

Company OXY USA INC.
Well KU B-3
Field ARROYO
County STANTON State KANSAS

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Field ARROYO
County STANTON State KANSAS
API No.: 15-187-21208 Serv #: 24
Location: 2060' FSL & 2020' FEL
Other Services N/A

Sec: 17 Twp: 29S Rge: 41W

GROUND LEVEL Elevation 3411'

K.B. , 14 Ft. above perm. datum

K.B

Elevation
K.B. 3425'
D.F. 3423'
G.L. 3411'

Date @ Time Logged 18 SEPT 2012 @ 10:00

Type Fluid in Hole

WATER

Run No. ONE Density of Fluid 8.33

Depth - Driller 5850' Fluid Level 20'

Depth - Logger 5770' Cement Top Est. Logged 2474'

Bottom - Logged Interval 5767' Equipment / Location 10971670 / LIBERAL

Top - Log Interval 1974' Recorded by R. RODRIGUEZ

Max. Recorded Temp. N/A Witnessed by N/A

CEMENTING DATA Surface Protection String Production String Liner

String N/A

Date / Time Cemented N/A

Primary / Squeeze

Expected

Compressive Strength psi@ hrs psi@ hrs psi@ hrs psi@ hrs

Cement Volume

Cement Type / Weight /

Formulation

Mud Type / Mud Wgt. /

Borehole Record

Run Number Bit From To Size Weight From To

ONE N/A SURFACE 1826' 8.625 24# SURFACE 1826'

TWO 7.875 1826' 5850' 5.5 17# SURFACE 5854'

<<< 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 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 WEATHERFORD COMPENSATED NEUTRON LOG DATED 13 SEPT 2012.

TOP OF CEMENT @ 2474'

FREE PIPE PASS CORRELATED USING MAIN CBL PASS

CORRECTED +10'.

SHORT JOINT @ 5204-5210'

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICE

YOUR HALLIBURTON CREW TODAY WAS: HUMISTON, PAGE.

