



**CEMENT
BOND
LOG**

Company Patterson Energy
Well Zwillich #1
Field Lorraine
County Ellsworth
State Kansas

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Well Zwillich #1
Field Lorraine
County Ellsworth State Kansas

Location: 660' FNL & 2310' FEL
API #: 15 053 21376
Other Services
PERF

Permanent Datum SEC 23 TWP 17S RGE 9W
Log Measured From Ground Level Elevation 1775'
Drilling Measured From KB 11' AGL
KB 1786'
D.F. 1785'
G.L. 1775'

Date	7-12-21
Run Number	One
Depth Driller	3270'
Depth Logger	3220'
Bottom Logged Interval	3218'
Top Log Interval	1500'
Open Hole Size	7 7/8"
Type Fluid	Water
Density / Viscosity	////
Max. Recorded Temp.	////
Estimated Cement Top	1786'
Time Well Ready	R.O.A
Time Logger on Bottom	4:30 p.m
Equipment Number	T-118
Location	Hays, KS.
Recorded By	Casey Patterson
Witnessed By	

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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

Lorraine, KS Central Prairie Co-op
Ave V 2 mi. East, South into Location

LATITUDE/LONGITUDE
38.5635072, -98.2832565

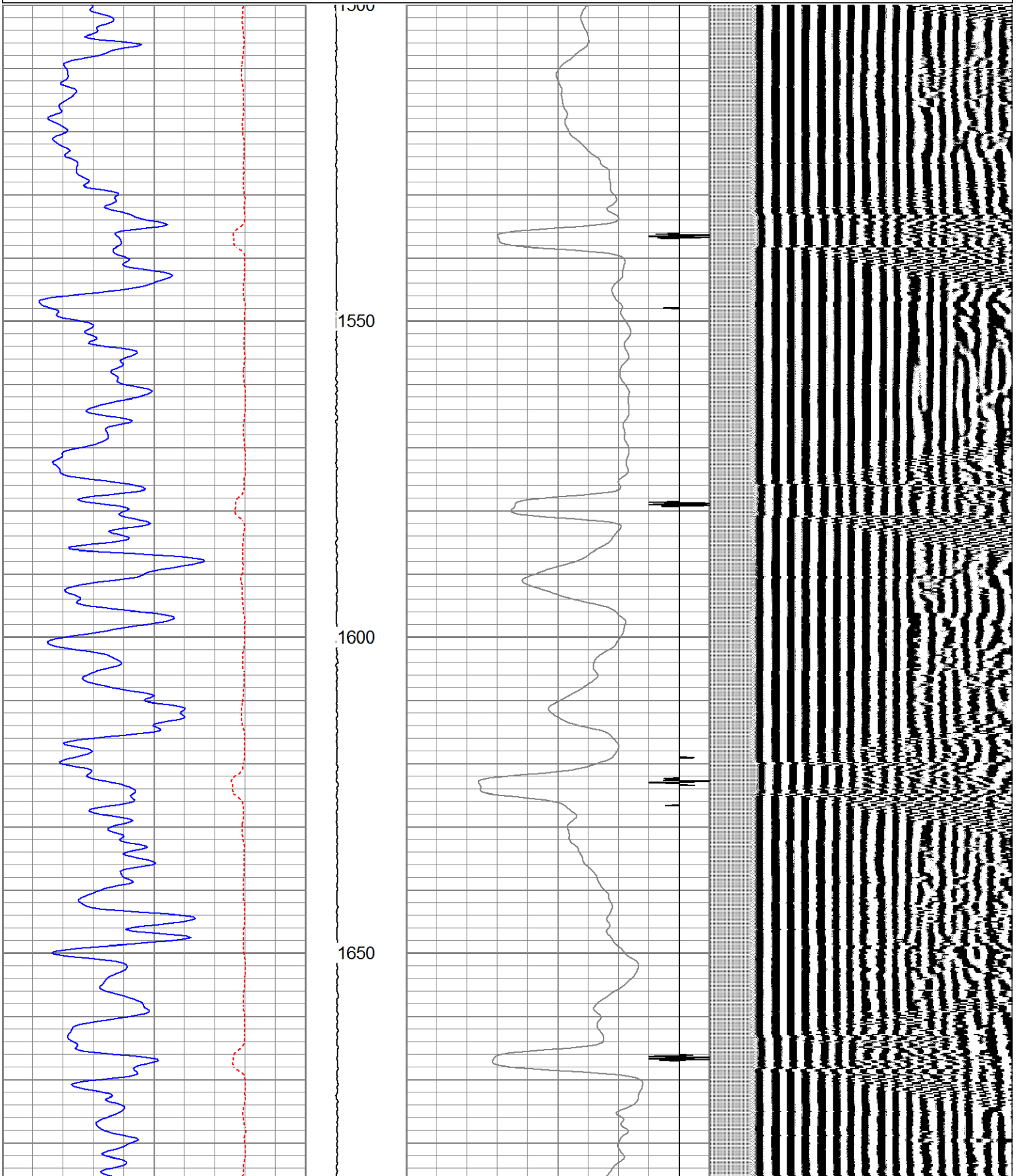
Thanks for using Gemini Wireline LLC
785-625-1182

