

VDL CCL  
GAMMA RAY  
CEMENT BOND LOG

Company NOBLE  
Well EMBREE C10-20D  
Field WATTENBURG  
County WELD State COLORADO

Location: API #: 05-123-29909  
LAT: 40.3287  
LONG: -104.5392  
SEC 10 TWP 4 RGE 64  
Permanent Datum GL Elevation 4663'  
Log Measured From KB  
Drilling Measured From KB  
Other Services N/A  
Elevation K.B. 4676'  
D.F. 4675'  
G.L. 4663'

Date 5-27-20

Run Number ONE  
Depth Driller 7137'  
Depth Logger 2500'  
Bottom Logged Interval 2500'  
Top Log Interval SURFACE  
Open Hole Size 12.25"  
Type Fluid WATER  
Density / Viscosity N/A  
Max. Recorded Temp. N/A  
Estimated Cement Top N/A  
Time Well Ready 16:30  
Time Logger on Bottom 16:45  
Equipment Number 420  
Location EATON,CO  
Recorded By Z.DIONNE  
Witnessed By J.SCHNEIDER

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8"	24#	SURFACE	600
Prot. String				
Production String	4.5"	11.6#	SURFACE	7127
Liner				

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

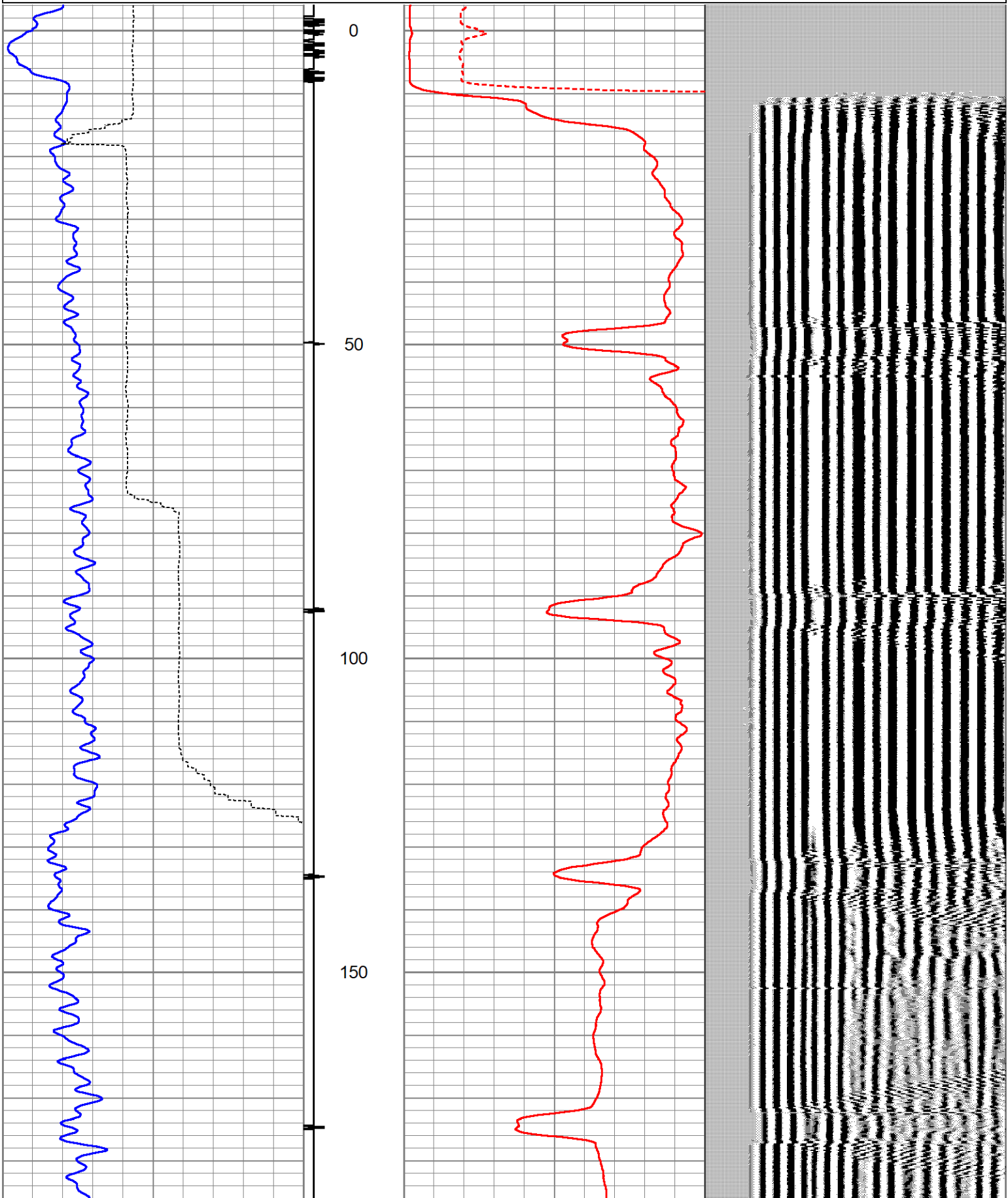
LOG RAN PER CUSTOMER REQUEST  
DEPTH REFERENCED TO KB  
ZERO PRESSURE APPLIED  
  
MAIN PASS 2500 TO SURFACE  
  
THANK YOU FOR USING A-PLUS WELL SERVICES

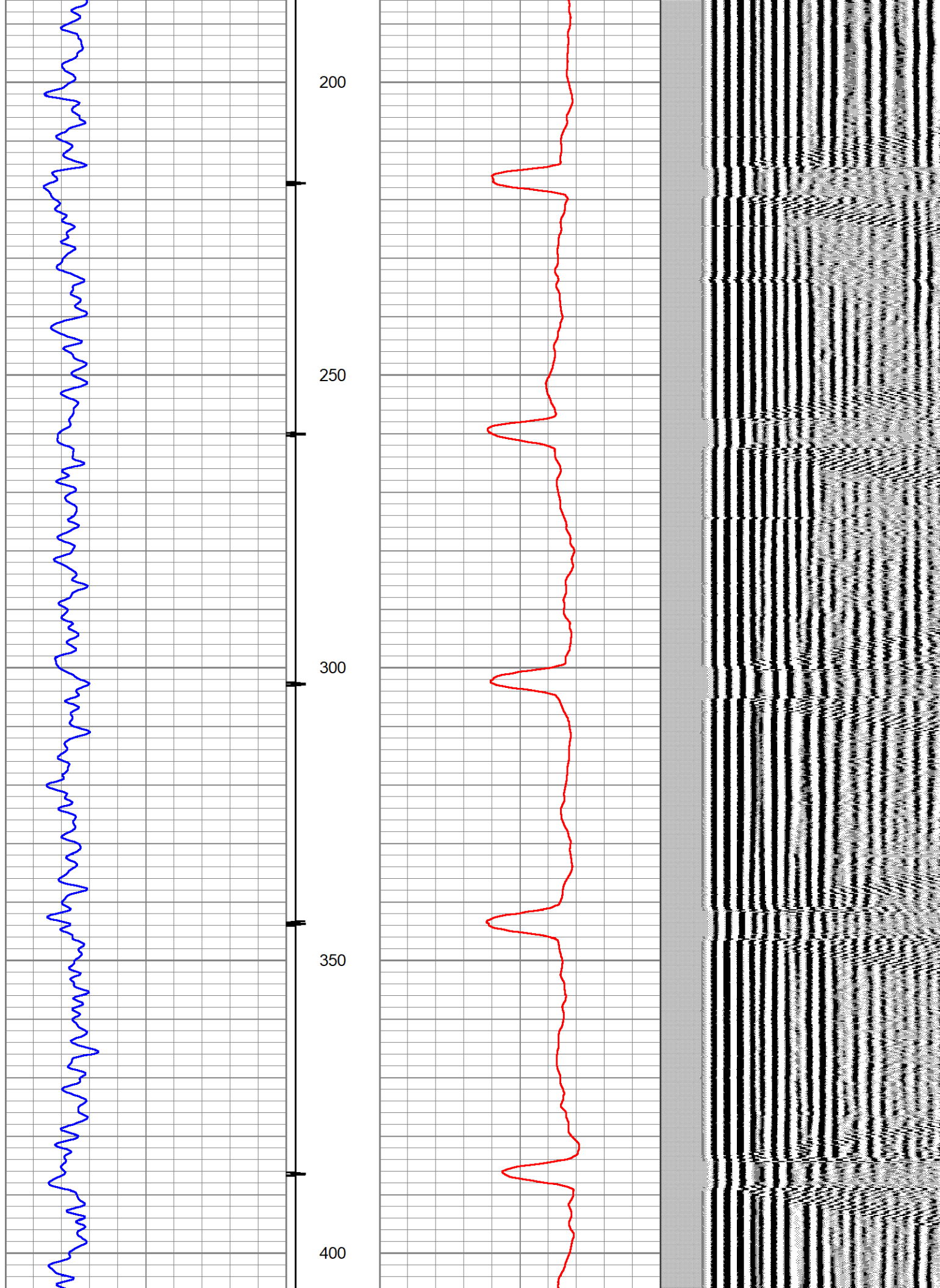


MAIN PASS

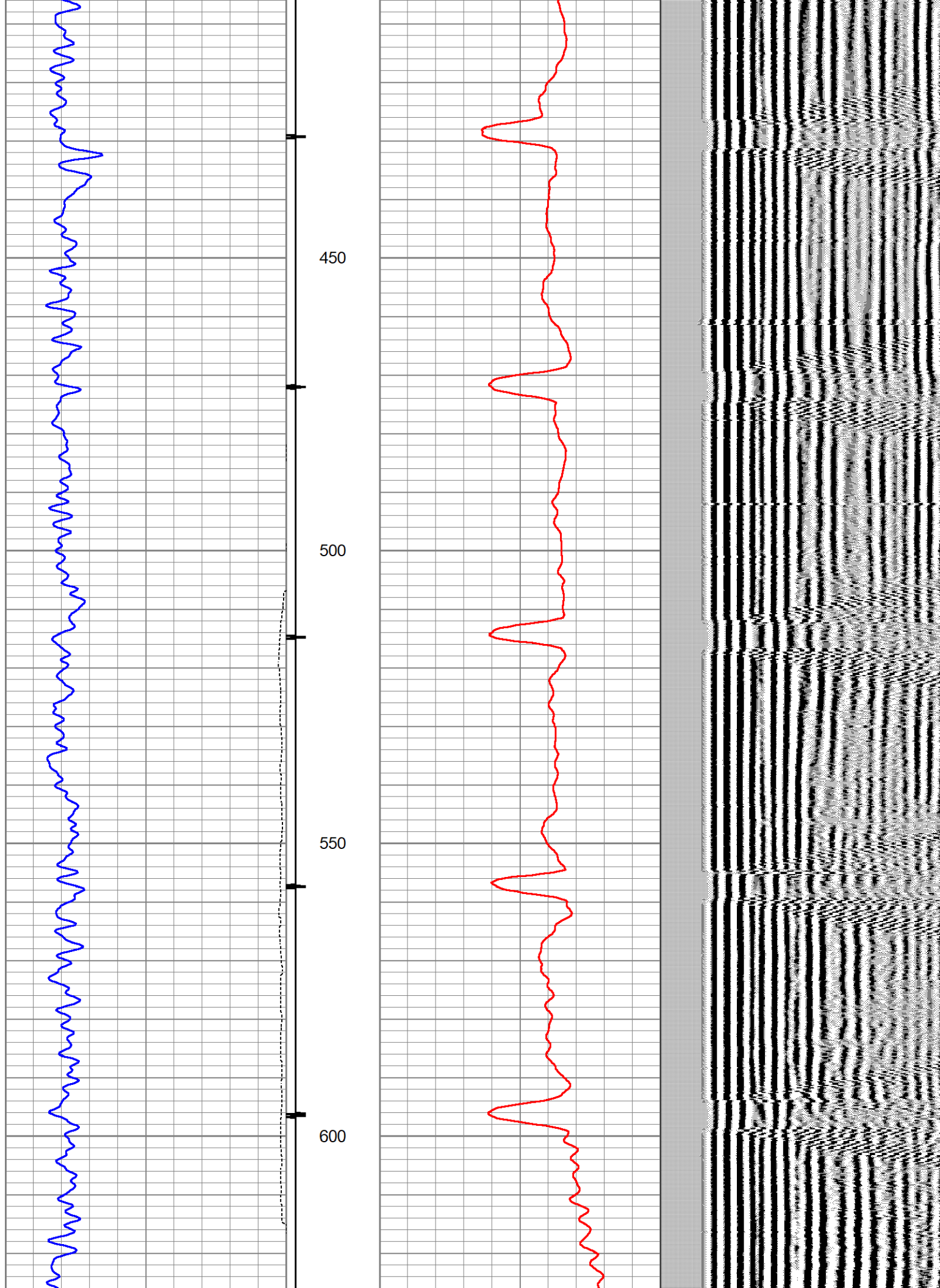
Database File	noble embree c10-20d 5-27-20.db
Dataset Pathname	pass16
Presentation Format	noble cbl pres
Dataset Creation	Wed May 27 16:46:34 2020
Charted by	Depth in Feet scaled 1:240