Service Ticket No. 9800222

API No. 15-187-21208

PGM Ver WARRIOR 7.0

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

EQUIPMENT DATA

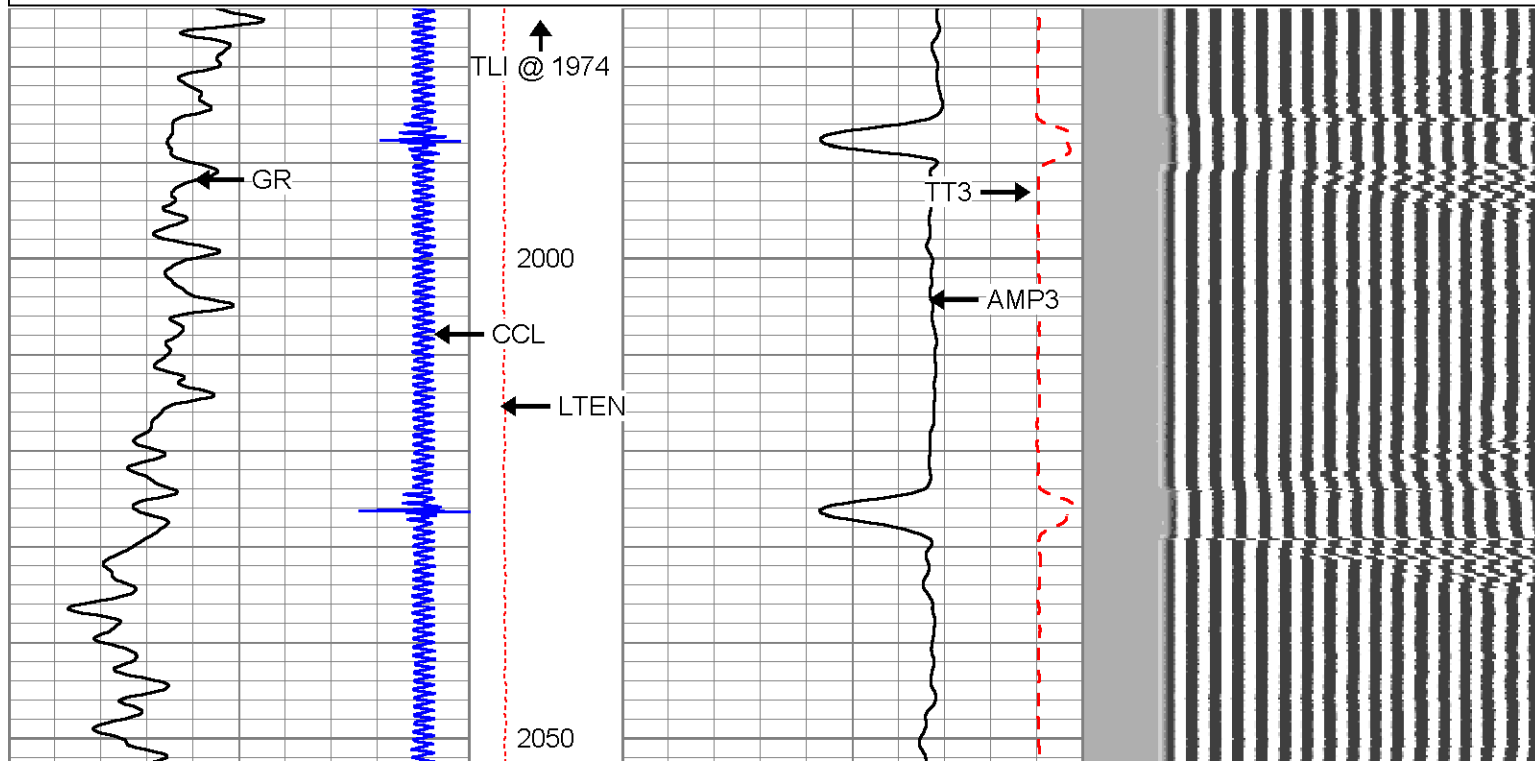
GAMMA RAY

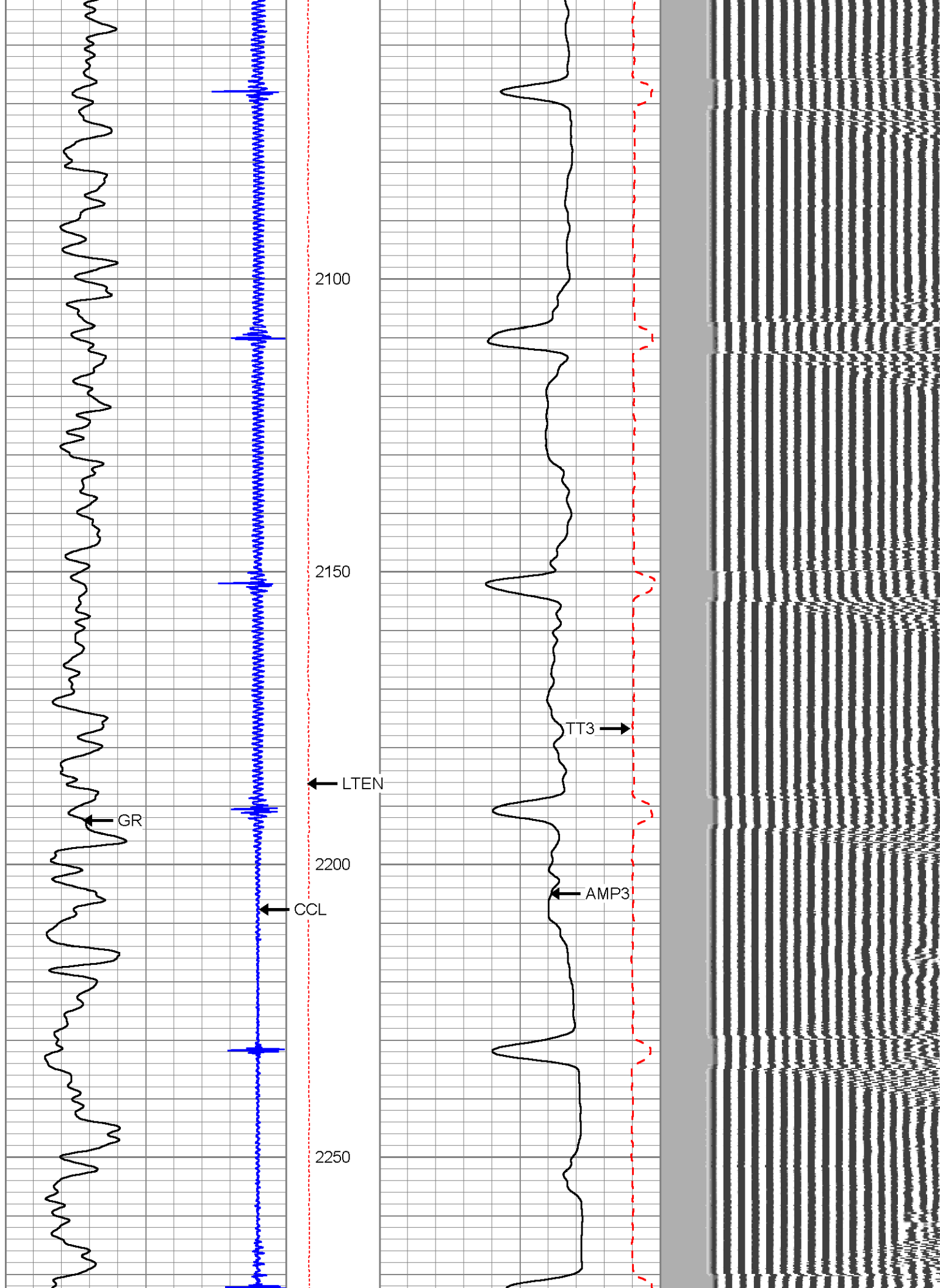
CBL

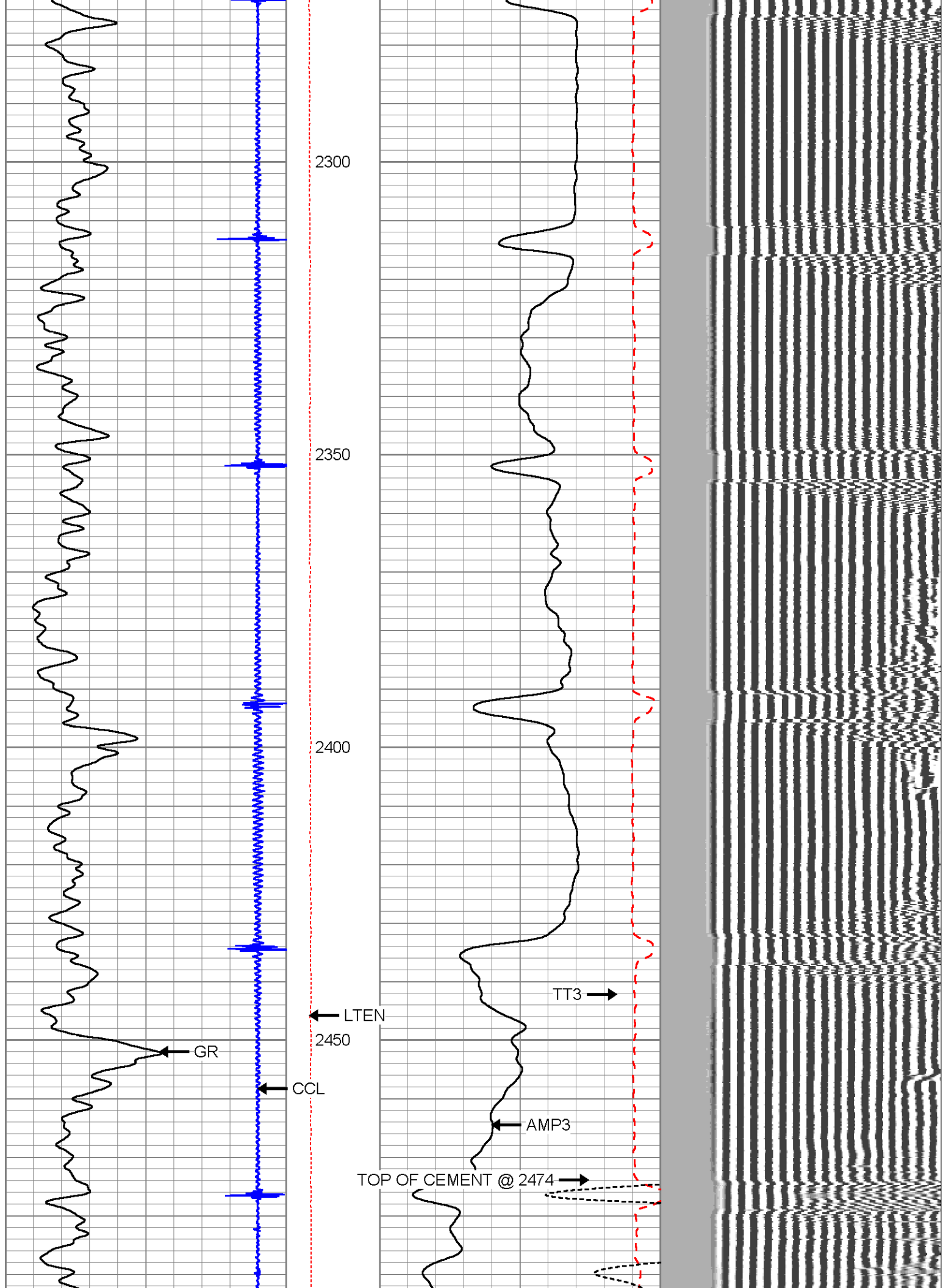
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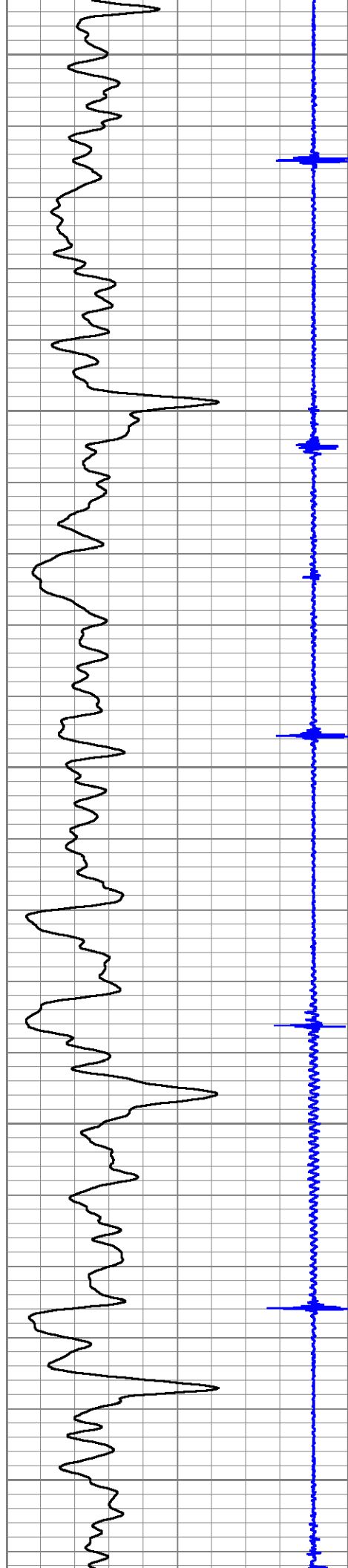
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	060738	Serial No.	070445	Serial No.		Serial No.	
Model No.	PROBE	Model No.	PROBE	Model No.		Model No.	
Diameter	2.75	Diameter	2.75	Diameter		Diameter	
LOGGING DATA							
General Data							
Pass	Depths		Well Head	Speed	Logging Run Comments		
No.	From	To	Pressure	Ft/Min			
14	5770'	1974'	0	45	MAIN PASS		
	GAMMA RAY		AMPLITUDE		MSG		TRAVEL TIME
Pass	Scale		Scale		Scale		Scale
No.	L	R	L	R	L	R	L L
ALL	0	150	0	100	200	1200	173 273
	150	300	0	20			
DIRECTIONAL INFORMATION							
Maximum Deviation		deg. @		KOP			

HALLIBURTON MAIN PASS SCALE 1:240 Database File: oxy ku b3 cbl.db Dataset Pathname: pass14 Presentation Format: cbl2 Dataset Creation: Tue Sep 18 10:01:09 2012 by Log Halliburton Casedho Charted by: Depth in Feet scaled 1:240							
9	Collar Locator	-1	LTEN	0	Amplitude (mV)	100	200
0	GR (GAPI)	150		173	Travel Time (usec)	273	MSG
150	gr (GAPI)	300		0	AAMP (mV)	20	1200









