



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
600' FSL 1900' FWL
SEC 10 TWP 7N RGE 63W
CCL
Permanent Datum GL
Log Measured From KB 23' Elevation 4838'
Drilling Measured From KB Above Perm. Datum
K.B. 4861'
D.F. N/A
G.L. 4838'

Comp. GULF EXPLORATION LLC
Well BLACK POWDER #2
Field WATTENBERG
Co. WELD
State CO

Date of Service	28-AUG-2020		
Run Number	ONE		
Depth Driller or P8TD	7334'		
Depth Logger	8890'		
Bottom Log Interval	7315'		
Top Log Interval	5820'		
Open Hole Size	8.75"		
Type Fluid	FRESH WATER		
Fluid Level	SURFACE		
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
Tubing Record			Bottom
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

Engineer: E. HESSLER
Operator: A. SPILLMAN
Operator: C. SHEPPARD
Operator:

Tool Data - Services

SCBL
GCT

Serial Number

FW 1403-33
FW 1306-08

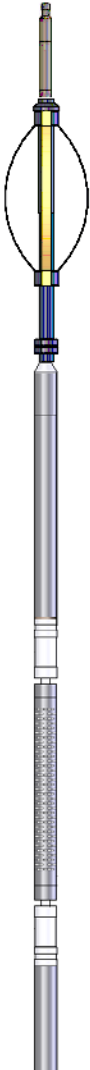
Top - Bottom

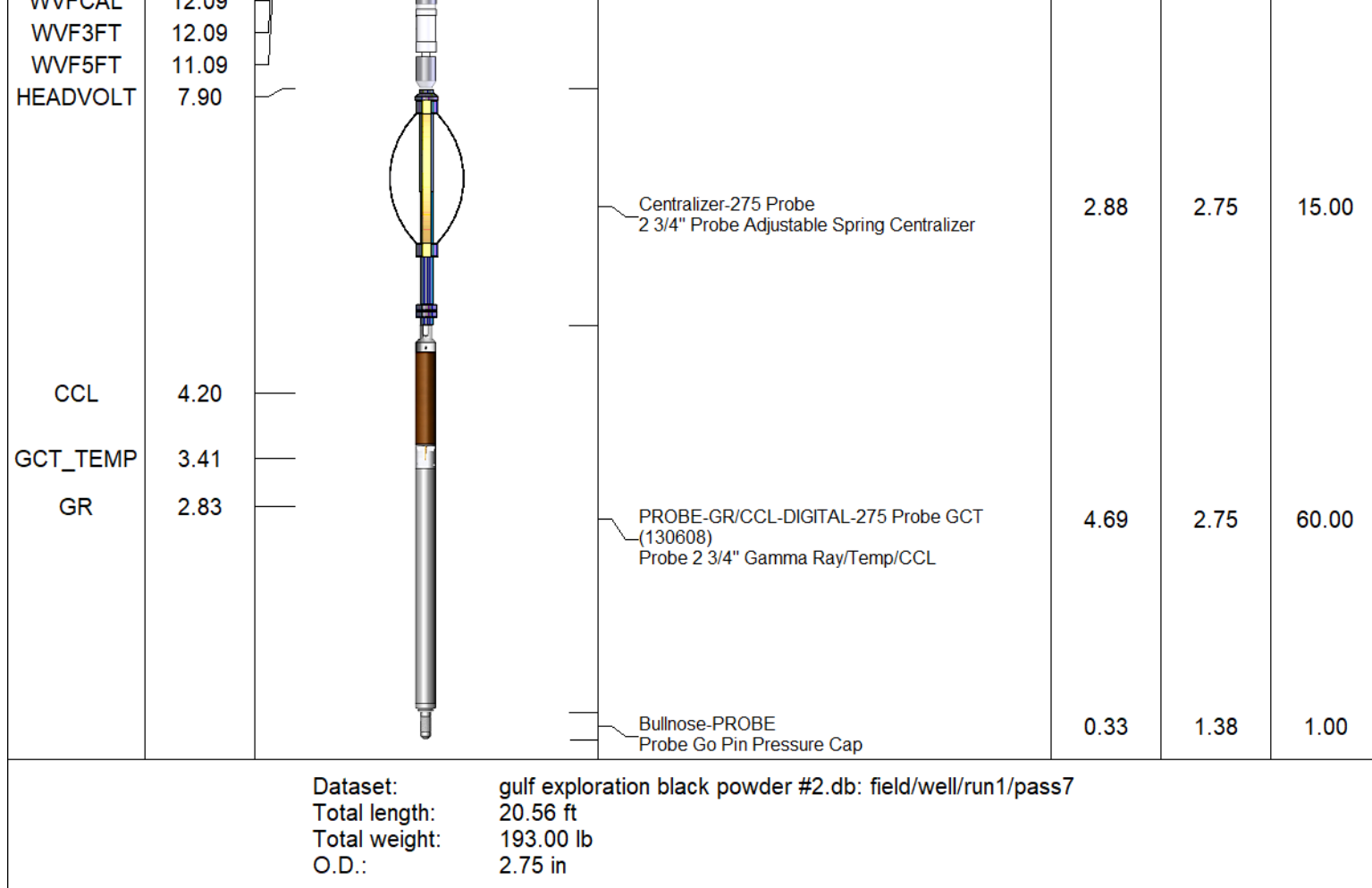
BOREID in 7.875	BOTTEMP degF 100	CASED? Yes	CASEOD in 5.5	CASETHCK in 0	CASEWGHT lb/ft 17	CMNTTHCK in 0
CMTTKCOR Off	CSTKCOR Off	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.08	NPORSEL Limestone	PERFS No
PPT usec 0	SRFTEMP degF 0	SZCOR Off	TDEPTH ft 0			


Variable Description

BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASED? : Cased hole ?
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
CMNTTHCK : Cement Thickness
CMTTKCOR : CN CemThk. Cor. ?
CSTKCOR : CN CasThk. Cor. ?

