



**PIONEER**

Pioneer Energy Services

## RADIAL BOND LOG WITH GAMMA RAY

Company		KERR-MCGEE OIL & GAS ONSHORE			
Well		HELD ET AL 1			
Field		WATTENBERG			
County		WELD		State CO	
Location:		API # : 0612311625		Other Services	
SHL: 1980' FSL 660' FWL NWSW		NONE			
SEC 4 TWP 4N RGE 67W					
Permanent Datum GL		Elevation 4805'		K.B. 4816'	
Log Measured From GL		Above Perm. Datum		D.F. 4816'	
Drilling Measured From KB				G.L. 4805'	
Date of Service		13 DEC 2016			
Run Number		1			
Depth Driller or PBTD		8810'			
Depth Logger		6500'			
Bottom Log Interval		6500'			
Top Log Interval		5000'			
Open Hole Size		7 7/8"			
Type Fluid		WBM			
Fluid Level		SURFACE			
Fluid Density		N/A			
Max. Recorded Temperature		198 F			
Max. Wellhead Pressure		0 PSI			
Wellhead Connection		N/A			
Estimated Cement Top		SEE LOG			
Unit Number		P-01			
Wireline Size		9/32"			
Location		FT. MORGAN, CO			
Recorded By		S. STUMP			
Witnessed By		E. CHAVEZ			
Size		Wt/Ft		Top Bottom	
Tubing Record					
Surface Casing					
Production Casing		4.5"		11.6# SURFACE 7621'	
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.  
0 PSI ON WELL WHILE LOGGING

S.O. # 2-260262

WELL LOGGED FROM 6500' TO 5000'



NO FREE PIPE PASS ON CUSTOMER REQUEST


THANK YOU FOR USING PIONEER ENERGY SERVICES!


Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: S. STUMP	SCBL	141168
Operator: J. GOFF	GR/CCL	070238
Operator: A. FERGUSON		
Operator:		

Top - Bottom

BHTEMP_Src TEMP	PPT usec 0	CASEWGHT lb/ft 11.6	MAXAMPL mV 0	MINAMPL mV 1.5	MINATTN db/ft 0.08	SRFTEMP degF 0
CASETHCK in 0	CASEOD in 4.5	PERFS 0	TDEPTH ft 0	BOTTEMP degF 192	BOREID in 7.875	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
TEMP	14.17		Cable Head-Titan 143 1 7/16" Titan Cable Head	1.03	1.43	2.00
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
WVFS8	11.94		SCBL-275 Probe w Temp New Mod (14119.17) Probe Radii Bond Tool with Temperature	11.94	2.75	95.00
WVFS7	11.94					
WVFS6	11.94					
WVFS5	11.94					
WVFS4	11.94					
WVFS3	11.94					
WVFS2	11.94					
WVFS1	11.94					
WVFCAL	11.94					
WVF3FT	11.94					
WVF5FT	10.94					
CCL	3.91		Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00

GR	1.17		GR_CCL-275 Probe GR-CCL (070238) Probe 2 3/4" Gamma Ray / CCL Analog - Neg Pulse	4.54	2.75	60.00
			Bullnose-Titan GO Pin Pressure Cap	0.27	1.38	1.00
Dataset:			2-260262.db: field/well/run1/MAIN			
Total length:			20.76 ft			
Total weight:			188.00 lb			
O.D.:			2.75 in			

