



**SUPERIOR**  
Black Lick, Pa.  
Mercer, Pa.  
Wooster, Oh.  
Cleveland, Ok.  
Trinidad, Co.

# COMPENSATED DENSITY NEUTRON LOG

Company XTO Energy Inc.  
Well Apache Canyon 05-09V  
Field Purgatoire River  
County Las Animas State Colorado

Location: API # : 05 071 09127 00

1879' FSL & 227' FEL

SEC 5 TWP 34S RGE 67W

Permanent Datum Ground Level Elevation 7406'  
Log Measured From Ground Level  
Drilling Measured From Ground Level

Other Services  
dill  
Elevation  
K.B. -----  
D.F. -----  
G.L. 7406'

Date 7-09-07

Run Number One

Depth Driller 2005'

Depth Logger 1999'

Bottom Logged Interval 1982'

Top Log Interval Surface Casing

Casing Driller 8 5/8" @ 496'

Casing Logger 496'

Bit Size 7 7/8"

Type Fluid in Hole Water

Density / Viscosity ///

pH / Fluid Loss ///

Source of Sample ///

Rm @ Meas. Temp ///

Rmf @ Meas. Temp ///

Rmc @ Meas. Temp ///

Source of Rmf / Rmc ///

Rm @ BHT ///

Time Circulation Stopped 12:30 P.M.

Time Logger on Bottom 3:10 P.M.

Maximum Recorded Temperature 100 DEG F

Equipment Number T697

Location Trinidad

Recorded By M. Norton

Witnessed By Mr. Joe Smith

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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

Density Neutron Porosity Presented On Sandstone Matrix.  
ABHV Calculated For 5 1/2" Casing  
Well Directions:  
First Bosque entrance just before Weston, turn right on Alomsito canyon,  
stay on main road thru gate, at windmill stay right, first left to location.

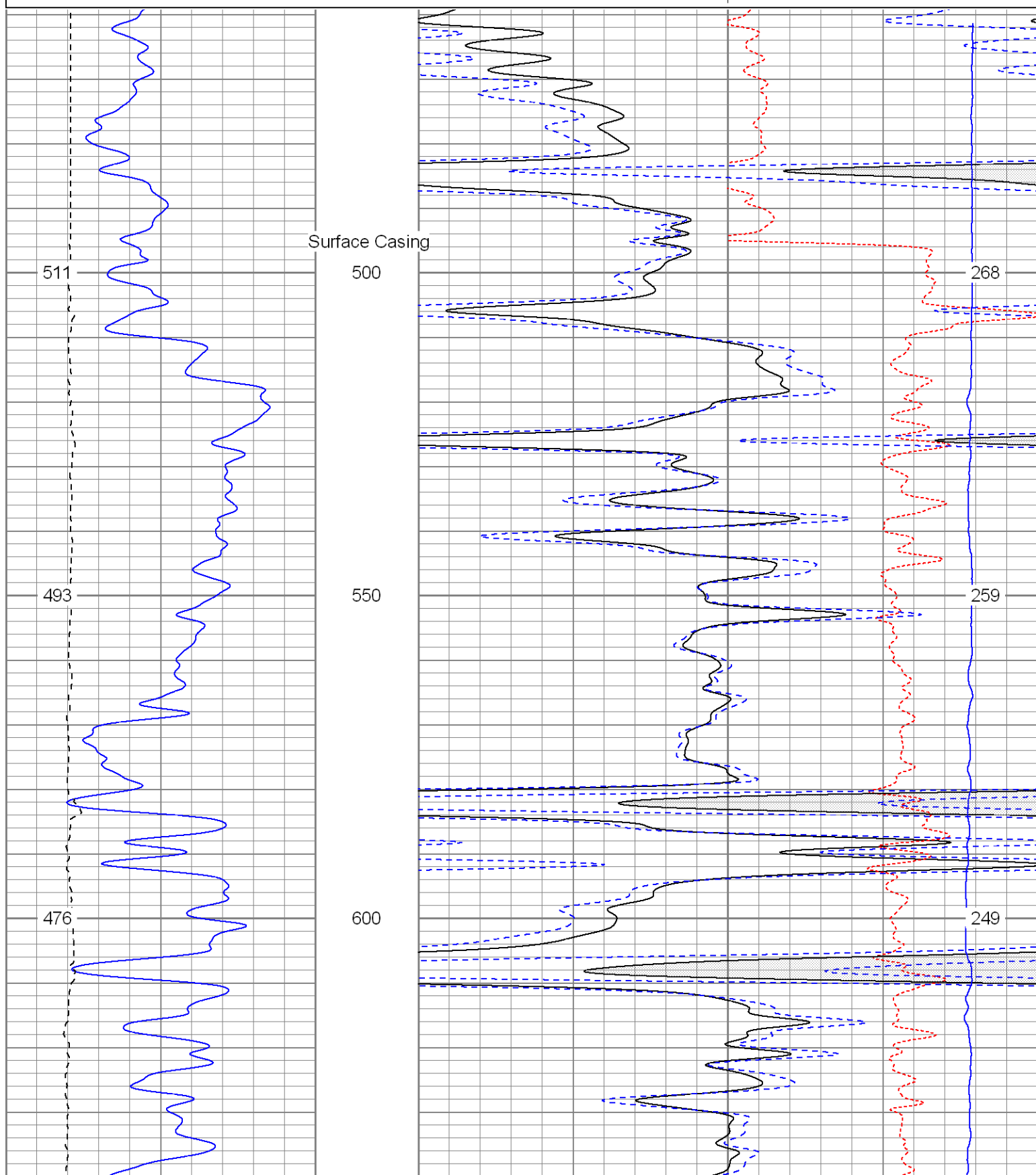


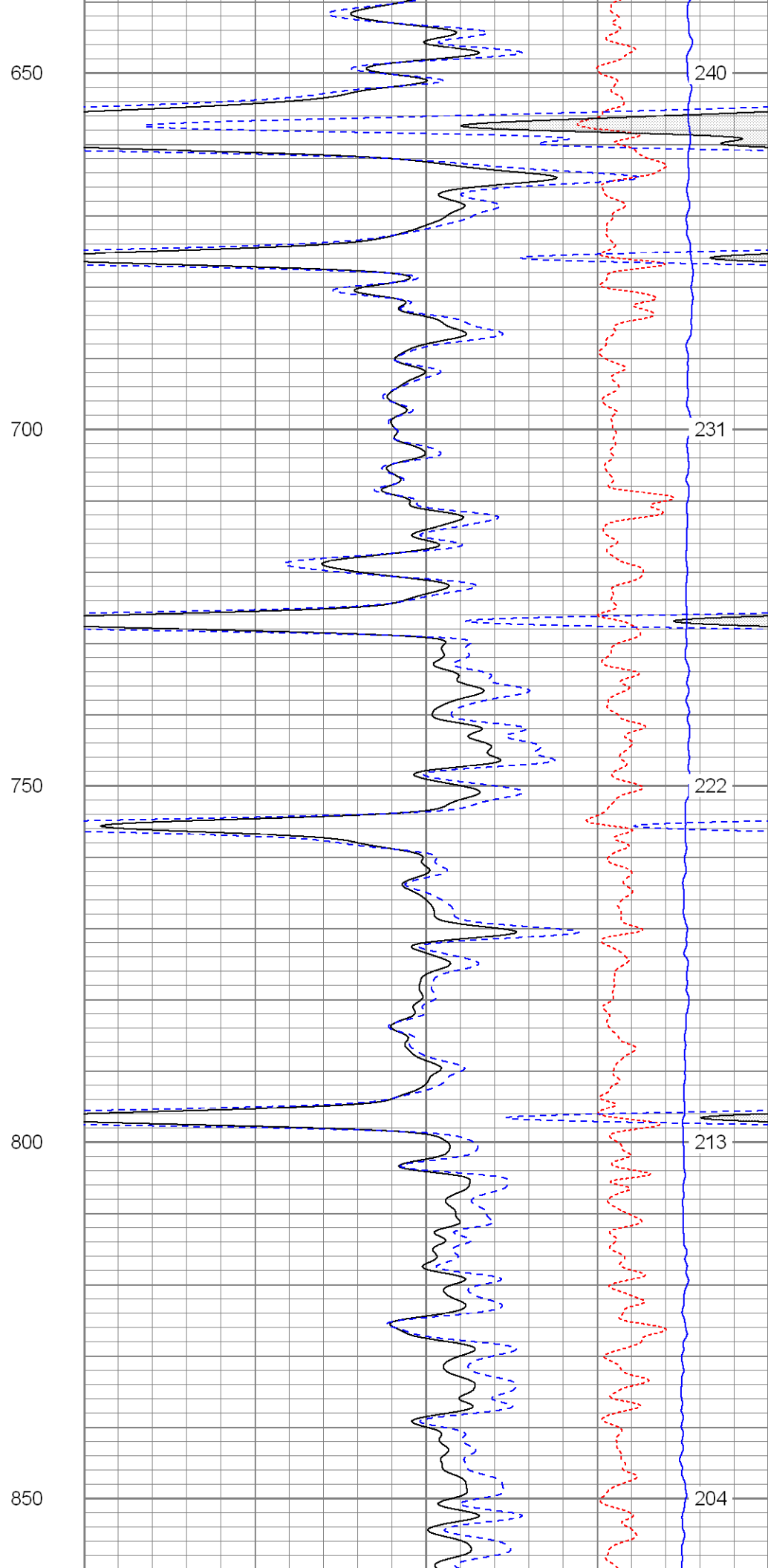
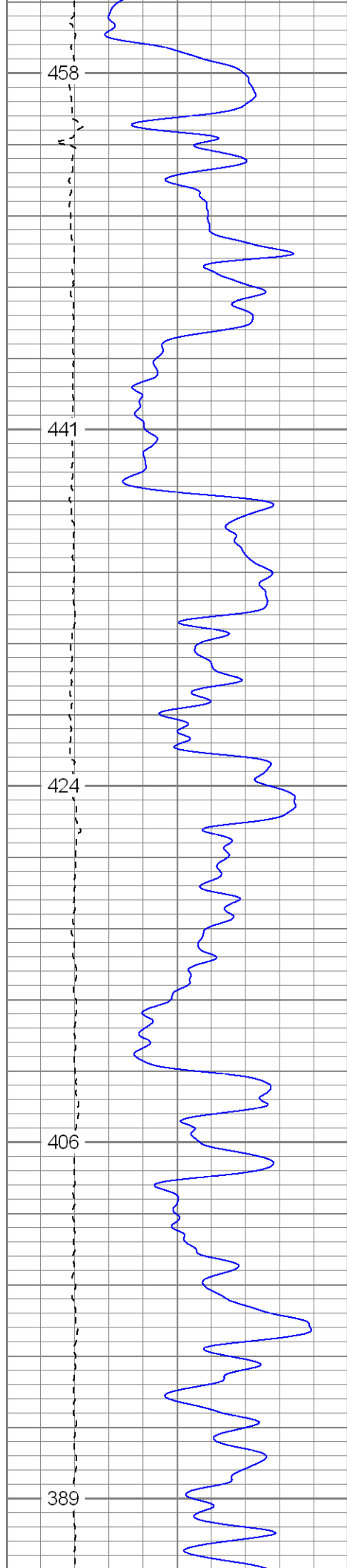
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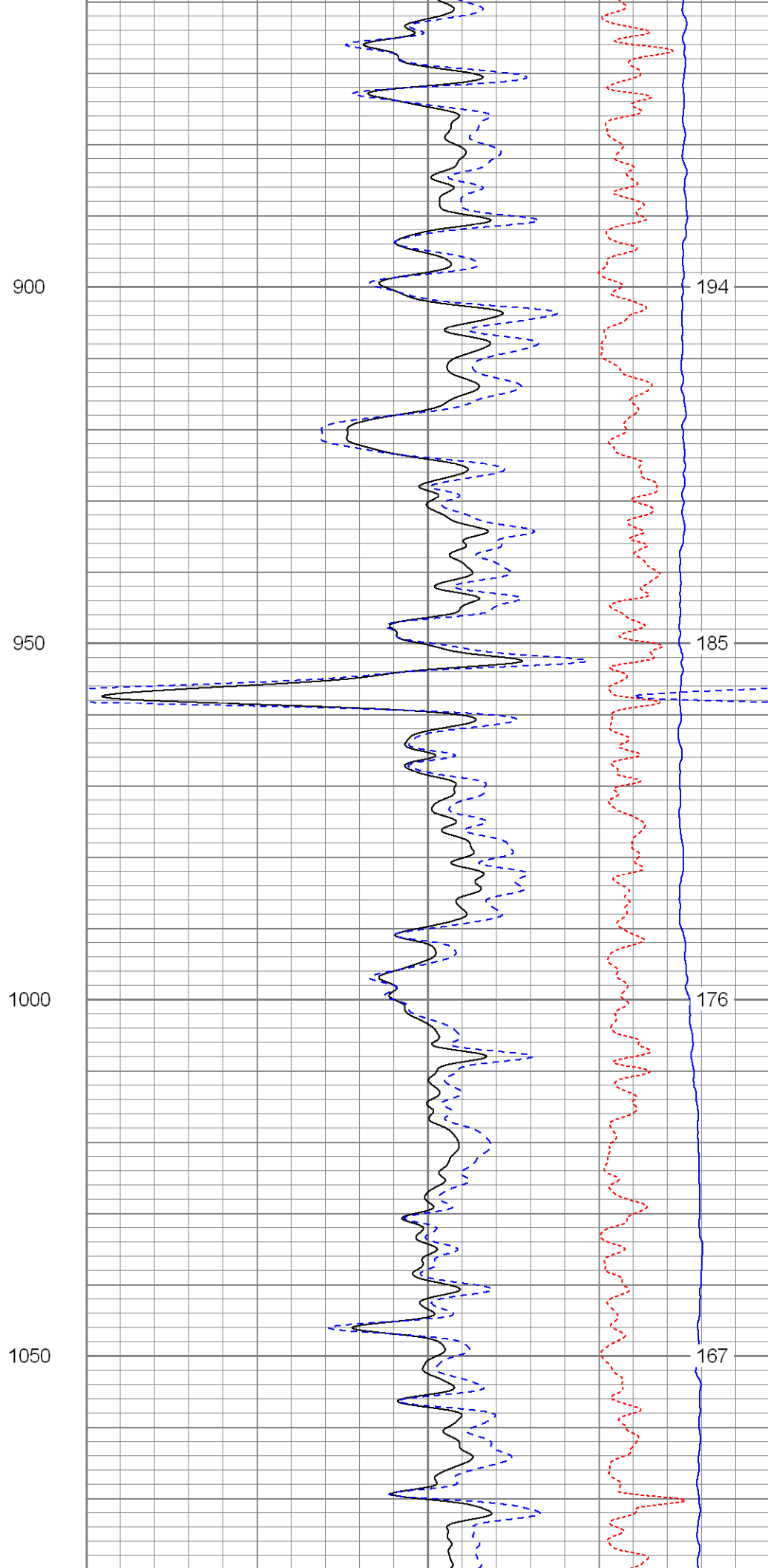
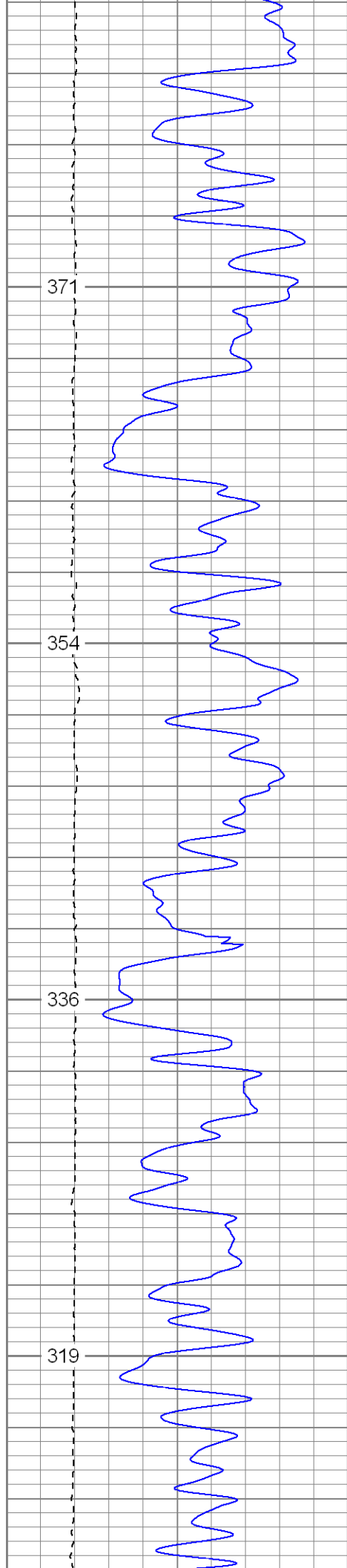
# Main Pass

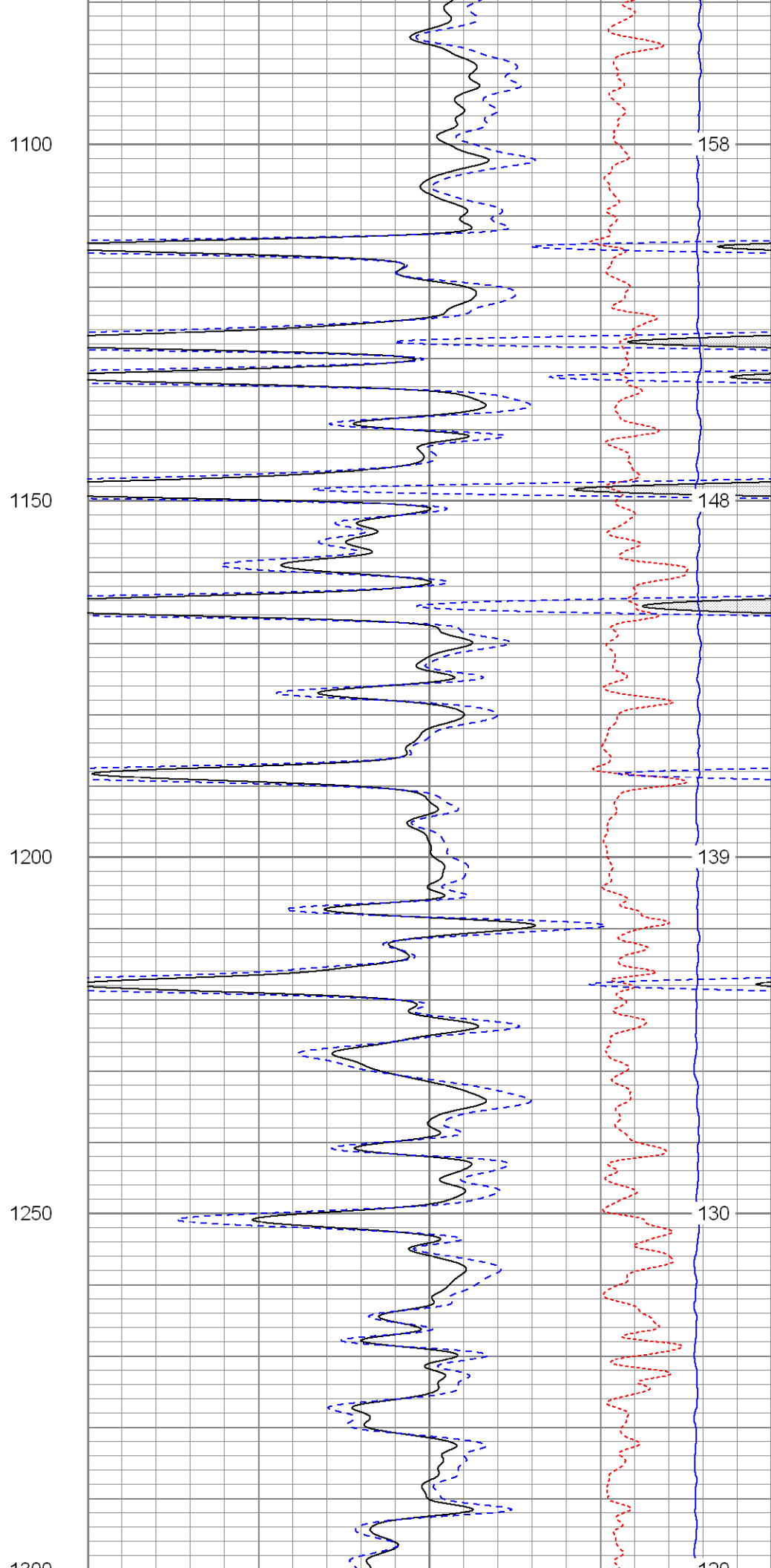
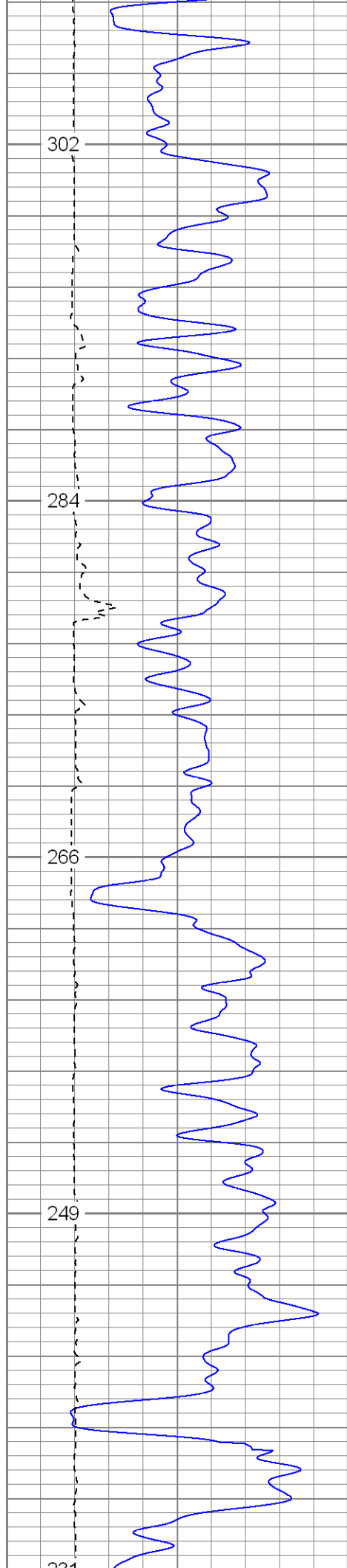
Database File: xtoac0509v.db  
Dataset Pathname: pass2.1  
Presentation Format: cdl  
Dataset Creation: Mon Jul 09 16:23:13 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:240

