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RADIAL BOND LOG
WITH GAMMA RAY

Company **KERR-MCGEE OIL AND GAS ONSHORE LP**
Well **COMMONS 4-19**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Location: API # : 0512329925
NW NW 1259' FNL 1256' FWL
LAT: 40.04040 LONG: -105.05100
SEC 19 TWP 1N RGE 68W

Other Services
NONE

Permanent Datum GL Elevation 5041'
Log Measured From KB 14' Above Perm. Datum
Drilling Measured From KB

Elevation
K.B. 5056'
D.F.
G.L. 5041'

Comp. KERR-MCGEE OIL AND GAS
Well COMMONS 4-19
Field WATTENBERG
Co. WELD
State COLORADO

Date of Service	04/24/2017
Run Number	ONE
Depth Driller or PBTD	8468'
Depth Logger	4070'
Bottom Log Interval	4067'
Top Log Interval	SURFACE
Open Hole Size	7.785
Type Fluid	WATER
Fluid Level	SURFACE
Fluid Density	
Max. Recorded Temperature	130 F
Max. Wellhead Pressure	0
Wellhead Connection	2-3/8 PACK OFF
Estimated Cement Top	370'
Unit Number	P-38
Wireline Size	9/32
Location	FORT MORGAN CO.
Recorded By	PHIL LOPEZ
Witnessed By	BILLY SMITH

	Size	Wt/Ft	Top	Bottom
Tubing Record				
Surface Casing	8.63	24.00	SURFACE	920'
Production Casing	4.50	11.6	SURFACE	8455
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.
LOG NOT CORRELATED TO DEPTH

THANK YOU FOR USING PIONEER ENERGY SERVICES!

Your Pioneer Energy Services Crew	Tool Data - Services	Serial Number
Engineer: PHIL LOPEZ	RBL-D	070132
Operator: ERIC ENGLE	GAMMA RAY CCL	070237
Operator: CLARK SETTLE		
Operator:		

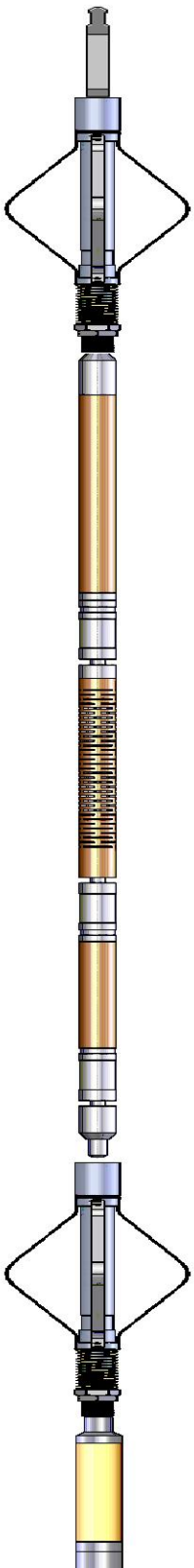
Log Variables

DatabaseC:\ProgramData\Warrior\Data\commons 4-19.db
Dataset field/well/run1/pass8.1/_vars_

Top - Bottom

BHTEMP_Src	PPT	CASEWGHT	MAXAMPL	MINAMPL	MINATTN	SRFTEMP	CASETHCK
	usec	lb/ft	mV	mV	db/ft	degF	in
TEMP	0	11.6	0	1	0.08	0	0

CASEOD	PERFS	TDEPTH	BOTTEMP	BOREID
in		ft	degF	in
4.5	0	0	150	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			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
TEMP	14.17					
			SCBL-275 Probe w Temp New Mod (141 Probe Radii Bond Tool with Temperature	169.17	2.75	95.00
WVFS8	11.94					
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					
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00
CCL	3.91					

GR	1.17		GR_CCL-275 Probe GR-CCL Corrosion (F4.54 Probe 2 3/4" Gamma Ray / CCL Corrosion Digital	12	42.75	60.00
			Bullnose-Titan GO Pin Pressure Cap	0.27	1.38	1.00

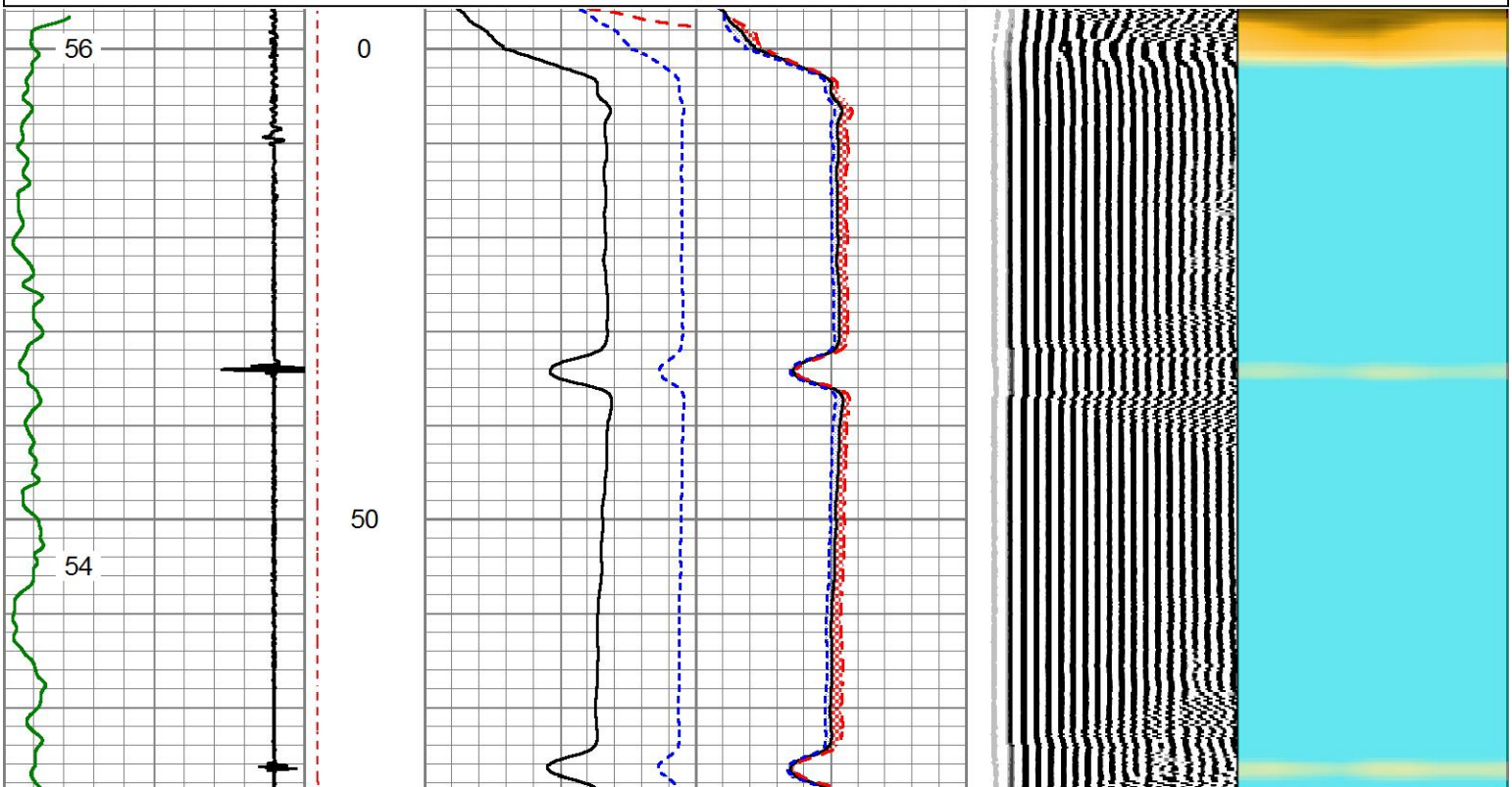
Dataset: commons 4-19.db: field/well/run1/pass8.1
Total length: 20.76 ft
Total weight: 188.00 lb
O.D.: 2.75 in