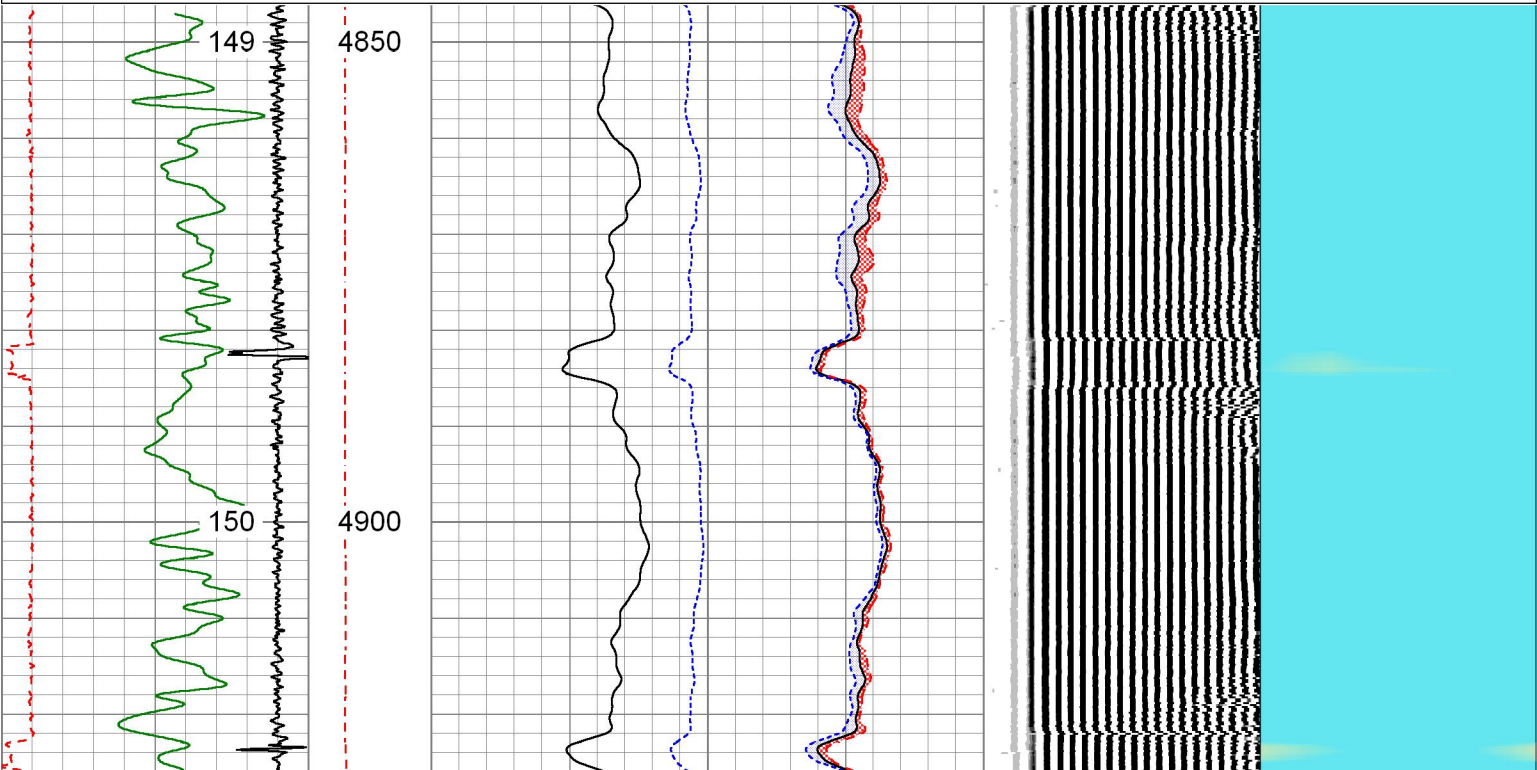


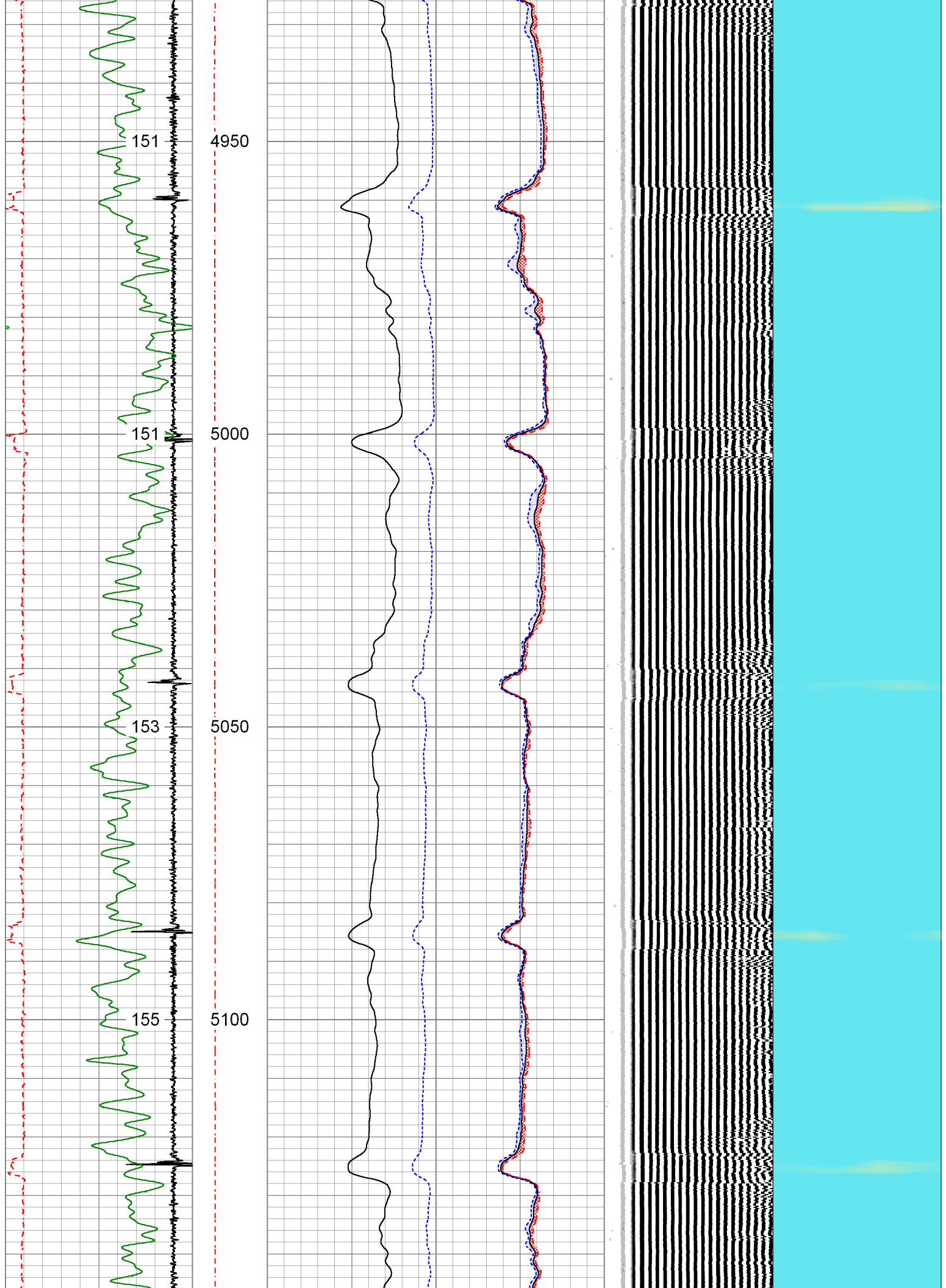
# MAIN PASS

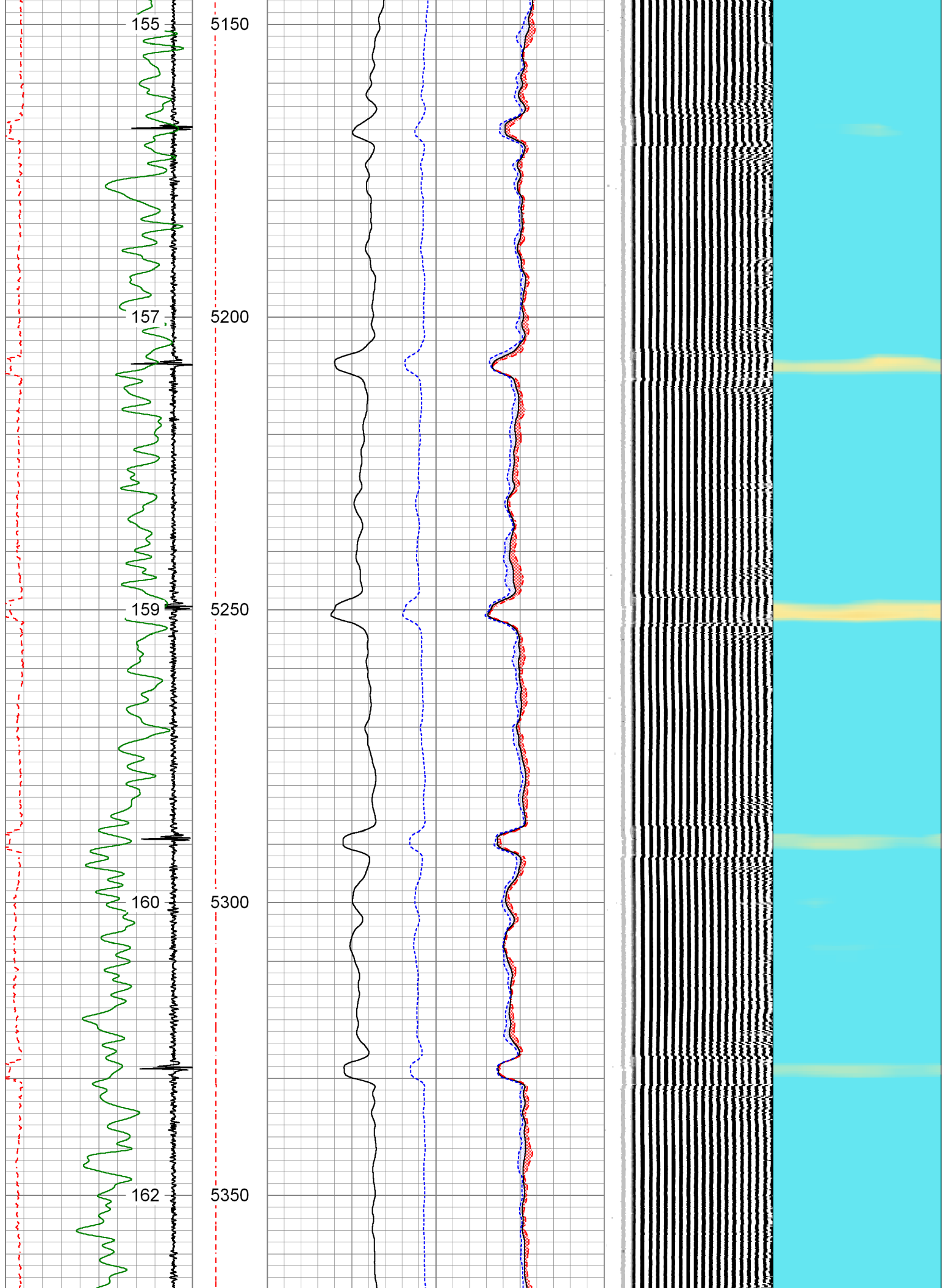
0 PSI ON WELL WHILE LOGGING

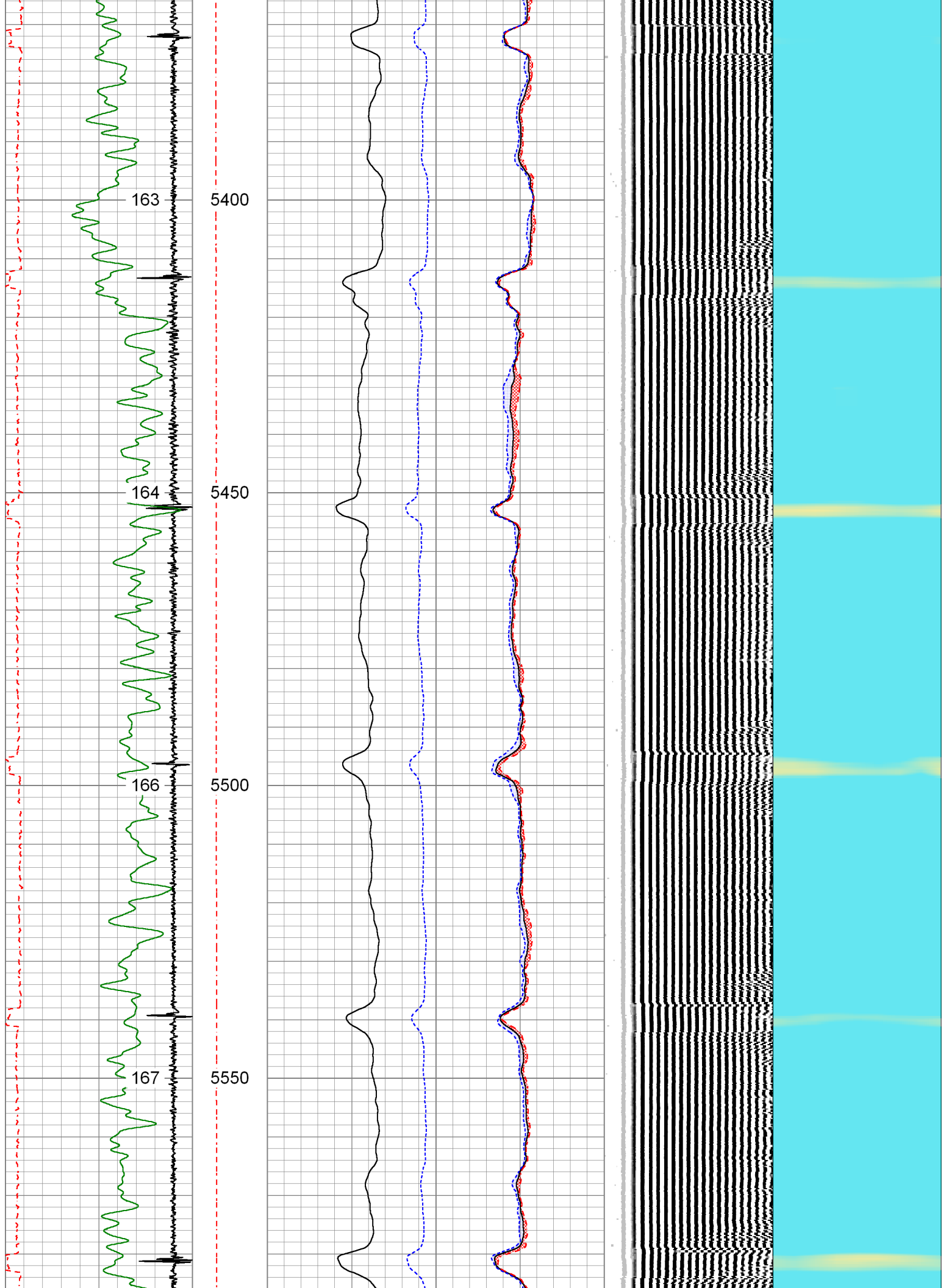
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Dataset Pathname	MAIN
Presentation Format	pinr_scbl
Dataset Creation	Tue Dec 13 11:58:46 2016
Charted by	Depth in Feet scaled 1:240