MAXAMPL : Maximum Amplitude
MINAMPL : Minimum Amplitude
MINATTN : Minimum Attenuation
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
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
WVFS8 WVFS7 WVFS6 WVFS5 WVFS4 WVFS3 WVFS2 WVFS1 WVFCAL	12.09 12.09 12.09 12.09 12.09 12.09 12.09 12.09 12.09		PROBE-RBT-DIGITAL-RBL-DC (FW 1304-33) Probe 2 3/4" Radii Bond-Corrosion Package	8.75	2.75	100.00





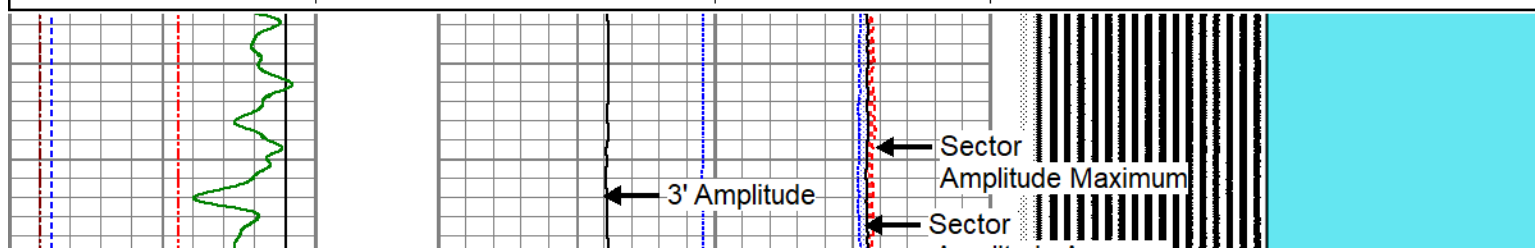
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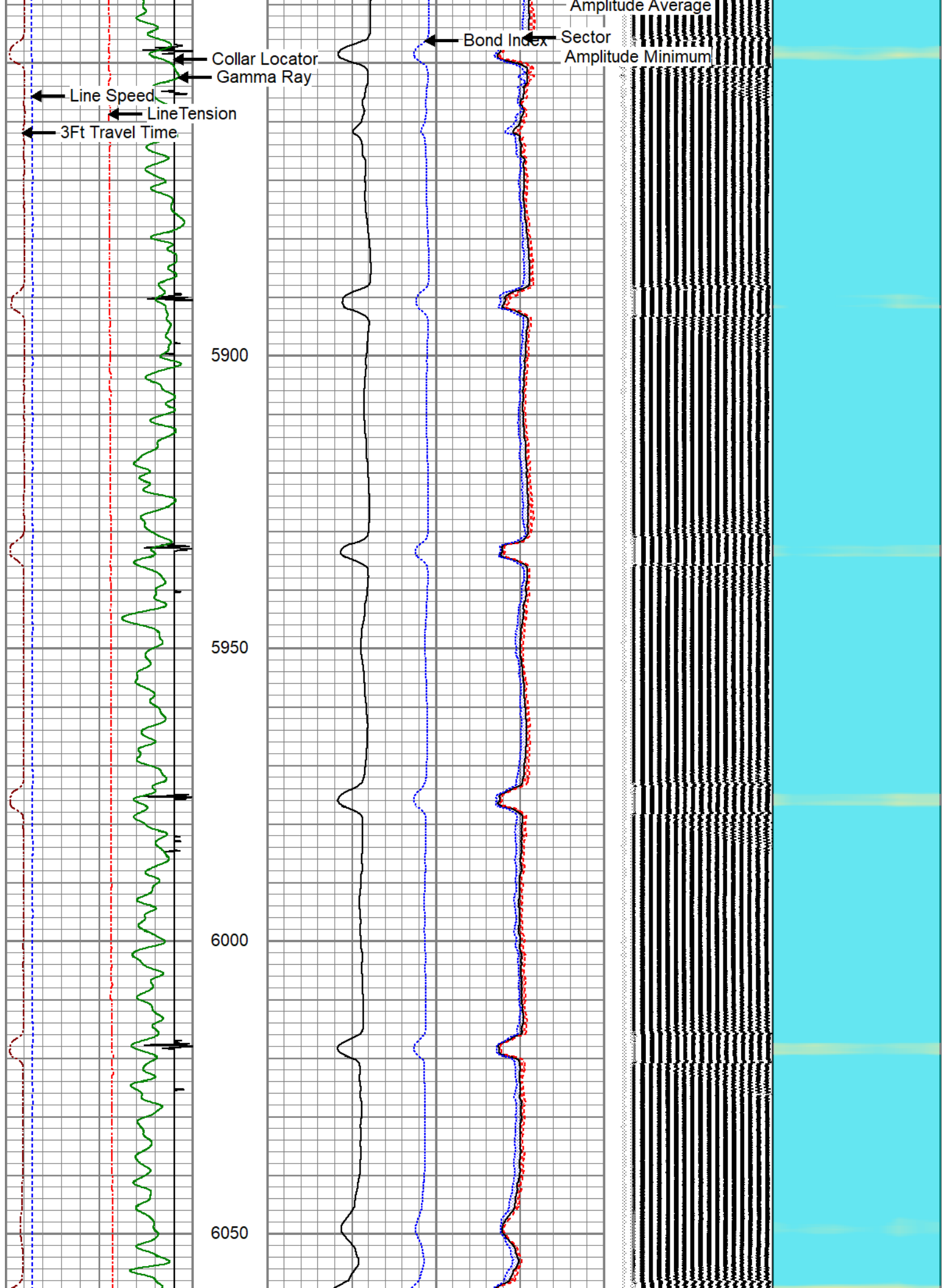
MAIN LOG