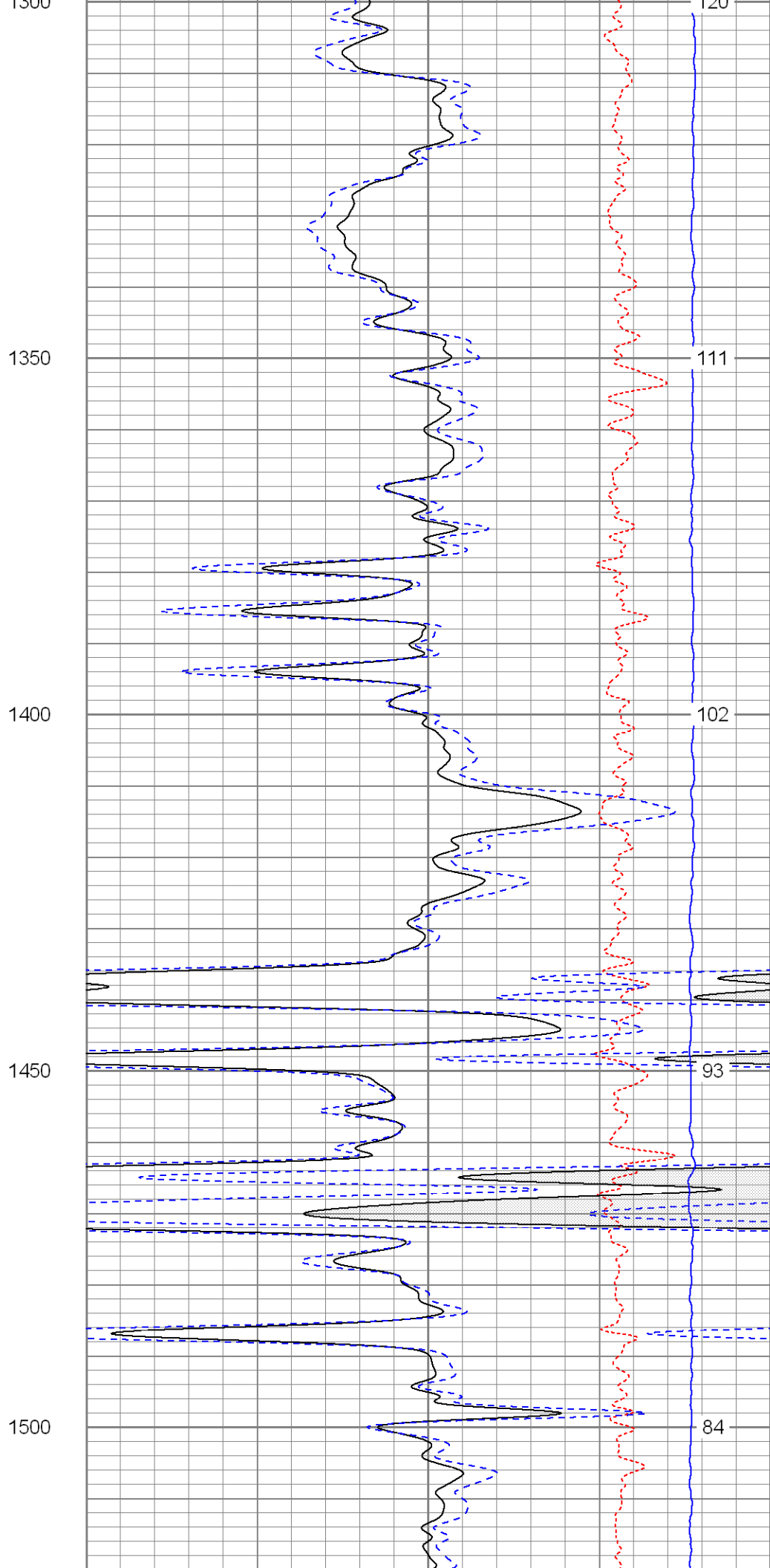
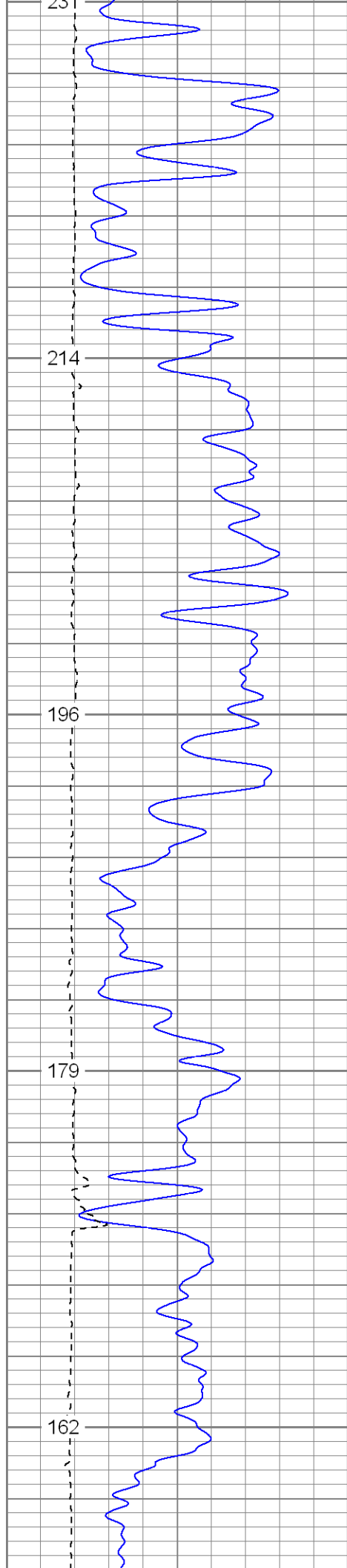
0	GR (GAPI)	200	1	RHOB (g/cc)	2
6	DCAL (in)	16	30	DPOR (pu)	-10
			-0.5	RHOC (g/cc)	0.5
			4000	LTEN (lb)	0

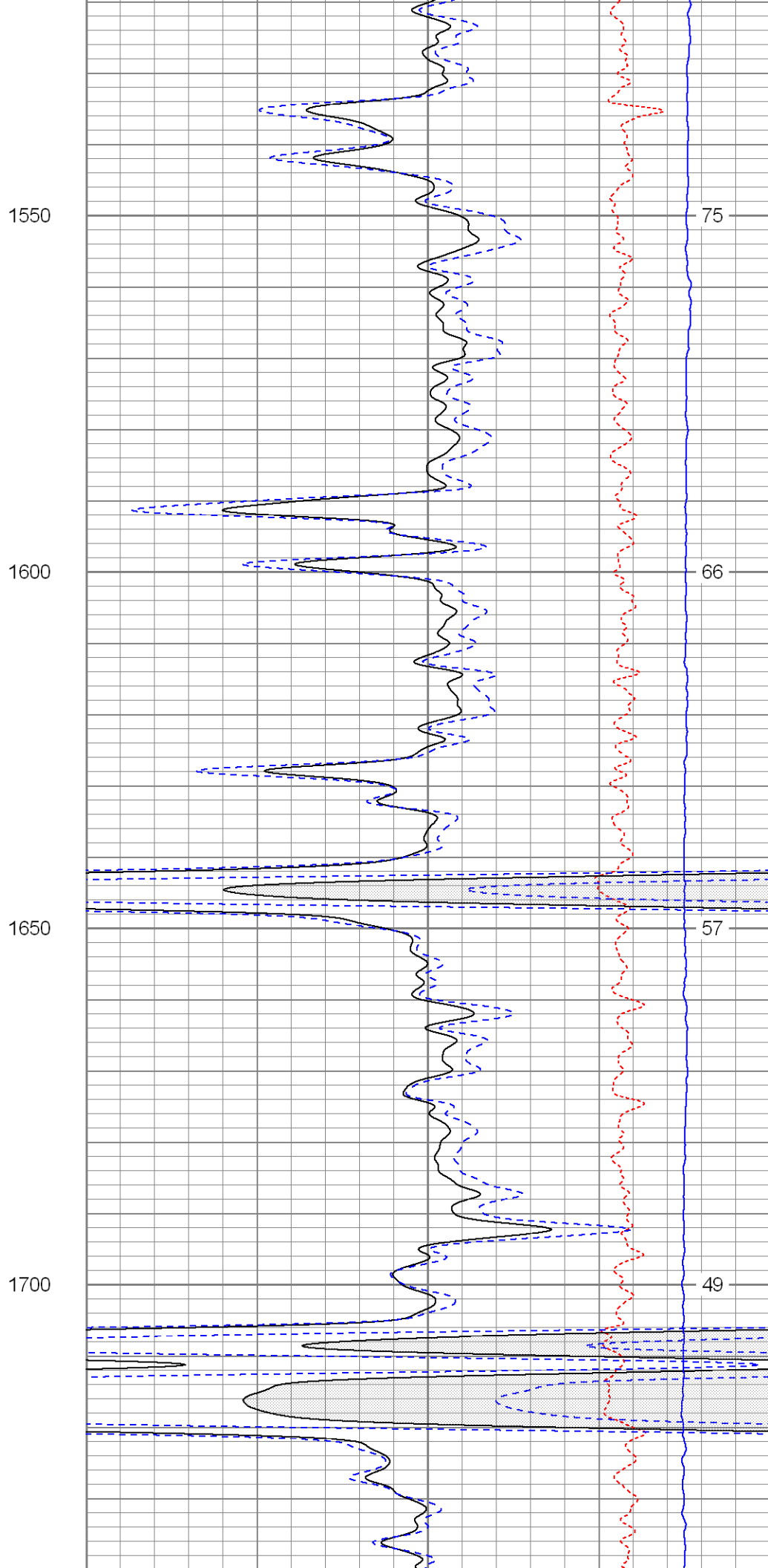
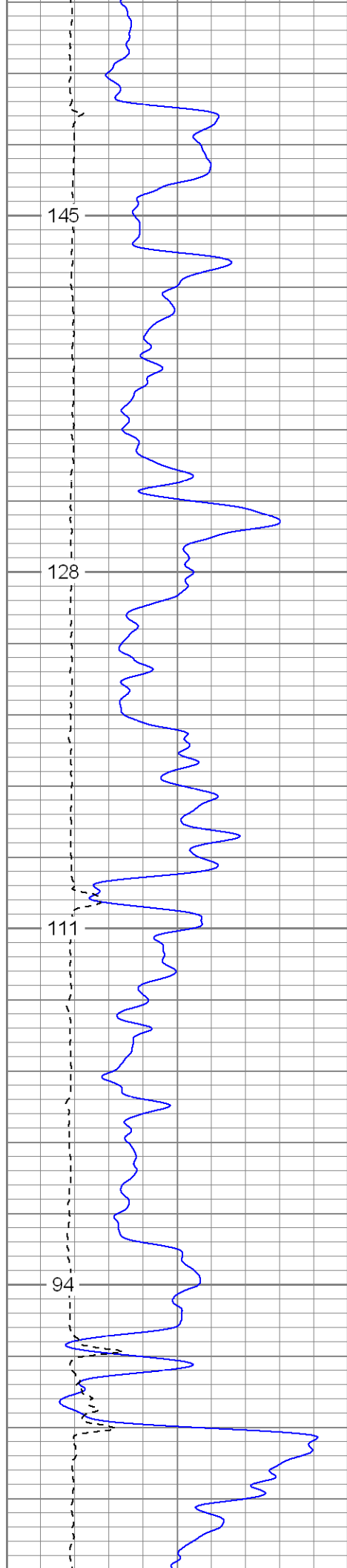


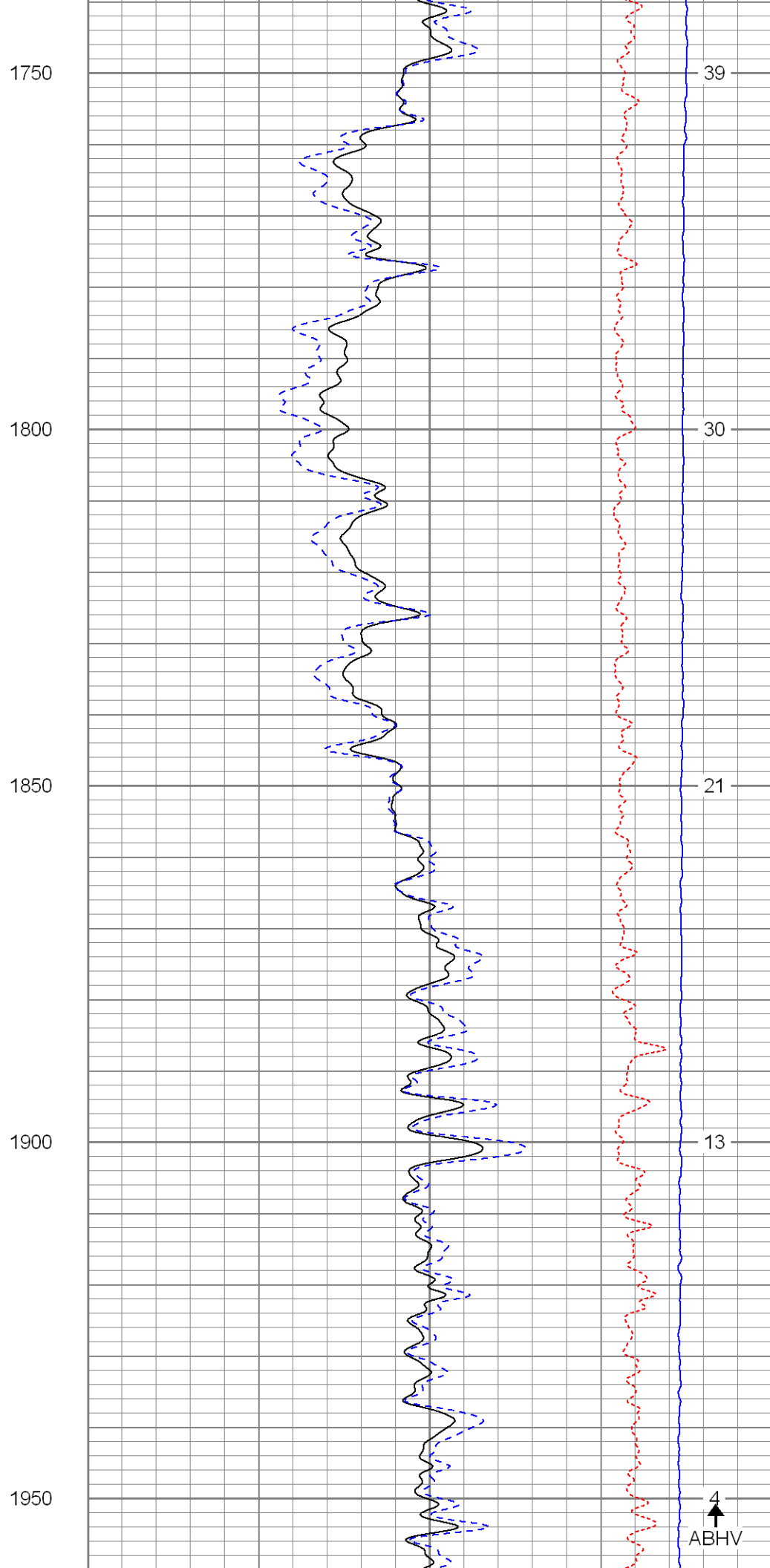
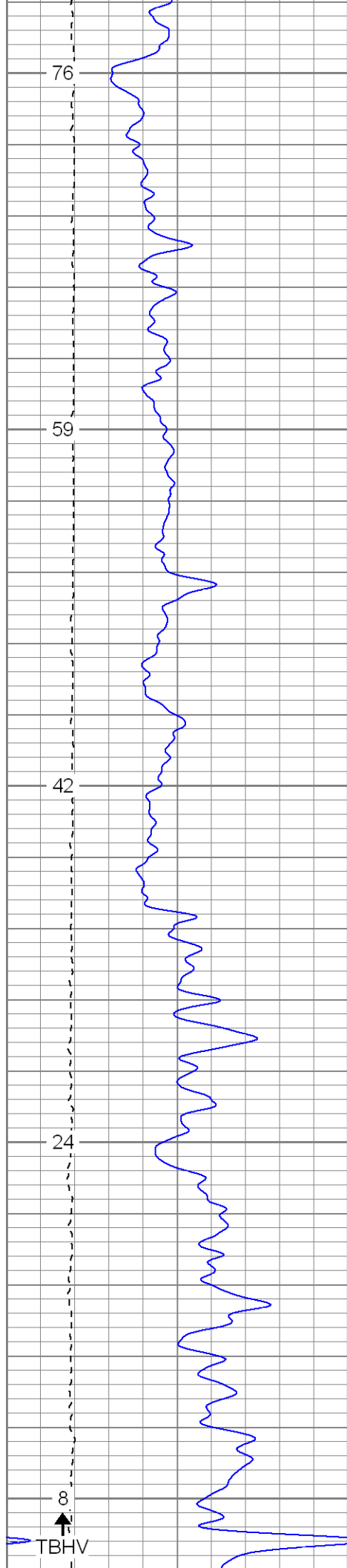




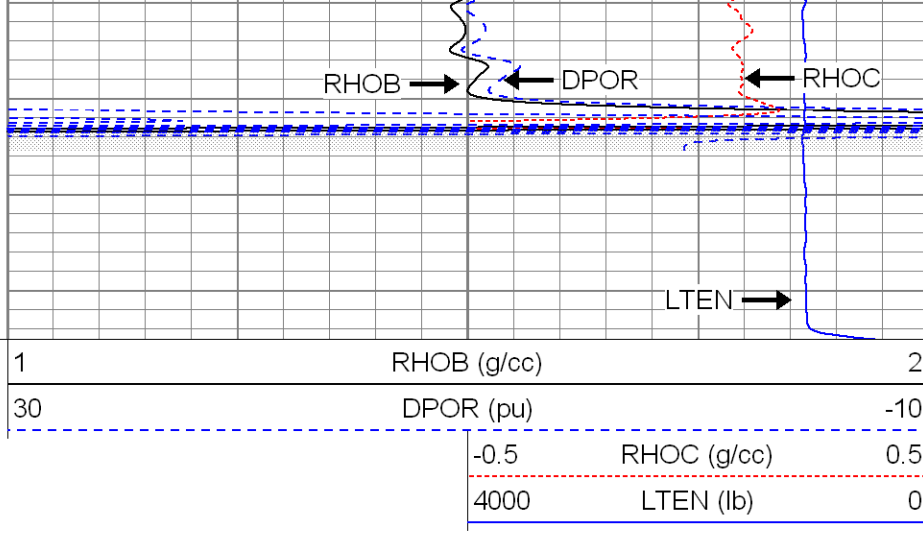
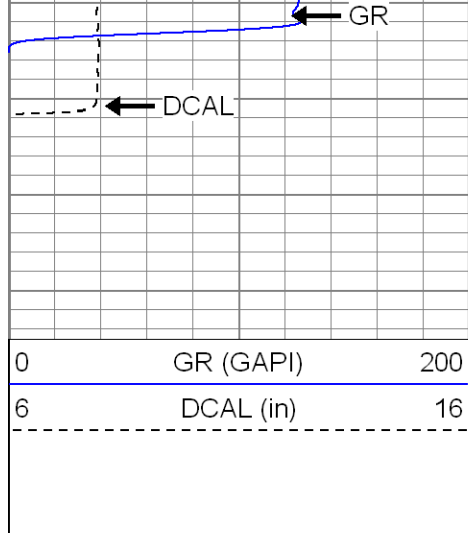