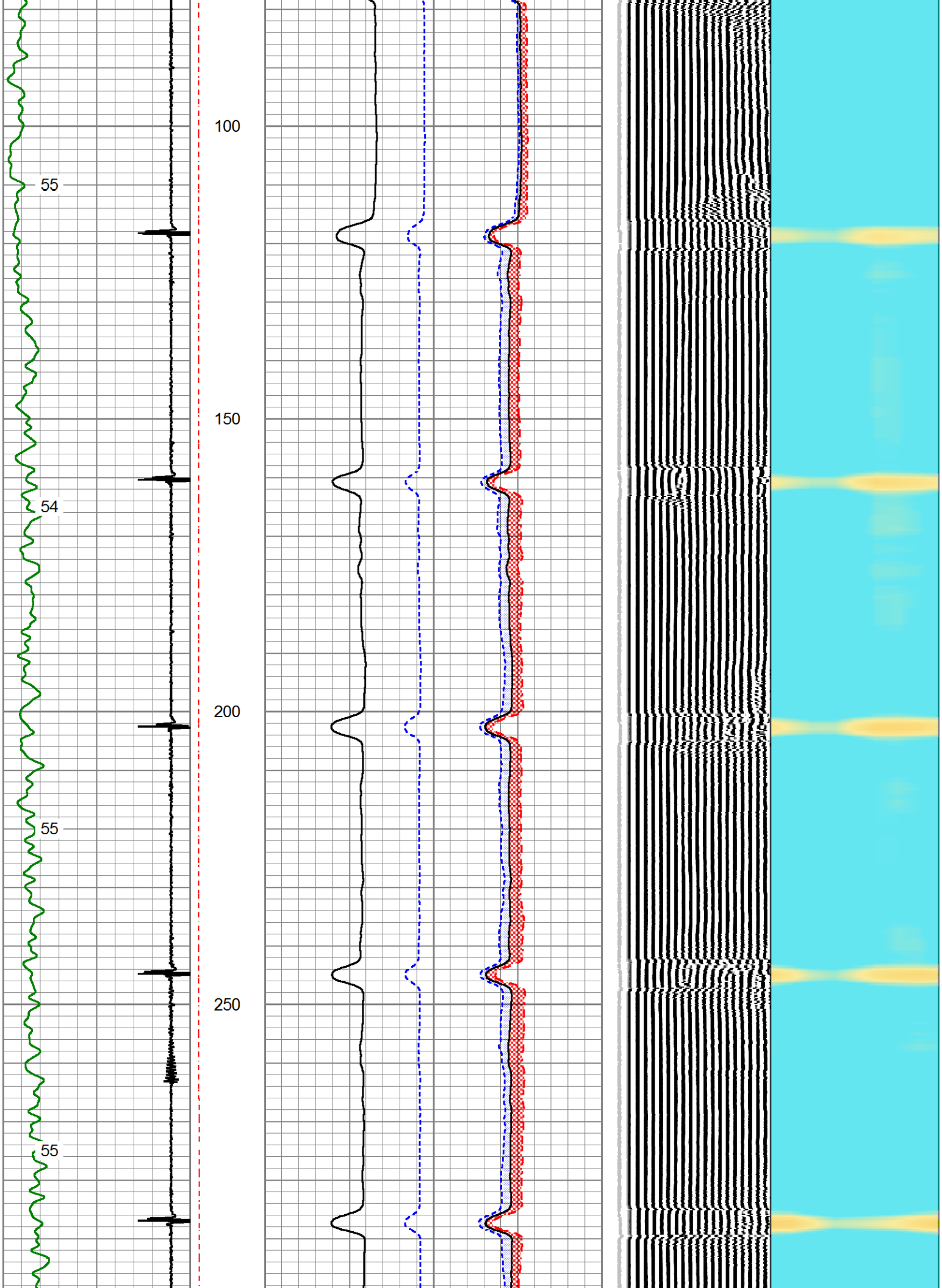
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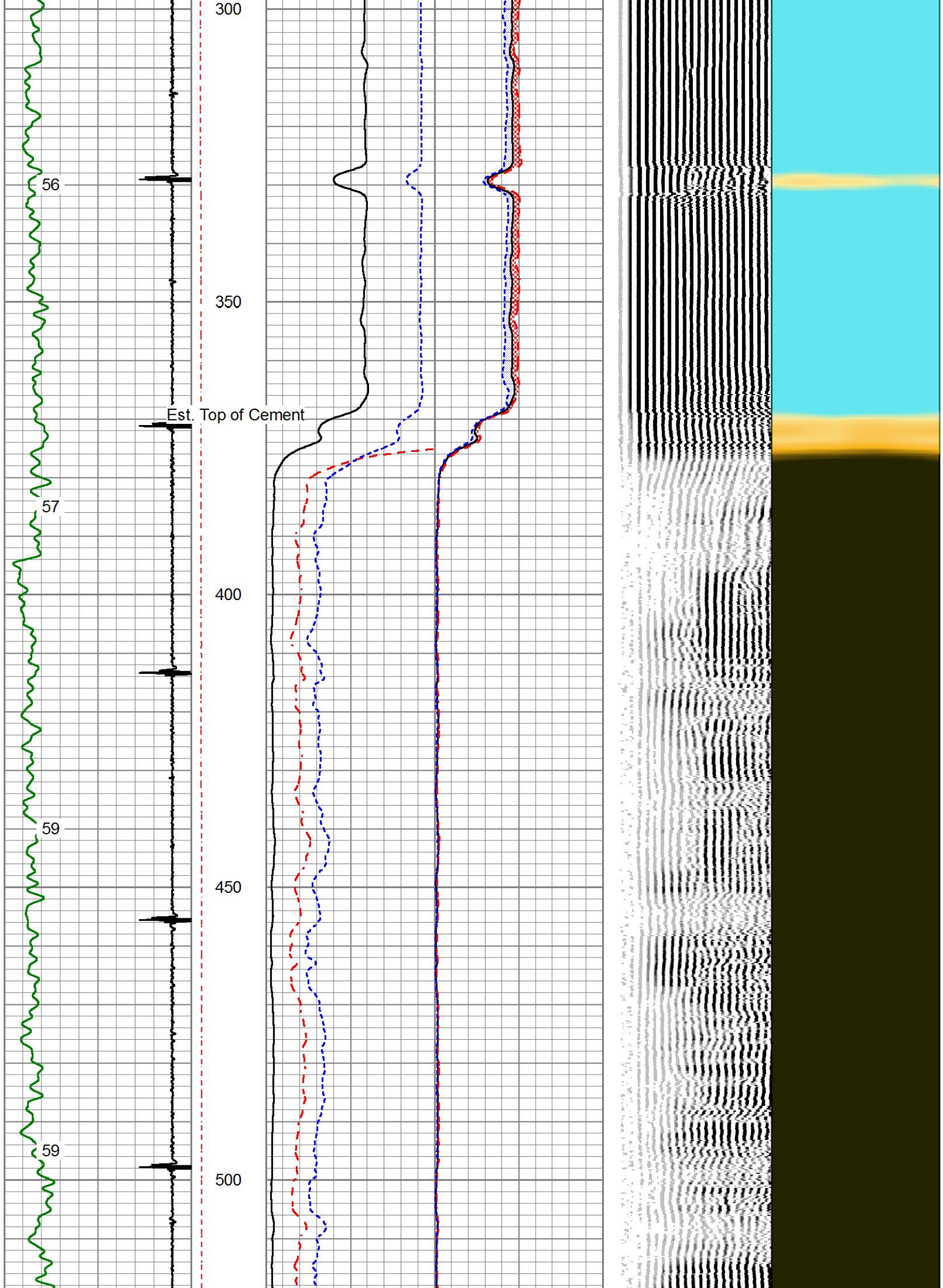
MAIN PASS

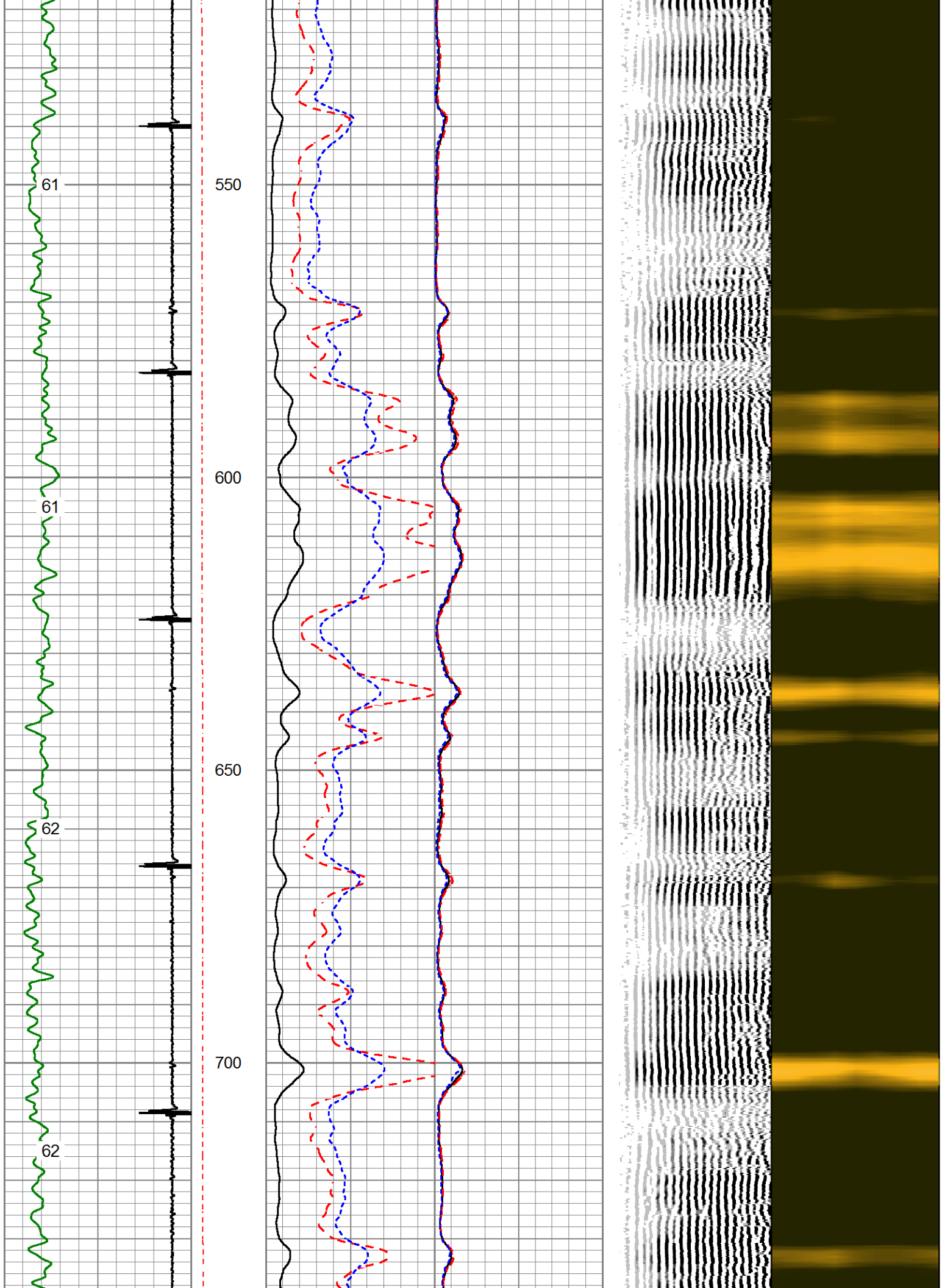
Database File	commons 4-19.db
Dataset Pathname	pass8.1
Presentation Format	pinr_scbl
Dataset Creation	Mon Apr 24 13:55:25 2017
Charted by	Depth in Feet scaled 1:240

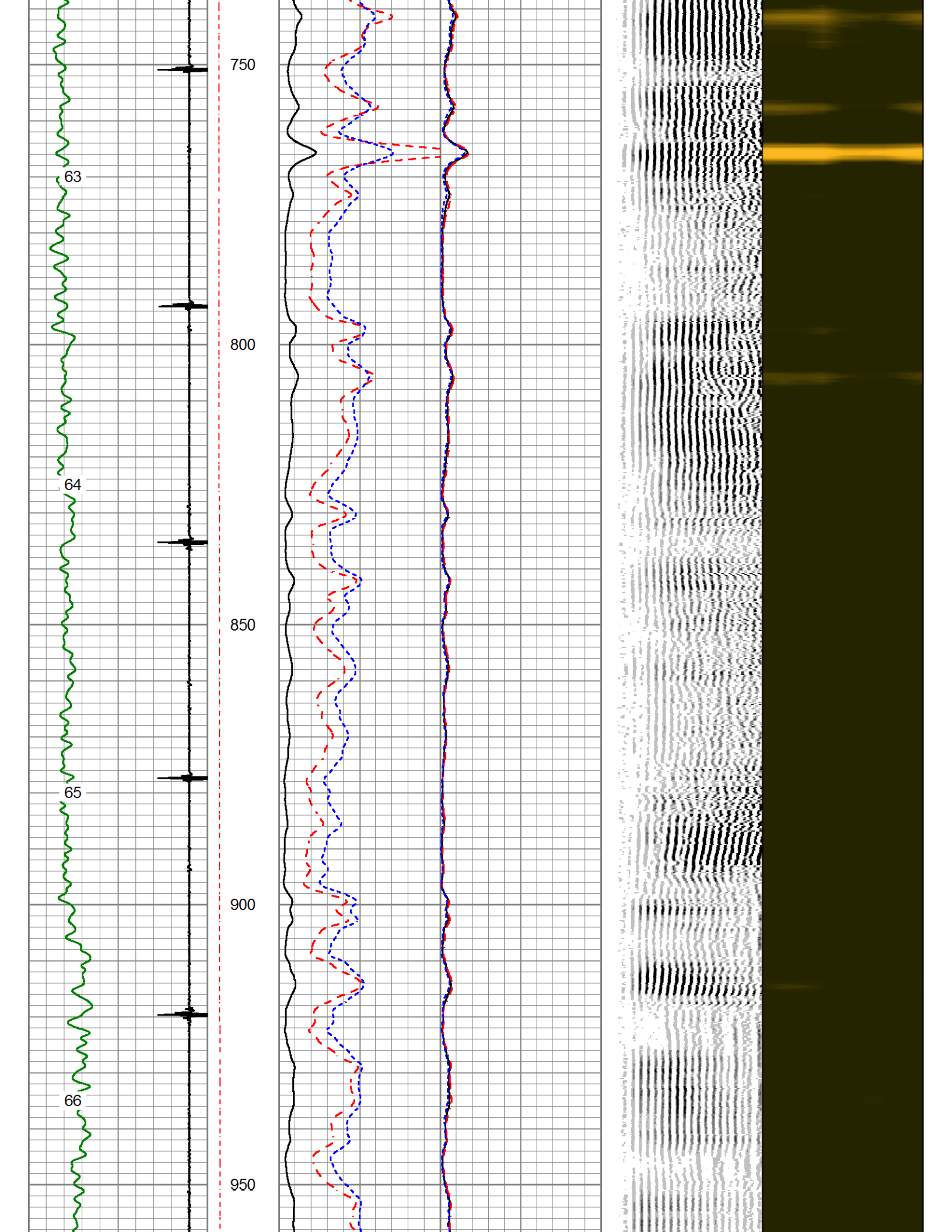
3' Travel Time: 246 (usec) 146
Line Tension: 0 (l2000
3' Amplitude: 0 (mV) 100
3' Amplified Amplitude X 5: 0 (mV) 20
1 Bond Index 0
Sector Amplitude Average: 0 150
Sector Amplitude Maximum: 0 150
Sector Amplitude Minimum: 0 150
200 VDL 1200
1 Sector Map 8
10 60
-9 Collar Locator 1
Gamma Ray: 0 (GAPI) 150
Temp (degF)

