

CEMENT BOND LOG

SCALE 1:240

<<< Fold Here >>>	
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 MAY BE GIVEN IN LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AND HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY DAMAGES, LOSSES OR EXPENSES RESULTING FROM THE USE THEREOF.	
Comments	
LOG CORRELATED TO WEATHFORD ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG DATED 24 FEB, 2013	
FREE PIPE PASS IS CORRELATED	
TOP OF CEMENT @ 3617	
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES YOUR CREW TODAY: R. PIEDRA, C. FRANCO	

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.			Run No.	
Serial No.	060714		Serial No.	070633		Serial No.			Serial No.	
Model No.	PRB_275		Model No.	PRB_275		Model No.			Model No.	
Diameter	2.75"		Diameter	2.75"		Diameter			Diameter	
LOGGING DATA										
General Data										
Pass	Depths			Well Head	Speed	Logging Run Comments				
No.	From	To	Pressure	Ft/Min						
EIGHT	5539	3417	0	45	MAIN PASS					
	GR		AMP		TT		MSG			
Pass	Scale		Scale		Scale		Scale			
No.	L	R	L	R	L	R	L	L		
ALL PASSES	0	150	0	100	176	276	200	1200		
	150	300	0	20						
DIRECTIONAL INFORMATION										
Maximum Deviation			deg. @		KOP					



MAIN PASS

SCALE 1:240

Database File: cimarex_hammer_19_4_cbl.db

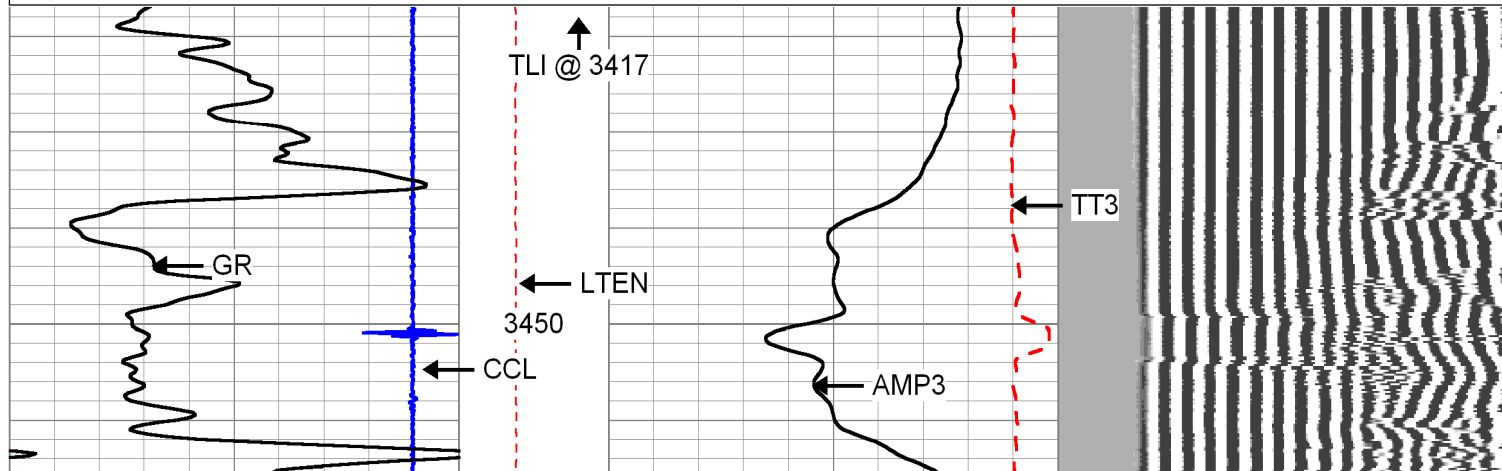
Dataset Pathname: pass8

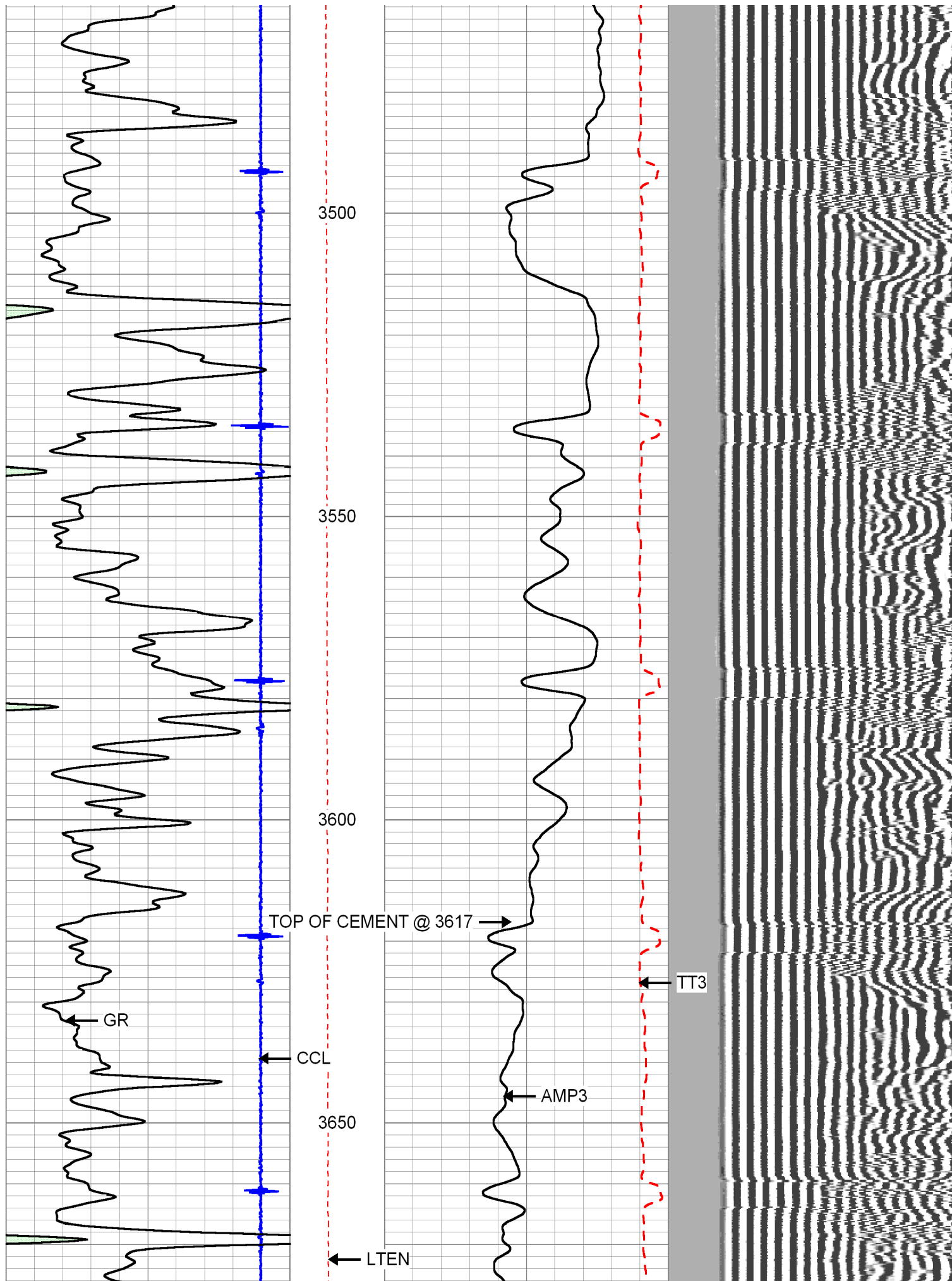
Presentation Format: cbl_rr

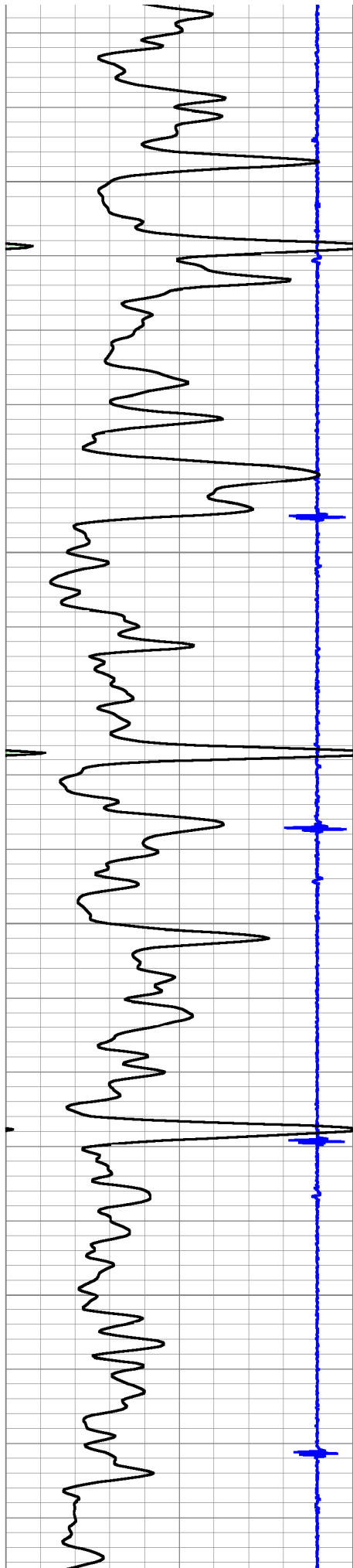
Dataset Creation: Wed Mar 06 16:58:01 2013 by Log Halliburton Casedho