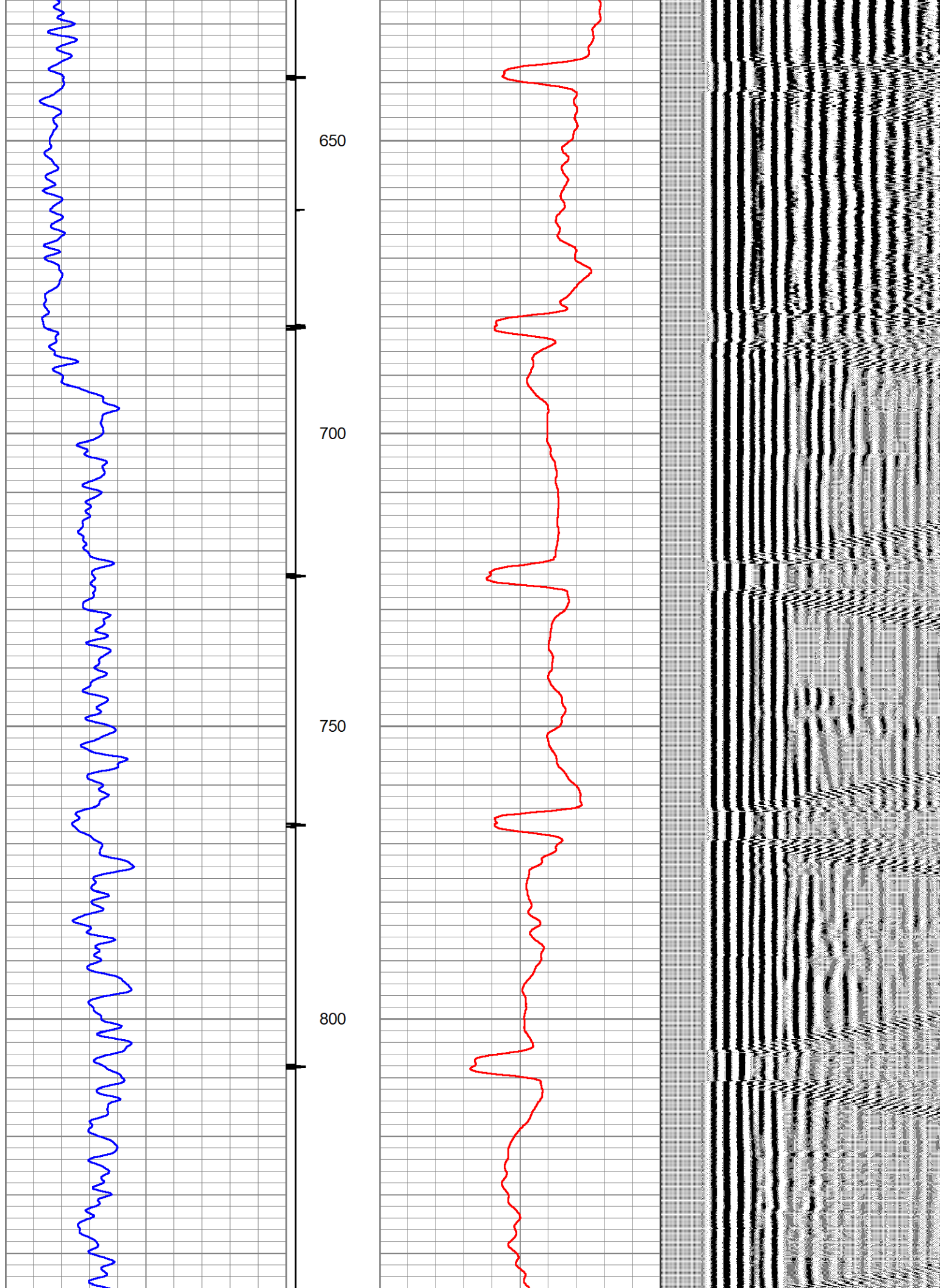
0	Gamma Ray (GAPI)	250	Collar Location	0	Amplified Amplitude (mV)	10	200	VDL (usec)	1200
0	Line Speed (ft/min)	-100	1	-9	0	Amplitude (mV)	100		



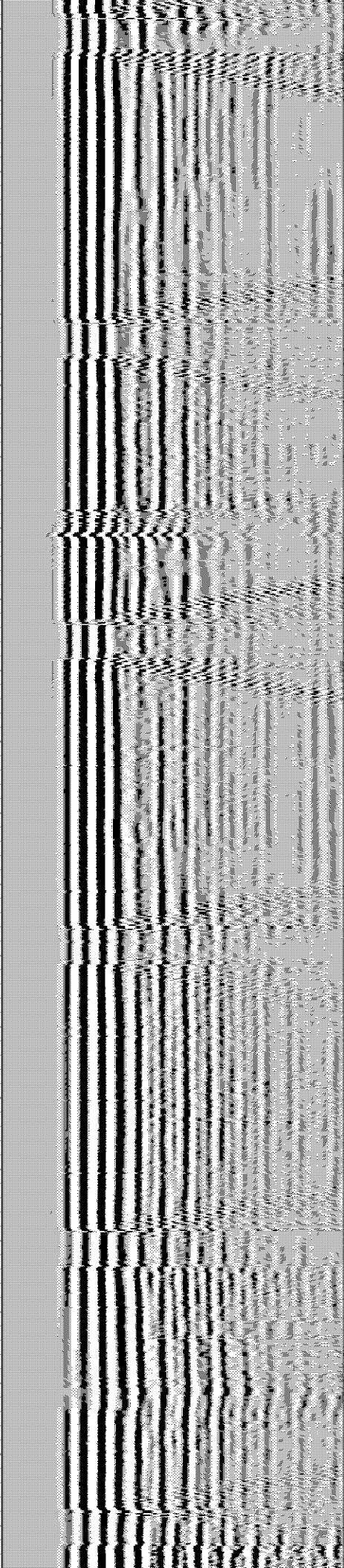
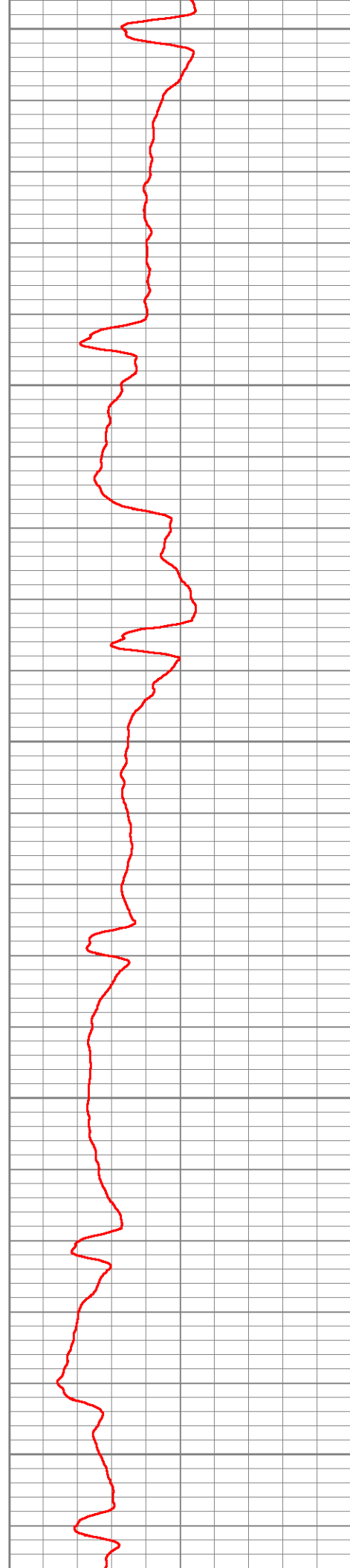
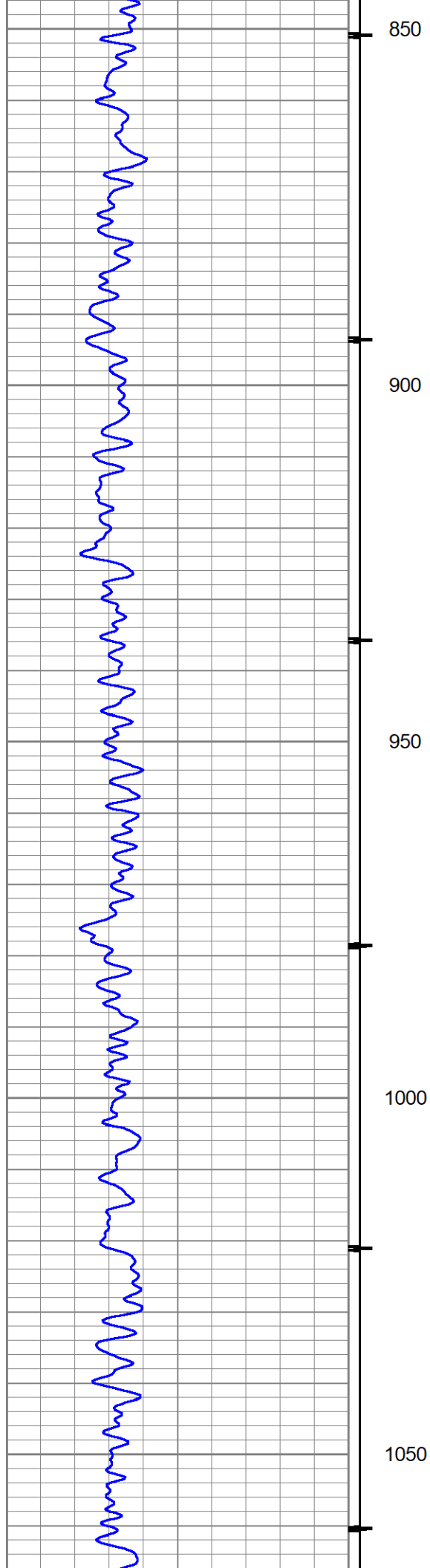


