



# RADIAL BOND LOG WITH GAMMA RAY

Comp. **SUEMAUR EXP & PROD, LLC**  
 Well **KUEHN FAMILY TRUST SWD #1-23**  
 Field **WILDCAT**  
 Co. **SHERIDAN**  
 State **KANSAS**

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Location: **SEC 23 TWP 6S RGE 28W**  
 Permanent Datum **GROUND LEVEL** Elevation **2707'**  
 Log Measured From **5'** Above Perm. Datum  
 Drilling Measured From **KELLY BUSHING**  
 Other Services **GRN**  
 API #: 15-179-21418-00-00  
 Elevation **K.B. 2712'**  
**D.F. N/A**  
**G.L. 2707'**

Date of Service	7/1/2016
Run Number	ONE
Depth Driller or PBTID	2390'
Depth Logger	2386'
Bottom Log Interval	2385'
Top Log Interval	0
Open Hole Size	7.875"
Type Fluid	WATER
Fluid Level	FULL
Fluid Density	N/A
Max. Recorded Temperature	N/A
Max. Wellhead Pressure	2000#
Wellhead Connection	PACKOFF
Estimated Cement Top	N/A
Unit Number	18
Wireline Size	5/16"
Location	COLBY, KS
Recorded By	D. SCHMIDT
Witnessed By	J. WALKER
Tubing Record	N/A
Surface Casing	8.625"
Production Casing	5.5"
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.  
 HOXIE,  
 NORTH TO 110 RD, 1 EAST, 1/2 NORTH,  
 EAST INTO


**THANK YOU FOR USING PIONEER ENERGY SERVICES!**

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: D. SCHMIDT Operator: M. HISS Operator: J. LONG Operator:		

Top - Bottom


NPORSHIFT 0	NPORSEL Limestone	PPT usec 0	CASEWGHT lb/ft 14.5	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8
SRFTEMP degF 70	CASETHCK in 0	CASEOD in 5.5	PERFS 0	TDEPTH ft 2386	BOTTEMP degF 100	BOREID in 7.875

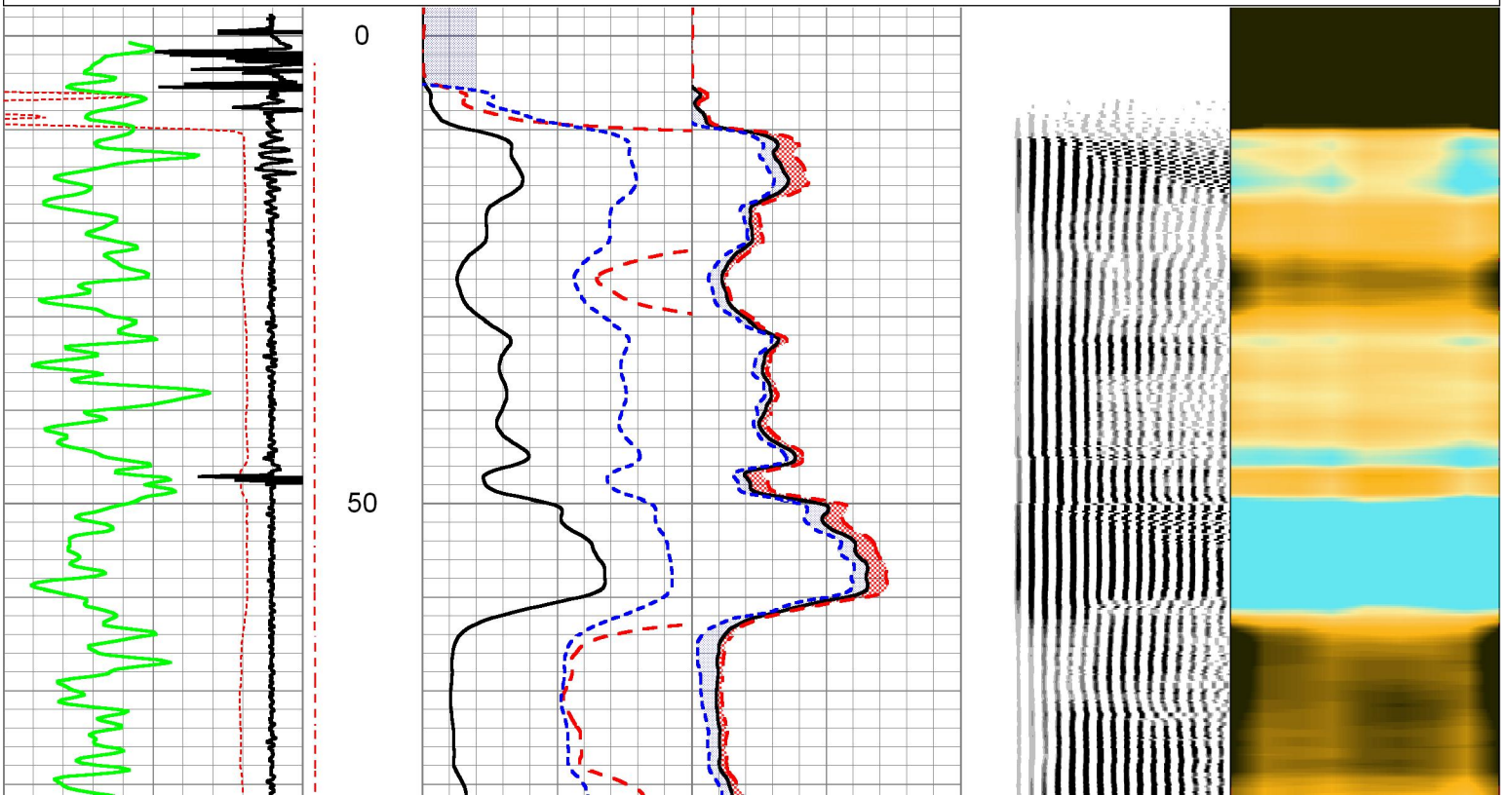
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
WVFS8	16.38		RBT-Probe (4.5040904) Probe Radii Bond Tool with Digital Telemetry	8.75	2.75	107.00	
WVFS7	16.38						
WVFS6	16.38						
WVFS5	16.38						
WVFS4	16.38						
WVFS3	16.38						
WVFS2	16.38						
WVFS1	16.38						
WVFCAL	16.38						
WV3FT	16.38						
WV5FT	15.38						
				CENT-Probe Probe Centralizer	2.83	2.75	20.00
CCL	8.39						
GR	7.05		GR_CCL-Tiger (TigerProbe)	4.54	2.75	50.00	