Charted by: Depth in Feet scaled 1:240

4.5	Collar Locator	-0.5	LTEN	0	Amplitude (mV)	100	200	MSG	1200
0	GR (GAPI)	150		0	Amplified Amplitude (mV)	20			
150	gr (GAPI)	300		176	Travel Time (usec)	276			





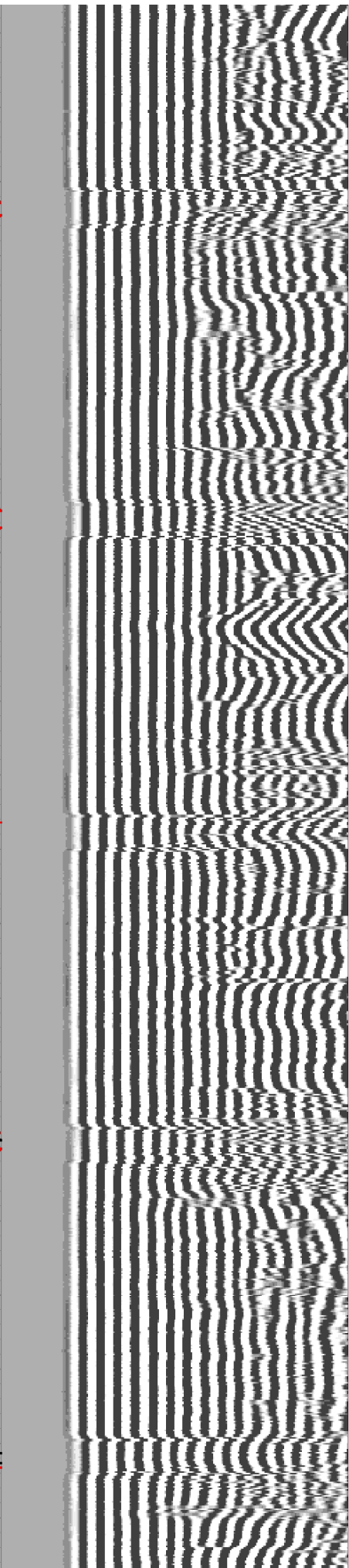
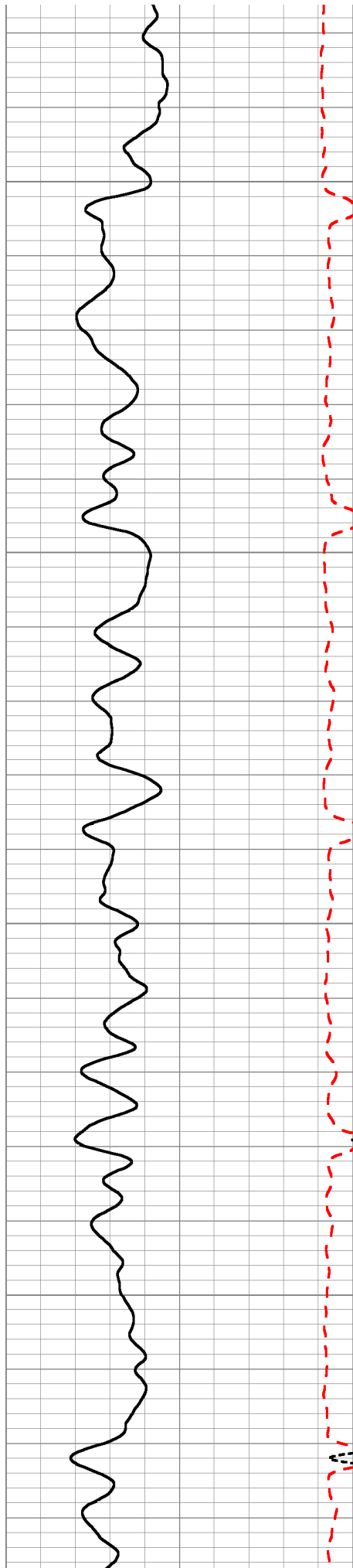


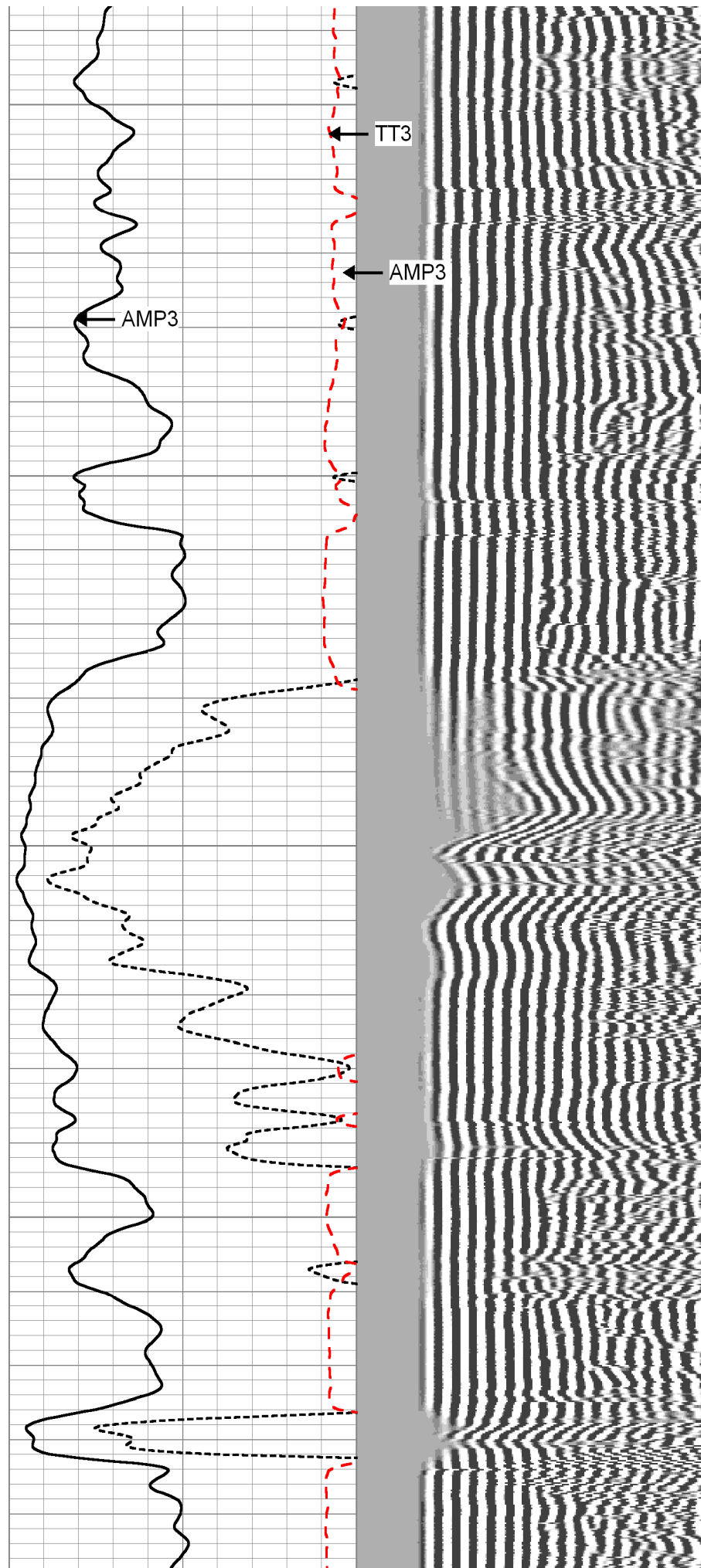
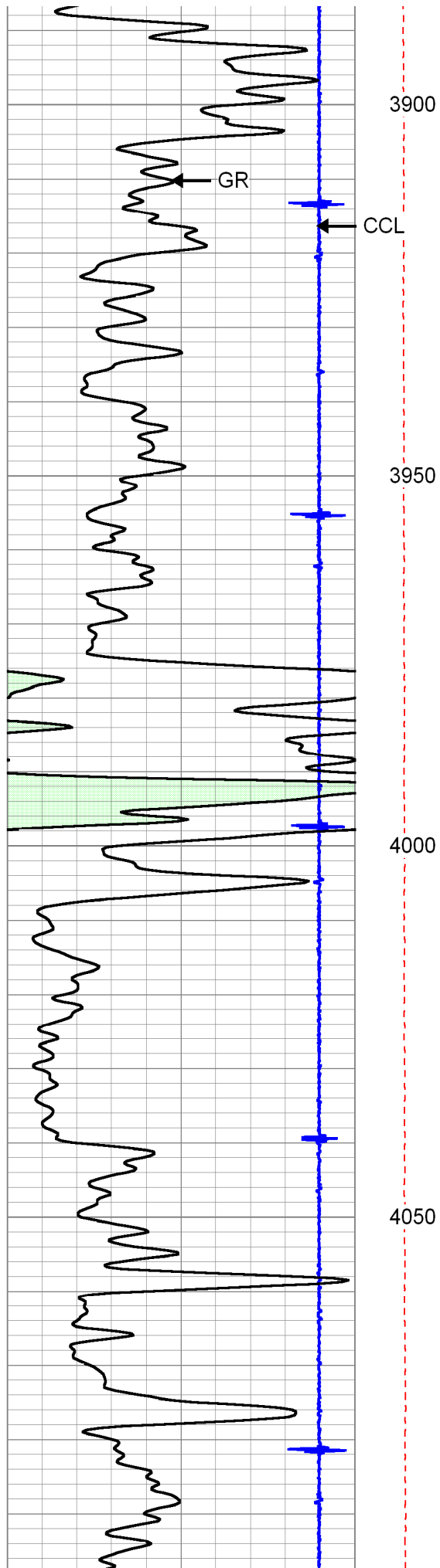
3700