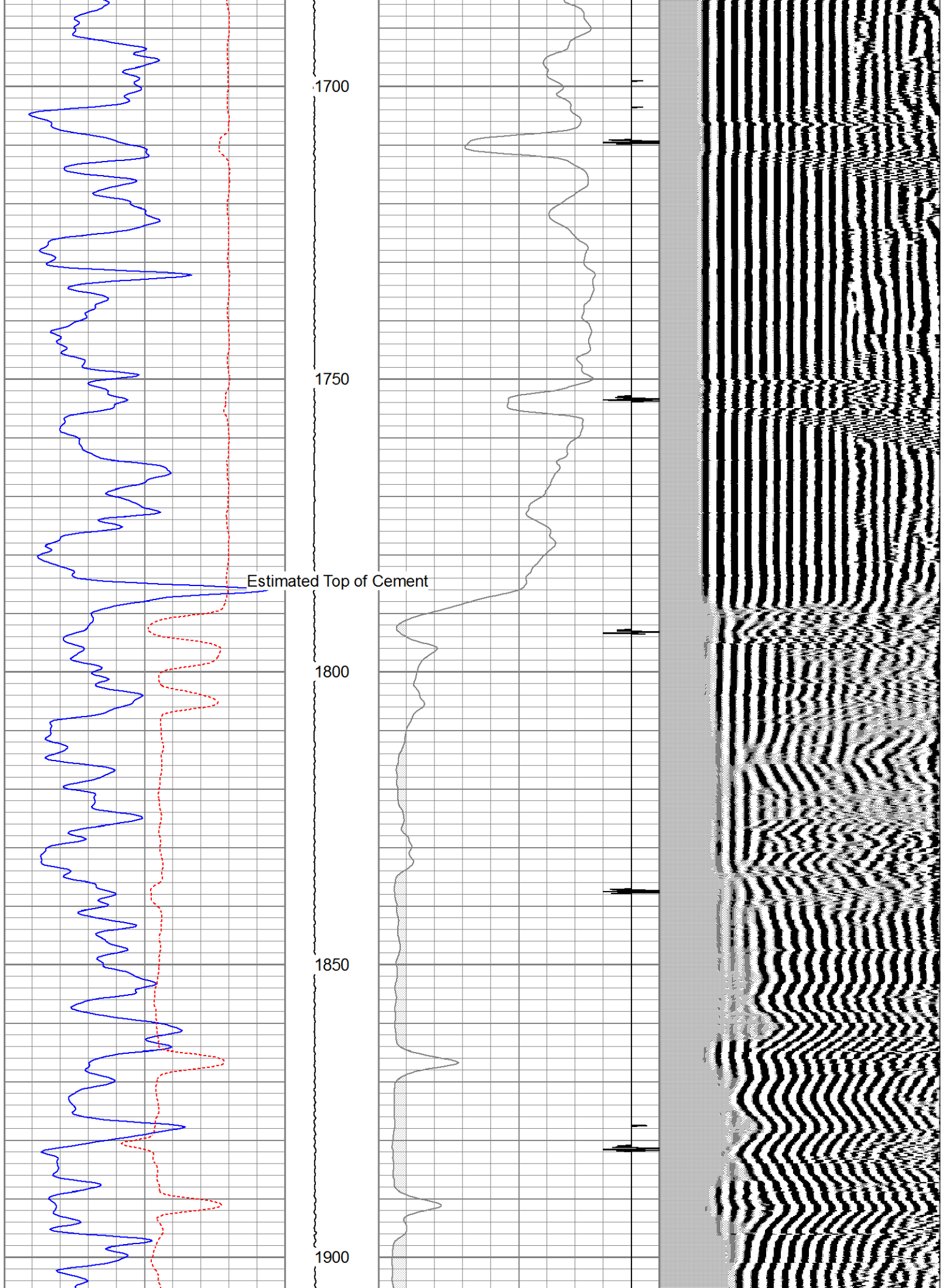


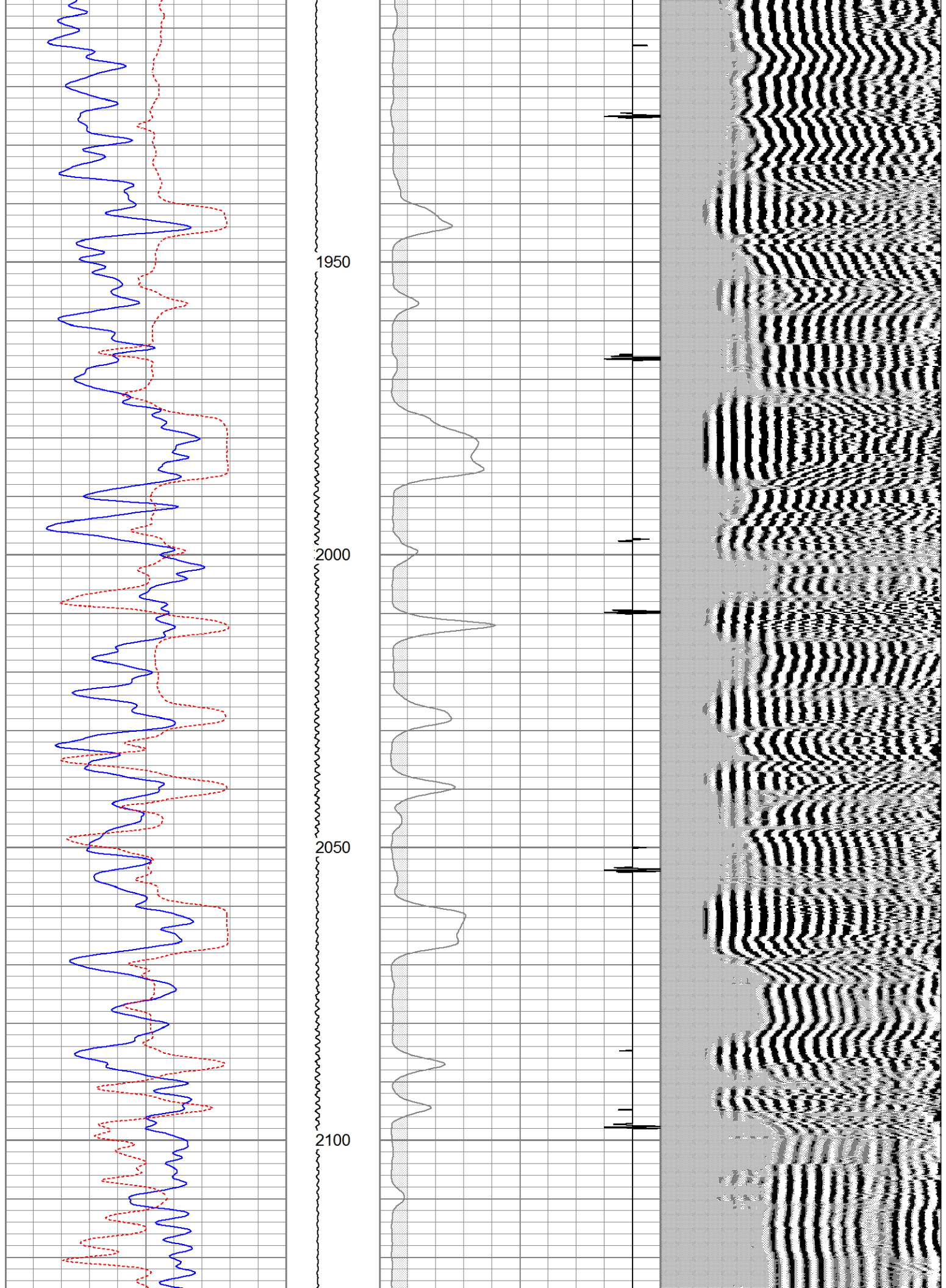
MAIN PASS

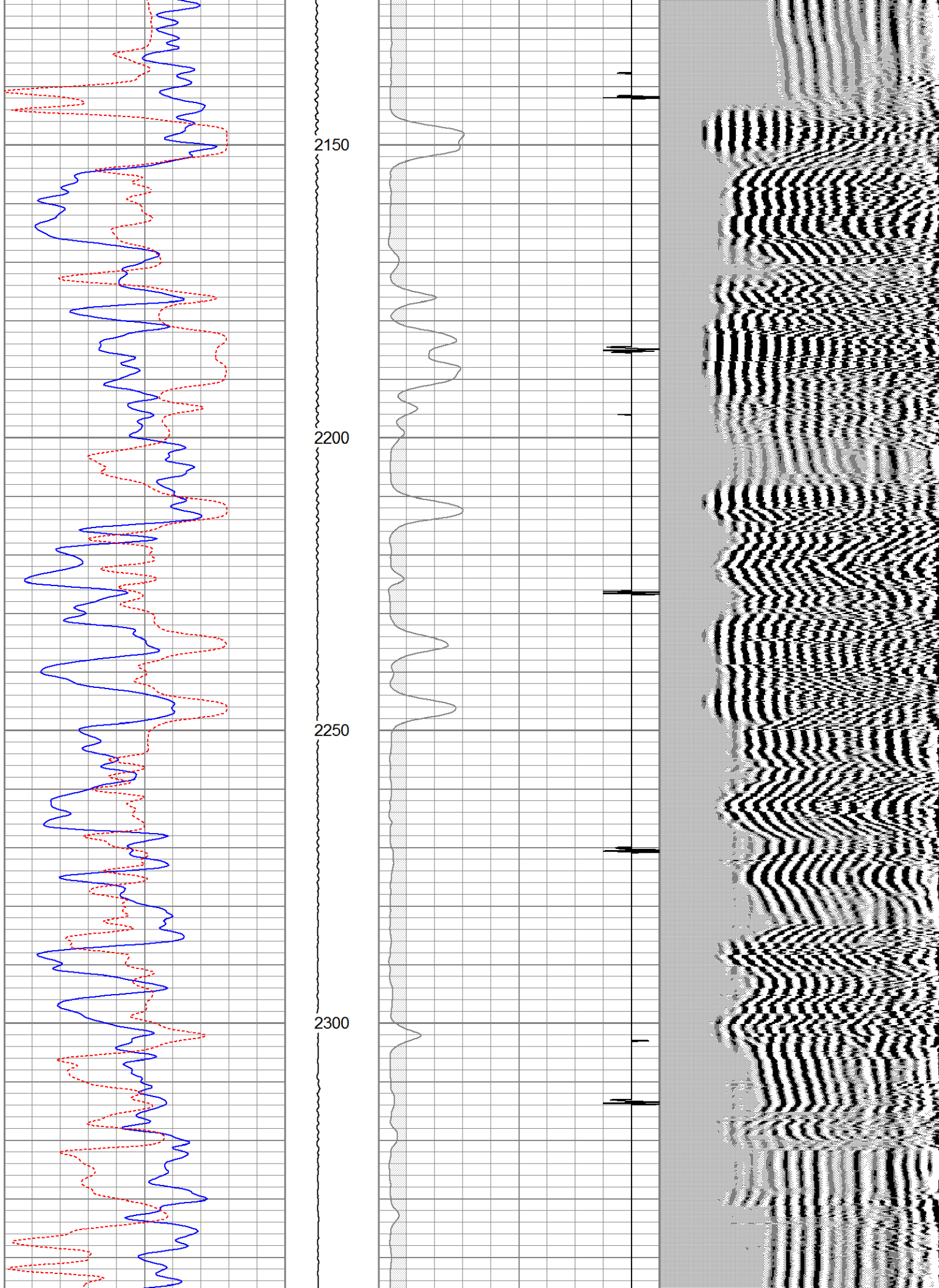
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 Dataset Pathname pass2
 Presentation Format cbl
 Dataset Creation Mon Jul 12 16:36:31 2021
 Charted by Depth in Feet scaled 1:240