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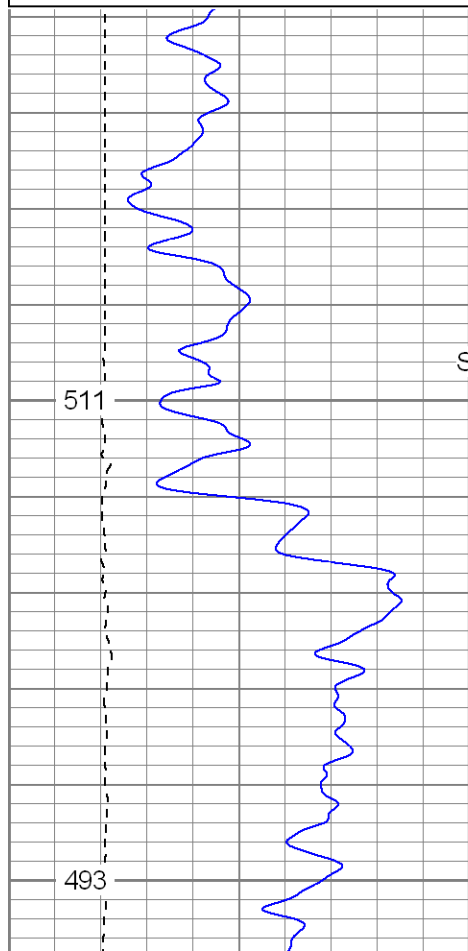
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# Main Pass

Database File: xtoac0509v.db  
Dataset Pathname: pass2.1  
Presentation Format: cdnl  
Dataset Creation: Mon Jul 09 16:23:13 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:240

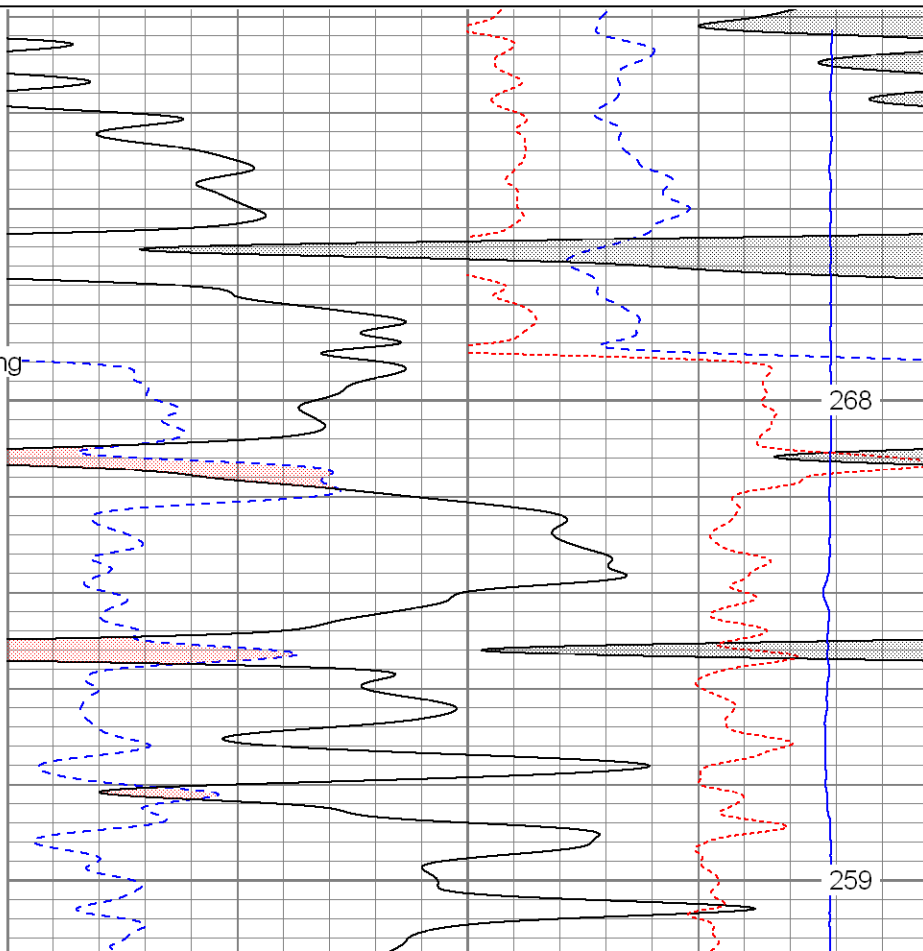
0	GR (GAPI)	200
6	DCAL (in)	16

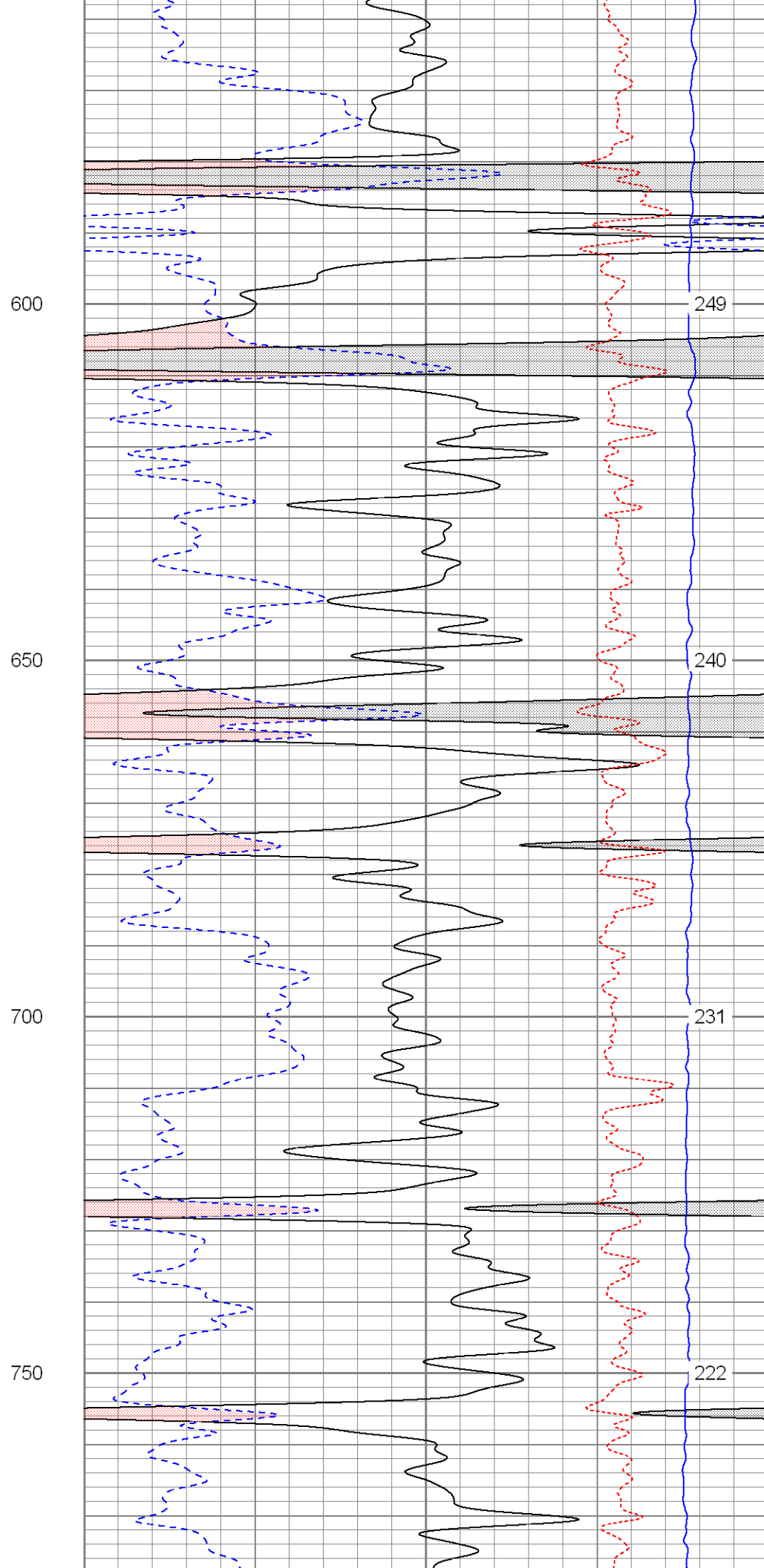
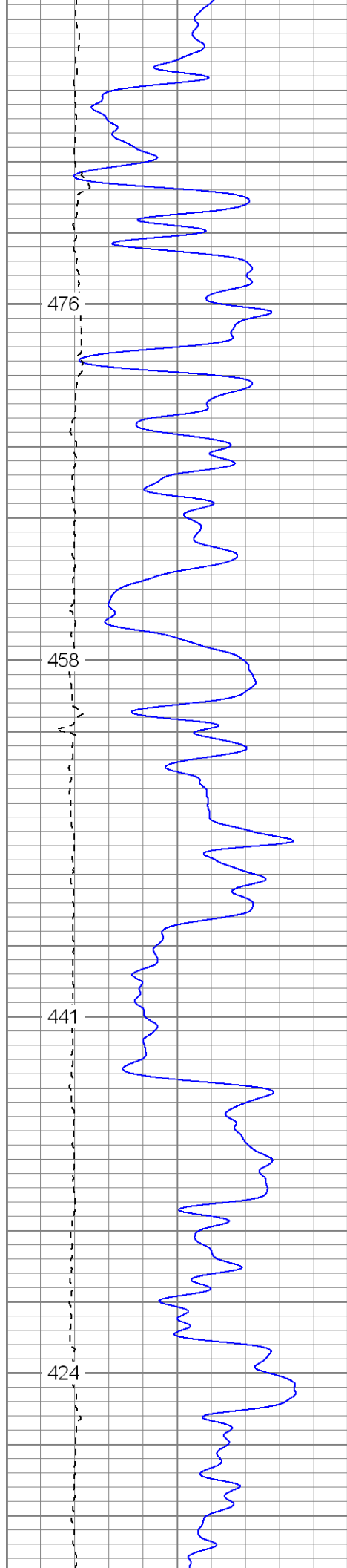
30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5
4000	LTEN (lb)	0

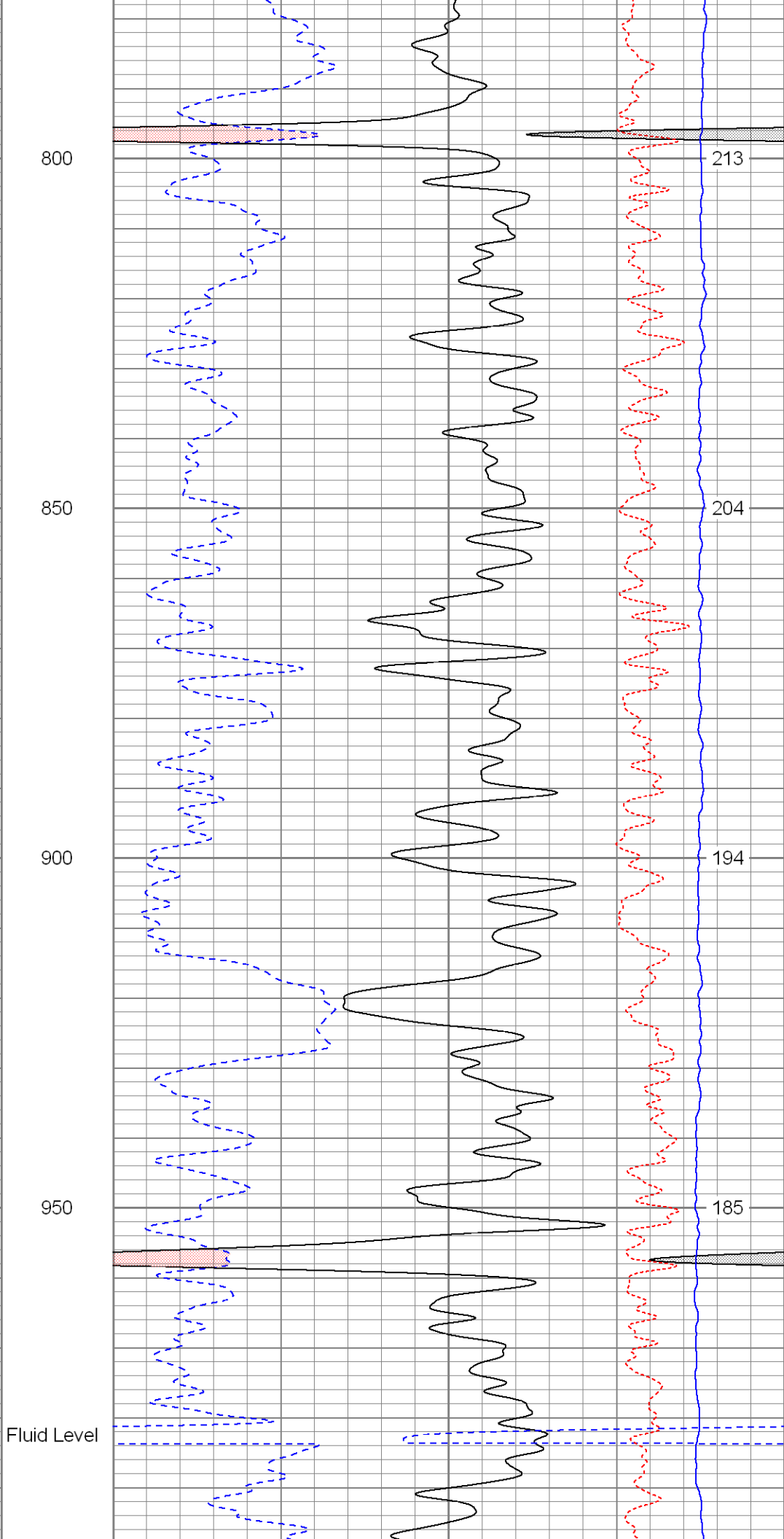
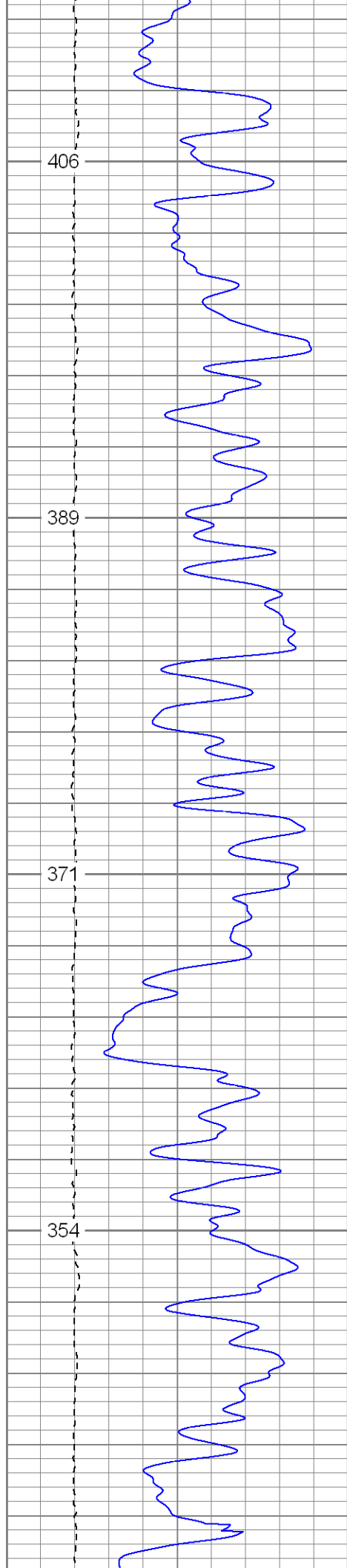


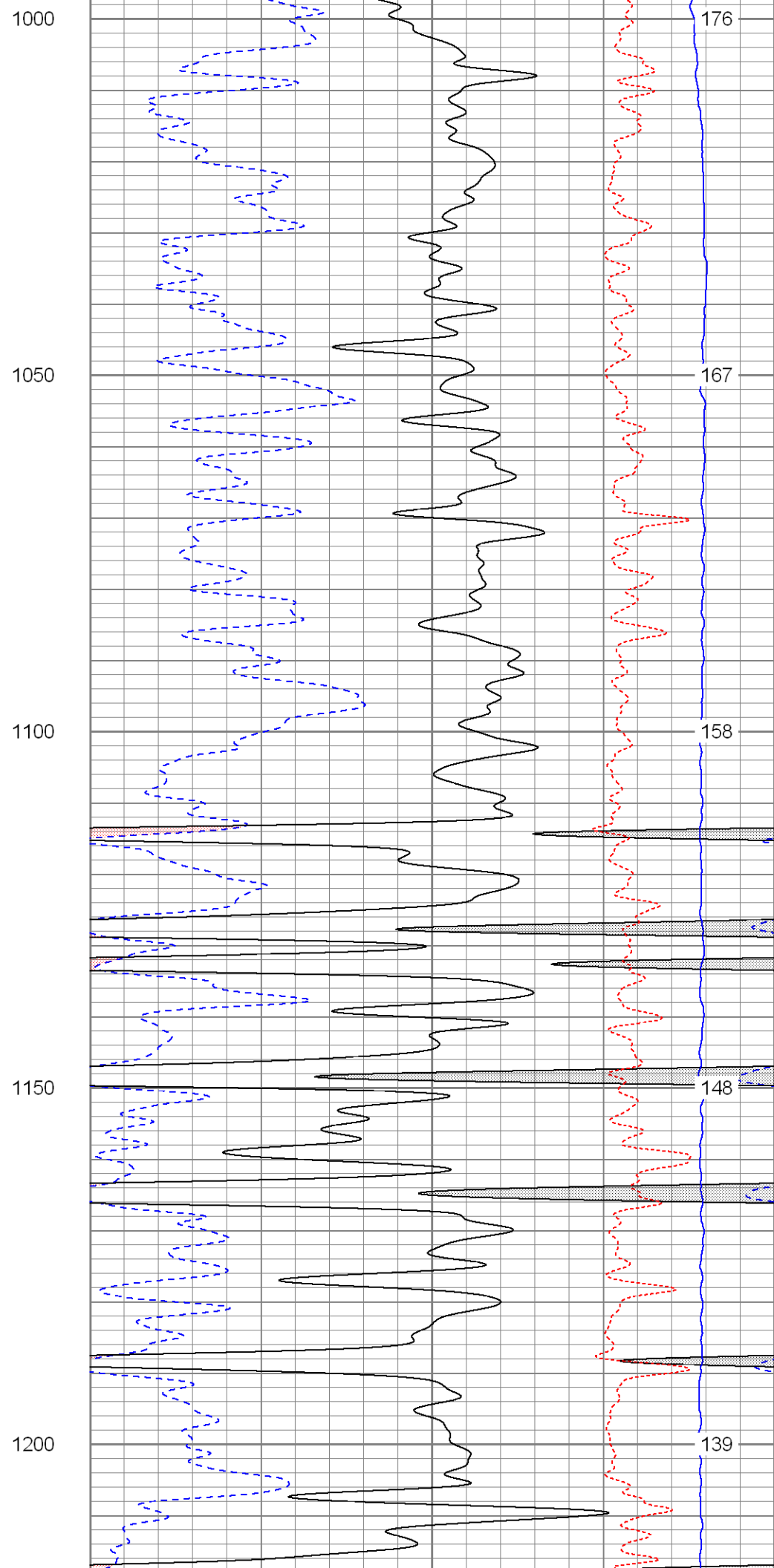
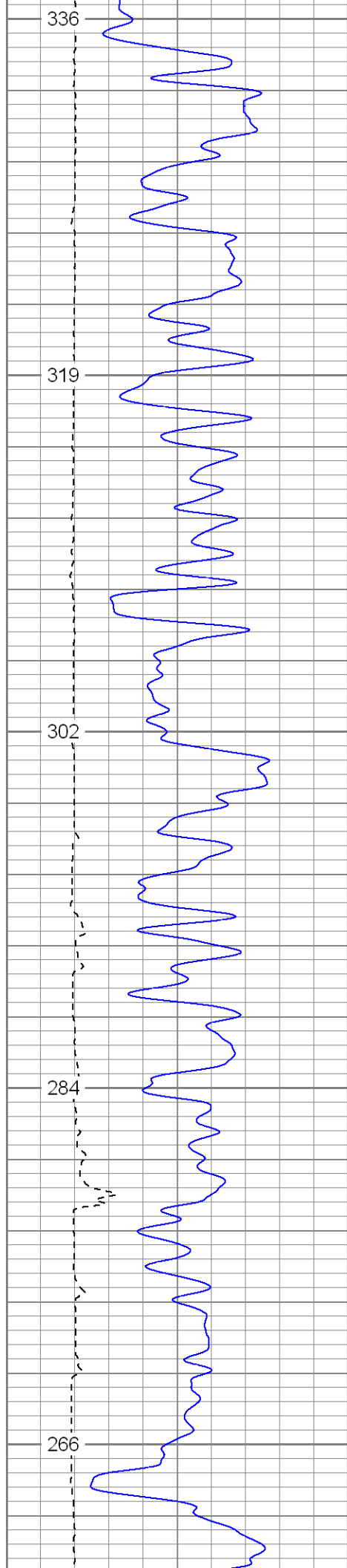
Surface Casing  
500

