



**Gamma
Neutron
Log**

Company Blackhawk Production Co.
Well Sanders # 7
Field Toulon
County Ellis
State Kansas

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Well Sanders # 7
Field Toulon
County Ellis
State Kansas

Location: API #: SE-SW-13
SEC TWP RGE
Permanent Datum Ground Level Elevation
Log Measured From Ground Level
Drilling Measured From Ground Level

Date	8-30-13					
Run Number	ONE					
Depth Driller	3568'					
Depth Logger	3563'					
Bottom Logged Interval	3562'					
Top Log Interval	1115'					
Open Hole Size	7 7/8"					
Type Fluid	Water					
Density / Viscosity	////					
Max. Recorded Temp.	////					
Estimated Cement Top	////					
Time Well Ready	7:00 P.M					
Time Logger on Bottom	7:15 P.M					
Equipment Number	T-747					
Location	Hays, KS					
Recorded By	Casey Patterson					
Witnessed By	Todd					
Borehole Record			Tubing Record			
Run Number	Bit	From	To	Size	Weight	To
Casing Record		Size	Wgt/Ft	Top		Bottom
Surface String						
Prot. String						
Production String						
Liner						

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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.

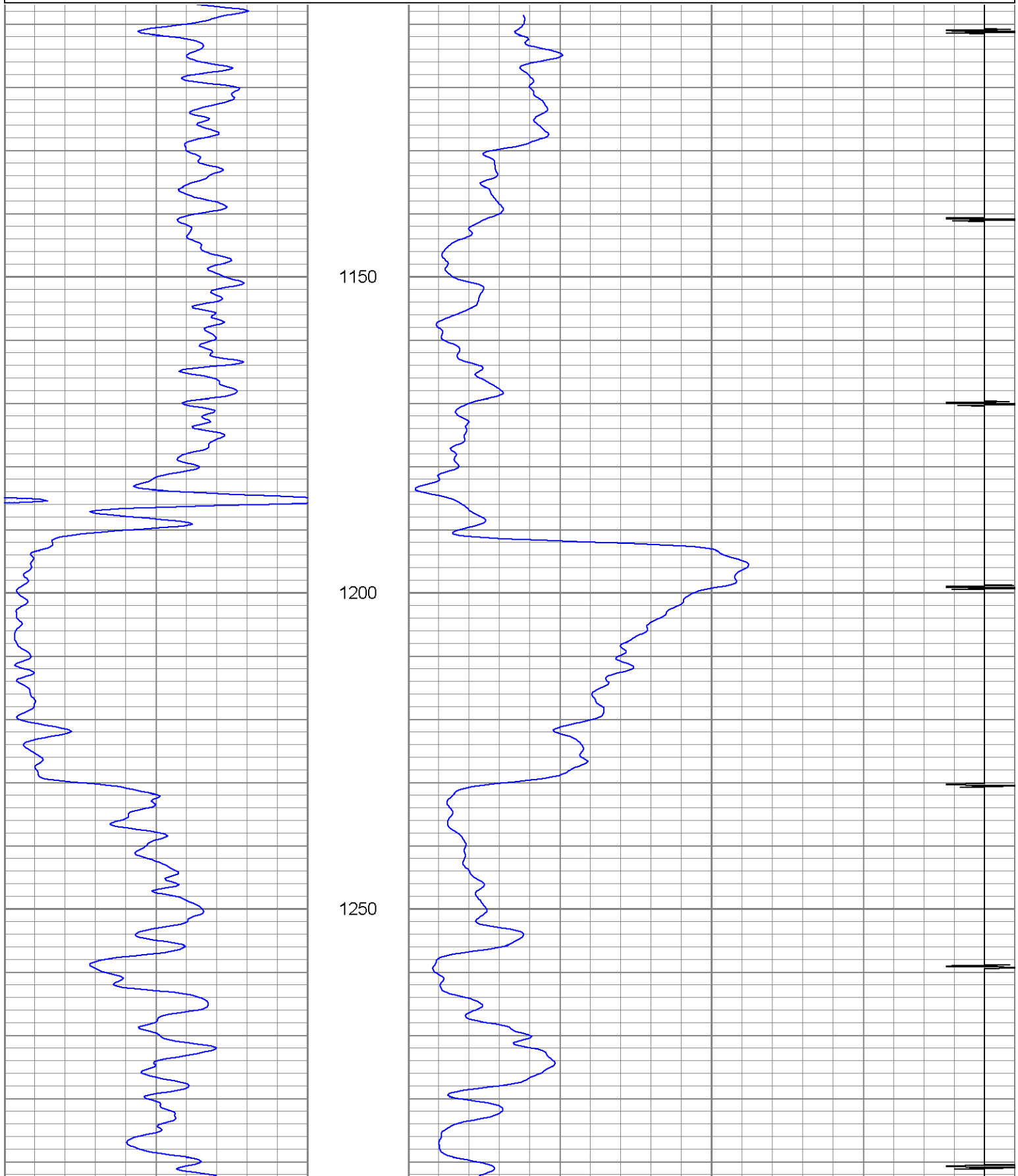
Comments

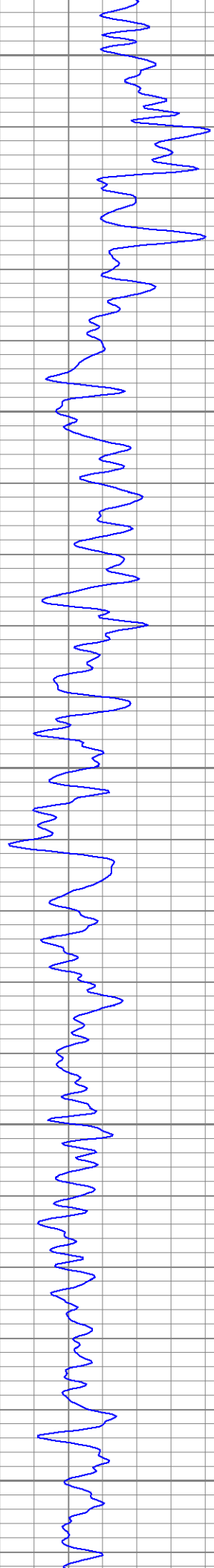


Main Pass

Database File: sanders #7.db
 Dataset Pathname: pass5
 Presentation Format: gr-n-ccl
 Dataset Creation: Fri Aug 30 20:21:29 2013 by Log Std Casedhole 10071
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	350	NEU (NAPI)	1650	
150	GR (GAPI)	300		18	CCL	-2