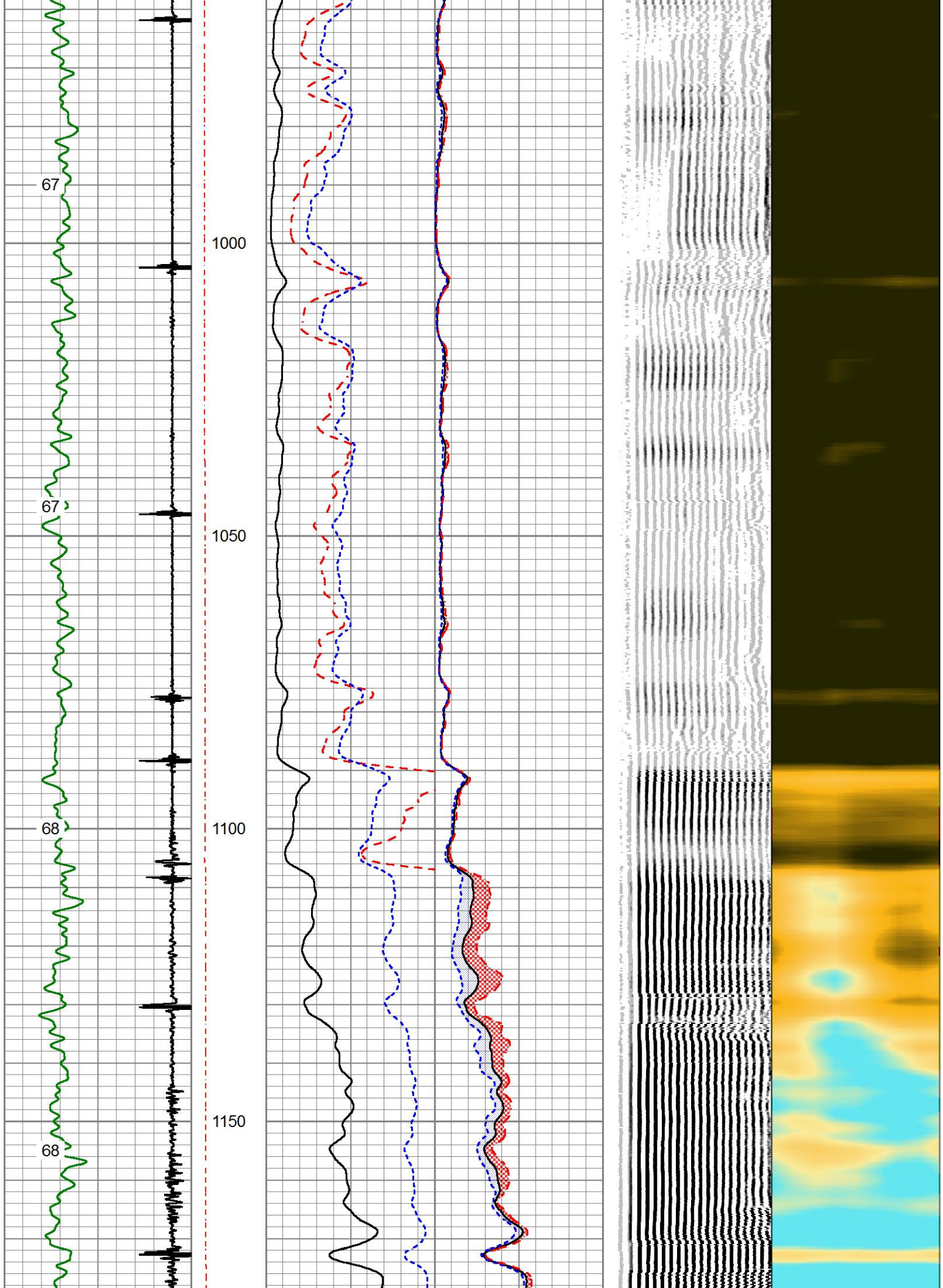


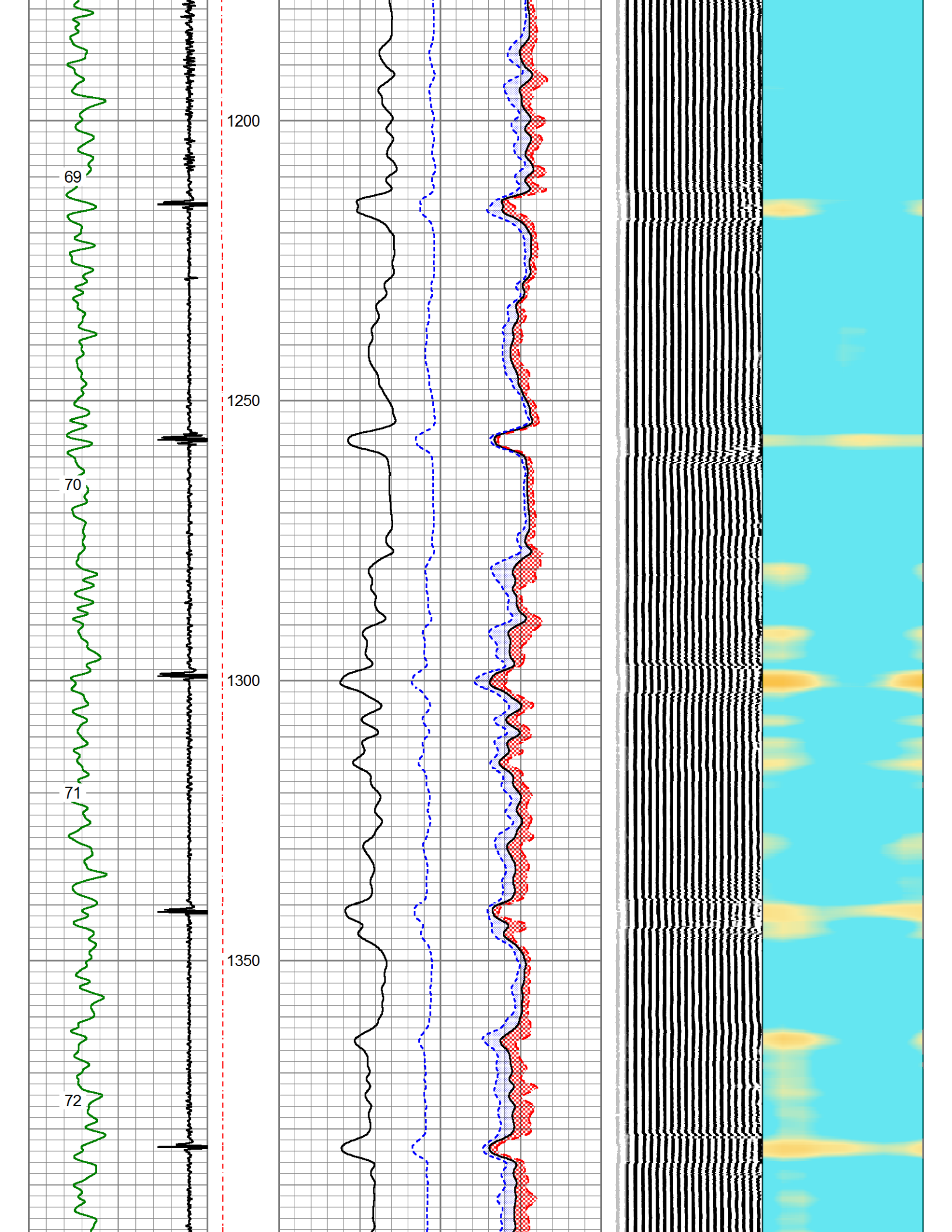

100
55
150
54
200
55
250
55

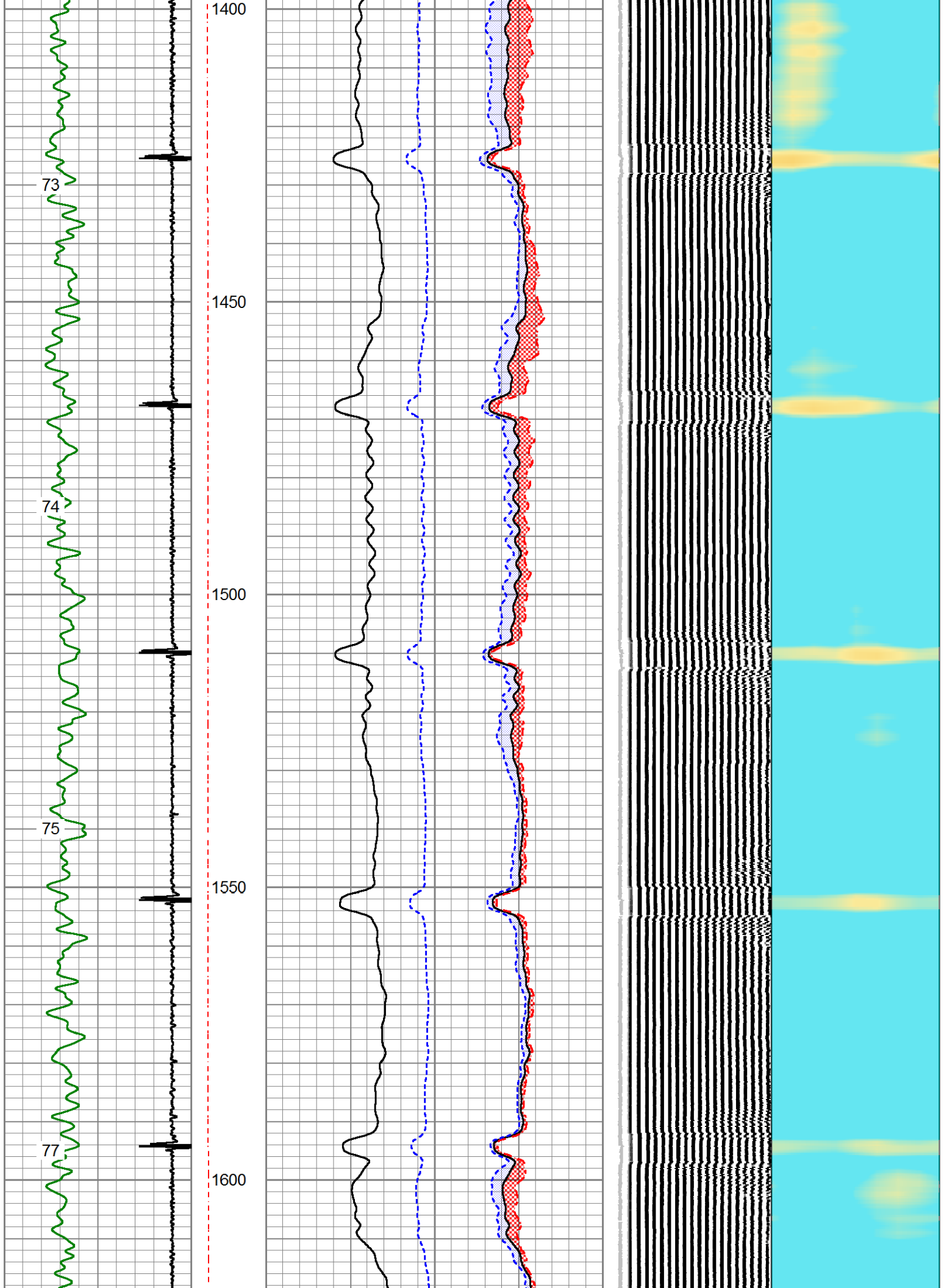

300
56
350
Est. Top of Cement
57
400
59
450
59
500

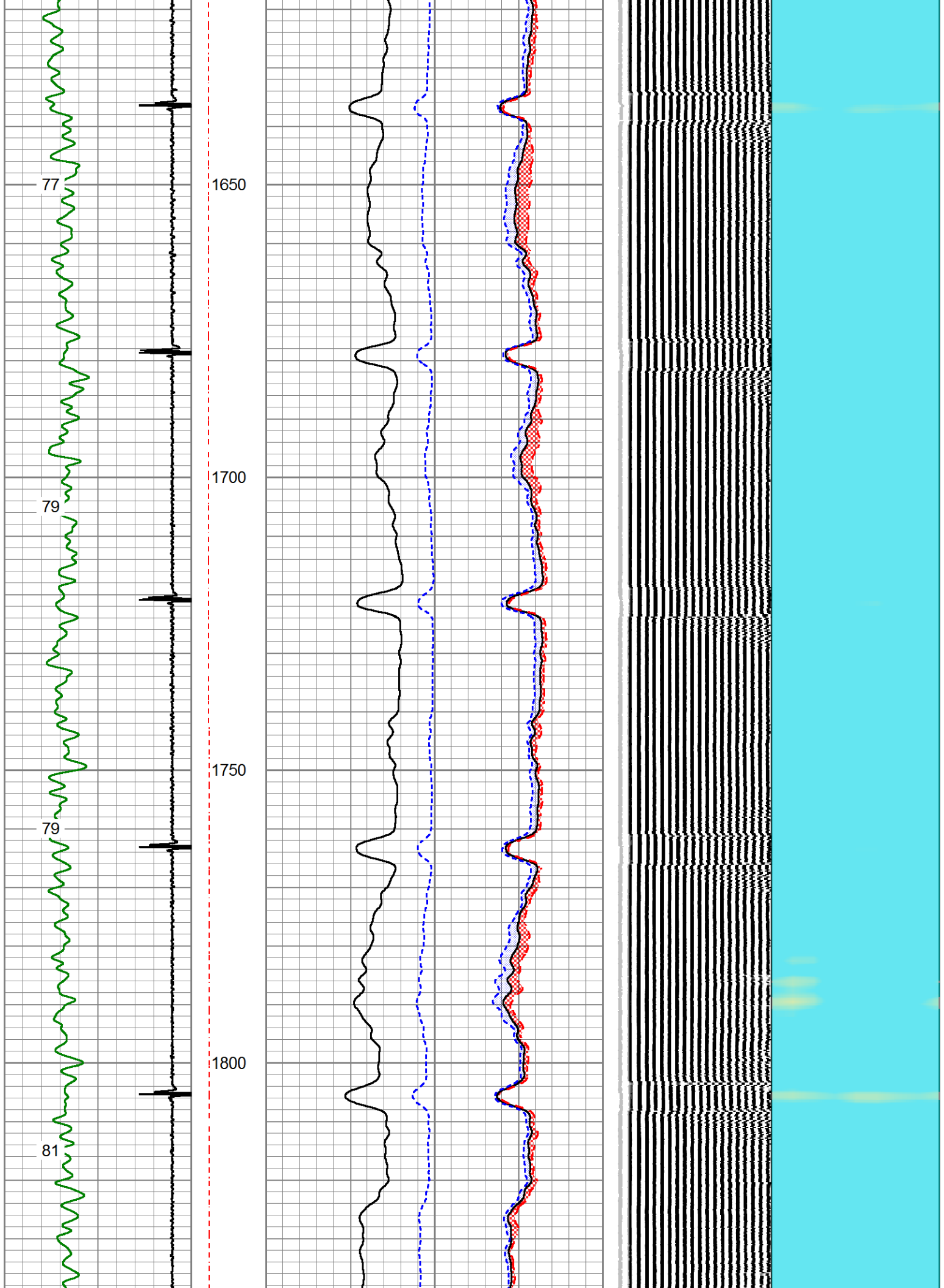

61
550
61
600
650
62
700
62

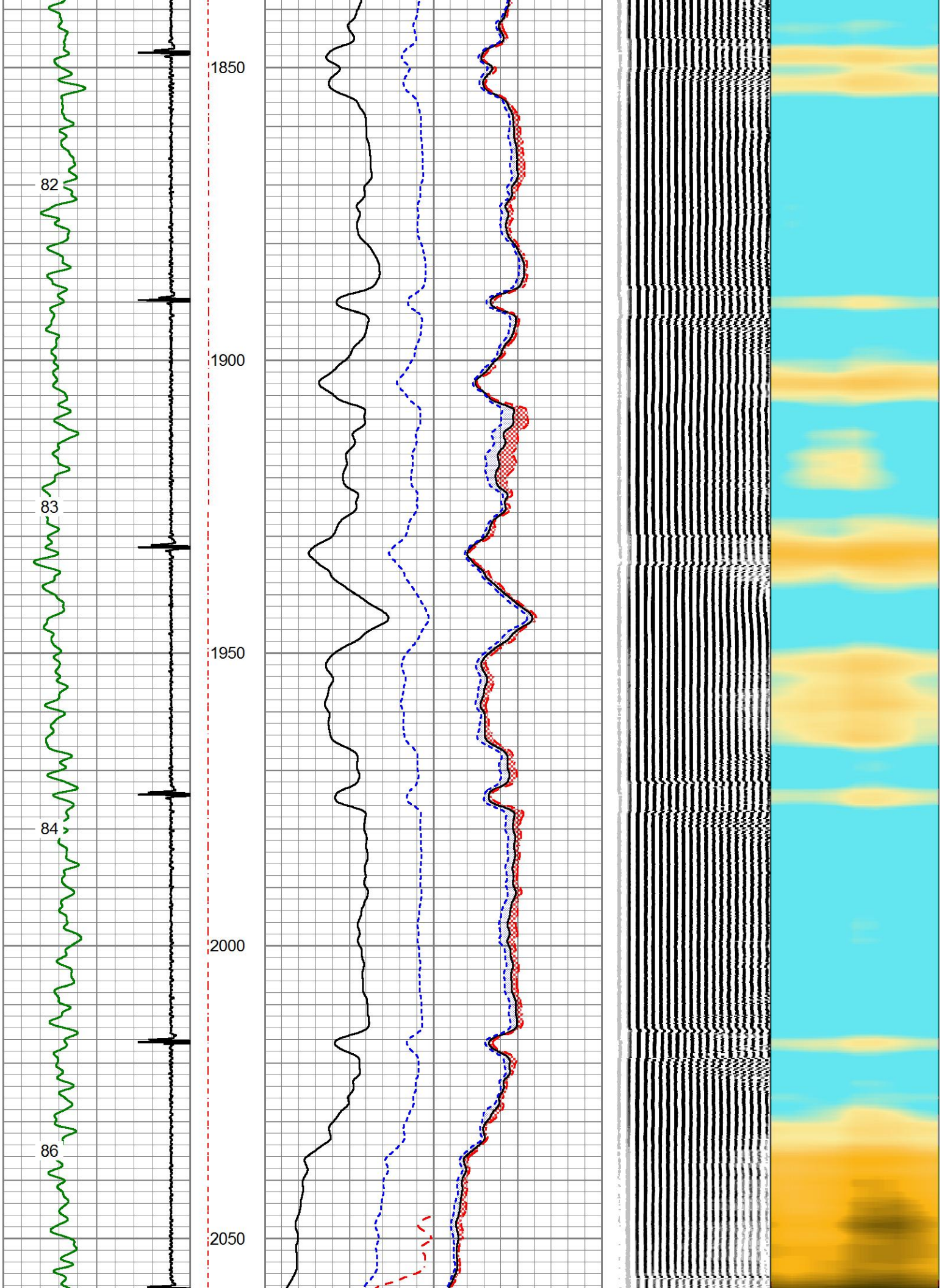

63
64
65
66
750
800
850
900
950

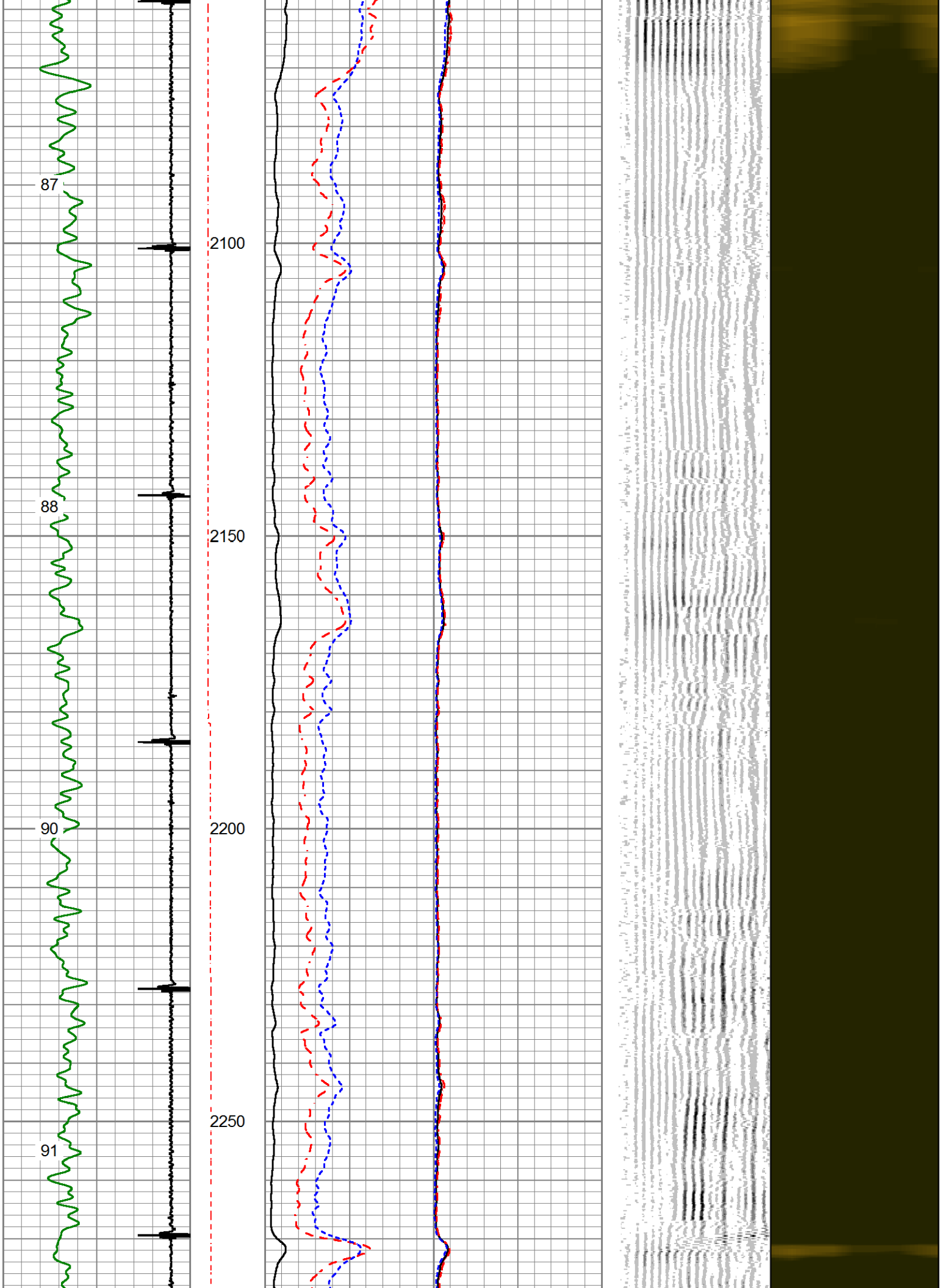

67
67
68
68
1000
1050
1100
1150

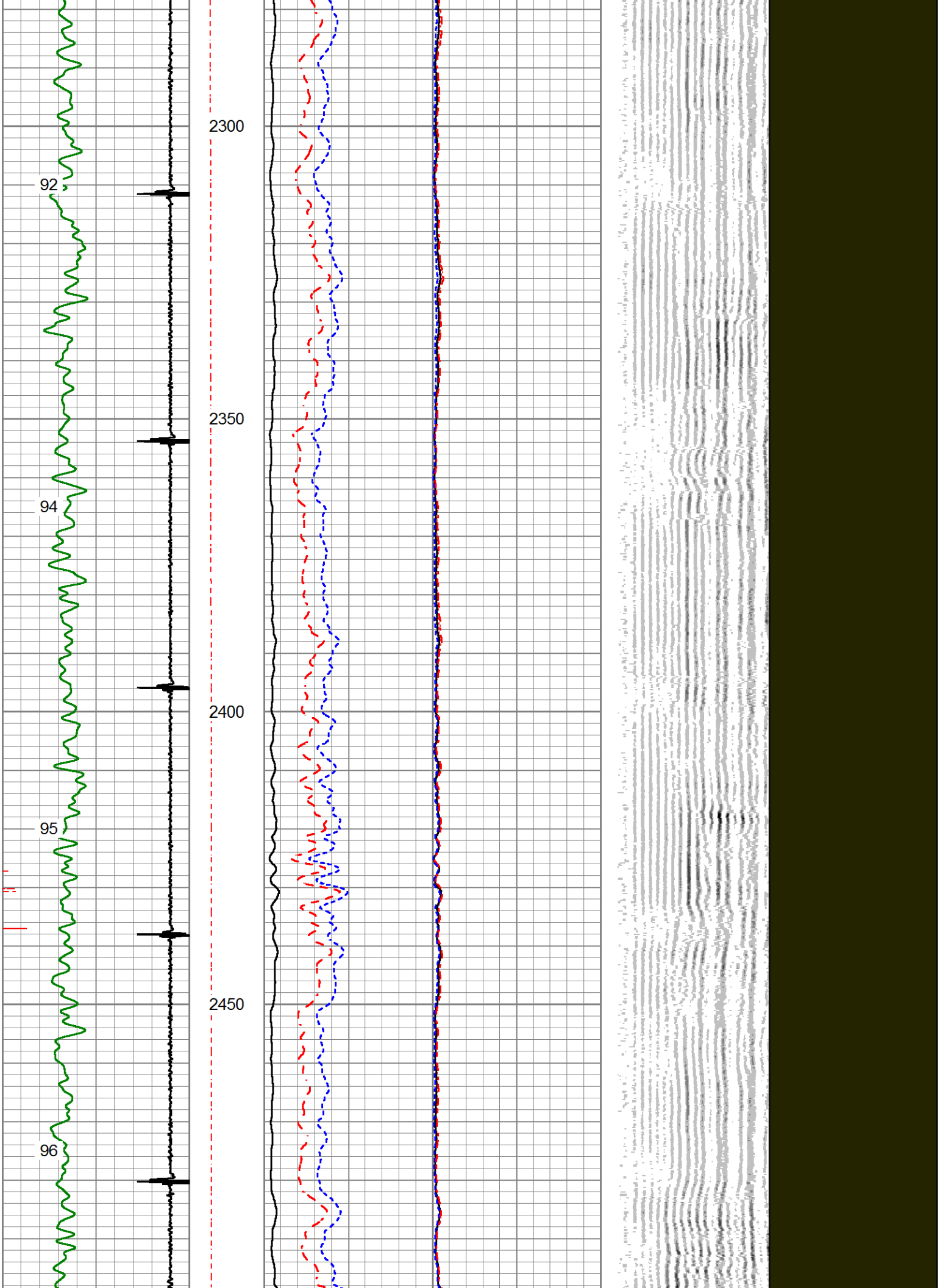

1200
69
1250
70
1300
71
1350
72

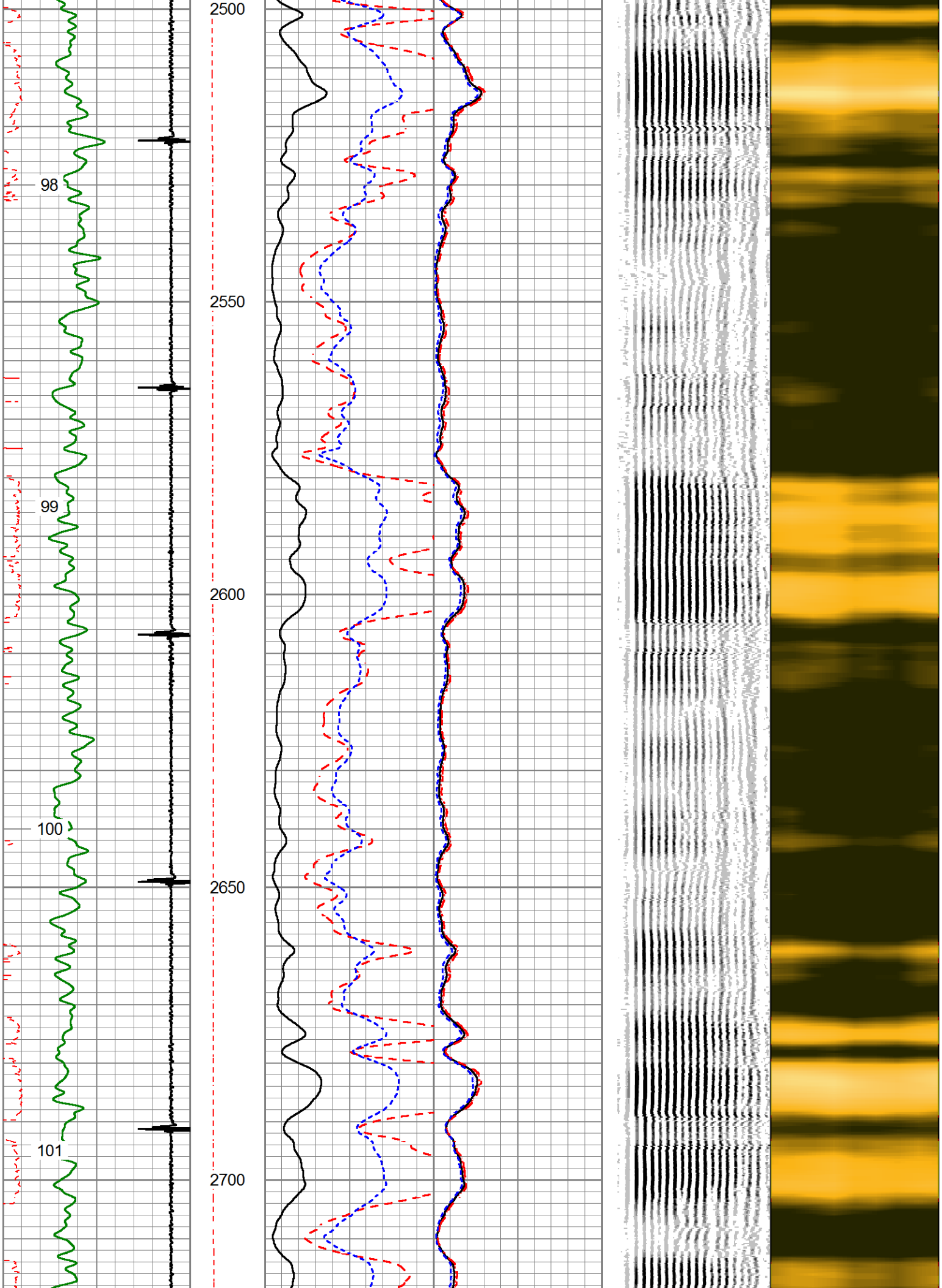