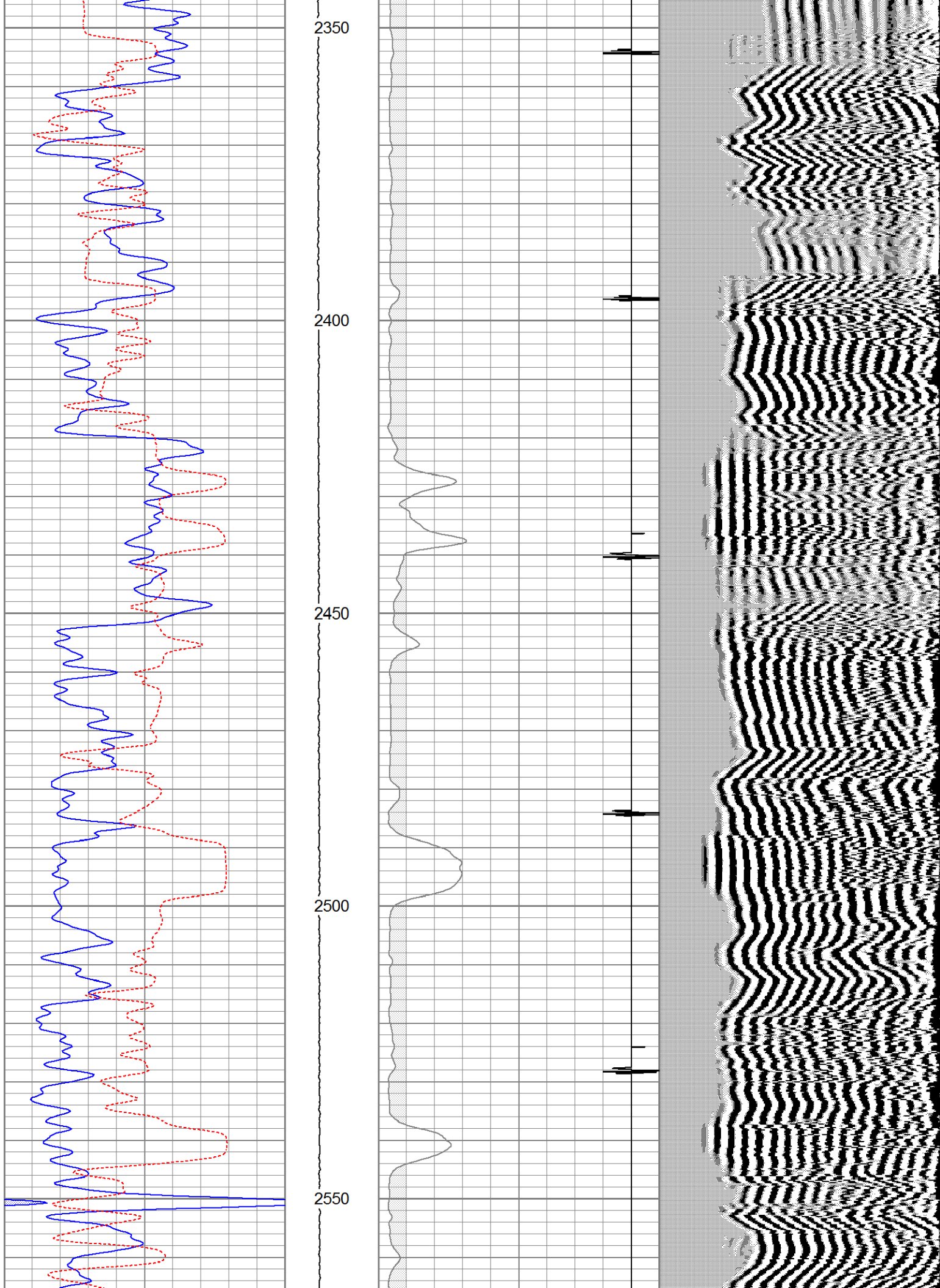
0	GR (GAPI)	150	LTEN	18	CCL	-2	200	VDL (usec)	1200
150	GR (GAPI)	300	(lb)	0	AMP3FT (mV)	100			
400	TT3FT (usec)	200	-100 2100						