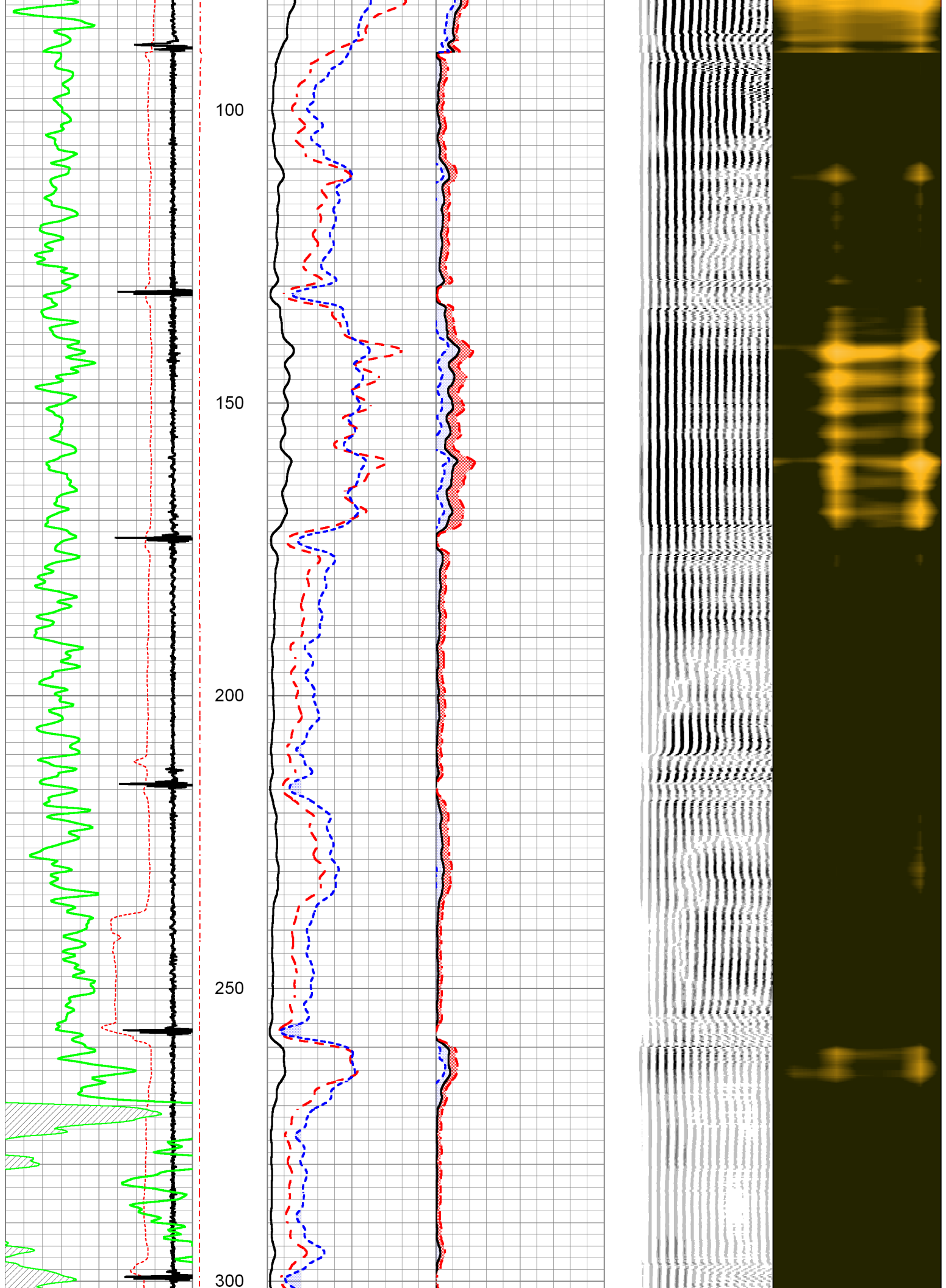
NEU	1.00		NEU-Probe (Probe_110326_1-11/16)	4.75	1.69	30.00
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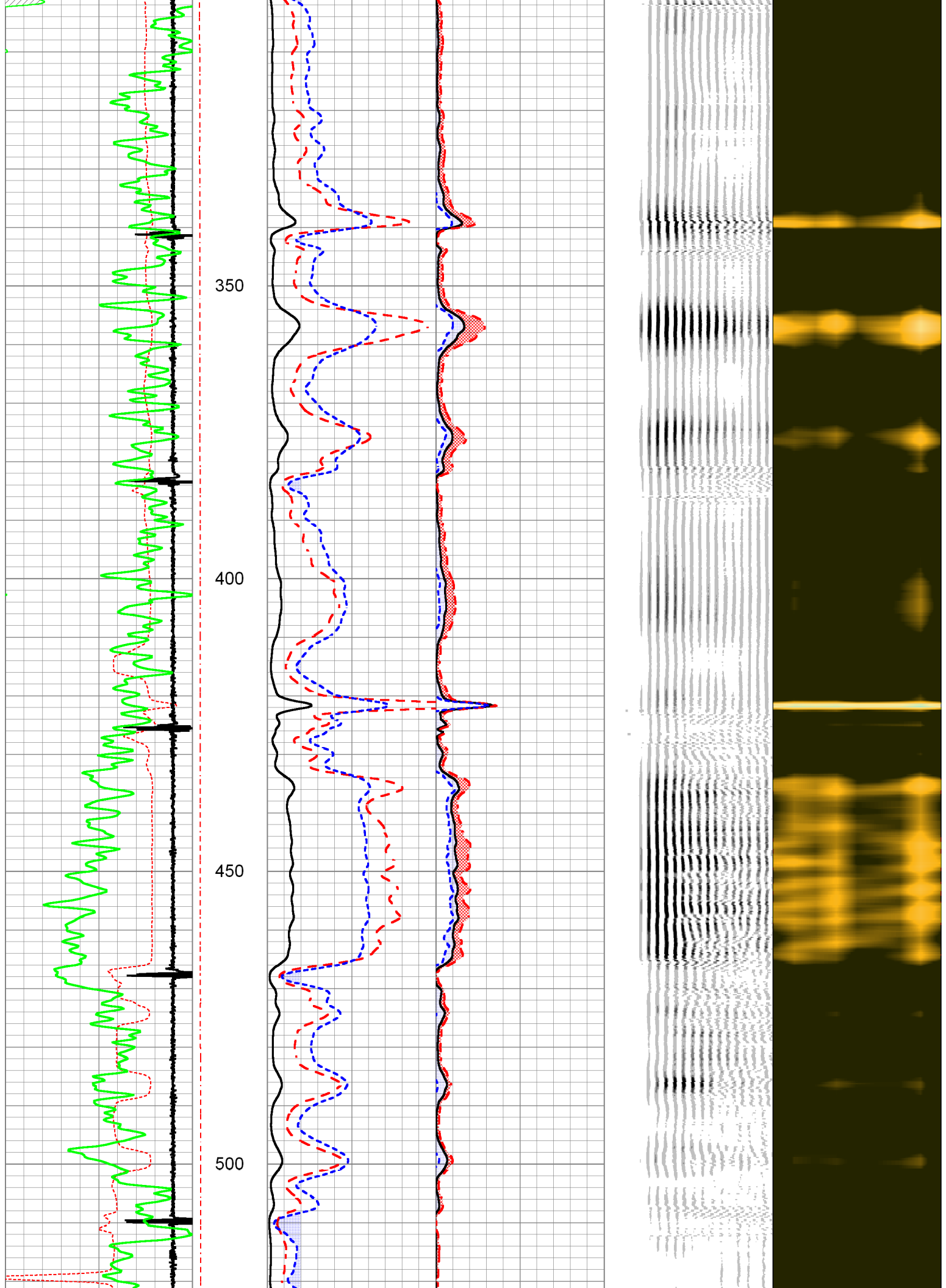
Dataset: suemar.db: field/well/GRNCBL/pass4  
 Total length: 20.88 ft  
 Total weight: 207.00 lb  
 O.D.: 2.75 in

