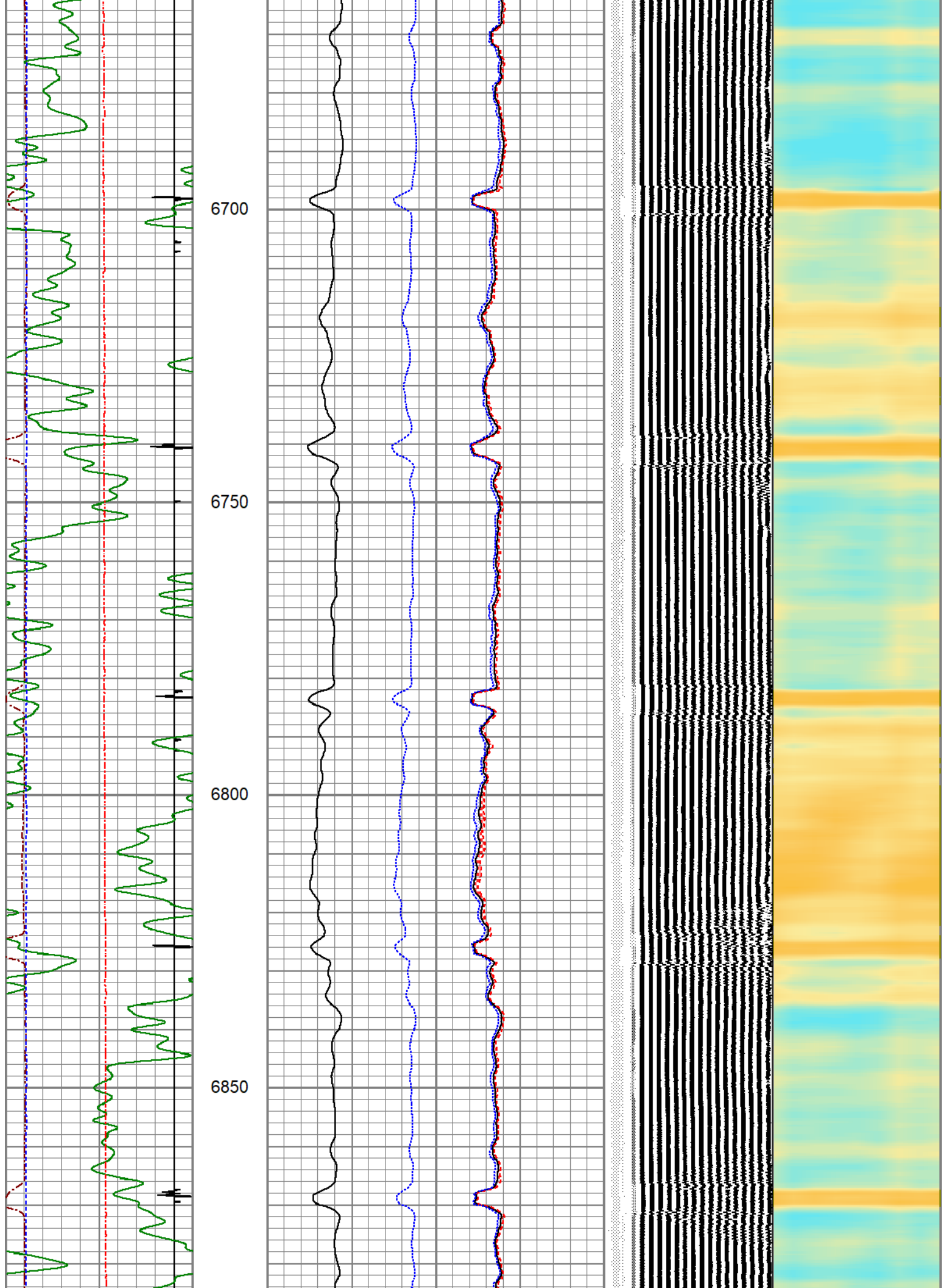
6300

6350

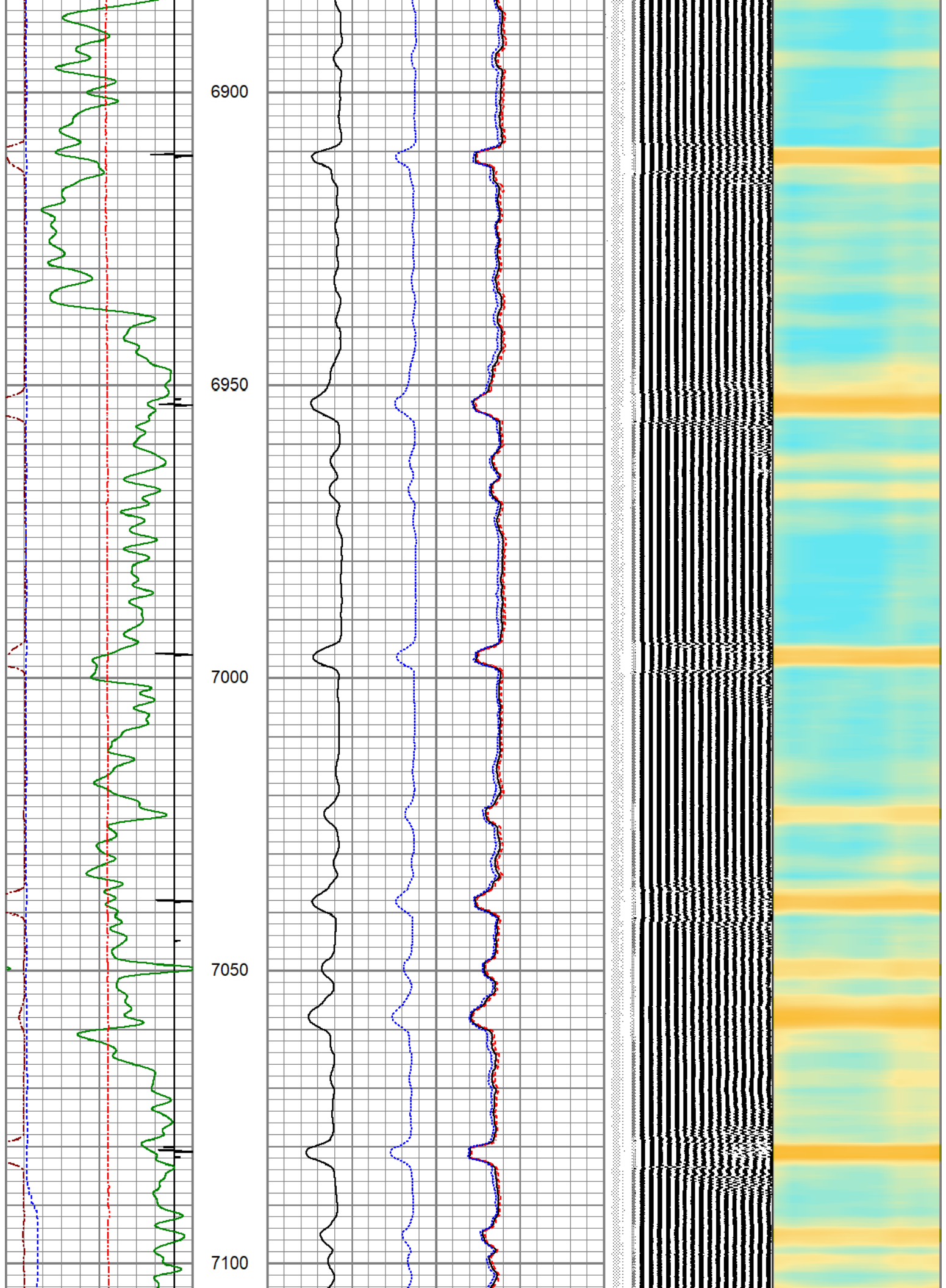
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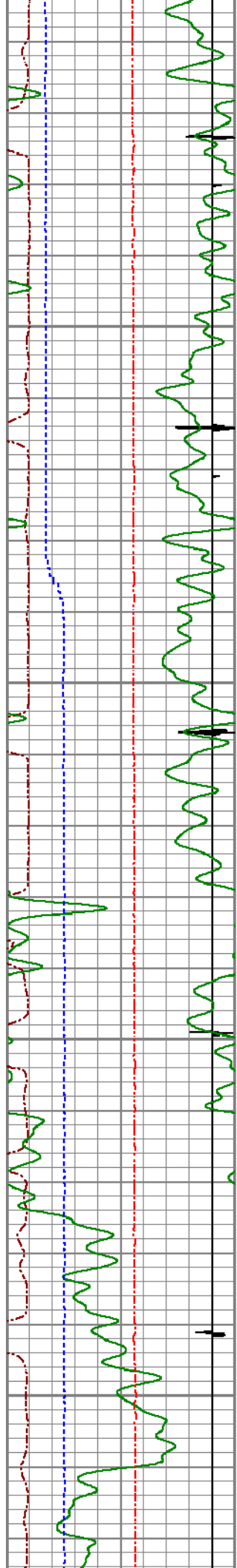