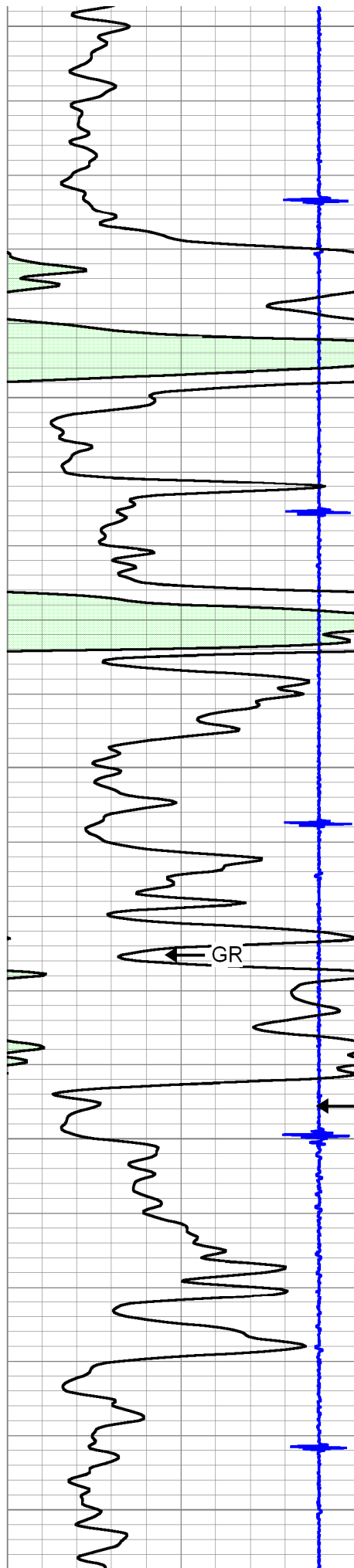
3750

3800

3850







4100

4150

4200

CCL
4250

4300

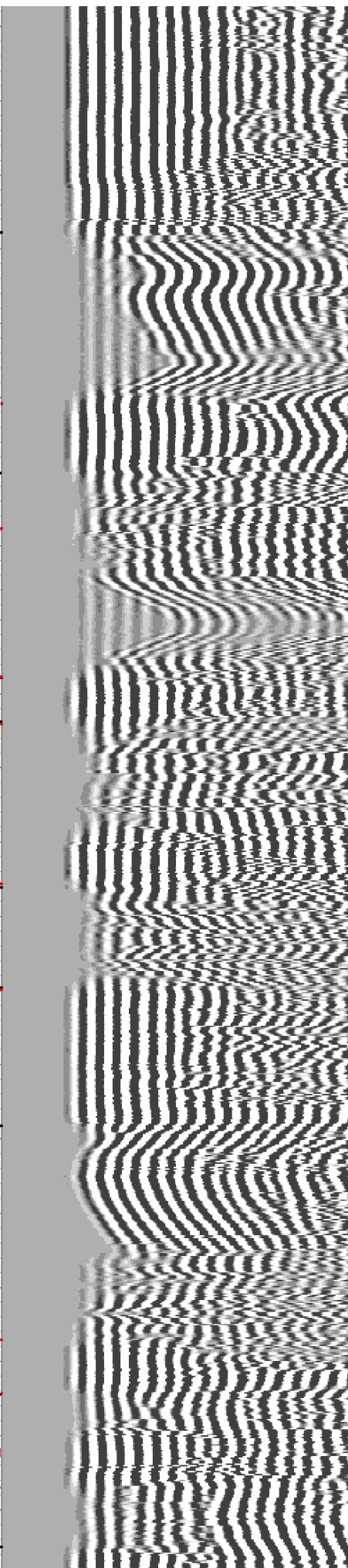
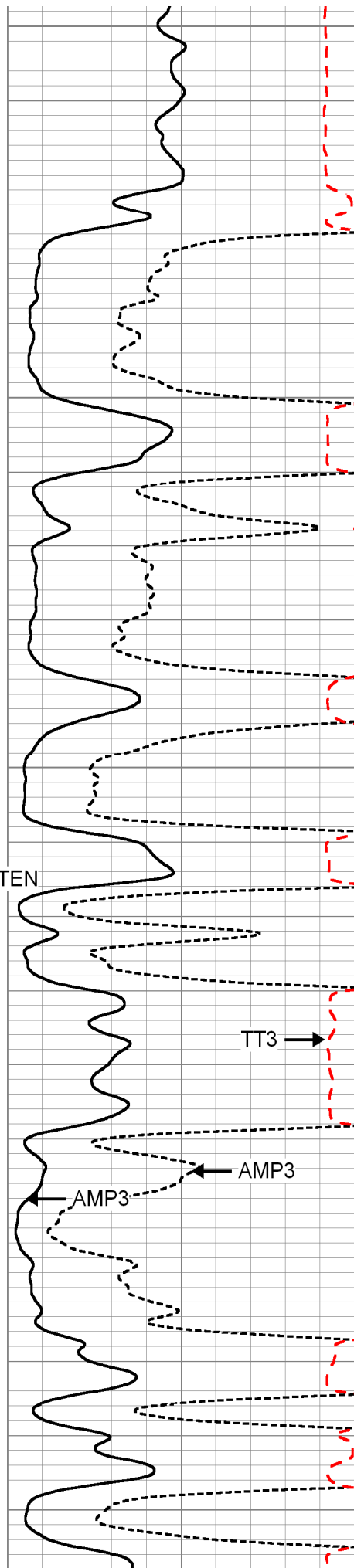
GR

LTEN

AMP3

TT3

AMP3



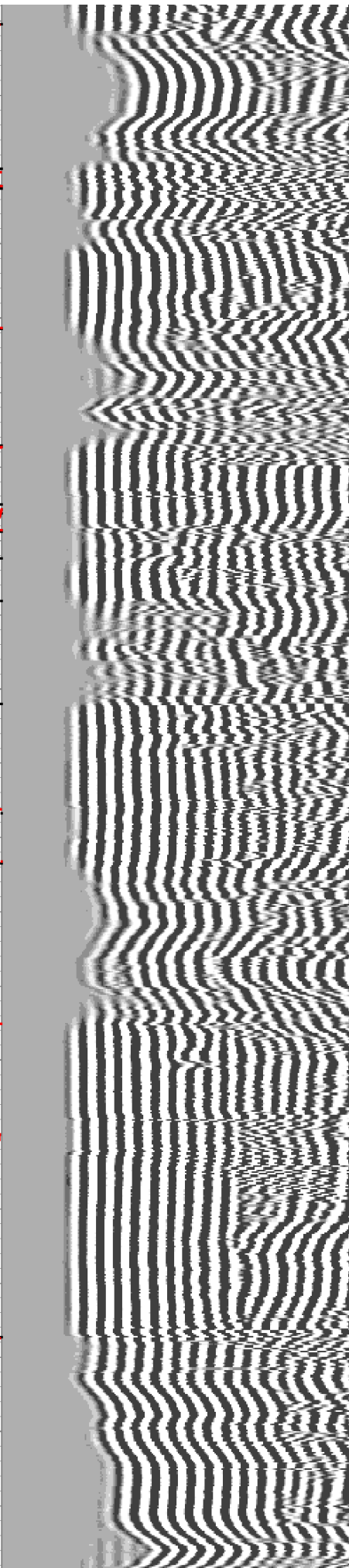
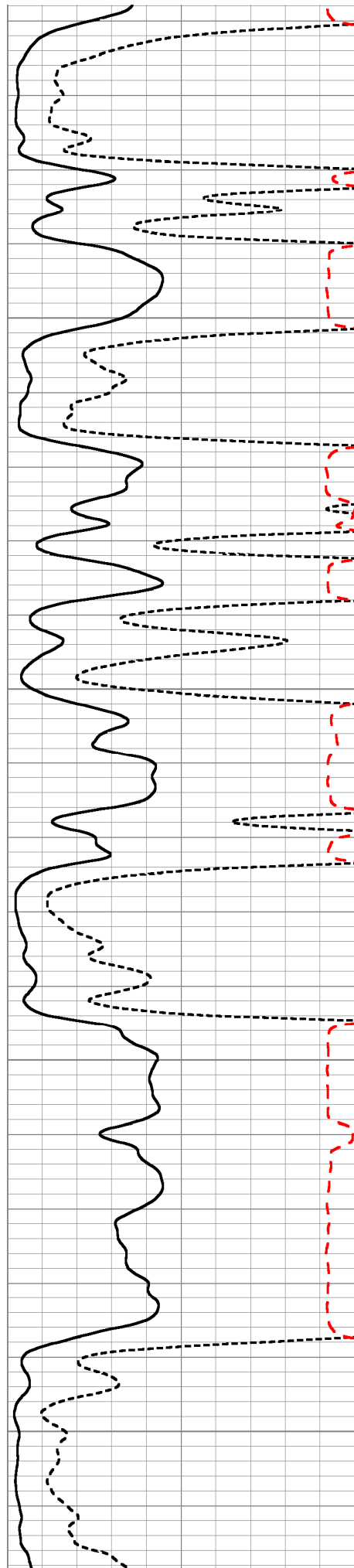