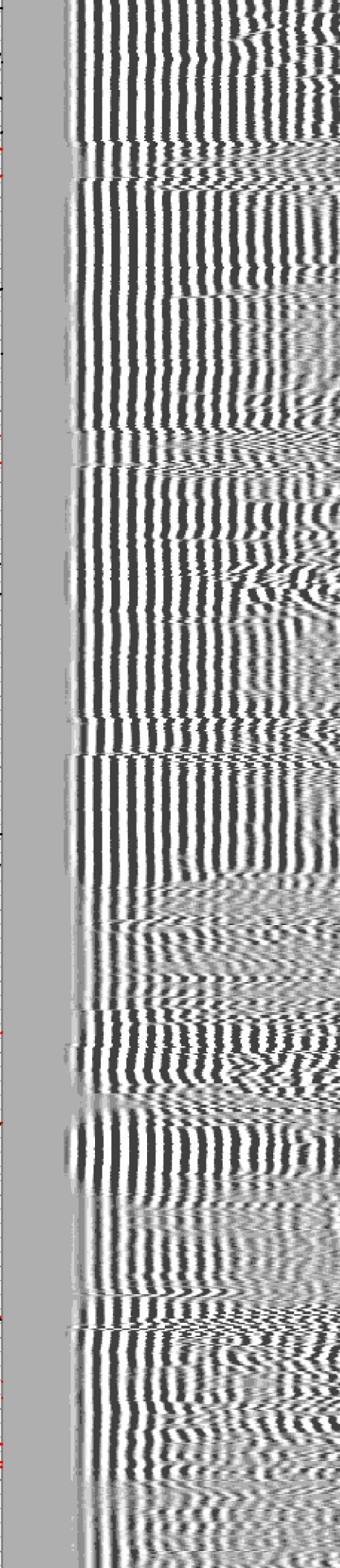
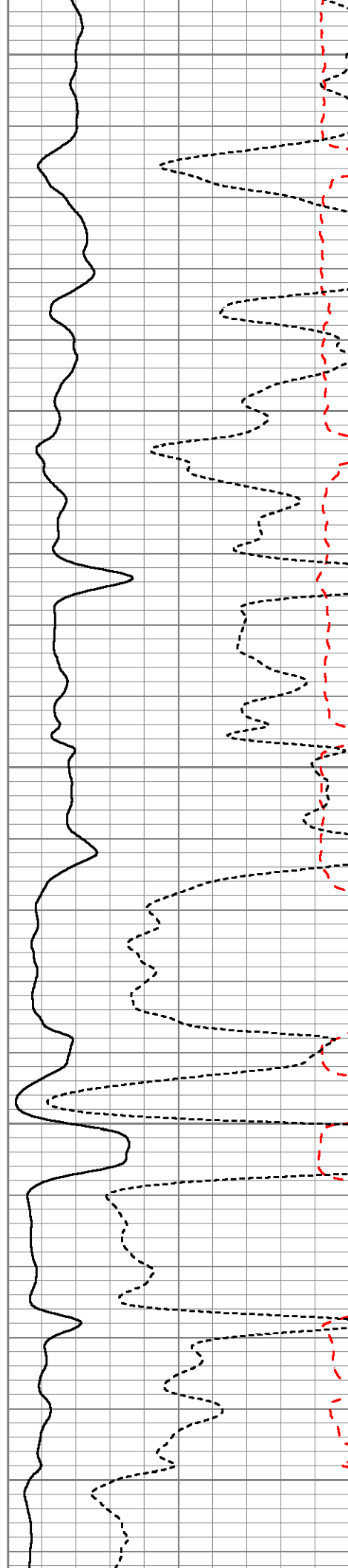
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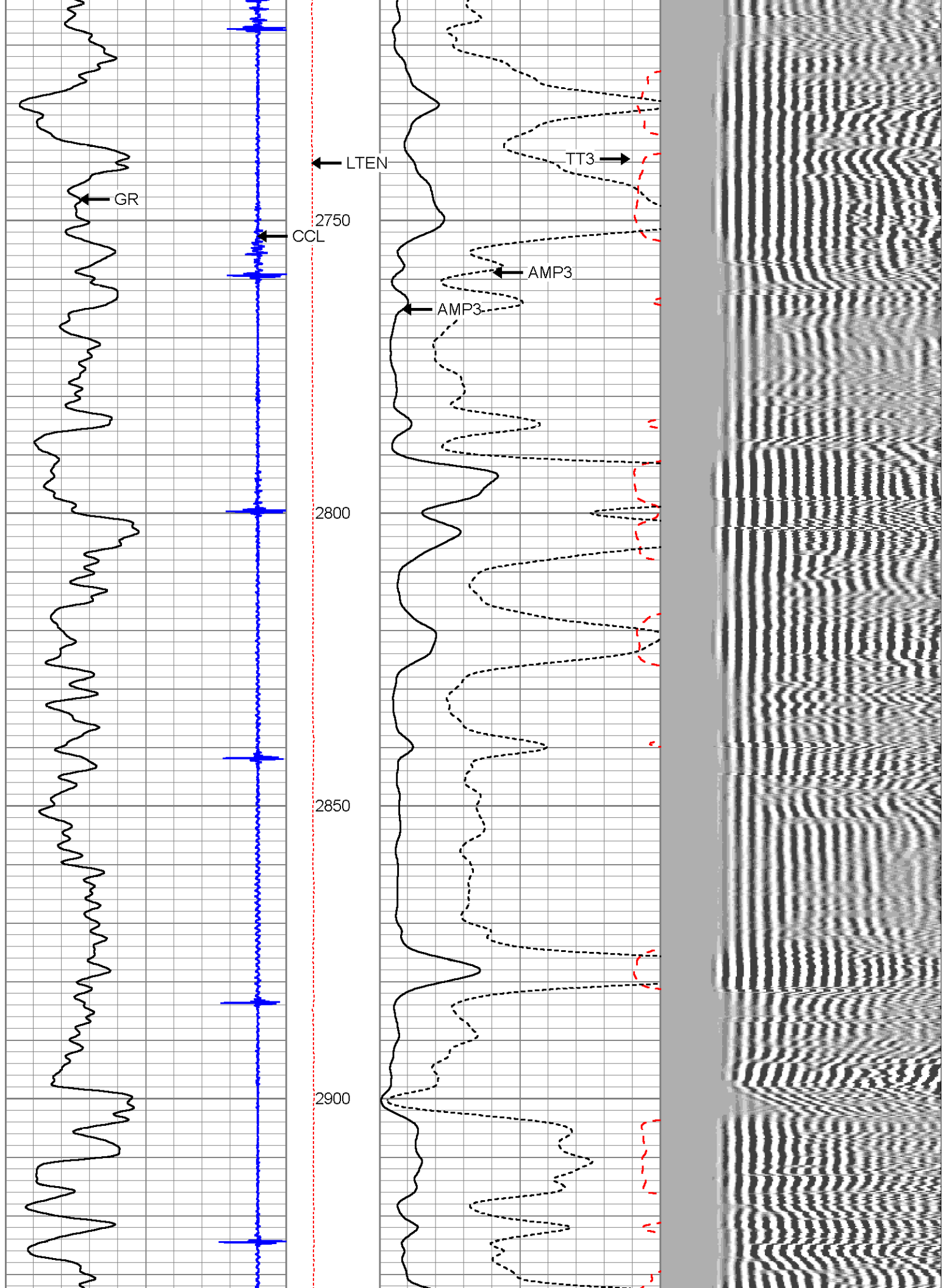
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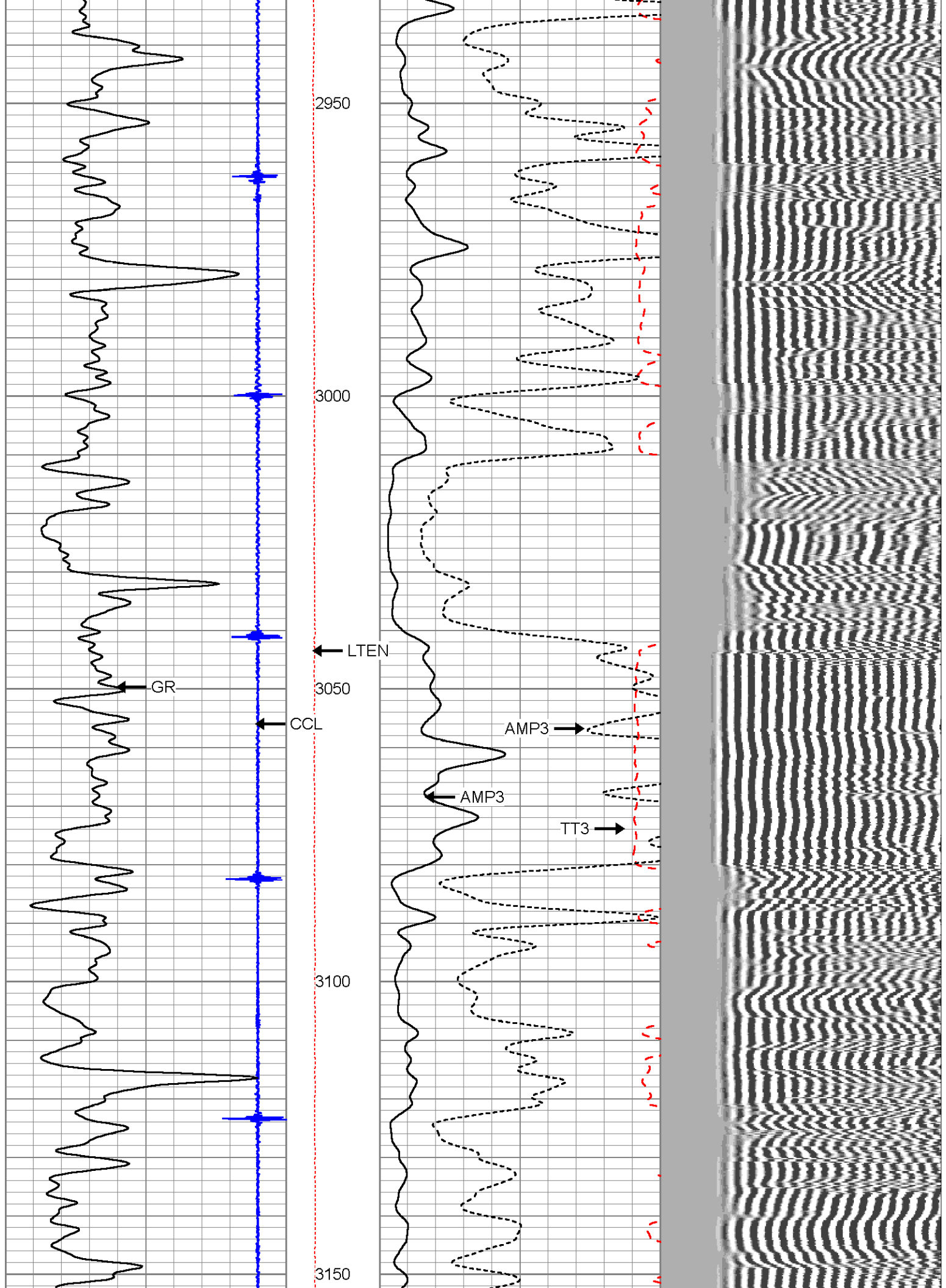
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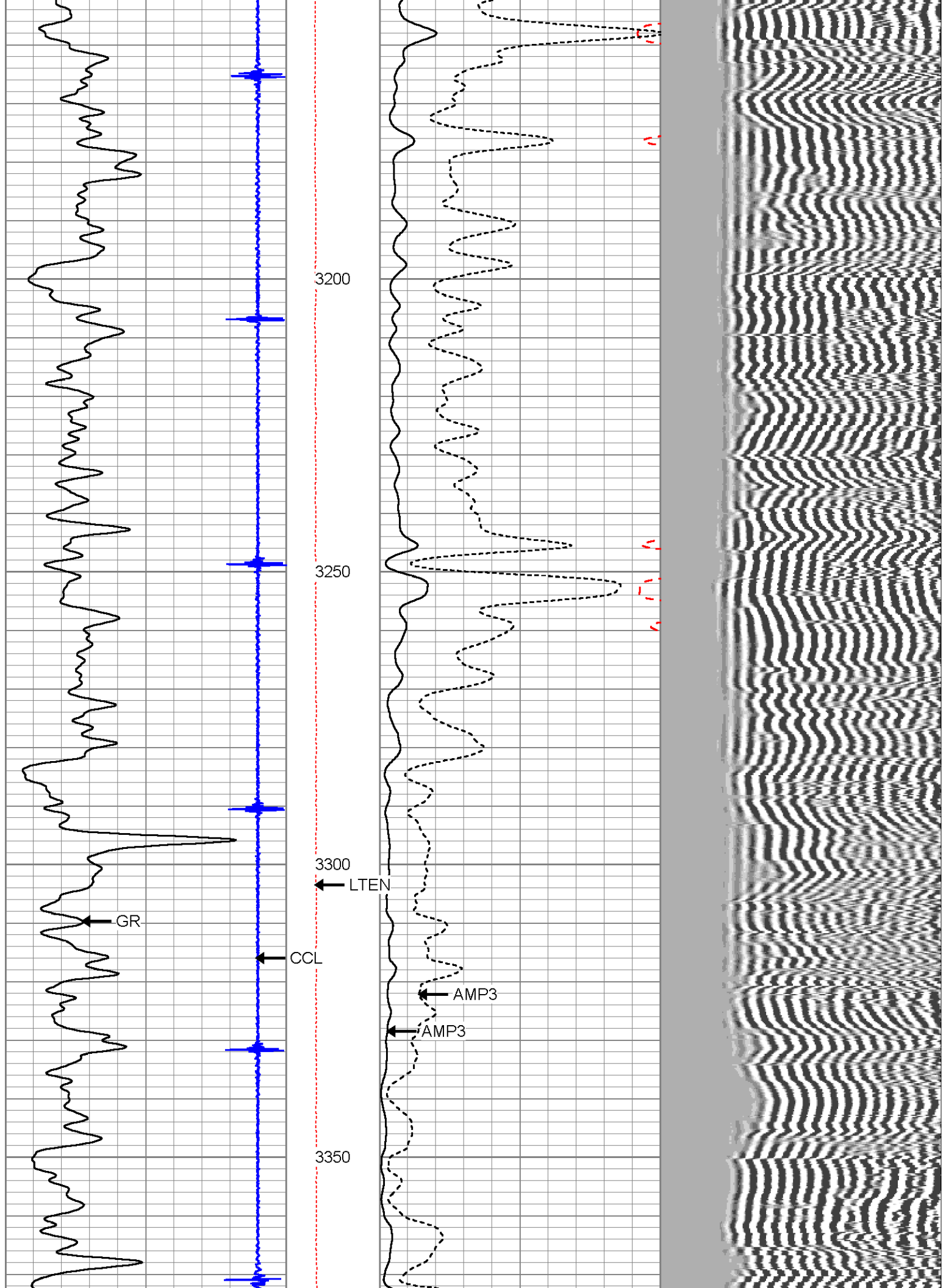
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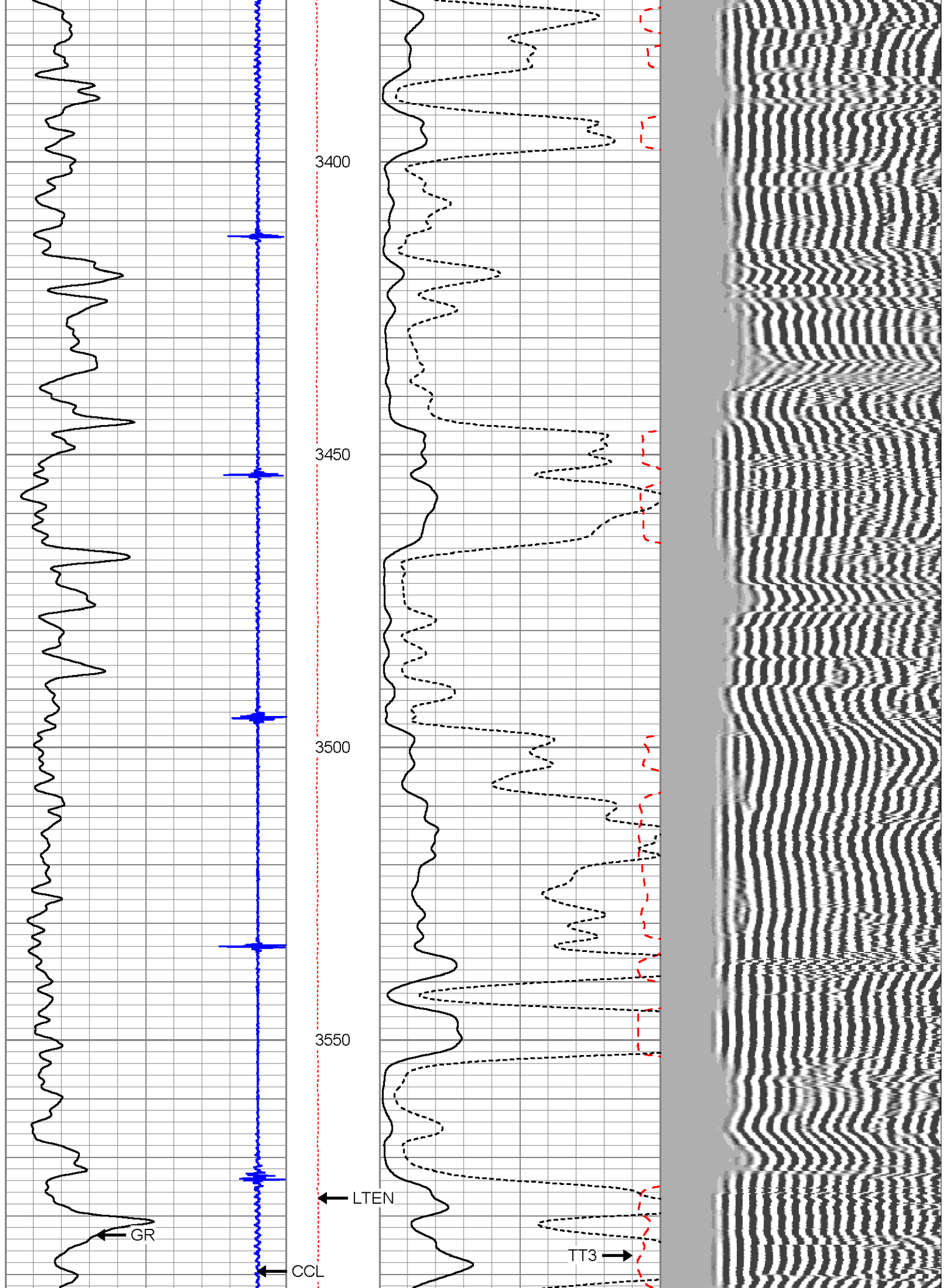
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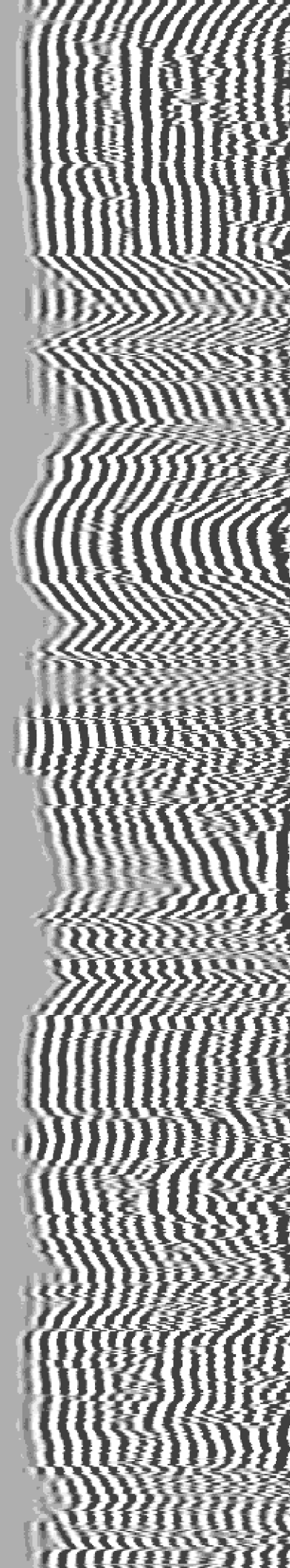
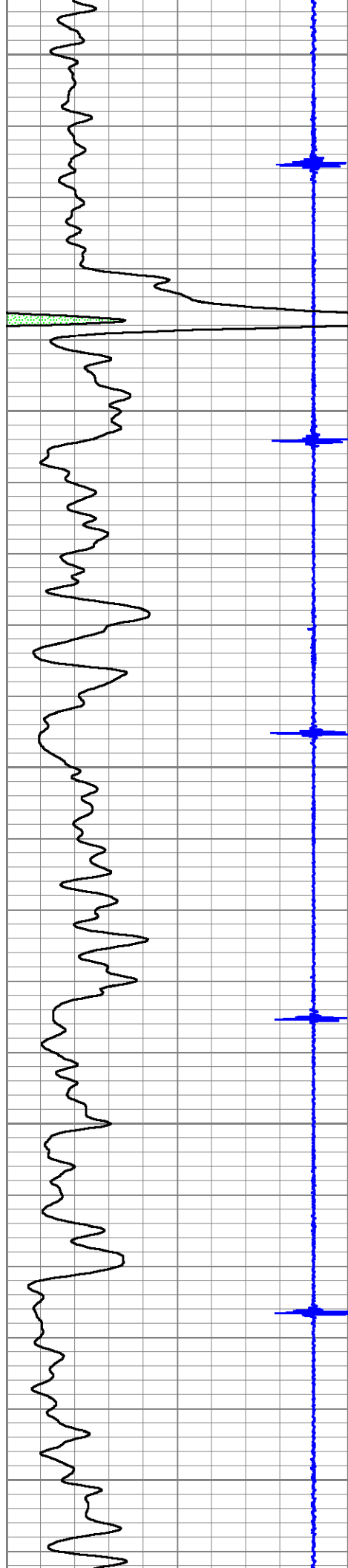