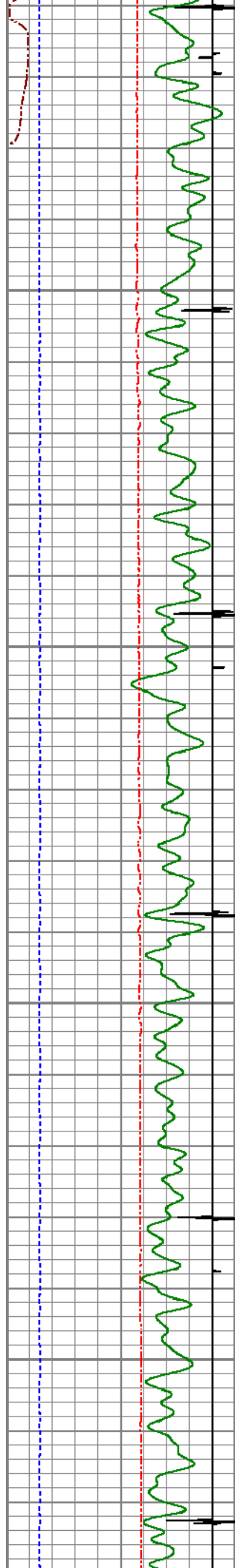
ZERO PSI APPLIED AT SURFACE

Database File	gulf exploration black powder #2.db
Dataset Pathname	pass5
Presentation Format	pinr_scbl
Dataset Creation	Fri Aug 28 10:19:00 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	0 150				
Gamma Ray	0 (mV) 20	Sector Amplitude Maximum				
0 (GAPI) 150	1 Bond Index 0	0 150				
LineTension		Sector Amplitude Minimum				
0 (lb) 2000		0 150				
Line Speed						
-100 (ft/min) 100						





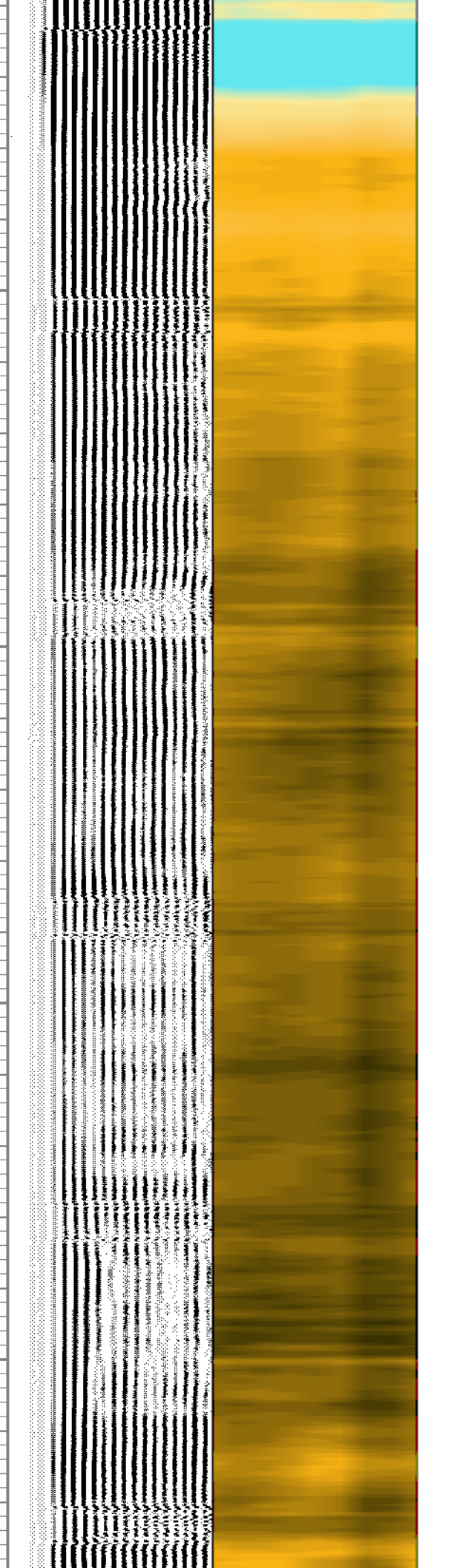
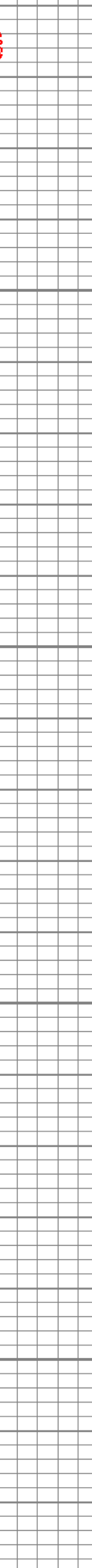
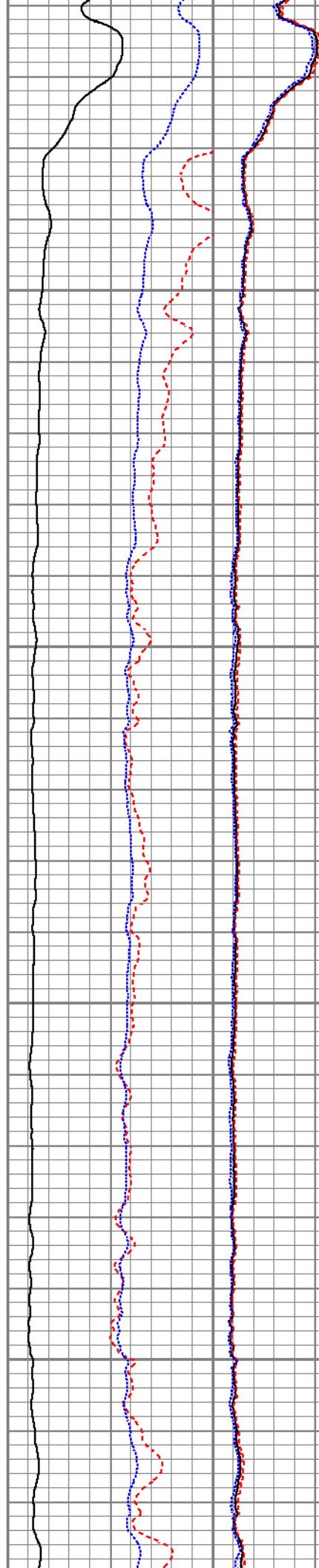