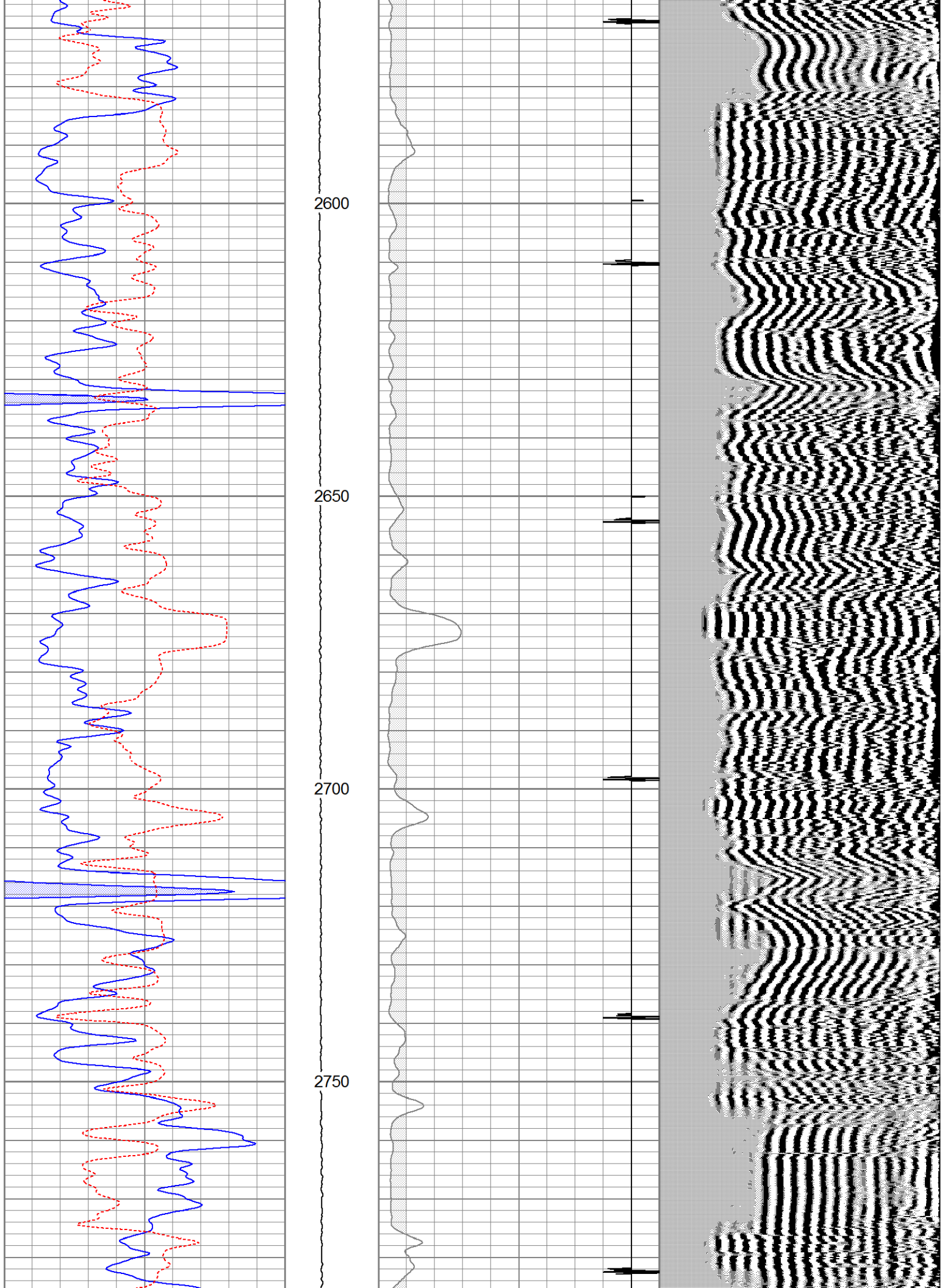


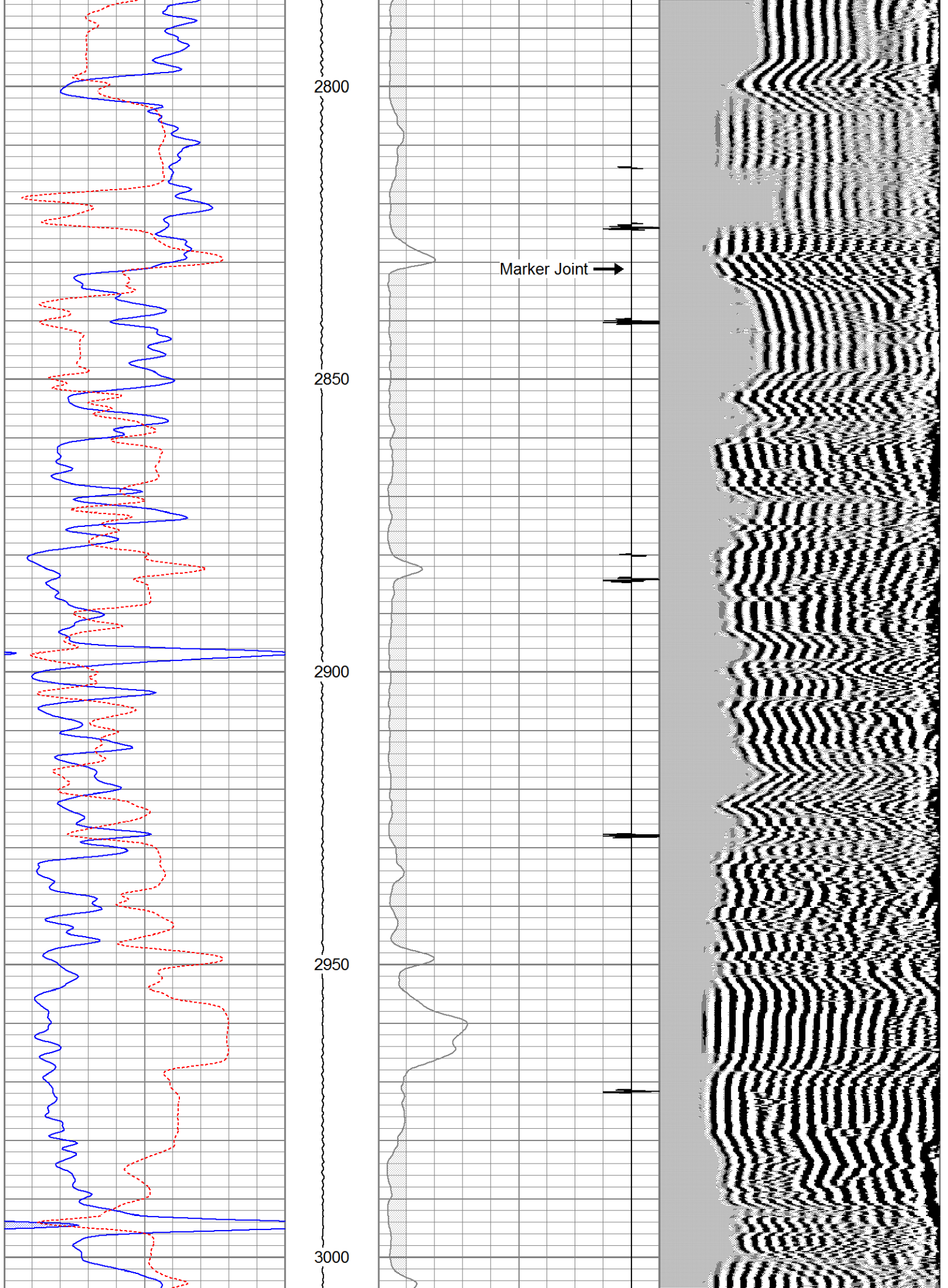


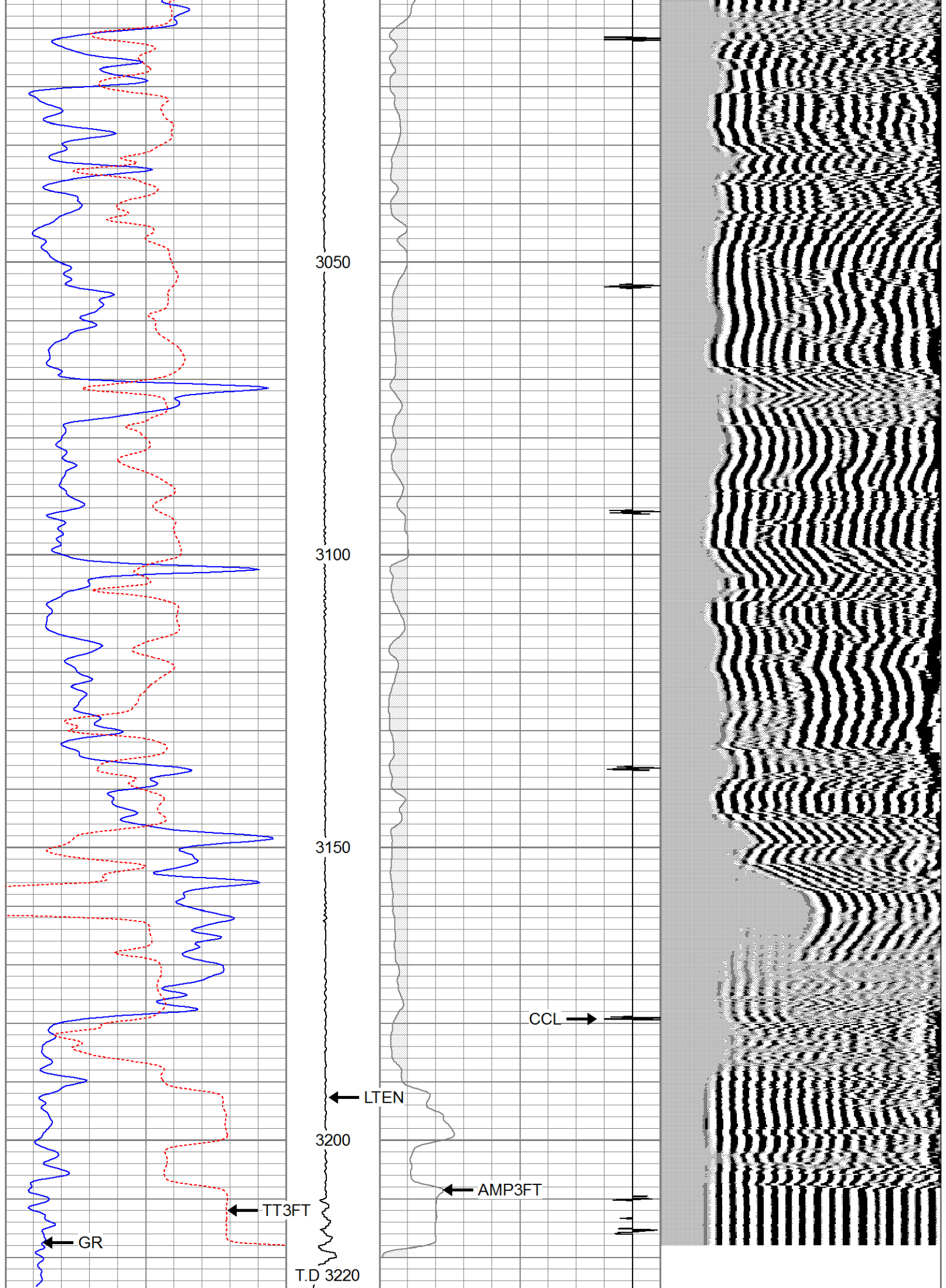












