

# HALLIBURTON

## CEMENT BOND LOG

SCALE 1:240

Company SANDRIDGE ENERGY  
Well HEBRON 0780 4-7H  
Field N PARK HORIZ NBRR  
County JACKSON State CO

Company SANDRIDGE ENERGY  
Well HEBRON 0780 4-7H  
Field N PARK HORIZ NBRR  
County JACKSON State CO  
API No.: 05-057-06545  
Location: SHL: 31' FNL 4554' FWL  
Serv #: 903283485  
Other Services

TOE PREP

Sec: 17 Twp: 7N Rge: 80W

Permanent Datum 8165' Elevation 8149'  
Log Measured From KB 16 Ft. above perm. datum  
Drilling Measured From KB  
Date @ Time Logged 03-MAY-2016 13:05  
Run No. ONE  
Depth - Driller 12084  
Depth - Logger 7342  
Bottom - Logged Interval 7342  
Top - Log Interval SURFACE  
Max. Recorded Temp. 202  
CEMENTING DATA Surface Protection String Production String Liner

FRESH WATER  
K.B. 8165  
D.F. 8165  
G.L. 8149

Date / Time Cemented	String	String	String	Liner
Primary / Squeeze				
Expected				
Compressive Strength	psi@	hrs	psi@	hrs
Cement Volume				
Cement Type / Weight	/	/	/	/
Formulation				
Mud Type / Mud Wgt.	/	/	/	/
Borehole Record				
Run Number	Bit	From	To	Size
ONE	12.25"	0	2485	9.625"
TWO	8.75"	0	12084	5.5"
Casing & Tubing Record				
	Weight	From	To	
	36#	0	12915	
	20#	0	12010	

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HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

### Comments

CORRELATED TO MARKER JOINT AT 6,378'  
CALIBRATED TO INTERNAL WAVE FORM AT CUSTOMER REQUEST  
BECAUSE THE CEMENT WAS BROUGHT TO SURFACE

THANKS FOR USING HALLIBURTON ENERGY SERVICES.  
YOUR CREW TODAY WAS: R. RODRIGUEZ, J. ADAMS, H. BUSERI, T. COYNE

Service Ticket No. 903283485 API No. 05-057-06545 PGM Ver WARRIOR 8.0

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

### EQUIPMENT DATA

CBL		GR/CCL			
Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	001	Serial No.	275	Serial No.	
Model No.	PROBE DIG	Model No.	GR-PROBE	Model No.	
Diameter	2.75	Diameter	2.75	Diameter	

### LOGGING DATA

#### General Data

Pass	Depths	Well Head	Speed	Logging Run Comments
No	From To	Pressure	Ft/Min	

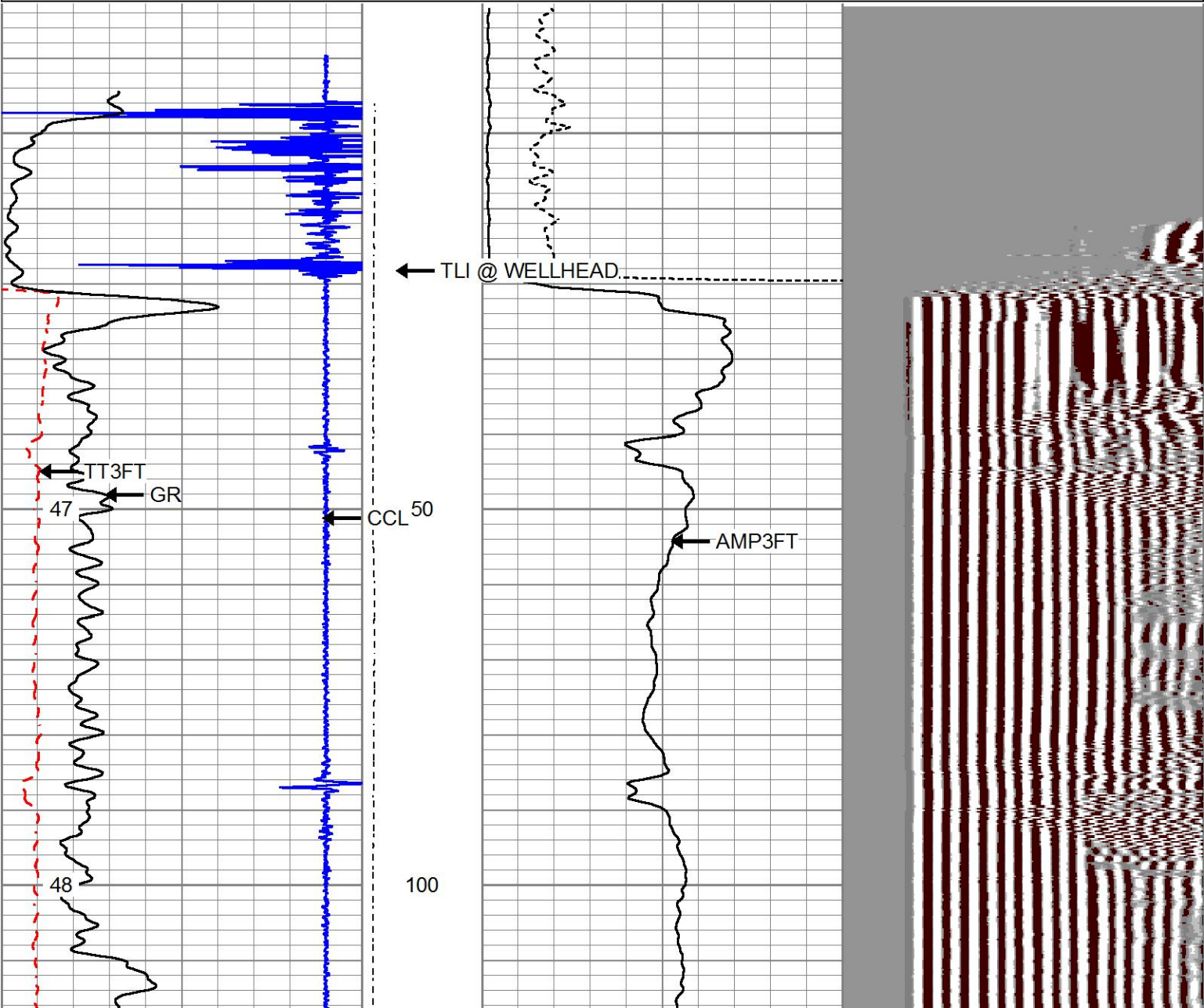
NO.	FROM	TO	PRESSURE	TURN				
FIVE	7343	SURFACE	ZERO	30	MAIN PASS			
THREE	7340	7100	ZERO	30	REPEAT PASS			
	GAMMA RAY		TRAVEL TIME		AMPLITUDE		MSG	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ALL PASSES	0	150	265	165	0	100	200	1200
	150	300			0	20		
DIRECTIONAL INFORMATION								
Maximum Deviation		72.04	deg. @	7343	KOP	6371		

MAIN PASS

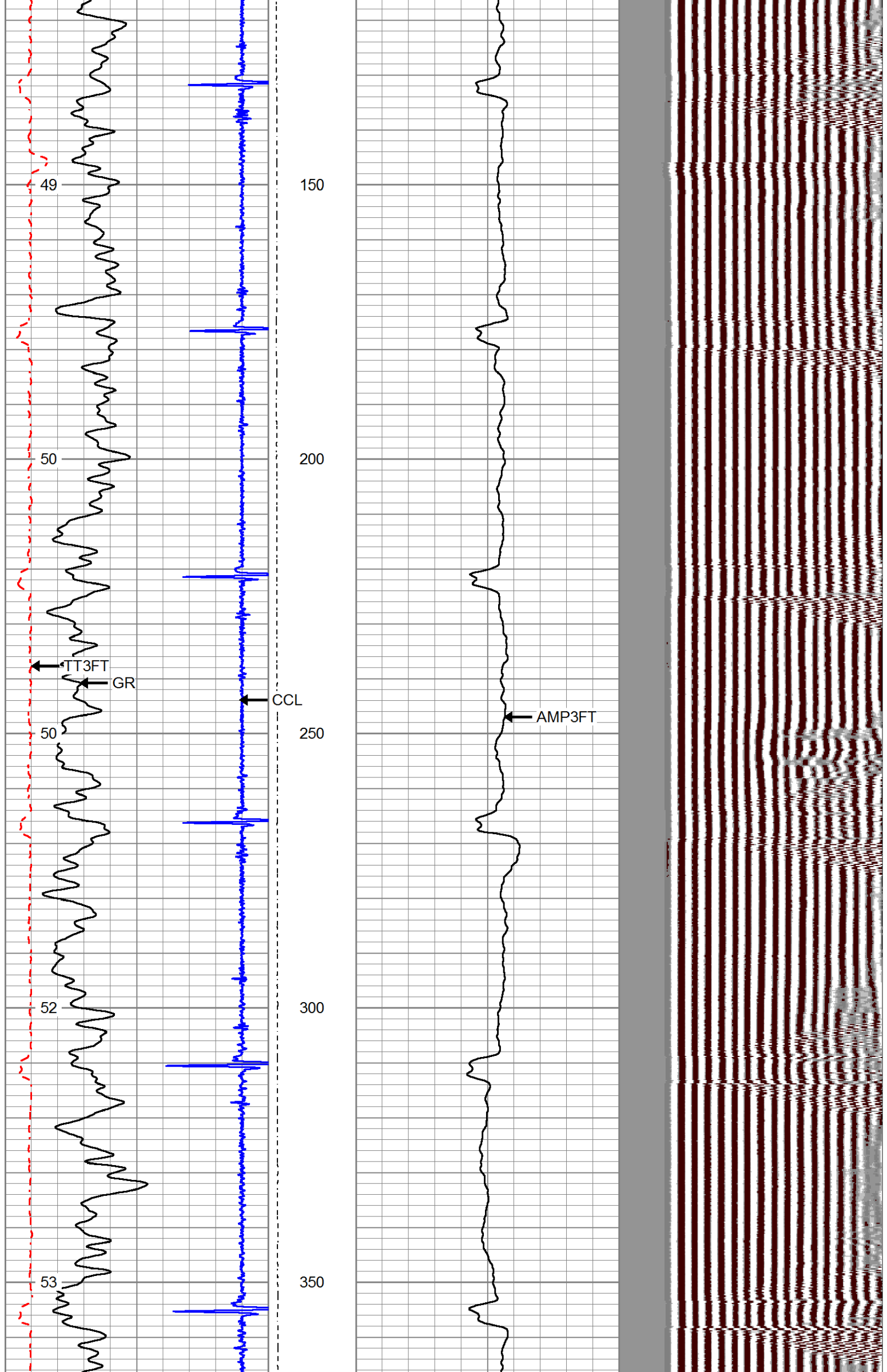
HALLIBURTON

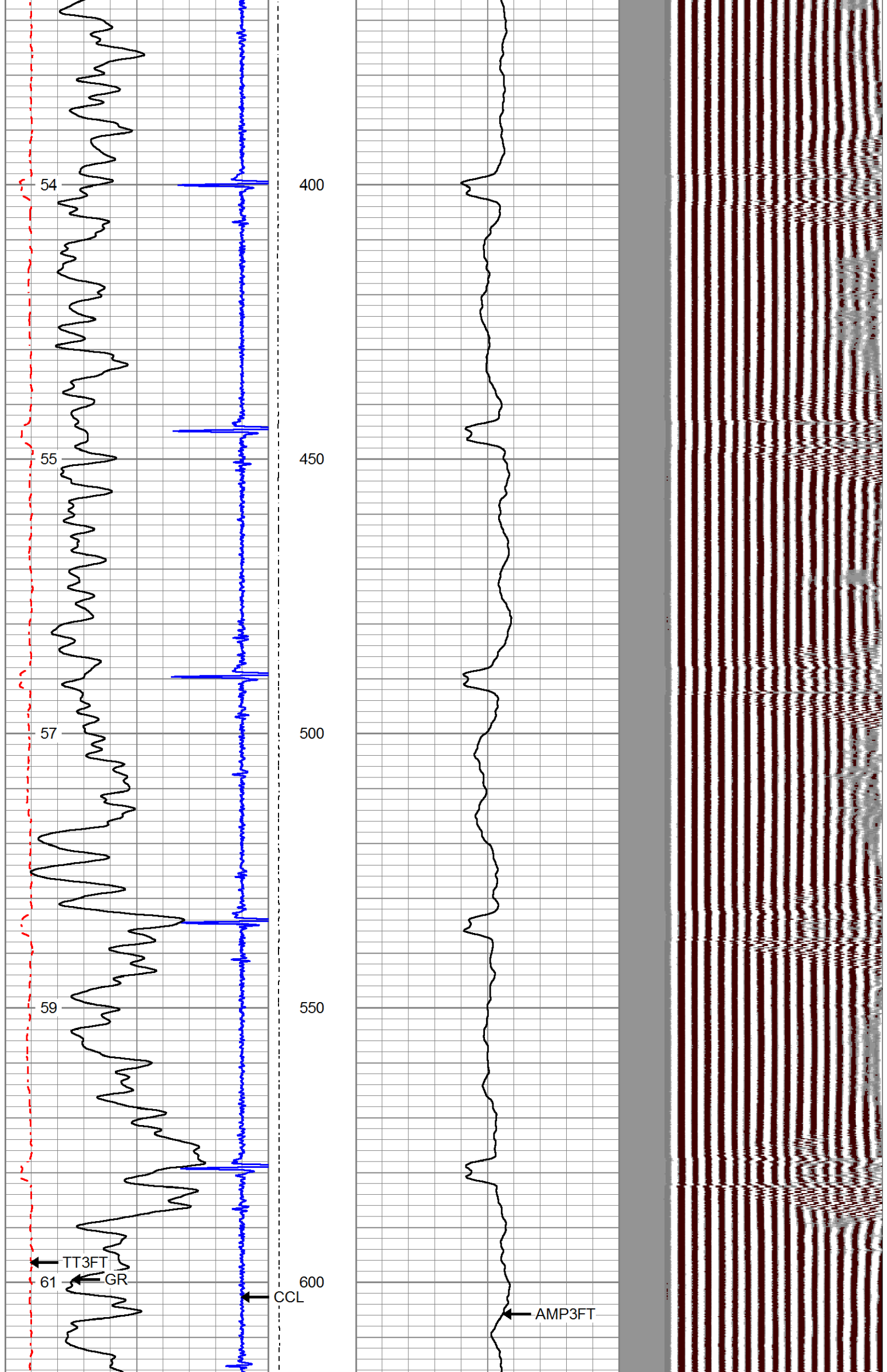
SCALE 1:240

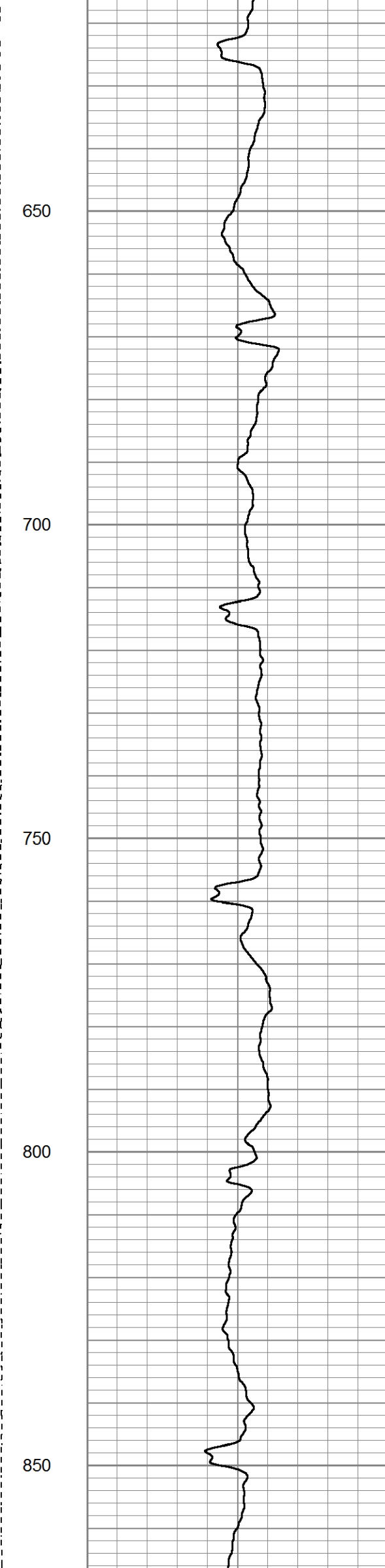
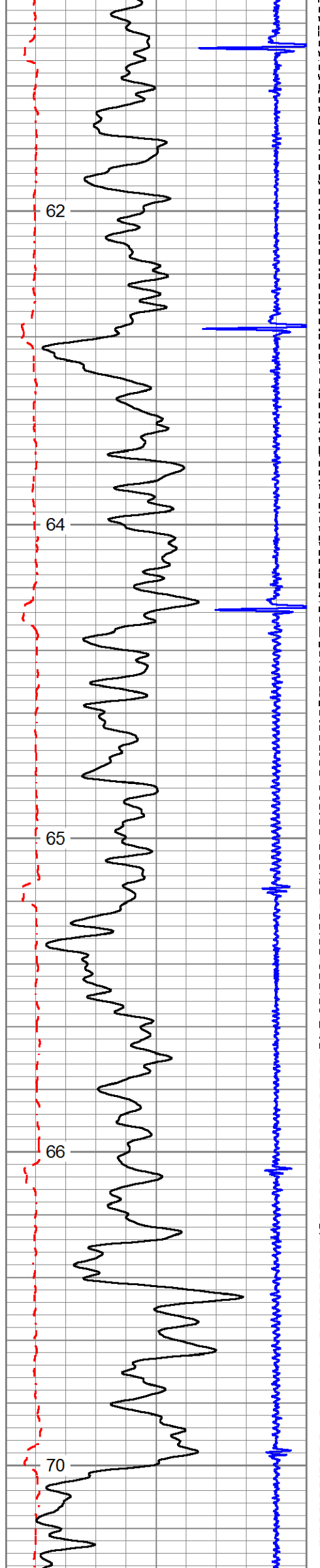
Database File	sandridge_hebron_0780_4_7h.db									
Dataset Pathname	pass5									
Presentation Format	scbl_dr									
Dataset Creation	Tue May 03 13:06:21 2016									
Charted by	Depth in Feet scaled 1:240									
265	TT3FT (usec)	165	LTEN	0	Amplified Amplitude (mV)	10	200	MSG	1200	
-9	Collar Locator	1	0	(lb2000	0	Amplitude (mV)	100			
0	Gamma Ray (GAPI)	150								
TEMP										
(degF)										