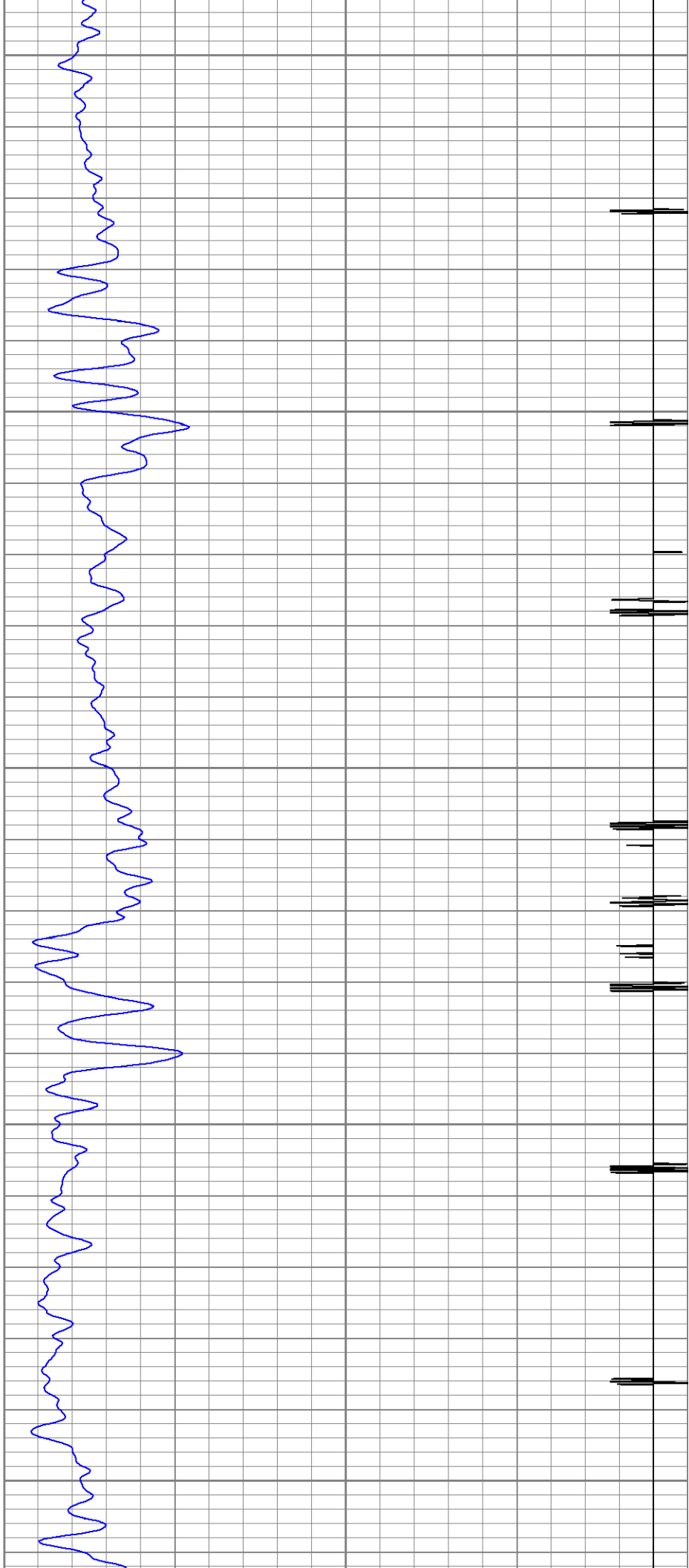
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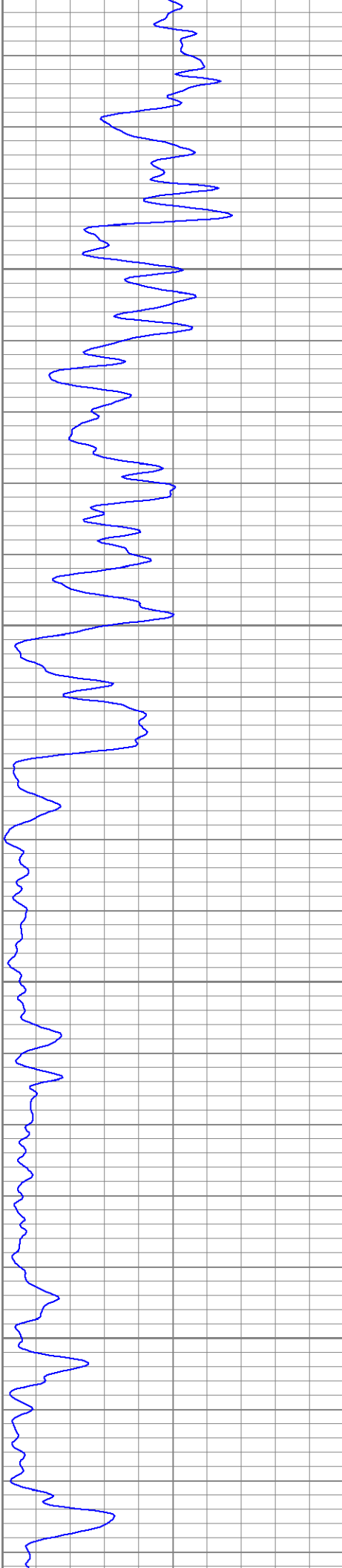
1350