73
74
75
77
1400
1450
1500
1550
1600

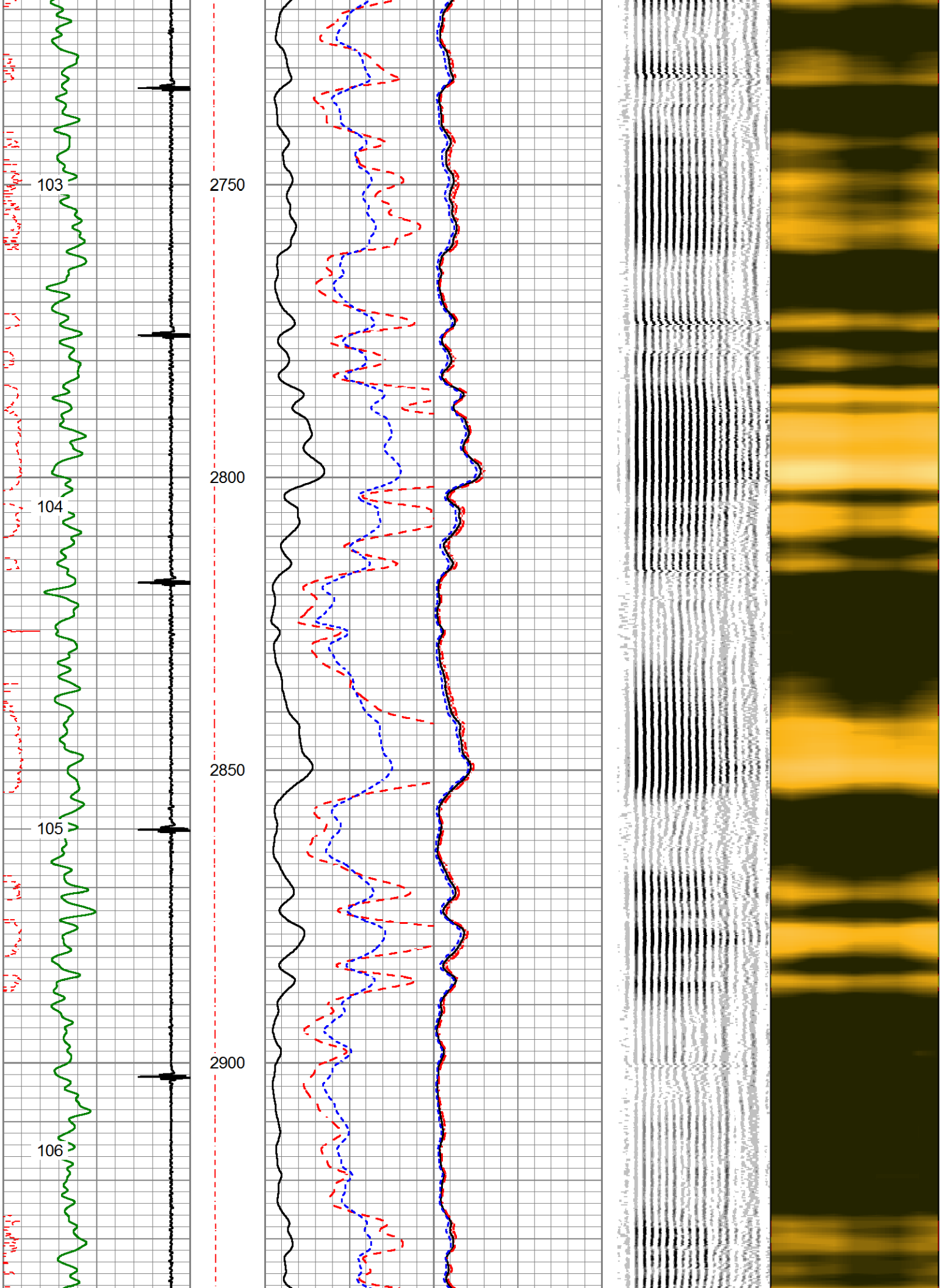

77
79
79
81
1650
1700
1750
1800

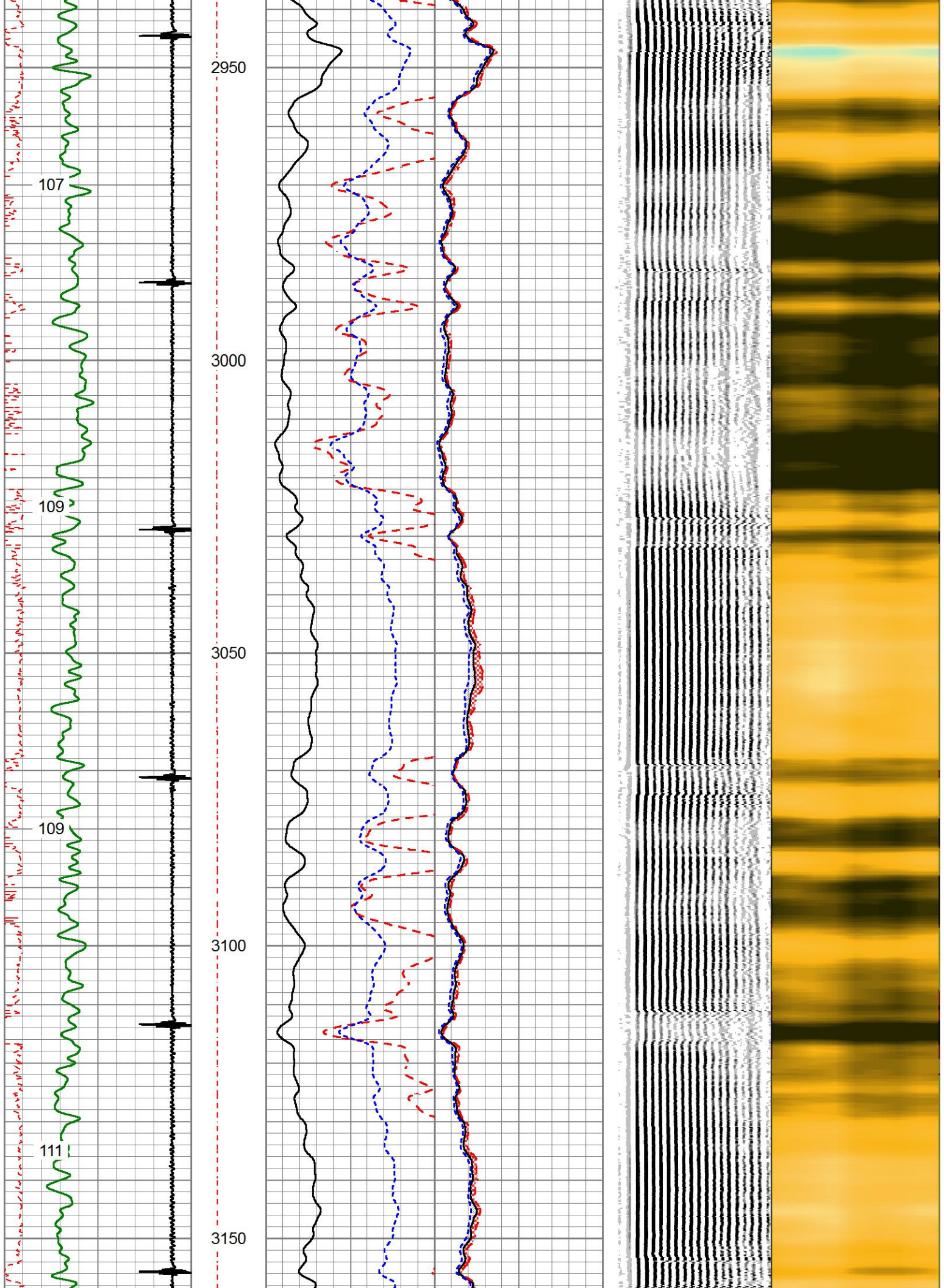

82
83
84
86
1850
1900
1950
2000
2050

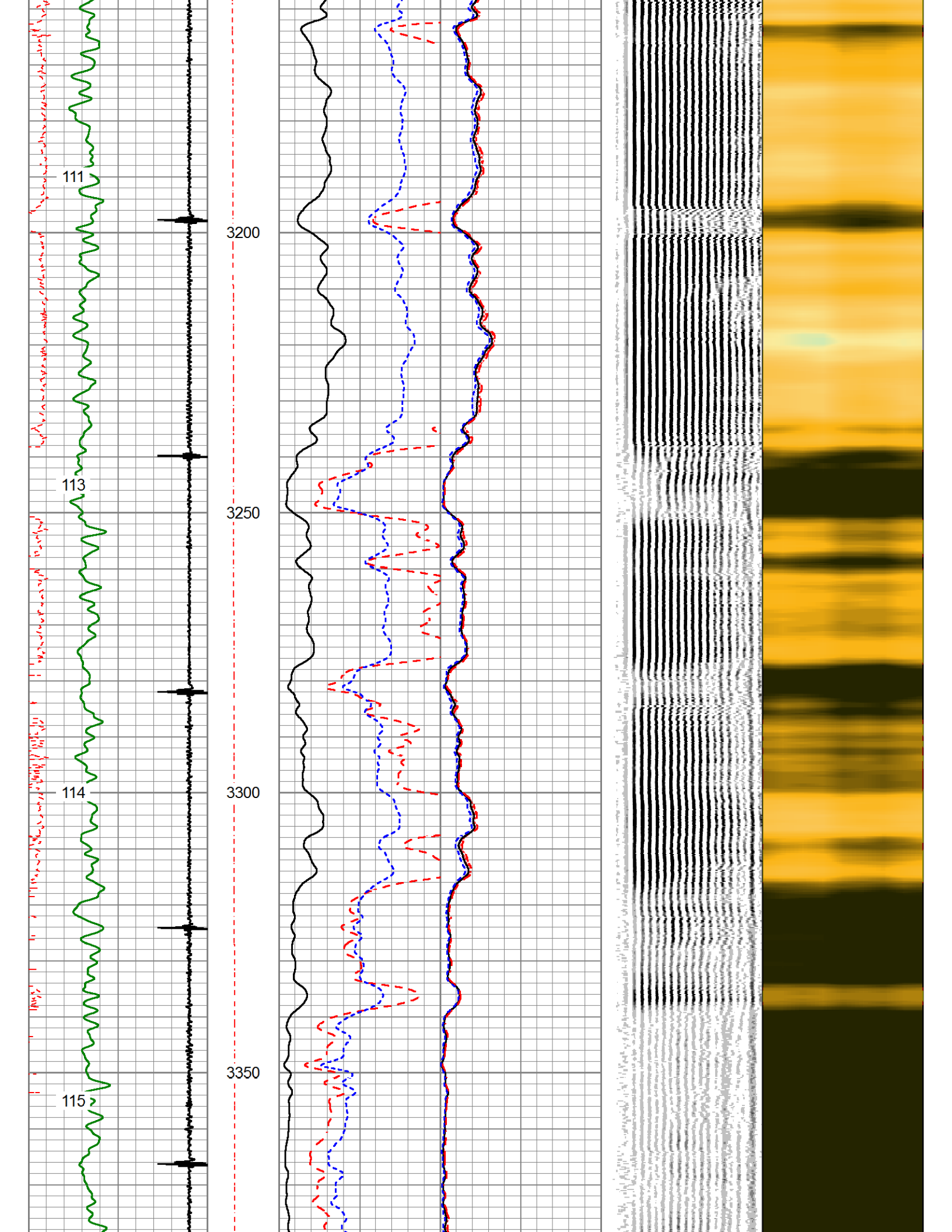

87
88
90
91
2100
2150
2200
2250

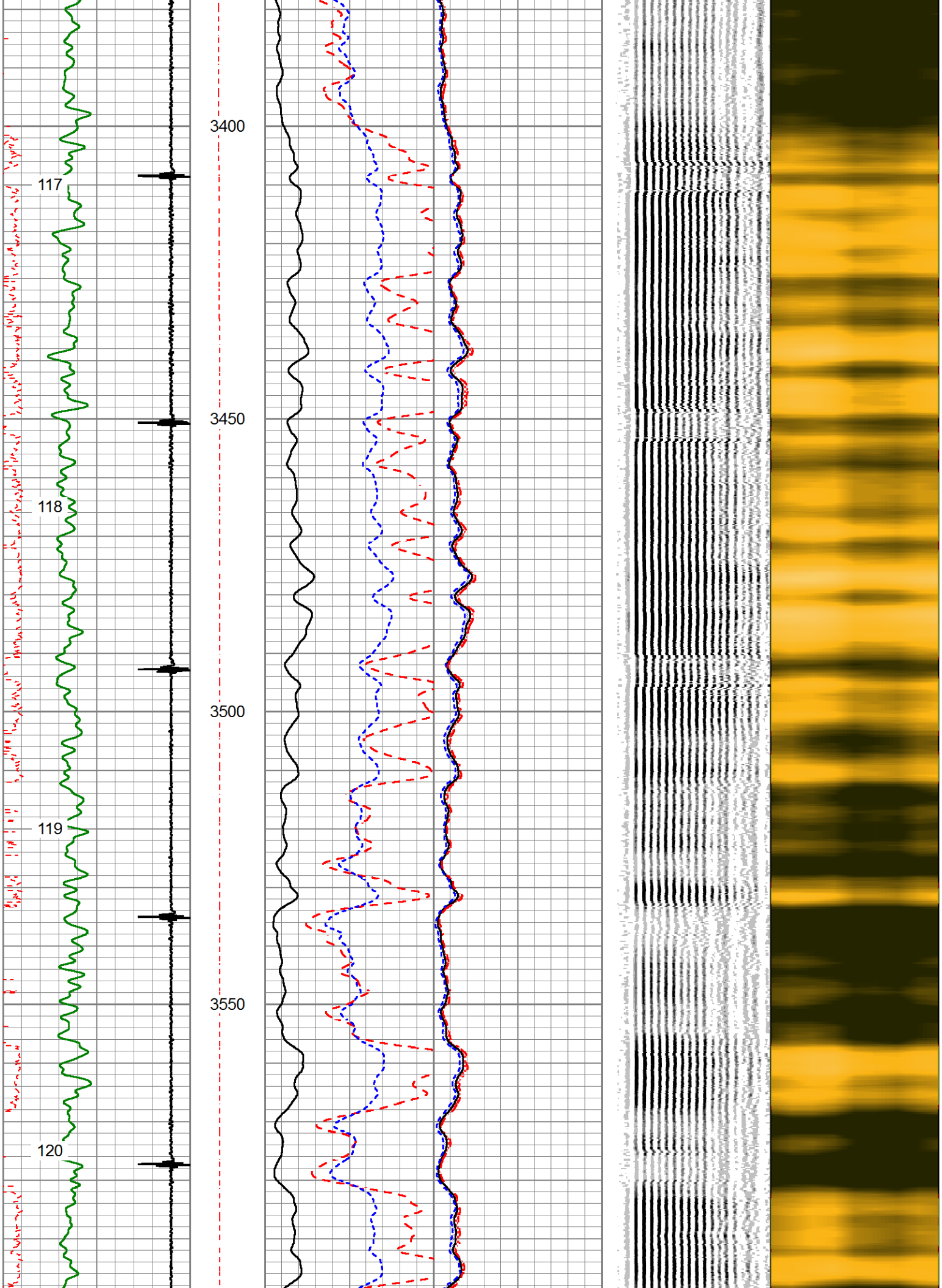

2300
2350
2400
2450
92
94
95
96

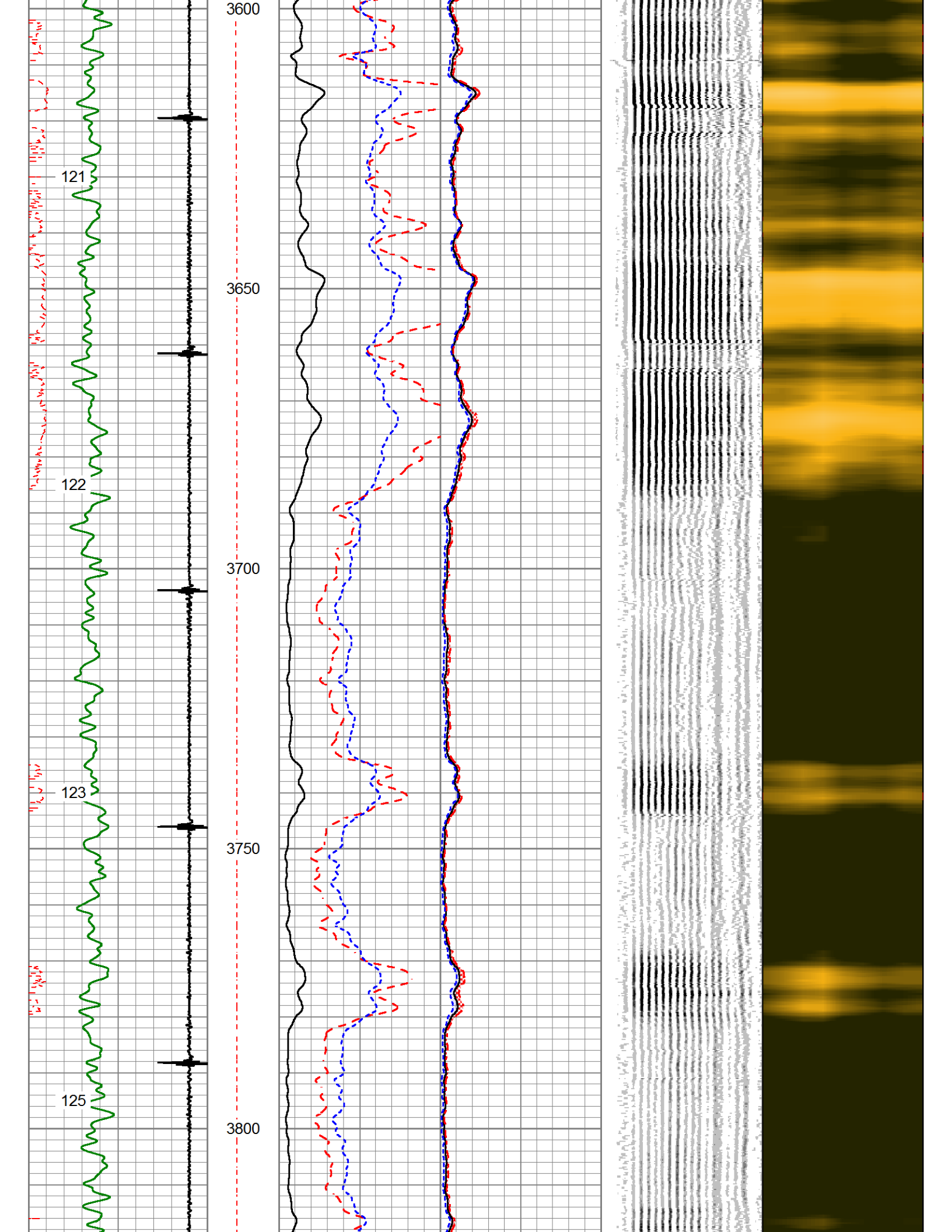

98
99
100
101
2500
2550
2600
2650
2700

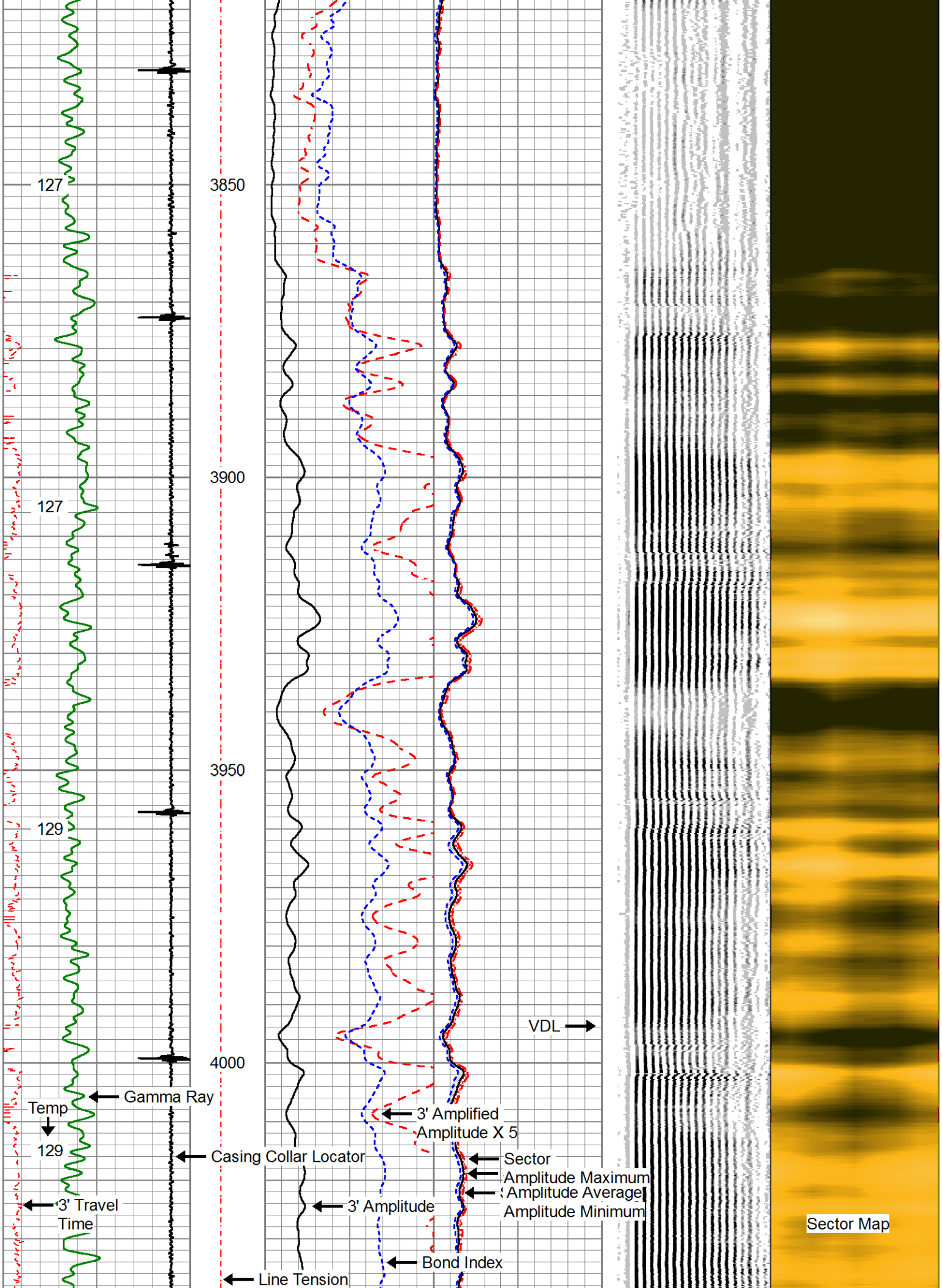

103
104
105
106
2750
2800
2850
2900

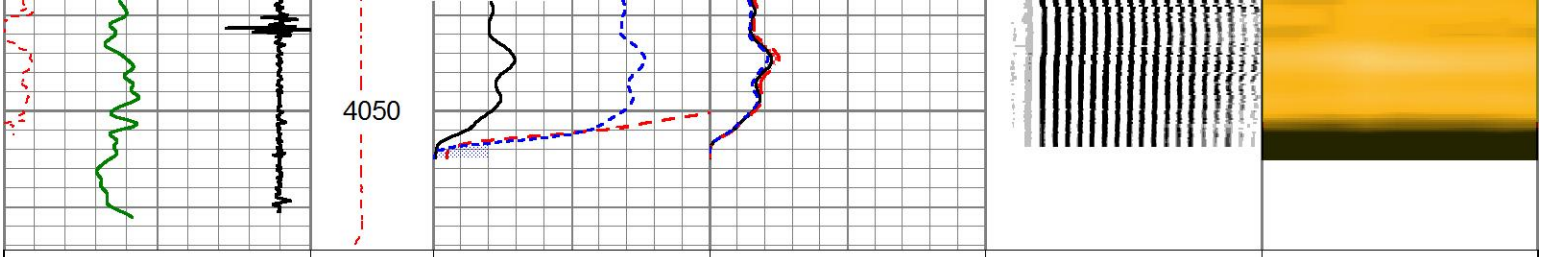