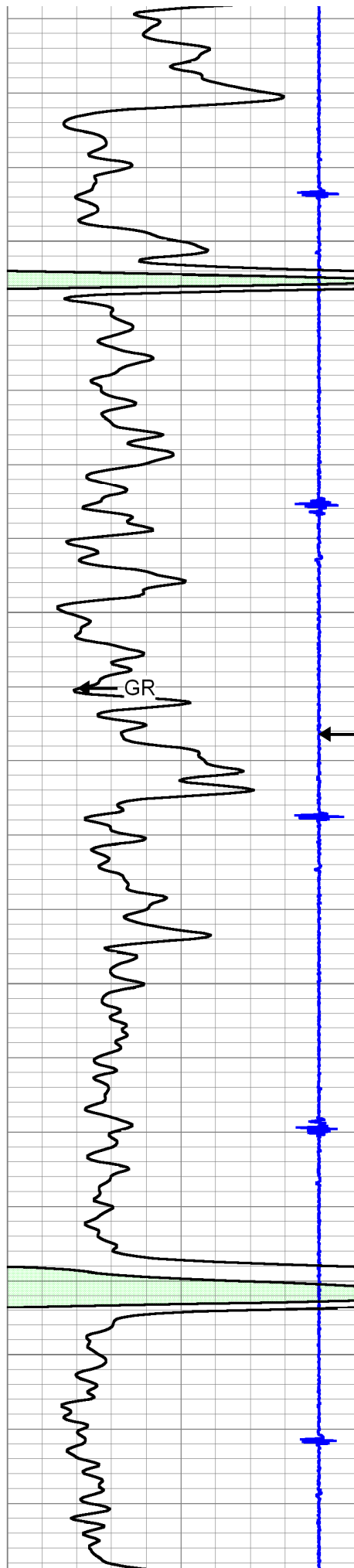
4350

4400

4450

4500





4550

4600

4650

4700

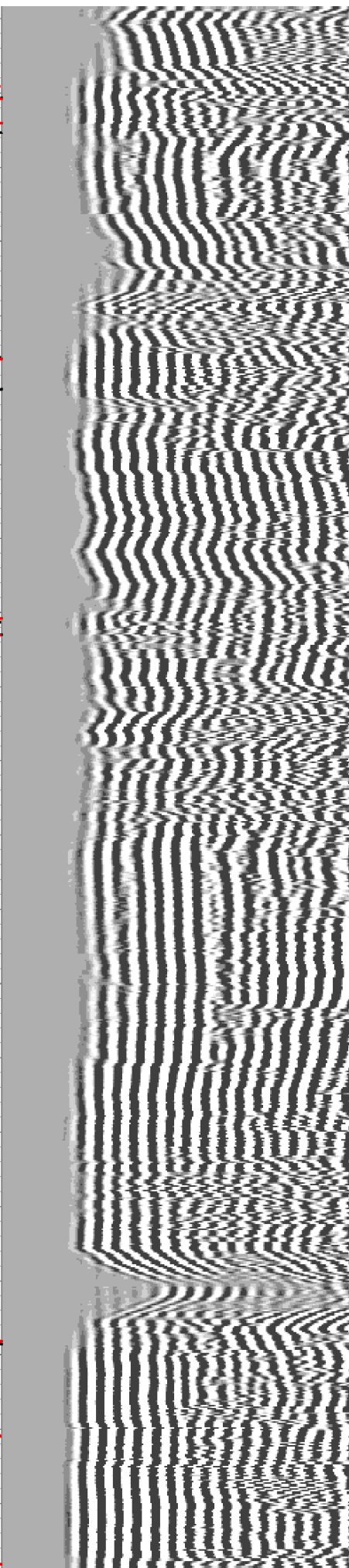
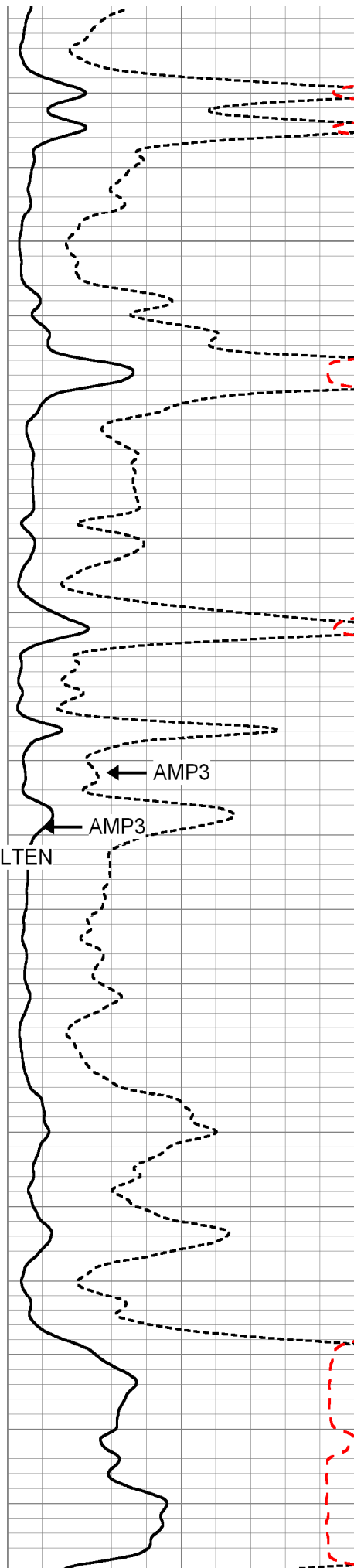
GR

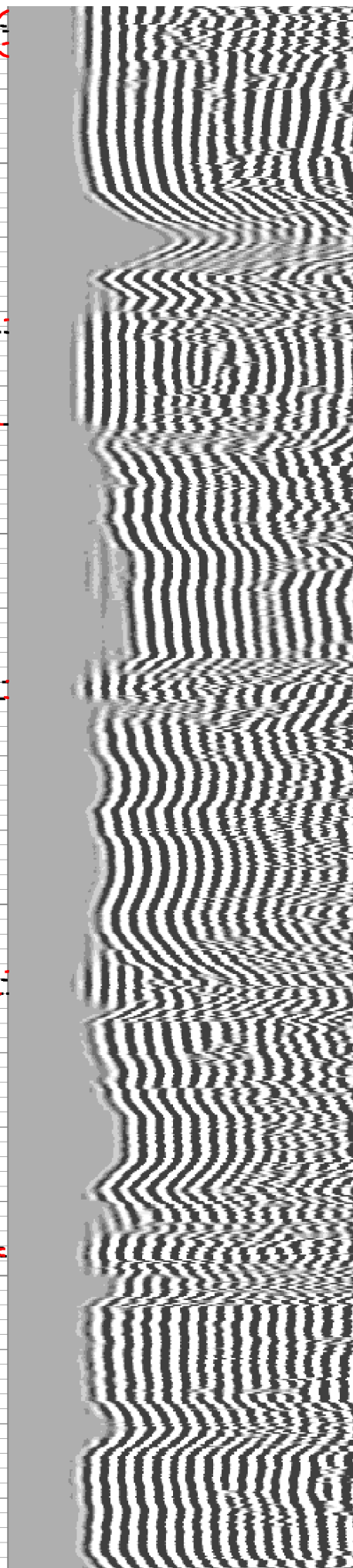
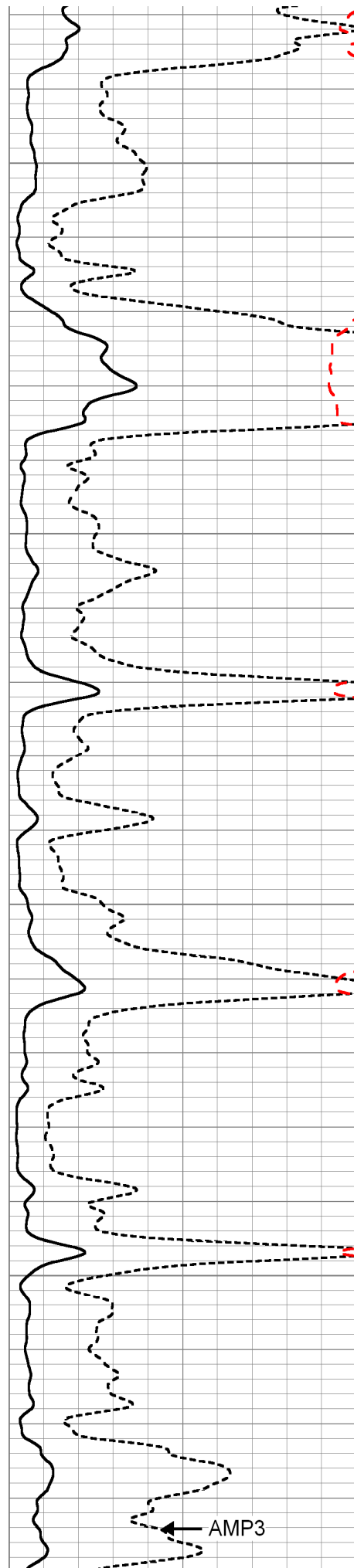
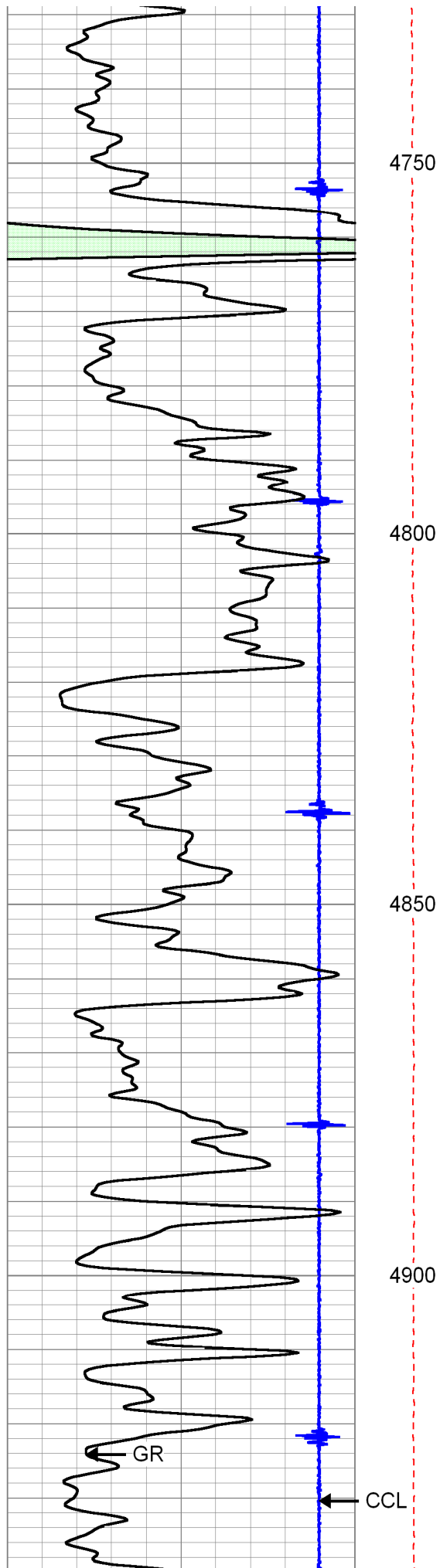
CCL