1400

1450

1500



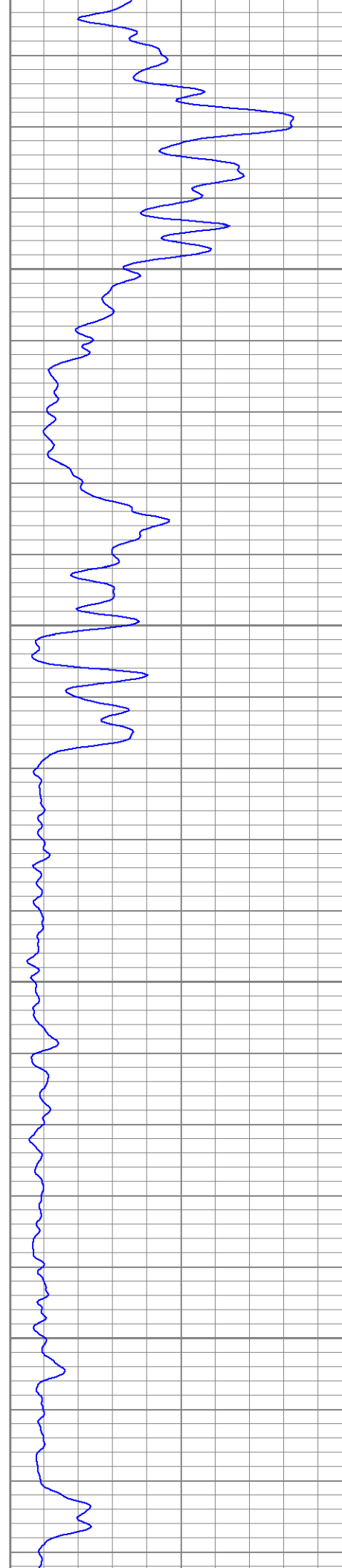


1550

1600

1650

1700



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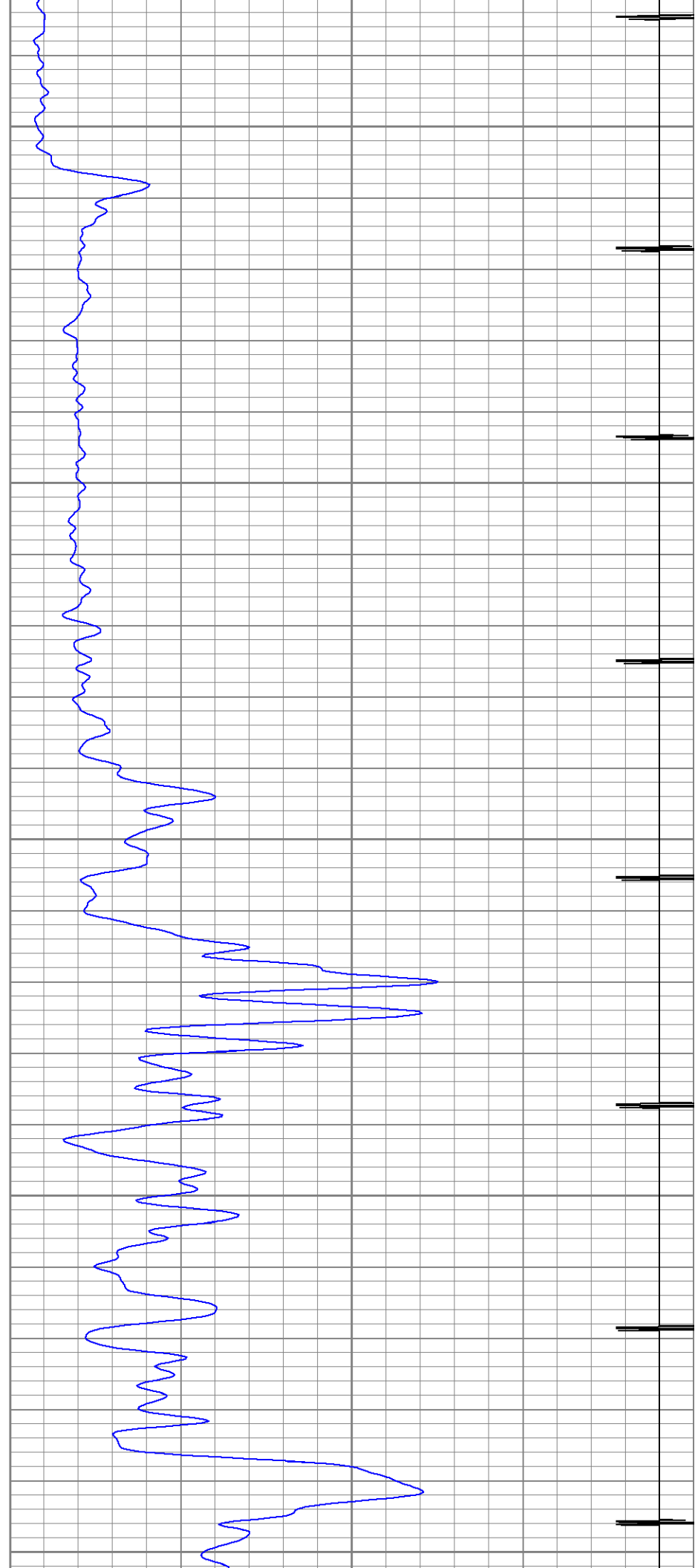
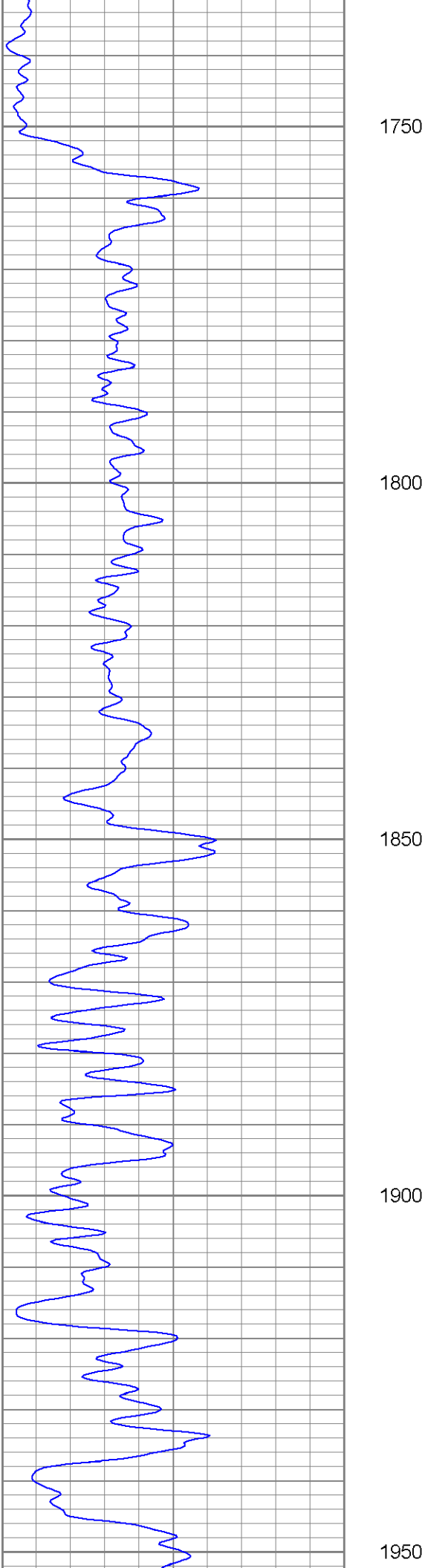
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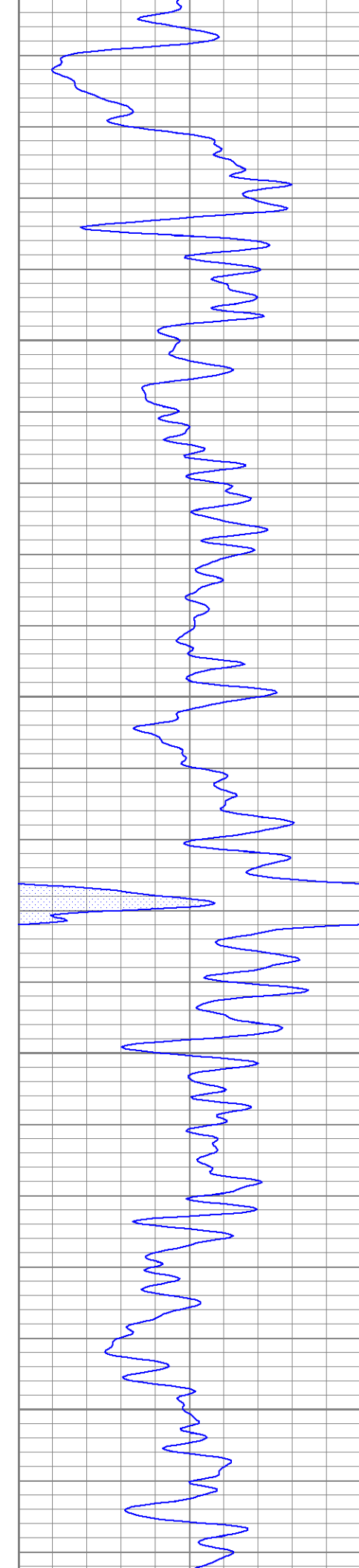
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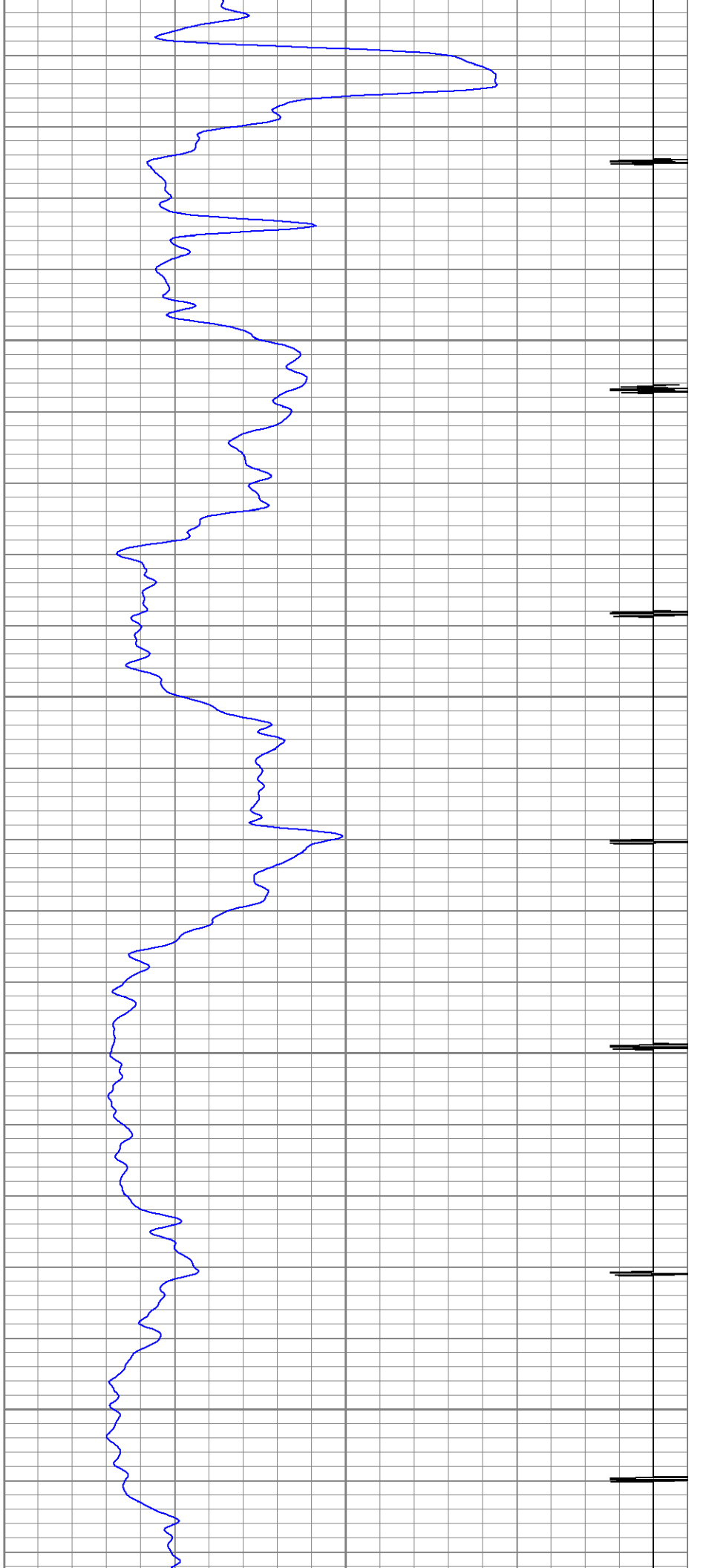