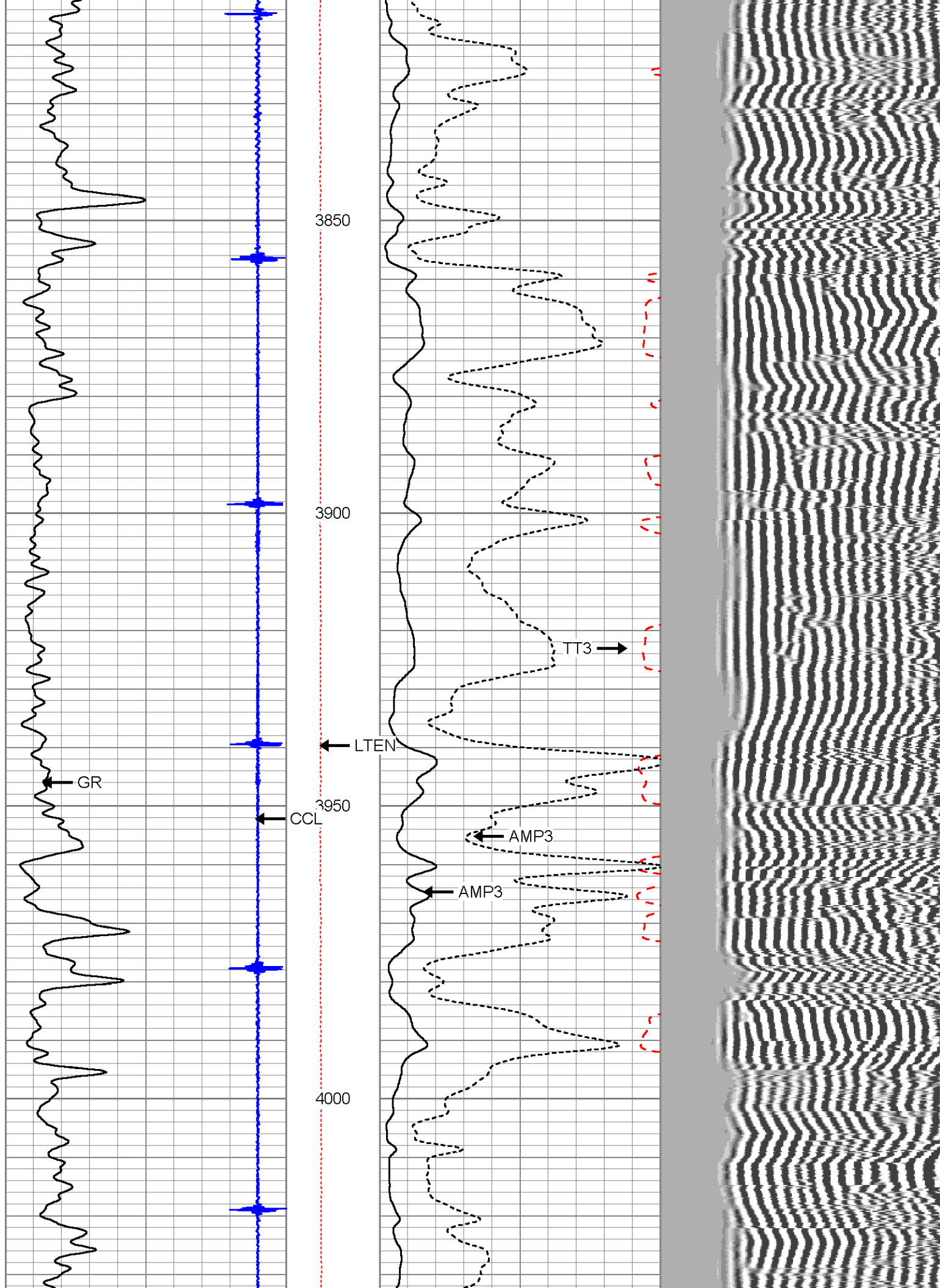


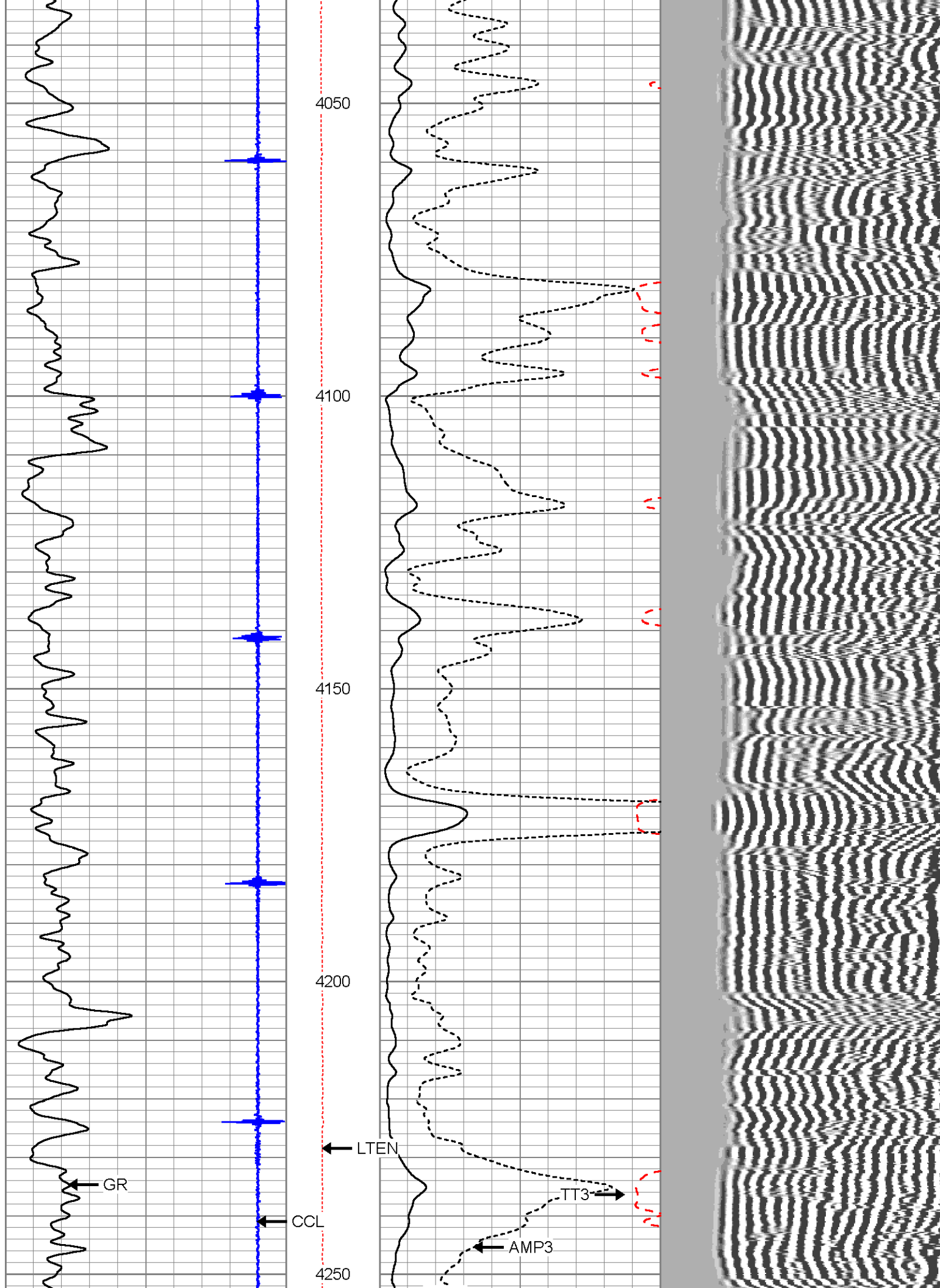


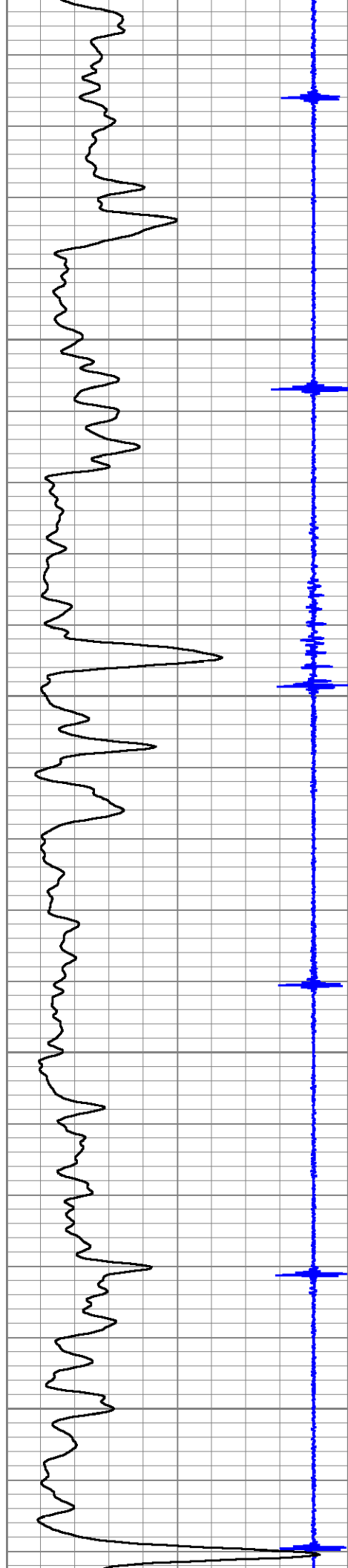










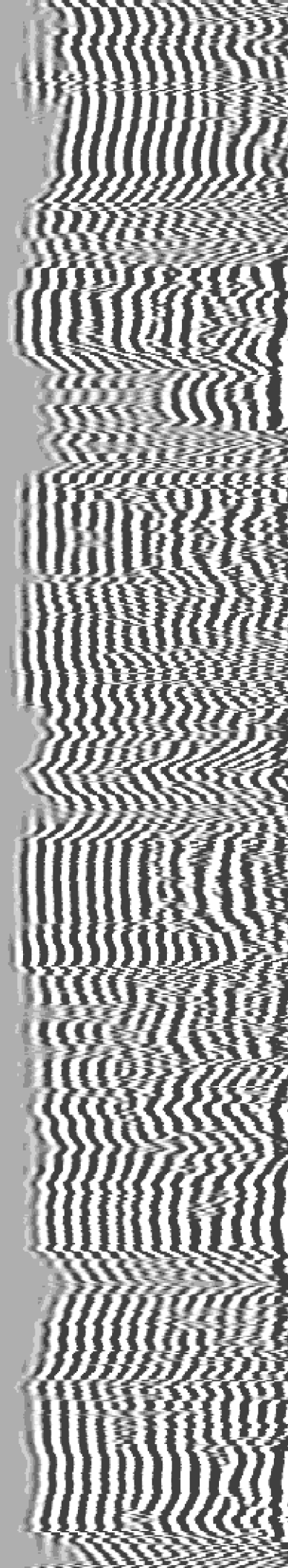
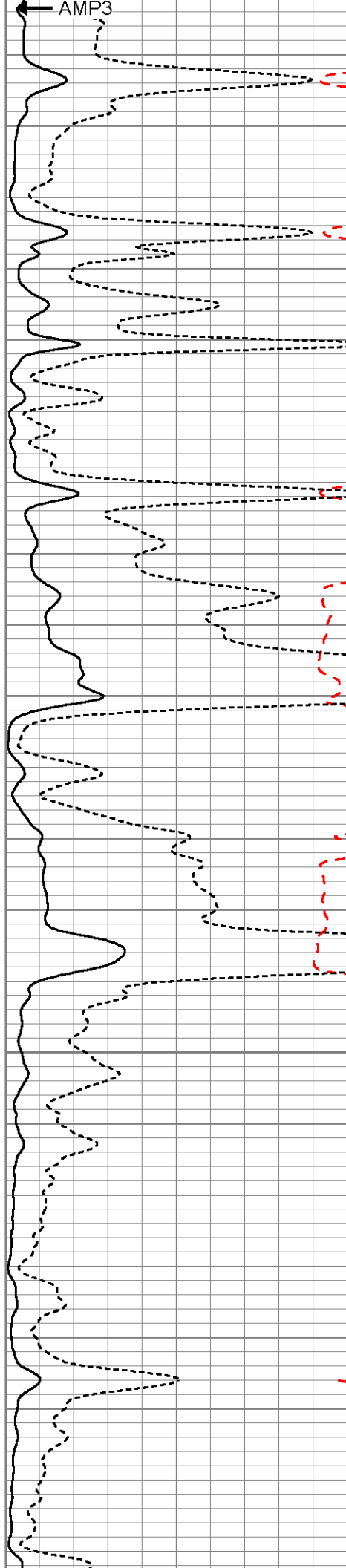


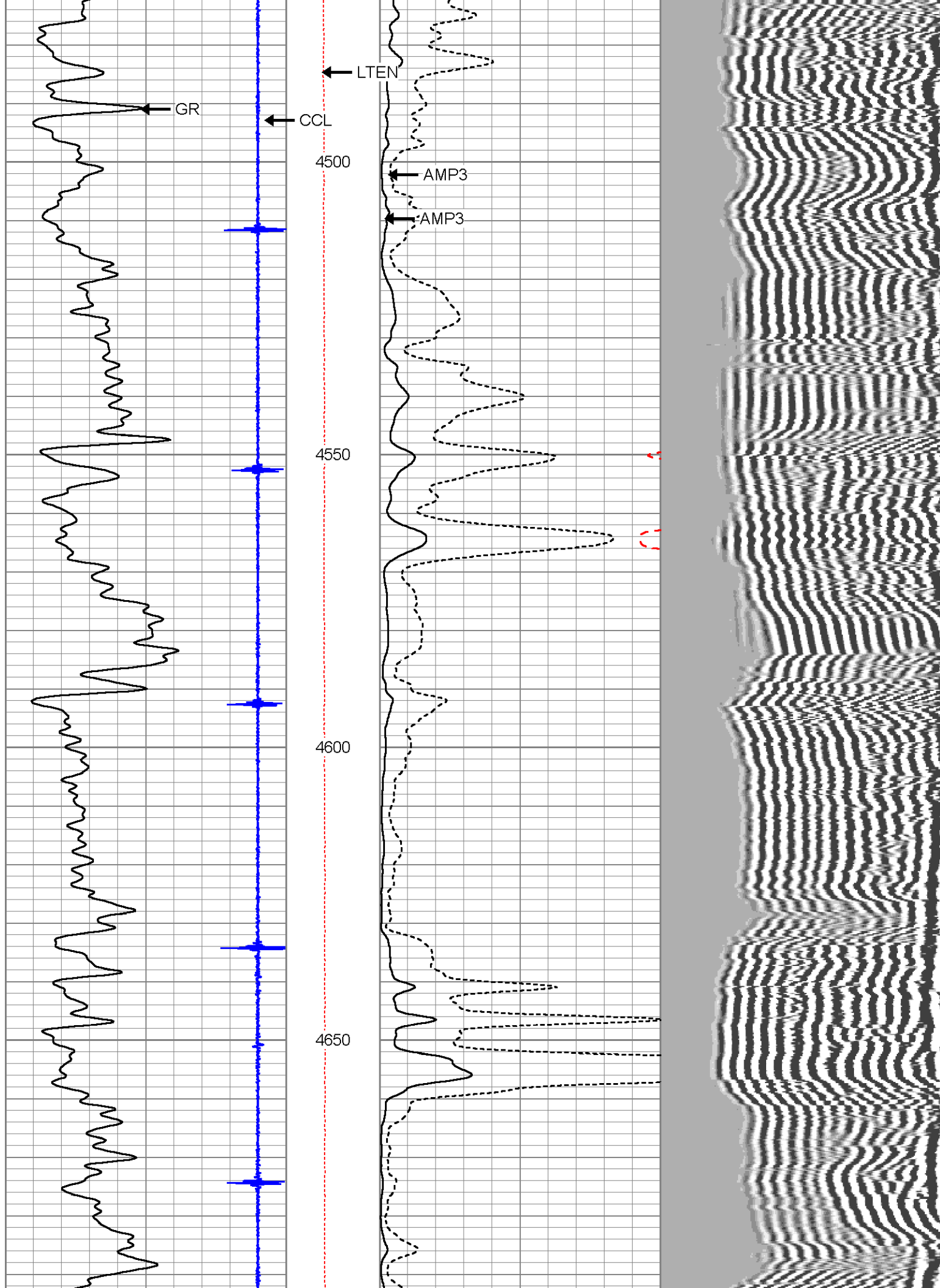