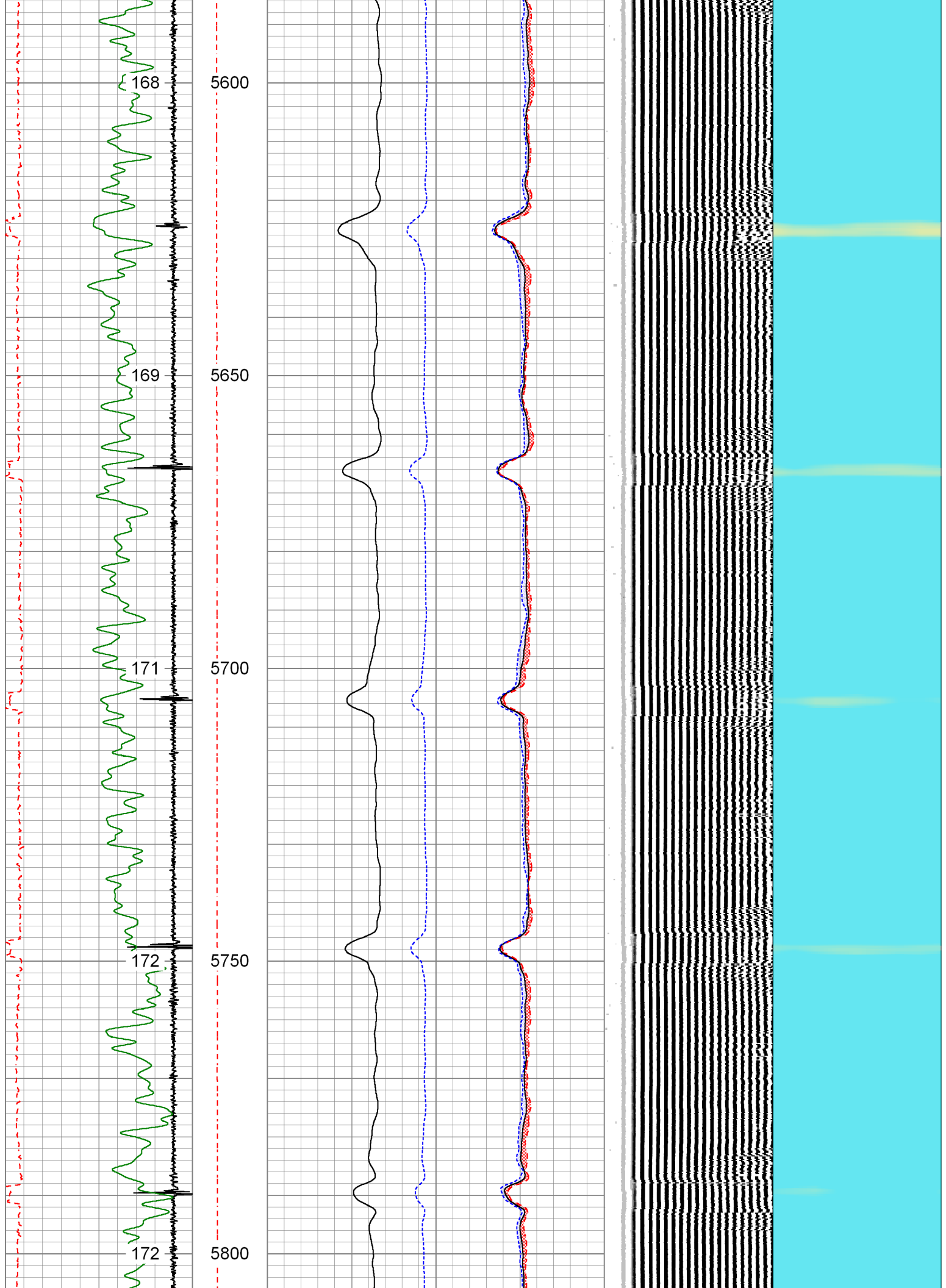
3' Travel Time			Line Tension	3' Amplitude		Sector Amplitude Average	200	VDL	1200	1	Sector Map	8		
260	(usec)	160		0	(mV)								100	
-9 Collar Locator 1				3' Amplified Amplitude X 5									0	150
Gamma Ray				0	(mV)								20	Sector Amplitude Maximum
0	(GAPI)	150		1	Bond Index								0	0
		Temp (degF)				Sector Amplitude Minimum								
						0	150							