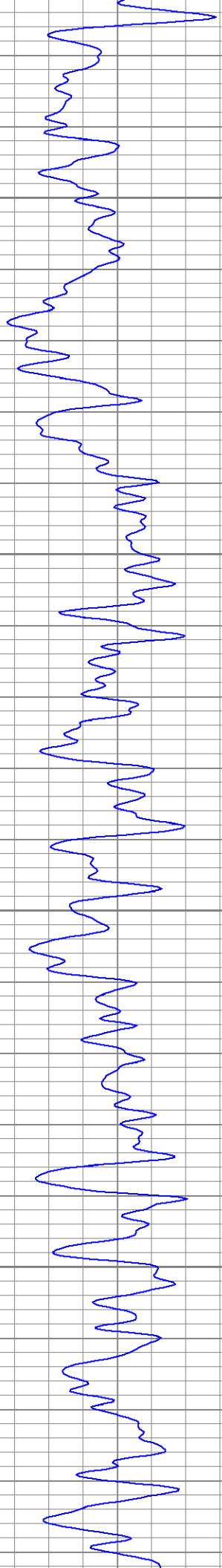
2000

2050

2100

2150



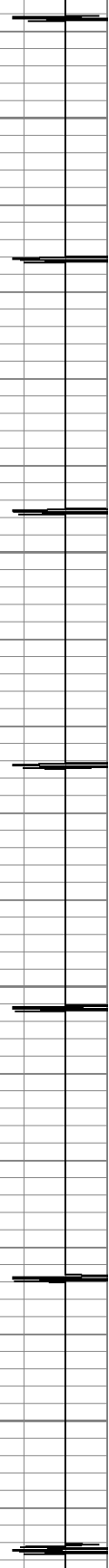
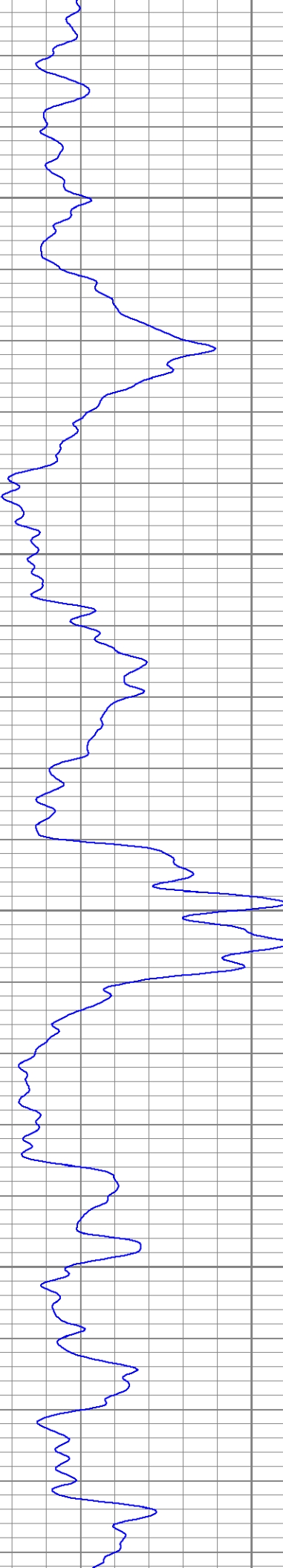


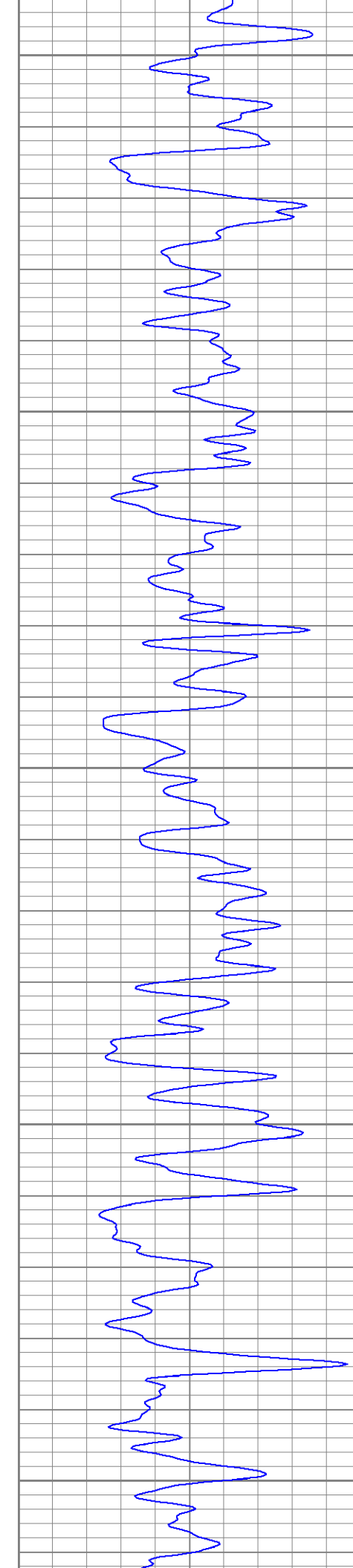
2200

2250

2300

2350





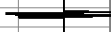
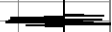
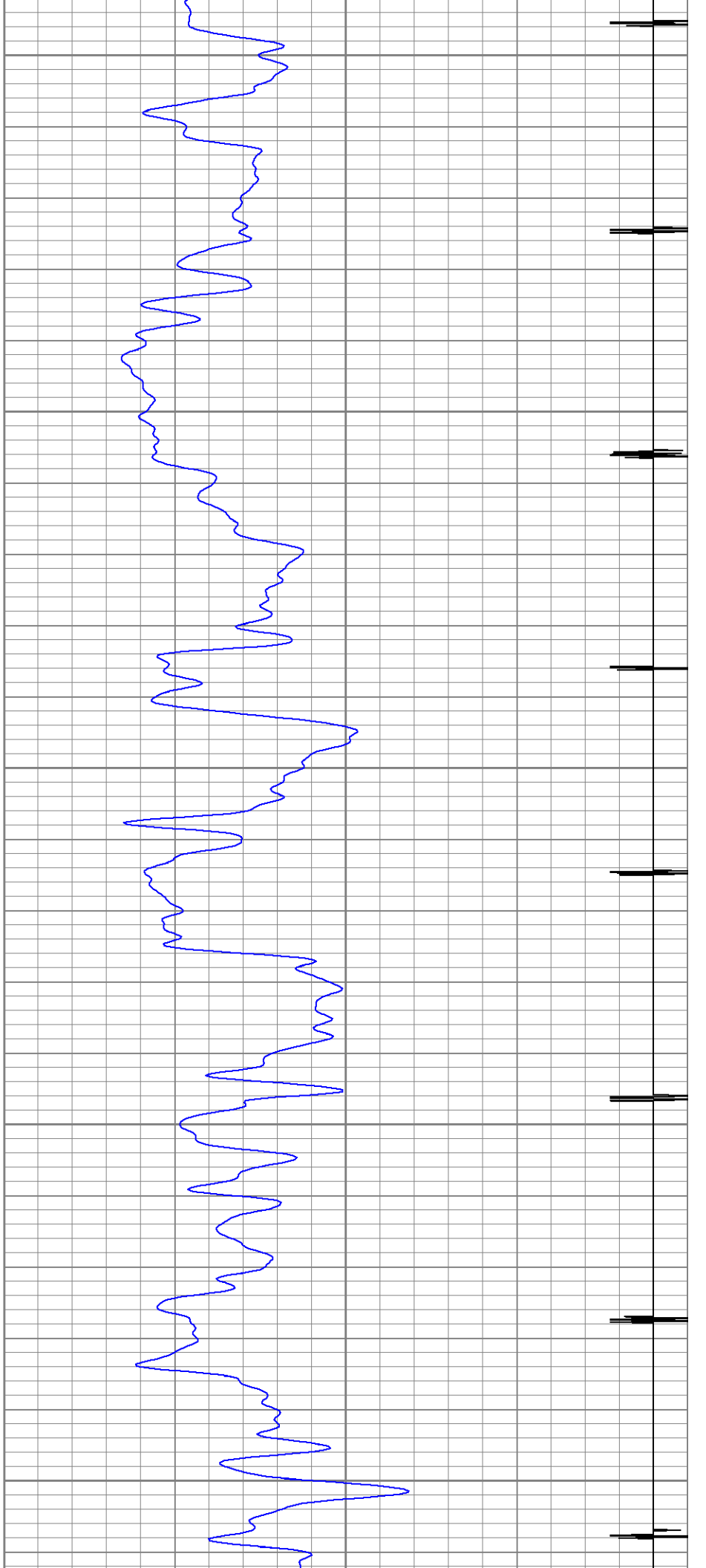
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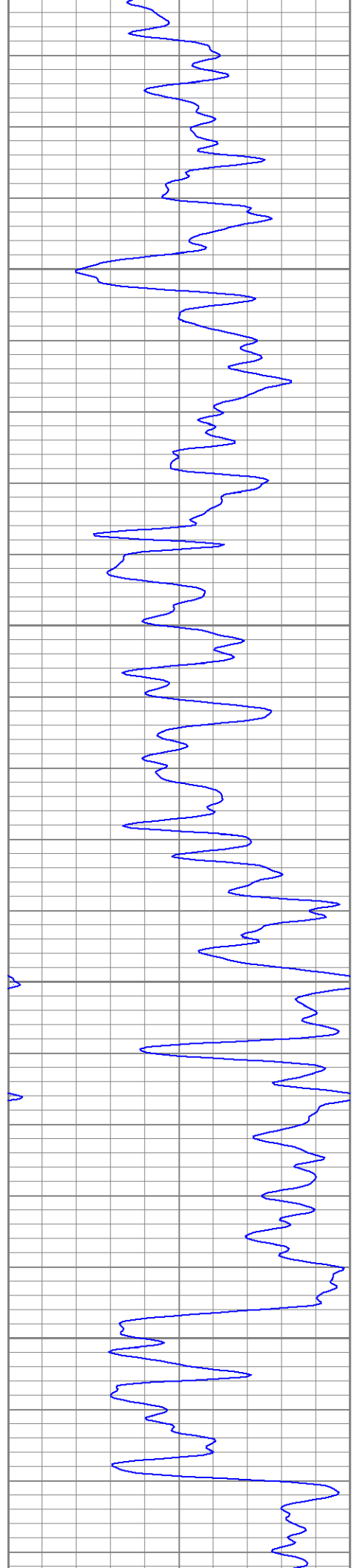
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2500