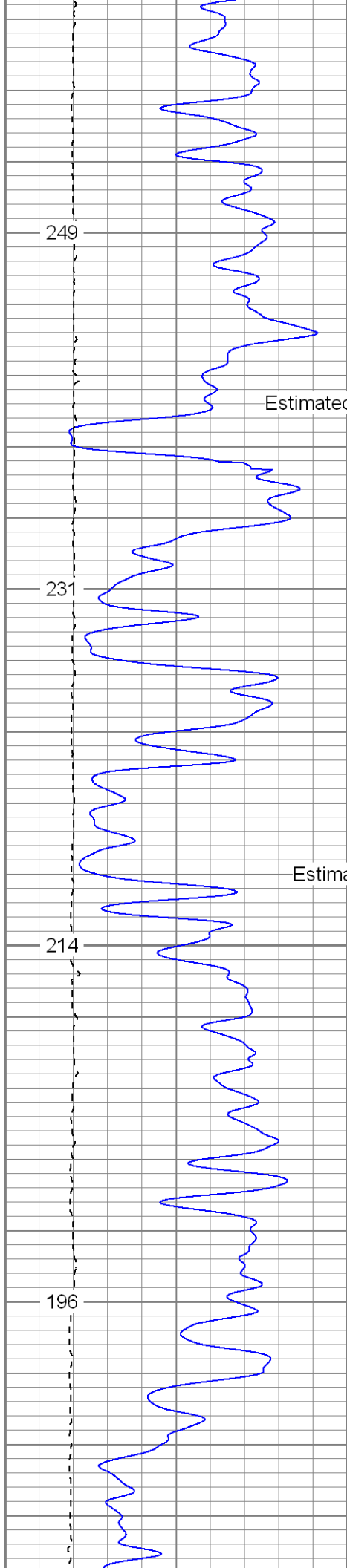
550











Estimated Top of Conglomerate

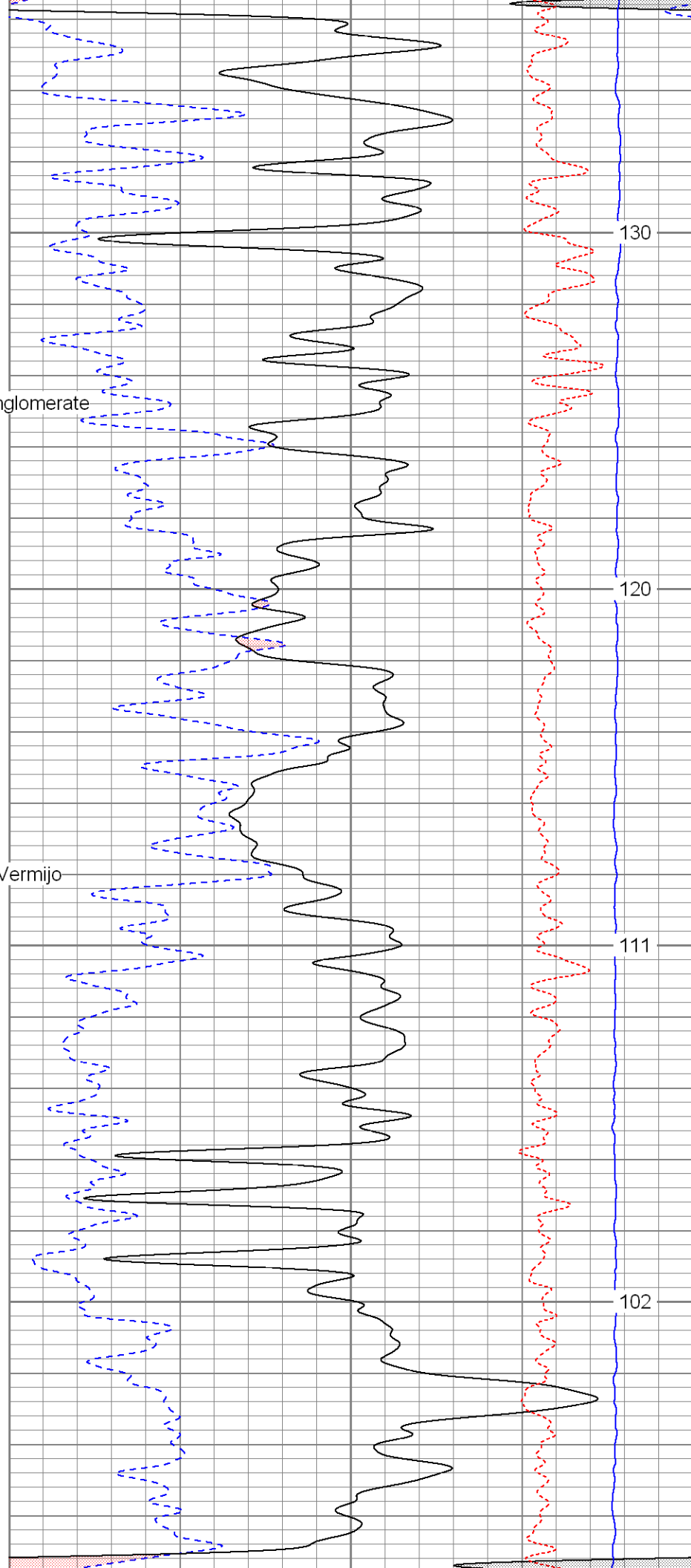
Estimated Top of Vermijo

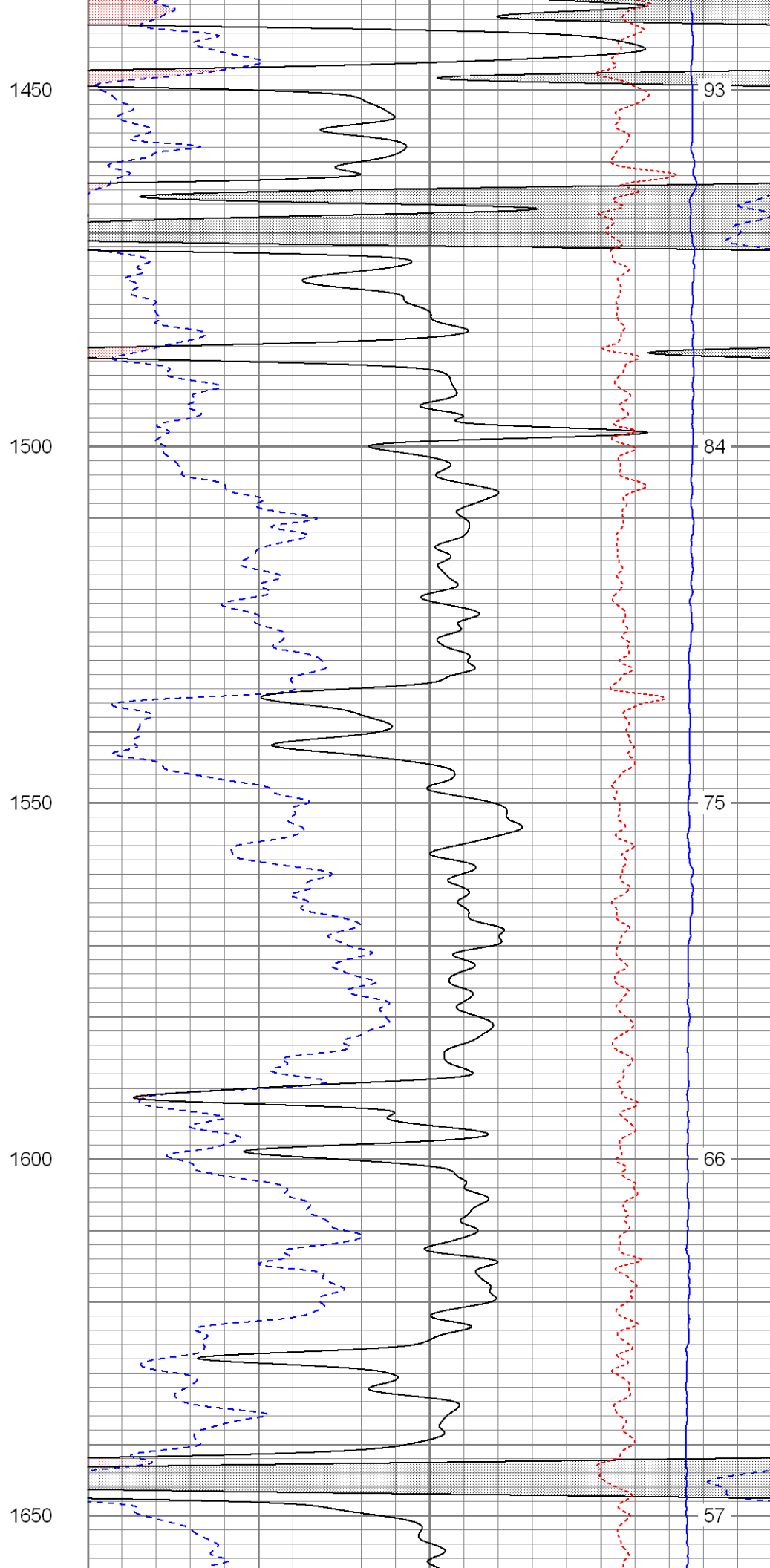
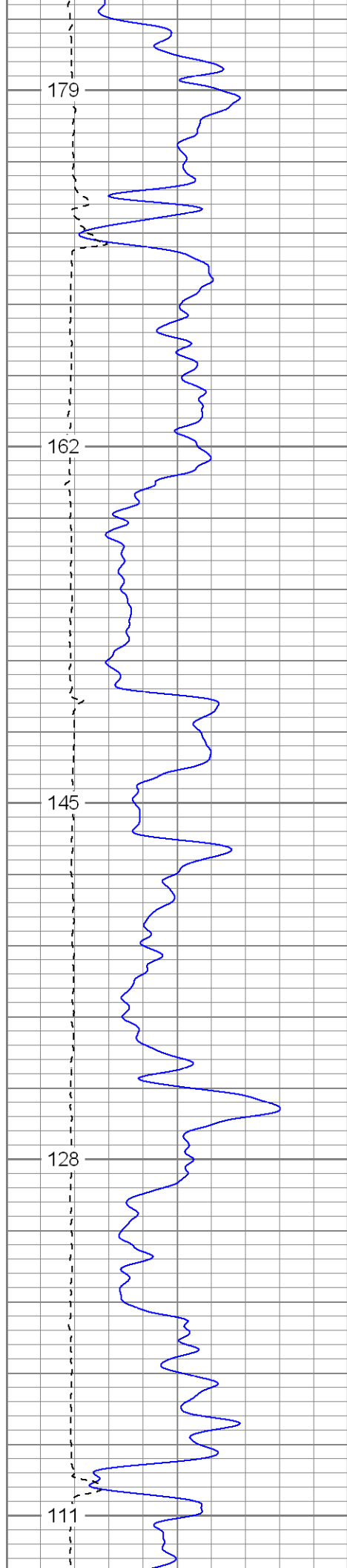
1250

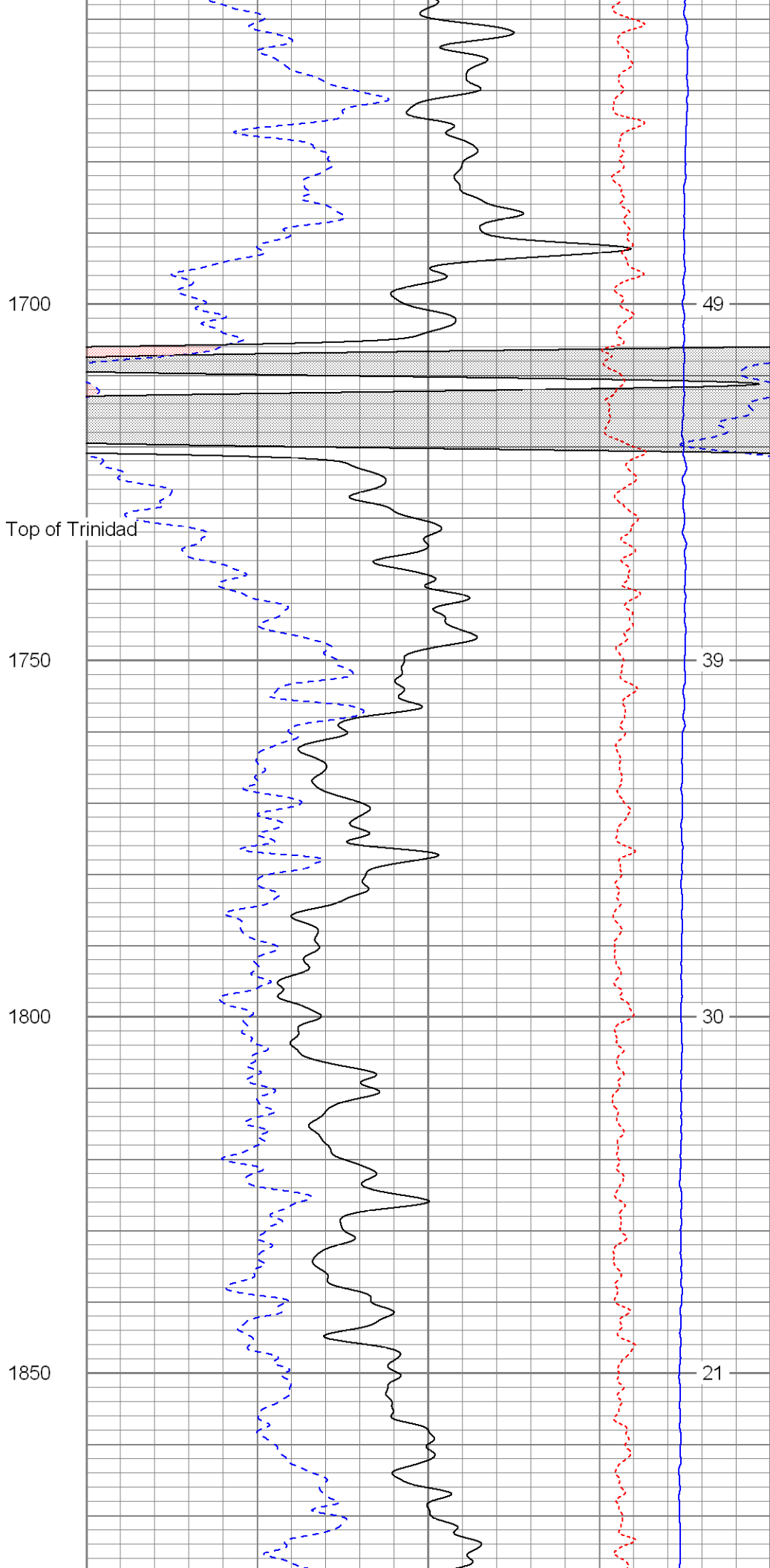
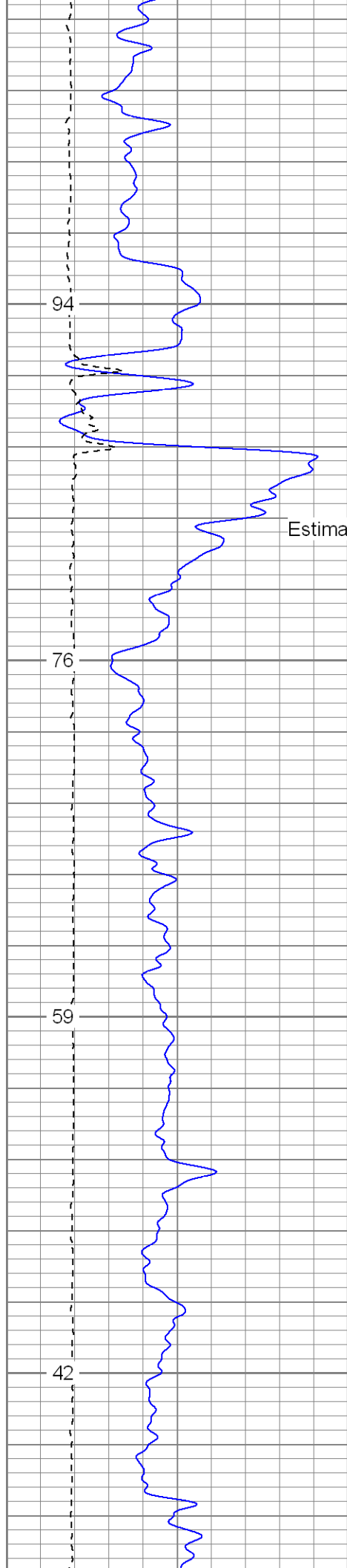
1300

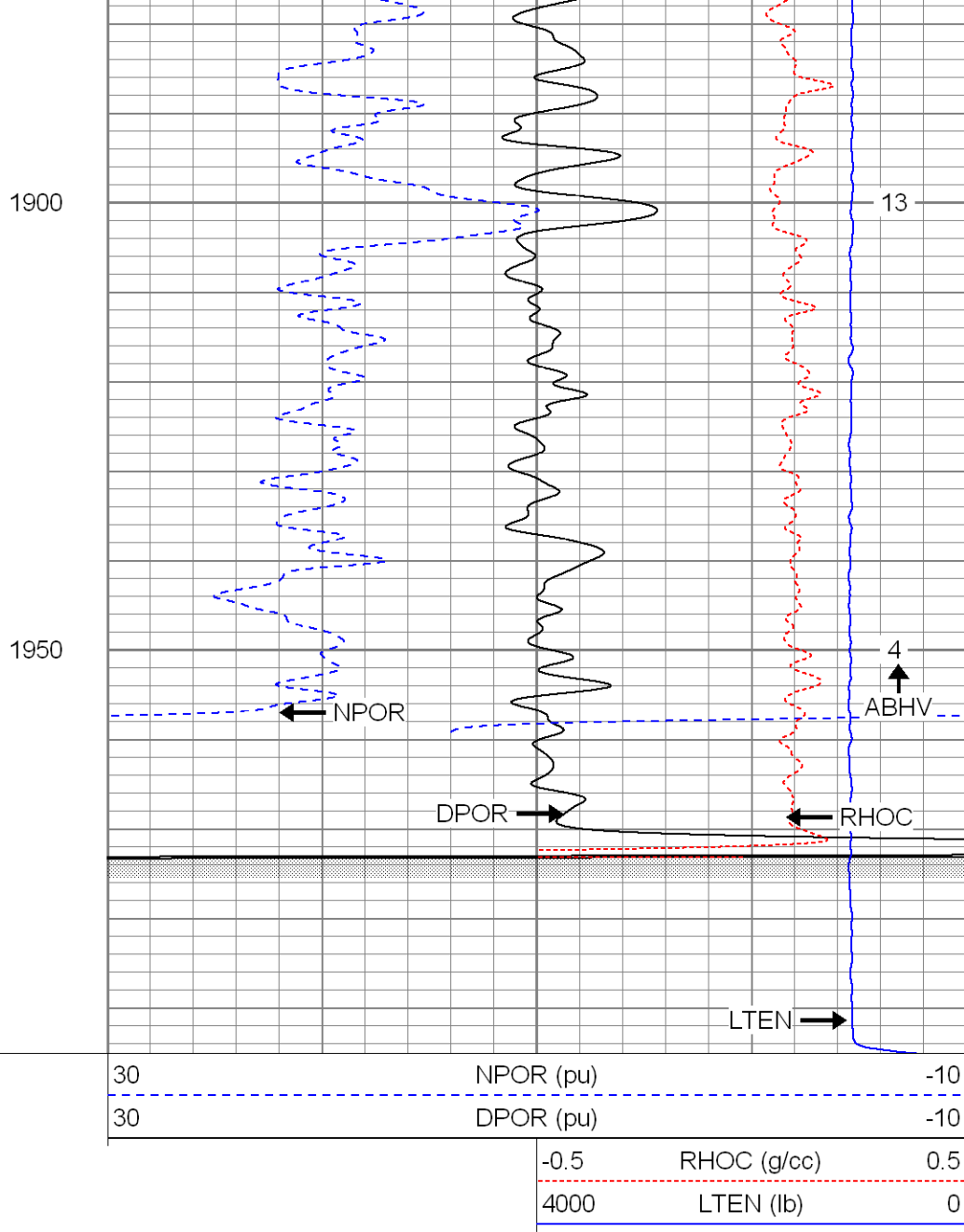
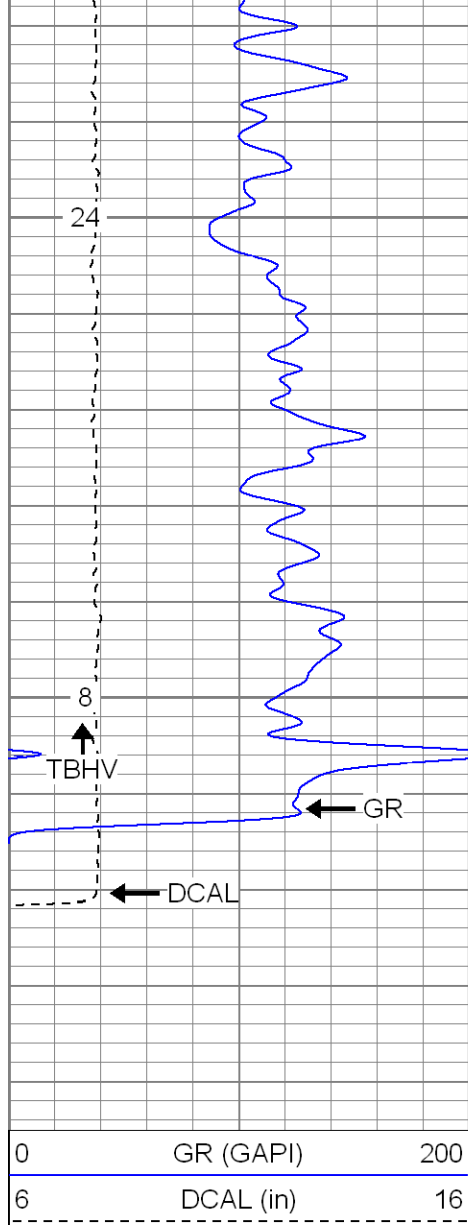
1350