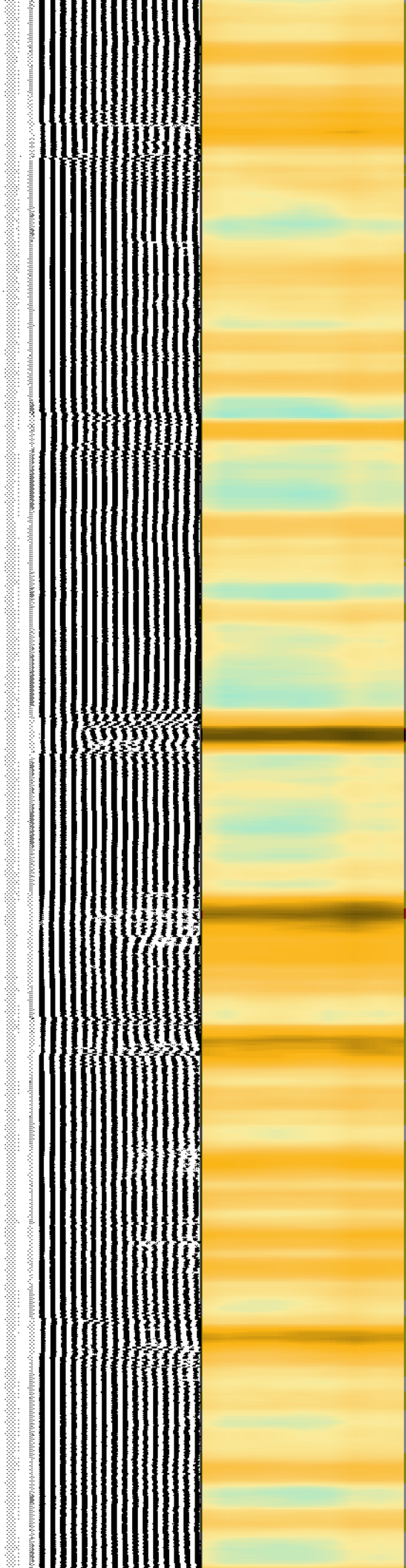
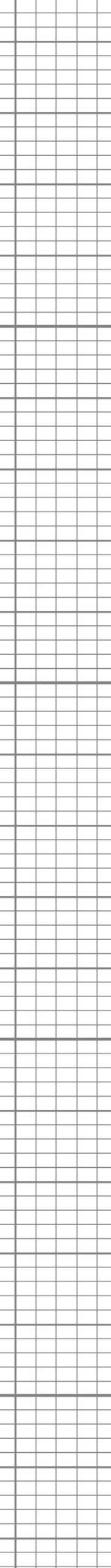
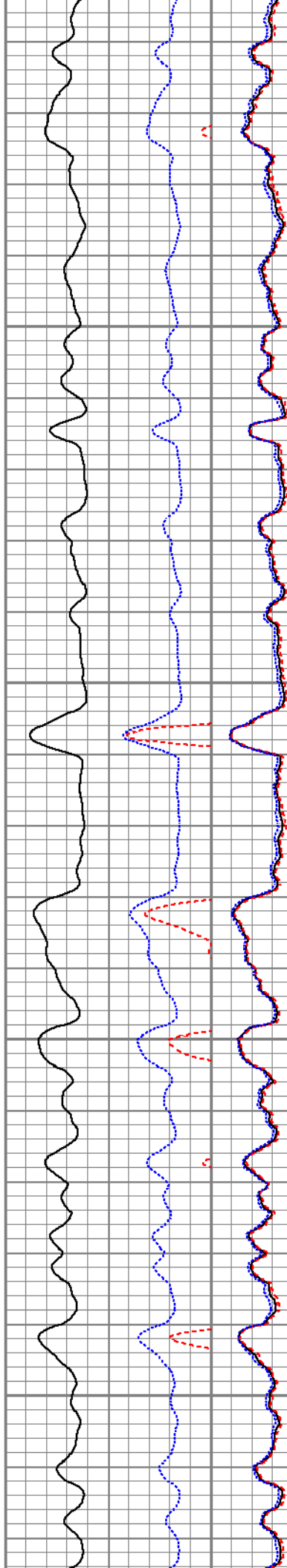