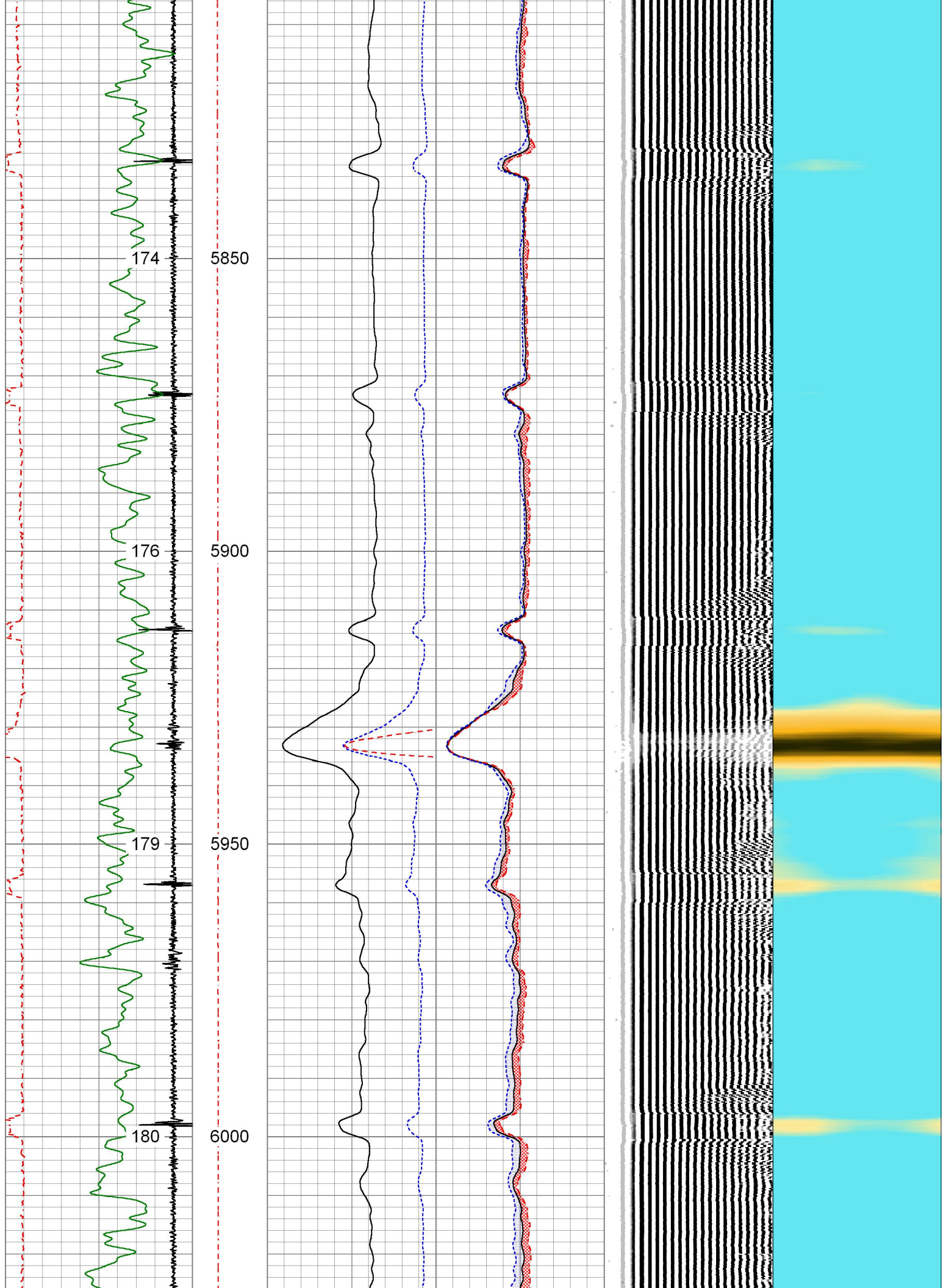


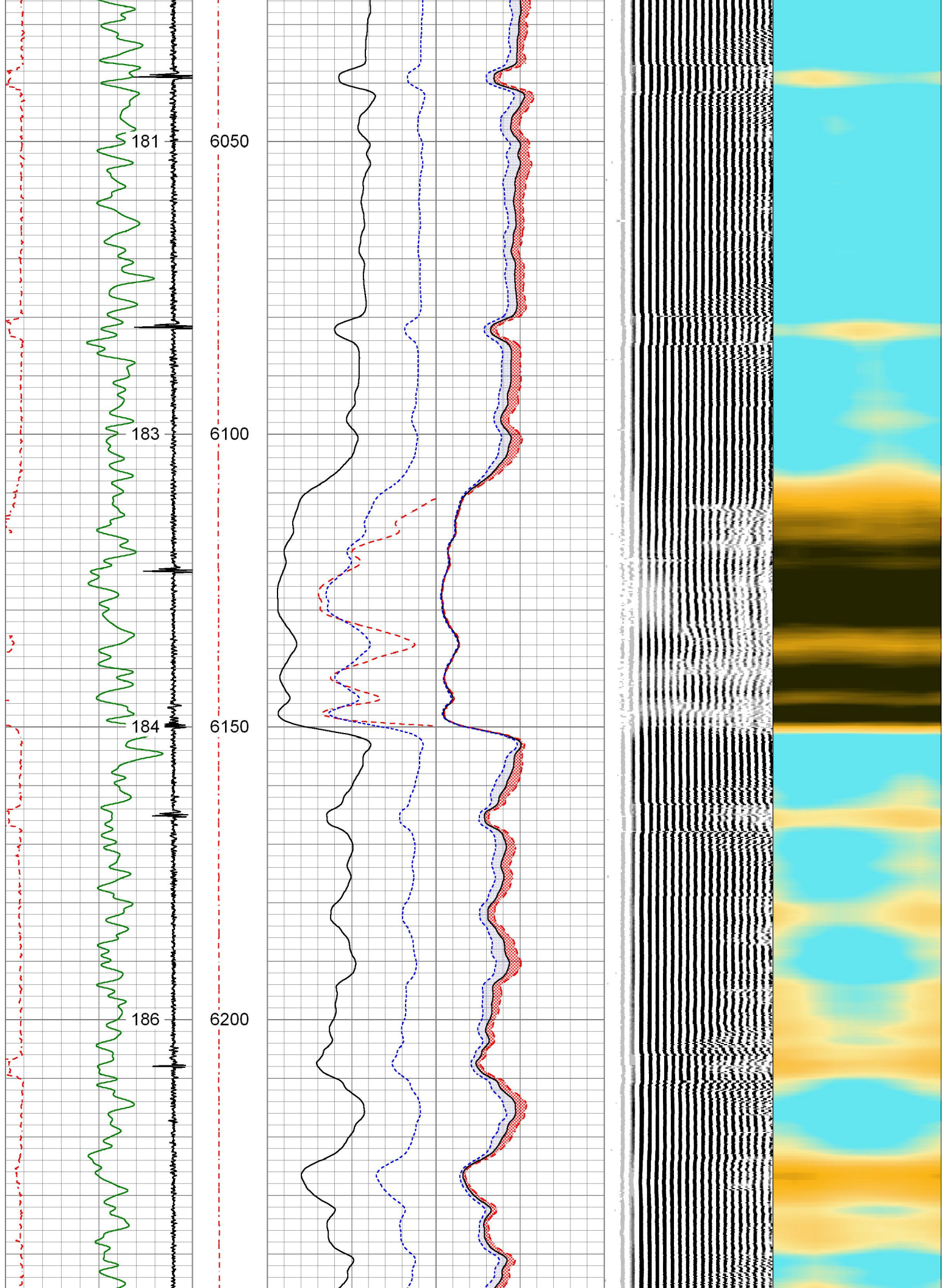


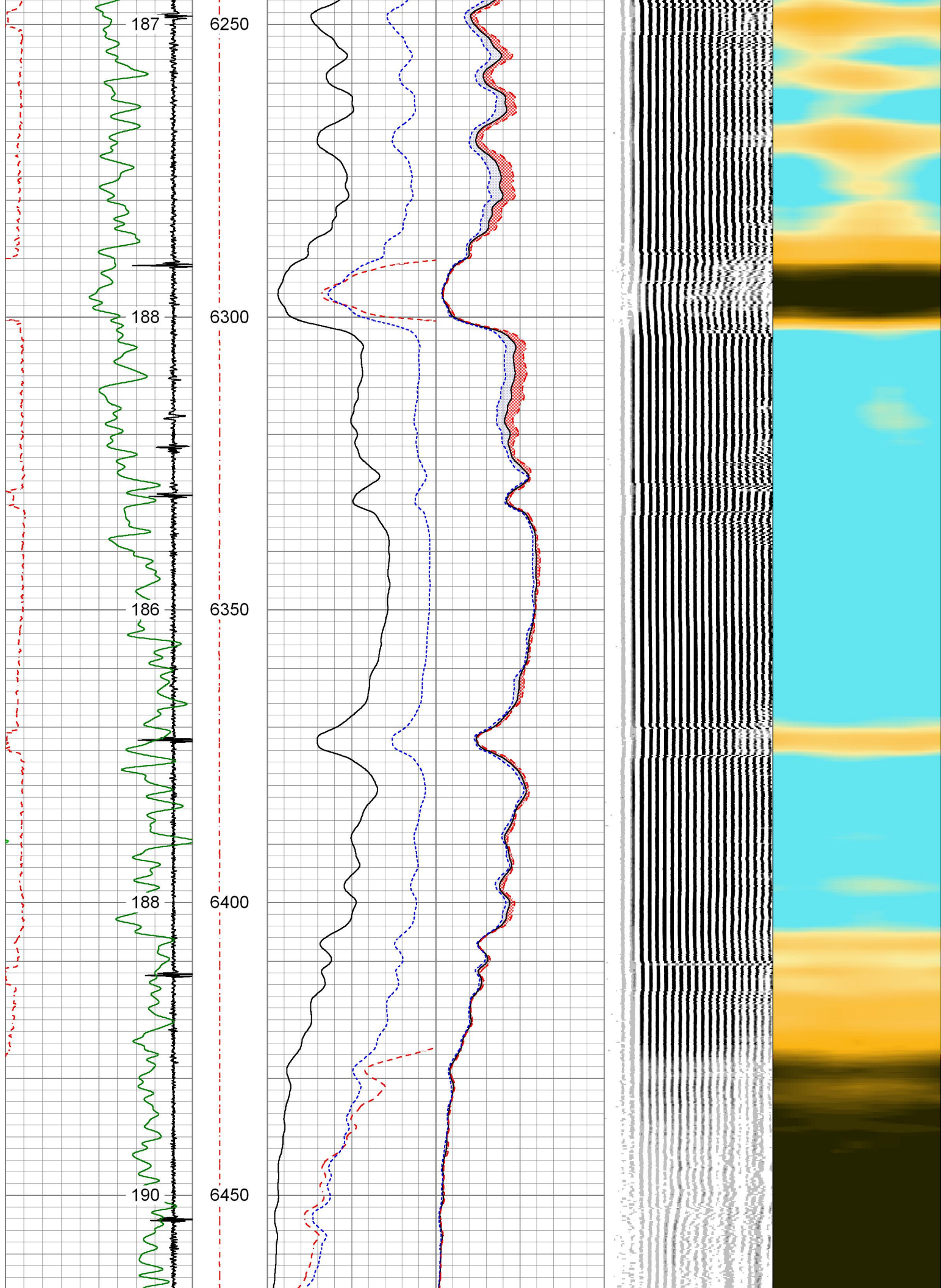


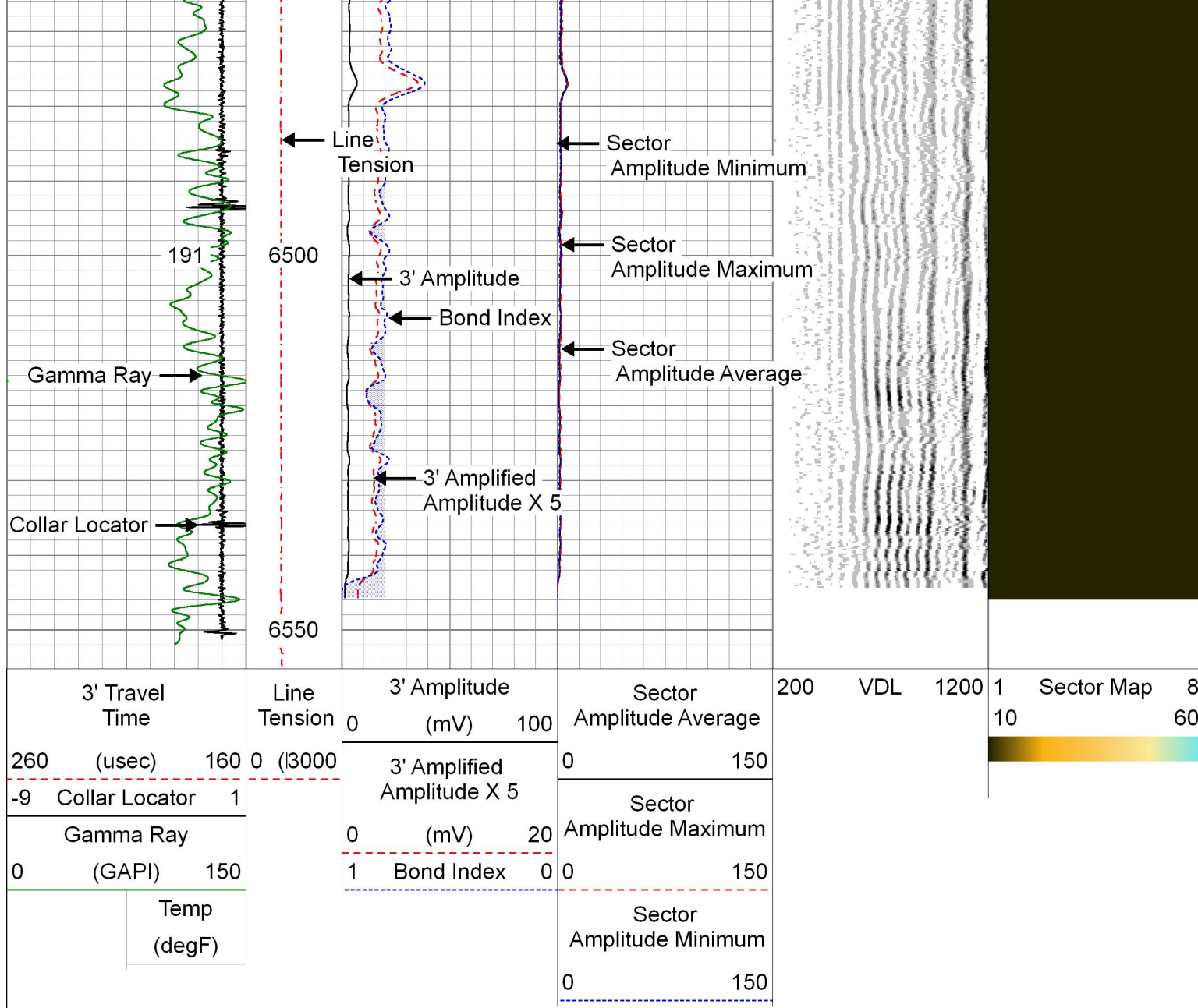










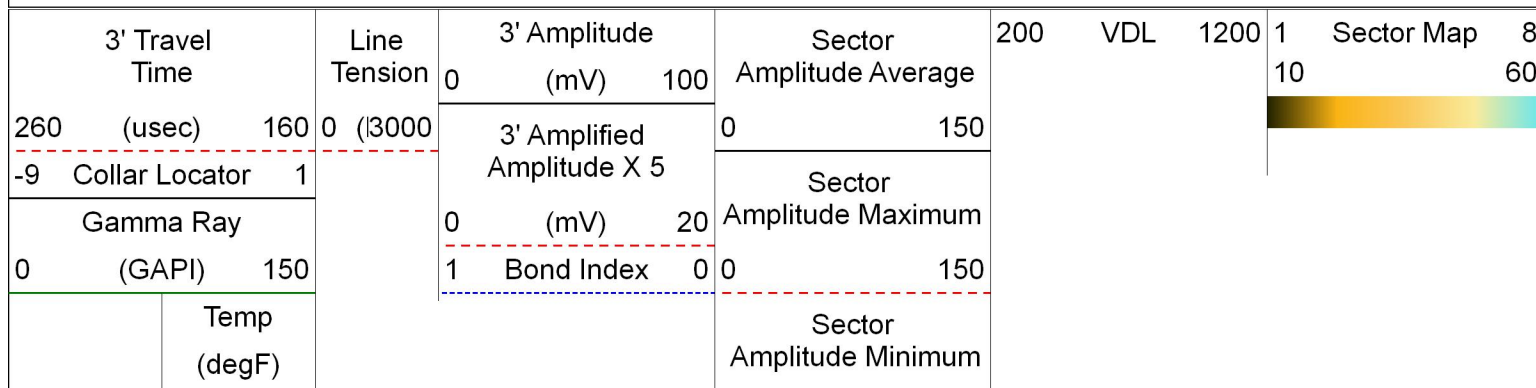


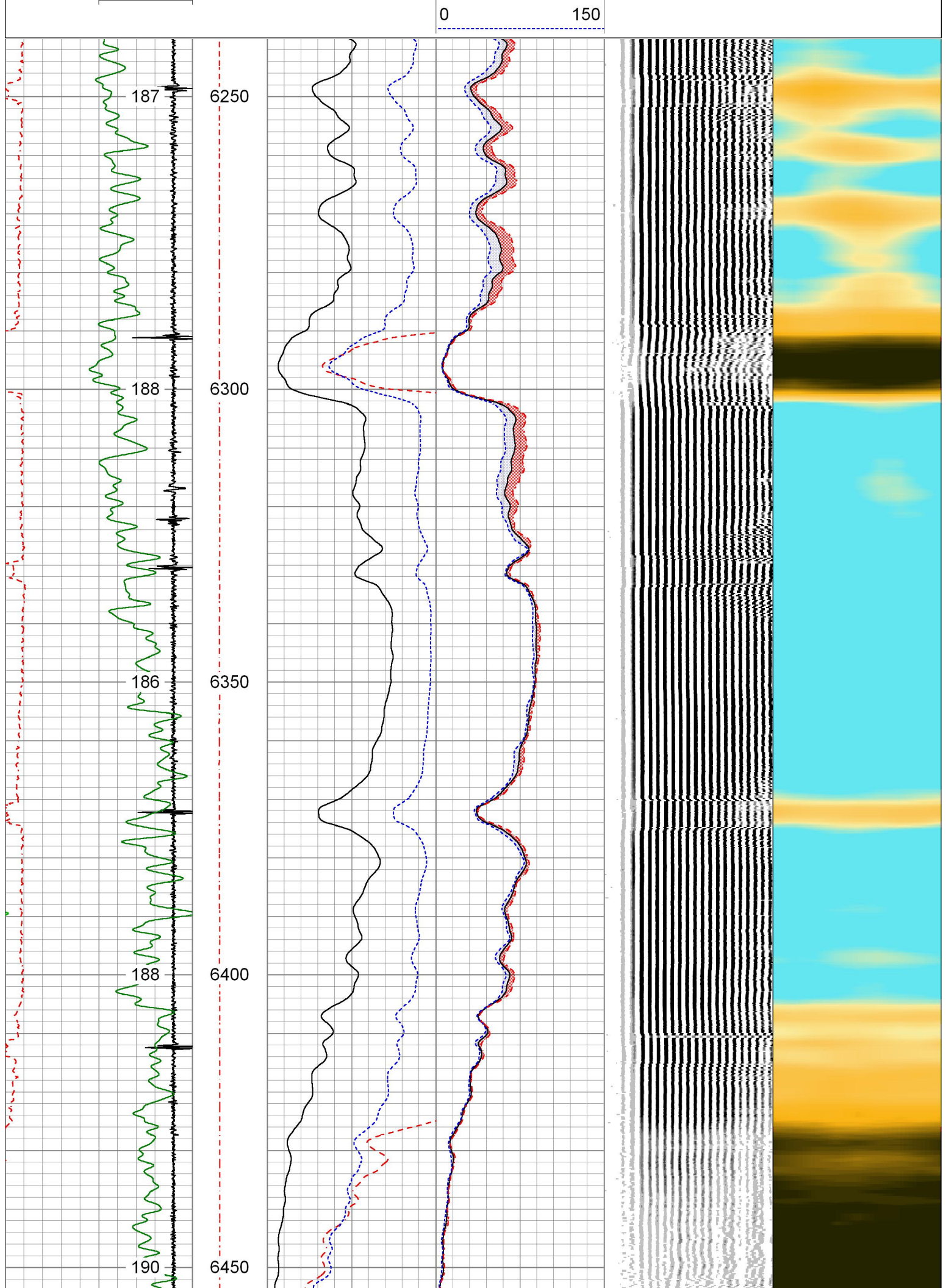


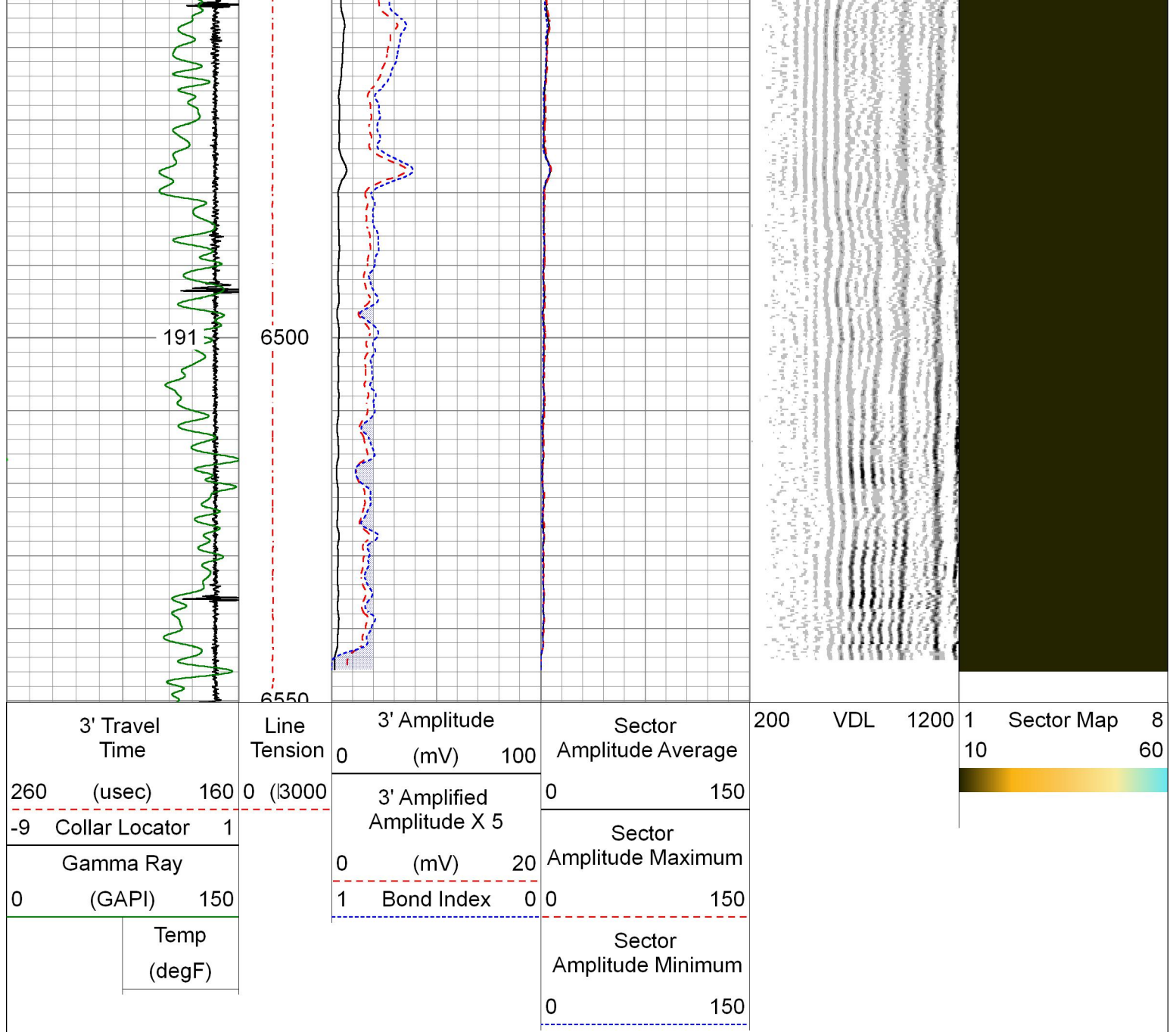
## REPEAT SECTION

0 PSI ON WELL WHILE LOGGING

Database File	2-260262.db
Dataset Pathname	REPEAT
Presentation Format	pinr_scbl
Dataset Creation	Tue Dec 13 11:56:35 2016
