



# HIGH RESOLUTION INDUCTION

Pioneer Energy Services

Company Augustus Energy Resources, LLC  
Well Lippert 14-05 1S44W  
Field Vernon  
County Yuma State Colorado

Location: API #: 05125120850000

Permanent Datum GL  
Log Measured From KB  
Drilling Measured From KB

SEC 5 TWP 1S RGE 44W

Elevation 3985

Other Services  
Density  
Neutron  
Elevation  
K.B. 3991  
D.F. 3990  
G.L. 3985

Date July 9, 2014

Run Number 1

Depth Driller 2545

Depth Logger 2541

Bottom Logged Interval 2541

Top Log Interval Casing

Casing Driller 17# 7" @ 436

Casing Logger 436

Bit Size 6.25"

Type Fluid in Hole WBM

Density / Viscosity 8.7 / 33

pH / Fluid Loss NA

Source of Sample Flowline

Rm @ Meas. Temp 0.21 @ 90 F

Rmf @ Meas. Temp 0.16 @ 90 F

Rmc @ Meas. Temp 0.26 @ 90 F

Source of Rmf / Rmc Calc / Calc

Rm @ BHT 0.18 @ 105 F

Time Circulation Stopped 0900

Time Logger on Bottom 1315

Maximum Recorded Temperature 105 F

Equipment Number 48

Location Ft. Morgan, CO

Recorded By Schuman

Witnessed By Justin Stone

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

## Comments

Annular volume calculated for 4.5" casing  
Excell Drilling Rig 2  
Thank you for using Pioneer Energy Services.

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			CHD (~0)	2.00	3.50	30.00

GR	0.00		GR-PSI (223)	2.92	3.50	40.00
CNLSC	-3.67		CNT-PSI (853)	5.00	3.50	70.00
CNSSC	-4.17					
			CDL-PSI (770)	8.50	5.00	285.00
DCAL	-11.84					
LSD	-12.67					
SSD	-13.17					
RLL3	-17.52					
			DIL-PSI (1039)	18.25	3.75	175.00
CILD	-24.97					
CILM	-28.42					
SP	-32.42					
<div> <div>Dataset:</div> <div>13523.db: field/well/run1/pass1</div> <div>Total Length:</div> <div>36.67 ft</div> <div>Total Weight:</div> <div>600.00 lb</div> <div>O.D.</div> <div>5.00 in</div> </div>						