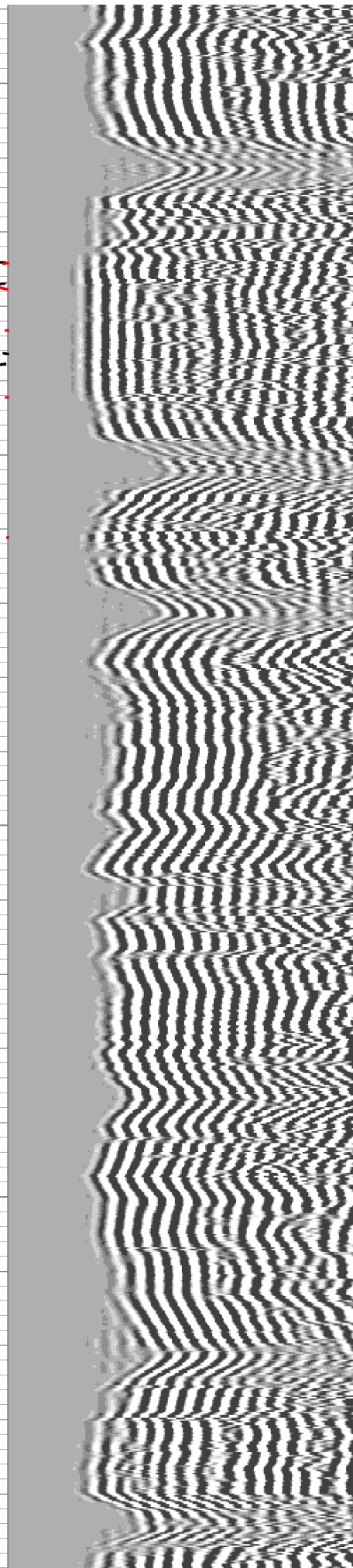
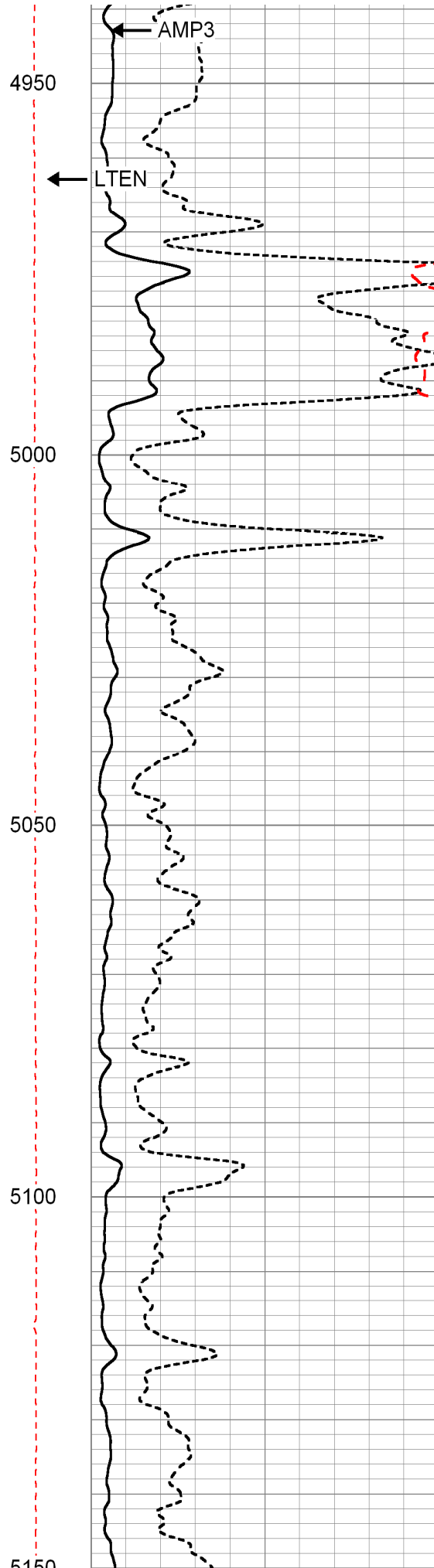
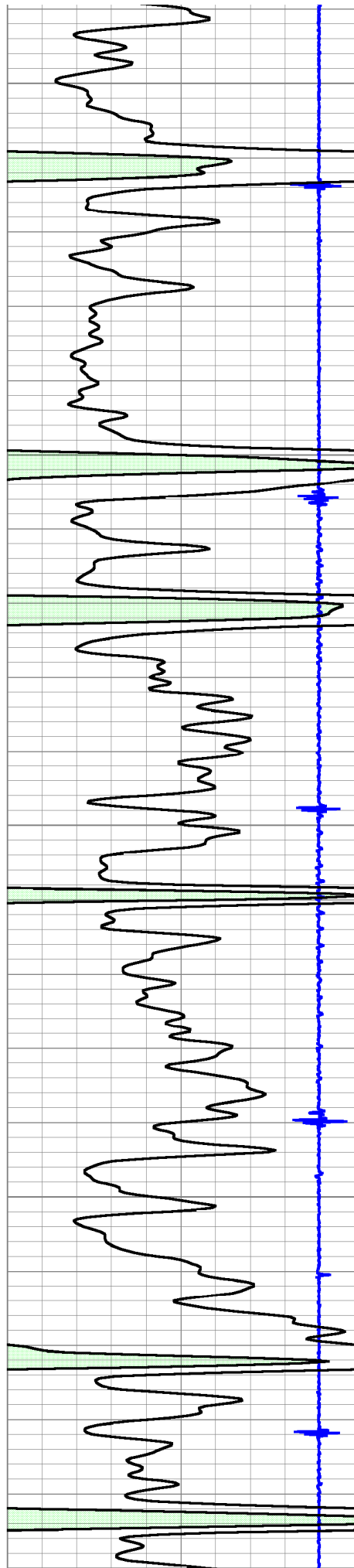
LTEN