1400









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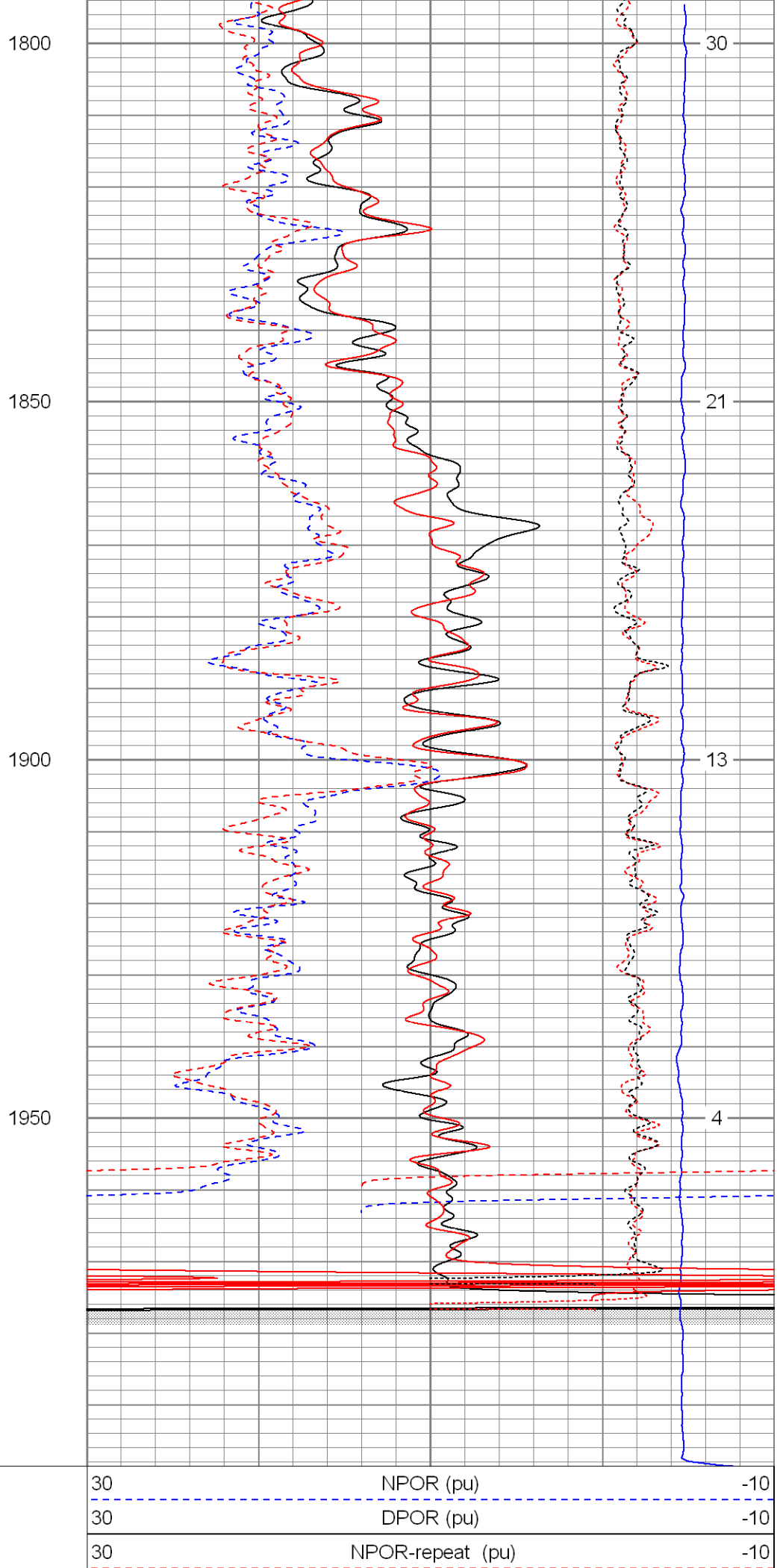
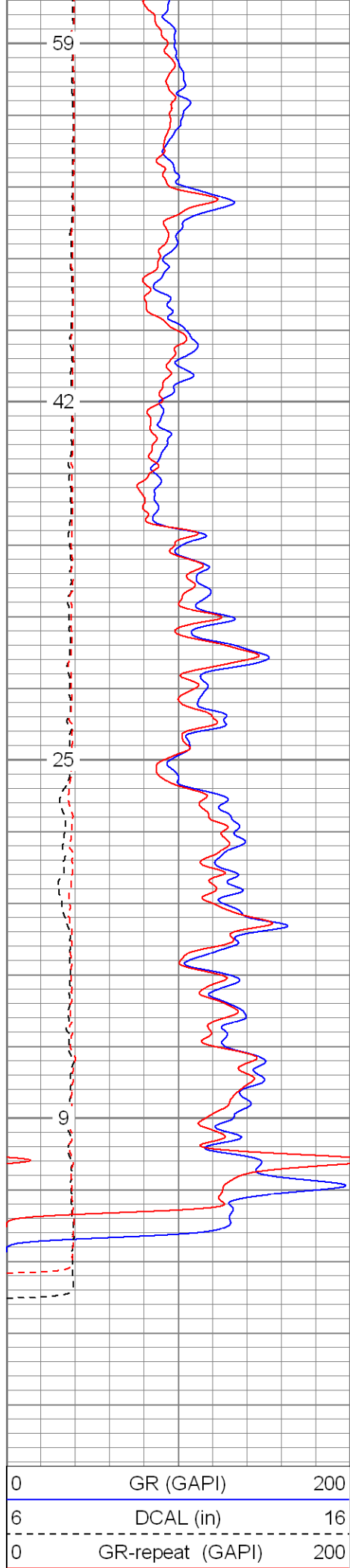
# Repeat Section

Database File: xtoac0509v.db  
Dataset Pathname: pass1.1  
Presentation Format: cdnl  
Dataset Creation: Mon Jul 09 16:21:09 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	200
6	DCAL (in)	16
0	GR-repeat (GAPI)	200
6	DCAL-repeat (in)	16

30	NPOR (pu)	-10
30	DPOR (pu)	-10
30	NPOR-repeat (pu)	-10
30	DPOR-repeat (pu)	-10
-0.5	RHOC (g/cc)	0.5
4000	LTEN (lb)	0
-0.5	RHOC-repeat (g/cc)	0.5





6	DCAL-repeat (in)	16	30	DPOR-repeat (pu)	-10	
				-0.5	RHOC (g/cc)	0.5
				4000	LTEN (lb)	0
				-0.5	RHOC-repeat (g/cc)	0.5



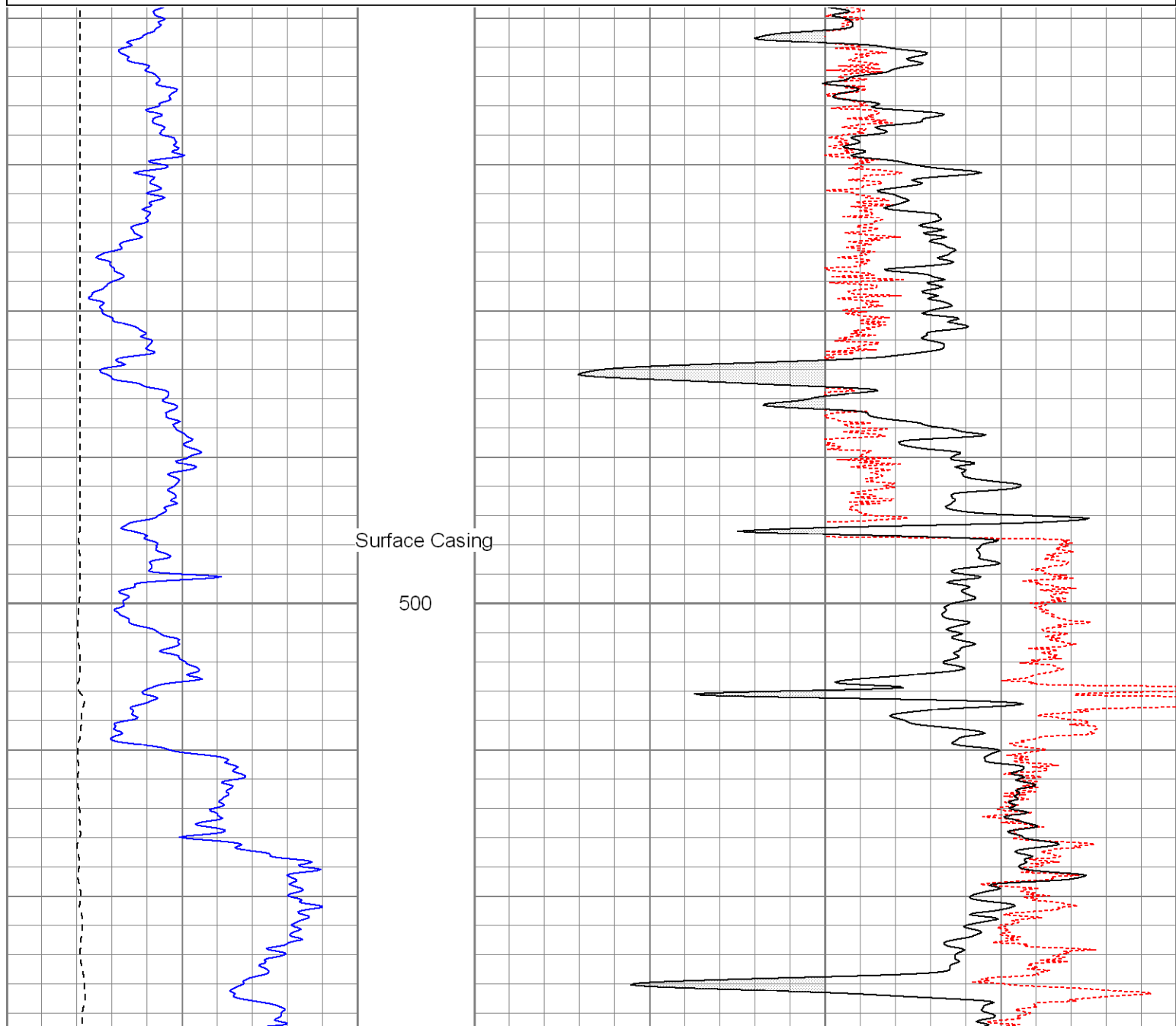
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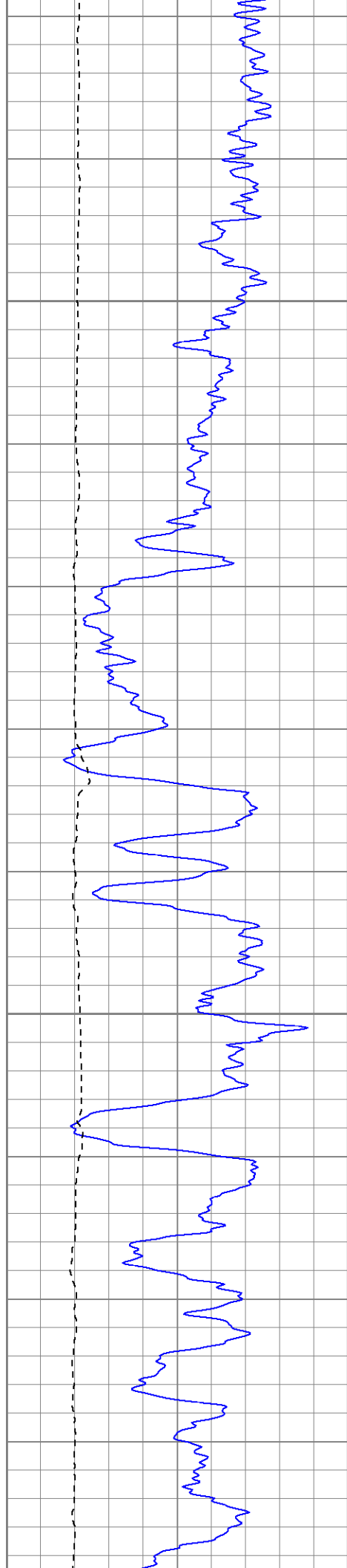
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# High Resolution Pass

Database File: xtoac0509v.db  
Dataset Pathname: pass2.2  
Presentation Format: cdlhr  
Dataset Creation: Tue Jul 10 07:14:10 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:120

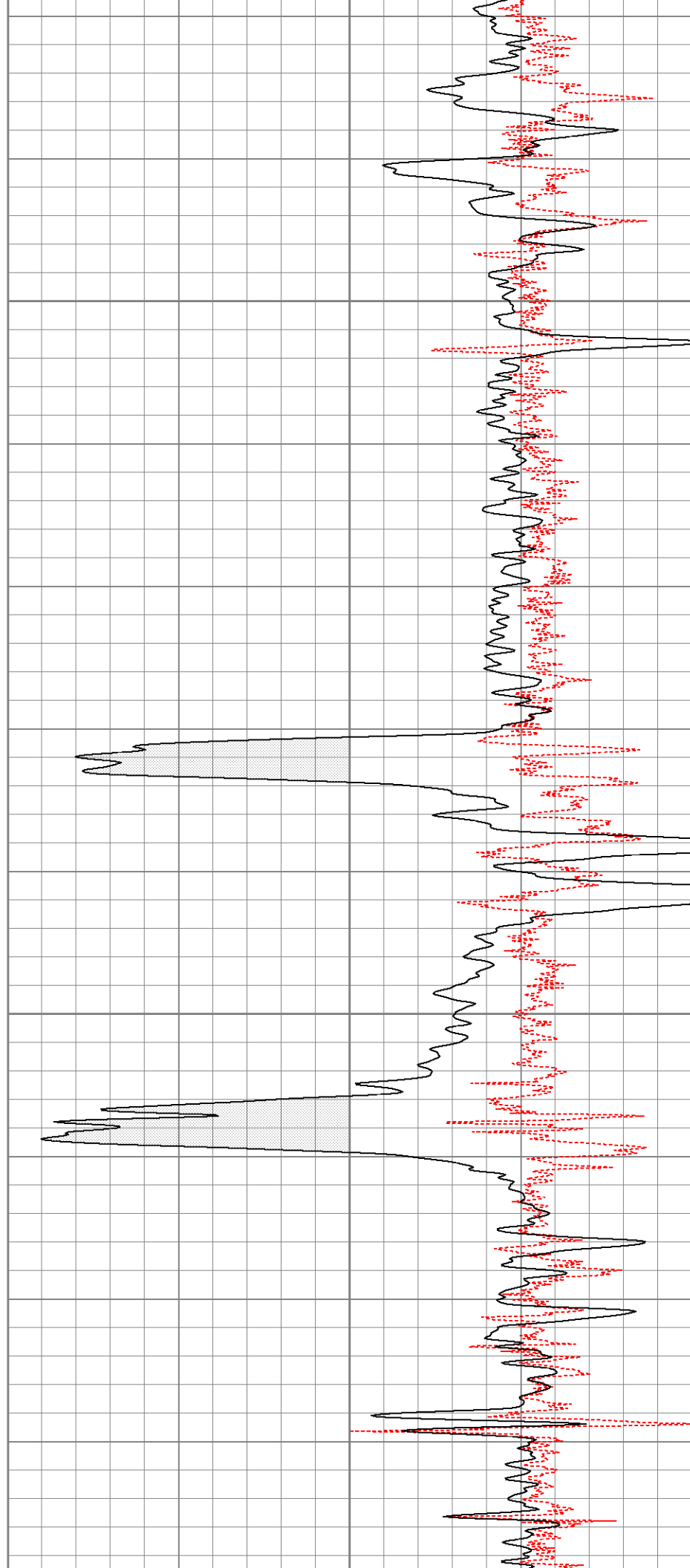
0	GR (GAPI)	200	1	RHOB (g/cc)		3
6	DCAL (in)	16		-0.5	RHOC (g/cc)	0.5