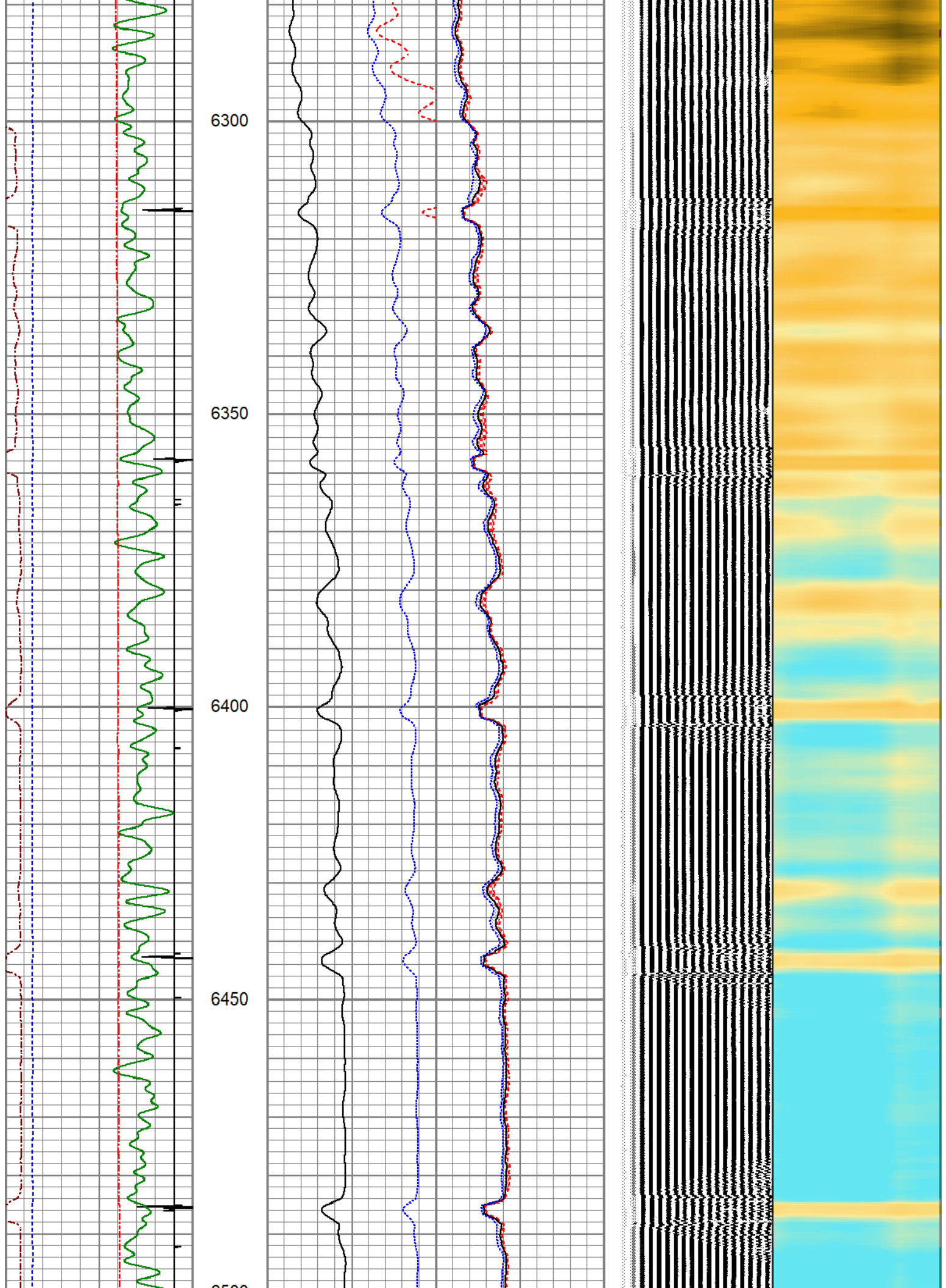
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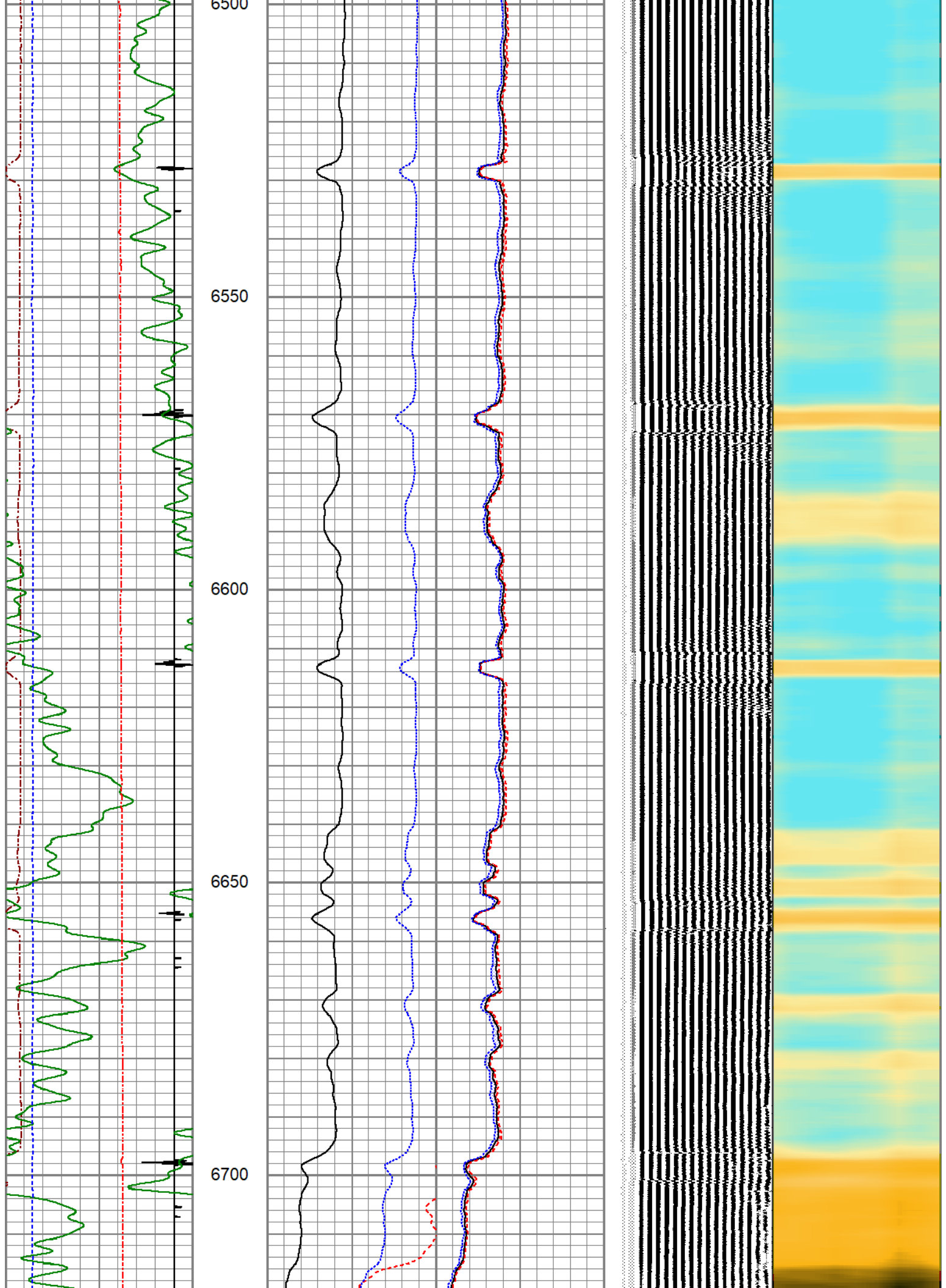