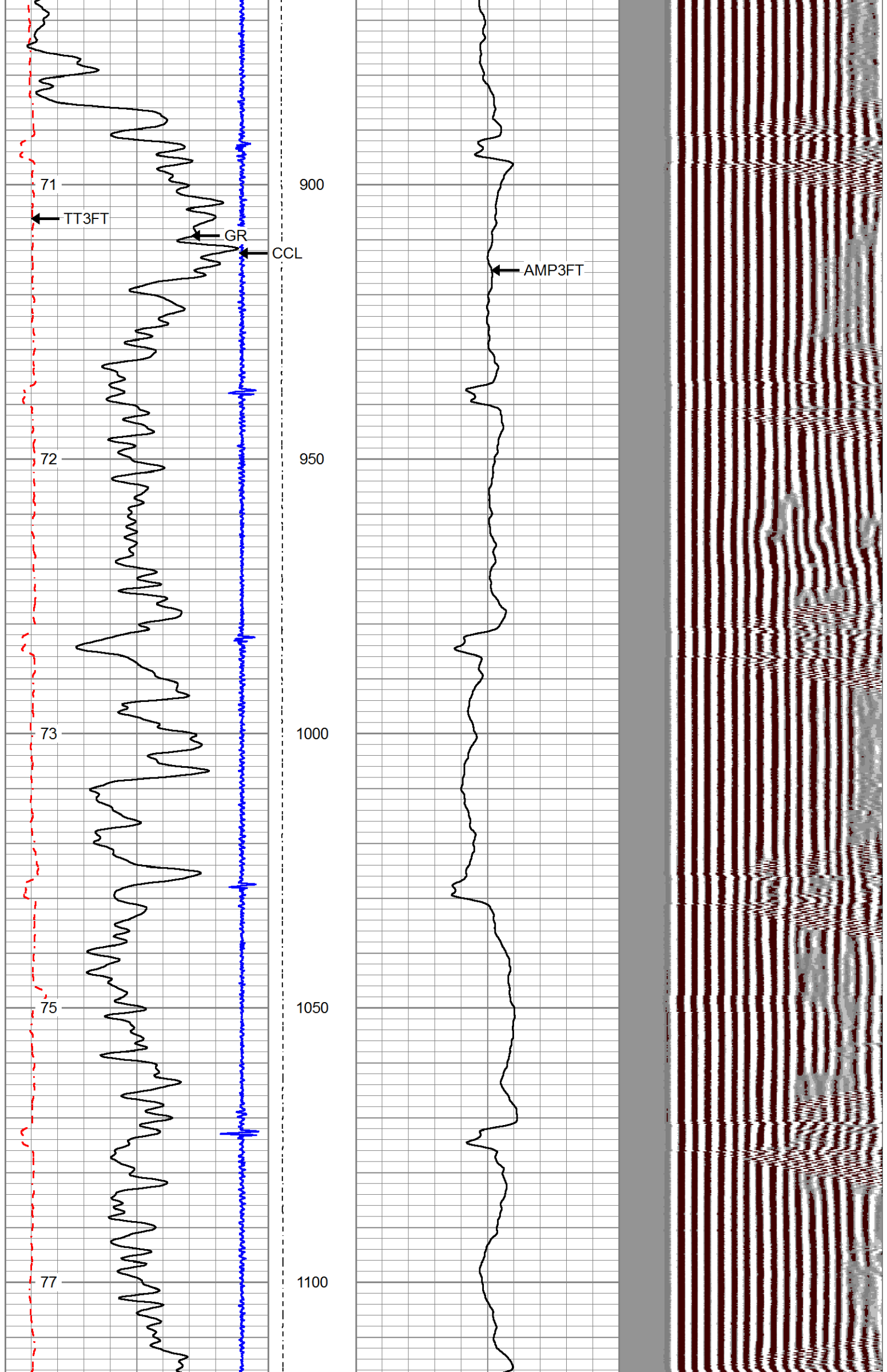


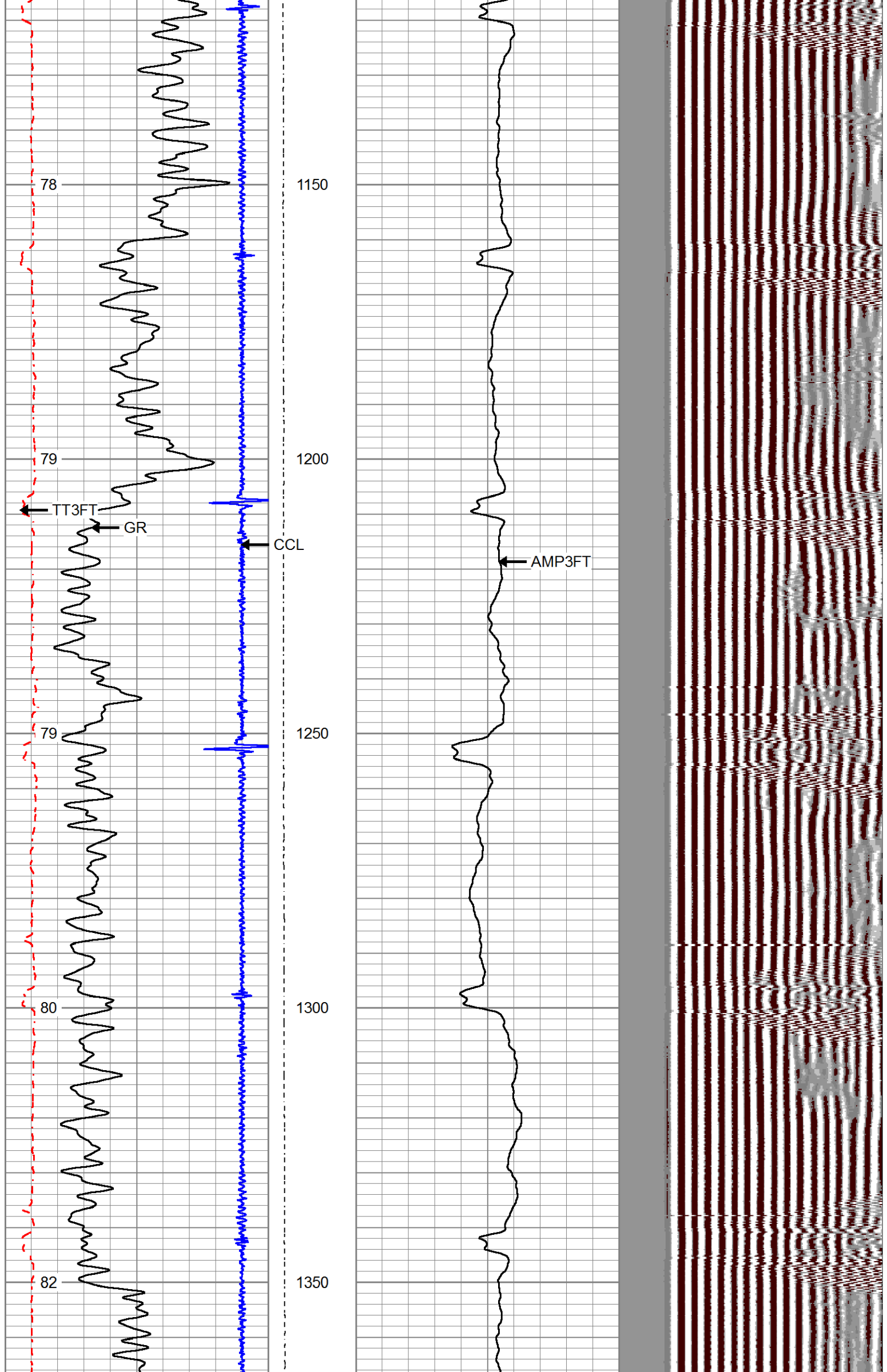




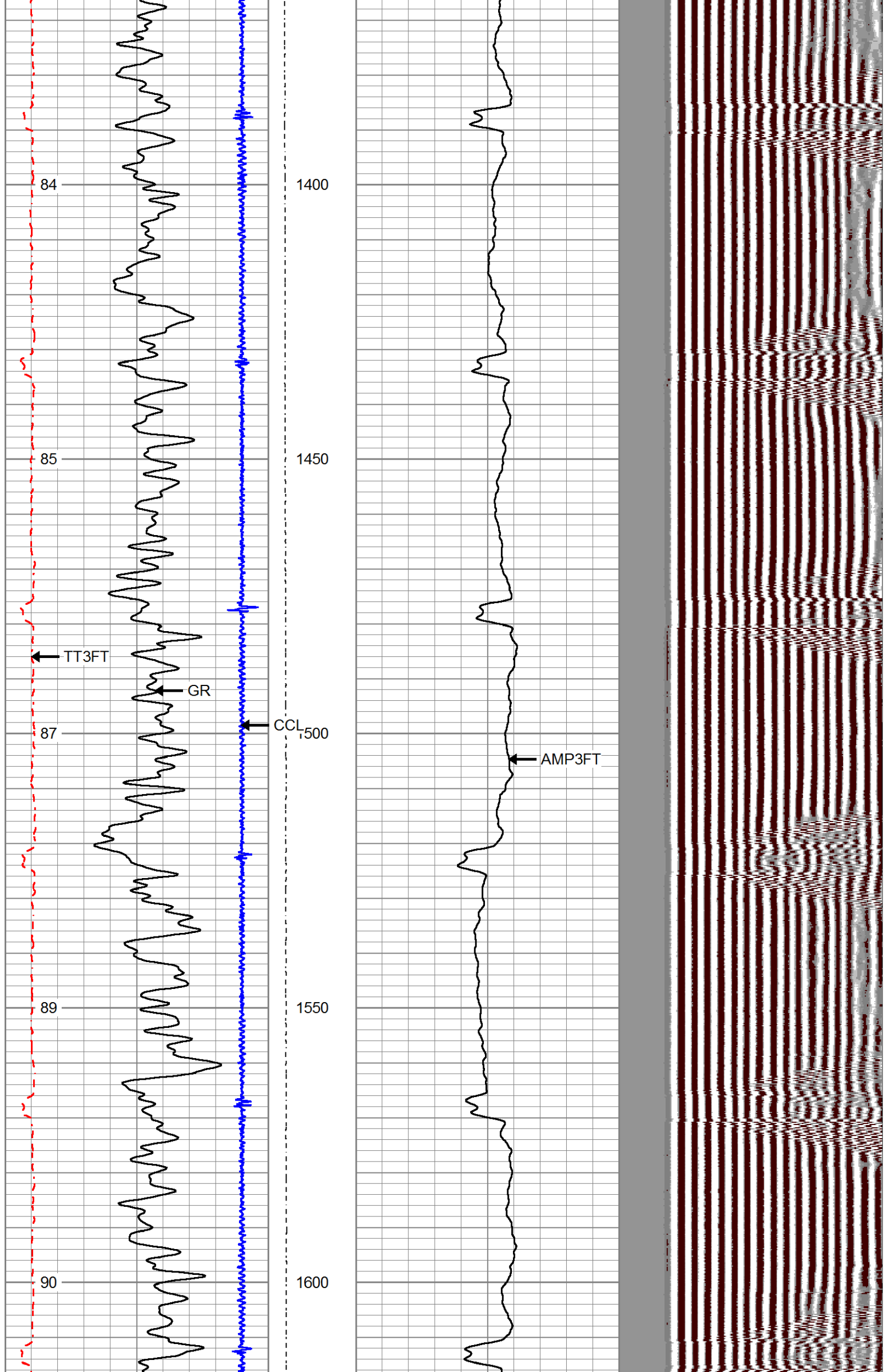




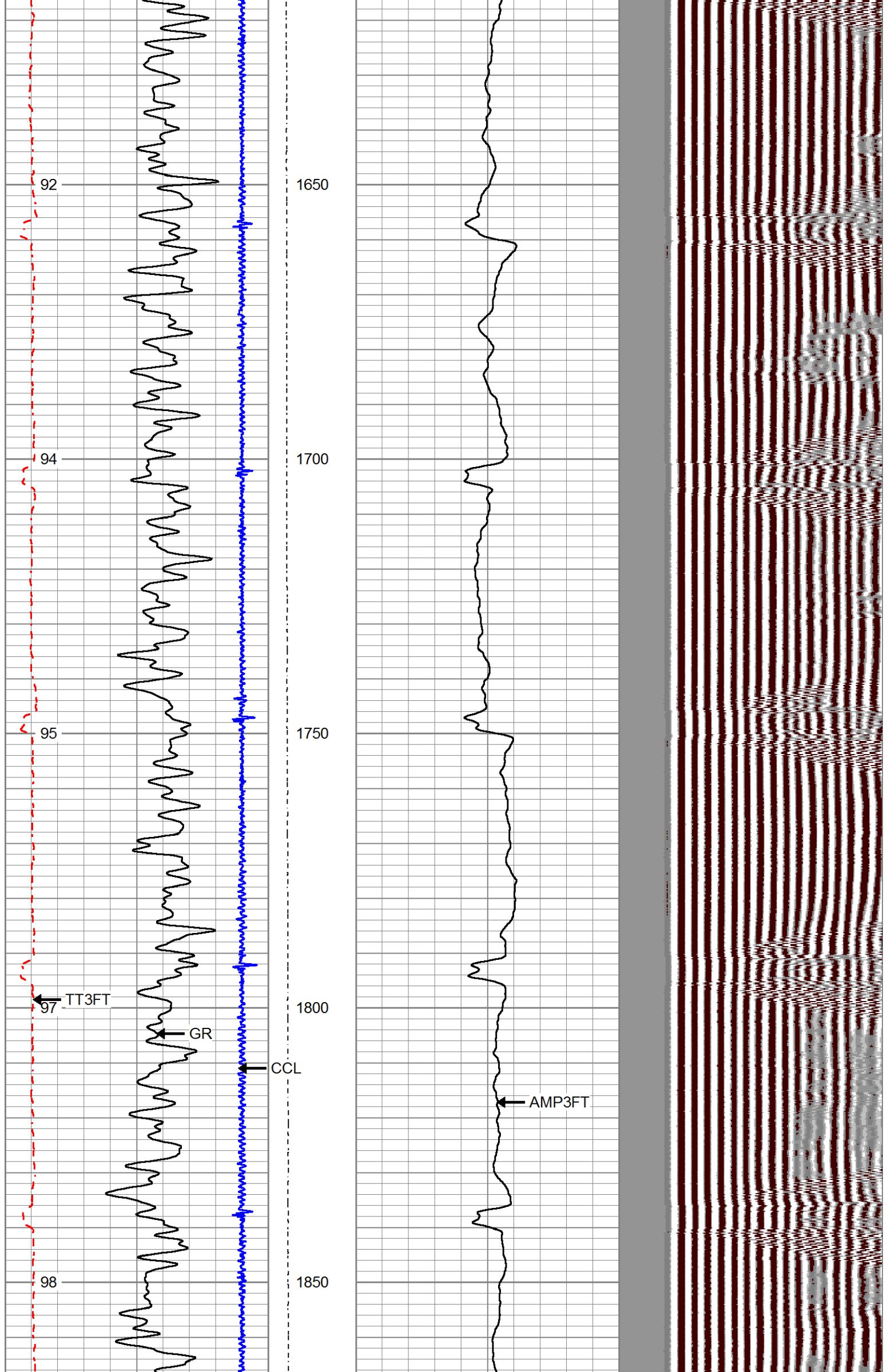


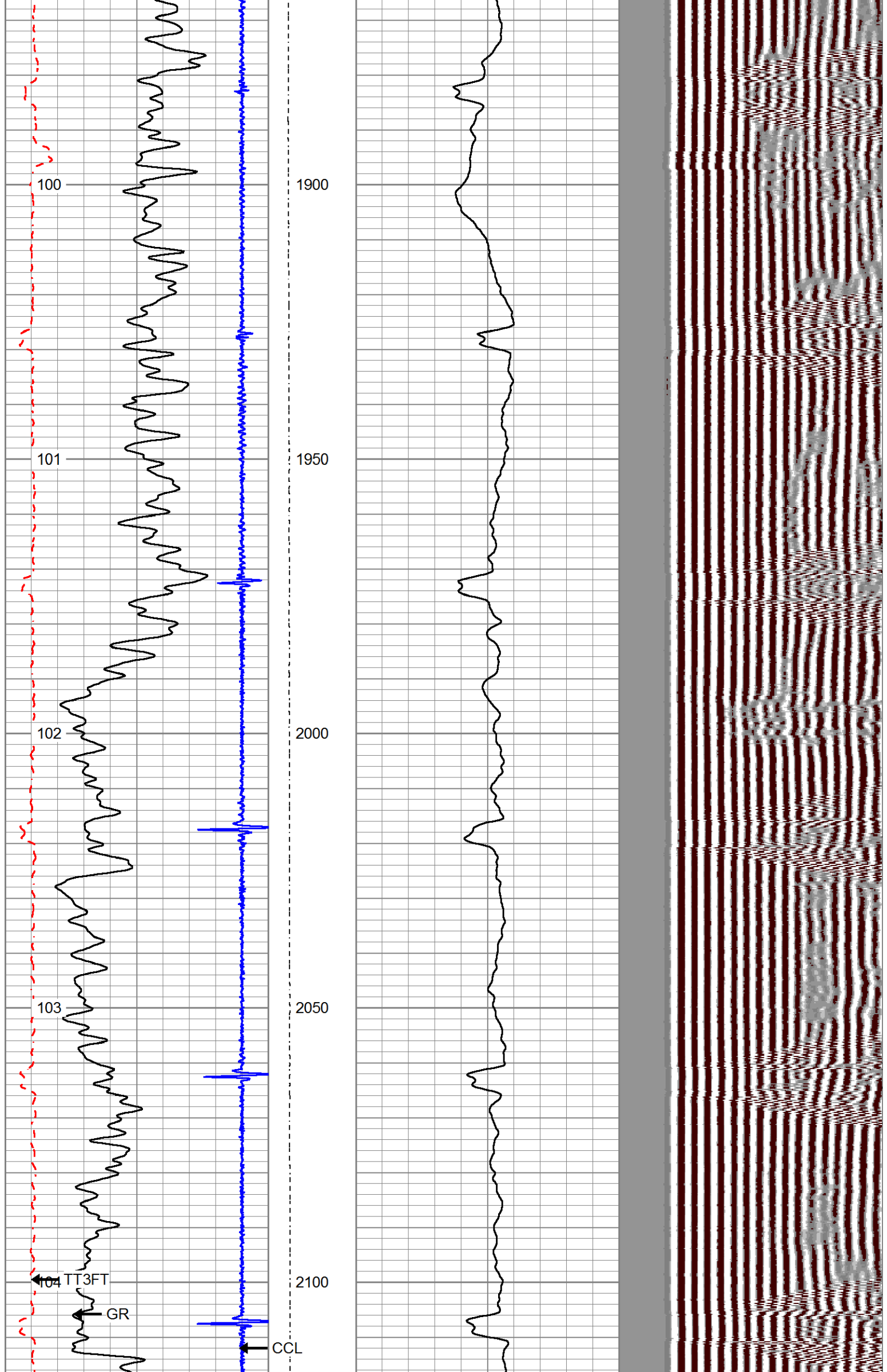


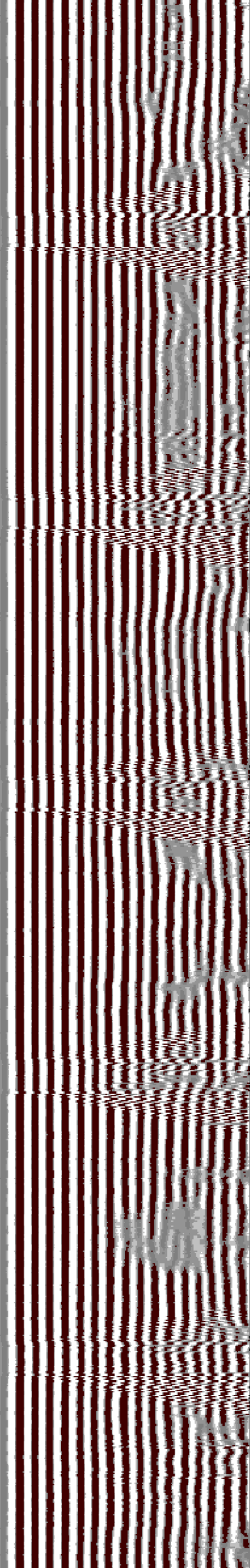
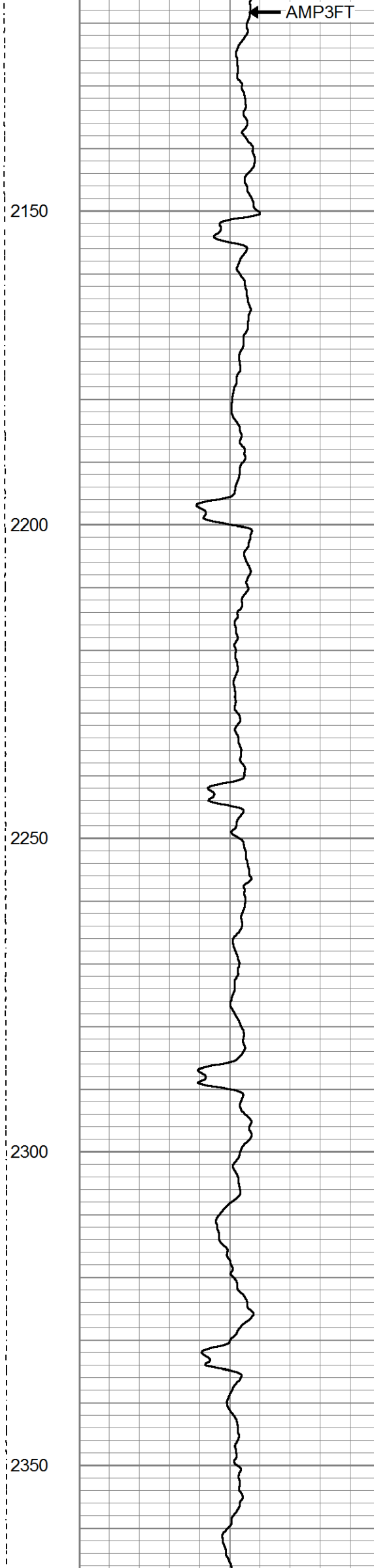
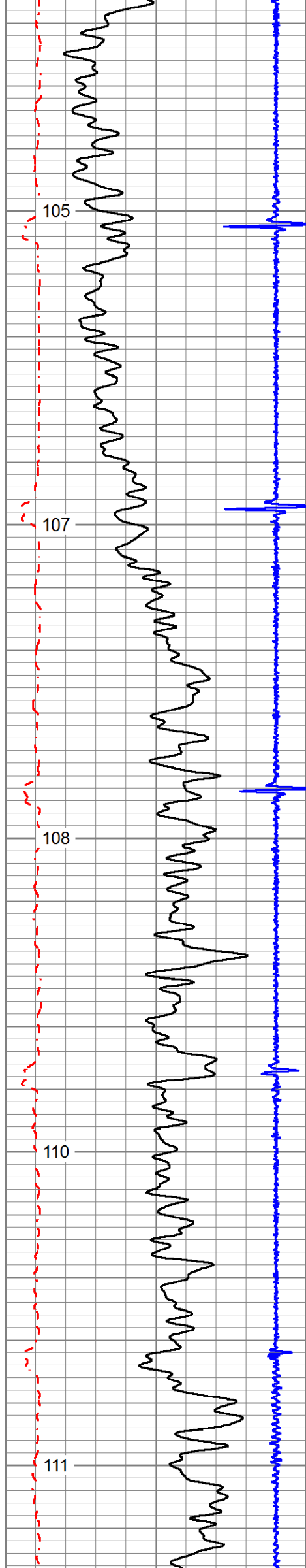