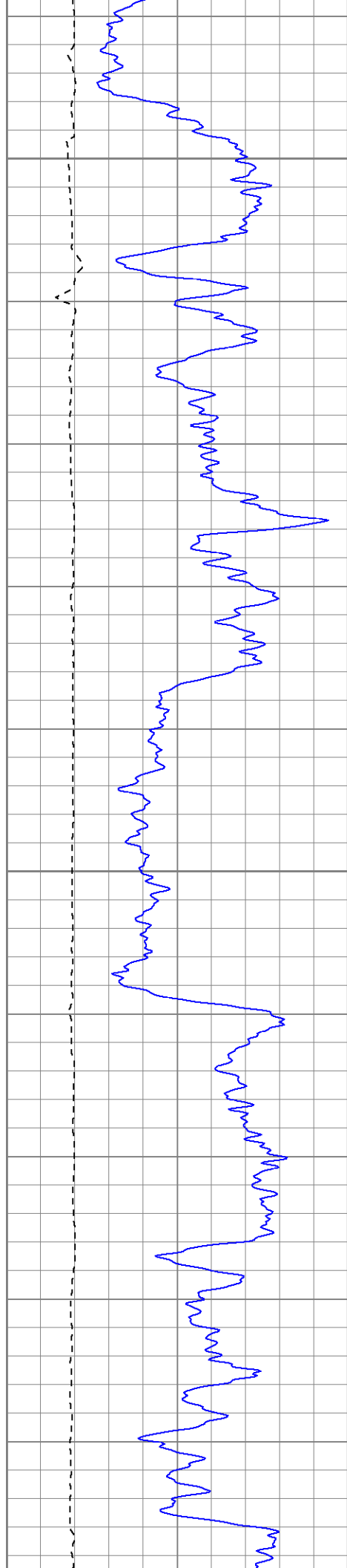




550

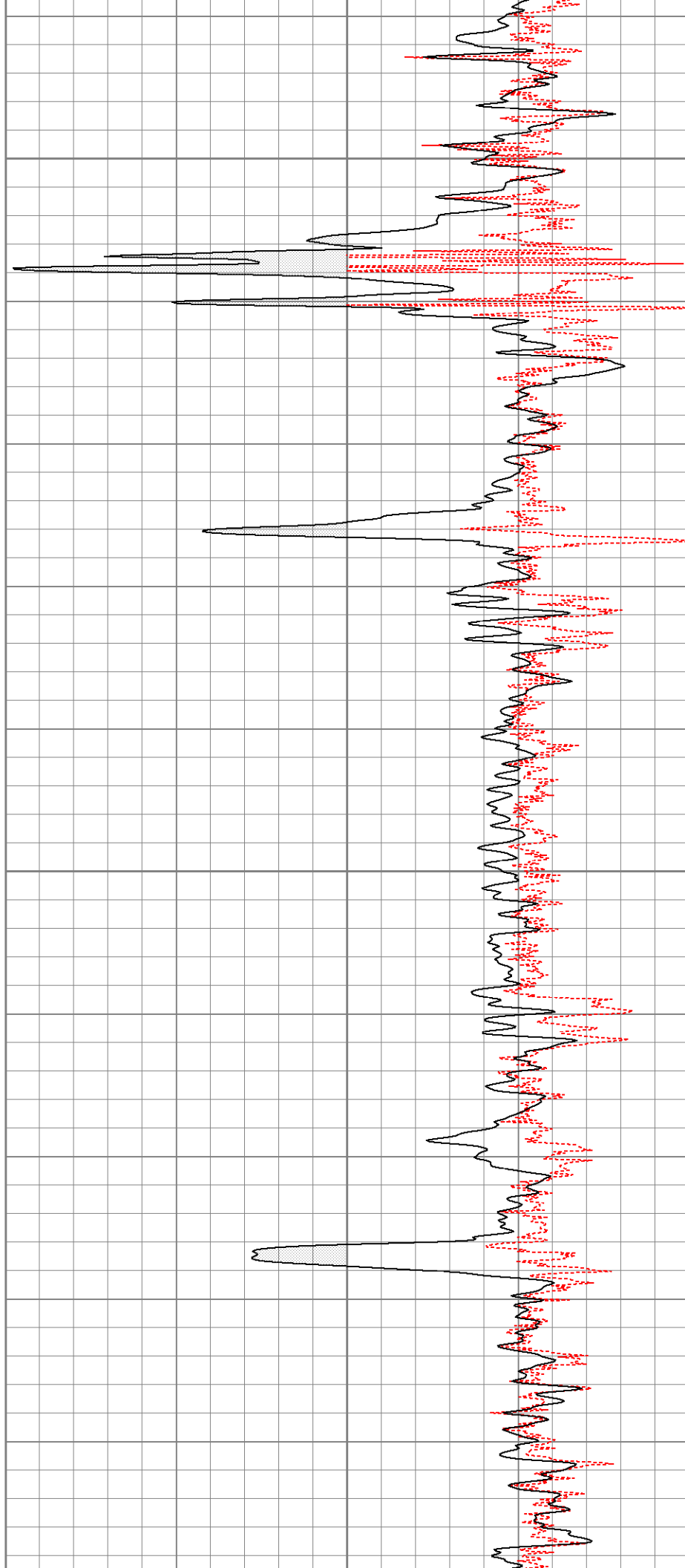
600





650

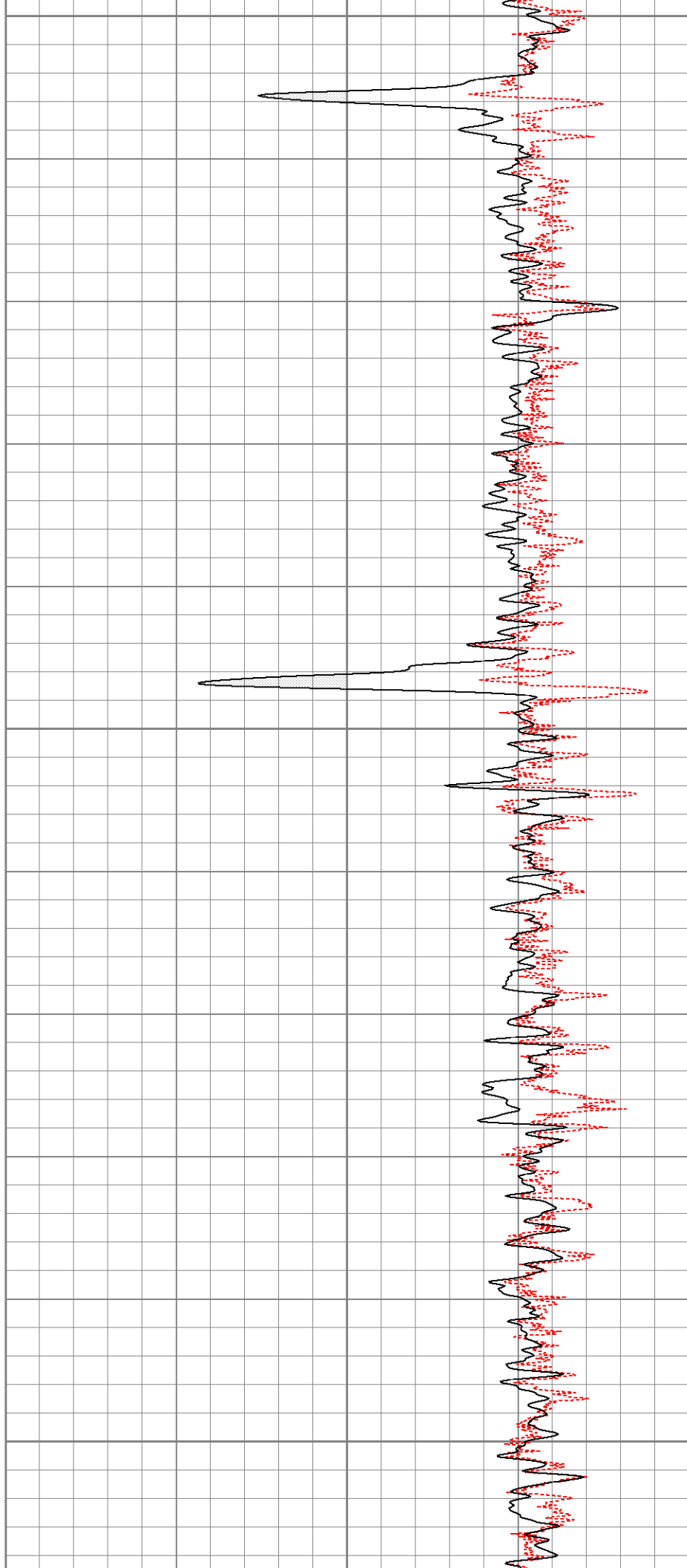
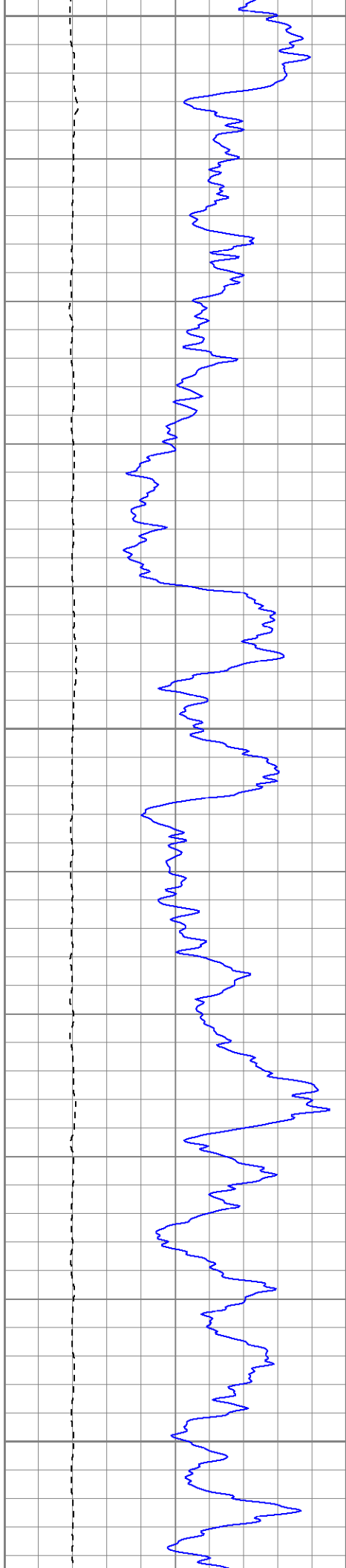
700