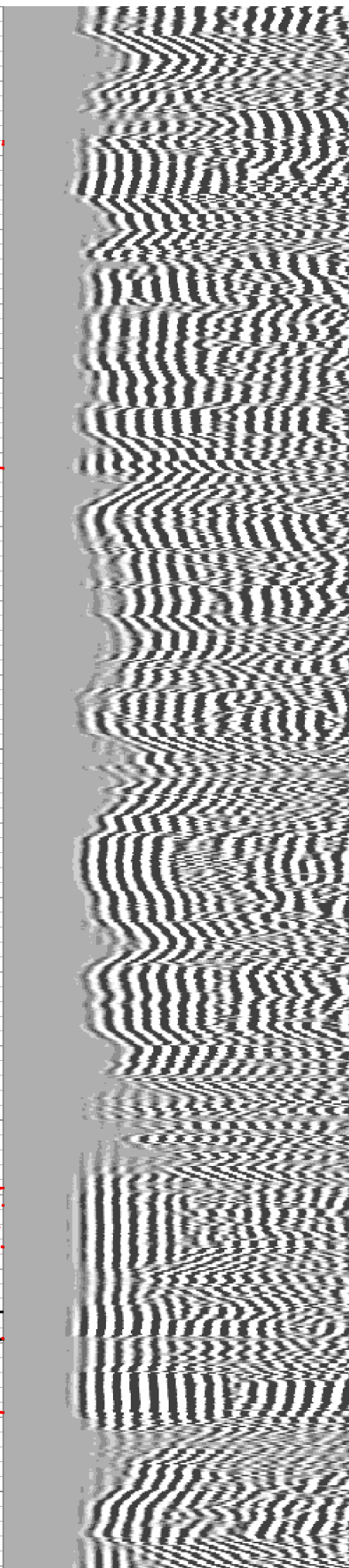
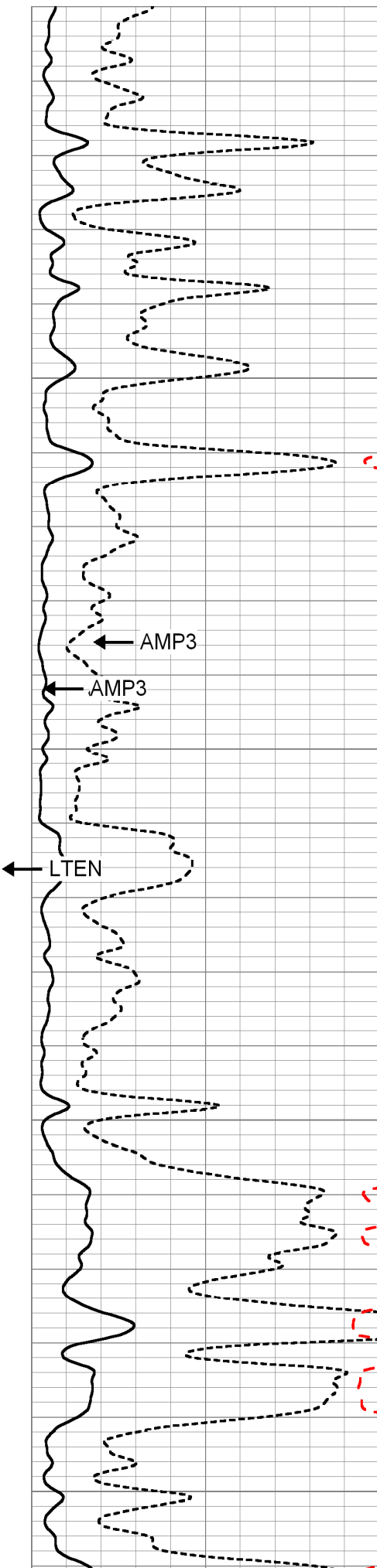
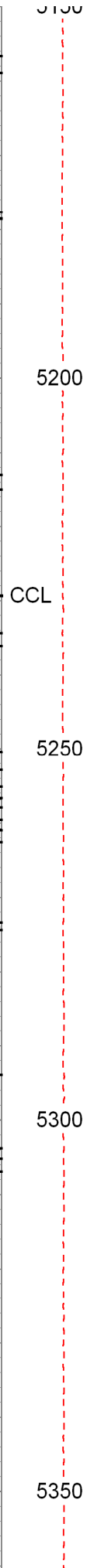
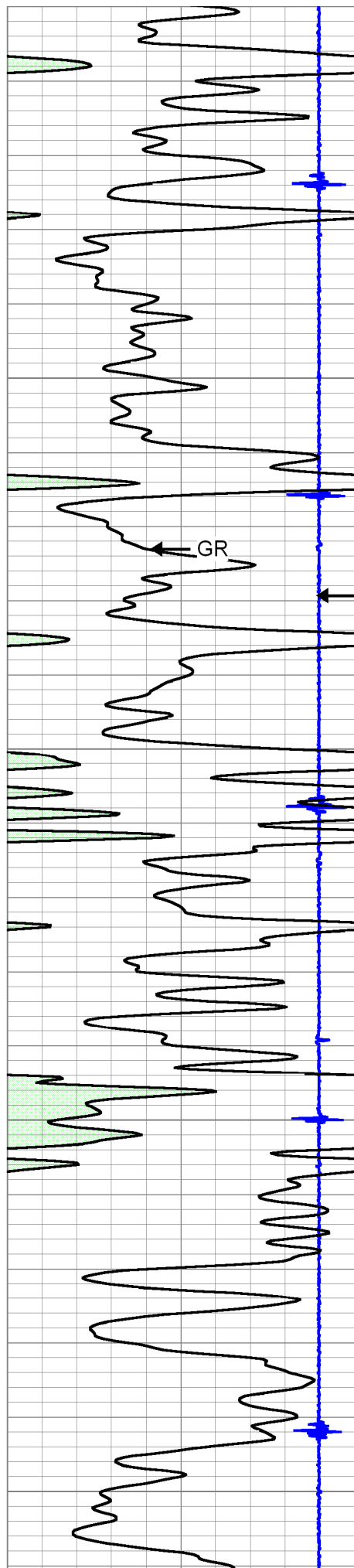
AMP3

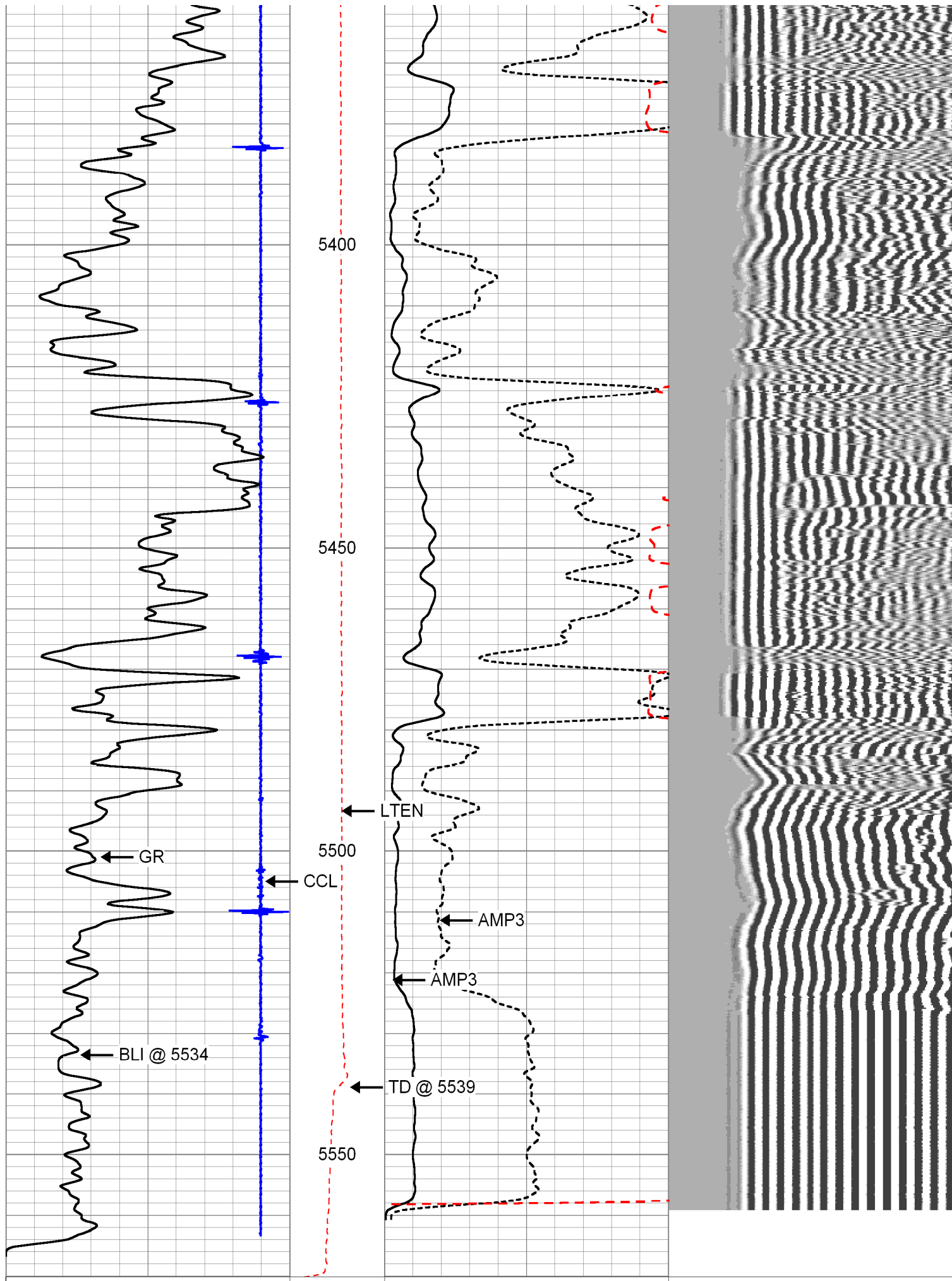
AMP3











4.5	Collar Locator	-0.5	LTEN	0	Amplitude (mV)	100	200	MSG	1200
0	GR (GAPI)	150		0	Amplified Amplitude (mV)	20			
150	gr (GAPI)	300		176	Travel Time (usec)	276			