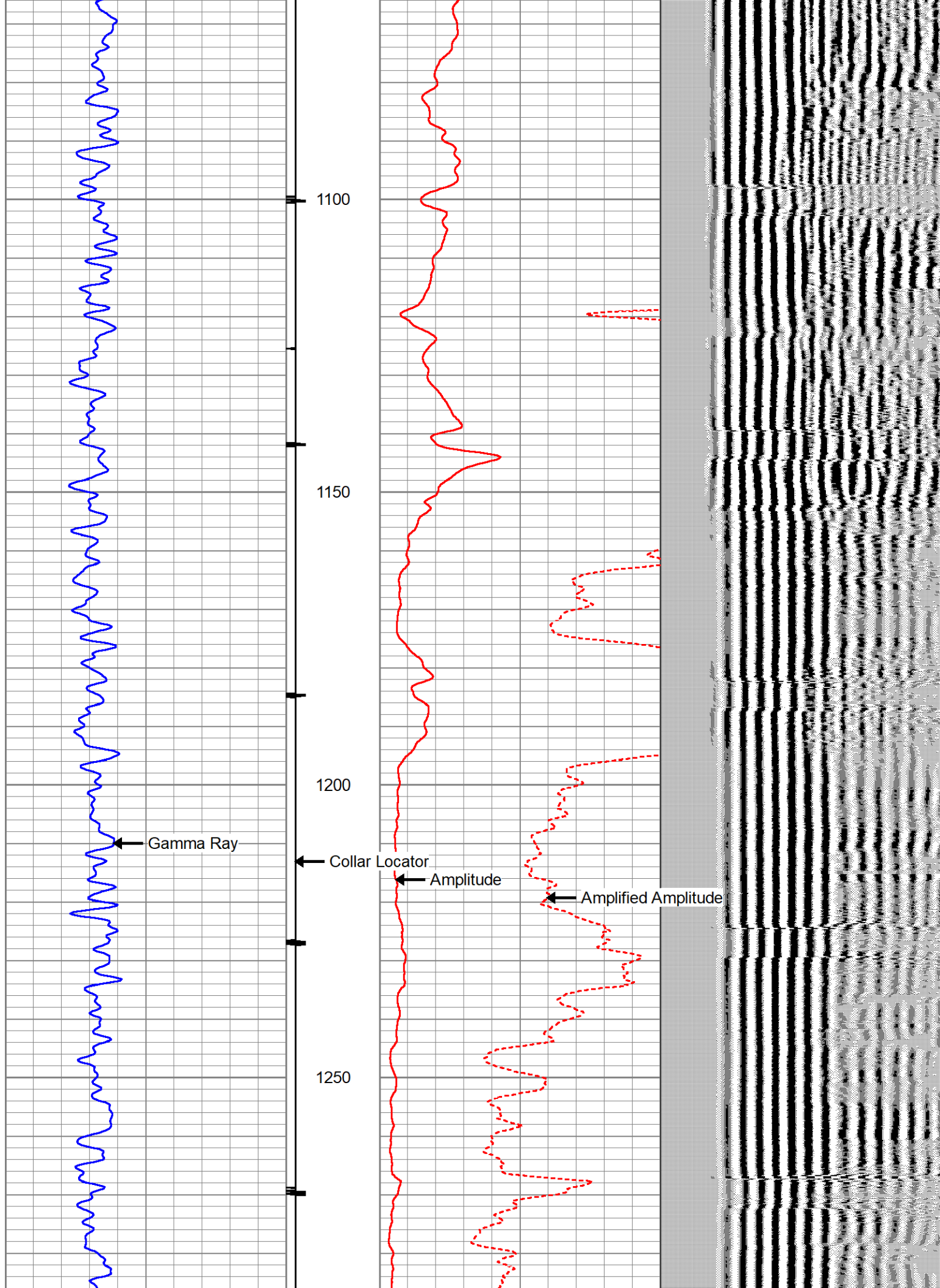




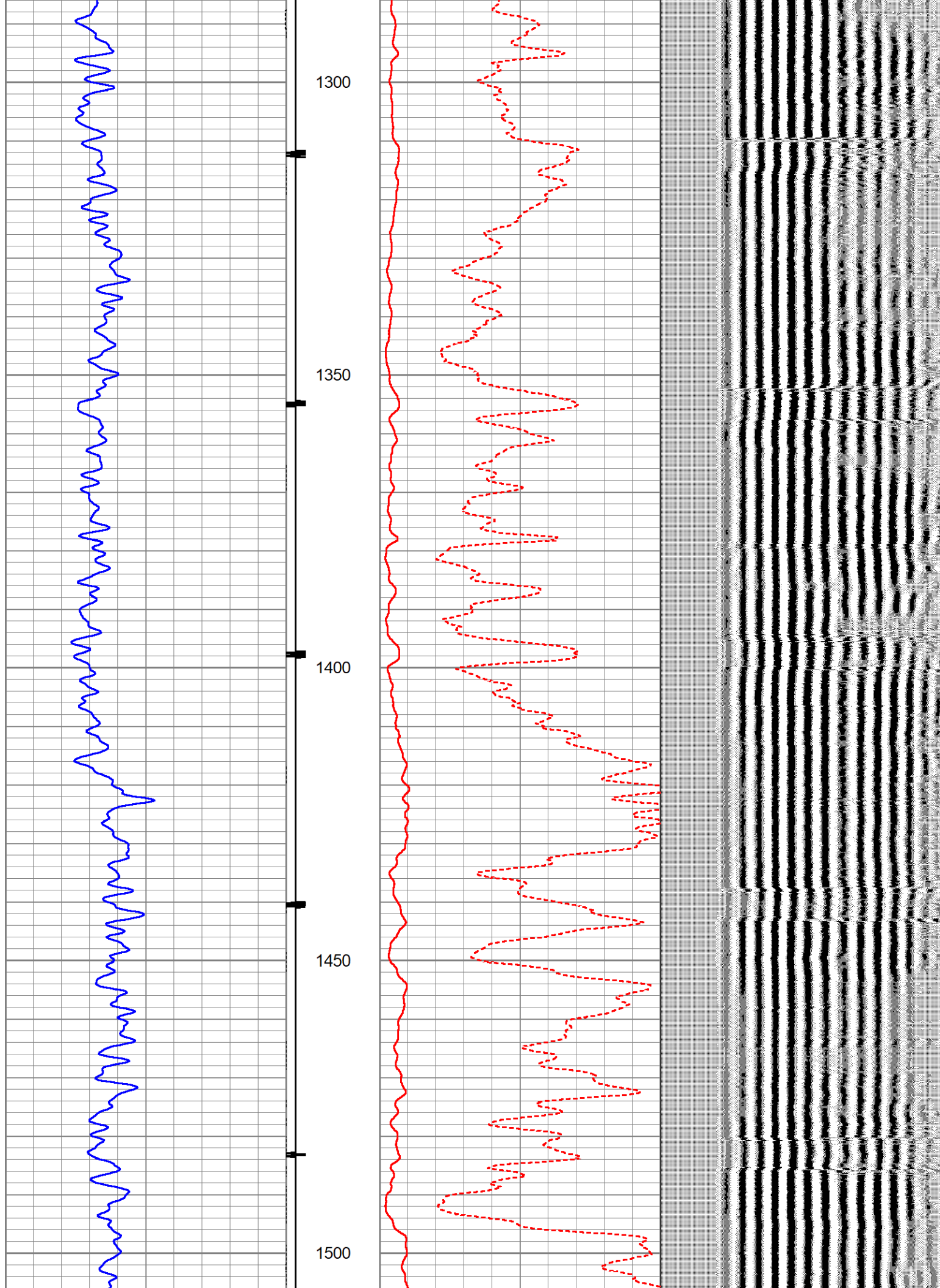