2550

2600



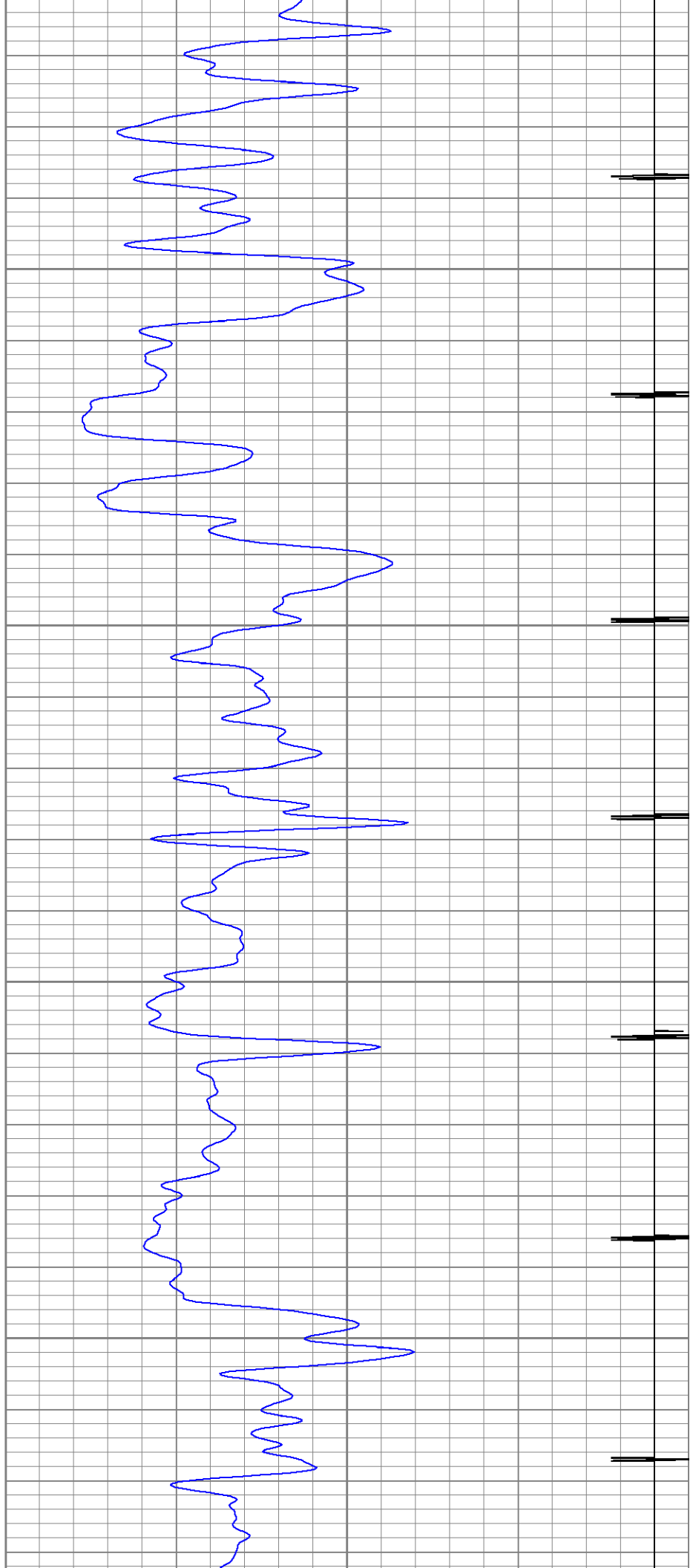


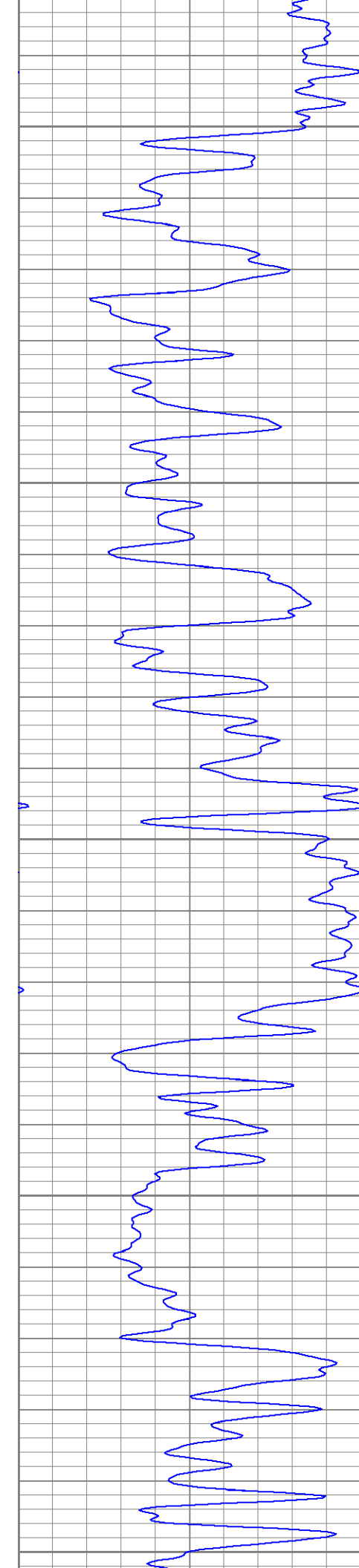
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2700

2750

2800





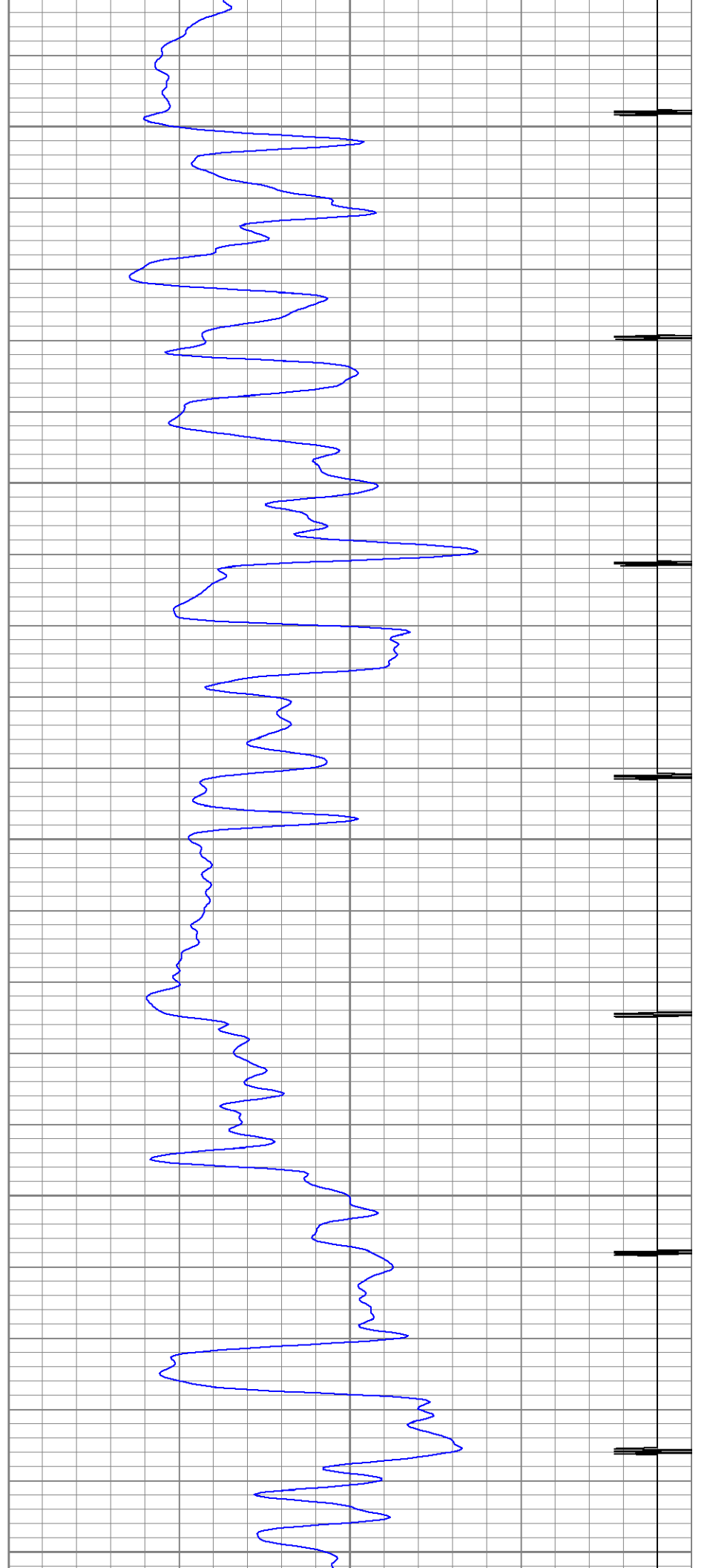
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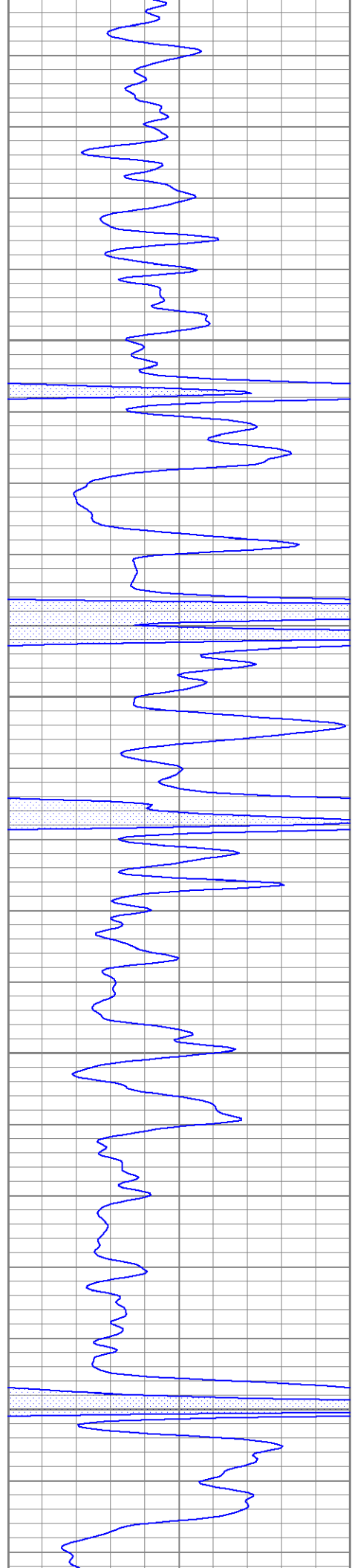
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2950