MAIN PASS

HALLIBURTON

SCALE 1:240

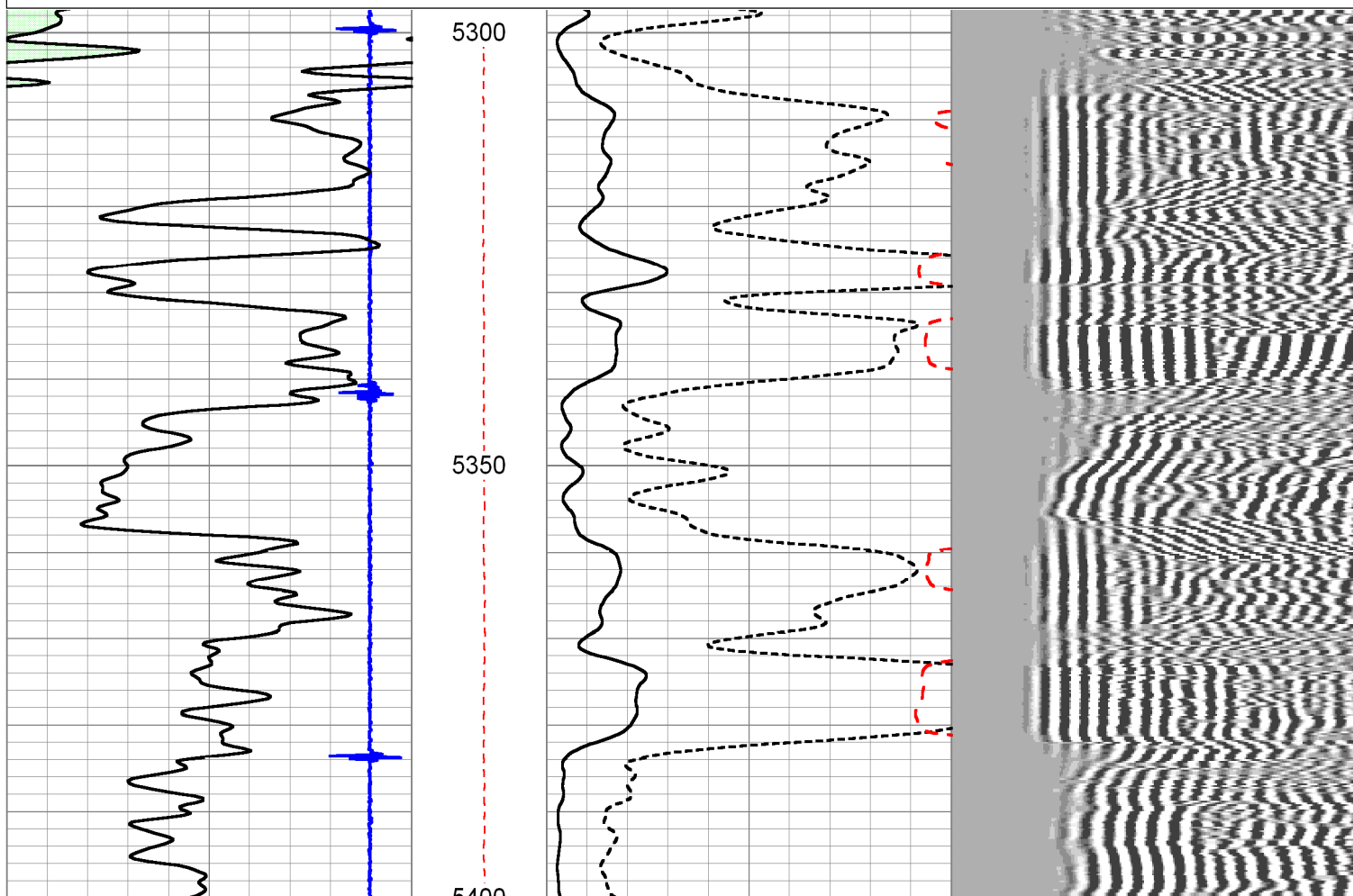
REPEAT PASS

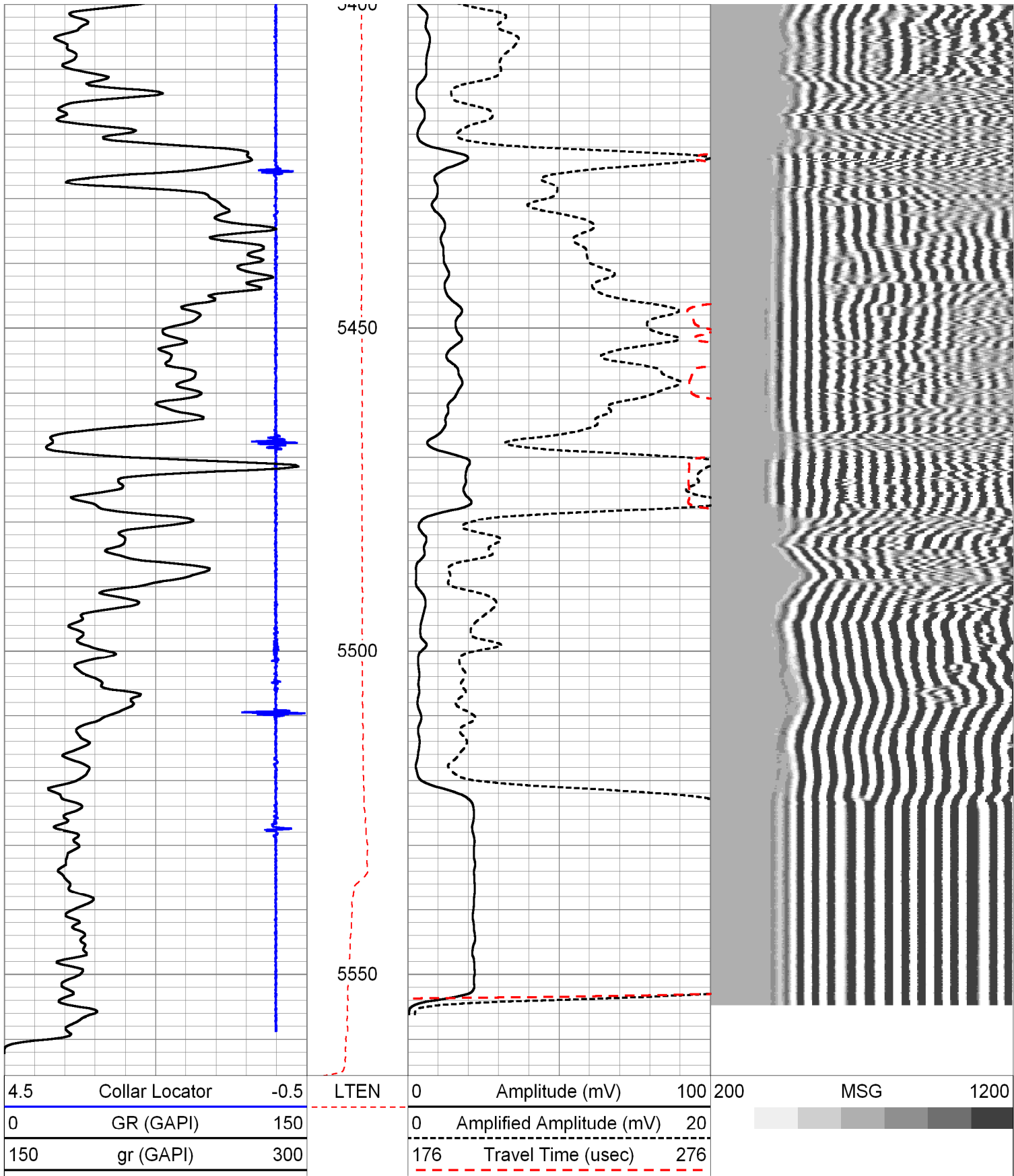
HALLIBURTON

SCALE 1:240

Database File: cimarex_hammer_19_4_cbl.db
Dataset Pathname: pass7
Presentation Format: cbl_rr
Dataset Creation: Wed Mar 06 16:49:48 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

4.5	Collar Locator	-0.5	LTEN	0	Amplitude (mV)	100	200	MSG	1200
0	GR (GAPI)	150		0	Amplified Amplitude (mV)	20			
150	gr (GAPI)	300		176	Travel Time (usec)	276			