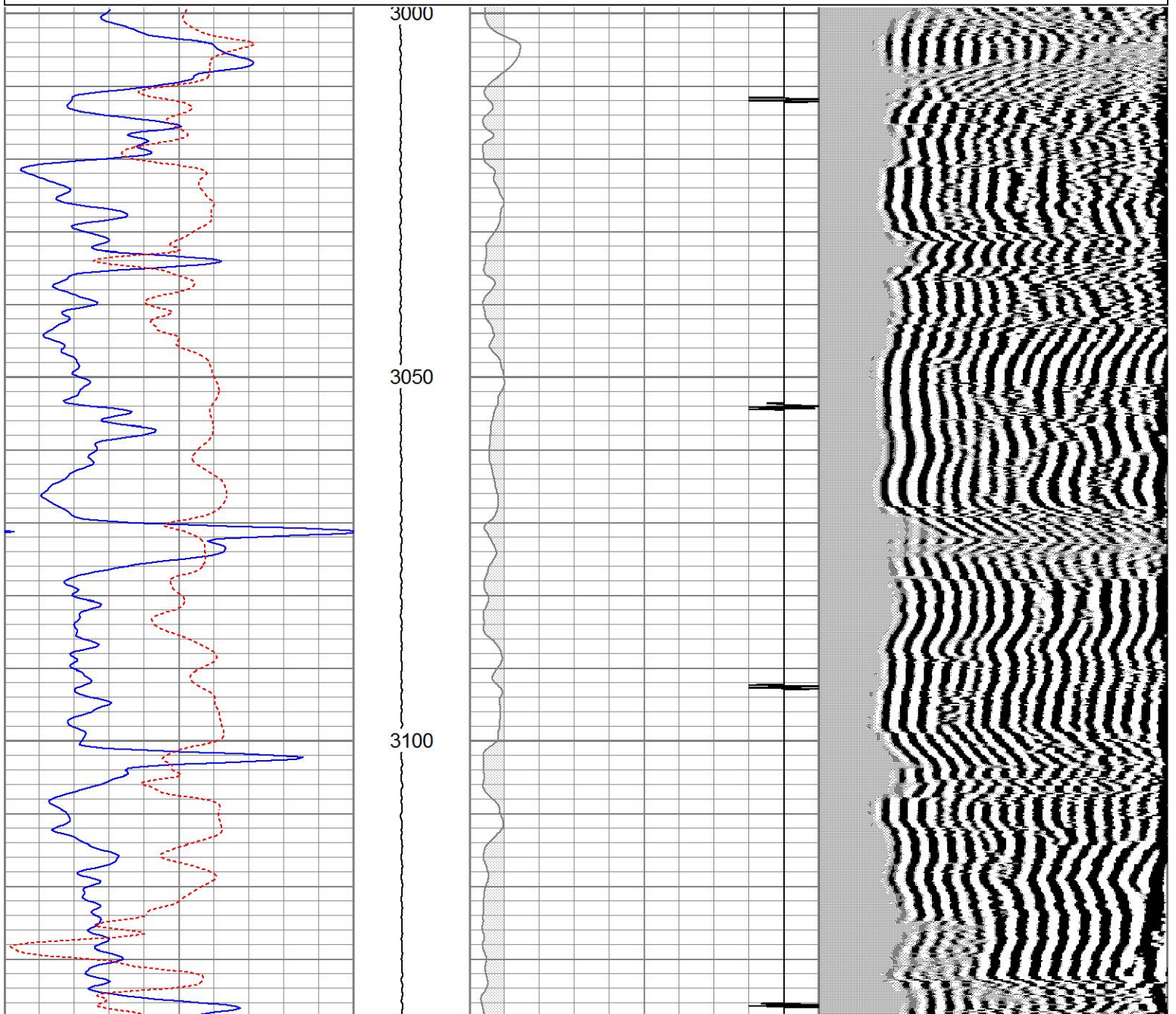
0	GR (GAPI)	150	LTEN	18	CCL	-2	200	VDL (usec)	1200
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400	TT3FT (usec)	200	-100 2100						