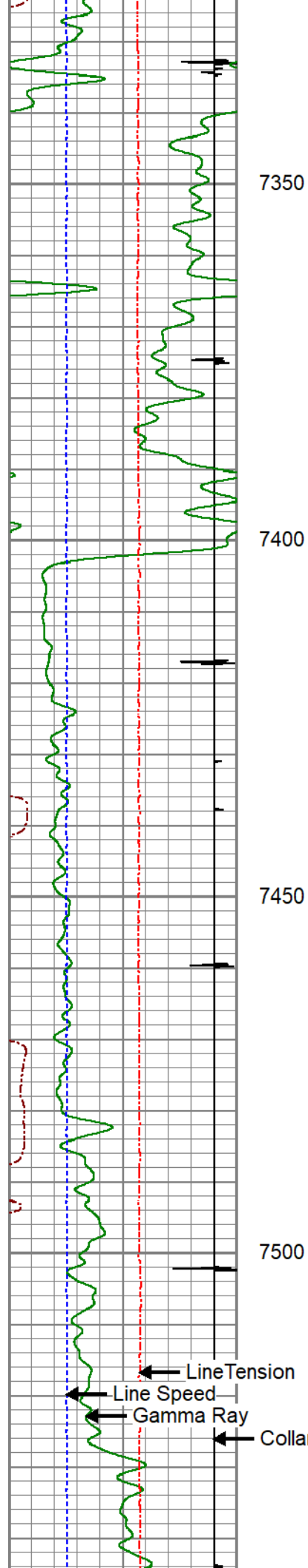
7150

7200

7250

7300





7350

7400

7450

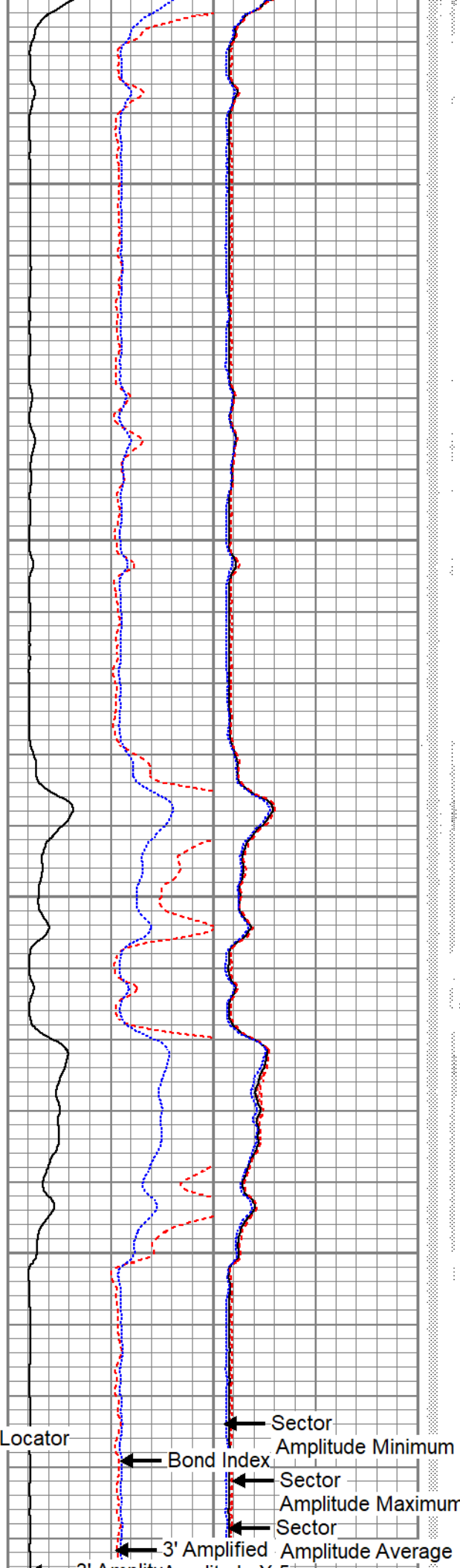
7500

Line Tension

Line Speed