2950
3000
3050
3100
3150
107
109
109
111


111
113
114
115
3200
3250
3300
3350


3400
3450
3500
3550
117
118
119
120


3600
3650
3700
3750
3800
121
122
123
125

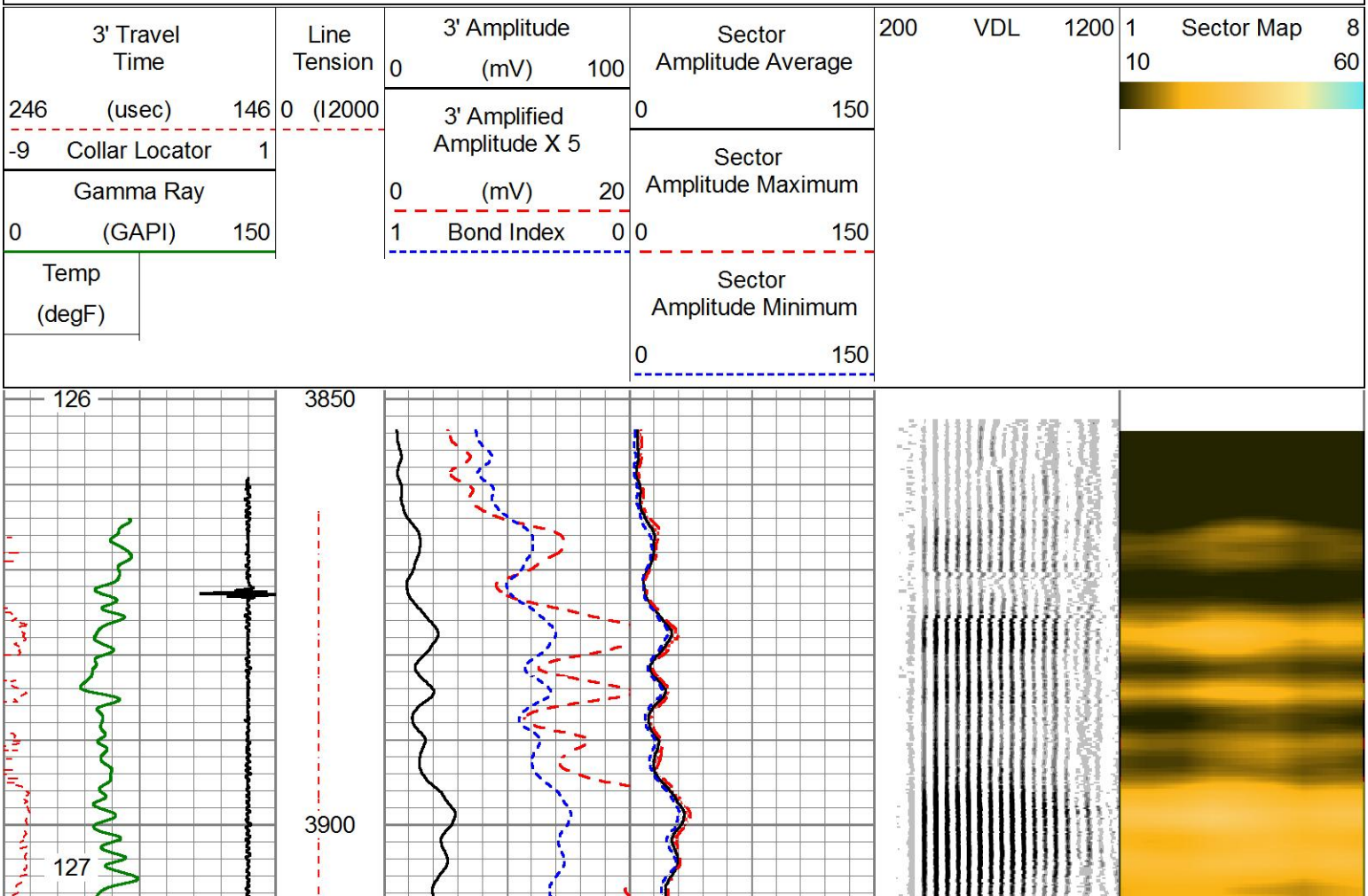

127
3850
3900
127
3950
129
4000
Gamma Ray
Temp
129
Casing Collar Locator
3' Travel Time
3' Amplitude
Line Tension
3' Amplified
Amplitude X 5
Sector
Amplitude Maximum
Amplitude Average
Amplitude Minimum
Bond Index
VDL
Sector Map

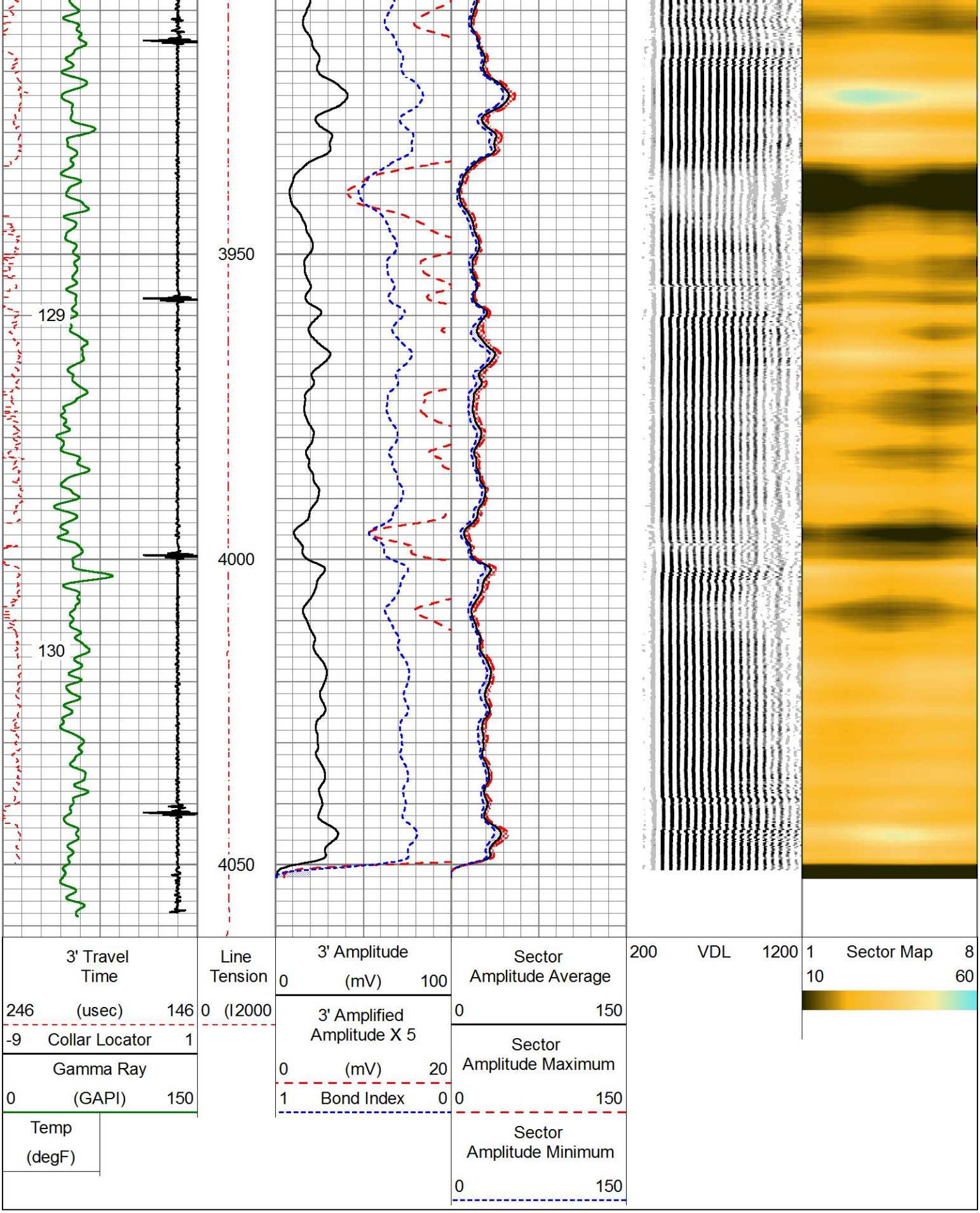


REPEAT PASS

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Database File	commons 4-19.db