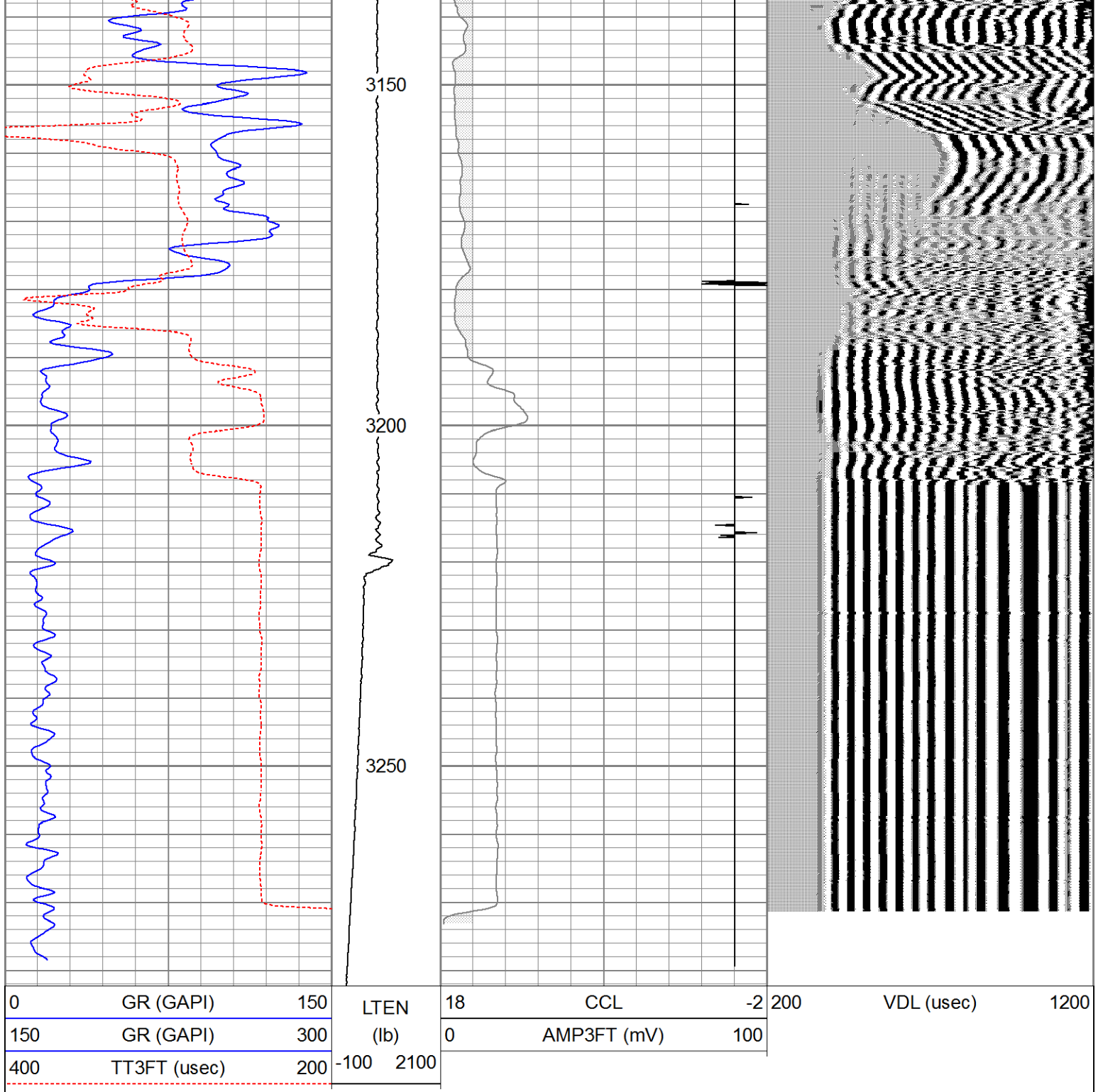


REPEAT SECTION

Database File pezwillich#1cbl.db
 Dataset Pathname pass1
 Presentation Format cbl
 Dataset Creation Mon Jul 12 16:31:06 2021
 Charted by Depth in Feet scaled 1:240

0	GR (GAPI)	150	LTEN	18	CCL	-2	200	VDL (usec)	1200
150	GR (GAPI)	300	(lb)	0	AMP3FT (mV)	100			
400	TT3FT (usec)	200	-100 2100						





Calibration Report

Database File pezwillich#1cbl.db
 Dataset Pathname pass2
 Dataset Creation Mon Jul 12 16:36:31 2021

Gamma Ray Calibration Report

Serial Number: 080224
 Tool Model: Probe1
 Performed: Wed Jun 09 10:33:39 2021

Calibrator Value: 200.0 GAPI

Background Reading: 15.0 cps
 Calibrator Reading: 222.7 cps

Segmented Cement Bond Log Calibration Report

Serial Number: 061007
 Tool Model: DigitalCBL
 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 1627.075 ft

Master Calibration, performed Mon Jul 12 16:27:02 2021:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3' CAL	0.002	0.858	1.000	71.921	82.787	0.854
5' SUM	0.002	0.800	1.000	71.921	88.871	0.784
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 Nov 13 08:15:38 2019:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
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)
CHD	19.89		CHD-sdschd	0.75	1.44	3.00
CENT	19.14		CENT-275 2 3/4" Centralizer	2.94	2.75	10.00

WVF5FT	11.69		Probedig-DigitalCBL (061007) 2 3/4 Bond Tool	8.77	2.75	92.00	
WVF3FT	11.69						
CENT	7.44			CENT-275 2 3/4" Centralizer	2.94	2.75	10.00
WVFSYNC	7.44						
CCL	3.67		CCL-Probe (080224)	1.42	2.75	20.00	
GR	2.30		GR-Probe1 (080224)	3.08	2.75	40.00	

Dataset: pezwillich#1cbl.db: field/well/run1/pass2
 Total length: 19.89 ft
 Total weight: 175.00 lb
 O.D.: 2.75 in