Gamma Ray

Collar Locator



Bond Index

3' Amplified

Sector

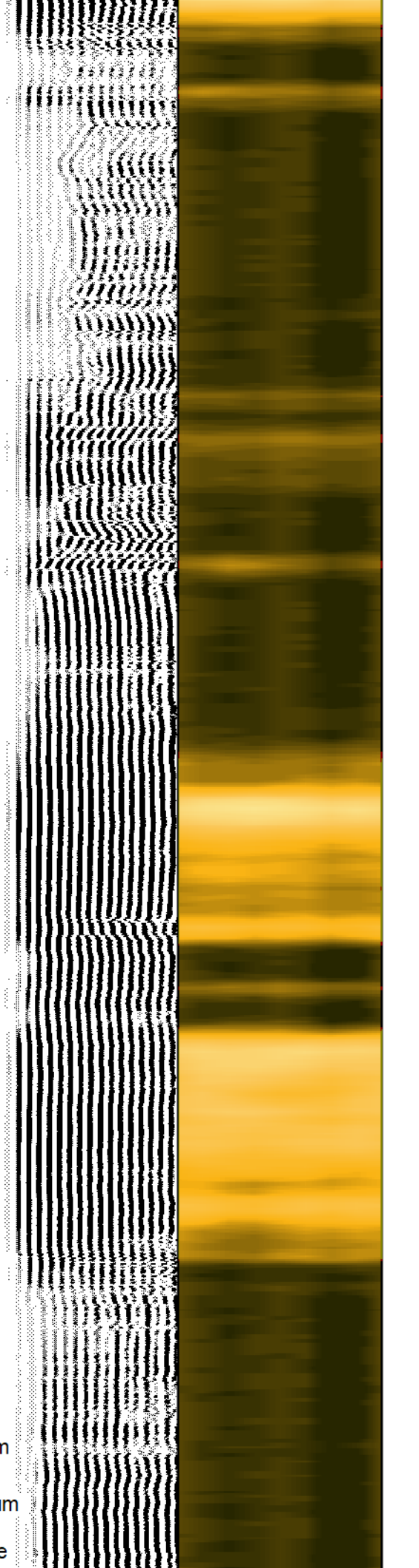
Amplitude Minimum

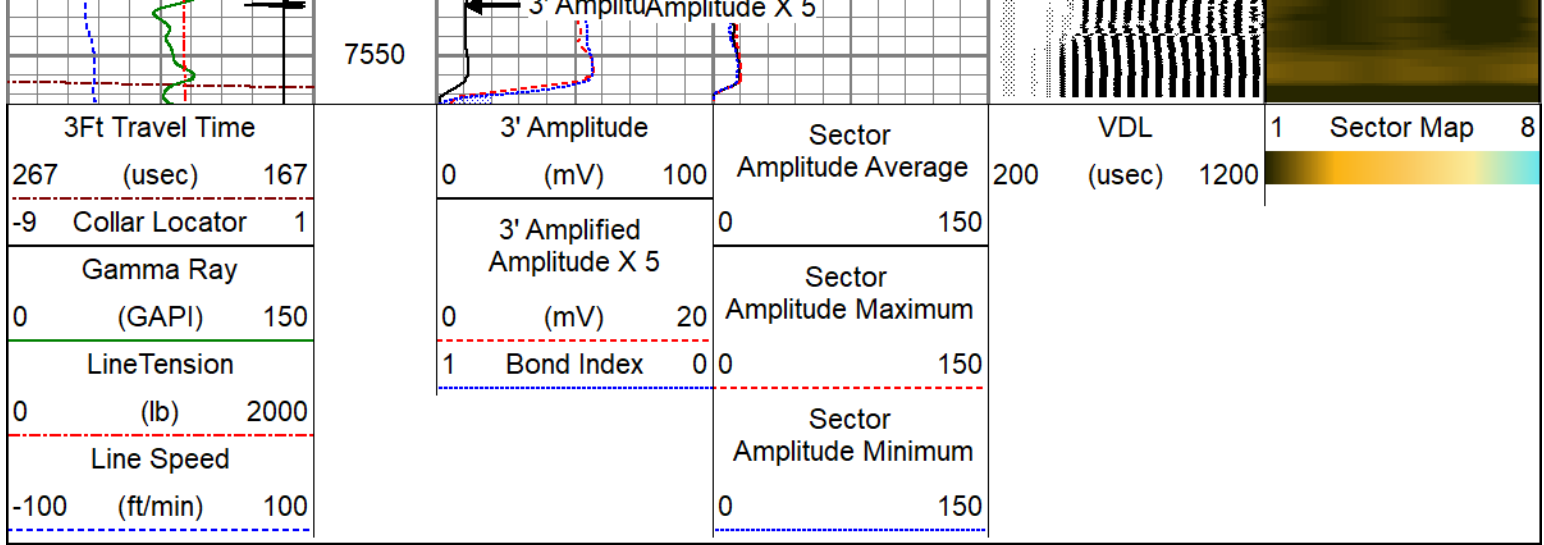