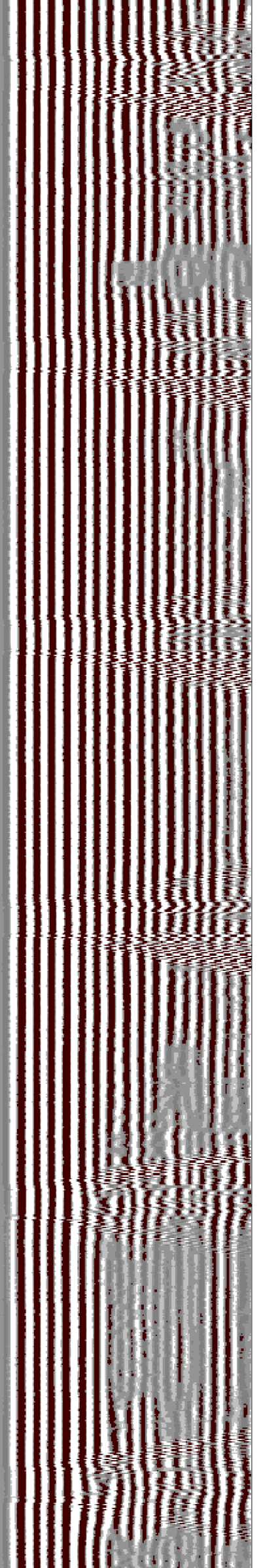
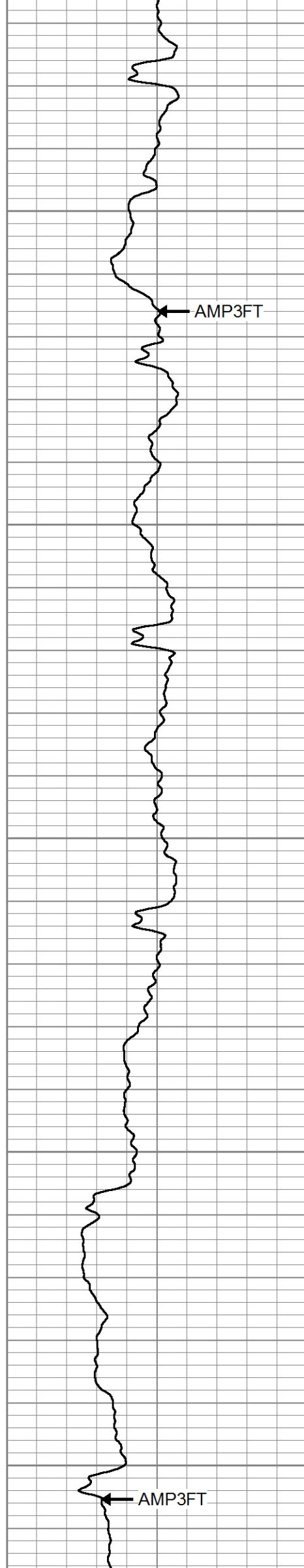
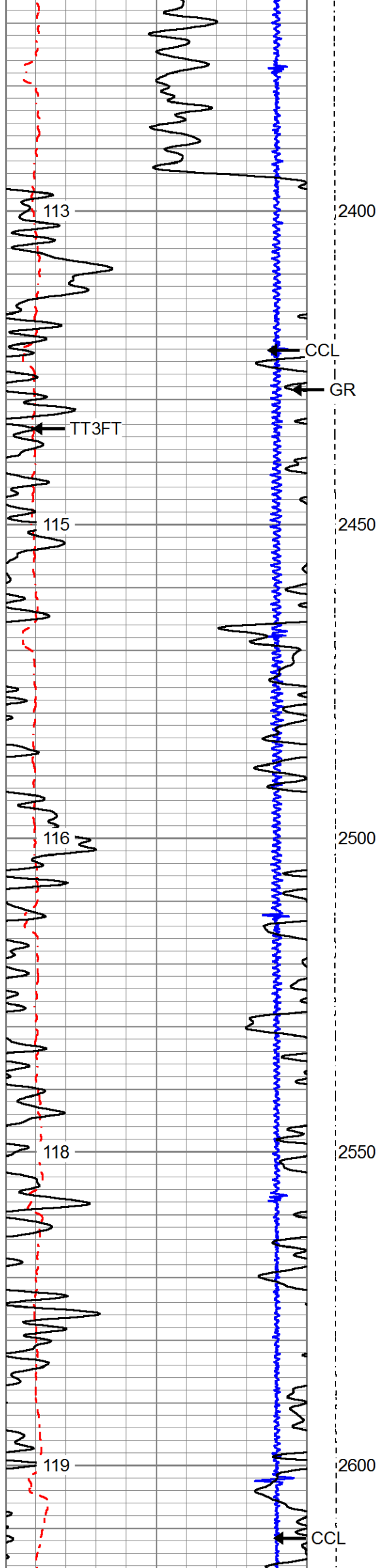


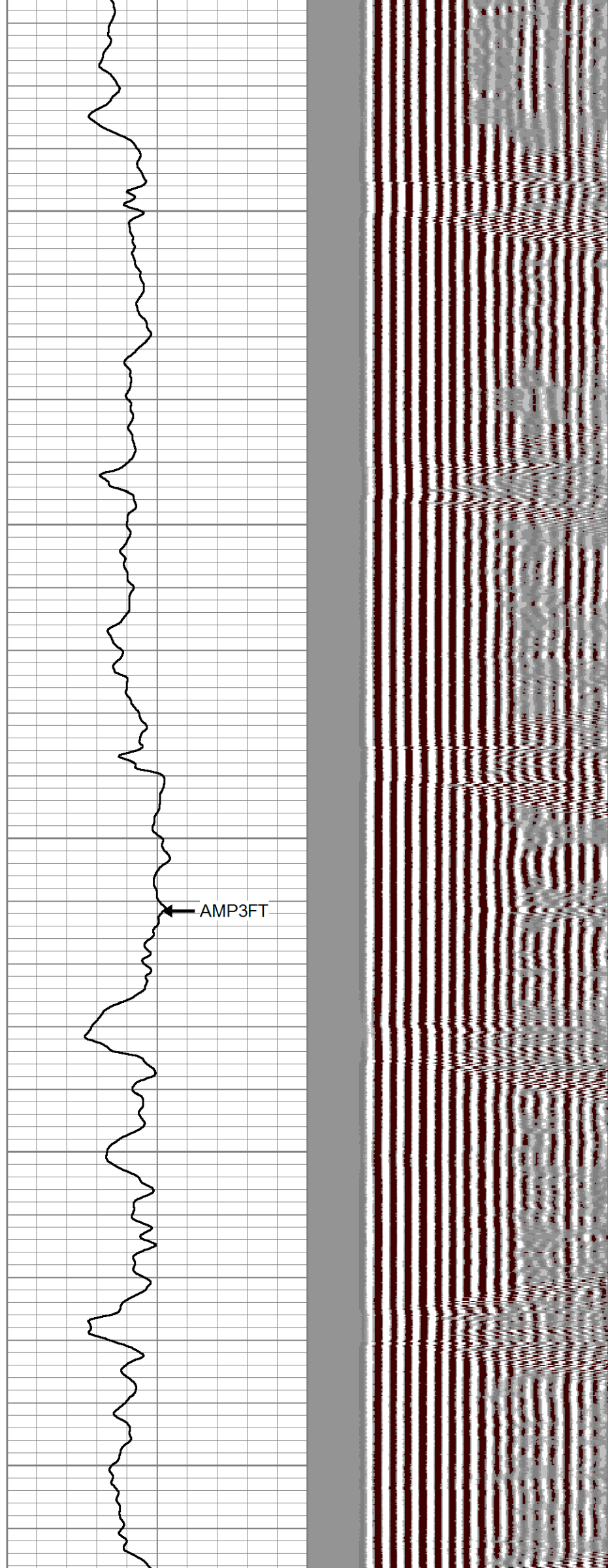
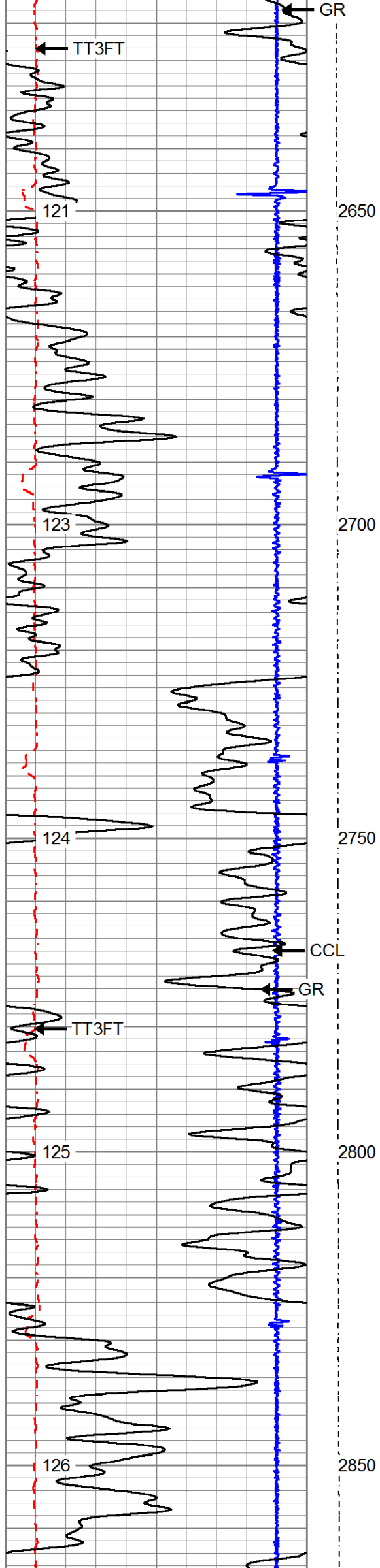


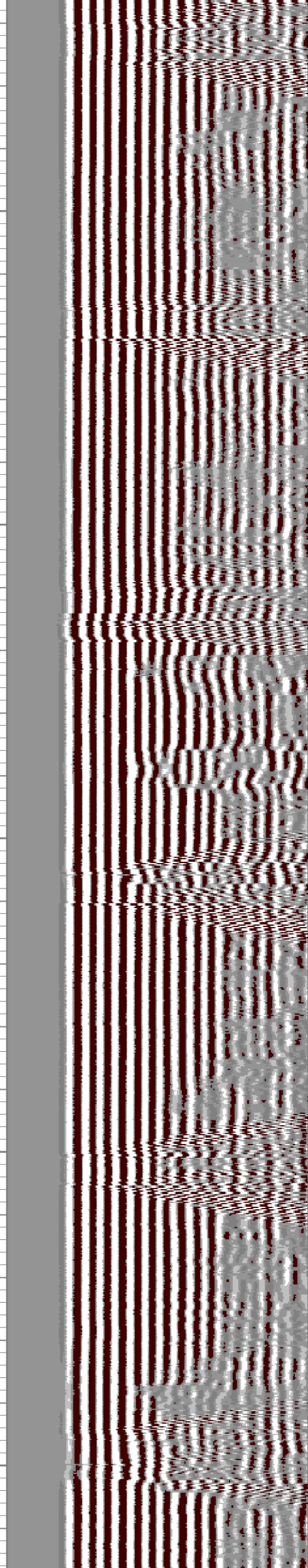
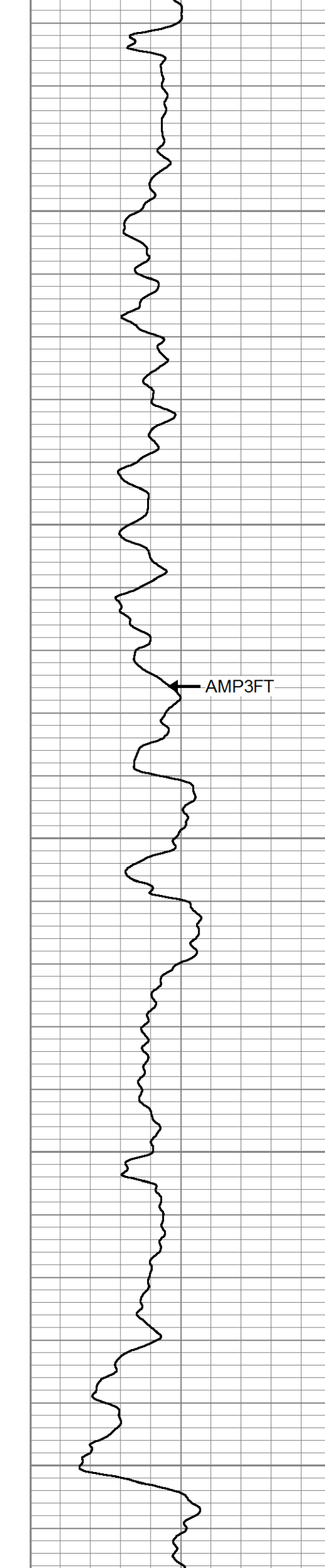
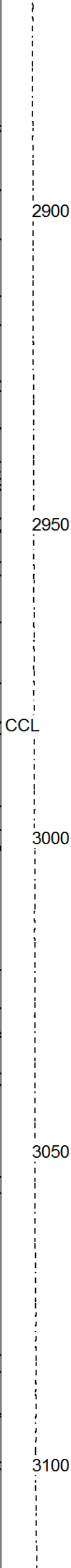
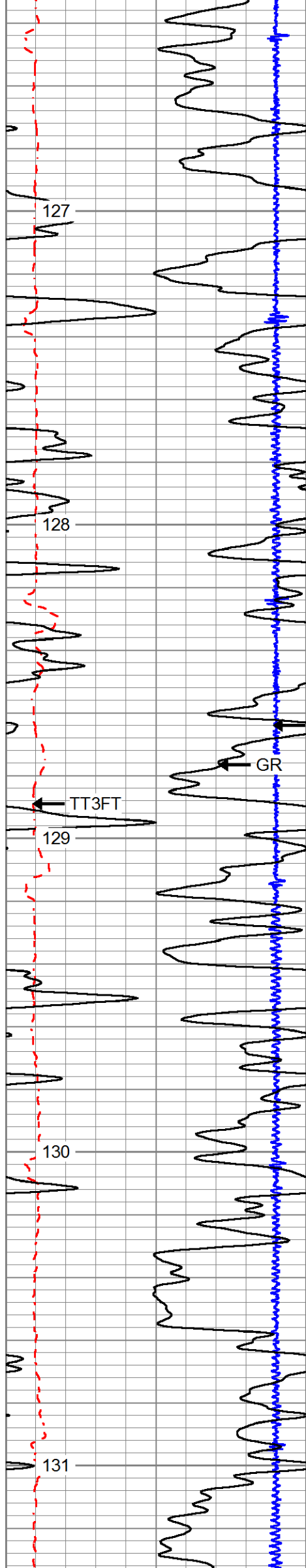