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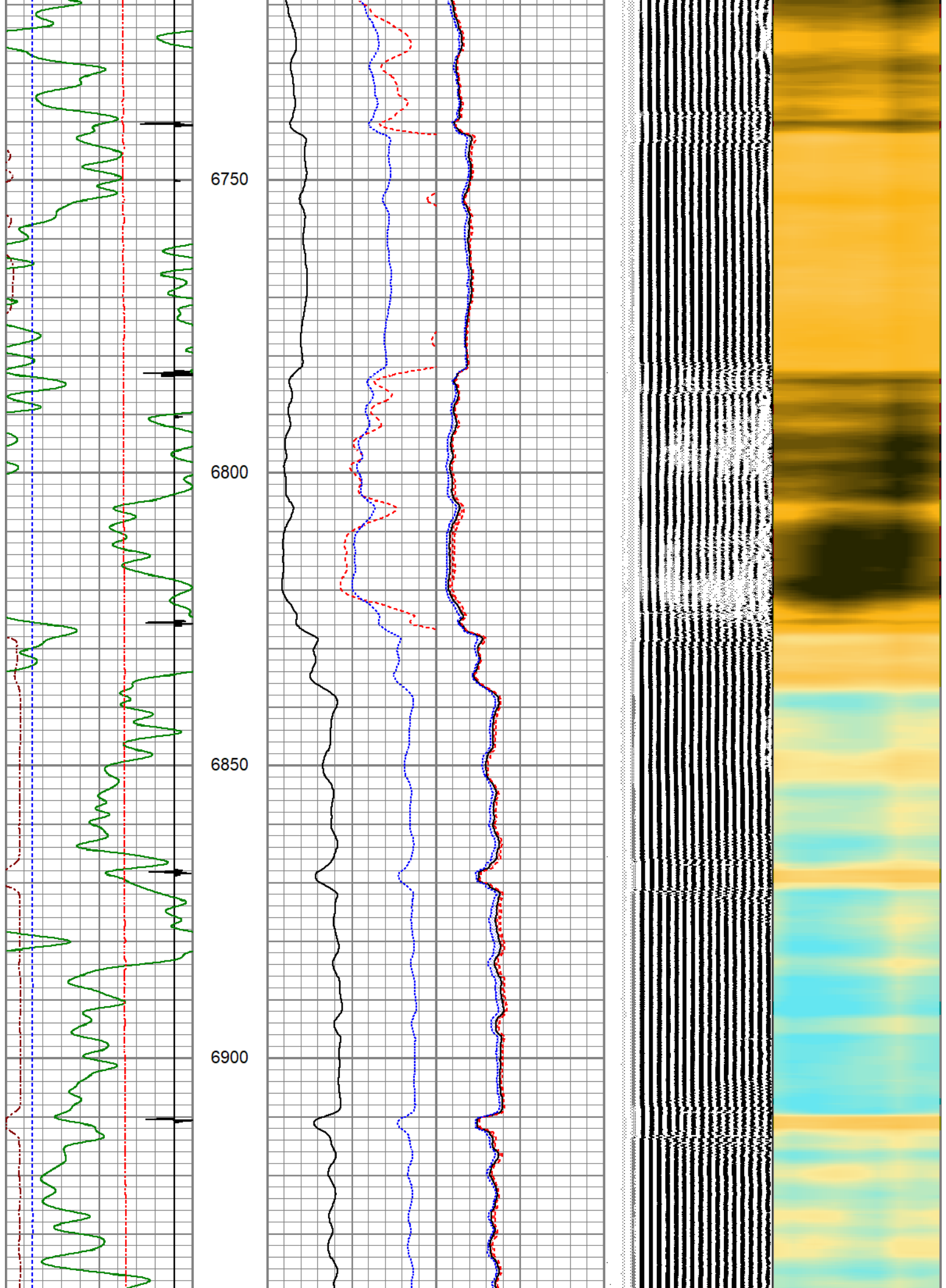
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