Sector


Amplitude Maximum

Sector

Amplitude Average



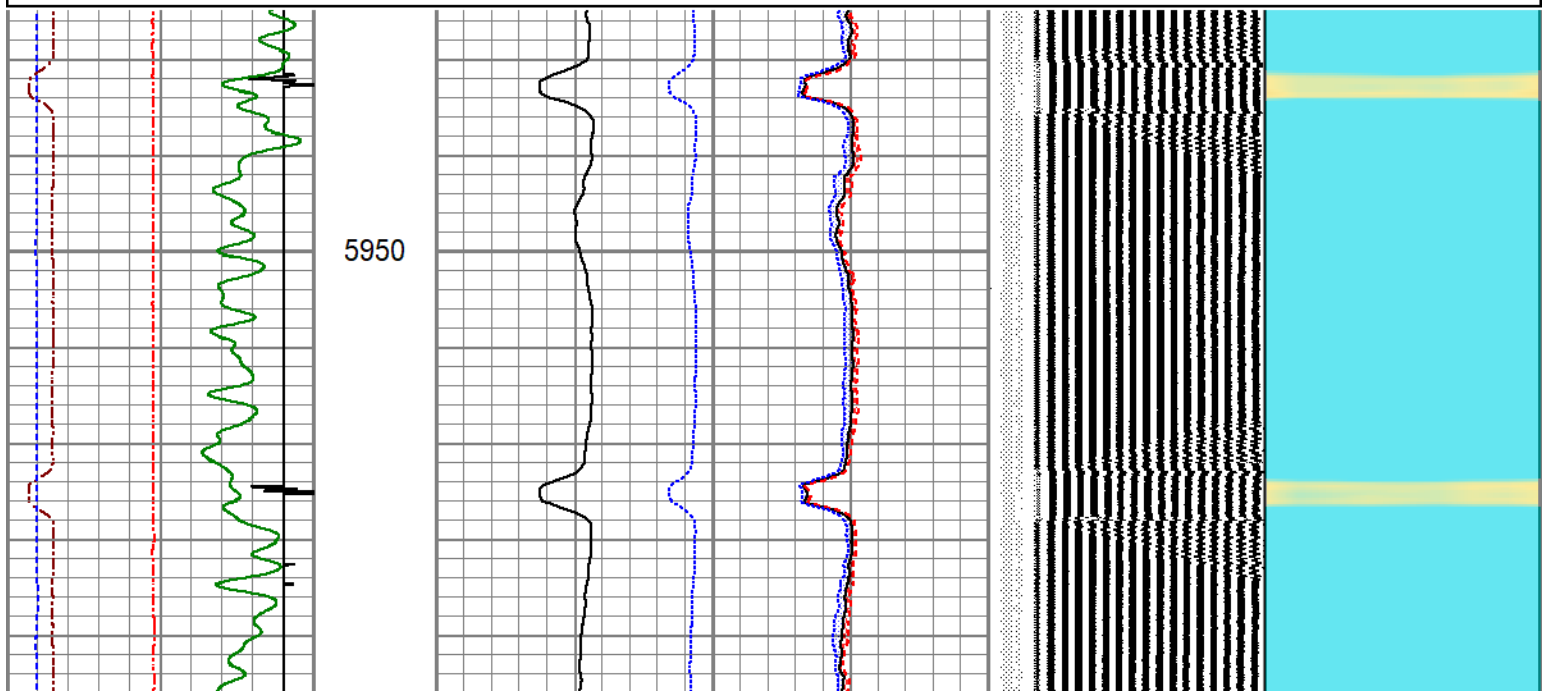
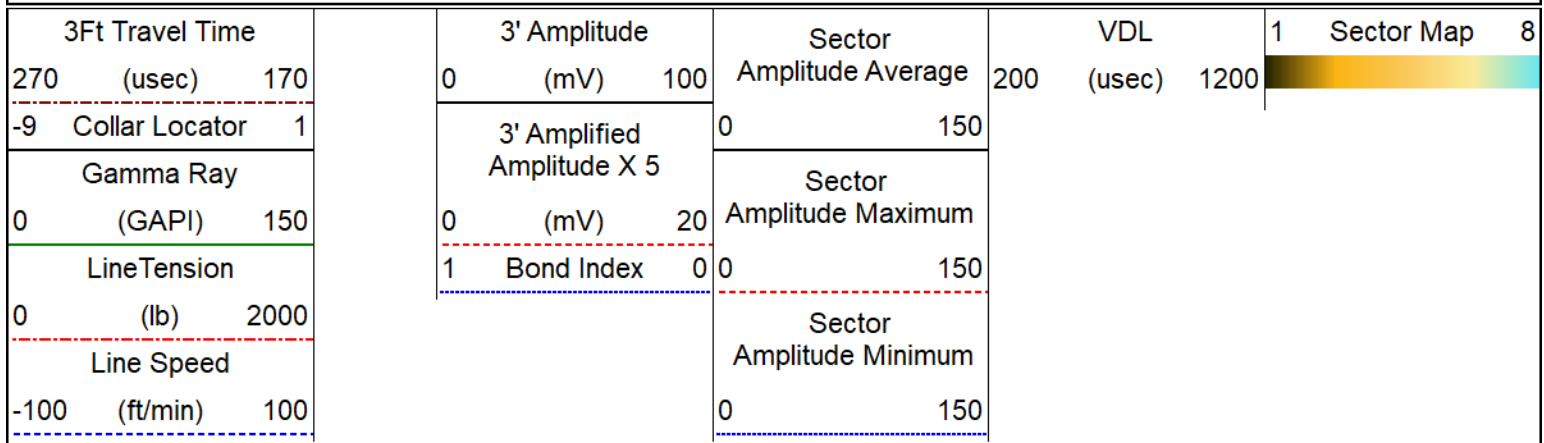