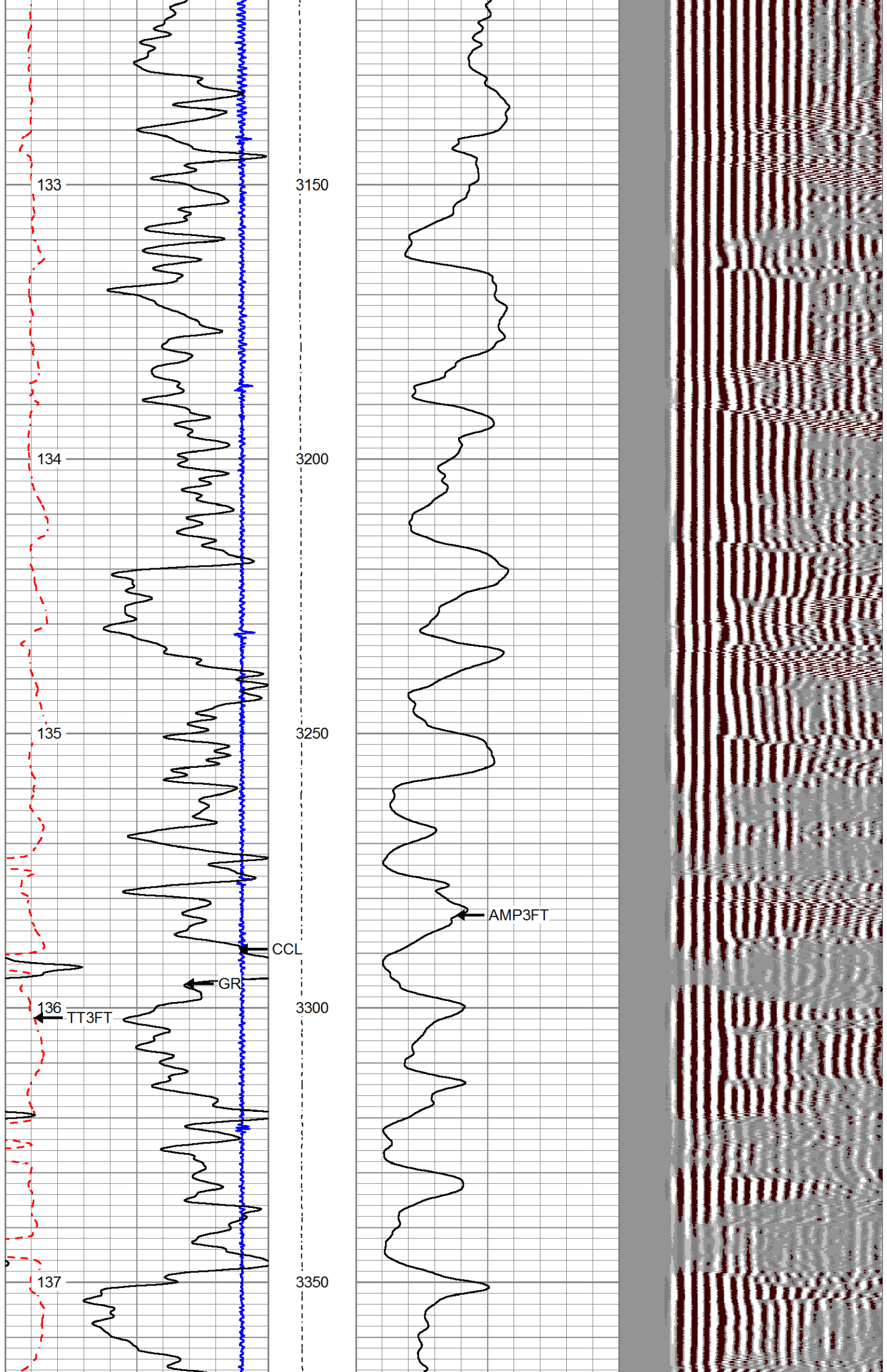


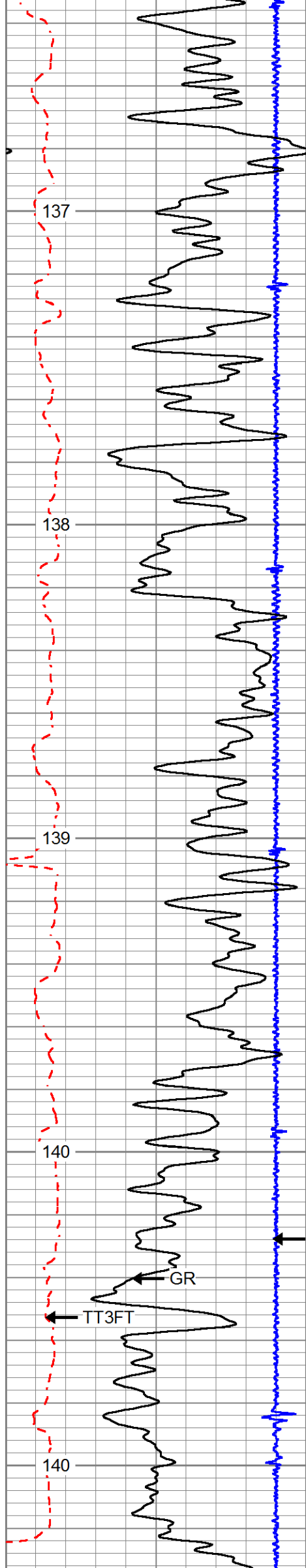












3400

3450

3500

3550

3600

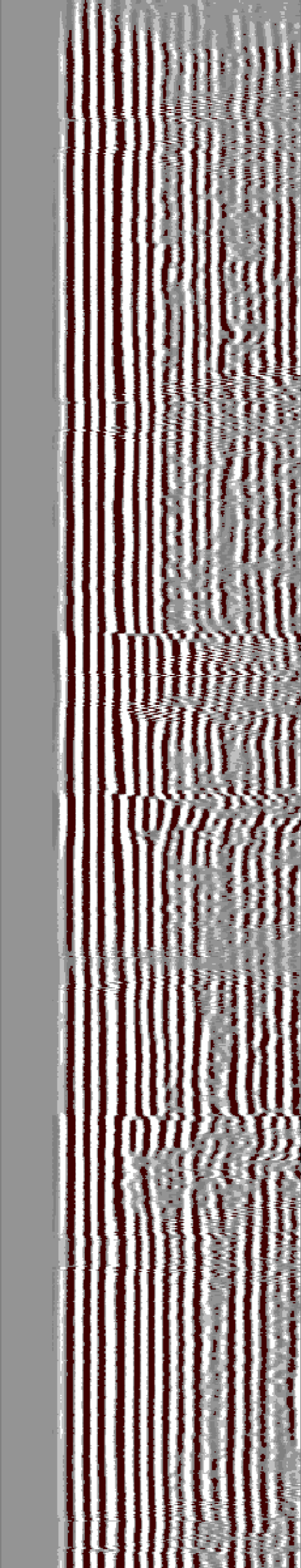
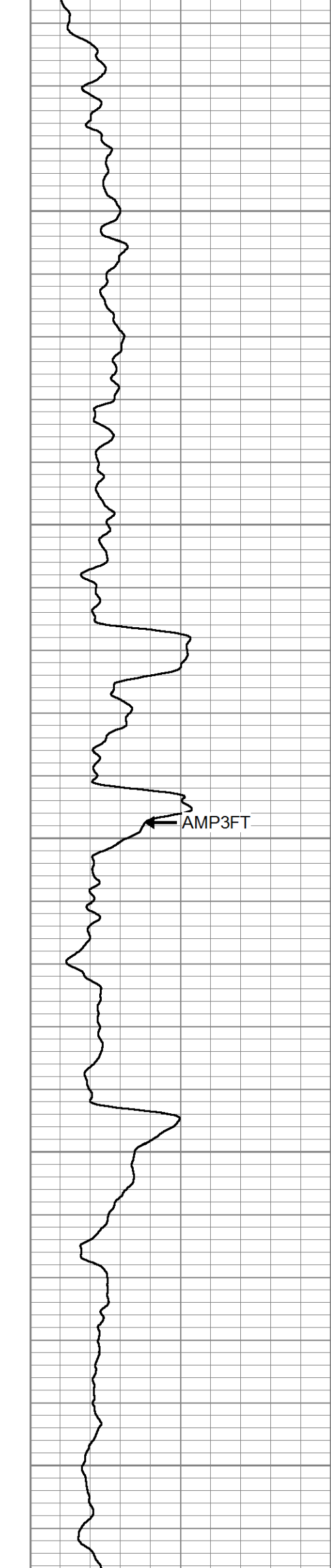
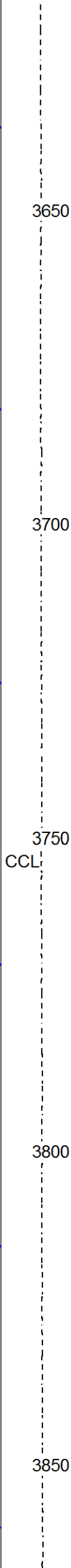
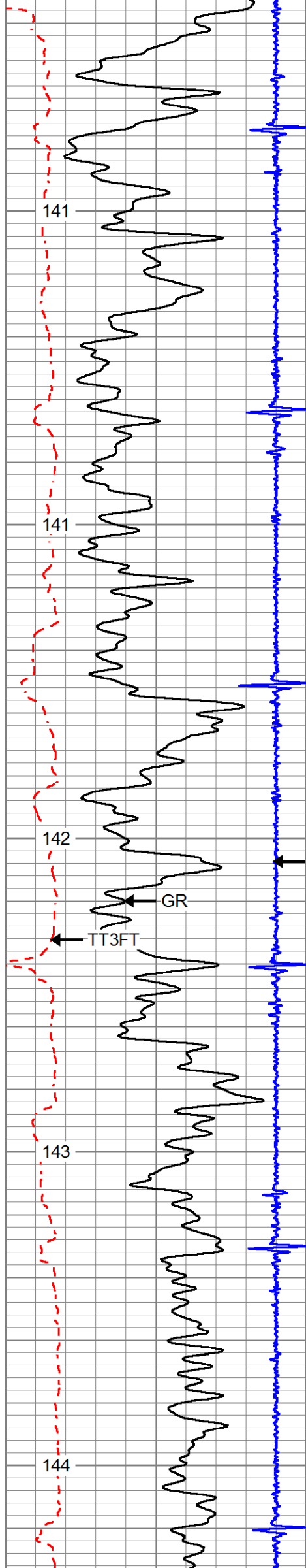
TOP OF CEMENT @ 3532

AMP3FT

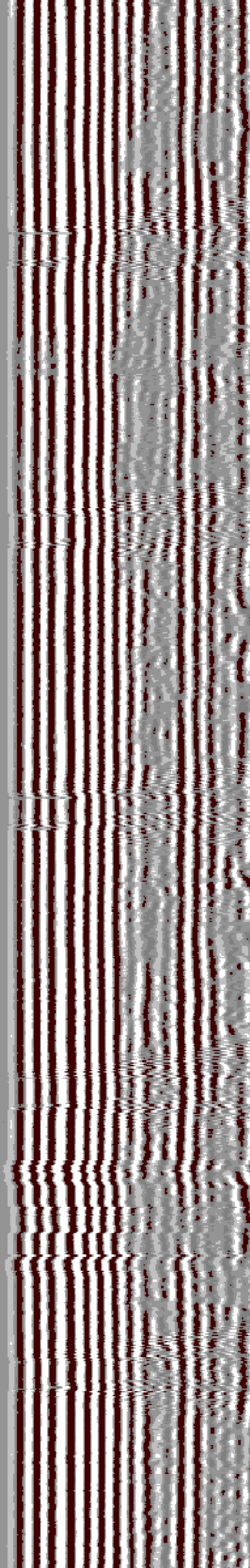
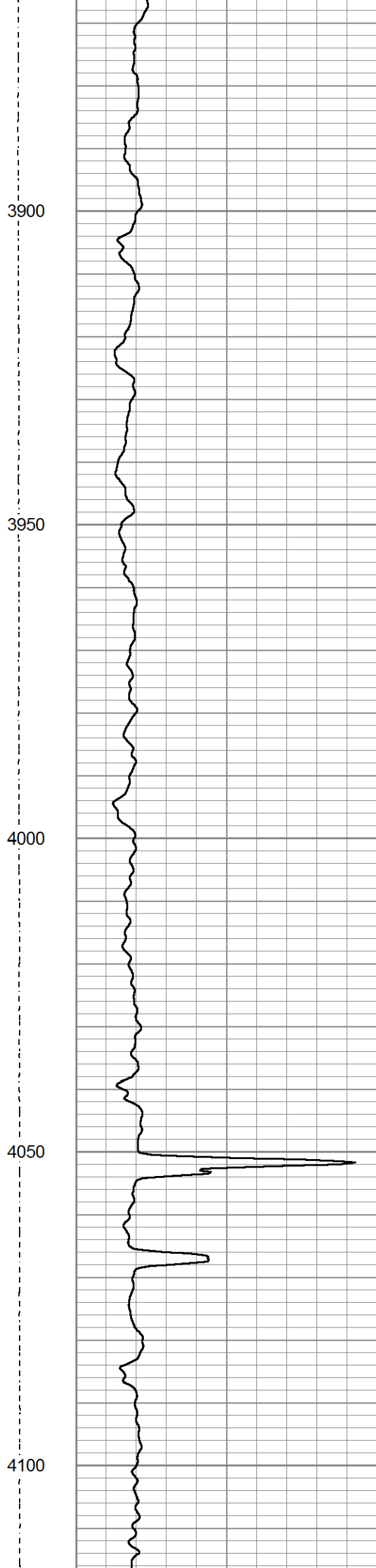
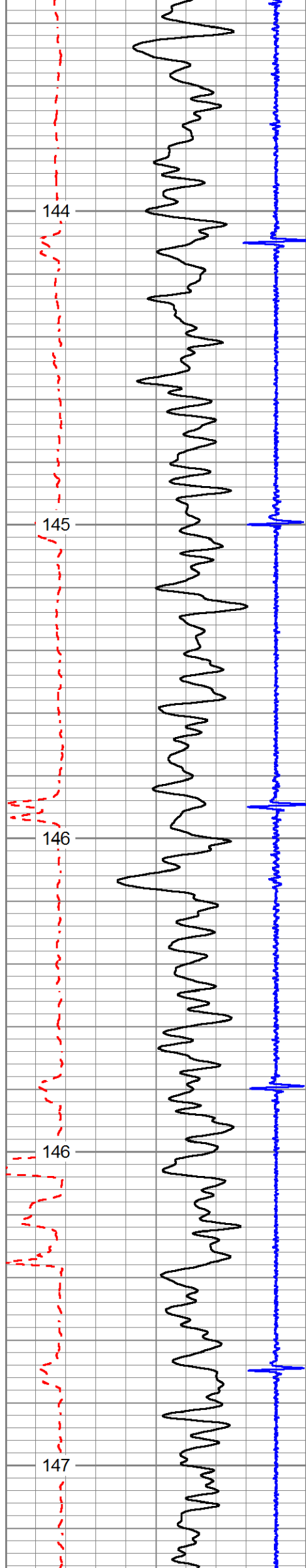
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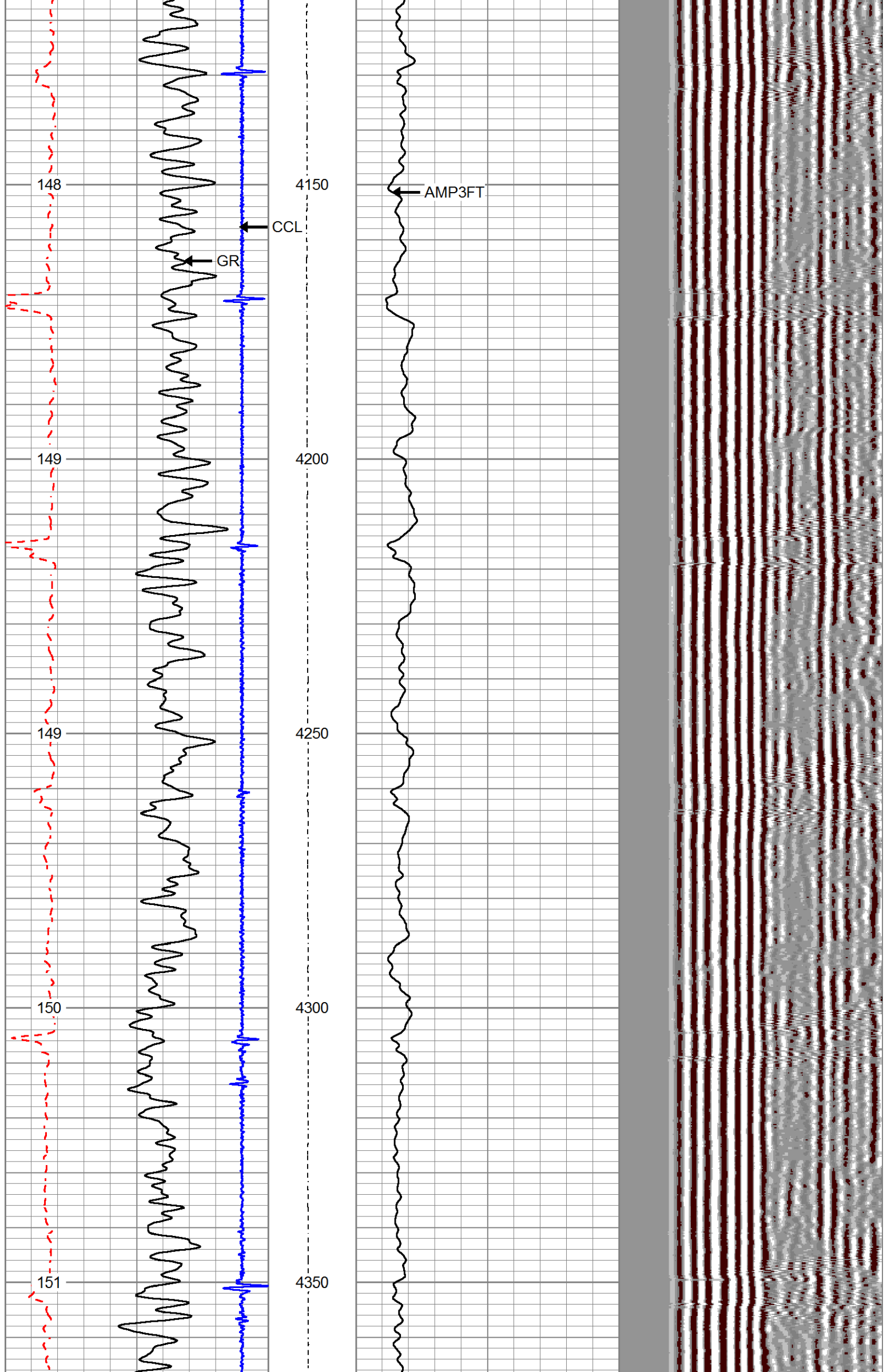
GR