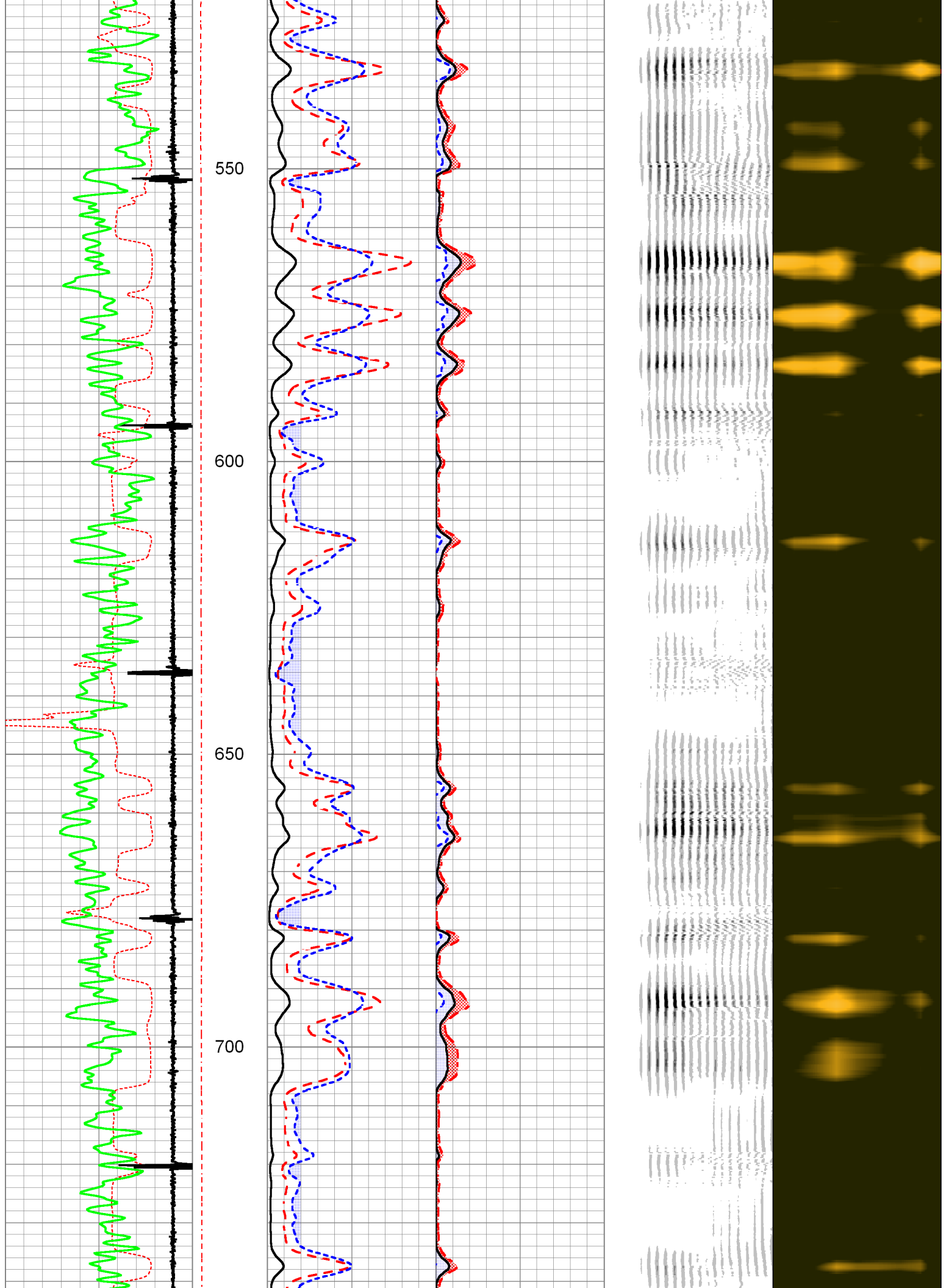
Database File	suemar.db
Dataset Pathname	GRNCBL/pass5
Presentation Format	pinr_scb1
Dataset Creation	Fri Jul 01 14:53:59 2016
Charted by	Depth in Feet scaled 1:240

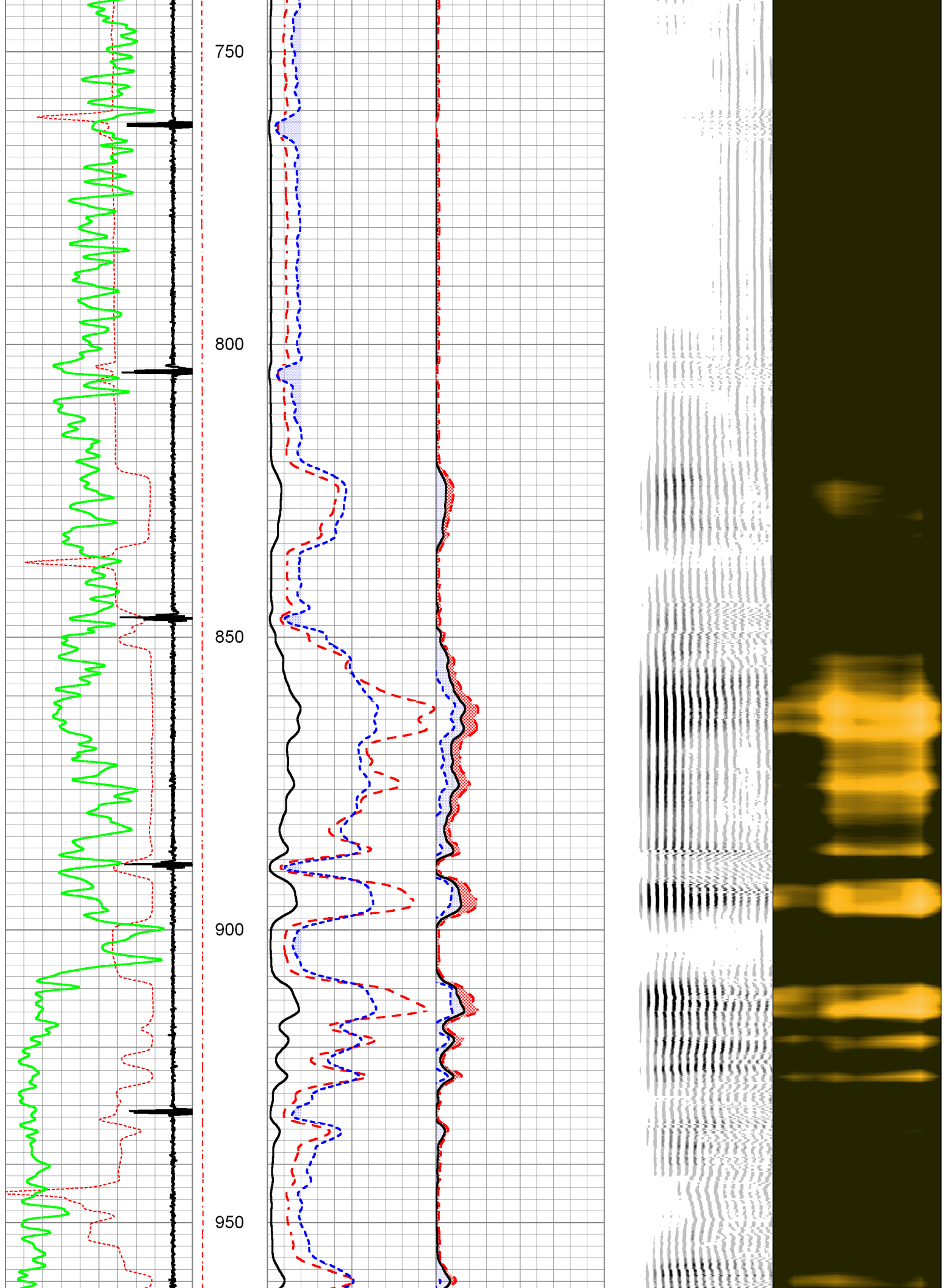
3' Travel Time	Line Tension	3' Amplitude (mV)	Sector Amplitude Average	200	VDL	1200	1	Sector Map	8
500 (usec)	0 (2000)	0 100	0 150				10		60
-9 Collar Locator		3' Amplified Amplitude X 5	Sector Amplitude Maximum						
0 Gamma Ray		0 (mV) 20	0 150						
		1 Bond Index	0 150						
			Sector Amplitude Minimum						
			0 150						