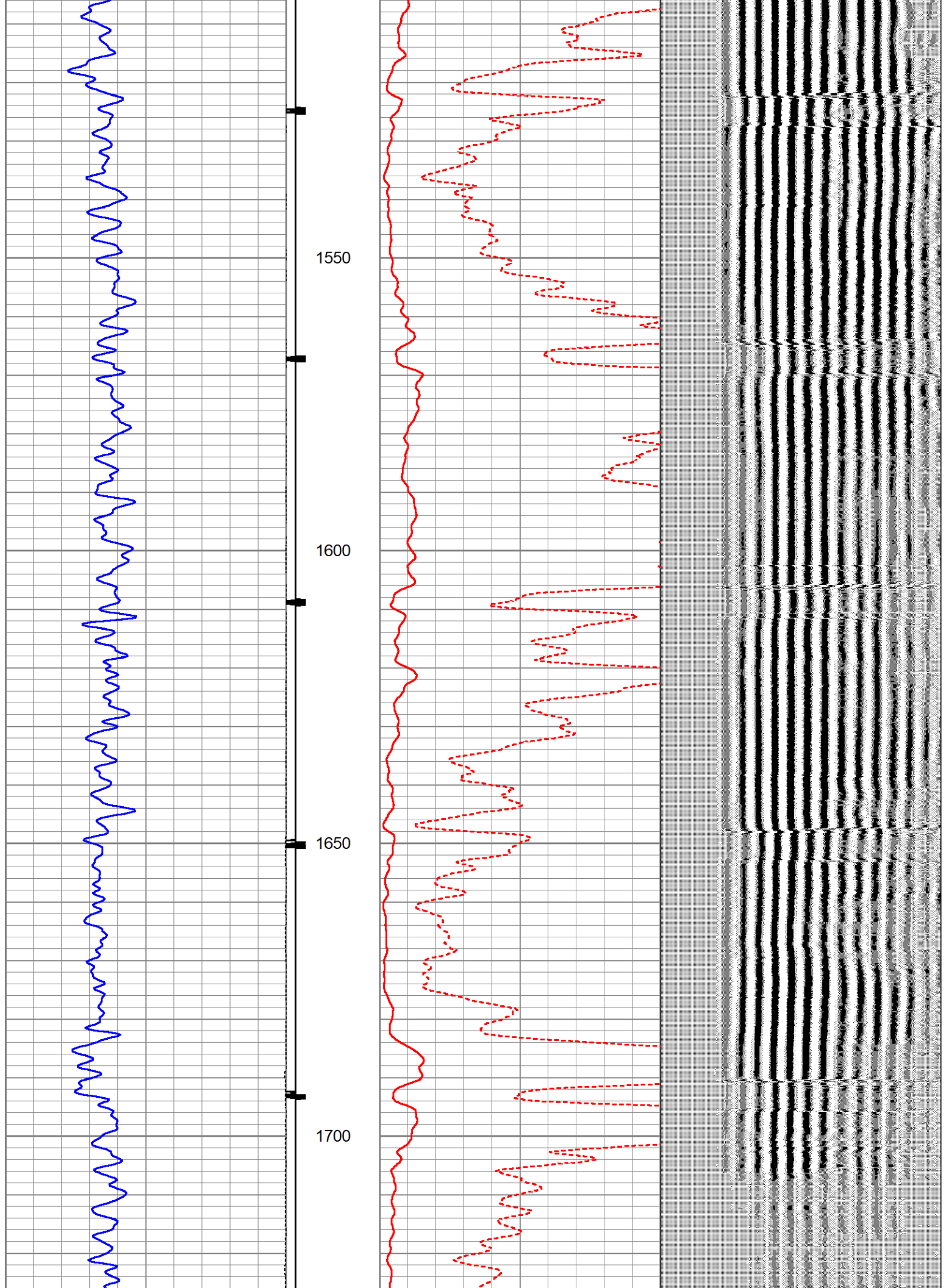


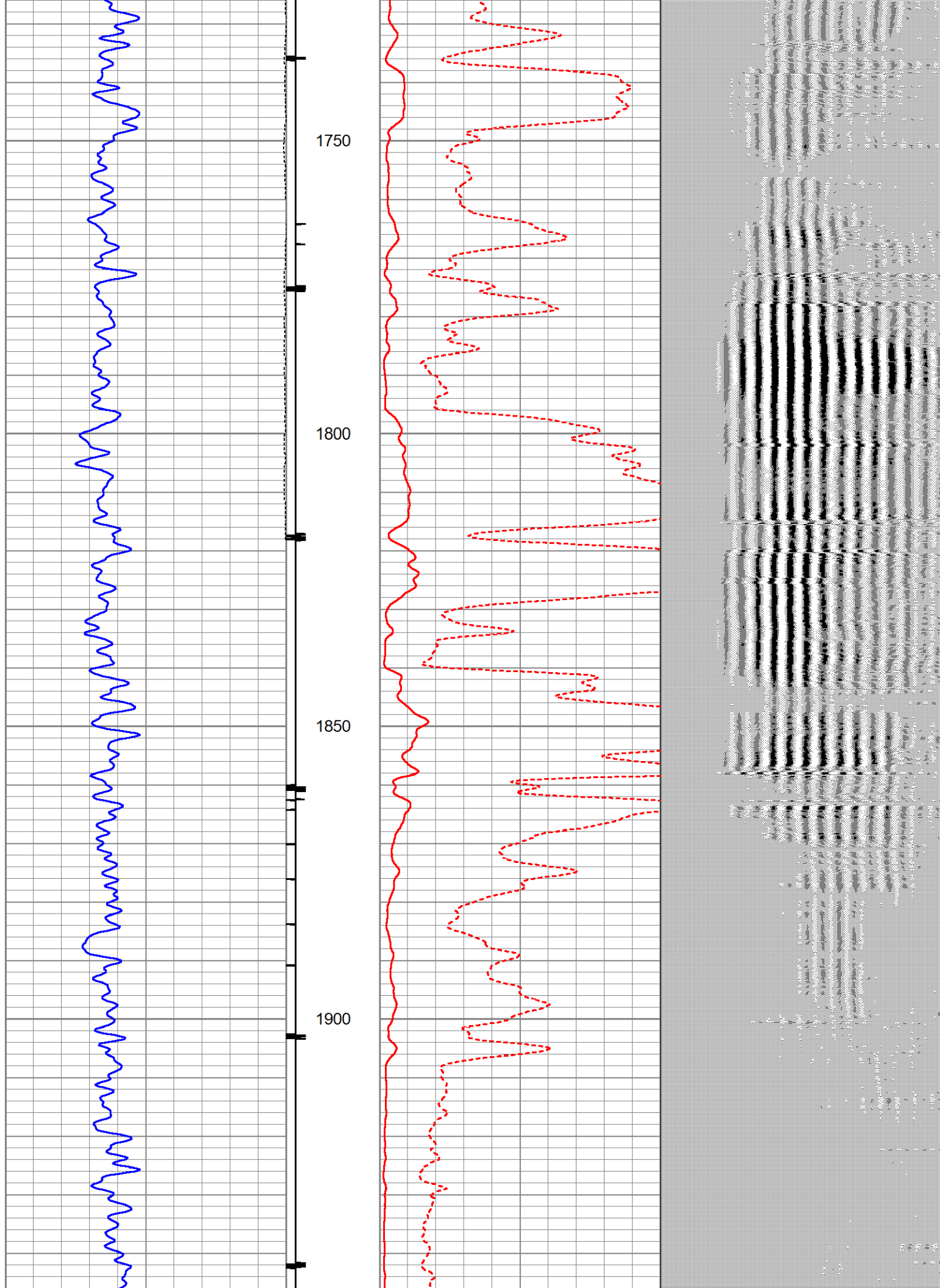




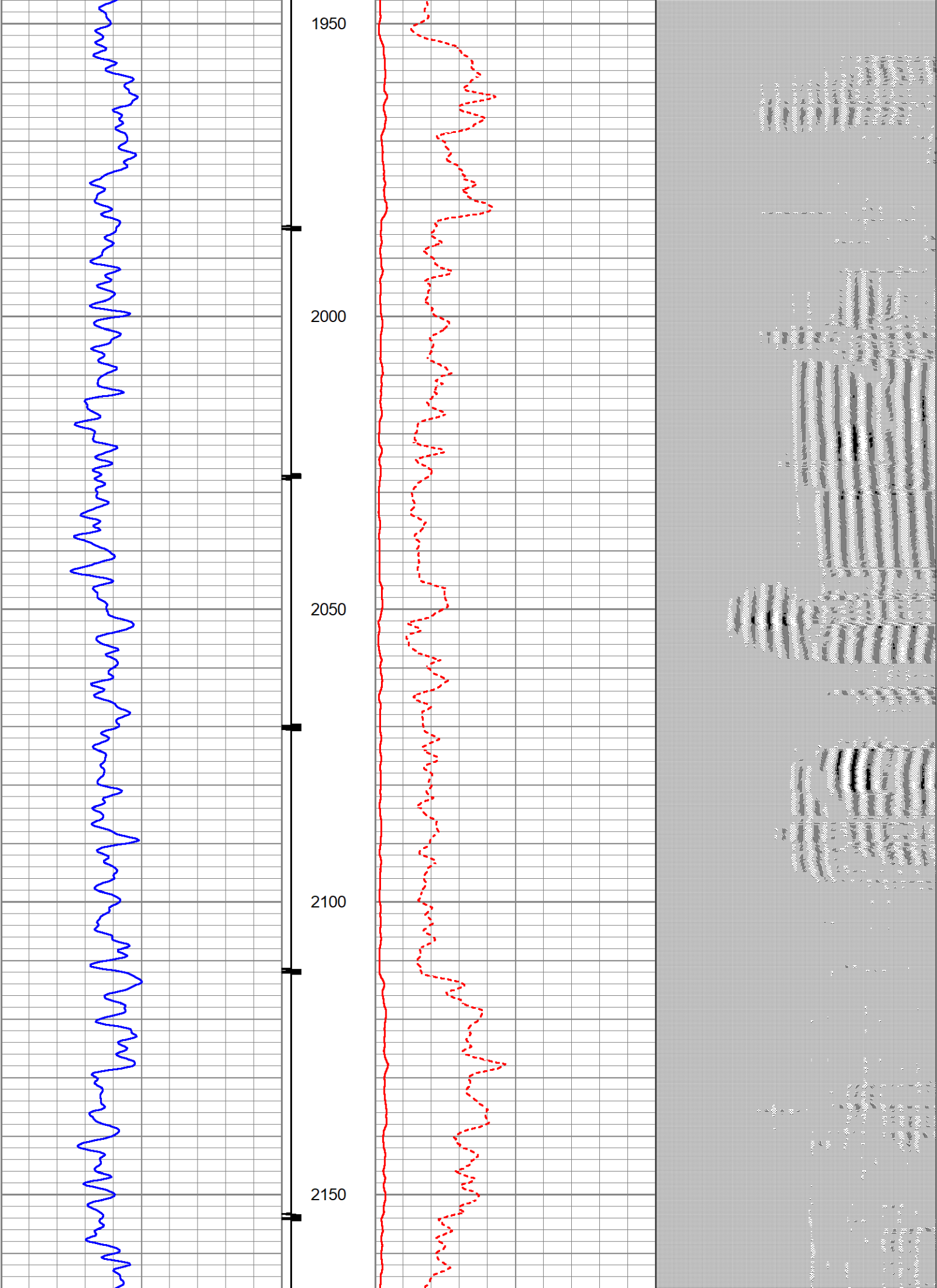