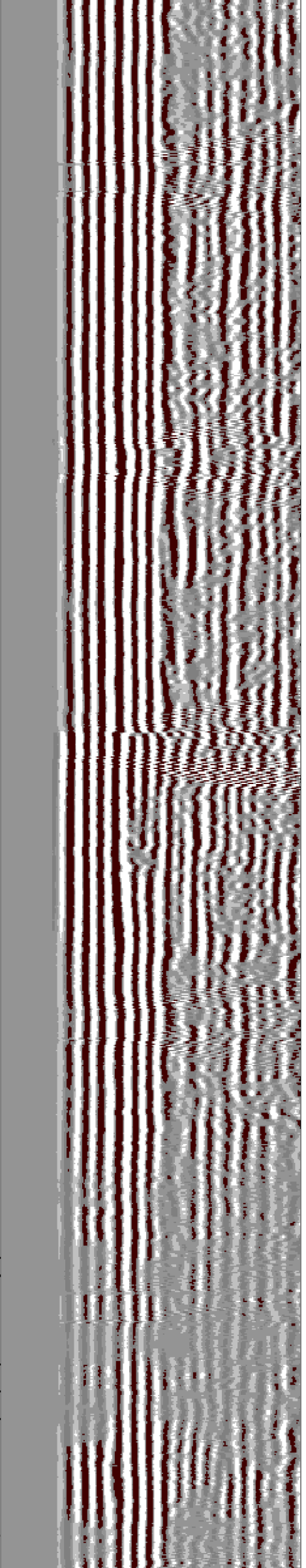
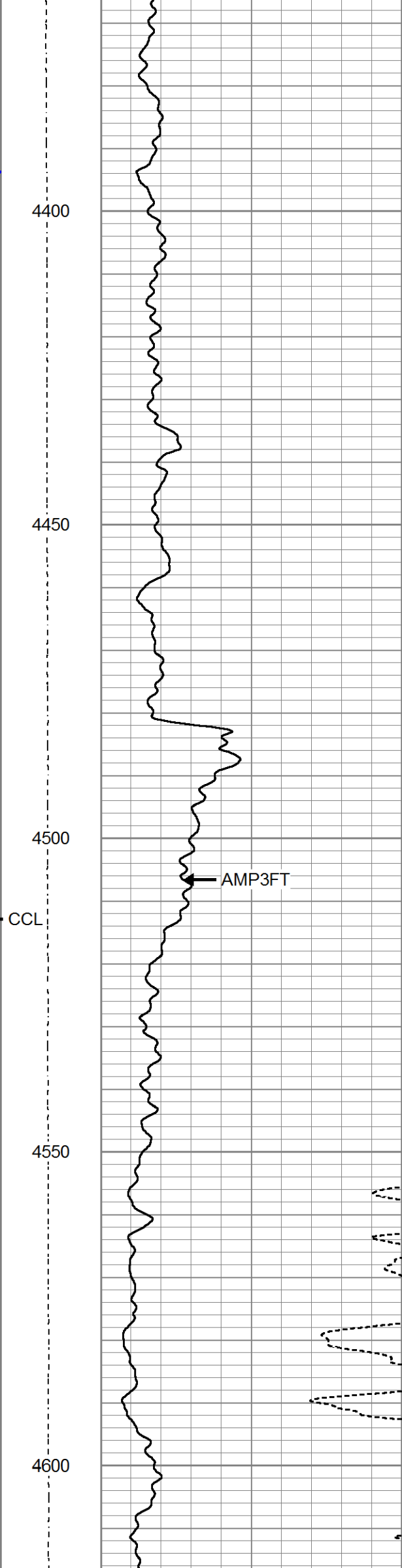
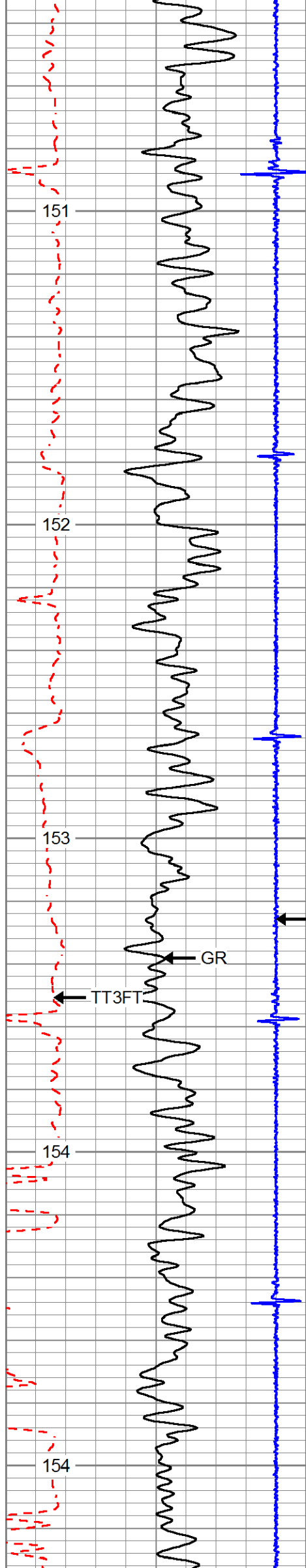
TT3FT



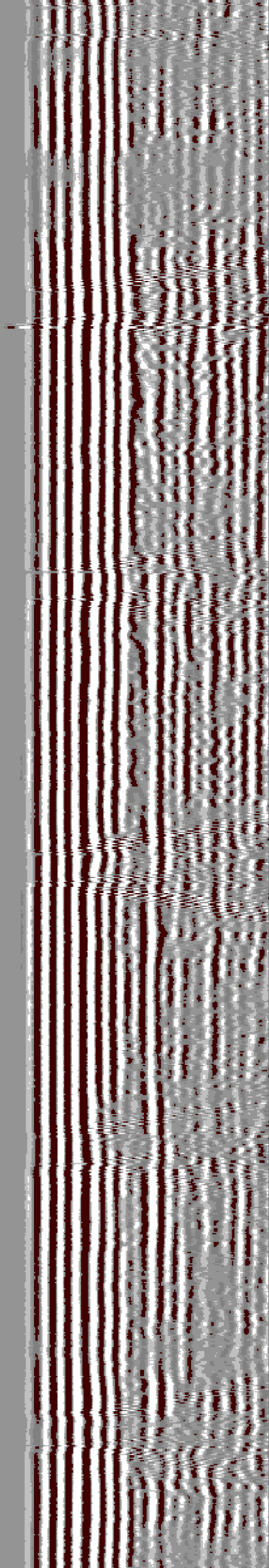
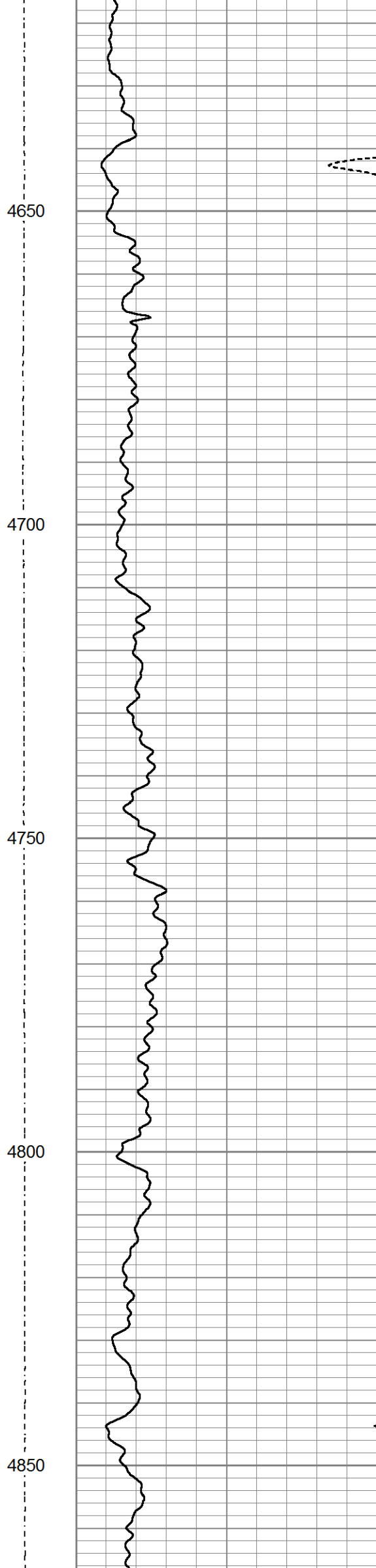
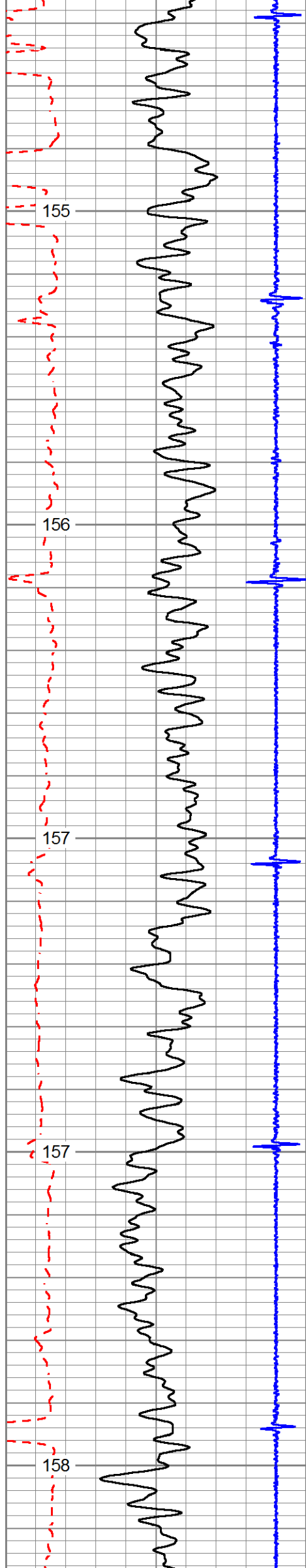


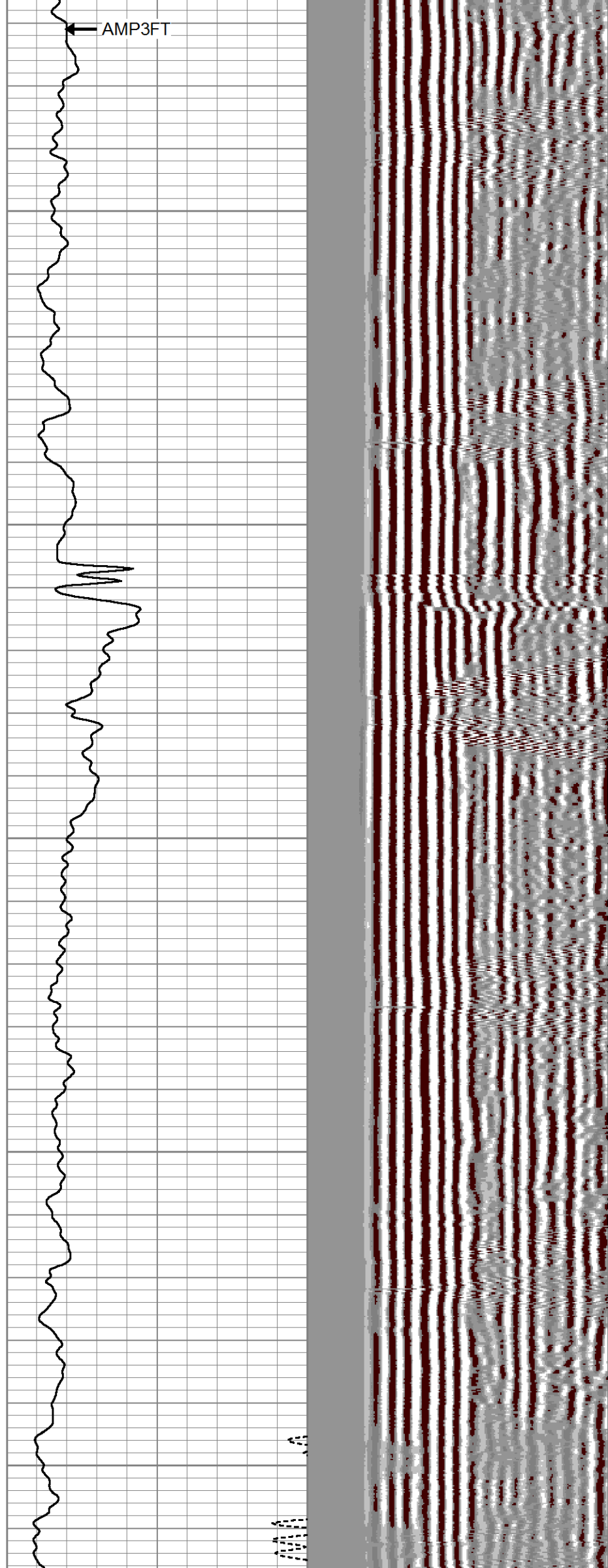
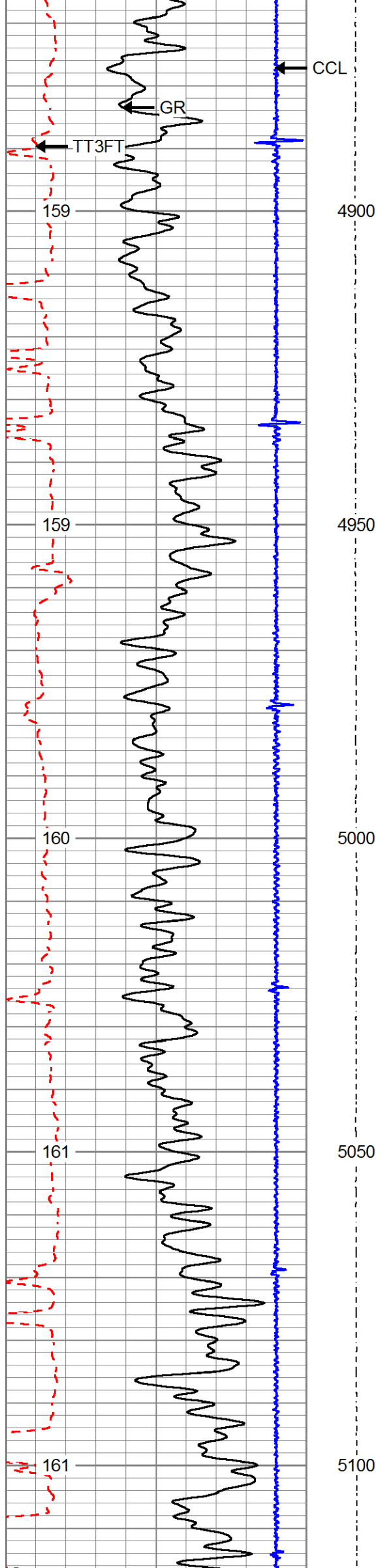


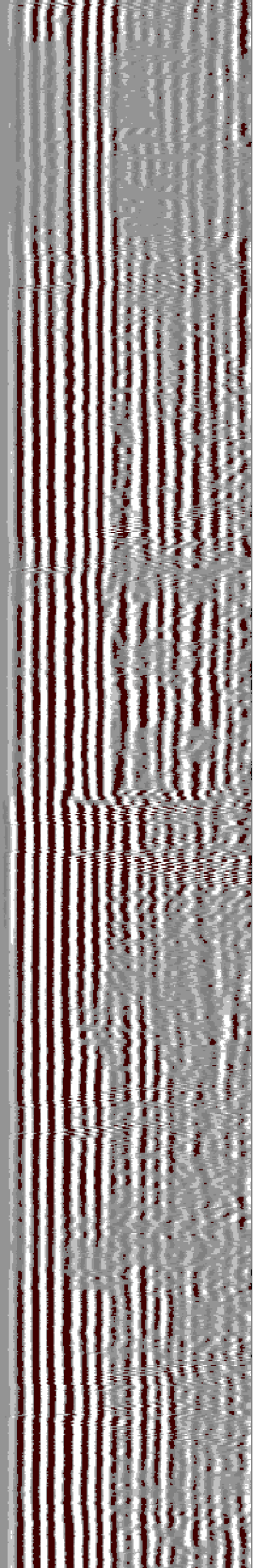
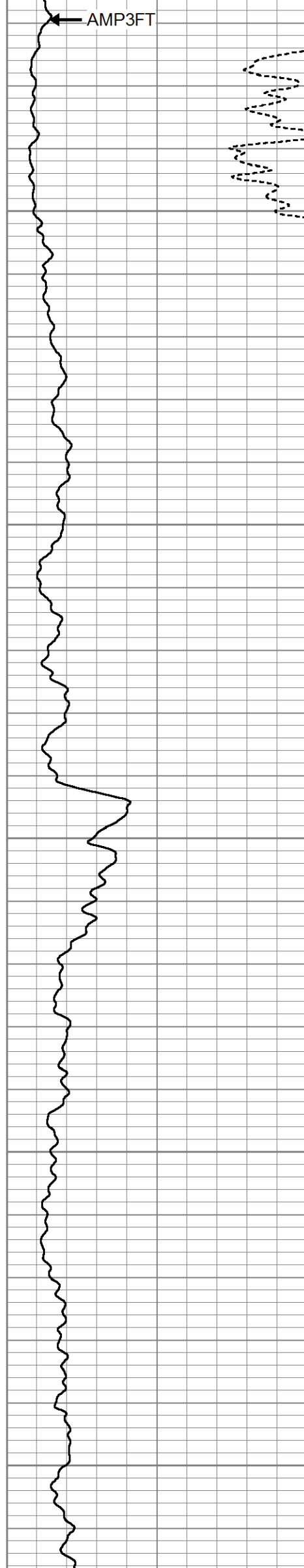
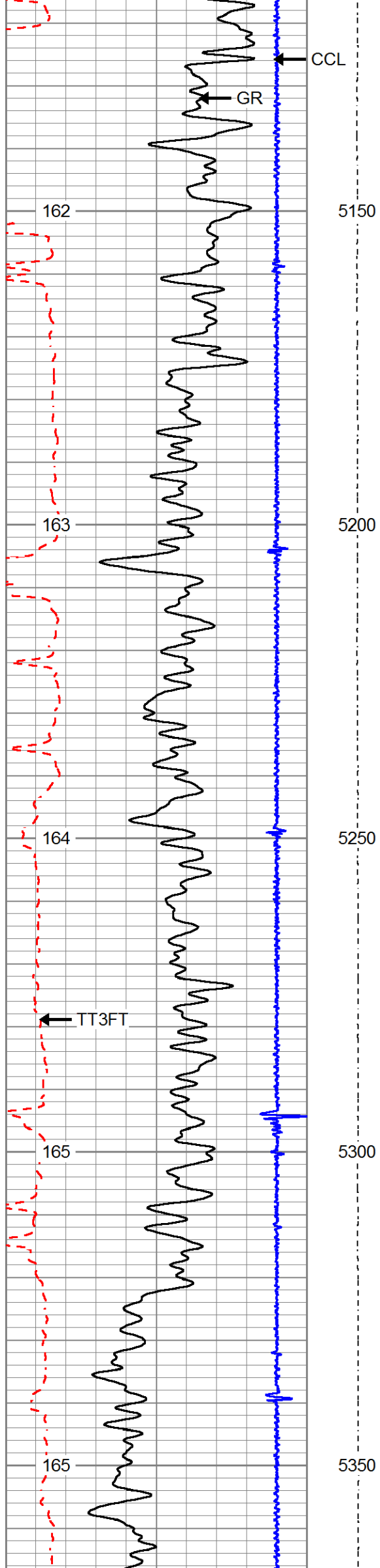