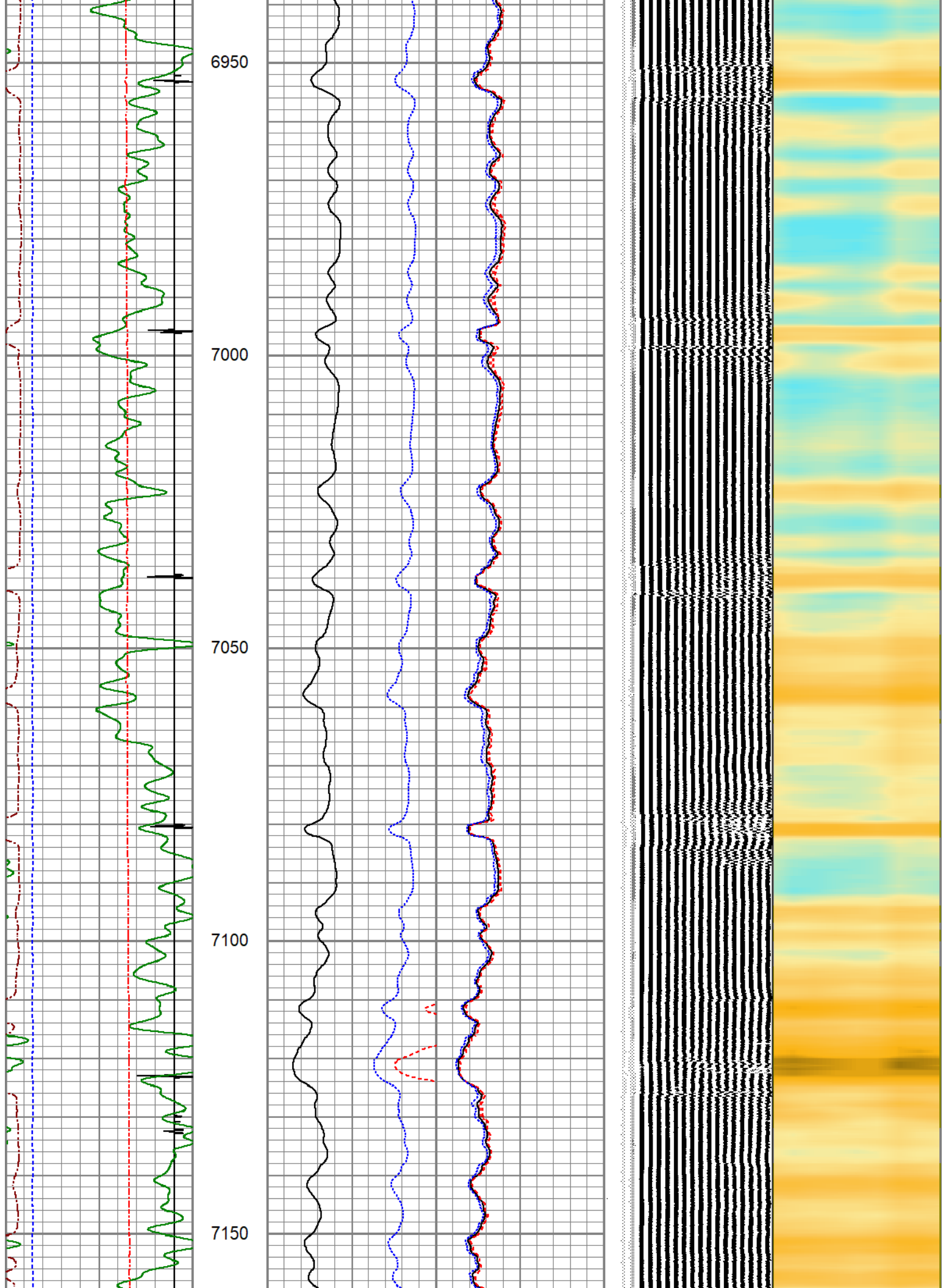
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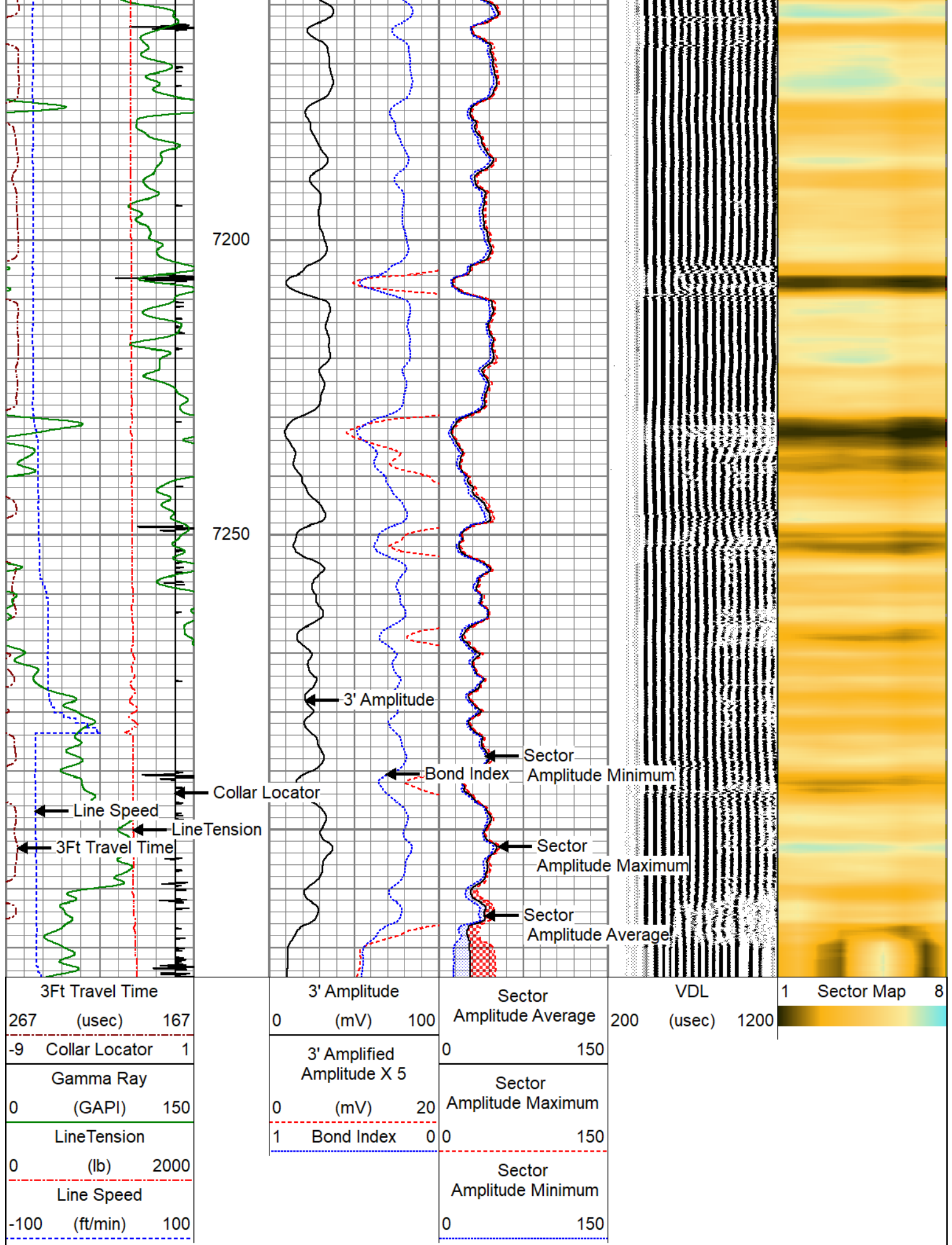