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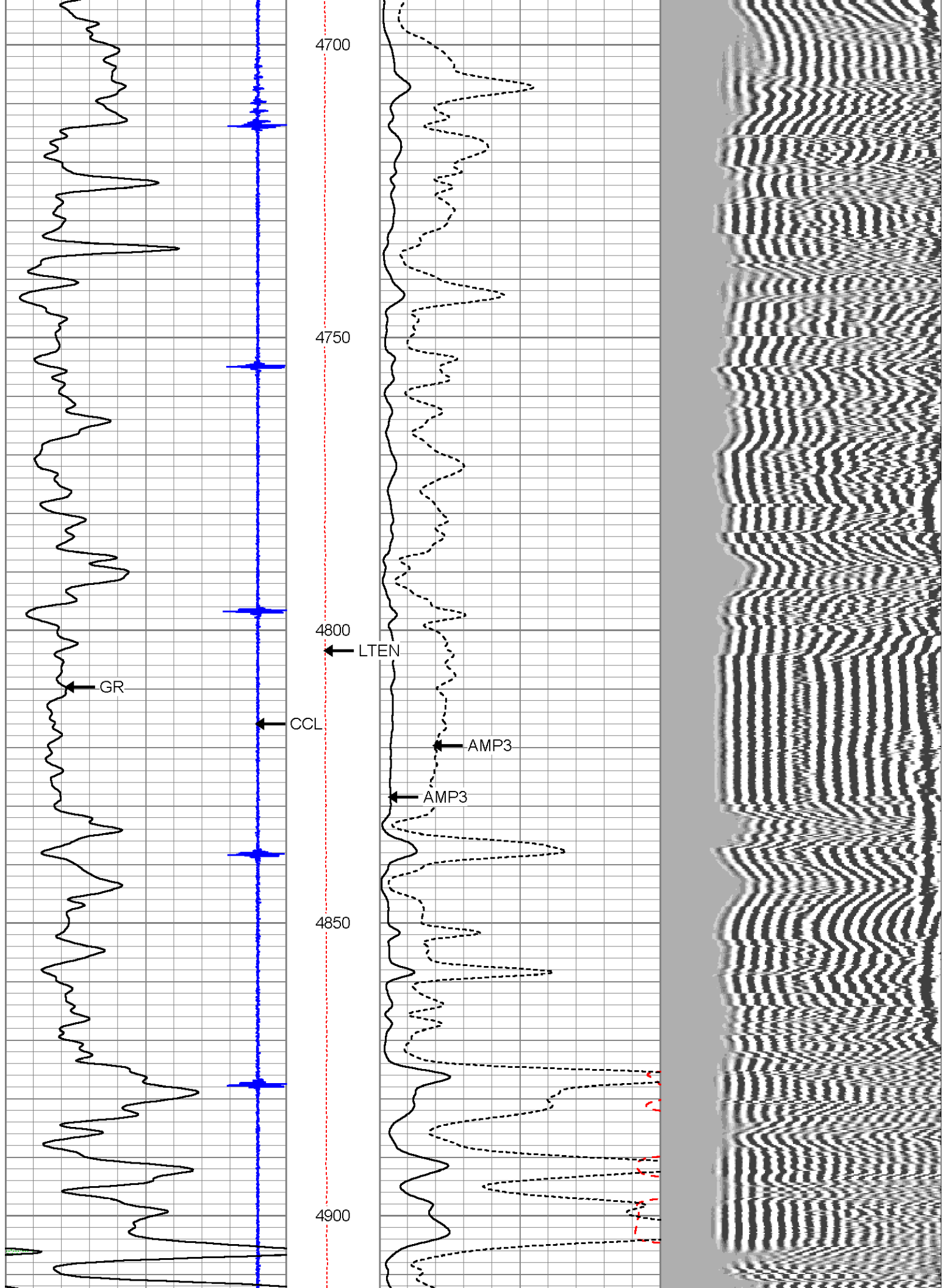
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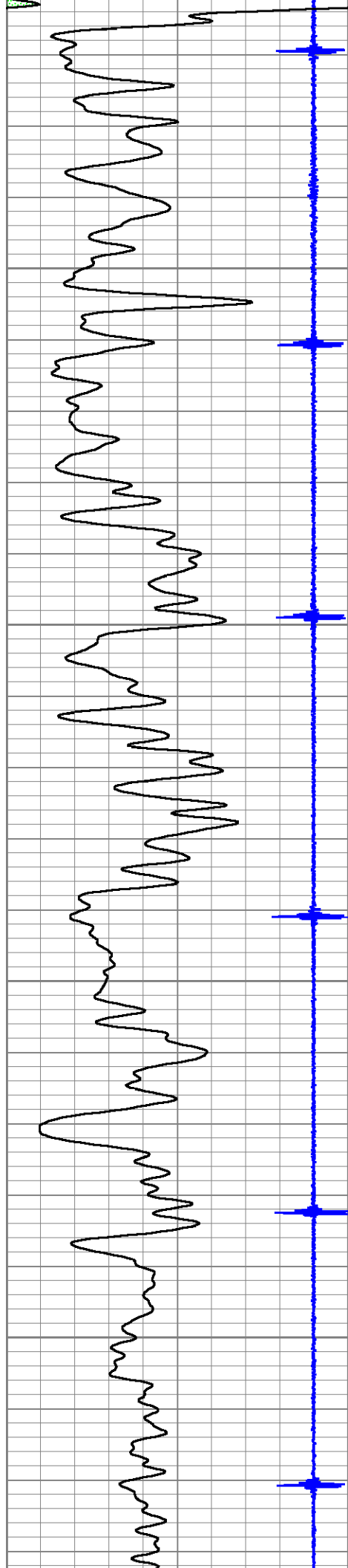
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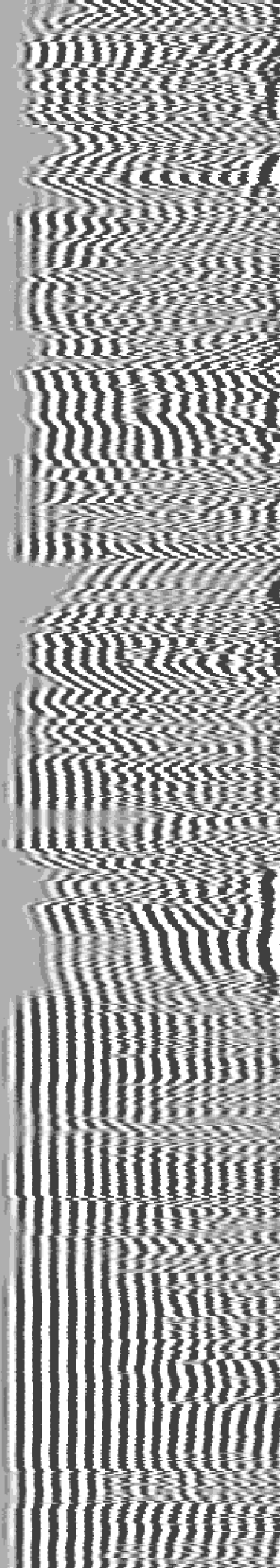
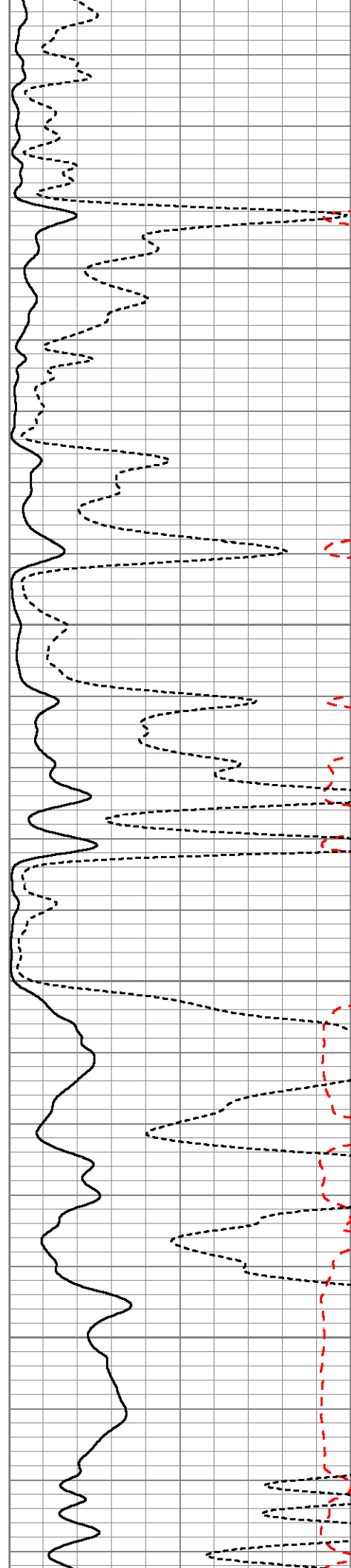