3000

3050



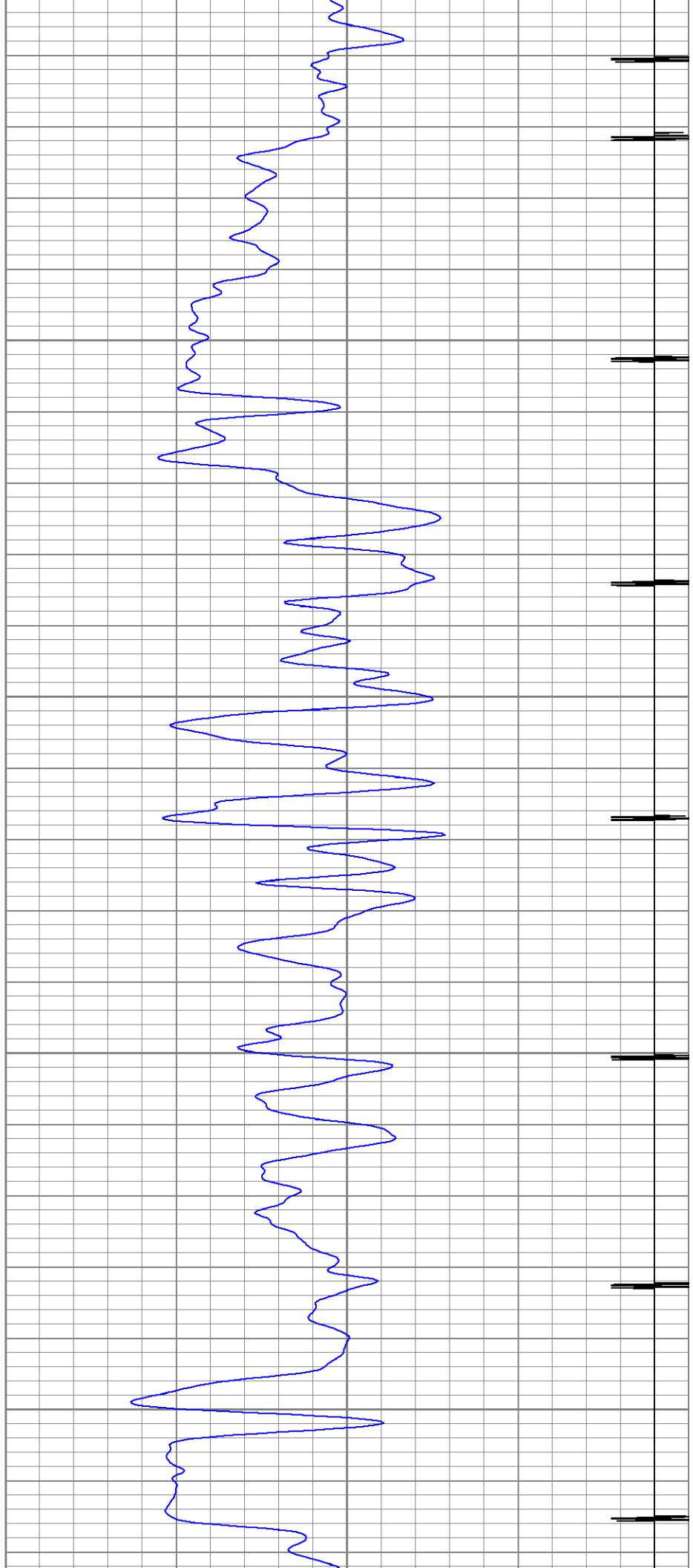


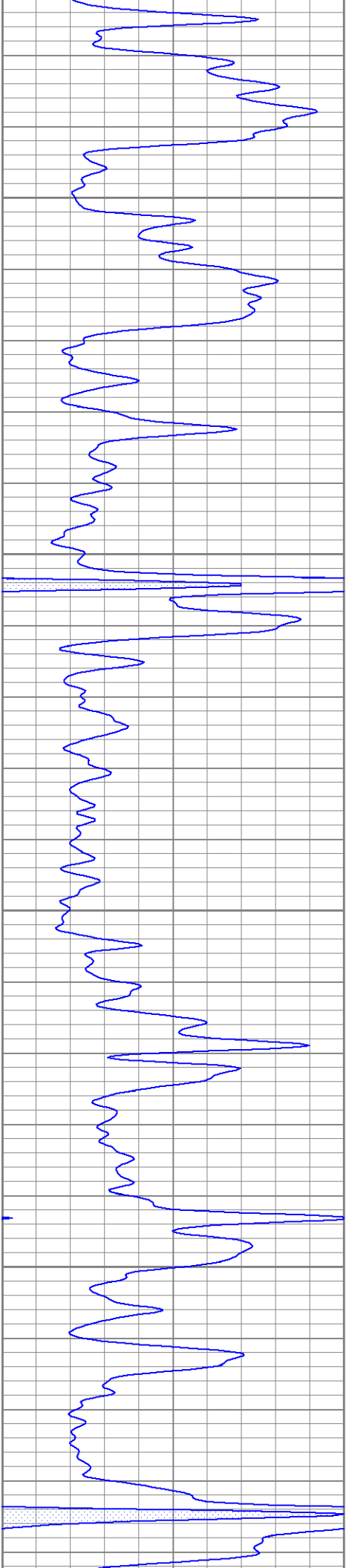
3100

3150

3200

3250



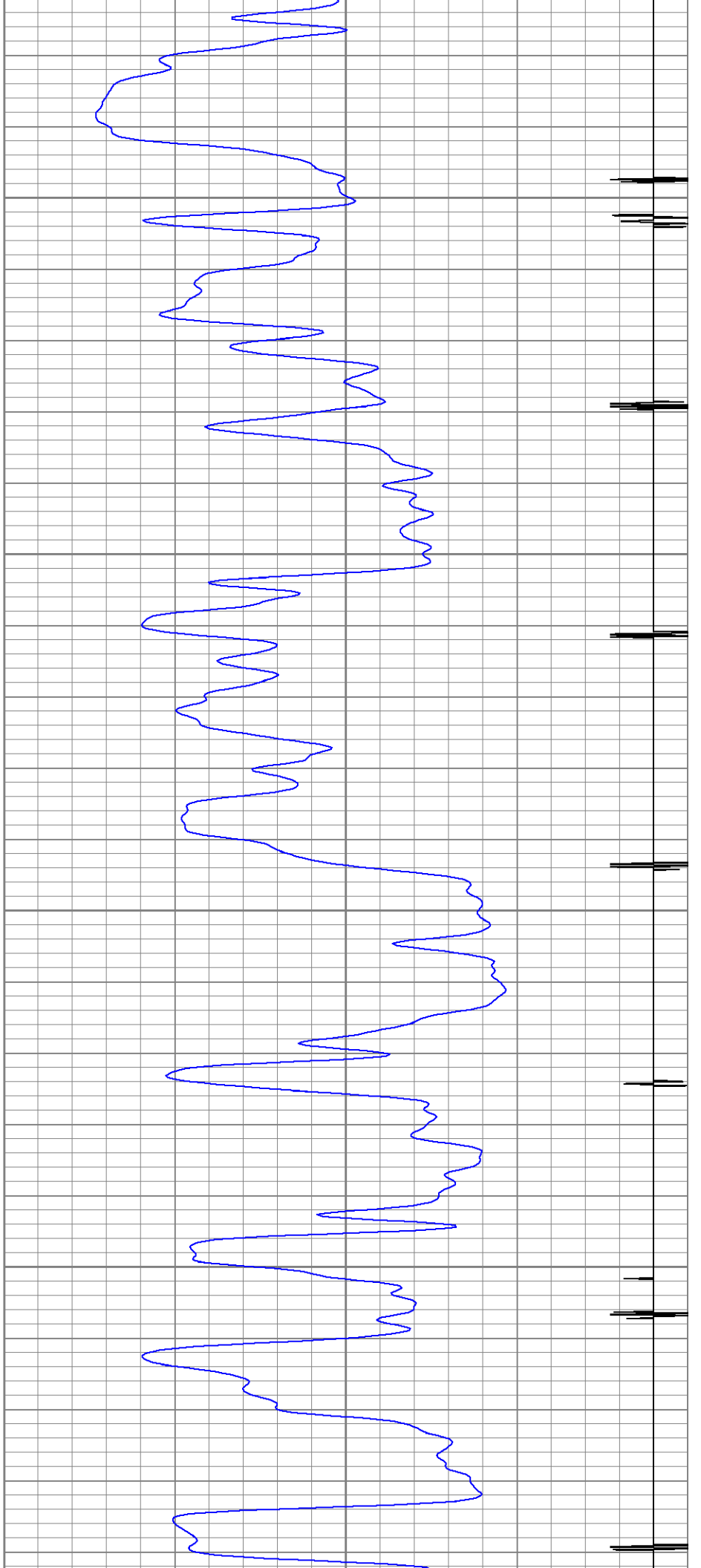


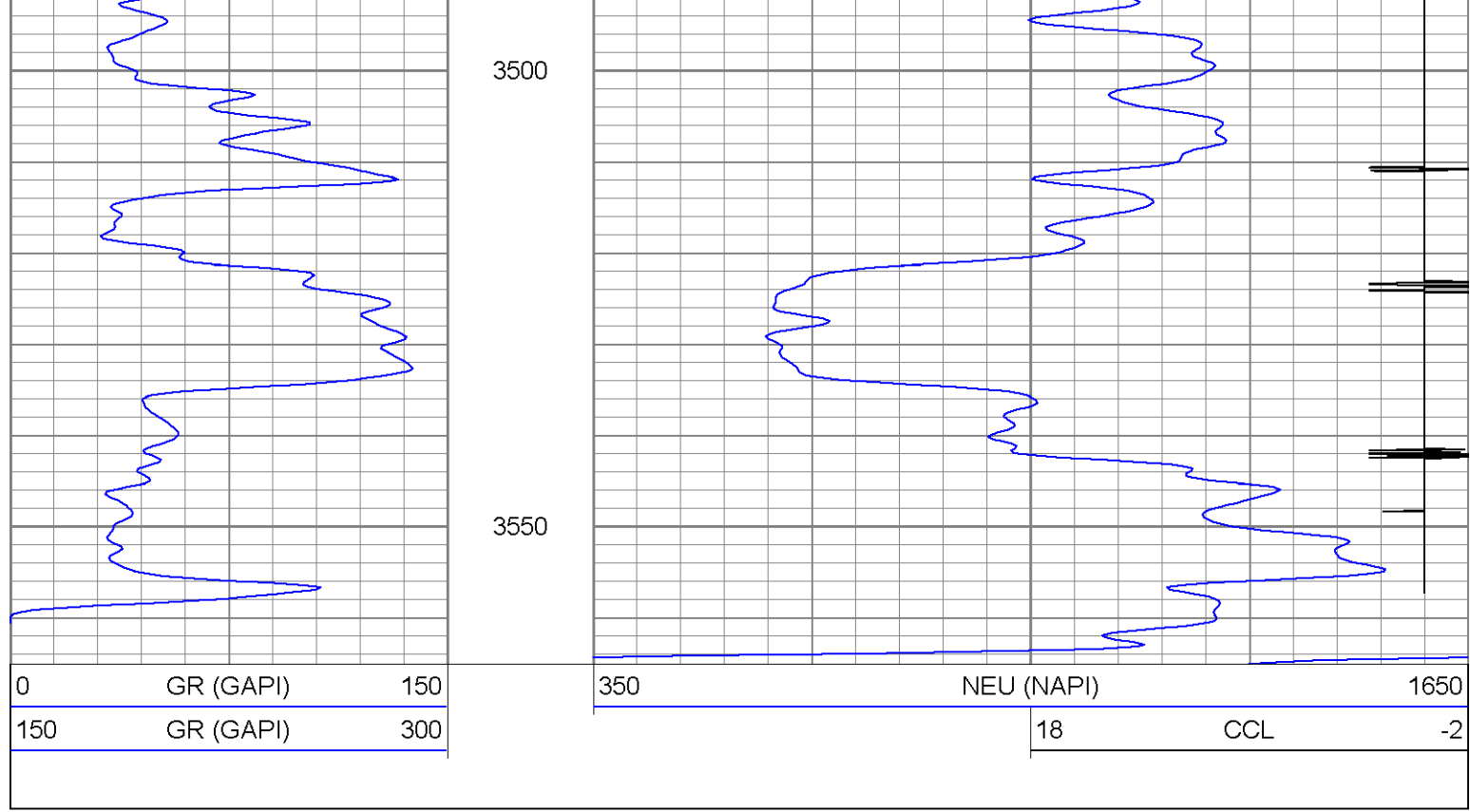
3300

3350

3400

3450

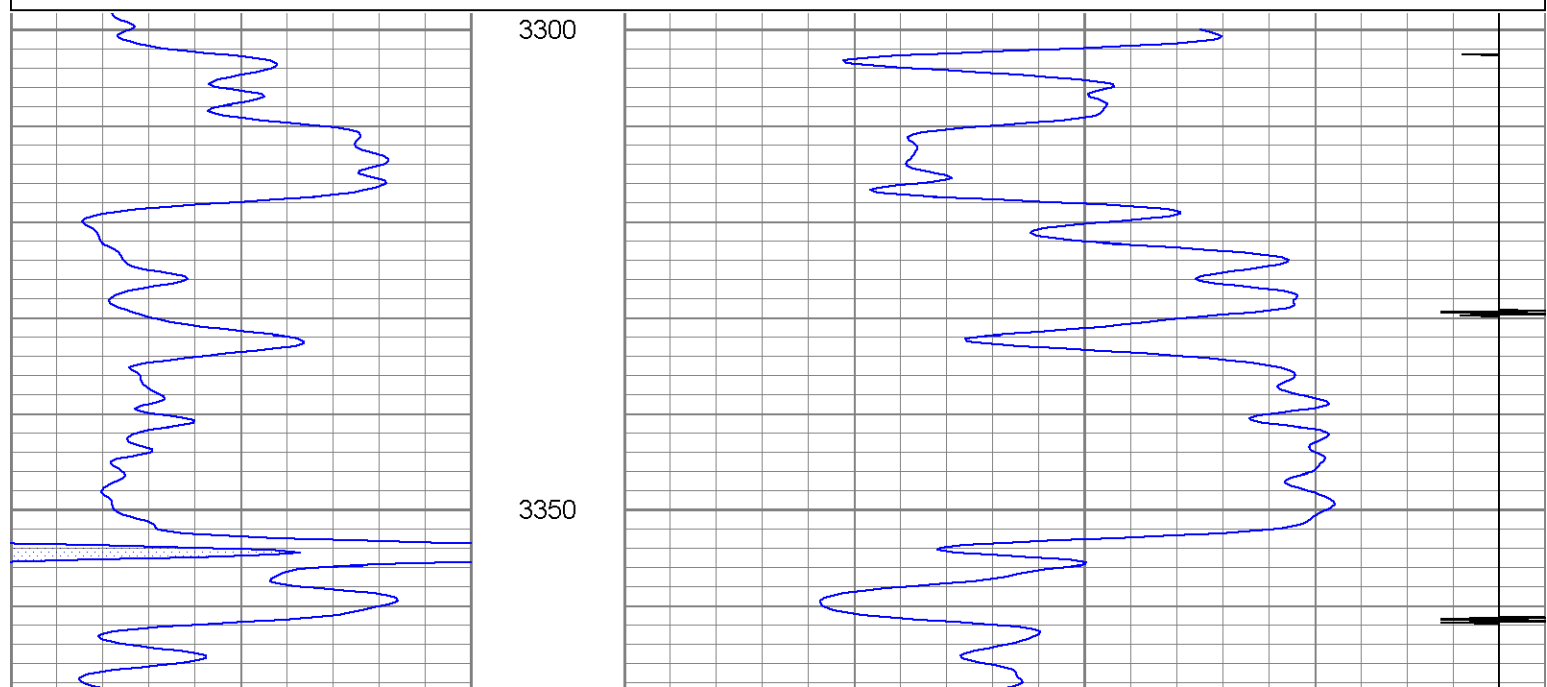


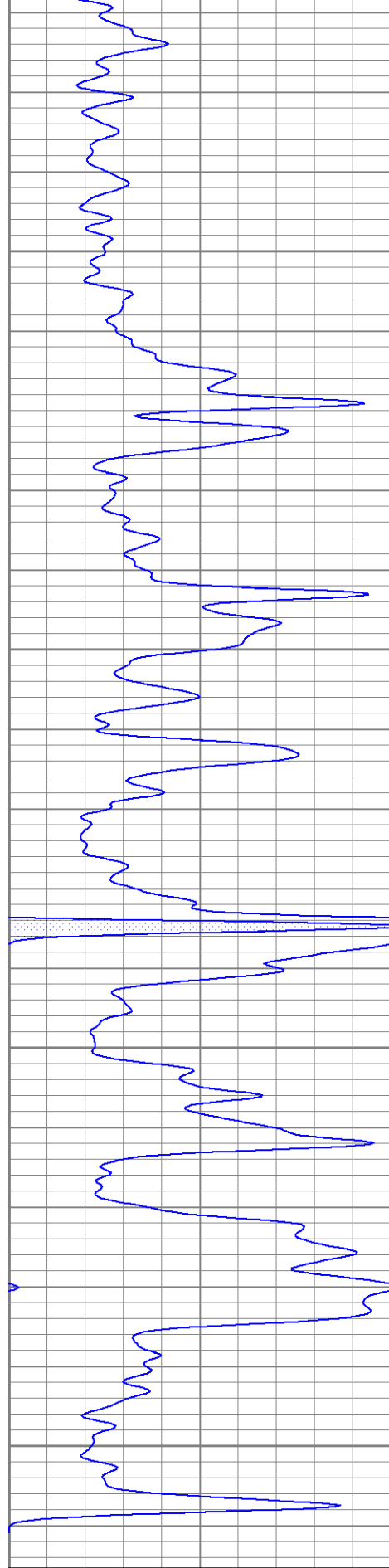


Repeat Section

Database File: sanders #7.db
 Dataset Pathname: pass3
 Presentation Format: gr-n-ccl
 Dataset Creation: Fri Aug 30 20:08:17 2013 by Log Std Casedhole 10071
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	350	NEU (NAPI)	1650
150	GR (GAPI)	300	18	CCL	-2





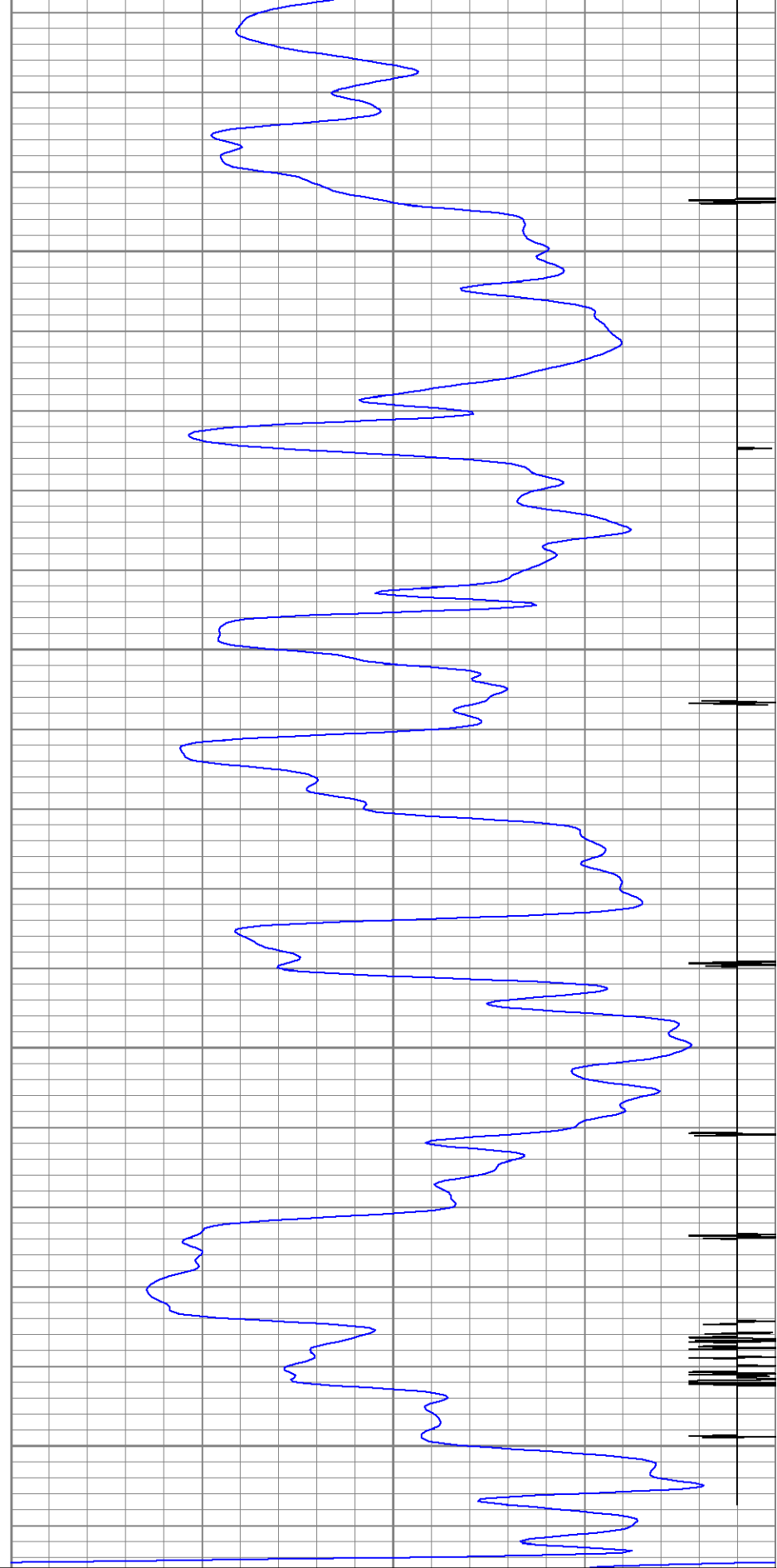
3400

3450

3500

3550

0	GR (GAPI)	150
150	GR (GAPI)	300



350	NEU (NAPI)	1650
18	CCL	-2

Calibration Report