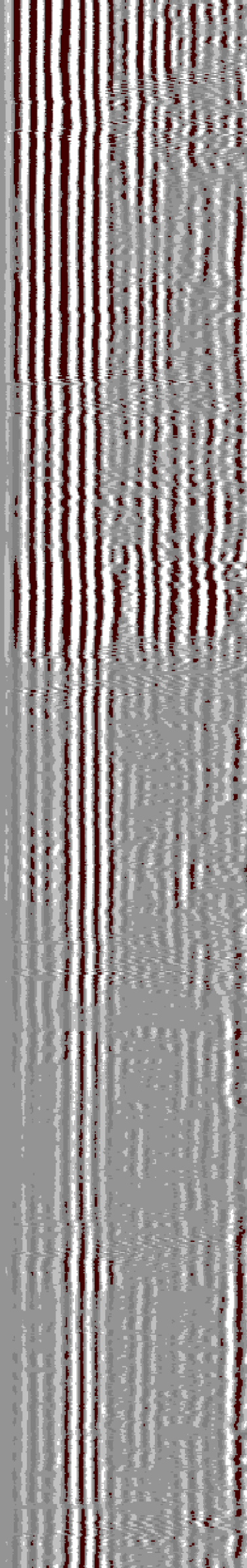
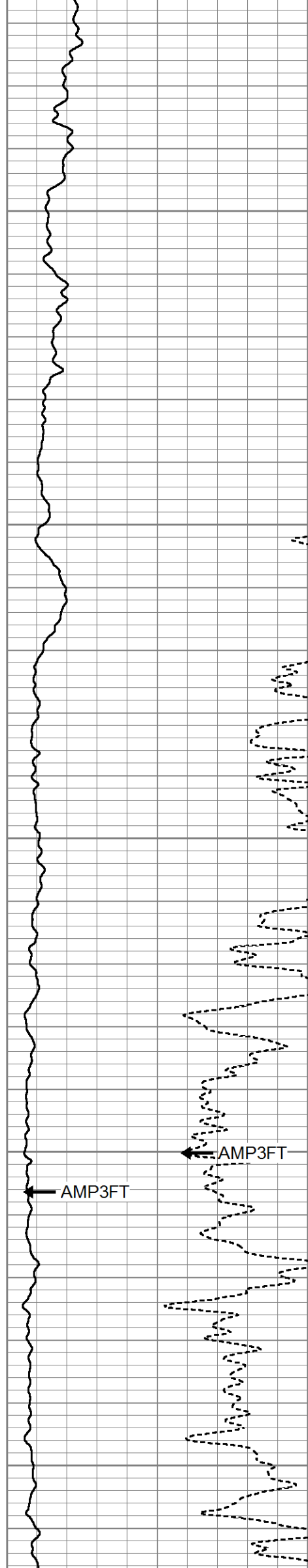
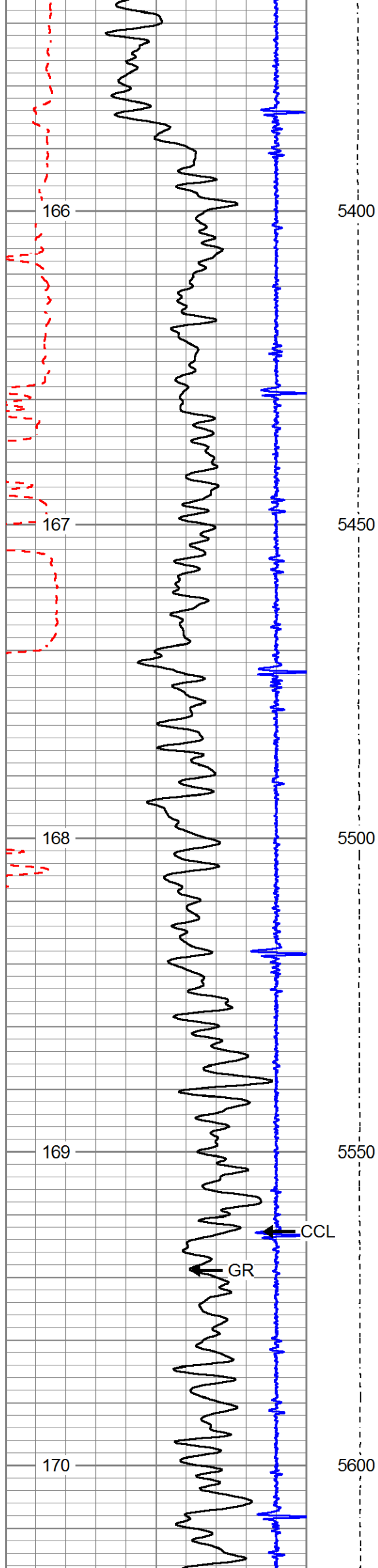




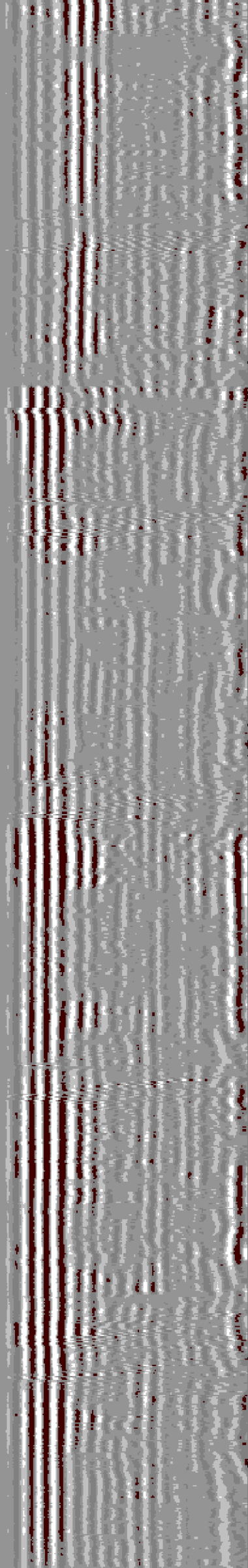
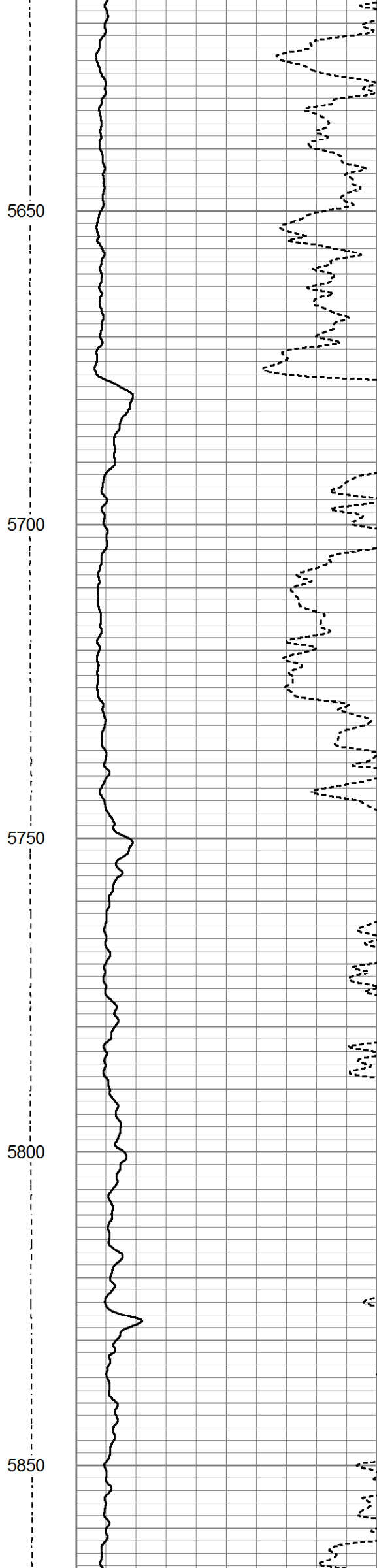
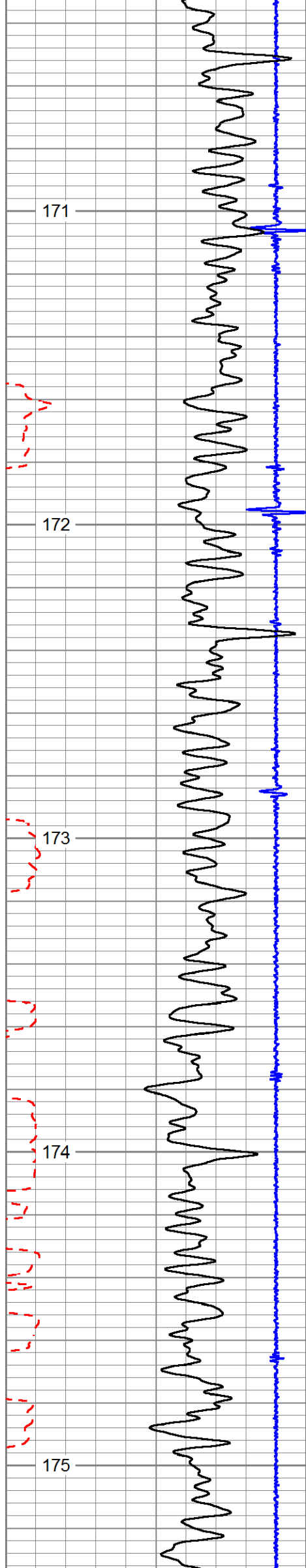


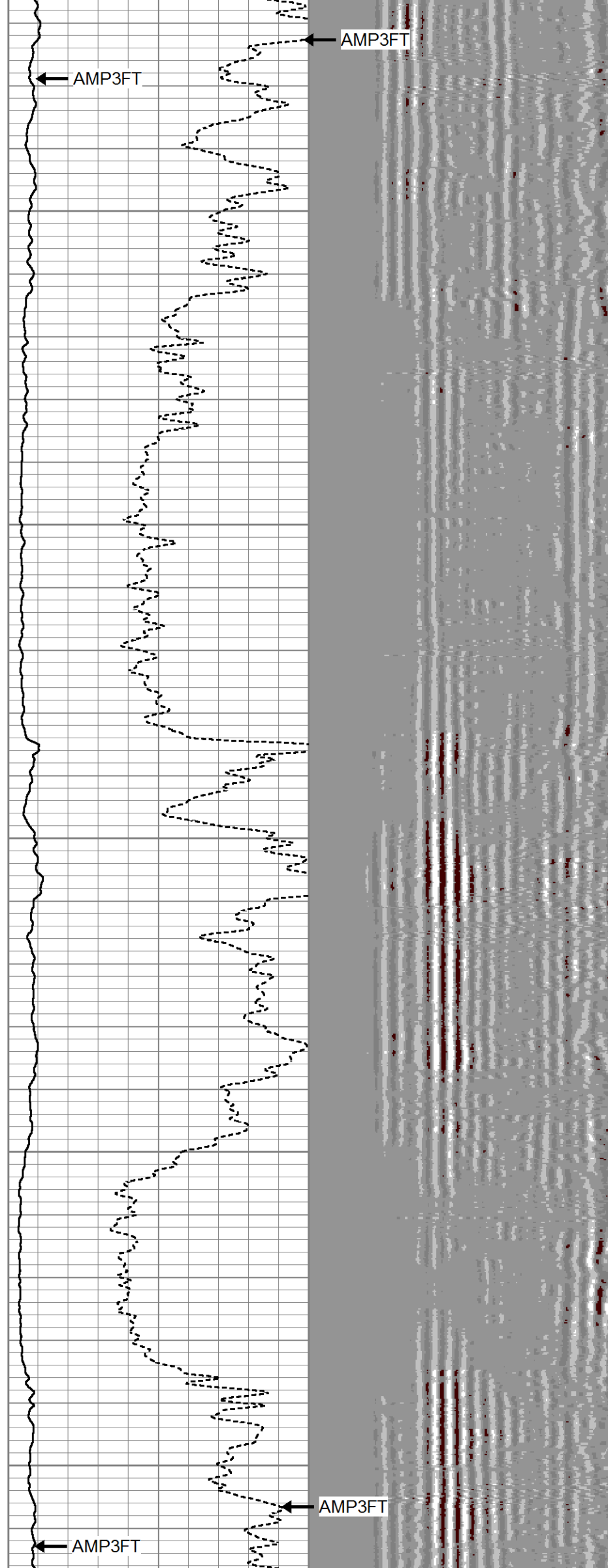
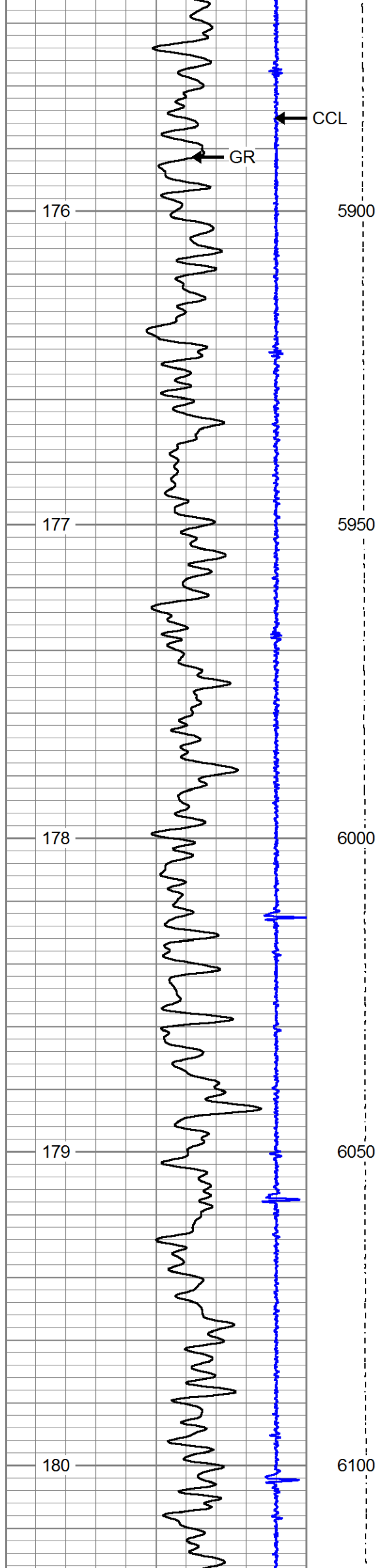


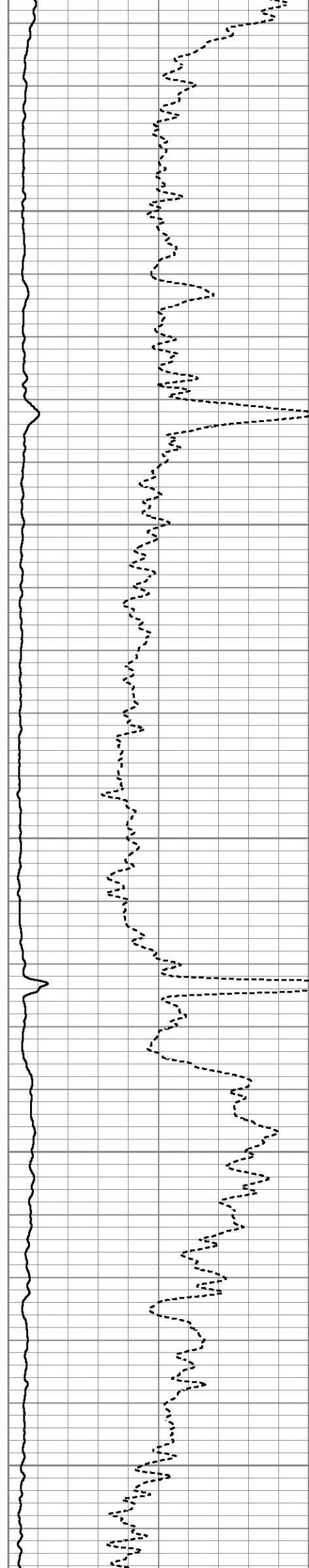
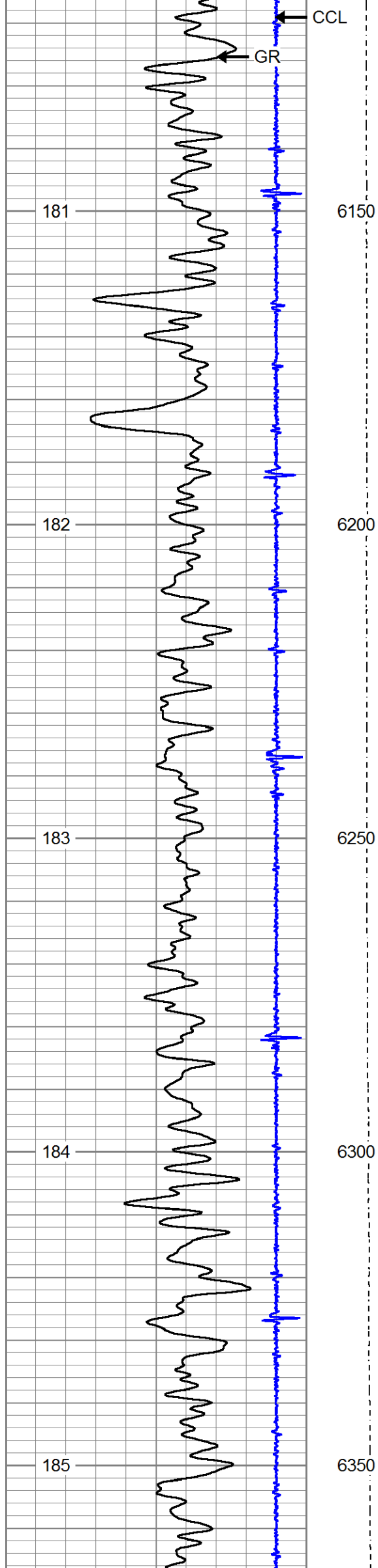