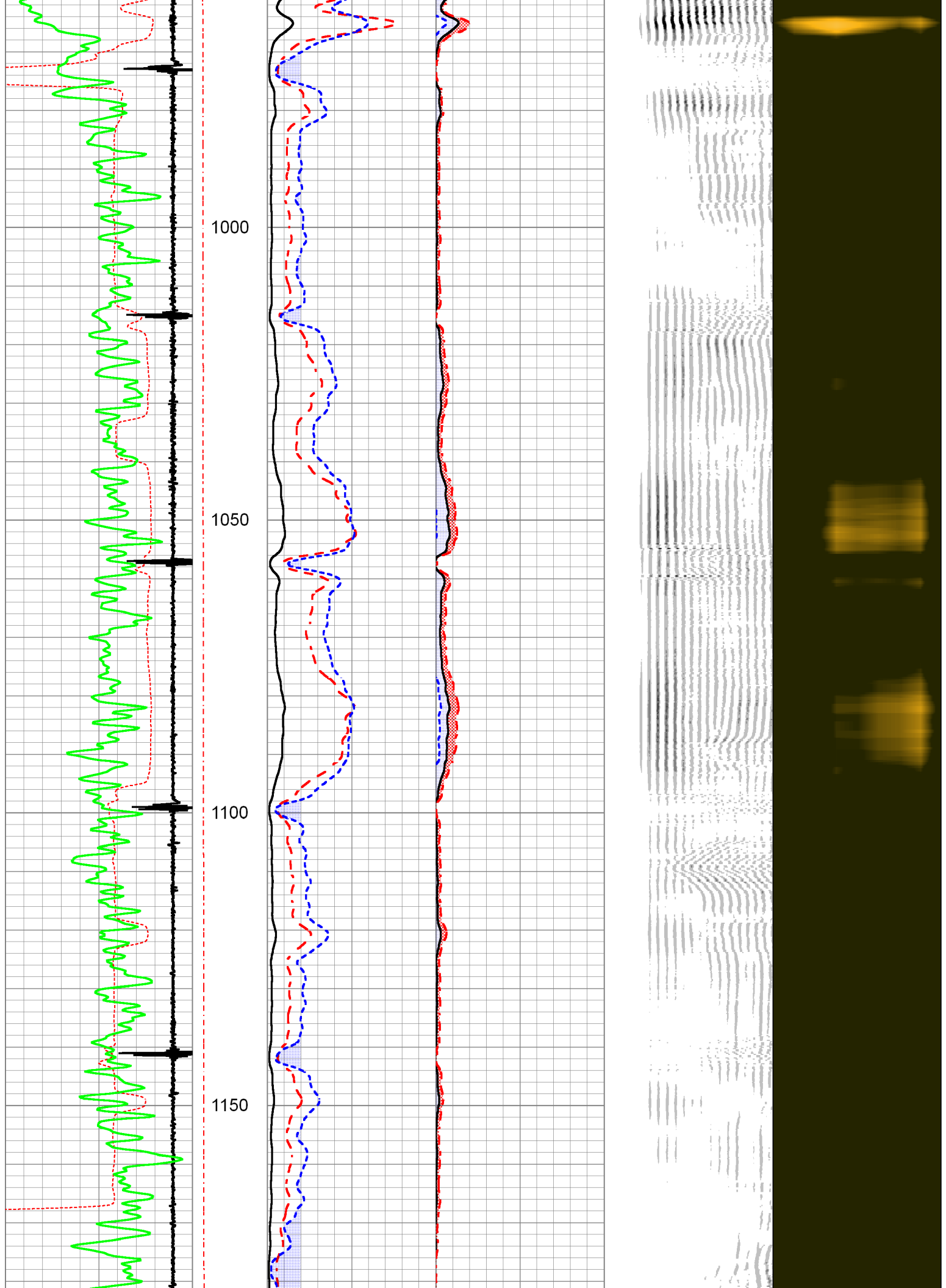


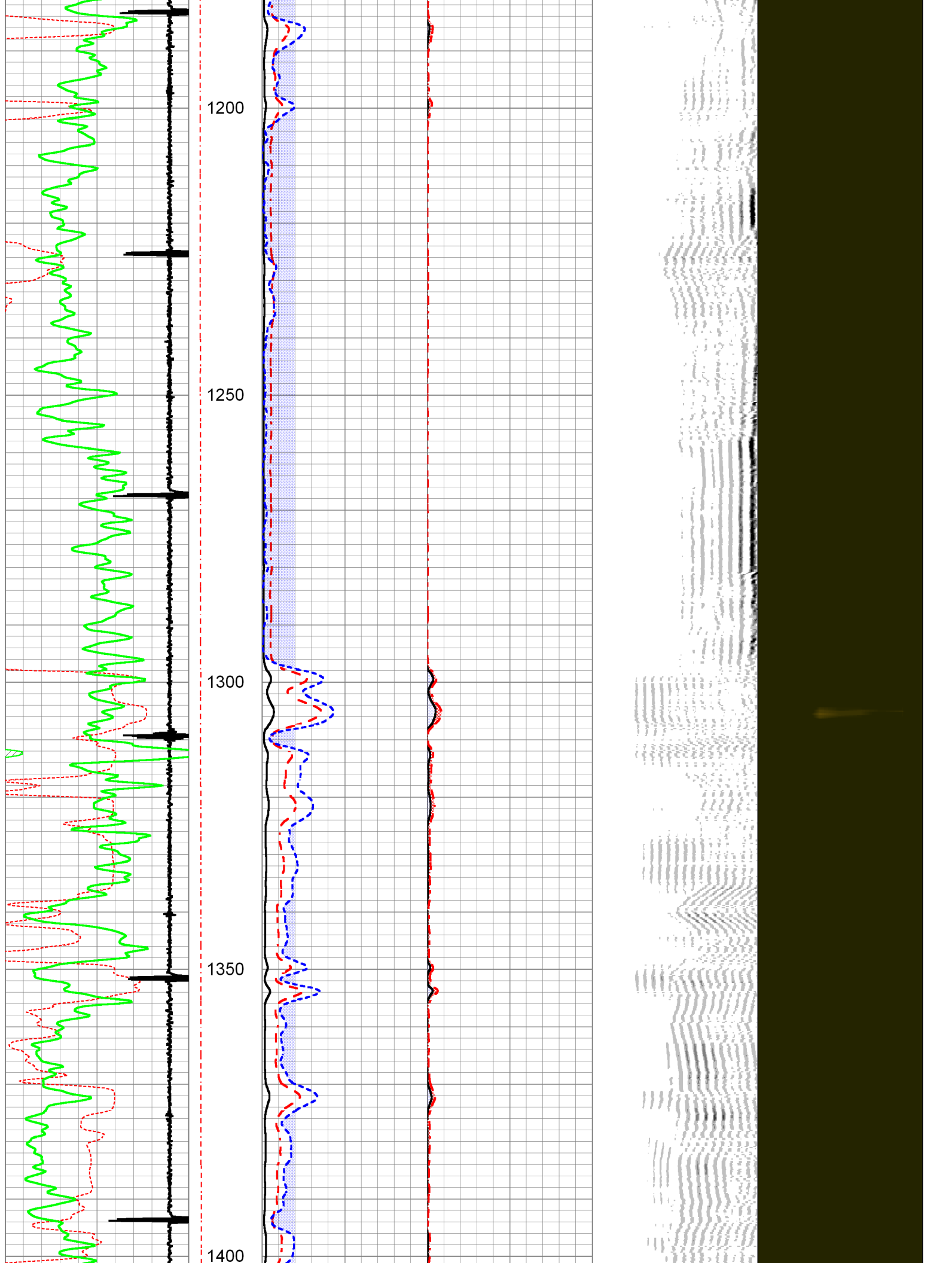


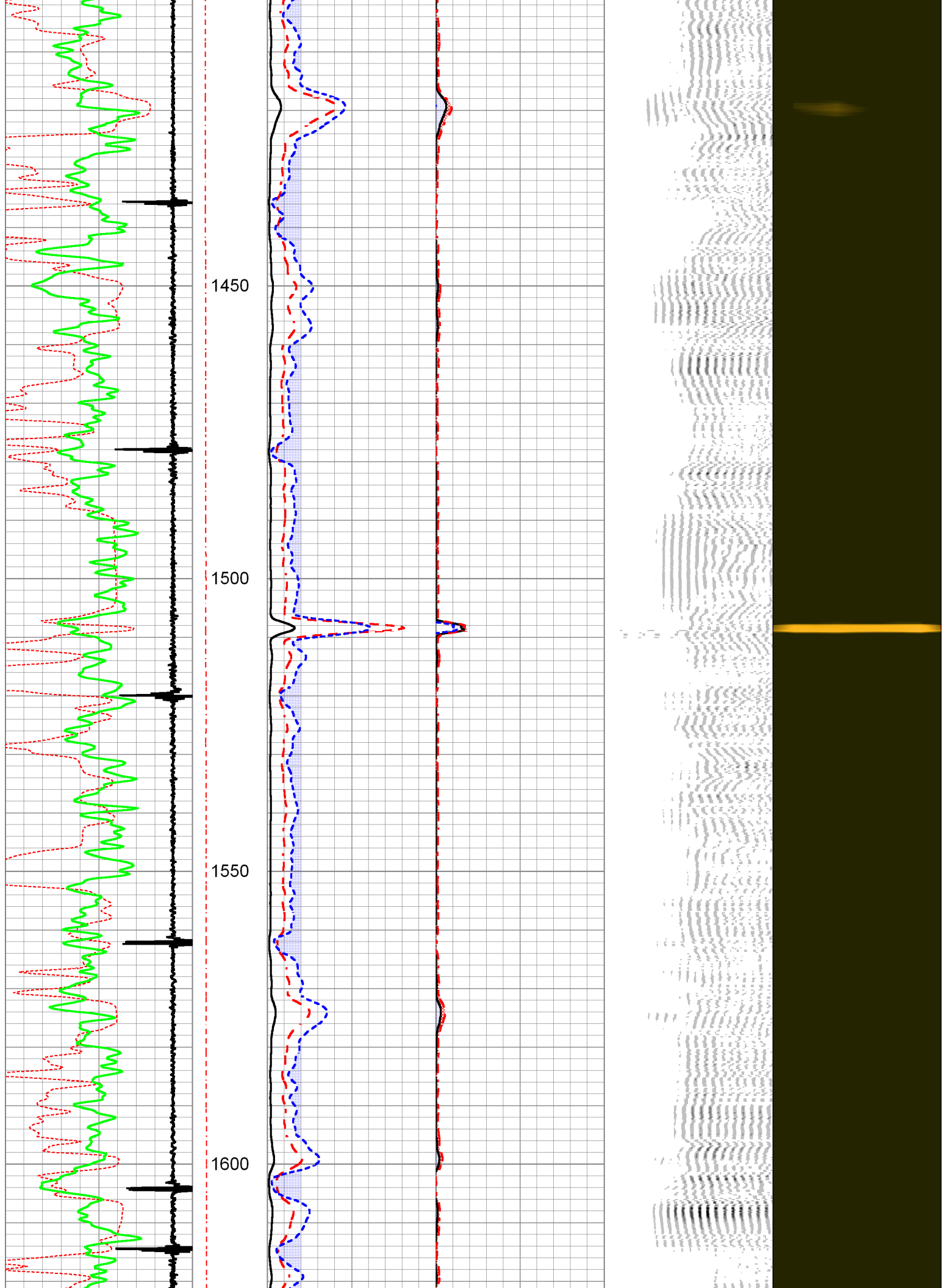


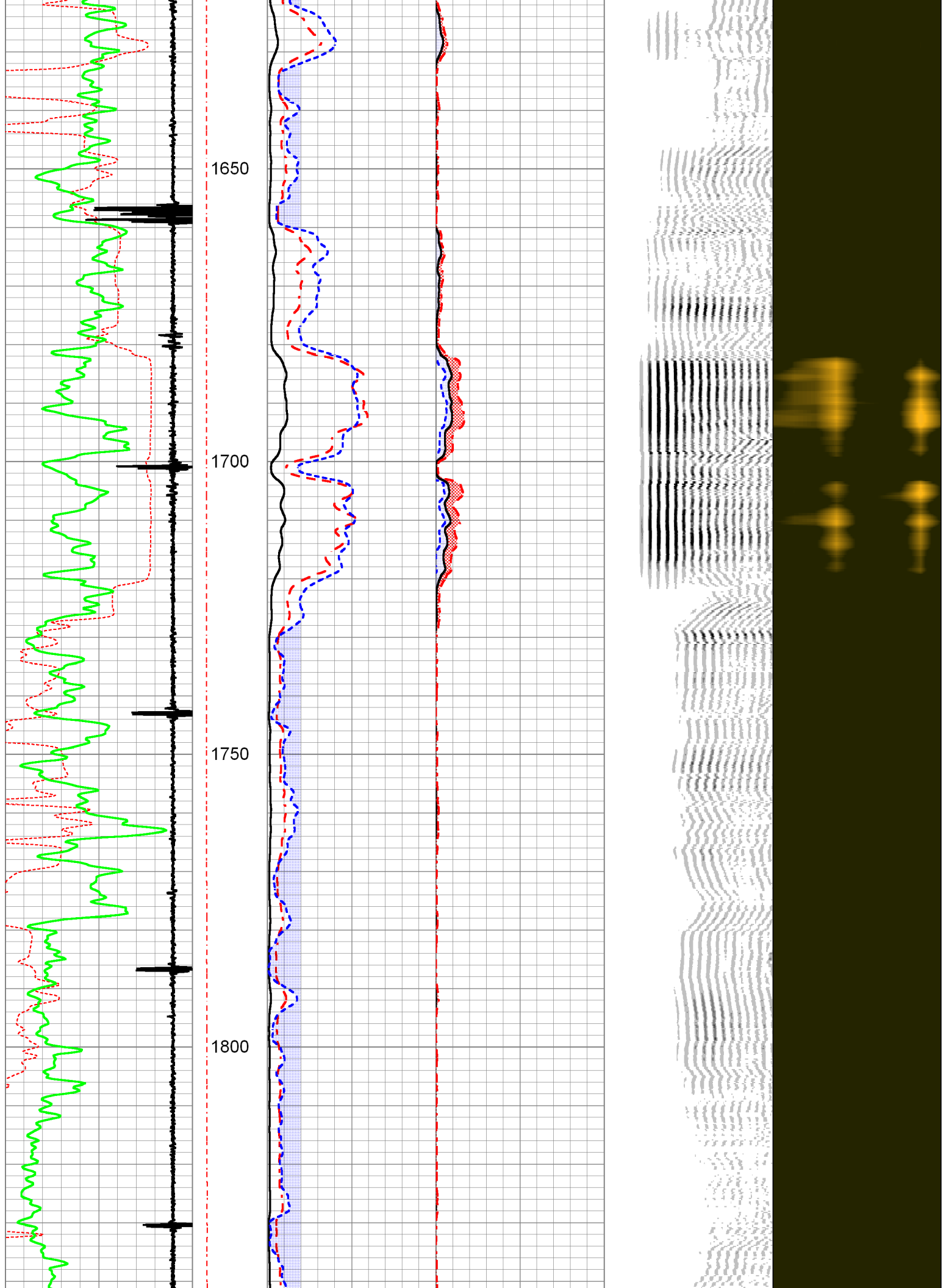


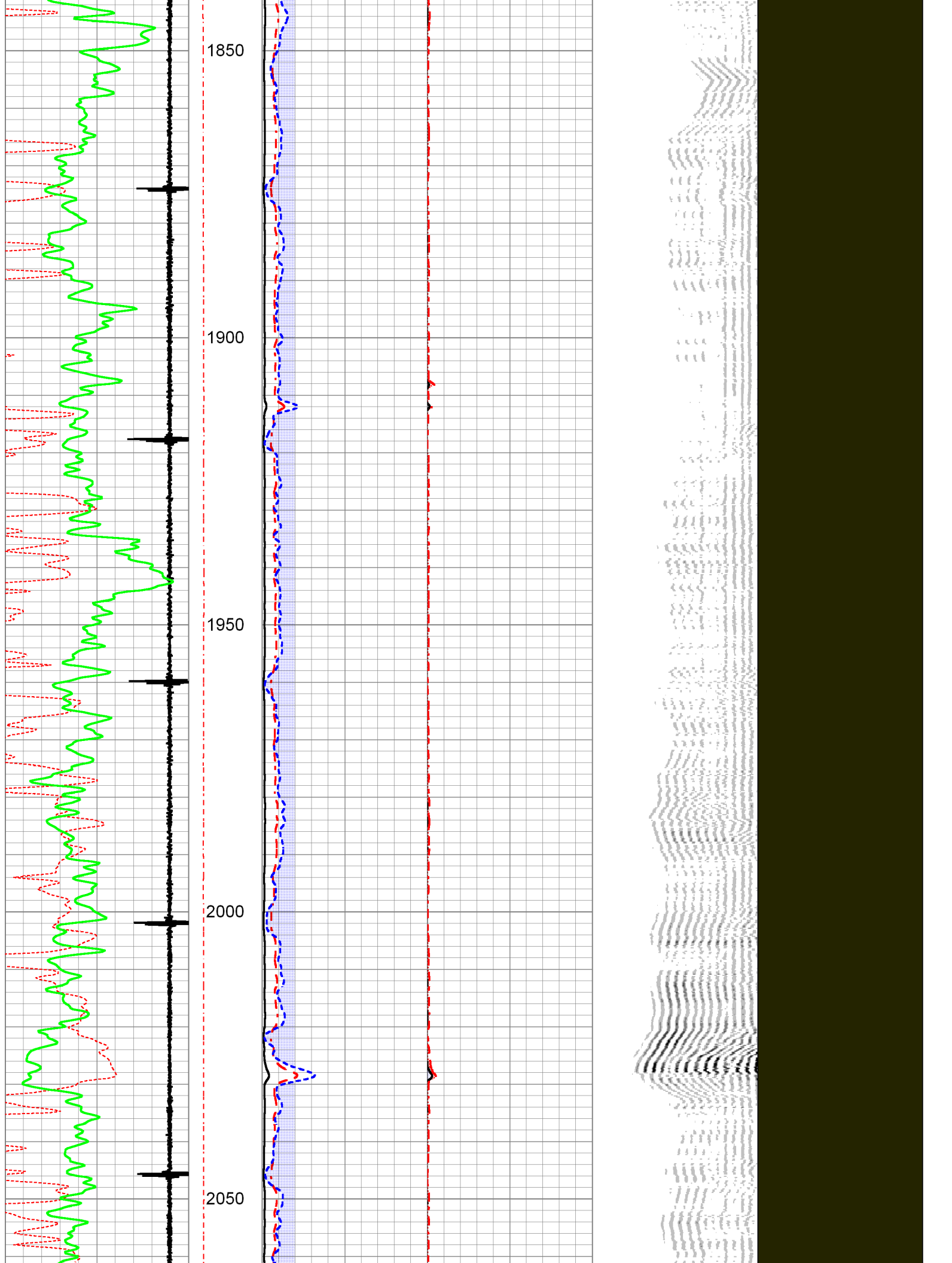


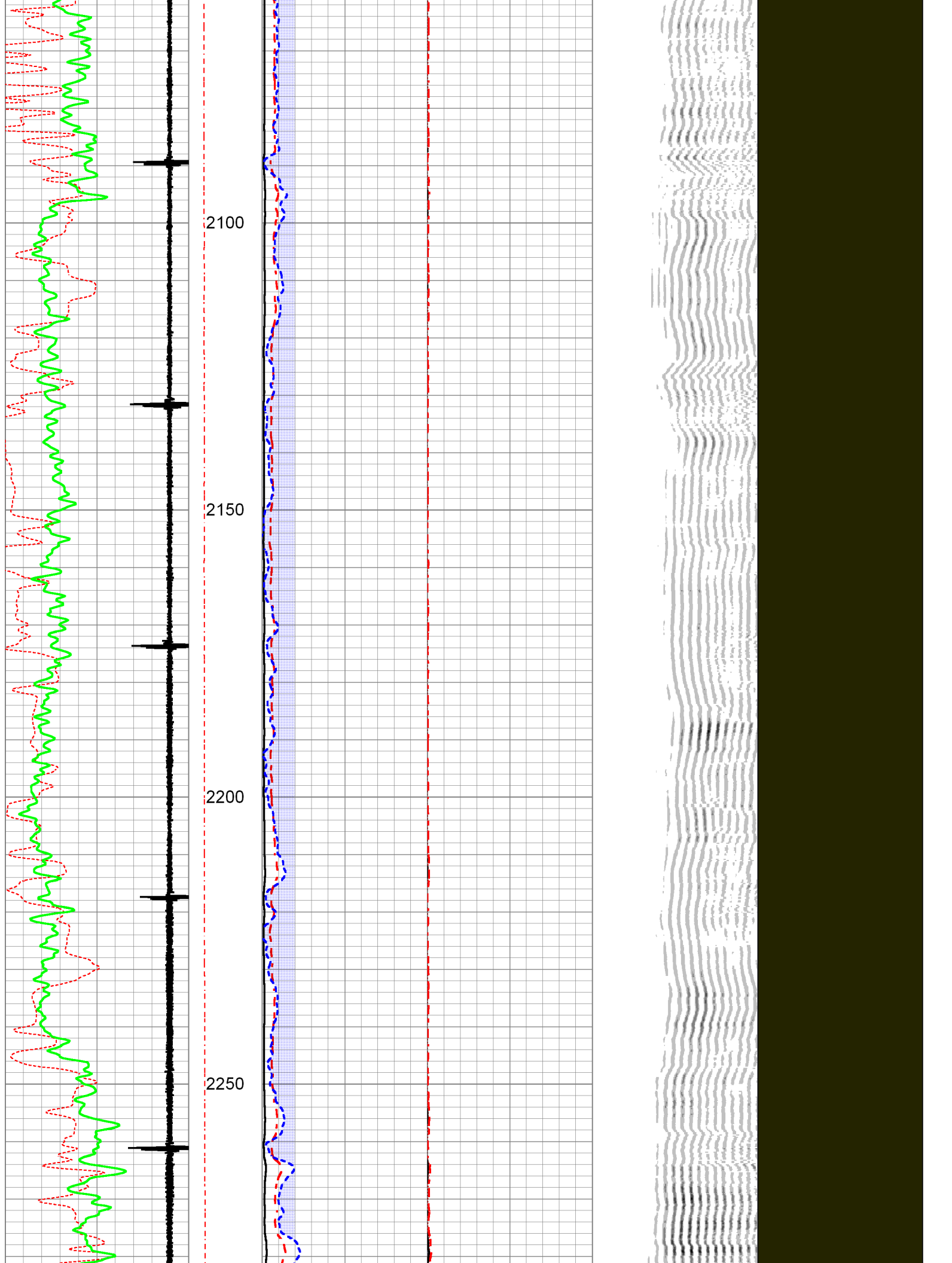








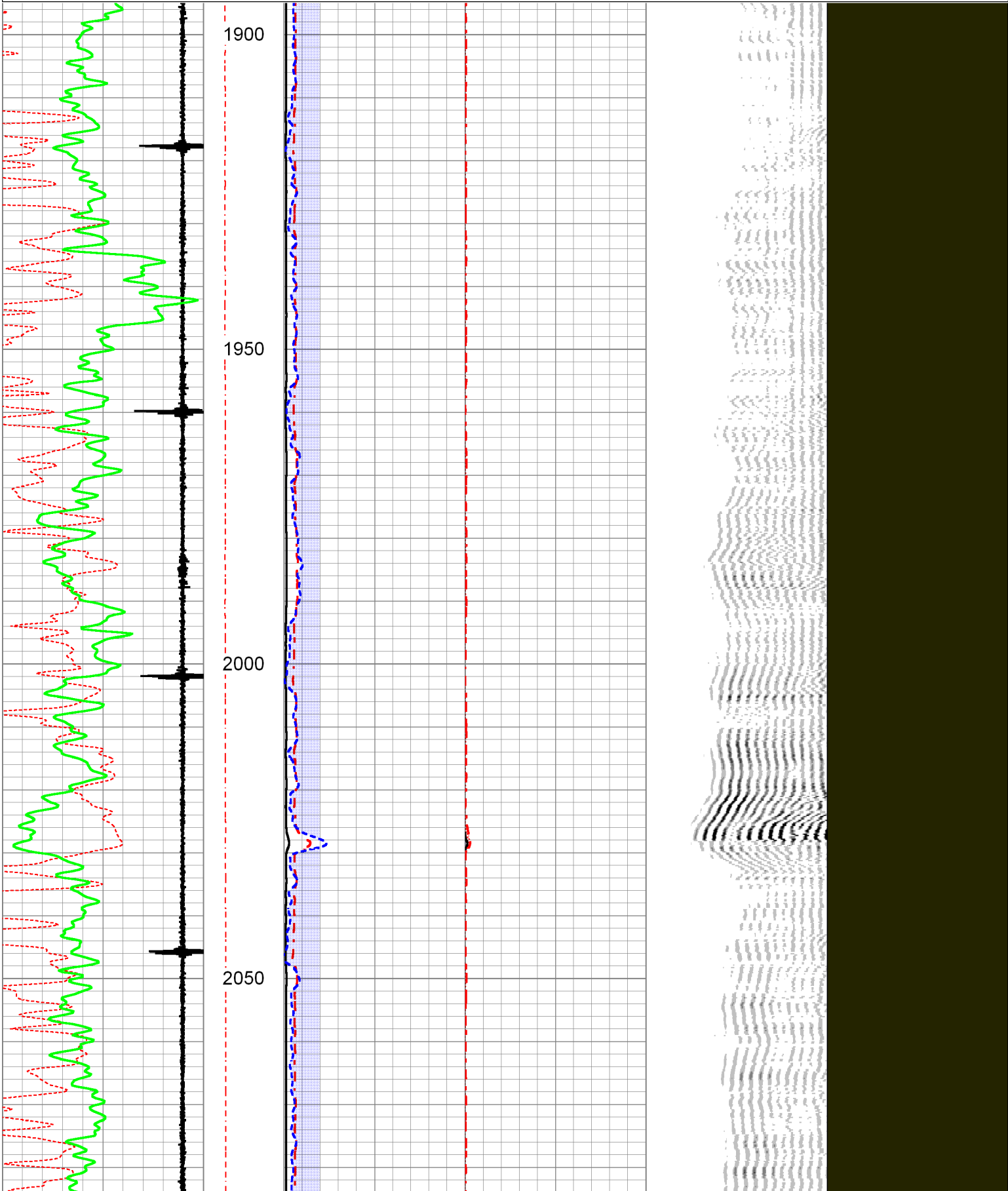


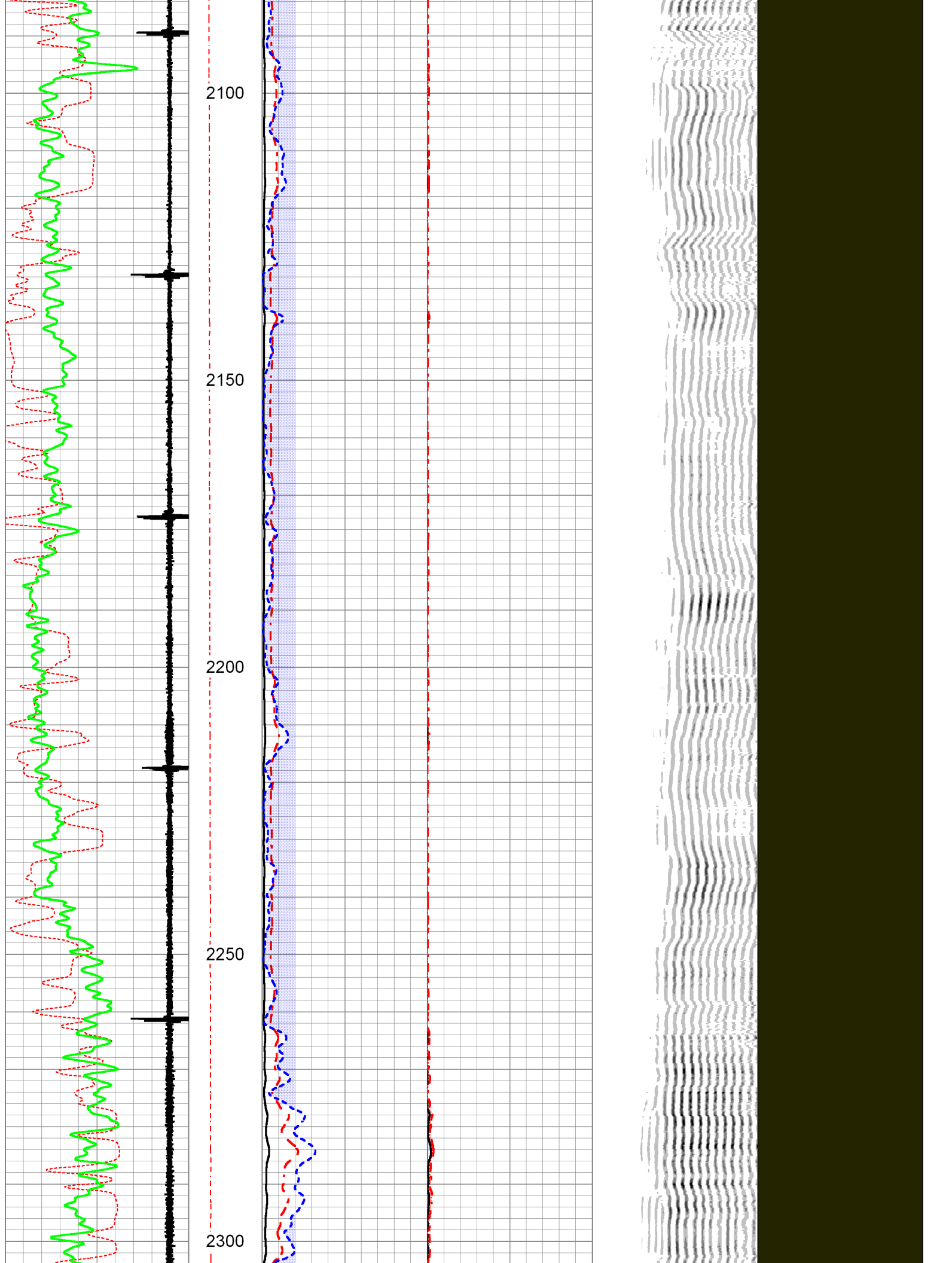


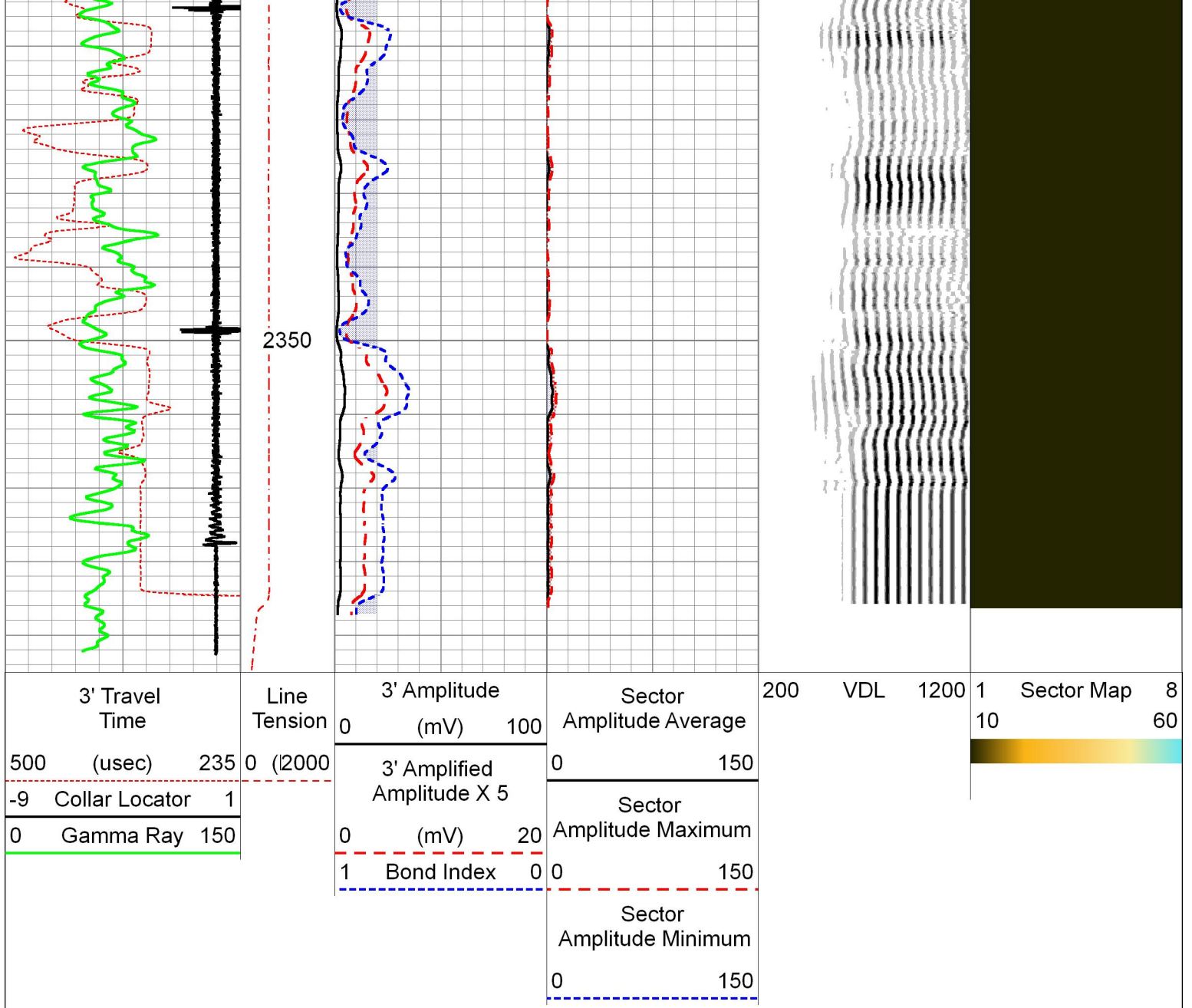


-9 Collar Locator 1  