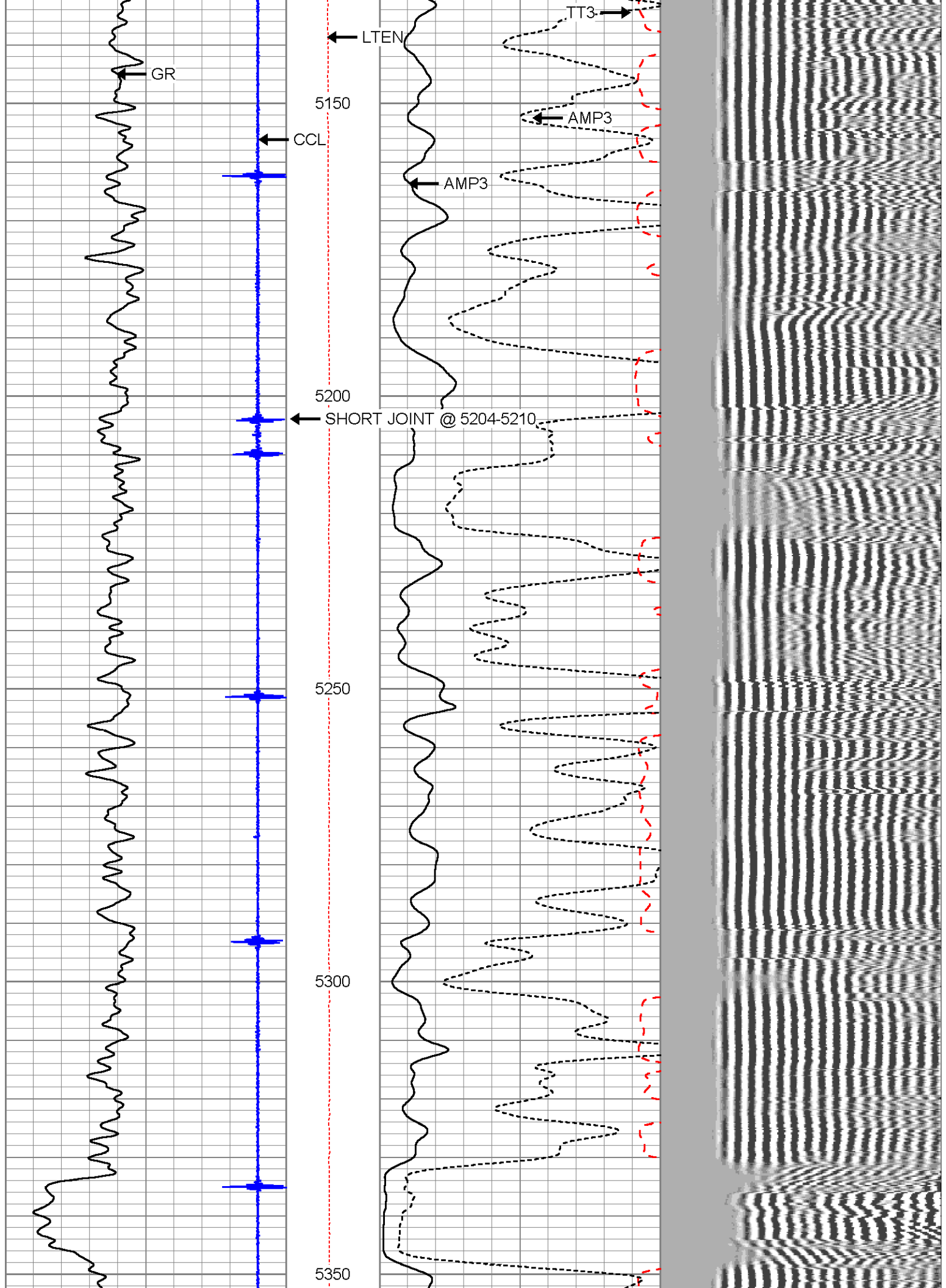
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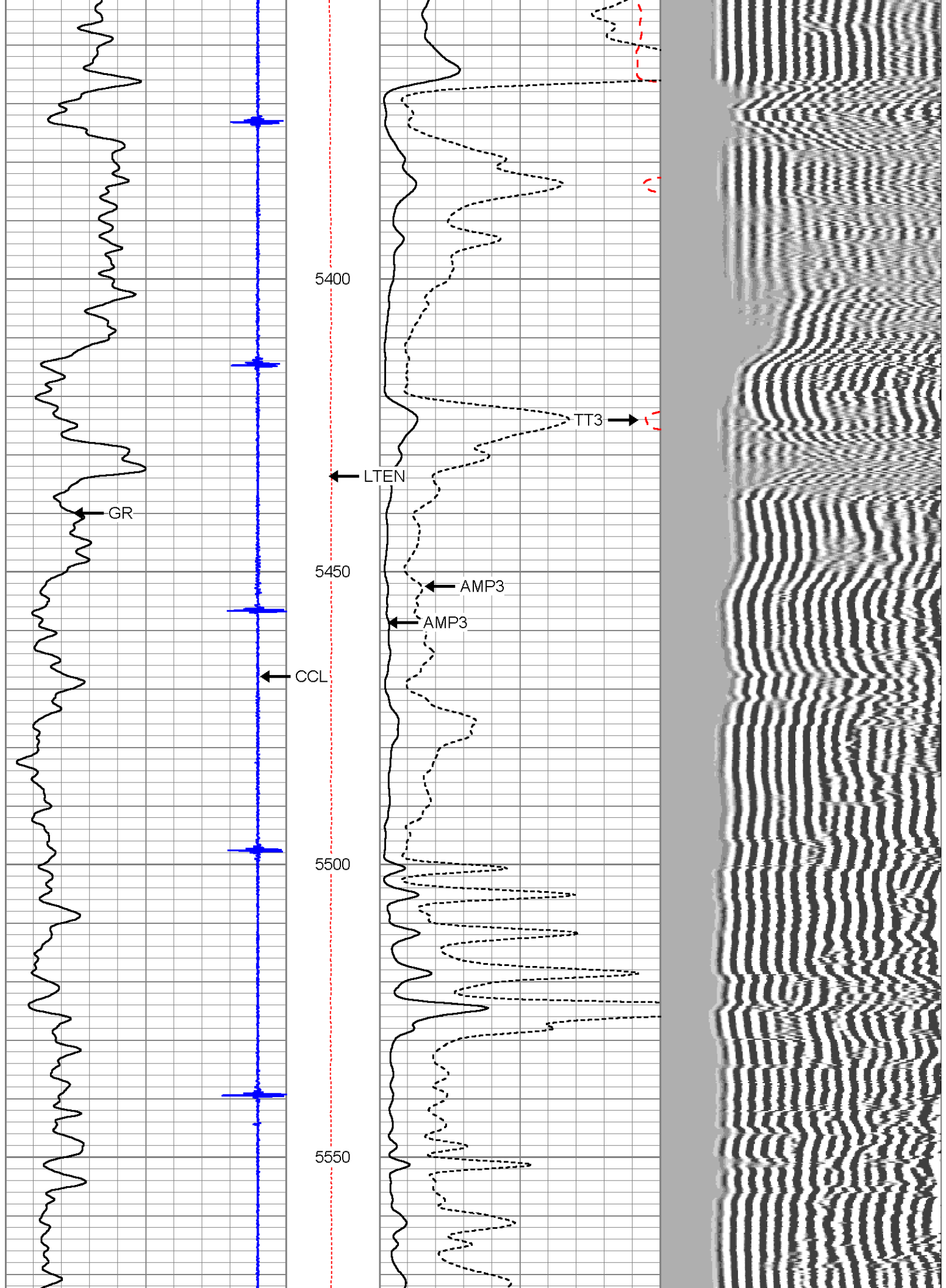
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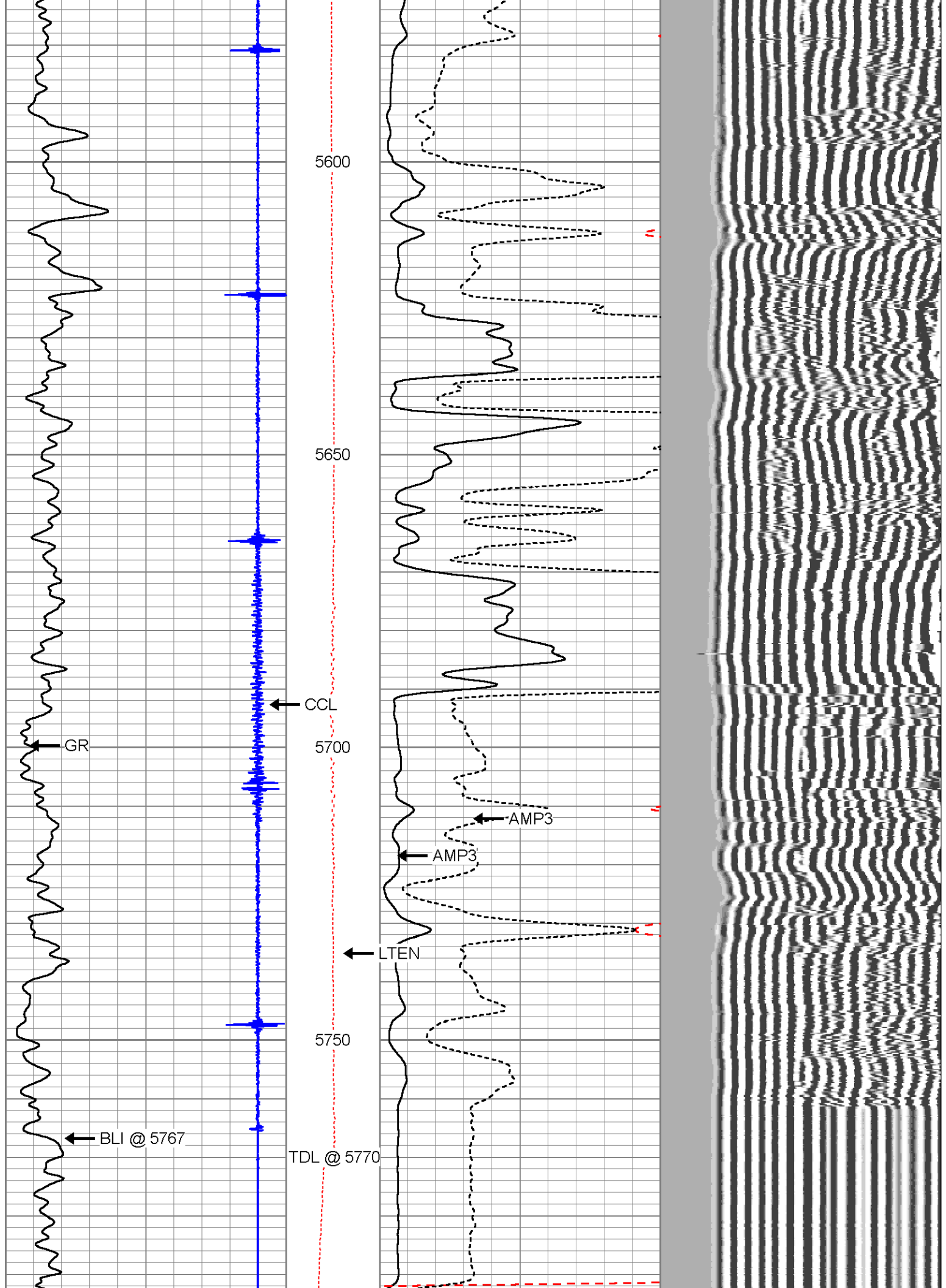
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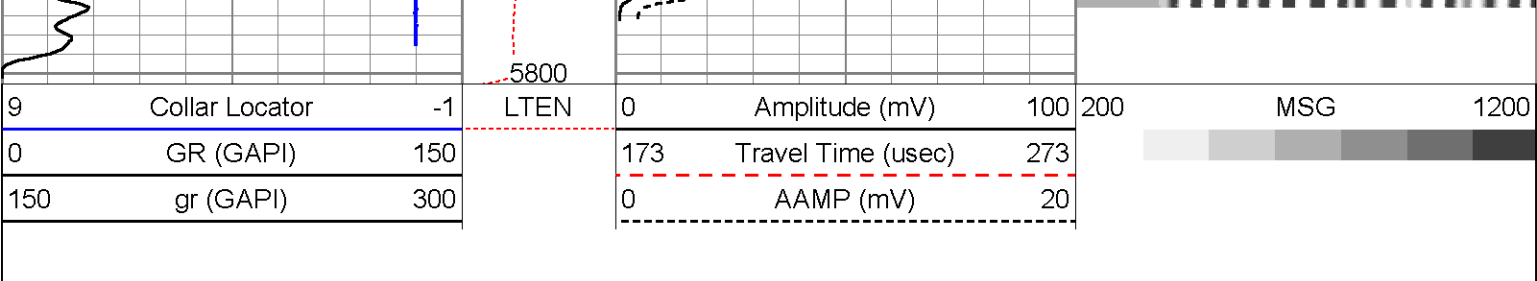
5100