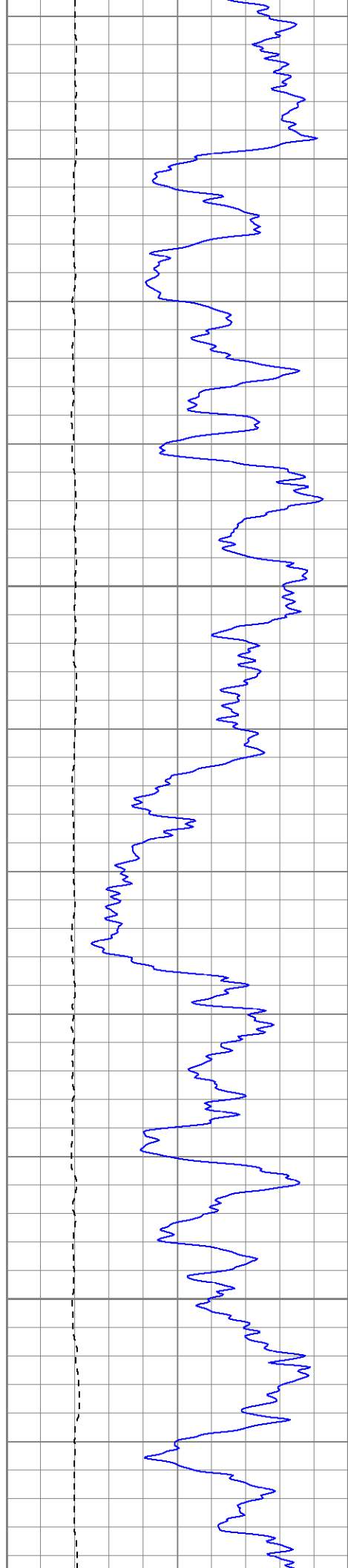


750

800

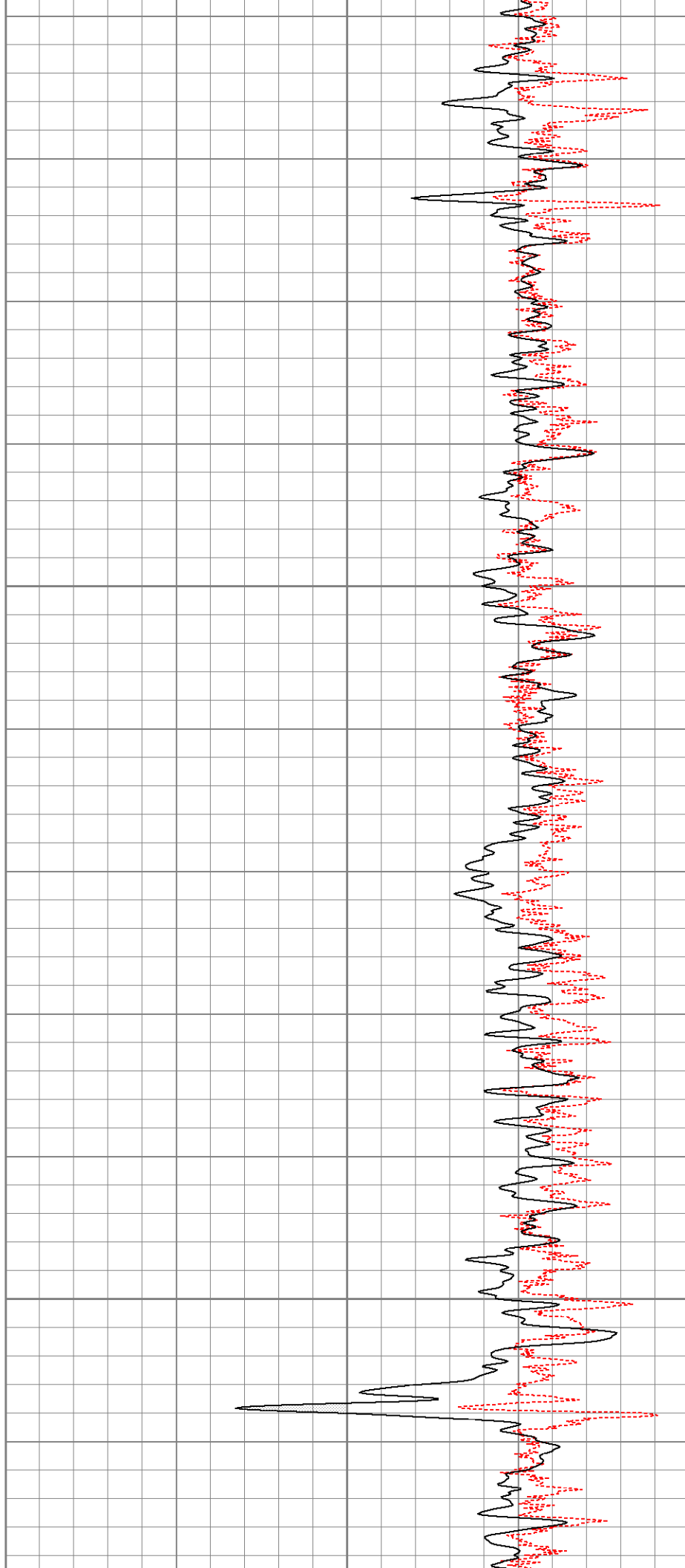
850

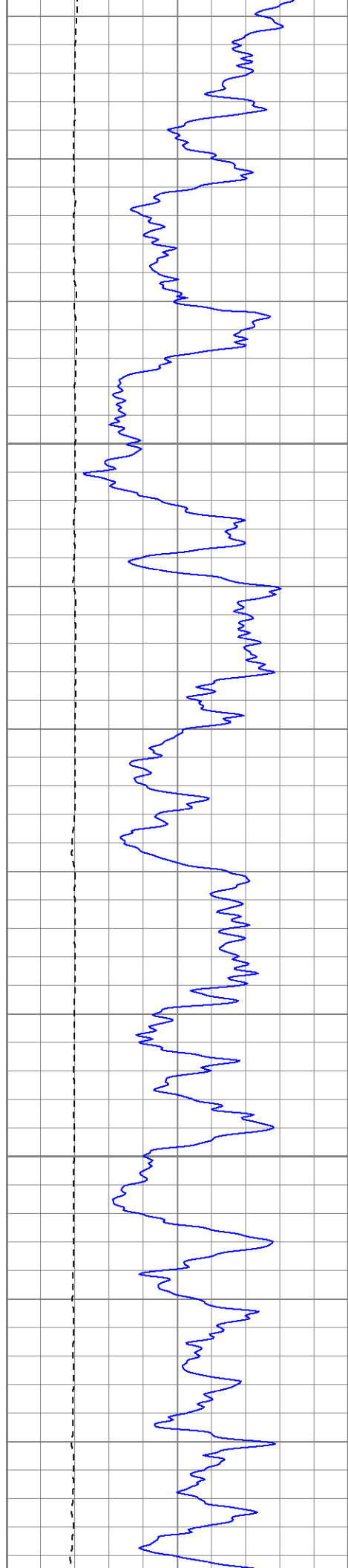




900

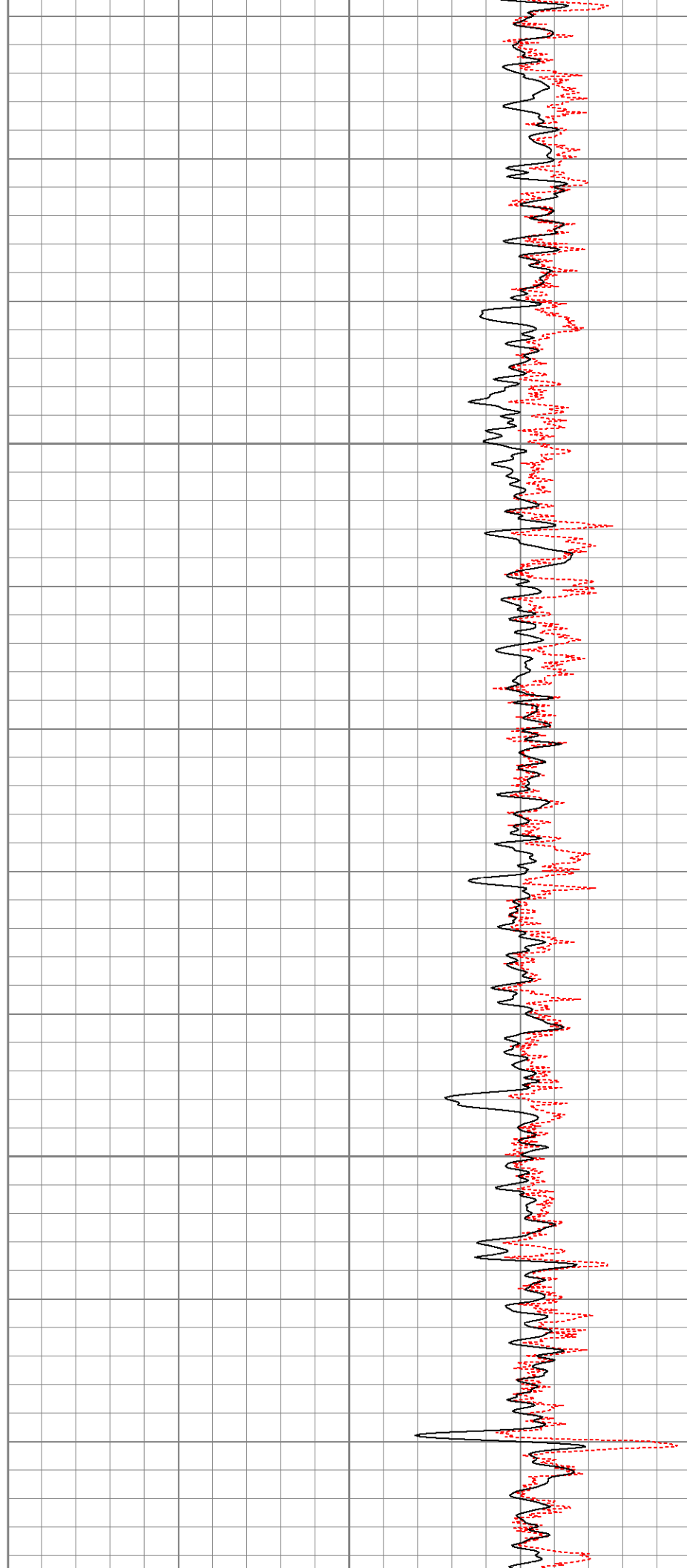
950

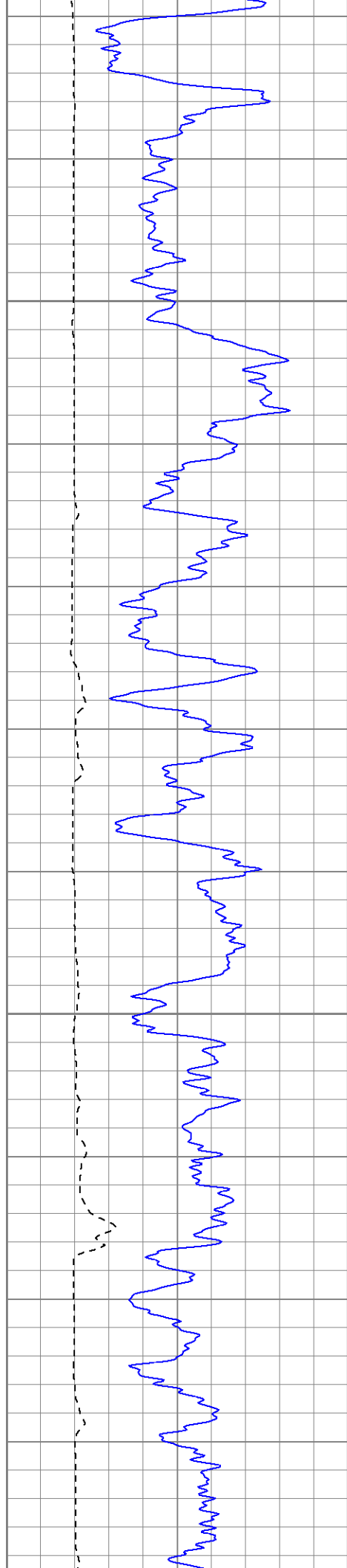




1000

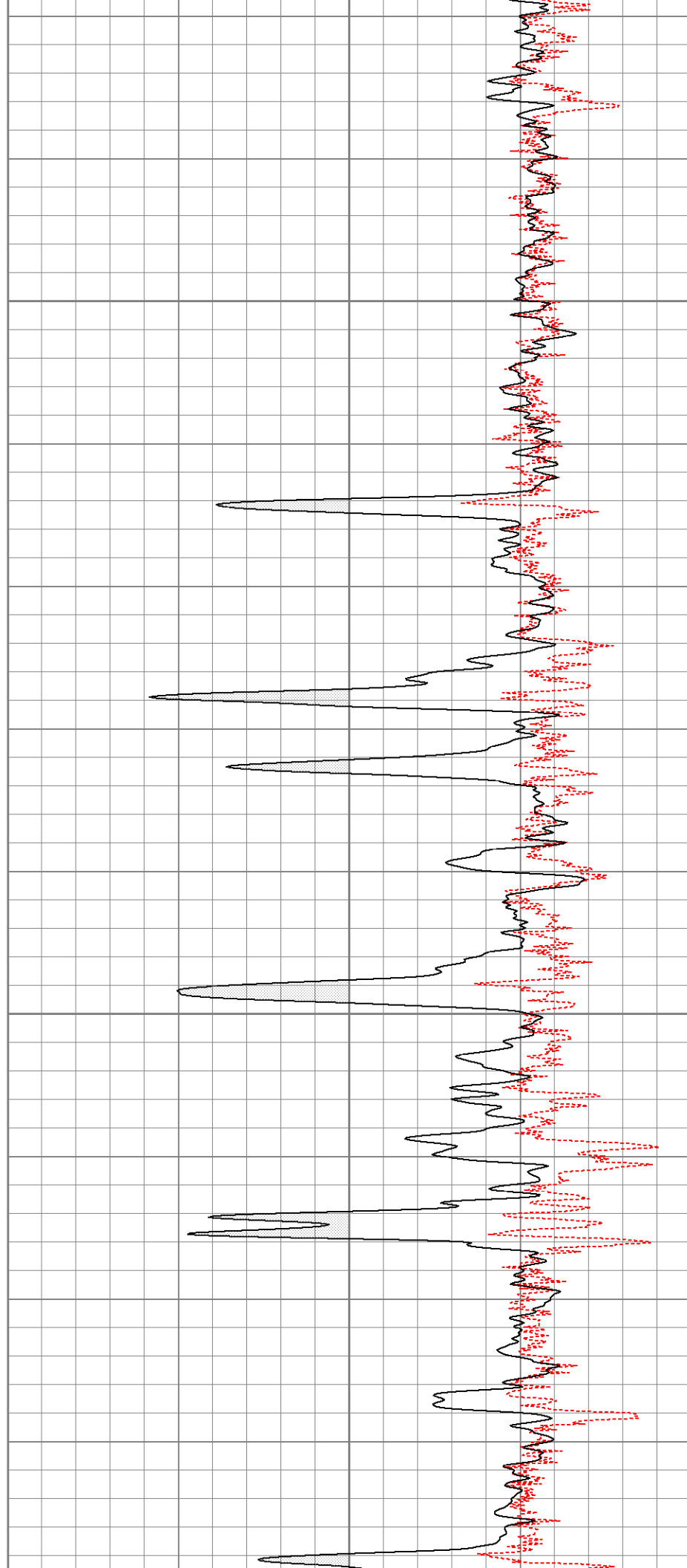
1050



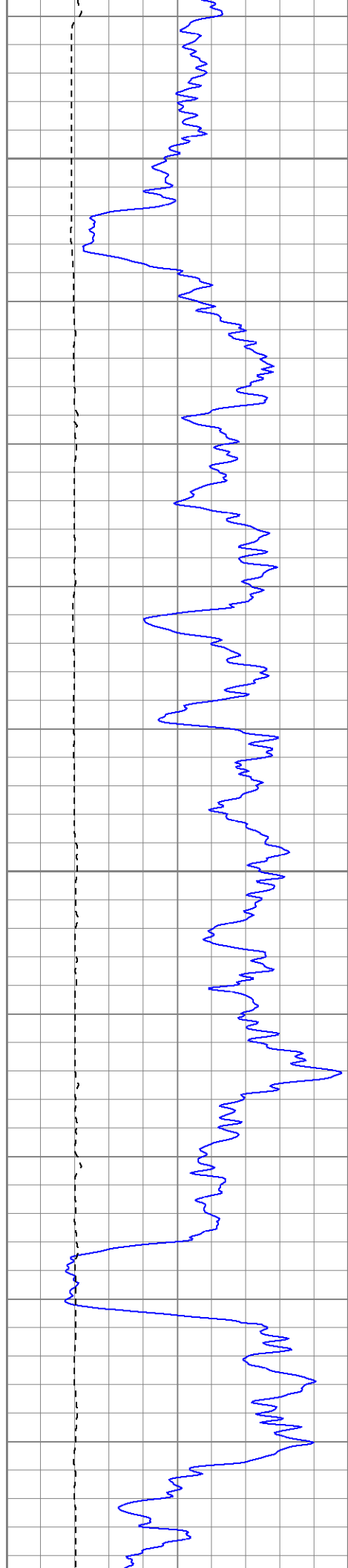


1100

1150

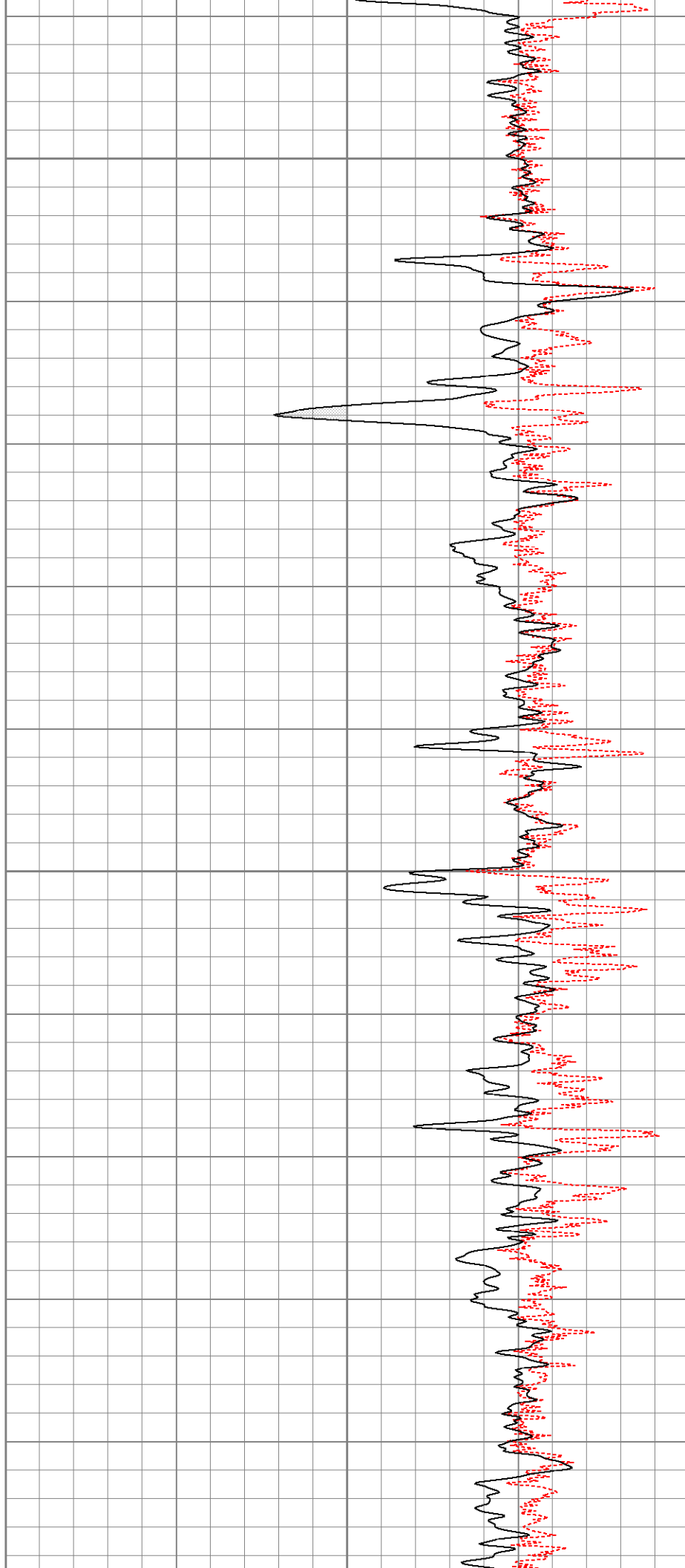






1200

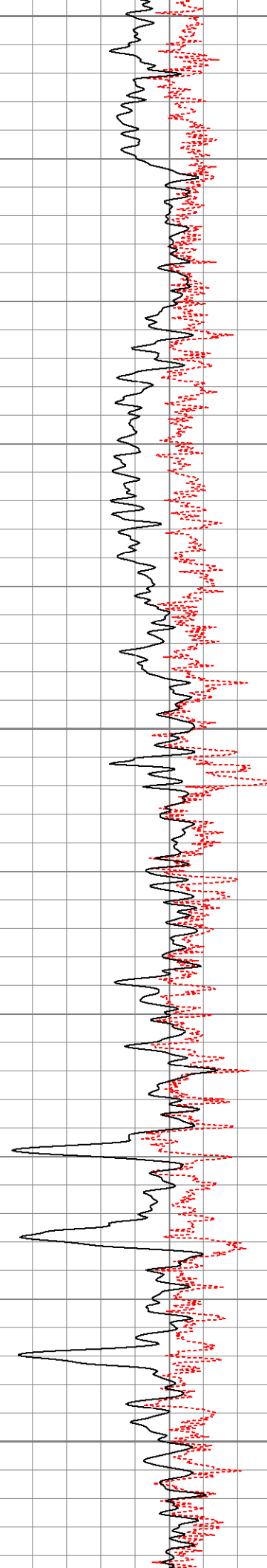
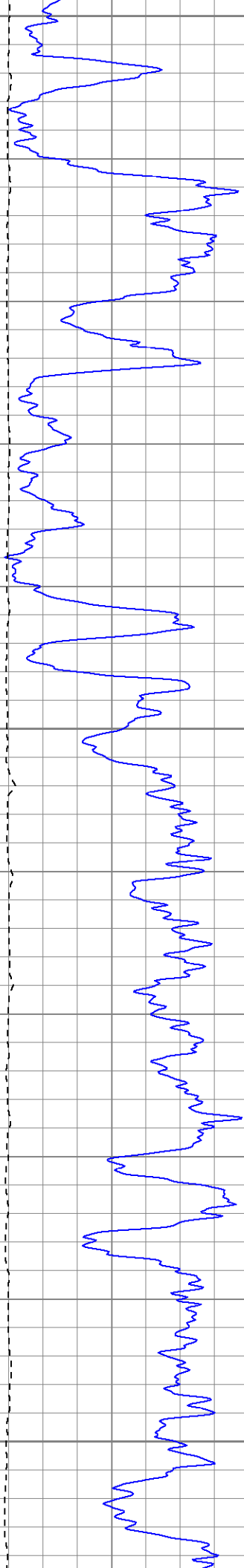
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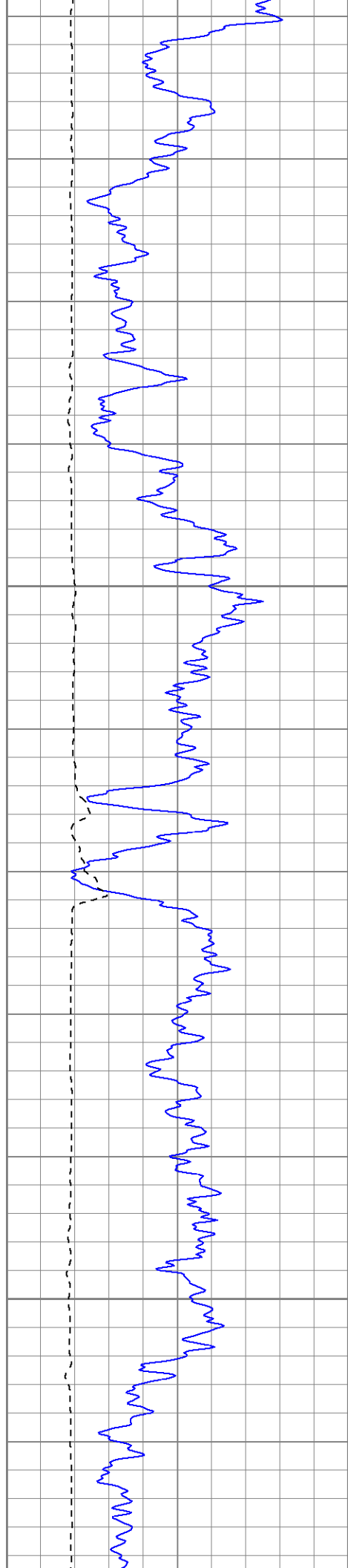


1300

1350

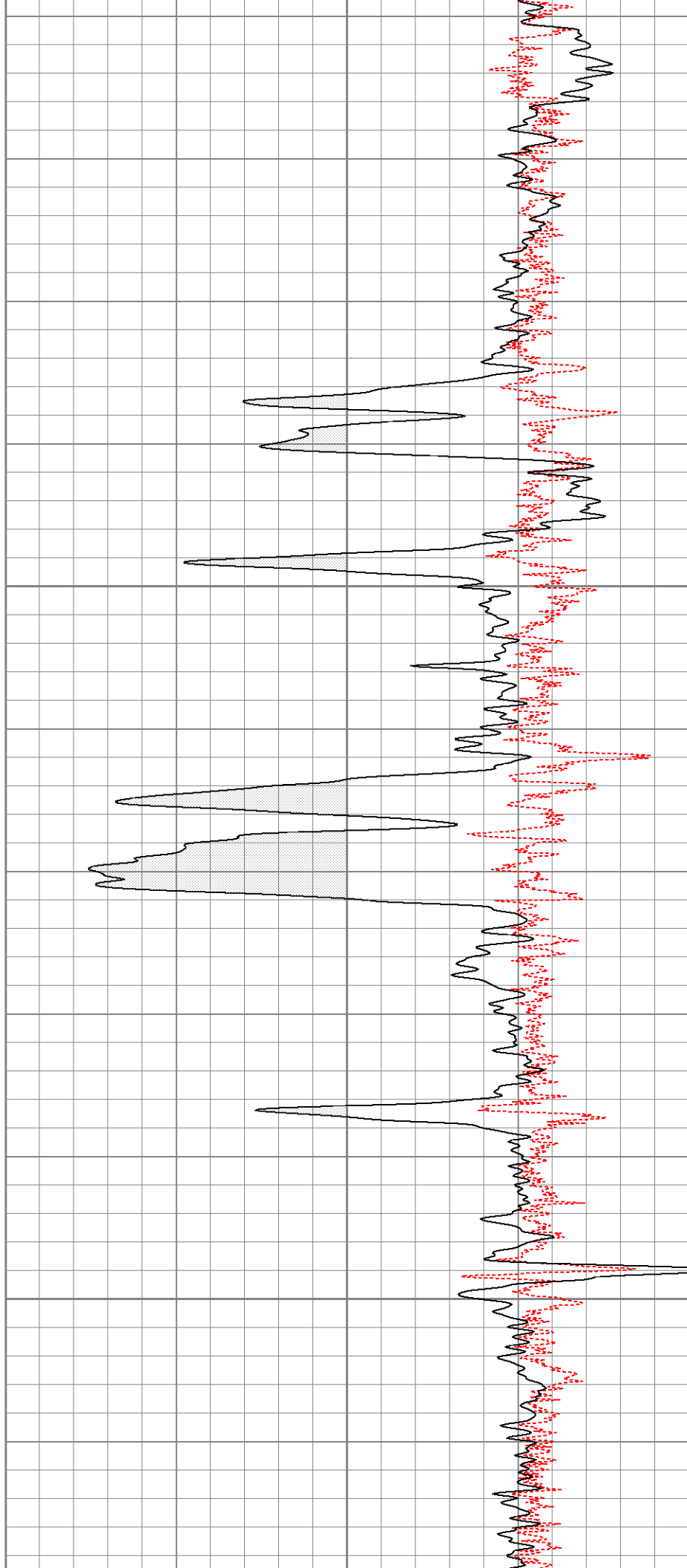
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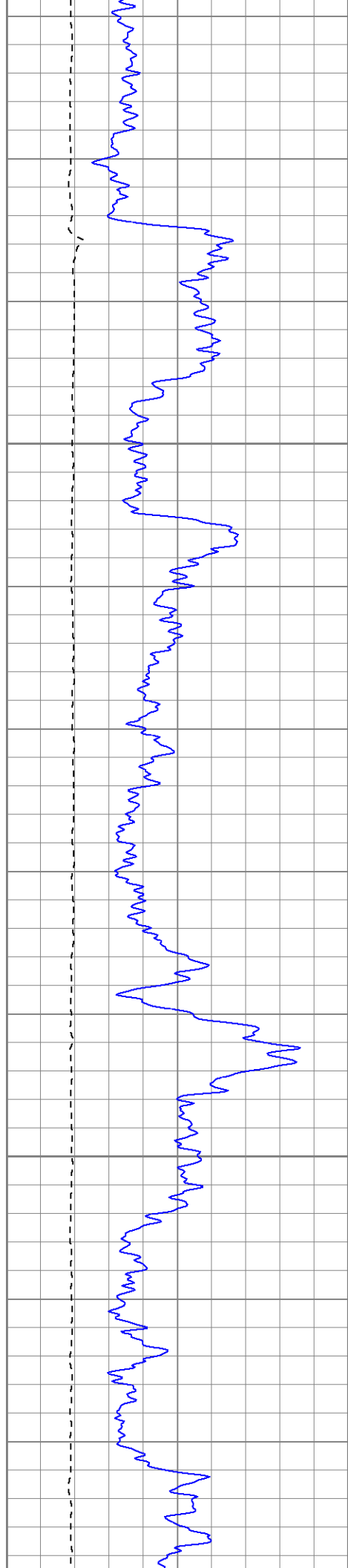




1450

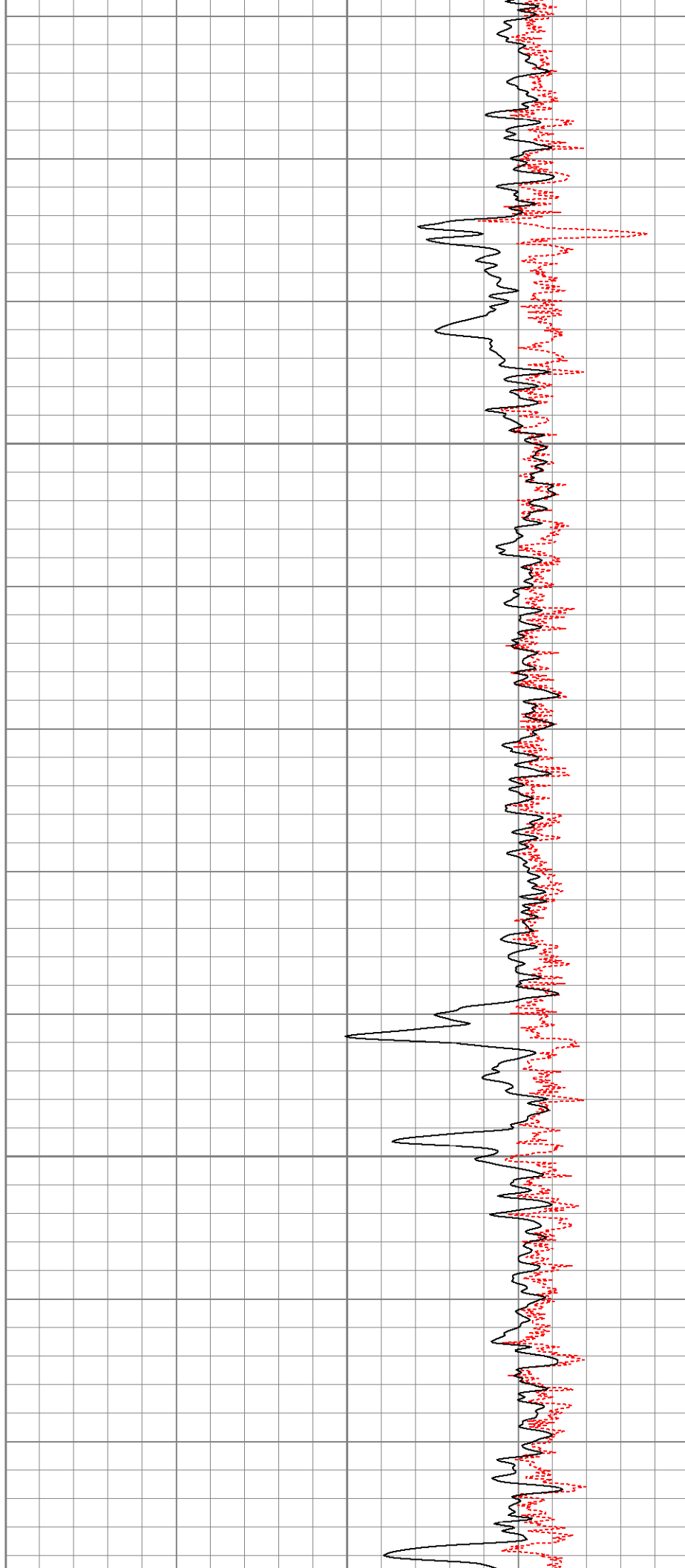
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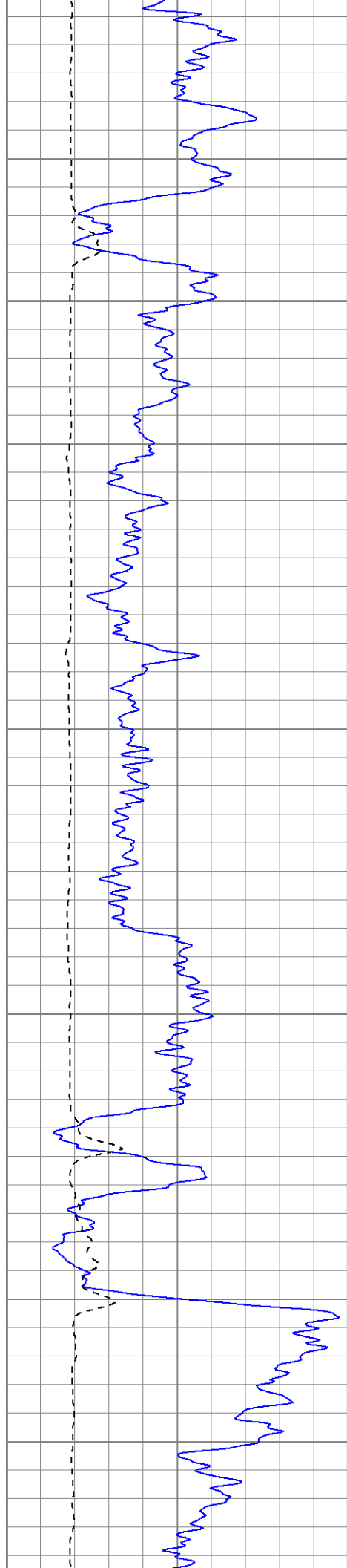