Database File: sanders #7.db
 Dataset Pathname: pass5
 Dataset Creation: Fri Aug 30 20:21:29 2013 by Log Std Casedhole 10071

Neutron Calibration Report

Serial Number: 080739P
 Tool Model: Probe
 Performed: Sun Jun 13 14:33:21 1993

Calibrator Values: 0 1 NAPI
 Calibrator Readings: 0 1 cps

Sensitivity: 1 NAPI/cps

Gamma Ray Calibration Report

Serial Number: 080224
 Tool Model: Probe1
 Performed: Thu May 16 07:41:41 2013

Calibrator Value: 200.0 GAPI

Background Reading: 15.0 cps
 Calibrator Reading: 222.7 cps

Sensitivity: 0.9629 GAPI/cps

Cement Bond Log Calibration Report

Serial Number: 080201
 Tool Model: DigitalCBL
 Performed: Fri Aug 30 17:06:42 2013

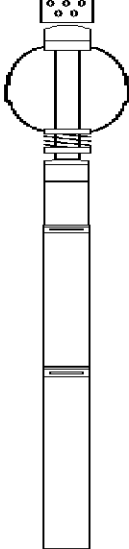
Depth: 2538.66 ft
 Casing Diameter: 5.5 in

3' Spacing 5' Spacing

Signal Zero: 3 0 mV
 Calibrated Amplitude: 71.921 71.921 mV
 Reading at Signal Zero: 0 0.0158691 V
 Reading in Free Pipe: 0.85415 0.823755 V

Gain: 80.6896 89.0237
 Offset: 3 -1.41273

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			sdschd	0.75	1.44	3.00
			275 2 3/4" Centralizer	2.94	2.75	10.00
WVF3 WVF5	15.65 14.65		Probedig-DigitalCBL (080201) 2 3/4 Bond Tool	8.77	2.75	92.00

						
			275 2 3/4" Centralizer	2.94	2.75	10.00
CCL	7.63		CCL-Probe (080224)	1.42	2.75	20.00
GR	6.26		GR-Probe1 (080224)	3.08	2.75	40.00
NEU	0.83		NEU-Probe (080739P) 2 3/4 Neutron	3.96	2.75	40.00

Dataset: sanders #7.db: field/well/run1/pass5
 Total Length: 23.85 ft
 Total Weight: 215.00 lb
 O.D.: 2.75 in