Dataset Pathname	pass6
Presentation Format	pinr_scbl
Dataset Creation	Mon Apr 24 13:02:05 2017
Charted by	Depth in Feet scaled 1:240





Calibration Report

Database File	commons 4-19.db
Dataset Pathname	pass8.1
Dataset Creation	Mon Apr 24 13:55:25 2017

Gamma Ray Calibration Report

Serial Number:	FW1212-24	
Tool Model:	275 Probe GR-CCL Corrosion	
Performed:	Fri Jan 20 11:55:28 2017	
Calibrator Value:	320.0	GAPI
Background Reading:	14.0	cps
Calibrator Reading:	1153.0	cps
Sensitivity:	0.7000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	141166	
Tool Model:	275 Probe w Temp New Mod	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	1644.842	ft

Master Calibration, performed (Derived):

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.471	1.000	81.196	54.506	0.999
CAL	0.000	1.874				
5'	0.000	1.308	1.000	81.196	61.331	1.000
SUM						
S1	0.000	1.571	0.000	100.000	63.658	-0.001
S2	0.000	1.576	0.000	100.000	63.468	-0.001
S3	0.000	1.530	0.000	100.000	65.343	-0.001
S4	0.000	1.479	0.000	100.000	67.626	-0.001
S5	0.000	1.572	0.000	100.000	63.625	-0.001
S6	0.000	1.566	0.000	100.000	63.872	-0.001
S7	0.000	1.522	0.000	100.000	65.708	-0.001
S8	0.000	1.529	0.000	100.000	65.397	-0.001

Temperature Calibration Report

Serial Number:	141166			
Tool Model:	275 Probe w Temp New Mod			
Performed:	Thu Oct 27 08:20:08 2016			
	Reference		Reading	
Low Reference:	35.00	degF	0.25	degF
High Reference:	210.00	degF	1.31	degF
Gain:	0.76			
Offset:	6.00			
Delta Spacing	1			

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Well	COMMONS 4-19
Field	WATTENBERG
County	WELD
State	COLORADO