Charted by	Depth in Feet scaled 1:240







Calibration Report		
Database File	2-260261.db	
Dataset Pathname	MAIN	
Dataset Creation	Tue Dec 13 08:26:19 2016	
Gamma Ray Calibration Report		
Serial Number:	070238	
Tool Model:	275 Probe GR-CCL	
Performed:	Wed Dec 7 10:42:35 2016	
Calibrator Value:	320.0	GAPI
Background Reading:	0.3	cps
Calibrator Reading:	1.5	cps
Sensitivity:	0.8500	GAPI/cps
Segmented Cement Bond Log Calibration Report		
Serial Number:	141168	

Tool Model: 275 Probe w Temp New Mod

Calibration Casing Diameter: 4.500 in  
Calibration Depth: 1241.658 ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	2.208	1.800	82.000	36.318	1.800
CAL	1.986	1.988				
5'	0.000	2.492	1.800	82.000	32.185	1.800
SUM						
S1	-0.001	2.276	0.000	100.000	43.904	0.057
S2	0.000	2.310	0.000	100.000	43.296	-0.000
S3	0.000	2.321	0.000	100.000	43.081	-0.000
S4	0.000	2.265	0.000	100.000	44.148	-0.000
S5	0.000	2.245	0.000	100.000	44.550	-0.000
S6	0.000	2.305	0.000	100.000	43.381	-0.000
S7	0.000	2.316	0.000	100.000	43.177	-0.000
S8	0.000	2.295	0.000	100.000	43.569	-0.000

#### Temperature Calibration Report

Serial Number: 141168  
Tool Model: 275 Probe w Temp New Mod  
Performed: Wed Dec 7 07:15:46 2016

	Reference		Reading	
Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF
Gain:	0.78			
Offset:	0.00			
Delta Spacing	1			



Company KERR-MCGEE OIL & GAS ONSHORE

Well HELD ET AL 1

Field WATTENBERG

County WELD

State CO

Country USA