0 Gamma Ray 150

Amplitude X 5  
0 (mV) 20  
Sector Amplitude Maximum  
1 Bond Index 0 0 150  
Sector Amplitude Minimum  
0 150







### Calibration Report

Database File suemar.db  
 Dataset Pathname GRNCBL/pass4  
 Dataset Creation Fri Jul 01 09:01:15 2016

### Neutron Calibration Report

Serial Number: Probe\_110326\_1-11/16  
 Tool Model: Probe  
 Performed: Tue Aug 25 11:25:36 2015

Calibrator Value: 1 NAPI  
 Calibrator Reading: 1 cps  
 Sensitivity: 4 NAPI/cps

### Gamma Ray Calibration Report

Serial Number: TigerProbe  
 Tool Model: Tiger  
 Performed: Thu Sep 17 10:13:13 2015

Calibrator Value: 1.0  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
 Sensitivity: 0.9200 /cps

Segmented Cement Bond Log Calibration Report

Serial Number: 4.5040904  
 Tool Model: Probe  
 Calibration Casing Diameter: 5.500 in  
 Calibration Depth: 2480.450 ft

Master Calibration, performed Tue Jun 28 08:47:23 2016:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.008	0.983	0.000	71.921	74.000	1.600
CAL	-0.006	1.072				
5'	-0.008	1.135	0.000	71.921	66.000	1.600
SUM						
S1	0.086	0.908	0.000	105.000	127.793	-10.995
S2	-0.010	0.934	0.000	105.000	111.248	1.088
S3	-0.008	0.974	0.000	105.000	106.875	0.894
S4	-0.009	1.006	0.000	105.000	103.442	0.890
S5	-0.009	1.027	0.000	105.000	101.349	0.886
S6	-0.008	1.064	0.000	105.000	97.989	0.766
S7	-0.008	1.036	0.000	105.000	100.539	0.828
S8	-0.007	0.940	0.000	105.000	110.778	0.829

Air Zero Calibration, performed Tue Aug 25 11:34:16 2015:

	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	



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