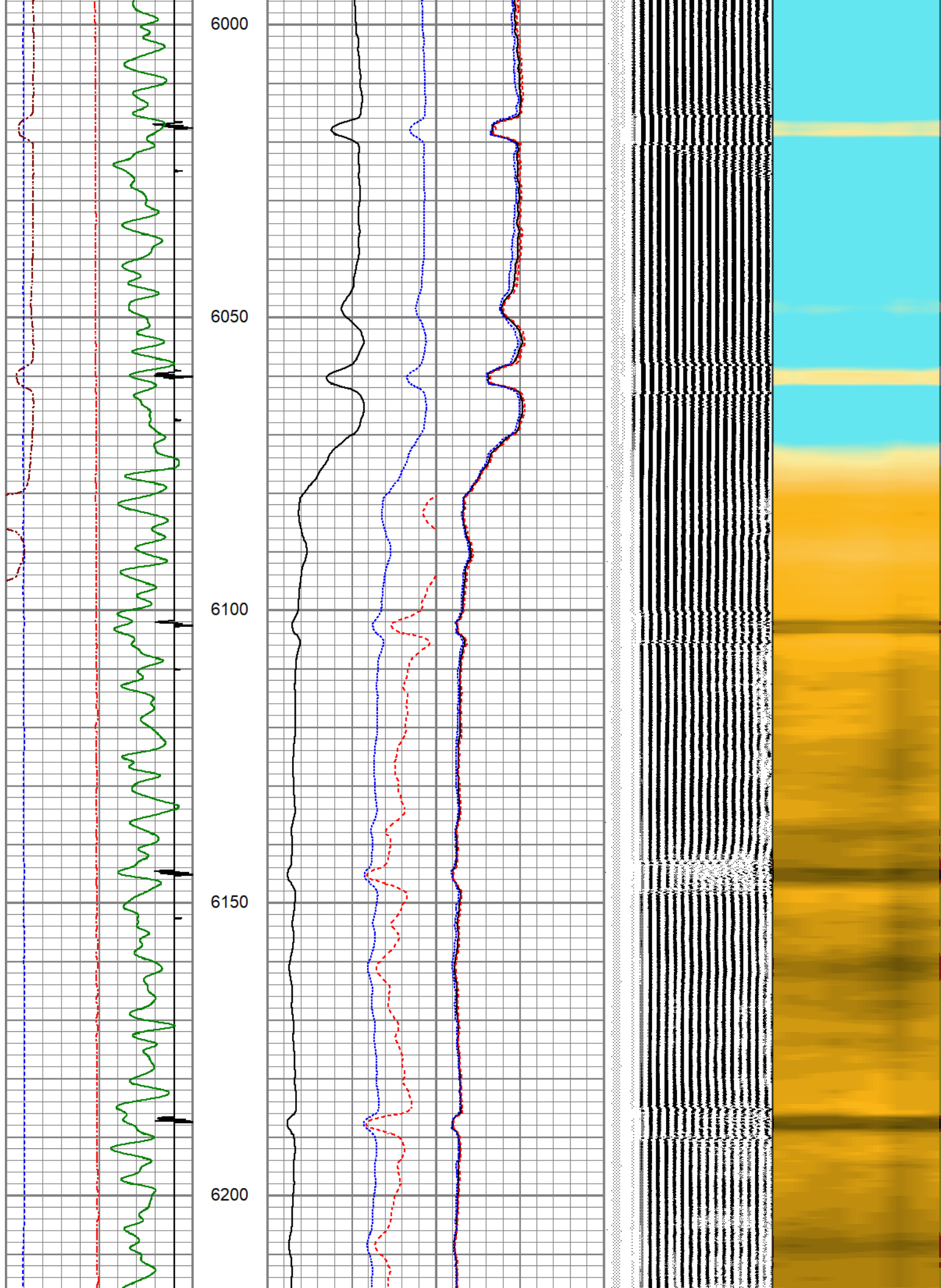
## REPEAT SECTION

### ZERO PSI APPLIED AT SURFACE

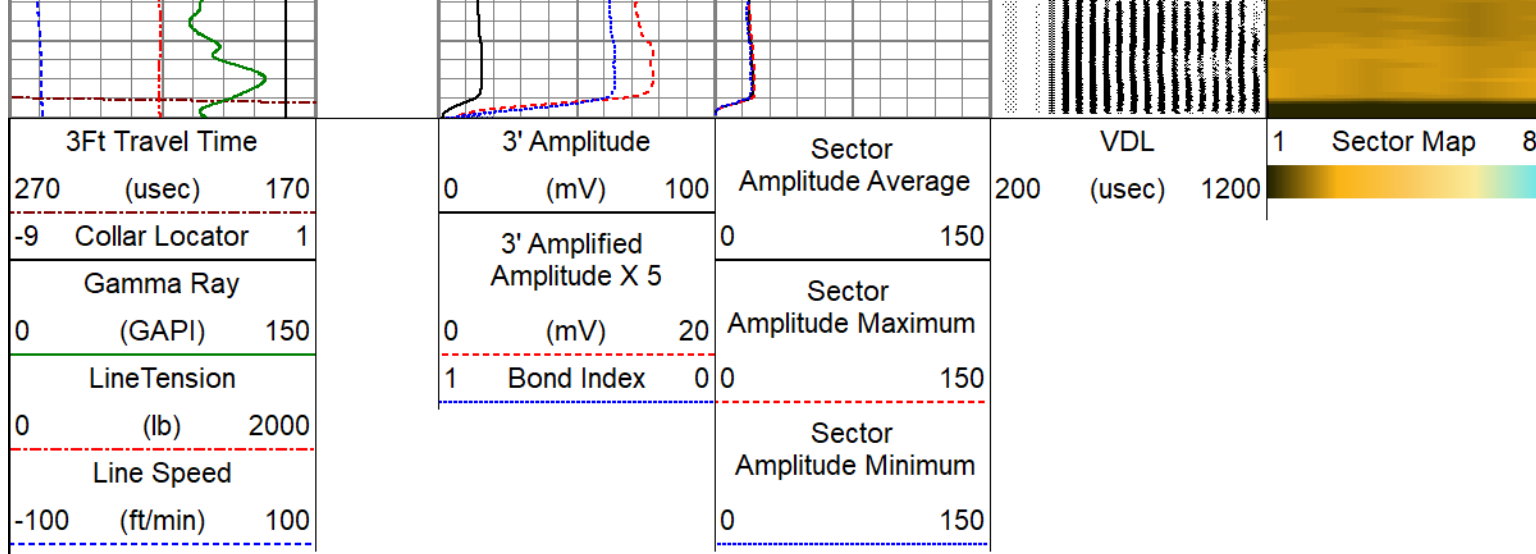
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Dataset Pathname	pass8
Presentation Format	pinr_scbl
Dataset Creation	Wed Sep 02 07:58:13 2020
Charted by	Depth in Feet scaled 1:240











Calibration Report		
Database File	gulf exploration llc_black powder #2_0512347681_02sep2020_scbl.db	
Dataset Pathname	pass8	
Dataset Creation	Wed Sep 02 07:58:13 2020	

Gamma Ray Calibration Report		
Serial Number:	130608	
Tool Model:	275 Probe GCT	
Performed:	Wed Sep 02 06:17:47 2020	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	FW 1304-33	
Tool Model:	RBL-DC	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	5050.448	ft

Master Calibration, performed Wed Sep 02 07:14:09 2020:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.357	1.000	71.921	52.268	1.000
CAL	0.000	1.495				
5'	0.000	1.285	1.000	71.921	55.172	1.000
SUM						
S1	0.000	1.375	0.000	100.000	72.706	0.000
S2	0.000	1.356	0.000	100.000	73.727	0.000
S3	0.000	1.376	0.000	100.000	72.677	0.000
S4	0.000	1.385	0.000	100.000	72.185	0.000
S5	0.000	1.377	0.000	100.000	72.622	0.000
S6	0.000	1.365	0.000	100.000	73.261	0.000
S7	0.000	1.354	0.000	100.000	73.858	0.000
S8	0.000	1.364	0.000	100.000	73.305	0.000

Air Zero Calibration, performed Wed Sep 02 06:47:10 2020:

	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



Company	GULF EXPLORATION LLC
Well	BLACK POWDER #2
Field	WATTENBERG
County	WELD
State	CO