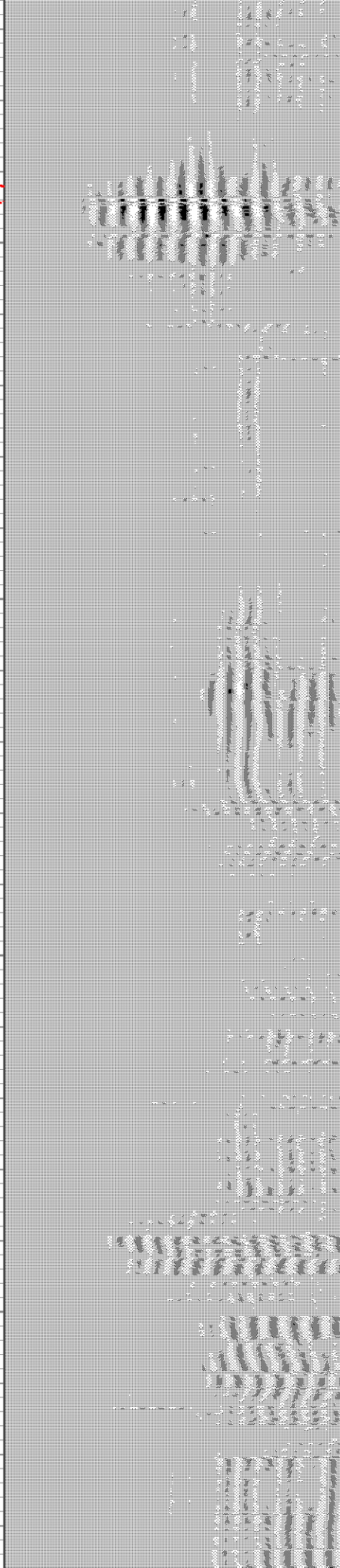
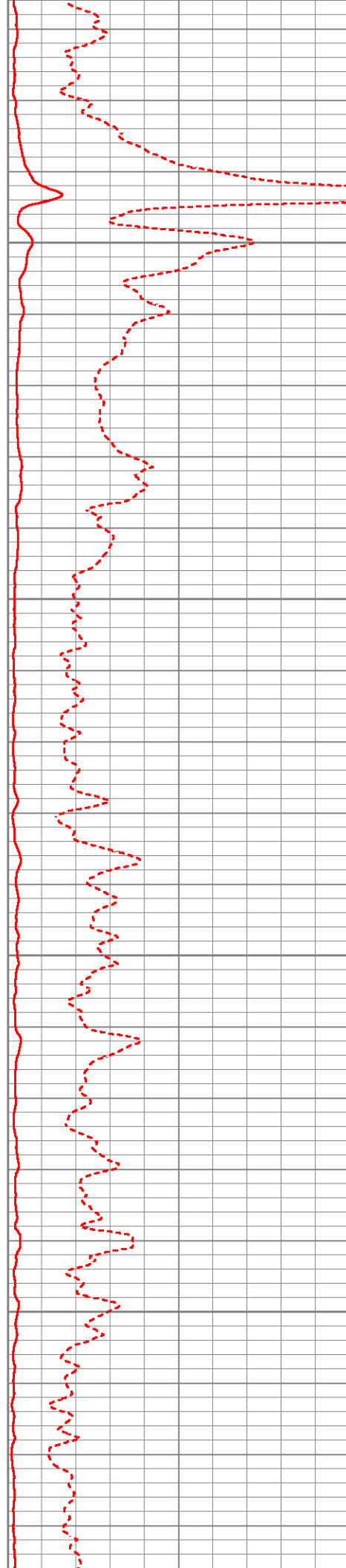