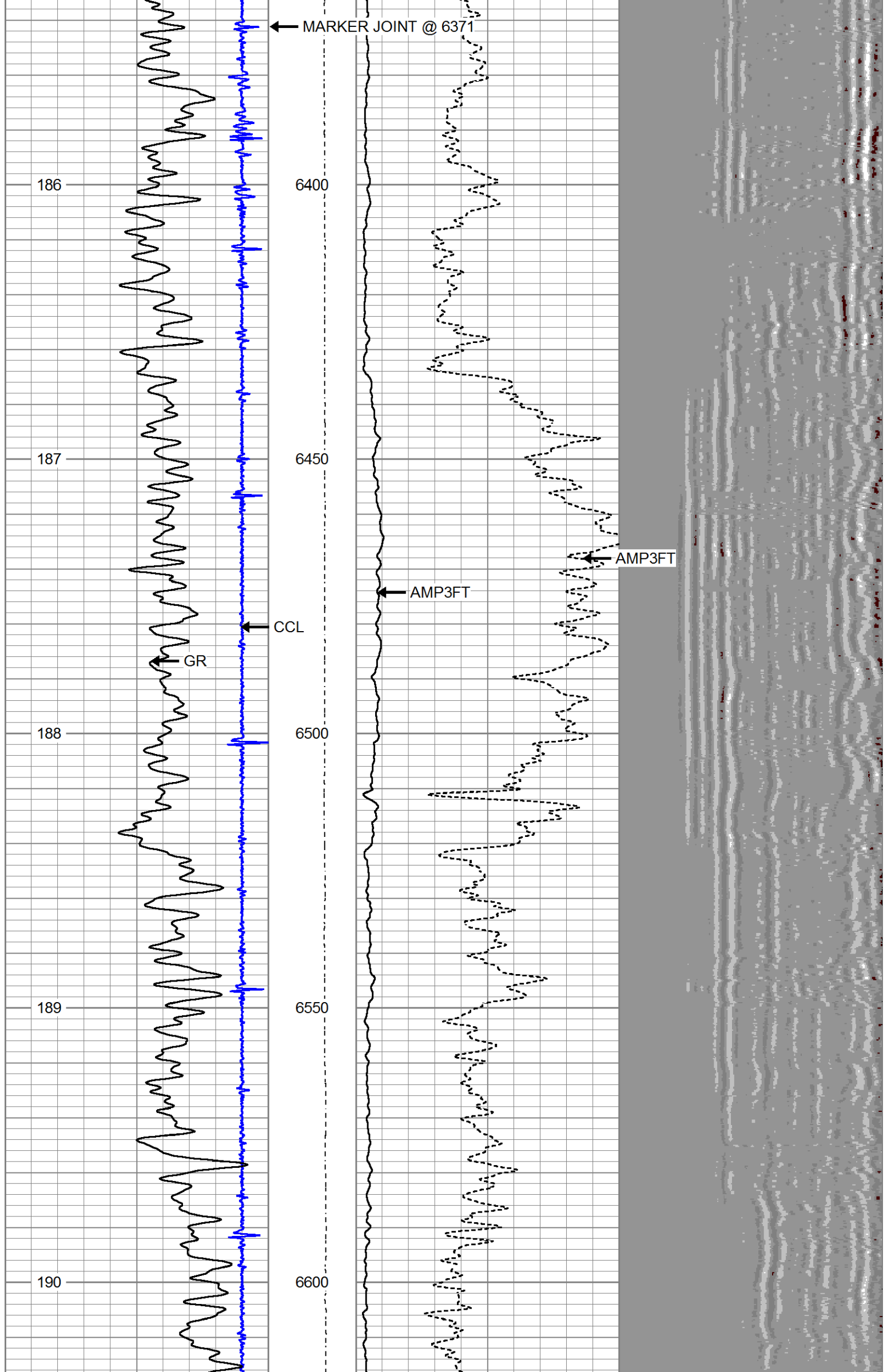




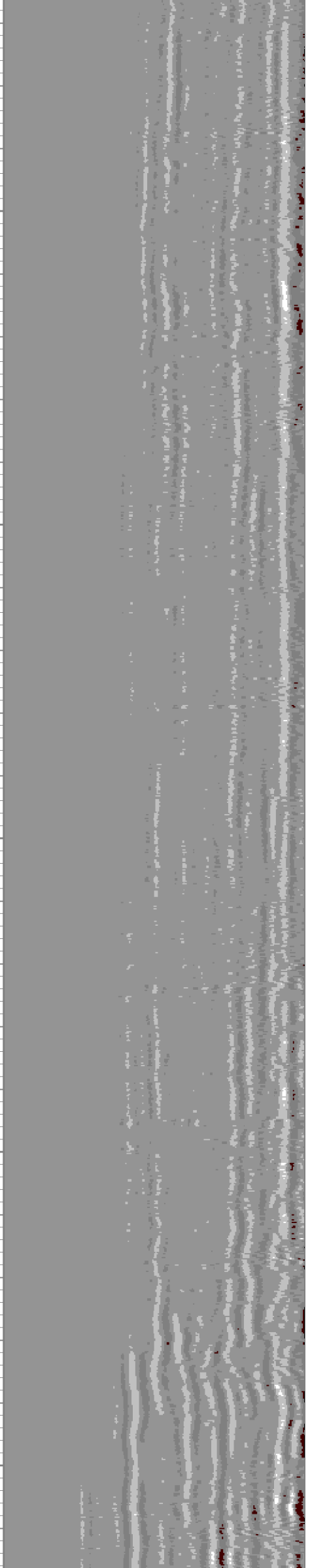
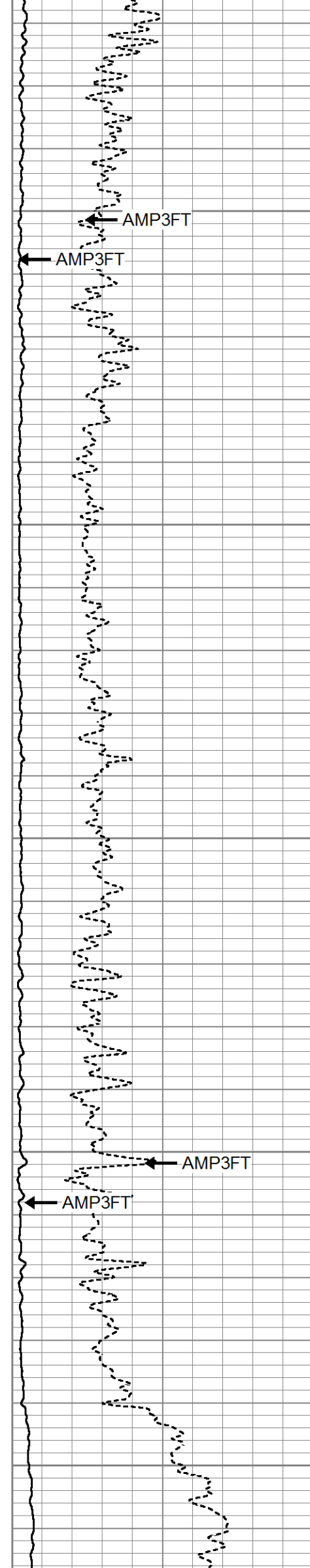
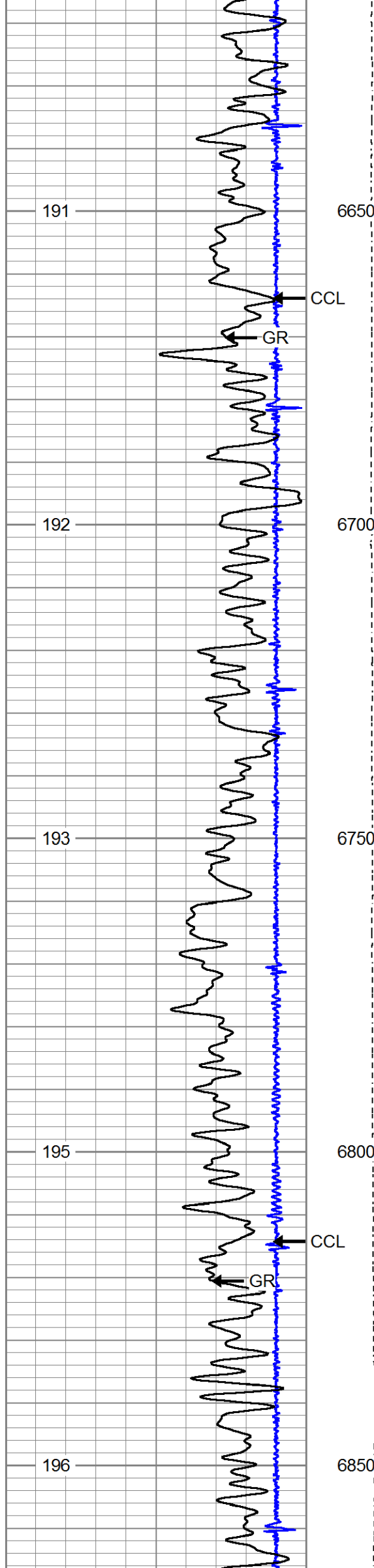


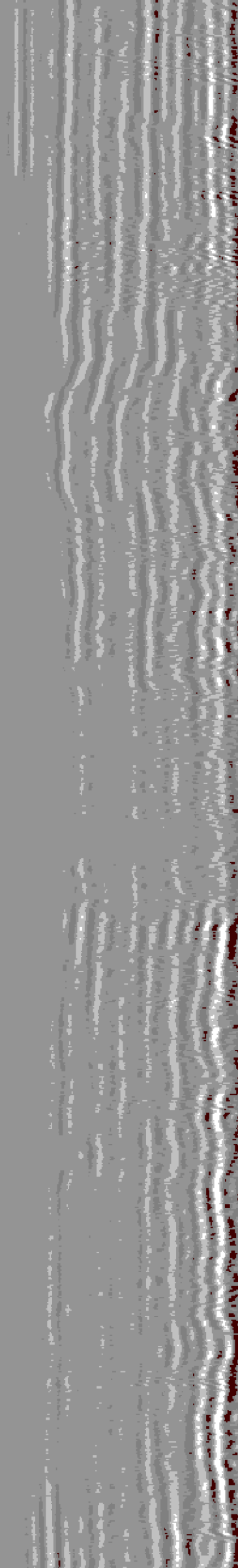
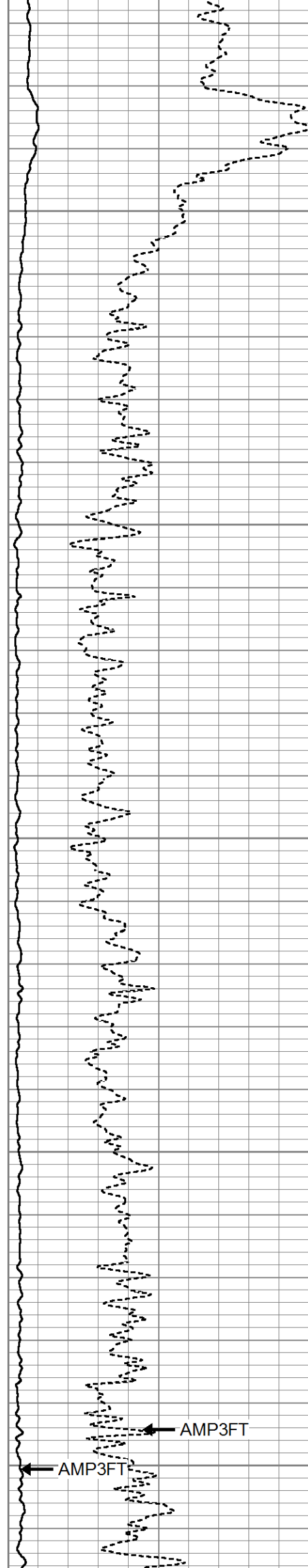
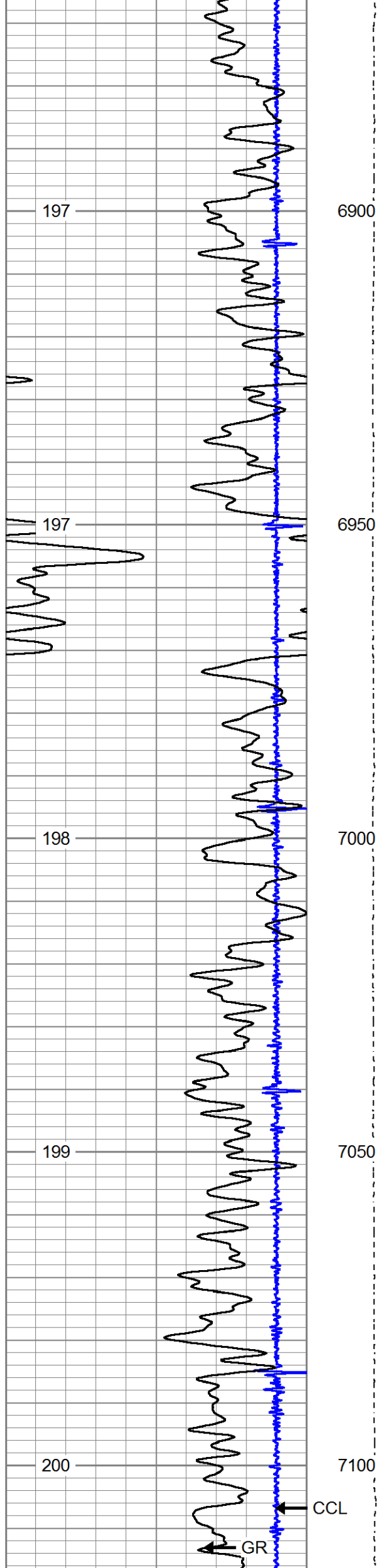


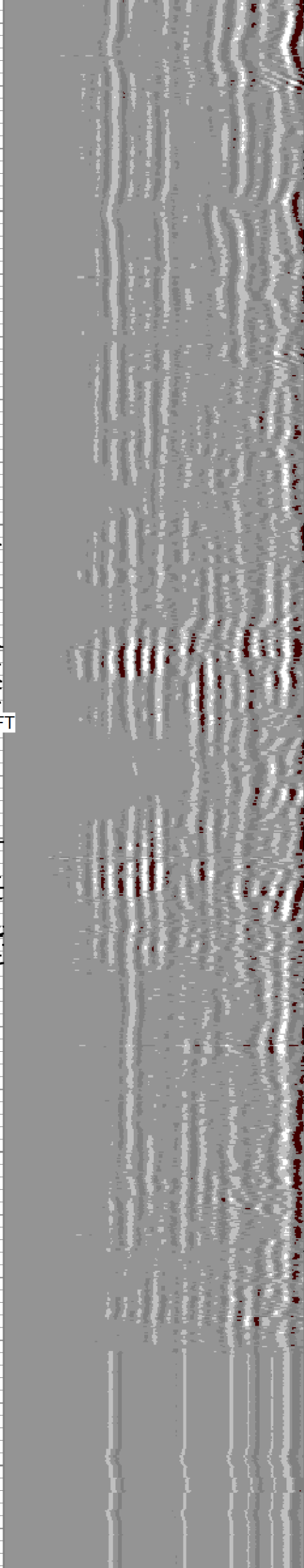
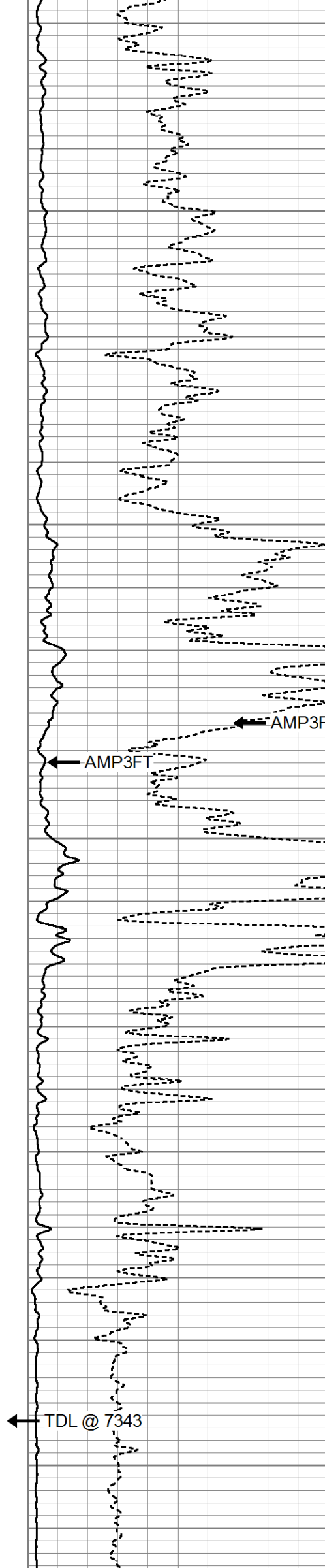
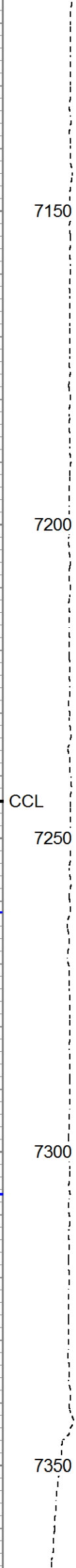
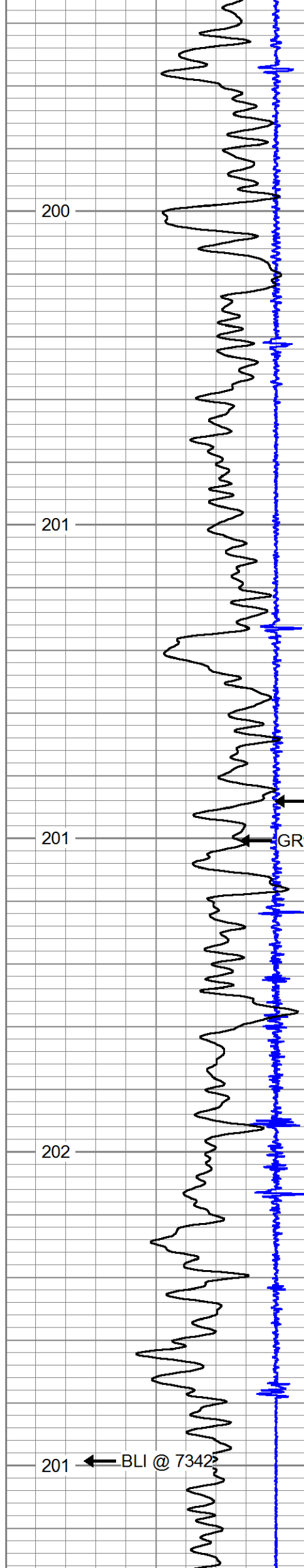