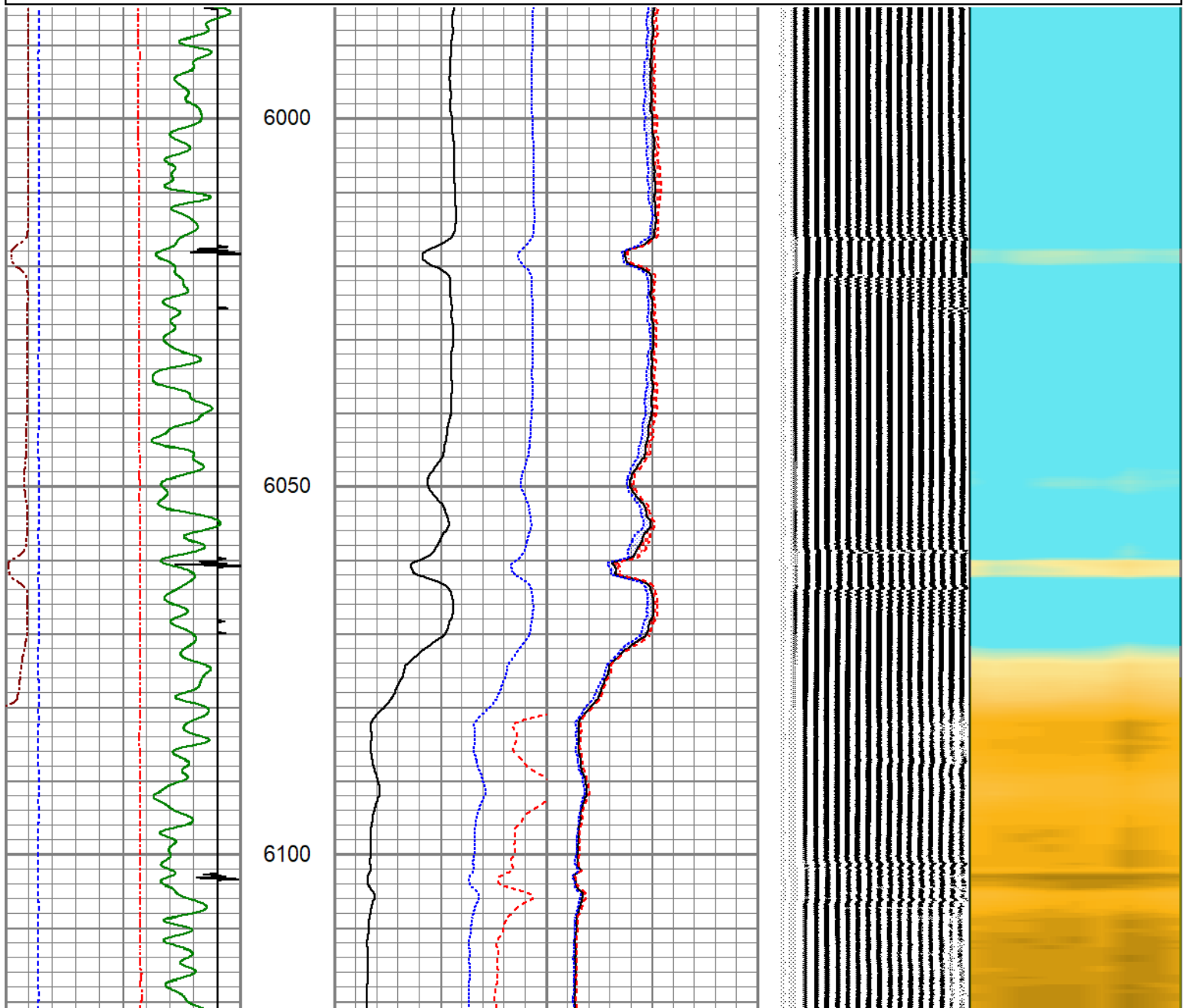


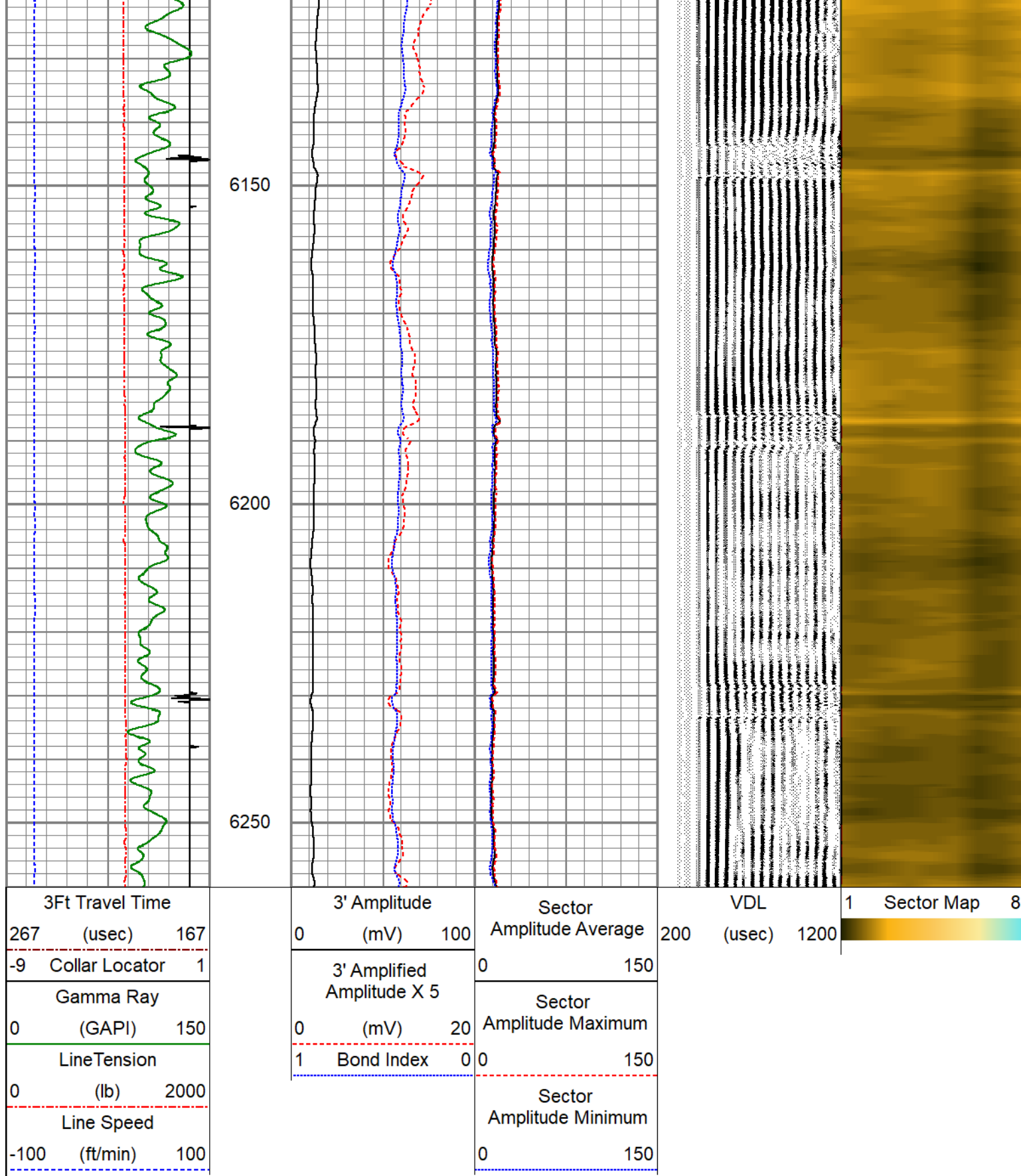




Database File gulf exploration black powder #2.db
Dataset Pathname pass6
Presentation Format pinr_scbl
Dataset Creation Fri Aug 28 10:48:30 2020
Charted by Depth in Feet scaled 1:240

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





Calibration Report

Database File gulf exploration black powder #2.db
 Dataset Pathname pass6
 Dataset Creation Fri Aug 28 10:48:30 2020

Gamma Ray Calibration Report

Serial Number: 130608
 Test Method: 375 P... 007

Tool Model: 275 Probe GC I
Performed: Fri Aug 28 08:51:48 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: 376.122 ft

Master Calibration, performed Fri Aug 28 09:53:51 2020:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.234	1.000	71.921	57.458	1.000
CAL	0.000	1.498				
5'	0.000	1.293	1.000	71.921	54.835	1.000
SUM						
S1	0.000	1.256	0.000	100.000	79.635	0.000
S2	0.000	1.240	0.000	100.000	80.632	0.000
S3	0.000	1.248	0.000	100.000	80.136	0.000
S4	0.000	1.260	0.000	100.000	79.358	0.000
S5	0.000	1.264	0.000	100.000	79.125	0.000
S6	0.000	1.248	0.000	100.000	80.139	0.000
S7	0.000	1.231	0.000	100.000	81.267	0.000
S8	0.000	1.237	0.000	100.000	80.855	0.000

Air Zero Calibration, performed Fri Aug 28 09:50:07 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