2200

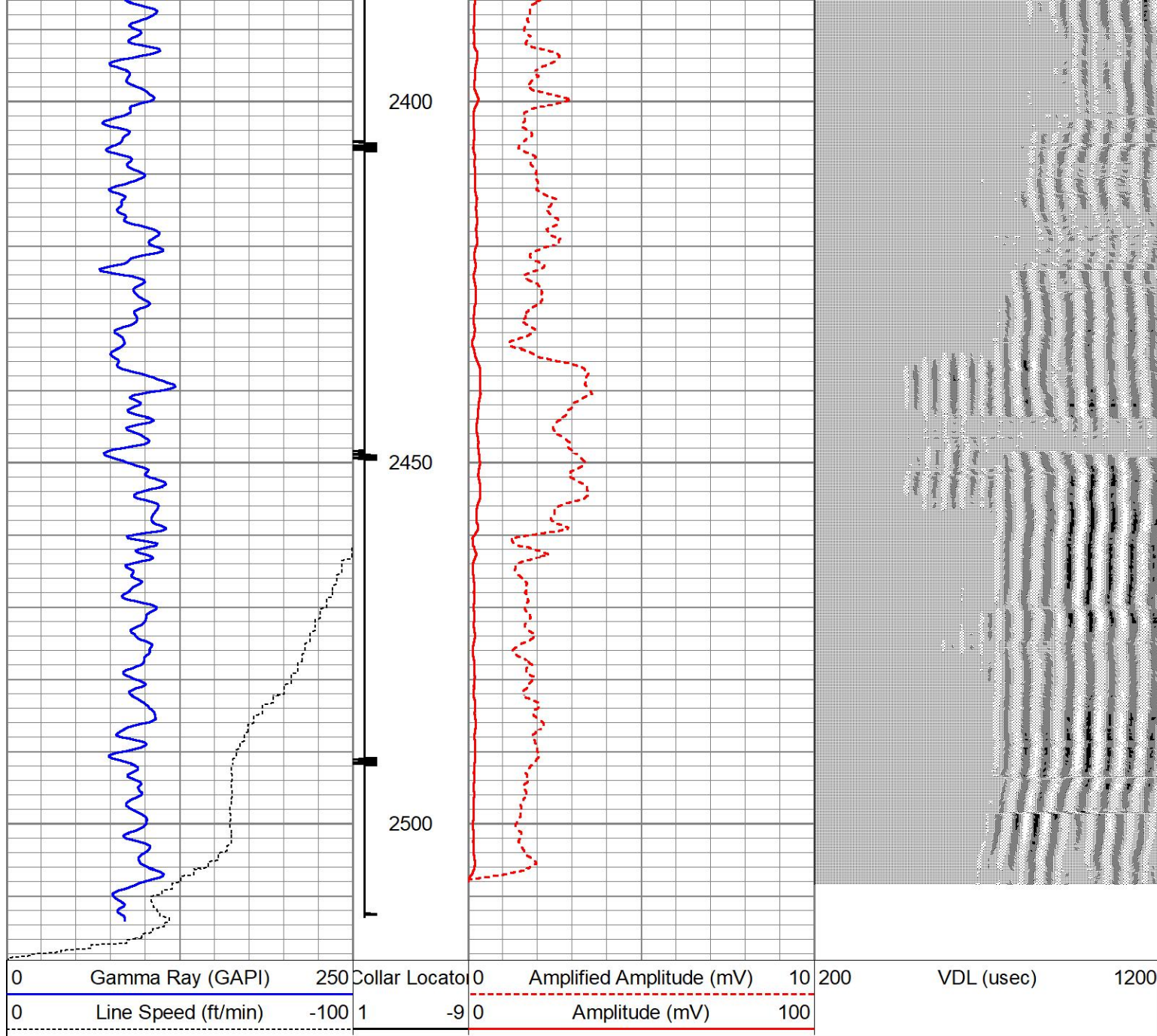
2250

2300

2350

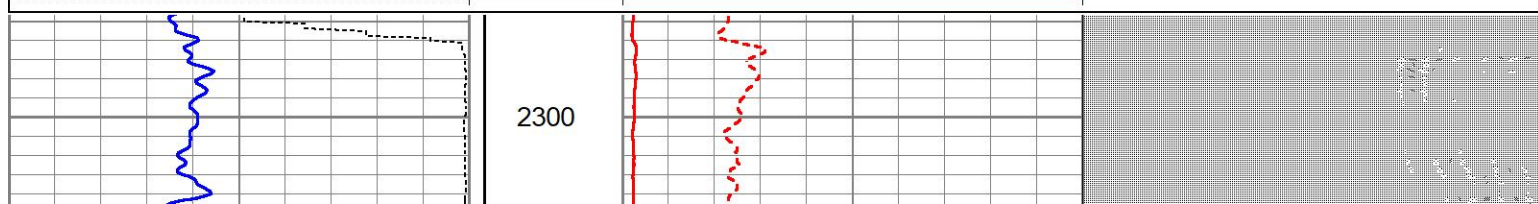
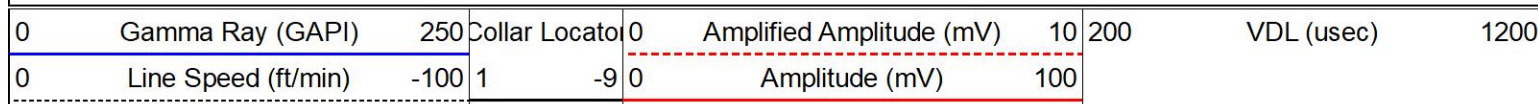