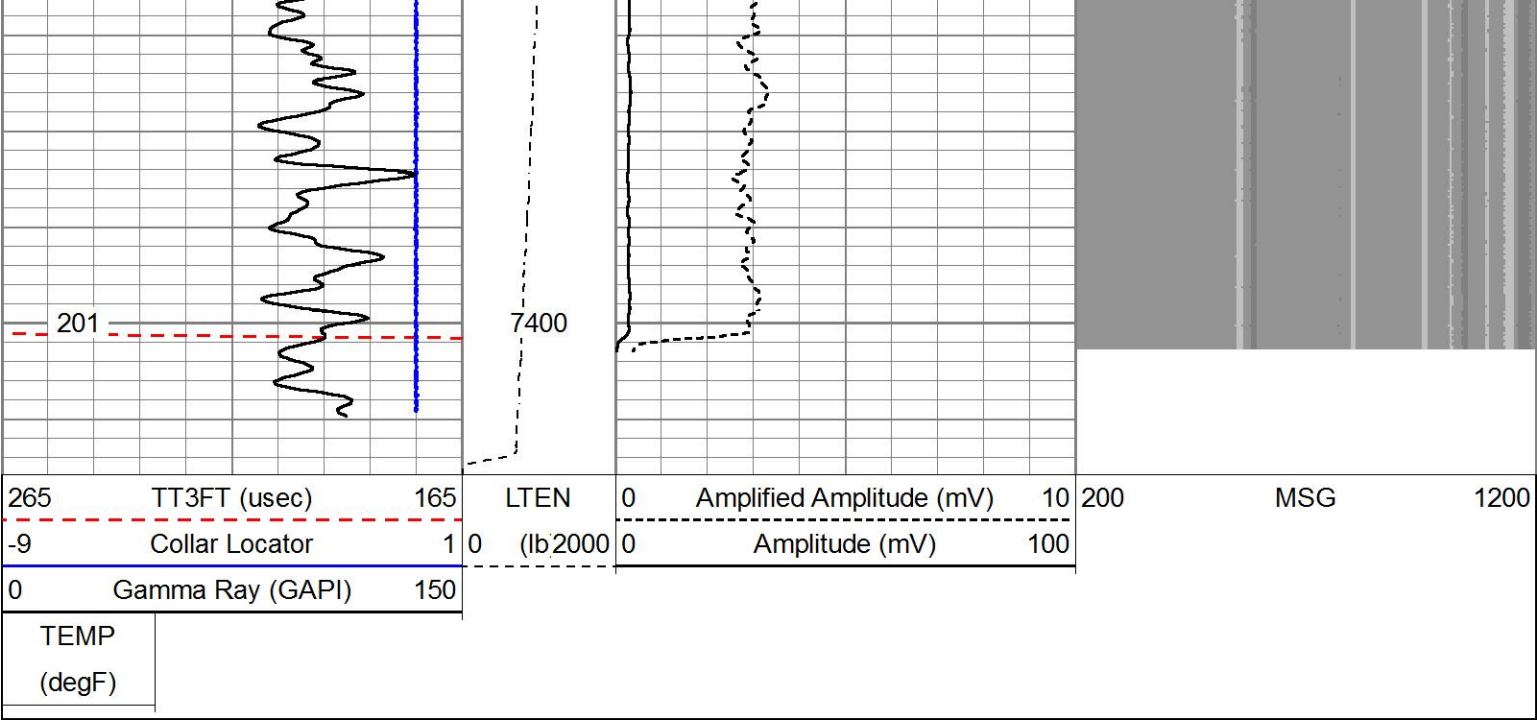






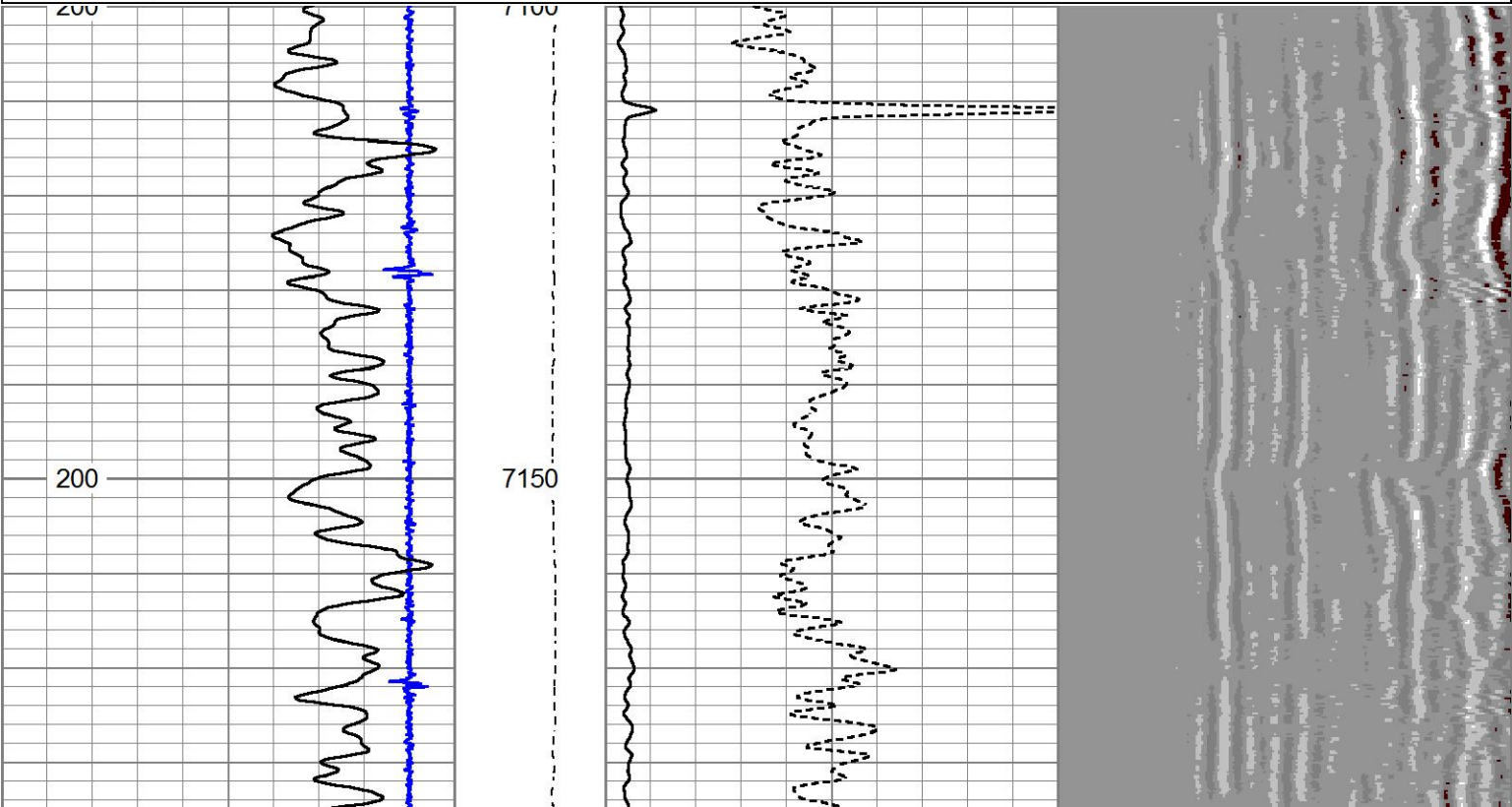
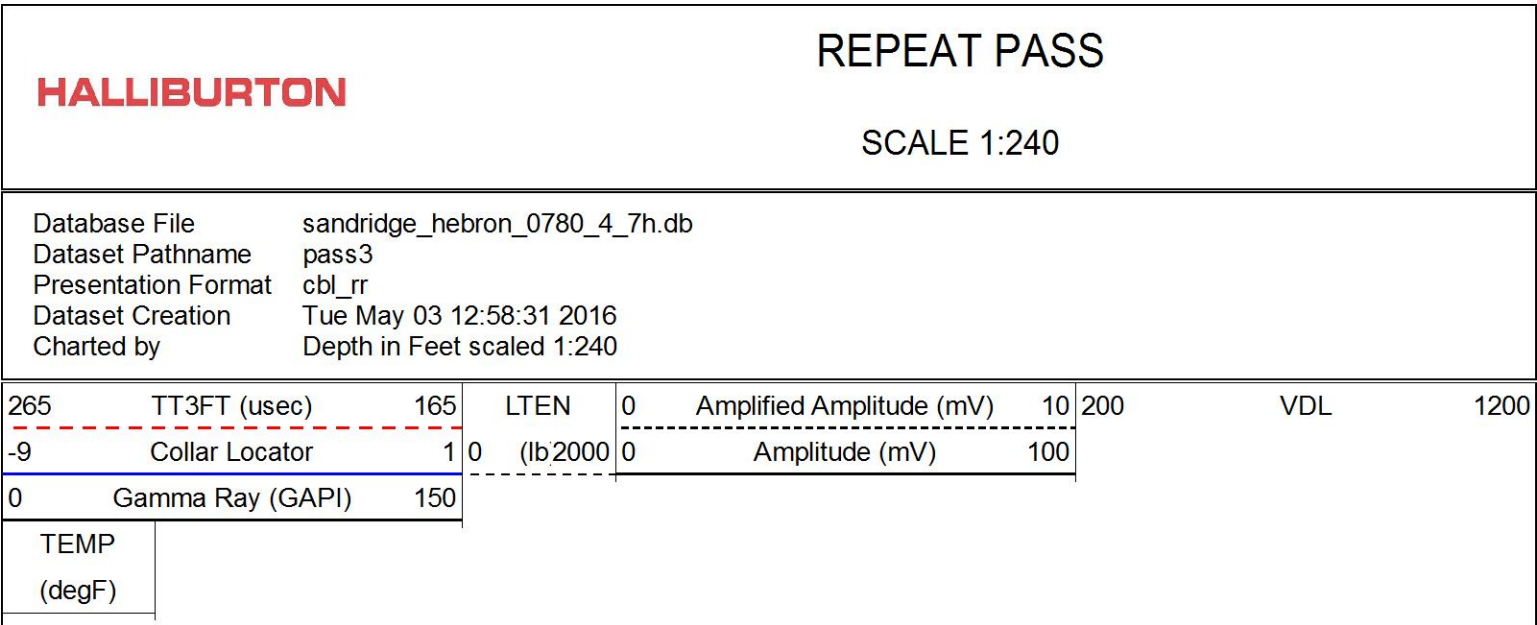




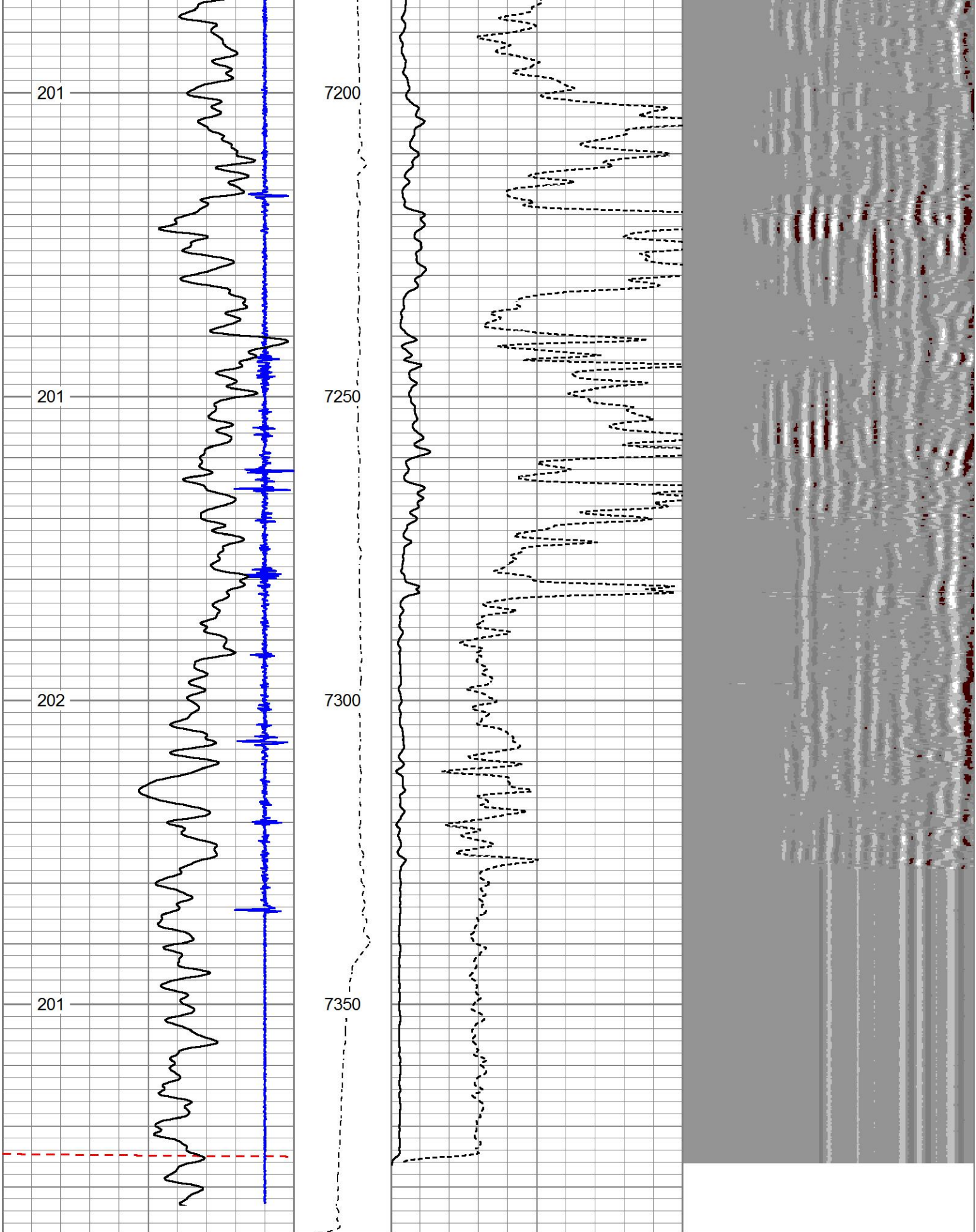


MAIN PASS

SCALE 1:240







265	TT3FT (uSec)	165	LTEN	0	Amplified Amplitude (mV)	10	200	VDL	1200
-9	Collar Locator	1	0 (lb2000)	0	Amplitude (mV)	100			

0	Gamma Ray (GAPI)	150
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TEMP
(degF)

REPEAT PASS

SCALE 1:240

HALLIBURTON

Calibration Report						
Database File	sandridge_hebron_0780_4_7h.db					
Dataset Pathname	pass5					
Dataset Creation	Tue May 03 13:06:21 2016					
Temperature Calibration Report						
Serial Number: 0001						
Tool Model: 1.375TEMP						
Performed: Wed Mar 15 15:39:51 2006						
Reference Reading						
Low Reference: 0.00 degF 0.00 cps						
High Reference: 100.00 degF 1000.00cps						
Gain: 0.10						
Offset: 0.00						
Delta Spacing 2						
Gamma Ray Calibration Report						
Serial Number: 275						
Tool Model: Probe						
Performed: Thu Aug 07 08:00:19 2008						
Calibrator Value: 100.0 GAPI						
Background Reading: 35.0 cps						
Calibrator Reading: 160.0 cps						
Sensitivity: 1.0000 GAPI/cps						
Segmented Cement Bond Log Calibration Report						
Serial Number: ProbeDIG_001						
Tool Model: Digital						
Calibration Casing Diameter: 5.500 in						
Calibration Depth: 7386.667 ft						
Master Calibration, performed Tue May 03 12:58:18 2016:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.002	0.439	0.000	71.921	163.107	0.396
CAL						
5'	0.005	0.452	0.000	71.921	161.026	-0.830
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 (Not Performed):						
	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			

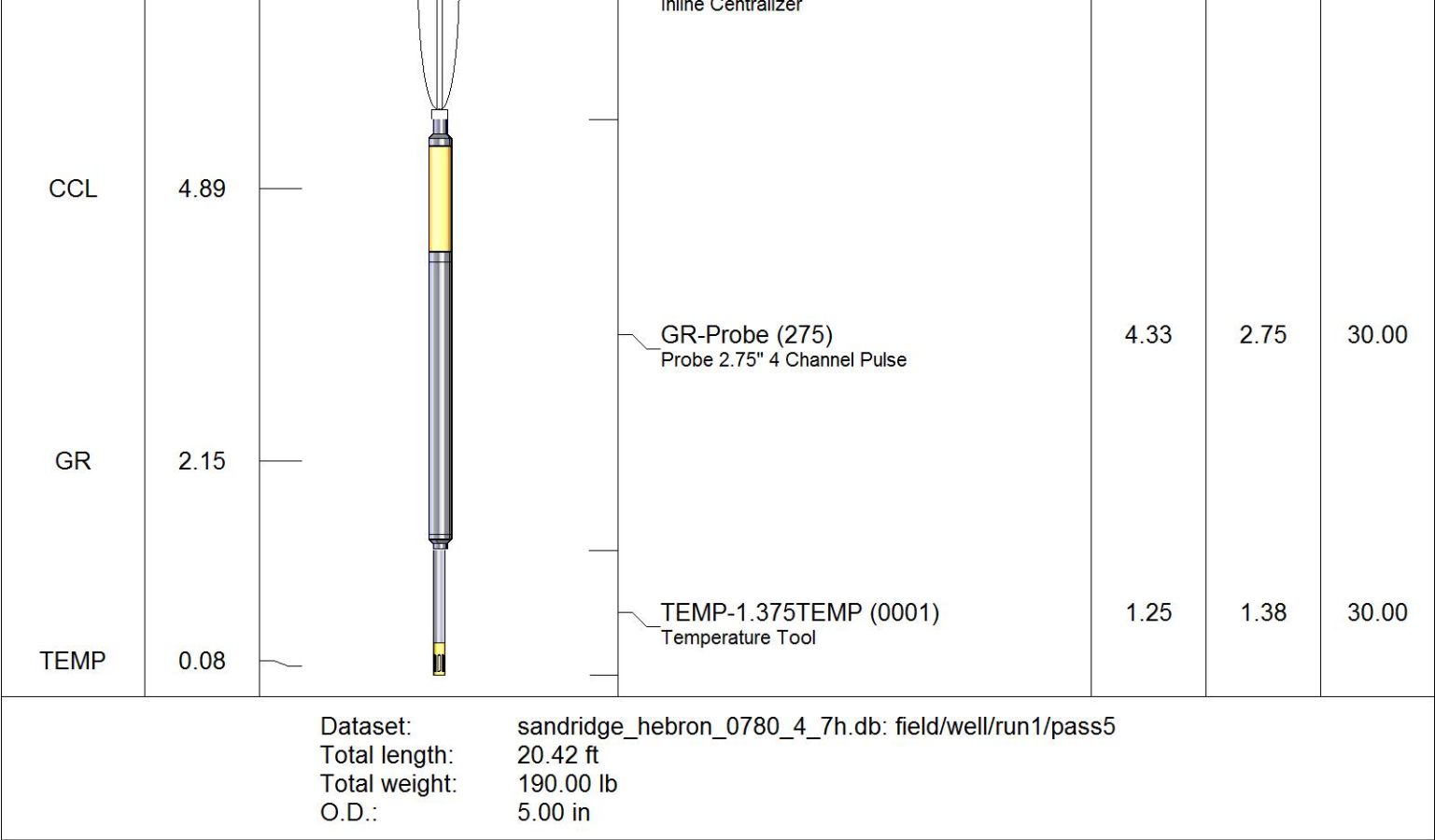
Log Variables

DatabaseD:\Warrior\_data\sandridge\_hebron\_0780\_4\_7h.db  
Dataset field/well/run1/pass5

Top - Bottom

BHTEMP_Src	PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	SRFTEMP degF	MudWgt lb/gal
1	255	20	72	1	0.8	50	8.33
CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in		
0	5.5	0	7343	201	8.75		

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
WVF3FT	12.67		CENT-Probe_275 (00001) Inline Centralizer	2.83	5.00	15.00
			PRBDIGCBL-Digital (ProbeDIG_001) Probe 3' and 5' with Digital Telemetry	9.17	2.75	100.00
			CENT-Probe_275 (00001) Inline Centralizer	2.83	5.00	15.00



Company	SANDRIDGE ENERGY				
Well	HEBRON 0780 4-7H				
Field	N PARK HORIZ NBRR				
County	JACKSON	State	CO		
HALLIBURTON	CEMENT BOND LOG				
	SCALE 1:240				