REPEAT PASS

HALLIBURTON

SCALE 1:240

FREE PIPE PASS

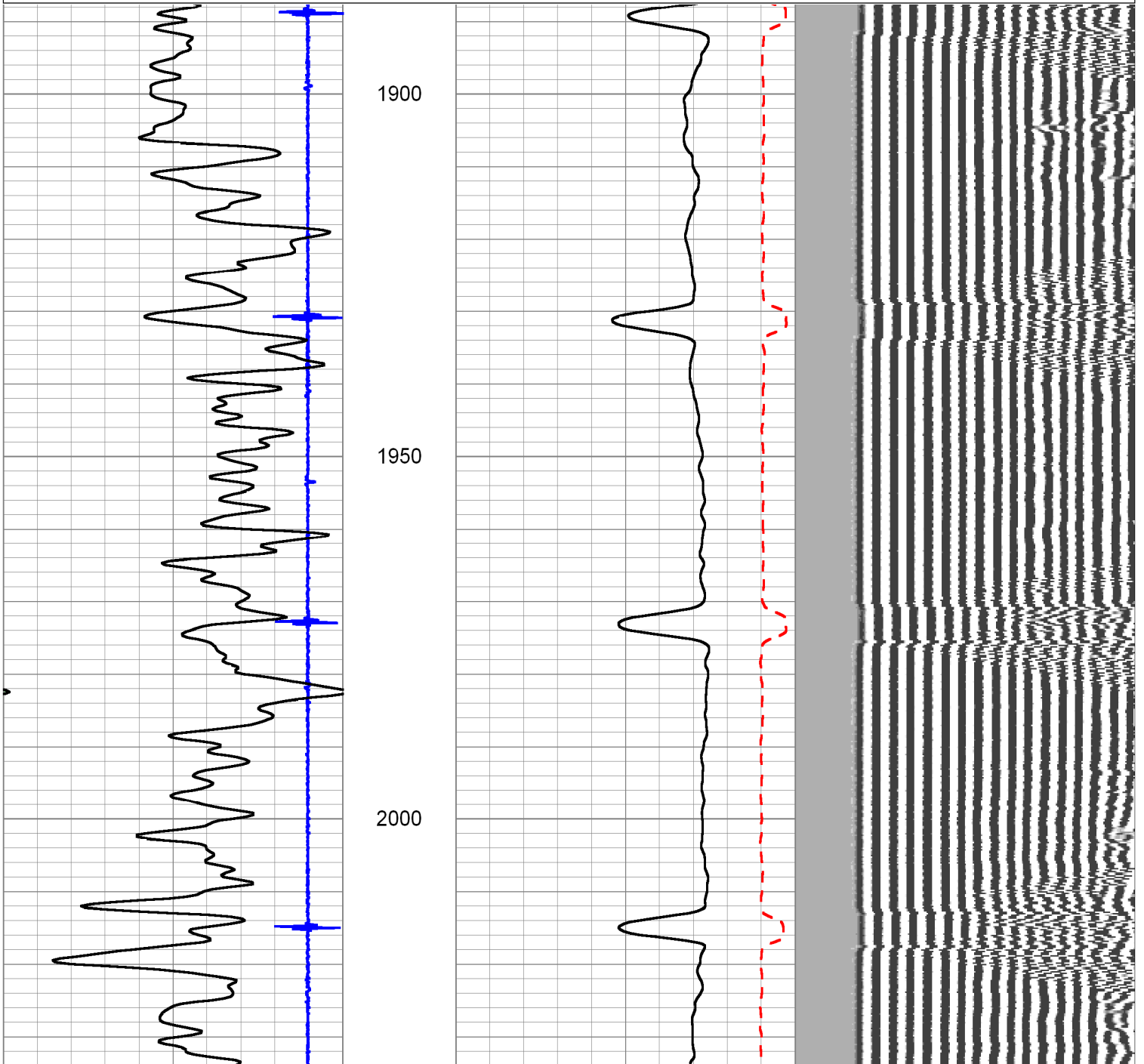
HALLIBURTON

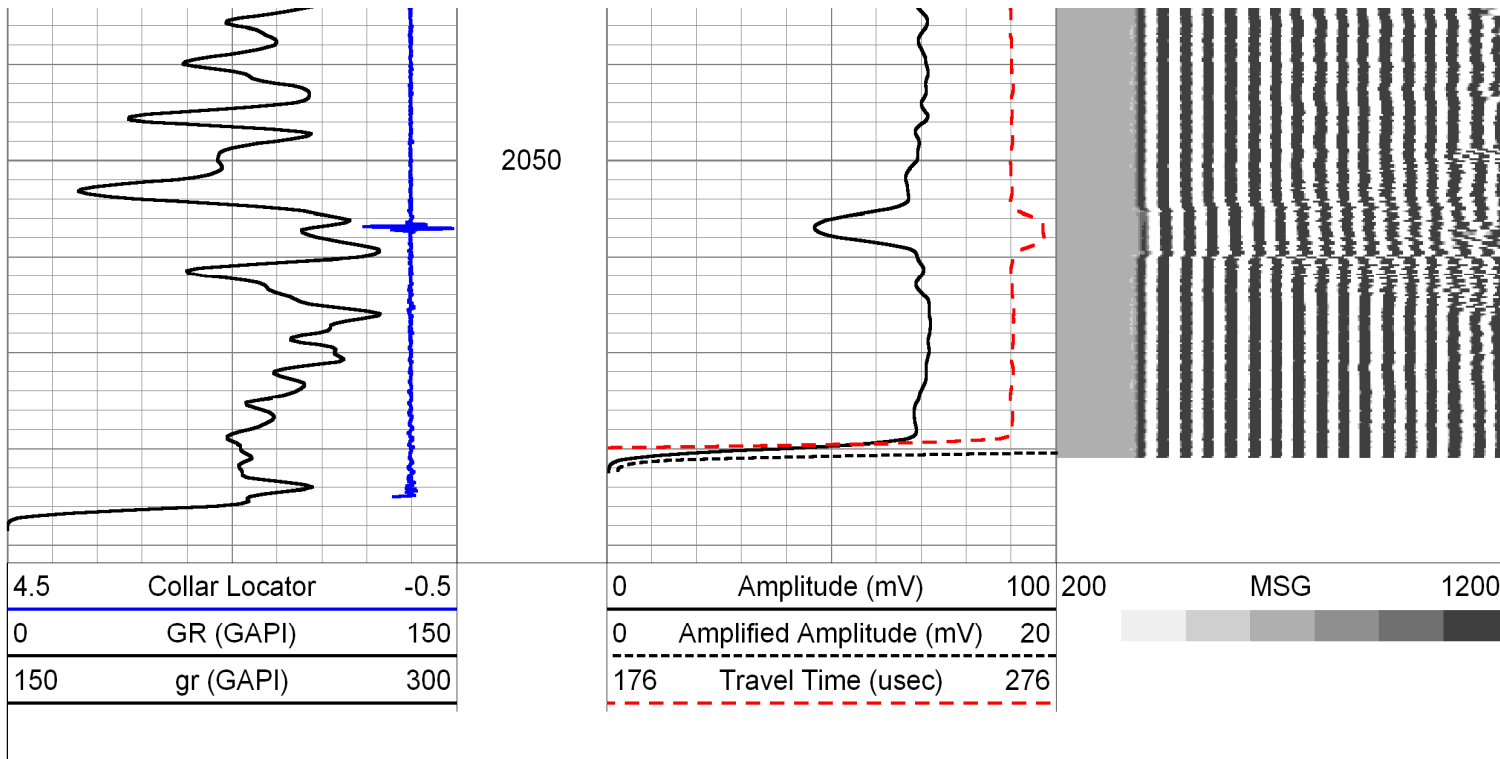
SCALE 1:240

Database File: cimarex_hammer_19_4_cbl.db
 Dataset Pathname: pass5
 Presentation Format: cbl_rr
 Dataset Creation: Wed Mar 06 16:30:45 2013 by Log Halliburton Casedho
 Charted by: Depth in Feet scaled 1:240

4.5	Collar Locator	-0.5
0	GR (GAPI)	150
150	gr (GAPI)	300

0	Amplitude (mV)	100	200	MSG	1200
0	Amplified Amplitude (mV)	20			
176	Travel Time (usec)	276			





FREE PIPE PASS

HALLIBURTON

SCALE 1:240

Calibration Report

Database File: cimarex_hammer_19_4_cbl.db
 Dataset Pathname: pass8
 Dataset Creation: Wed Mar 06 16:58:01 2013 by Log Halliburton Casedho

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 070633

SHOP CALIBRATION

Tue Dec 04 17:40:43 2012

	Counts/Sec.	Gain	Offset	Jig	Units
Background	44.0				cps
Calibrator	244.4				cps
		1.5876			GAPI/cps

PRIMARY VERIFICATION

Thu Feb 24 10:00:22 2011

Background	49.4				cps
Calibrator	268.0				cps
Difference				218.6	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
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Calibrator Difference	0.0	0.0	cps GAPI
Cement Bond Log Calibration Report			
Serial Number:	060714		
Tool Model:	Probe275Digital		
Performed:	Wed Mar 06 17:15:35 2013		
Depth:	1960.93	ft	
Casing Diameter:	5.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.5	0.5	mV
Calibrated Amplitude:	71.921	71.921	mV
Reading at Signal Zero:	0.00012709	-0.0101074	V
Reading in Free Pipe:	0.428784	0.476196	V
Gain:	166.616	146.865	
Offset:	0.478825	1.98443	

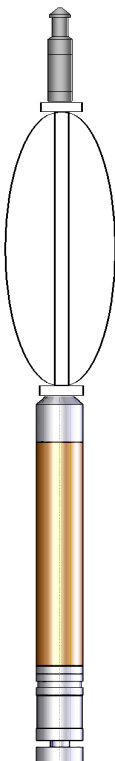
Log Variables

Database: C:\Warrior\Data\cimarex_hammer_19_4_cbl.db

Dataset: field/well/run1/pass8

Top - Bottom

PPT usec 266	MAXAMPL mV 72	MINAMPL mV 1	MINATTN db/ft 0.8	CASEOD in 5.5	PERFS 0	TDEPTH ft 5539
BOTTEMP degF 124	BITSIZE in 8.75					

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
STNDCH	20.08		STND_CH 1.4375 IN CABLE HEAD	0.92	1.44	1.00
CENTRALIZER	19.16		FMS_1195-000-00 1-3/8" OD SRxSR Centralizer FMS#1195-000-00	2.83	1.38	9.00

Tool Joint	Tool Joint Length (ft)	Tool Joint Weight (lb)	Tool Joint O.D. (in)	Tool Joint Description	Tool Joint Length (ft)	Tool Joint Weight (lb)	Tool Joint O.D. (in)
WVF3	11.83			CBL-Probe275Digital (060714) Digital 3' 5' CBL Move voltage to +/- 150 for cal mode	8.75	2.75	92.00
WVF5	10.83						
GR	7.58						
CCL	6.75						
GR	5.38			GR-Probe275dig (070633) Probe Digital Gamma CCL	4.75	2.75	57.00
CENTRALIZER	2.83						
LLMTEN	0.00			FMS_1195-000-00 1-3/8" OD SRxSR Centralizer FMS#1195-000-00	2.83	1.38	9.00
Dataset: cimarex_hammer_19_4_cbl.db: field/well/run1/pass8 Total Length: 20.08 ft Total Weight: 168.00 lb O.D. 2.75 in							