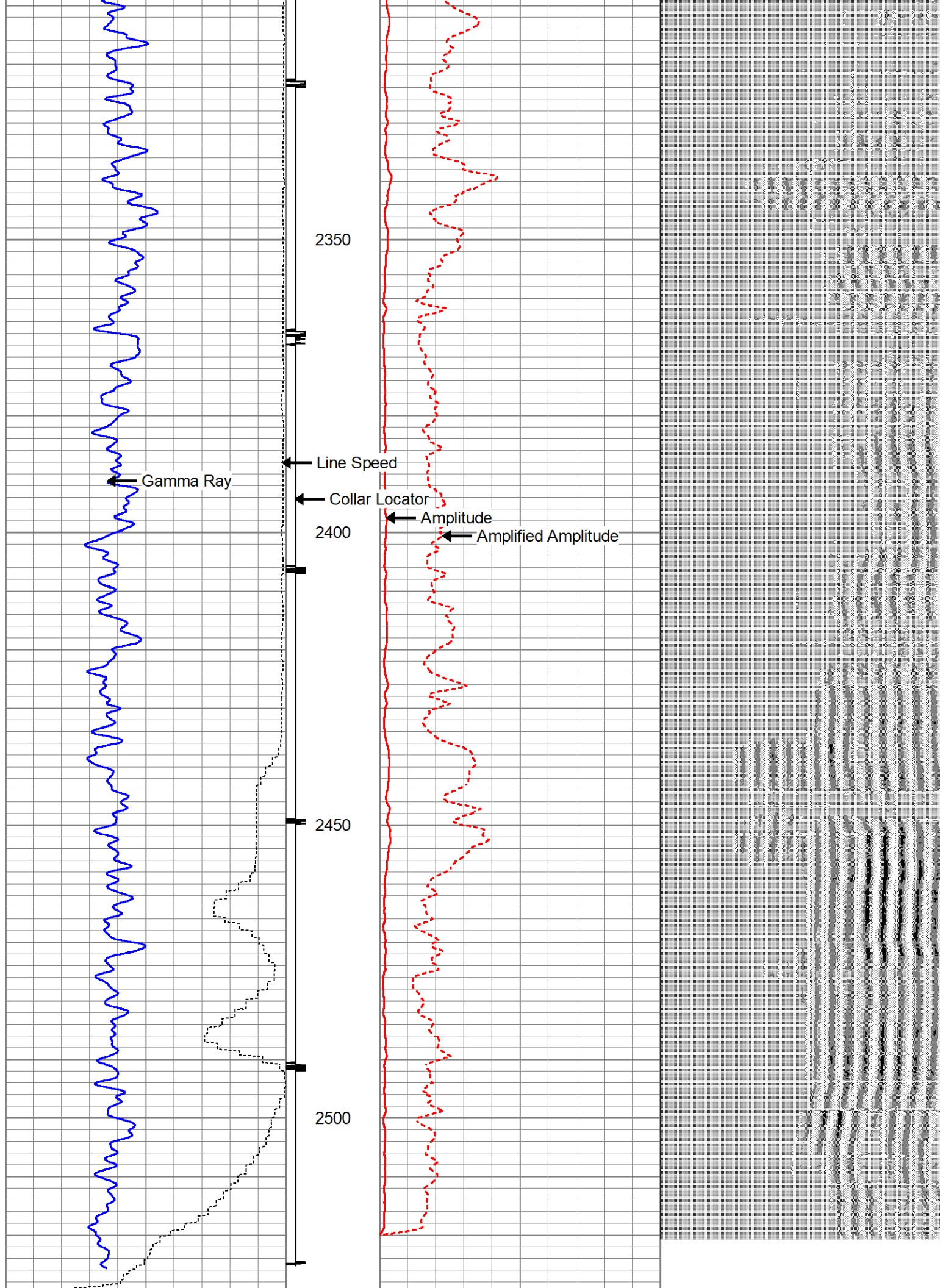




# REPEAT PASS

Database File: noble embree c10-20d 5-27-20.db  
 Dataset Pathname: pass15  
 Presentation Format: noble cbl pres  
 Dataset Creation: Wed May 27 16:41:04 2020  
 Charted by: Depth in Feet scaled 1:240







0	Gamma Ray (GAPI)	250	Collar Locator	0	Amplified Amplitude (mV)	10	200	VDL (usec)	1200
0	Line Speed (ft/min)	-100	1	-9	0	Amplitude (mV)	100		

Calibration Report									
Database File	noble embree c10-20d 5-27-20.db								
Dataset Pathname	pass16								
Dataset Creation	Wed May 27 16:46:34 2020								

Gamma Ray Calibration Report									
Serial Number:	275								
Tool Model:	Probe								
Performed:	Thu May 09 10:03:43 2013								
Calibrator Value:	1.0	GAPI							
Background Reading:	0.0	cps							
Calibrator Reading:	1.0	cps							
Sensitivity:	1.0000	GAPI/cps							

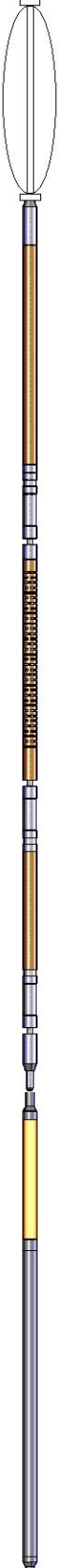
Segmented Cement Bond Log Calibration Report									
Serial Number:	275								
Tool Model:	Probe								
Calibration Casing Diameter:	4.500	in							
Calibration Depth:	642.333	ft							

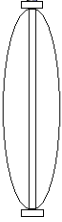
Master Calibration, performed Wed May 27 16:24:30 2020:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.803	-0.450	81.196	101.718	-0.450
CAL						
5'	0.000	0.683	-0.450	81.196	119.533	-0.450
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL						

Air Zero Calibration, performed Wed May 27 12:12:14 2020:						
	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
CAL						

3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1			
S2			
S3			
S4			
S5			
S6			
S7			
S8			

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
WVF3FT	11.55		CS6CENT-CSSROLLER	2.20	1.69	4.41
			CBL-Probe (275) Probe 2.75" Dual Receiver Bond	9.67	1.69	60.00
			GR-Probe (275) Probe 2.75" 4 Channel Pulse	5.17	1.69	30.00
WVF5FT	10.55					
WVFSYNC HEADVOLT	7.37 7.37					
CCL	5.84					
GR	3.10					
HEADVOLT	2.20					

HEADVOLT	2.20		CS6CENT-CSSROLLER	2.20	1.69	4.41
Dataset: noble embree c10-20d 5-27-20.db: field/well/run1/pass16 Total length: 19.23 ft Total weight: 98.82 lb O.D.: 1.69 in						

Log Variables

DatabaseC:\ProgramData\Warrior\Data\noble embree c10-20d 5-27-20.db  
Dataset field/well/run1/pass16/\_vars\_

Top - Bottom

BOREID in 7.875	BOTTEMP degF 100	CASEOD in 4.5	CASETHCK in 0	CASEWGHT lb/ft 11.6	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.8
PERFS No	PPT usec 0	SRFTEMP degF 0	TDEPTH ft 0				

Variable Description

BOREID : Borehole I.D.	CASEWGHT : Casing Weight	PERFS : Perforation Flag
BOTTEMP : Bottom Hole Temperature	MAXAMPL : Maximum Amplitude	PPT : Predicted Pipe Time
CASEOD : Casing O.D.	MINAMPL : Minimum Amplitude	SRFTEMP : Surface Temperature
CASETHCK : Casing Thickness	MINATTN : Minimum Attenuation	TDEPTH : Total Depth