1550

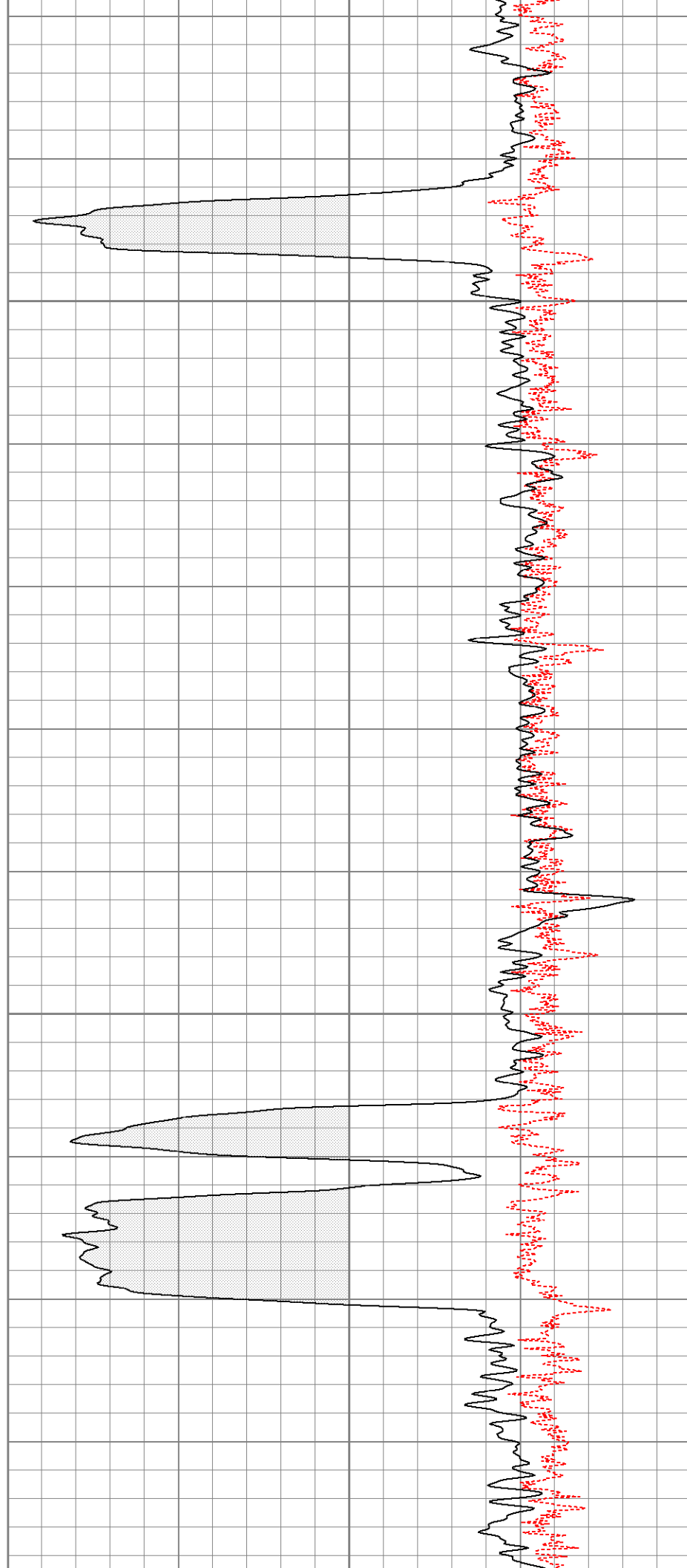
1600

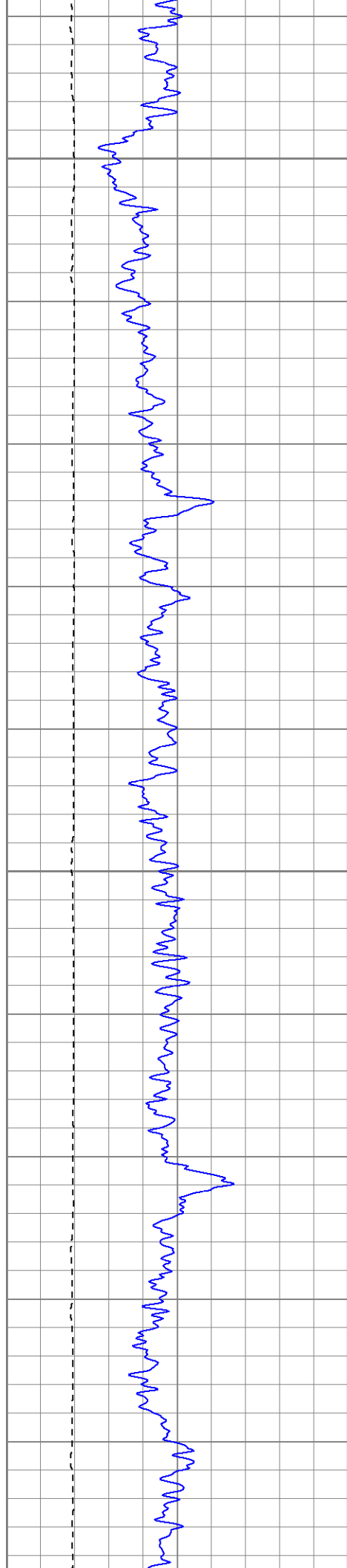




1650

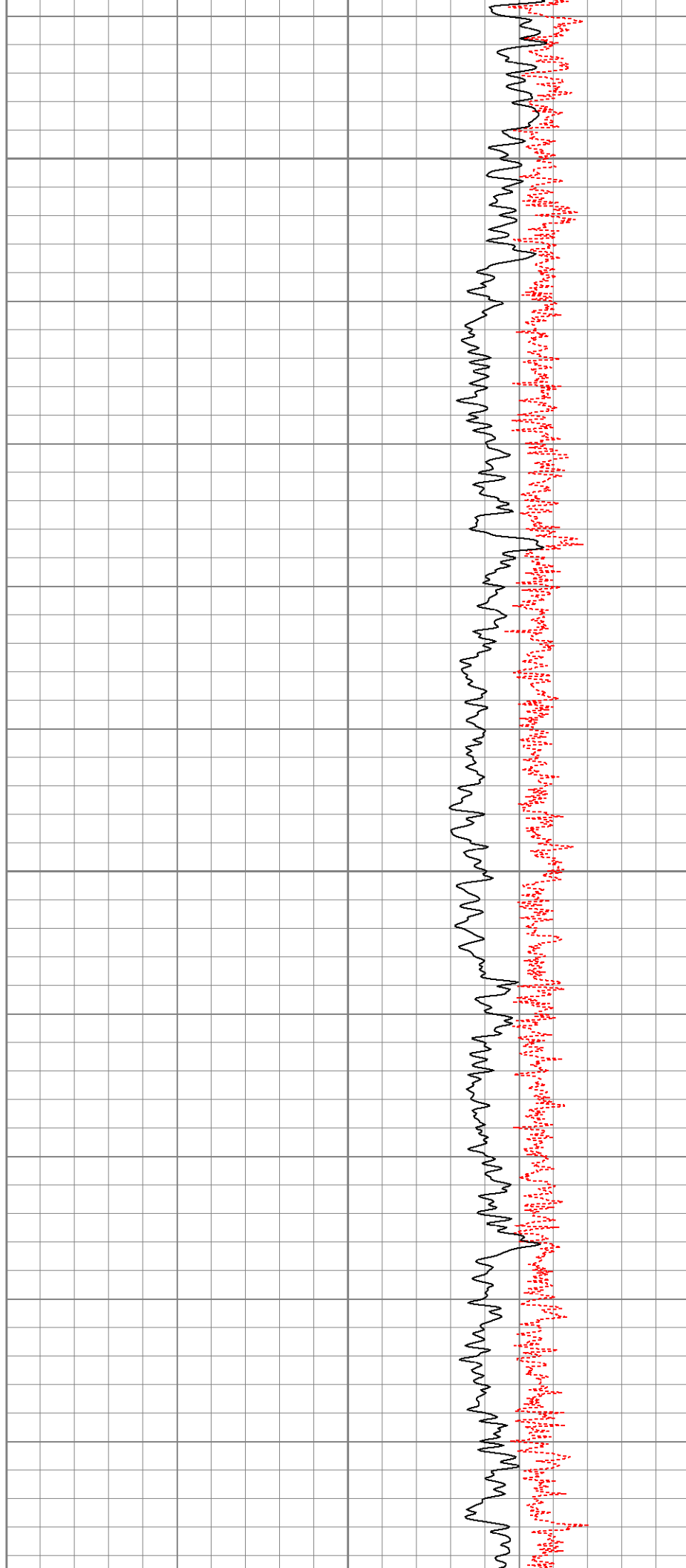
1700

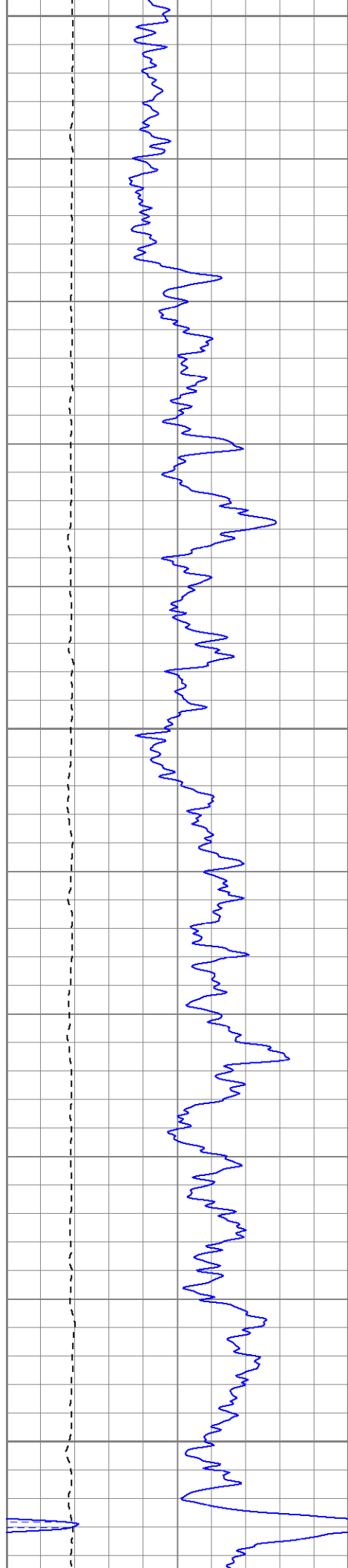




1750

1800

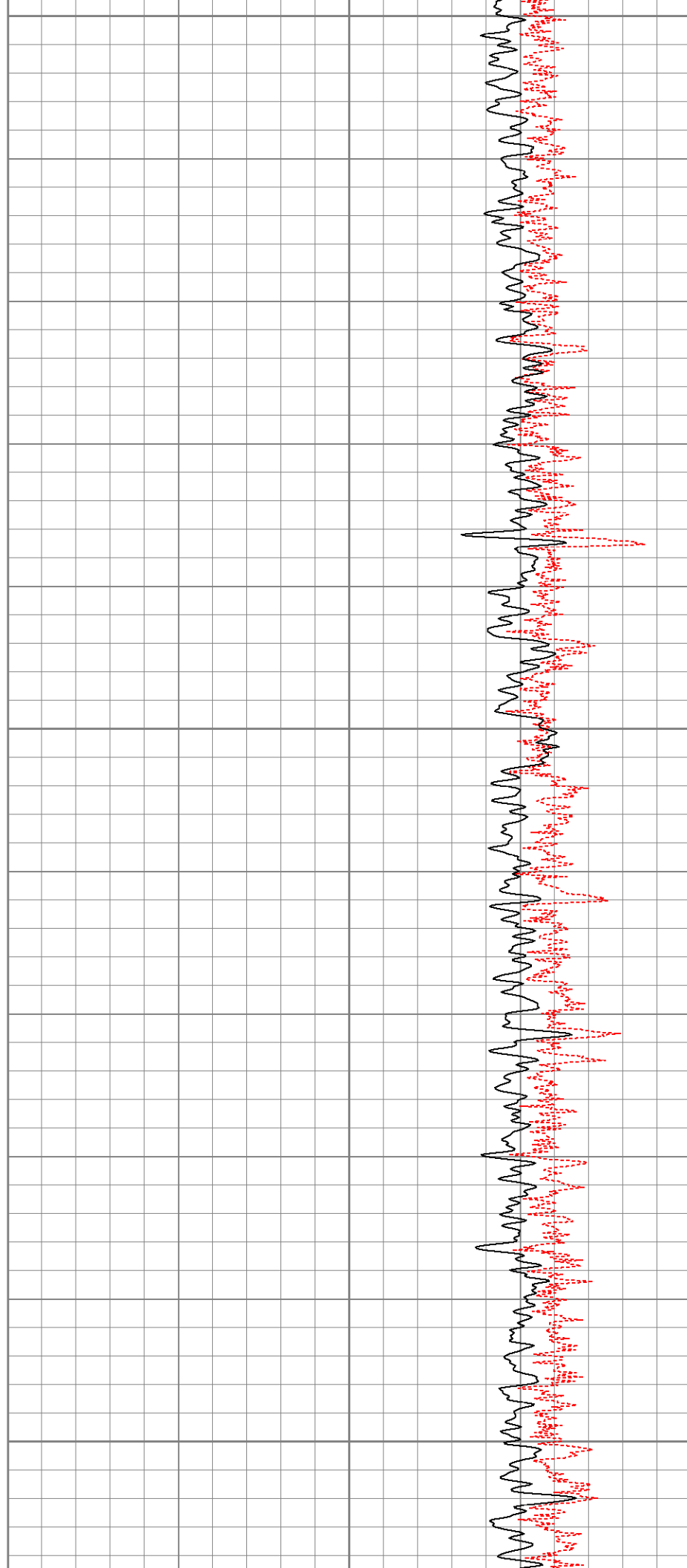


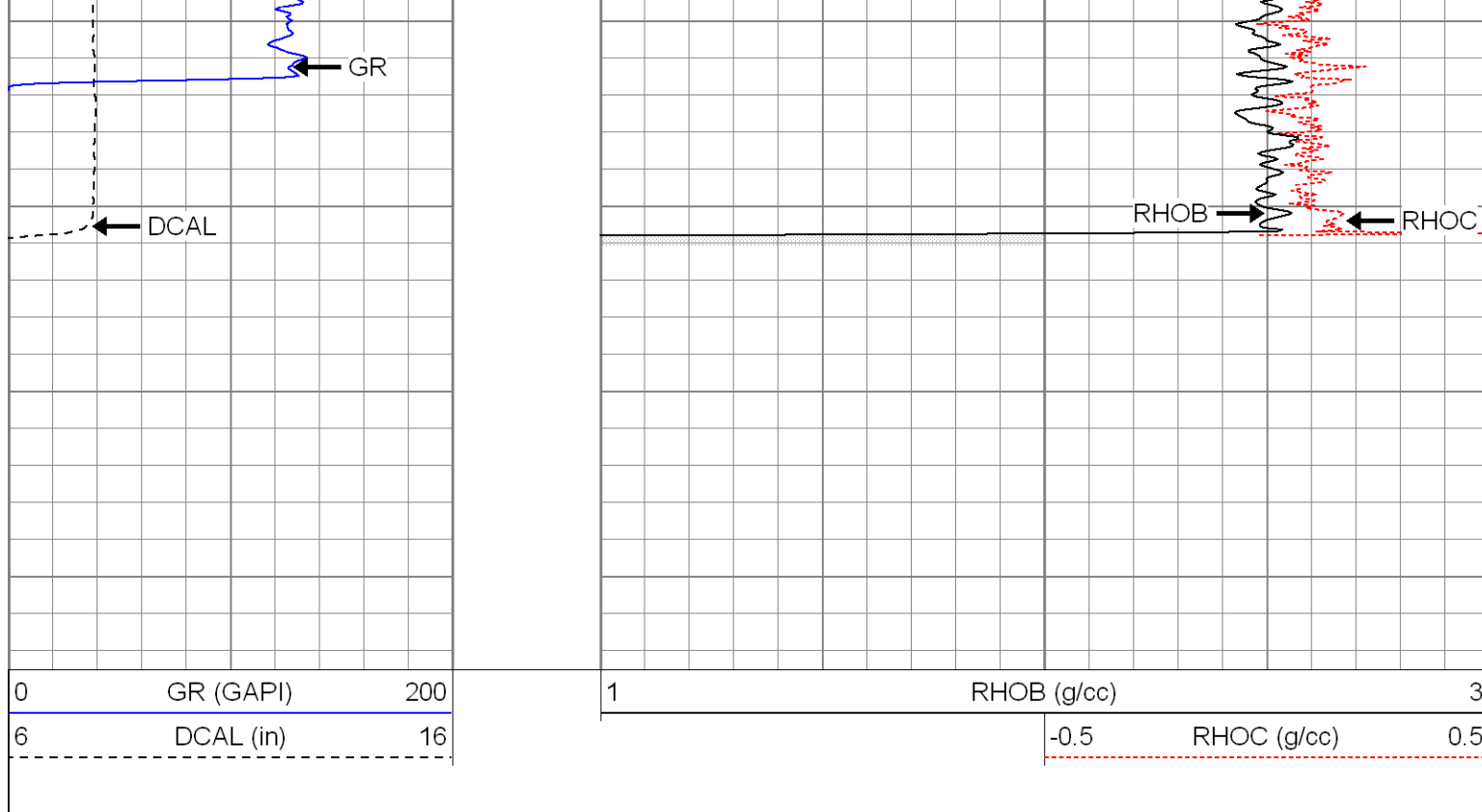


1850

1900

1950





### Calibration Report

Database File: xtoac0509v.db  
 Dataset Pathname: pass2  
 Dataset Creation: Mon Jul 09 15:20:39 2007 by Log Open-Cased 061129

### Dual Induction Calibration Report

Serial-Model: 5375-G  
 Surface Cal Performed: Thu Jul 05 11:35:02 2007  
 Downhole Cal Performed: Thu Jul 05 11:35:16 2007

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.659	-1.119
Medium	0.005	0.743	V	0.000	550.000	mmho-m	744.727	-3.505
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.698	-1.159
Medium	0.005	0.743	V	0.000	550.000	mmho-m	744.801	-3.569

#### Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	0.123	499.901	mmho-m	0.039	500.015	mmho-m	1.000	-0.084
Medium	0.245	549.982	mmho-m	0.064	550.009	mmho-m	1.000	-0.182
Shallow	2.506	0.009	V	500.000	2.000	Ohm-m	105.000	0.000

### Compensated Density Calibration Report

Serial-Model: 2118-poilex



Source / Verifier:  
Master Calibration Performed:

/  
Mon May 14 16:51:32 2007

### Master Calibration

	Density			Far Detector	Near Detector	
Magnesium	1.710	g/cc		665.94	685.05	cps
Aluminum	2.590	g/cc		149.68	463.33	cps
Spine Angle = 75.32			Density/Spine Ratio = 0.570			
	Size			Reading		
Small Ring	7.85	in		4.20	V	
Large Ring	14.00	in		9.25	V	

### Gamma Ray Calibration Report

Serial Number: 2001  
Tool Model: OH  
Performed: Tue May 29 19:51:06 2007

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.1700 GAPI/cps


### Neutron Calibration Report

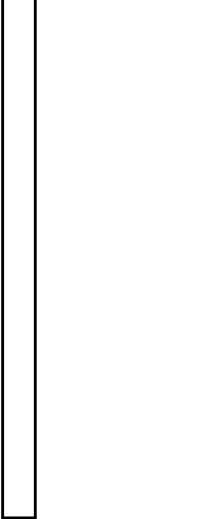
Serial Number: 5145  
Tool Model: G  
Performed: Mon Apr 23 18:30:25 2007

Calibrator Value: 1200 NAPI

Calibrator Reading: 1700 cps

Sensitivity: 1 NAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
NEU	37.19		None	0.75	1.50	5.00
			NEU-G (5145) Gearhart Epithermal	5.75	3.50	85.00
GR	31.62		GR-OH (2001) SIE	3.50	3.25	40.00
LSD DCAL SSD	23.45		CDL-poilex (2118)	8.79	4.00	275.00
	23.04					
	22.91					

CILD SP	10.60 10.60		DIL-G (5375) Gearhart	20.83	4.00	345.00
CILM	6.89					
RLL3	1.70					
Dataset:		xtoac0509v.db: field/well/run1/pass2				
Total Length:		39.62 ft				
Total Weight:		750.00 lb				
O.D.		4.00 in				