MAIN PASS

SCALE 1:240

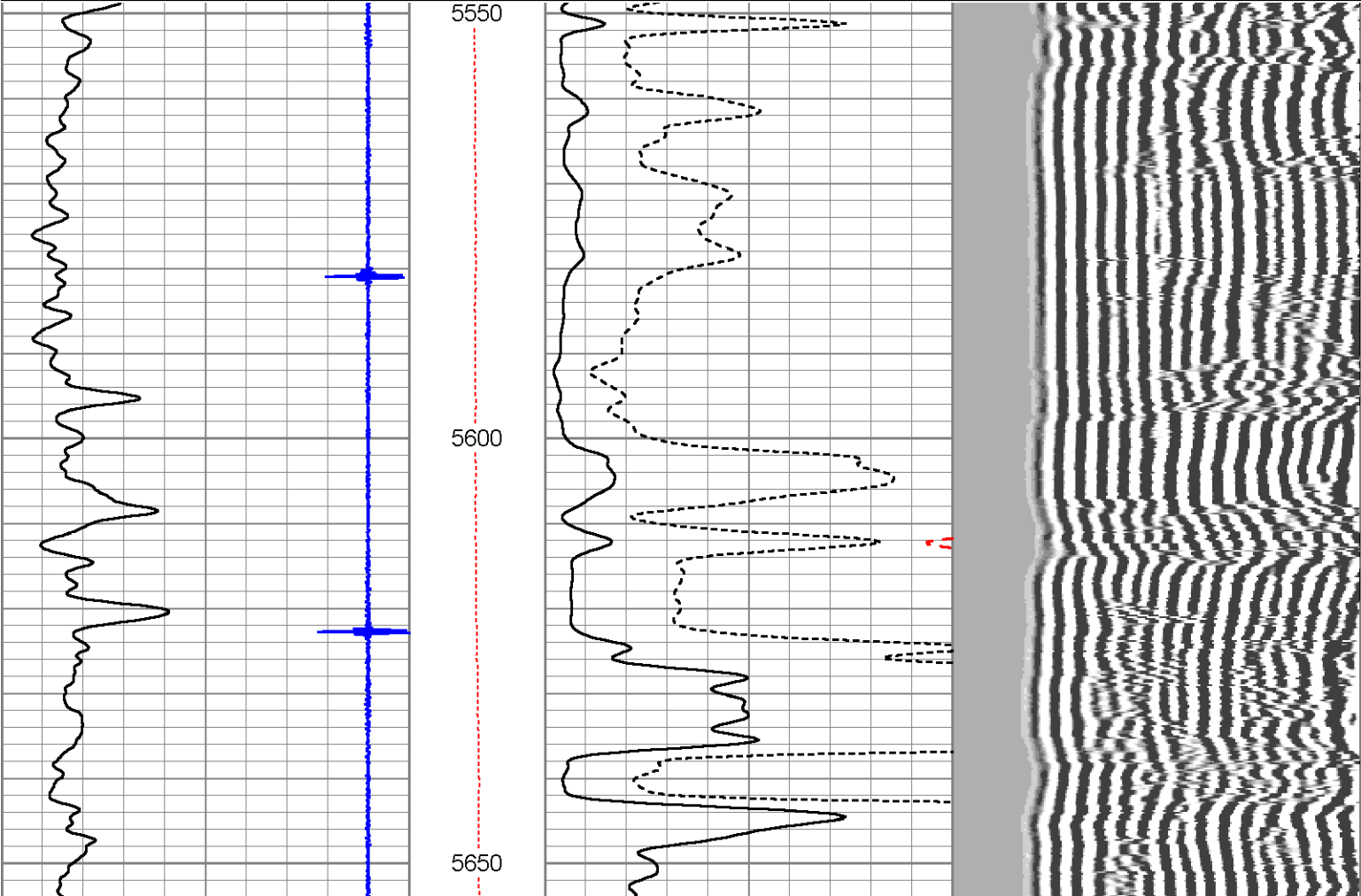
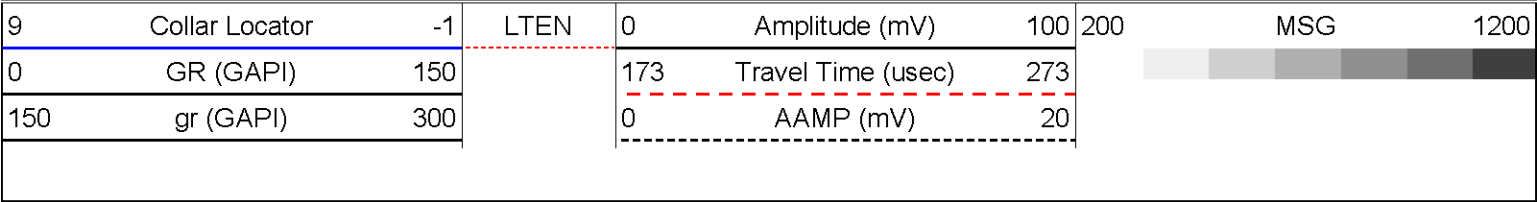
HALLIBURTON

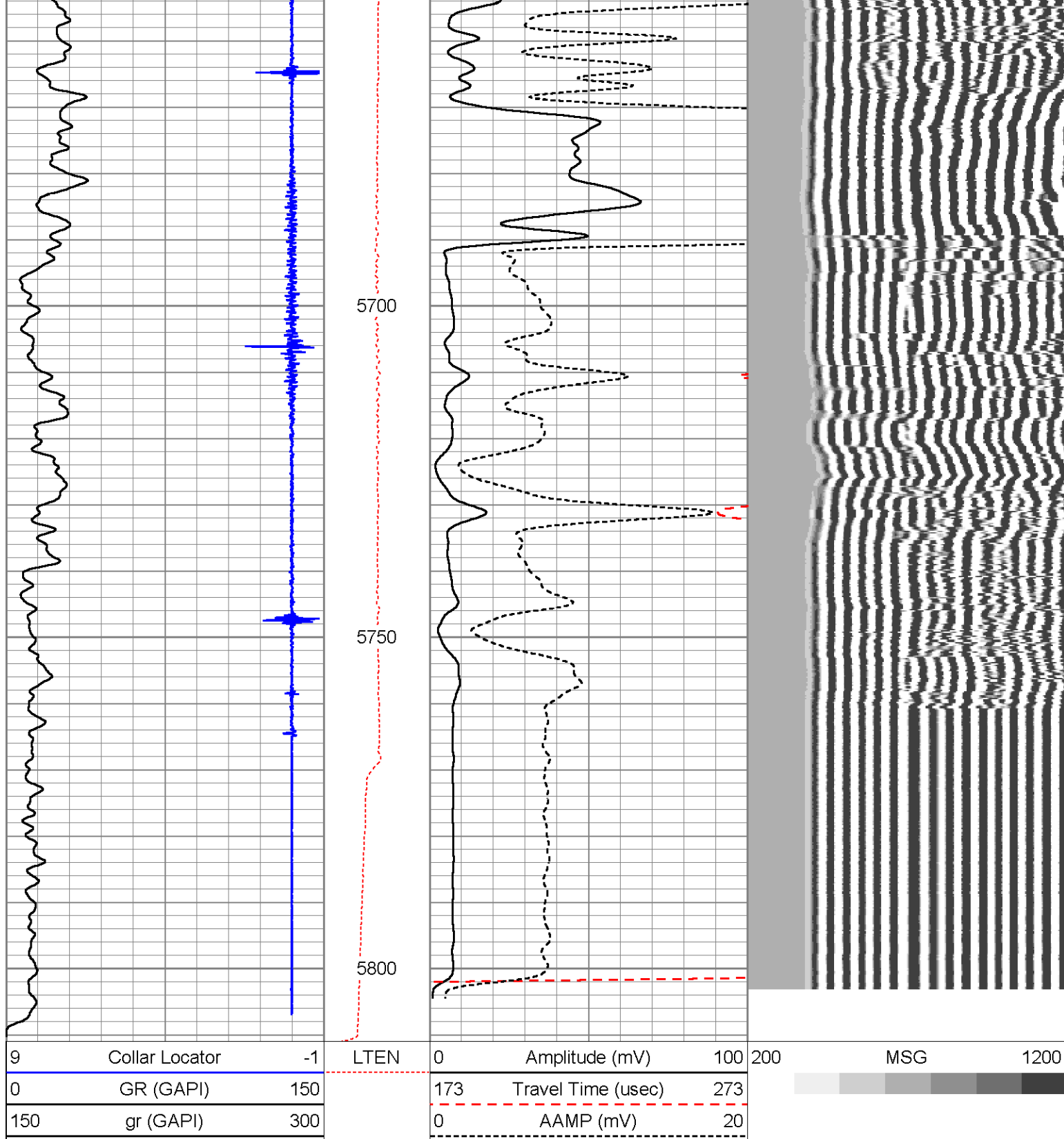
REPEAT PASS

SCALE 1:240

HALLIBURTON

Database File: oxy ku b3 cbl.db
Dataset Pathname: pass13
Presentation Format: cbl2
Dataset Creation: Tue Sep 18 09:51:22 2012 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240





HALLIBURTON

REPEAT PASS

SCALE 1:240

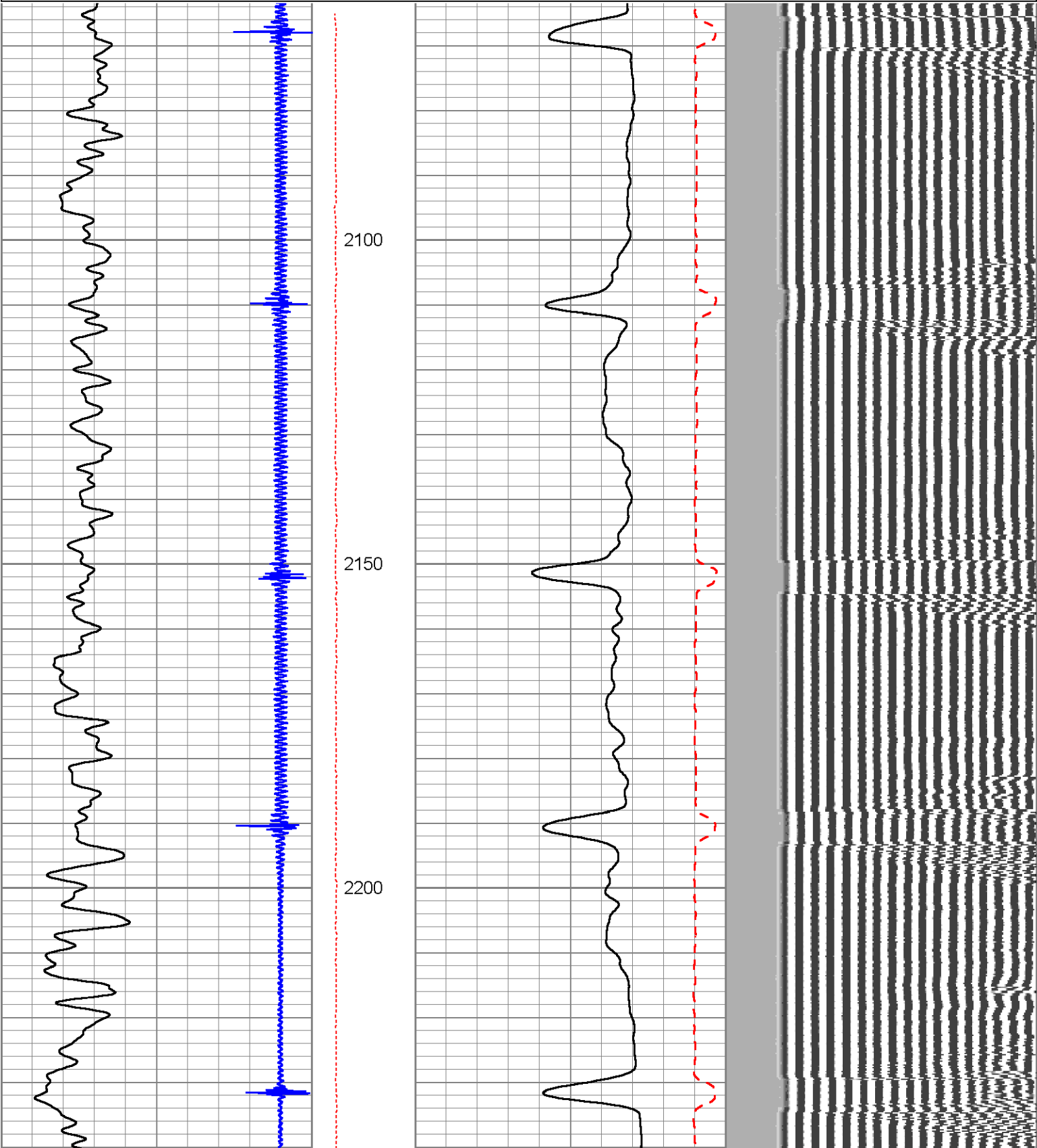
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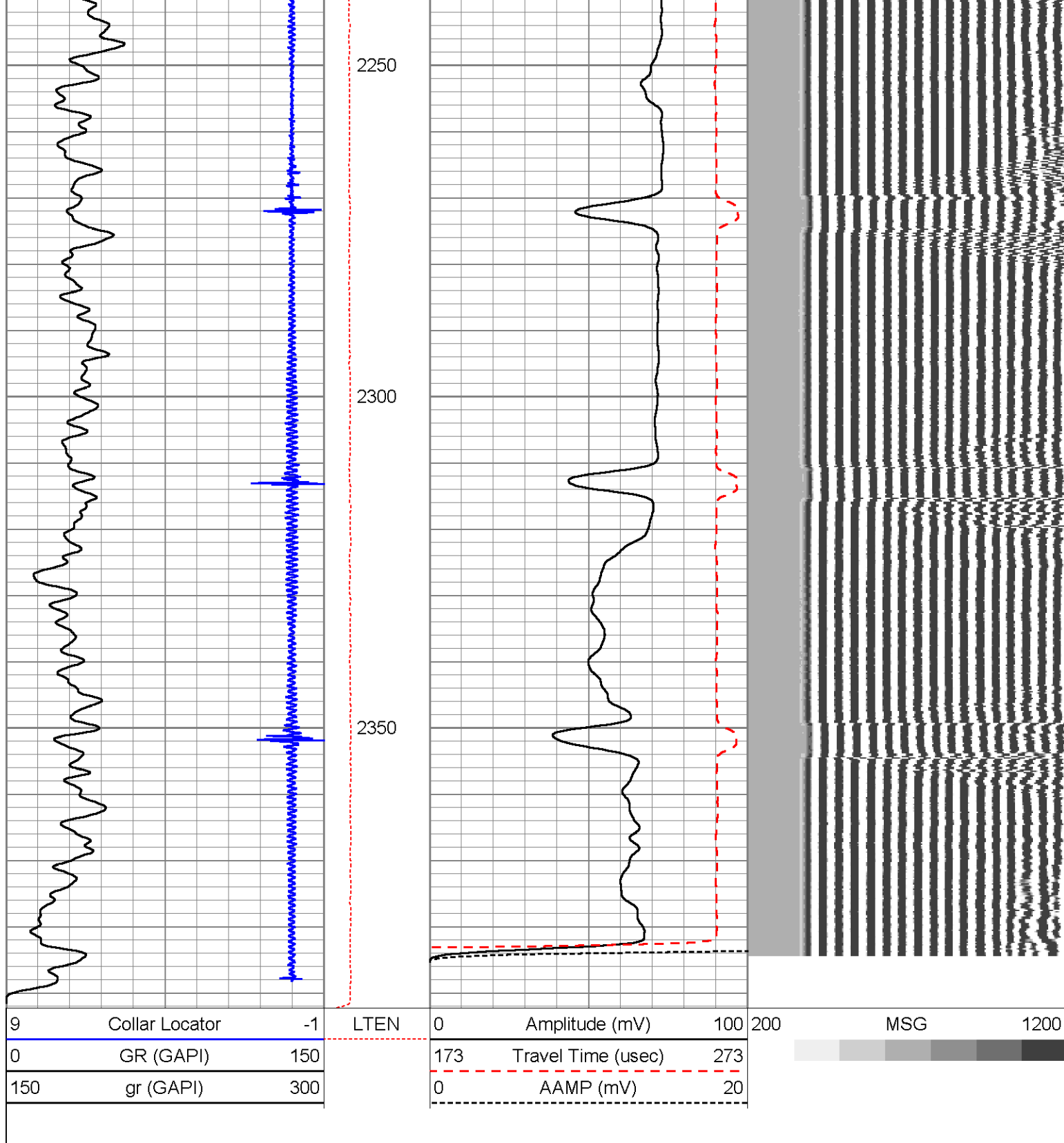
FREE PIPE PASS

SCALE 1:240

Database File: oxy ku b3 cbl.db
Dataset Pathname: pass3
Presentation Format: cbl2
Dataset Creation: Tue Sep 18 09:19:44 2012 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

9	Collar Locator	-1	LTEN	0	Amplitude (mV)	100	200	MSG	1200
0	GR (GAPI)	150		173	Travel Time (usec)	273			
150	gr (GAPI)	300		0	AAMP (mV)	20			





HALLIBURTON

FREE PIPE PASS

SCALE 1:240

Calibration Report

Database File: oxy ku b3 cbl.db
Dataset Pathname: pass14
Dataset Creation: Tue Sep 18 10:01:09 2012 by Log Halliburton Casedho

Gamma Ray Calibration Report

SHOP CALIBRATION

Thu Aug 02 16:26:05 2012

Background	Counts/Sec.	Gain	Offset	Jig	Units
Calibrator	55.2				cps
	374.0				cps
		1.0006			GAPI/cps

PRIMARY VERIFICATION

Mon Aug 22 16:09:19 2011

Background	44.0				cps
Calibrator	297.0				cps
Difference				253.0	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Cement Bond Log Calibration Report

Serial Number:	070801TH				
Tool Model:	Probe275Digital				
Performed:	Tue Sep 18 10:47:50 2012				
Depth:	2285.6	ft			
Casing Diameter:	5.5	in			
	3' Spacing		5' Spacing		
Signal Zero:	0		0		mV
Calibrated Amplitude:	71.921		71.921		mV
Reading at Signal Zero:	0.0015137		0.000634766		V
Reading in Free Pipe:	0.472266		0.479712		V
Gain:	152.779		150.124		
Offset:	-0.231261		-0.0952936		

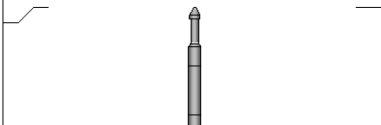
Log Variables

Database: C:\Warrior\Data\oxy ku b3 cbl.db

Dataset: field/well/run1/pass14

Top - Bottom

CASEWGHT lb/ft	PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft
17	263	72	1	0.8	5.5	0	5770
BOTTEMP degF	BITSIZE in						
132	7.875						

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
STNDCH	14.41		STND_CH 1.4375 IN CABLE HEAD	0.92	1.44	1.00

WVF3	9.00		CBL-Probe275Digital (070801TH) Digital 3' 5' CBL Move voltage to +/- 150 for cal mode	8.75	2.75	92.00
WVF5	8.00					
GR	4.75					
CCL	3.92					
GR	2.54		GR-Probe275dig (060738) Probe Digital Gamma CCL	4.75	2.75	57.00
LLMTEN	0.00					
Dataset: Total Length: Total Weight: O.D. oxy ku b3 cbl.db: field/well/run1/pass14 14.41 ft 150.00 lb 2.75 in						

Field	ARROYO		
County	STANTON	State	KANSAS
HALLIBURTON	CEMENT BOND LOG		
	SCALE 1:240		