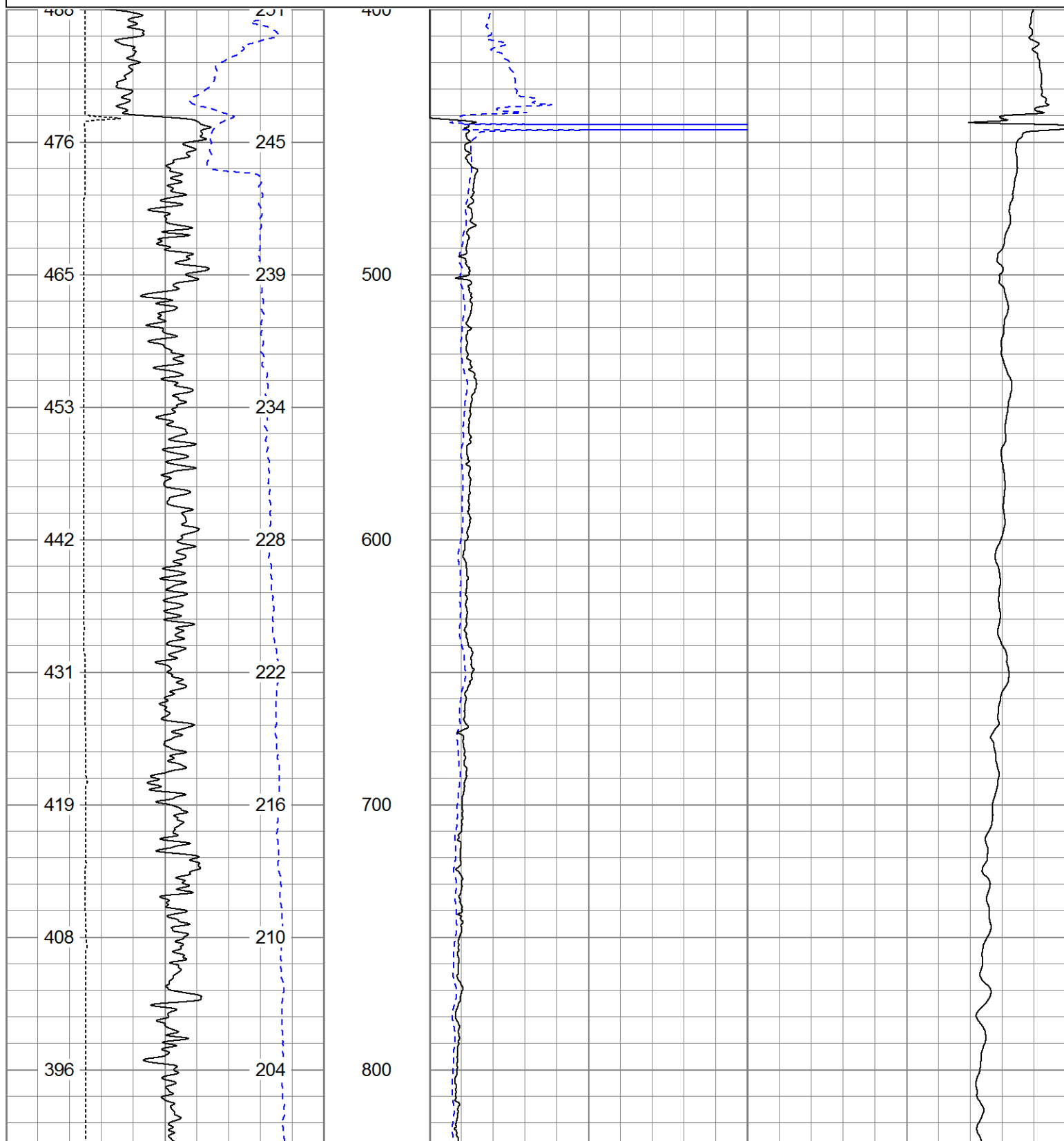


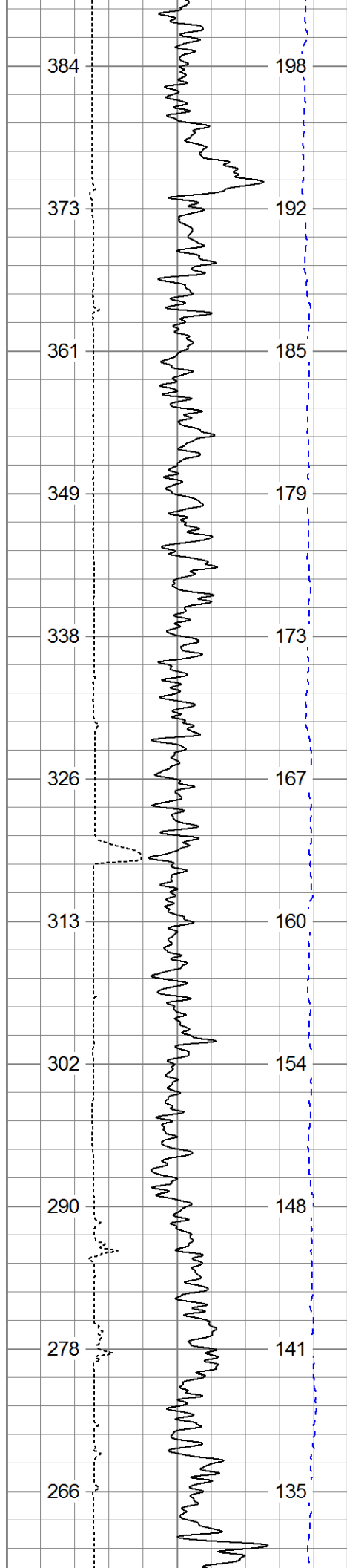
# Main Pass

Database File: 13523.db  
Dataset Pathname: pass3  
Presentation Format: dilin60  
Dataset Creation: Wed Jul 09 14:01:32 2014 by Log 0  
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	200
0	SP (mV)	200
4	Caliper (in)	14
TBHV (ft3)		ABHV (ft3)

0	Deep Resistivity (Ohm-m)	50	1000	CILD (mmho/m)	0
0	Shallow Resistivity (Ohm-m)	50			
50	RILD (Ohm-m)	500			
50	RLL3 (Ohm-m)	500			





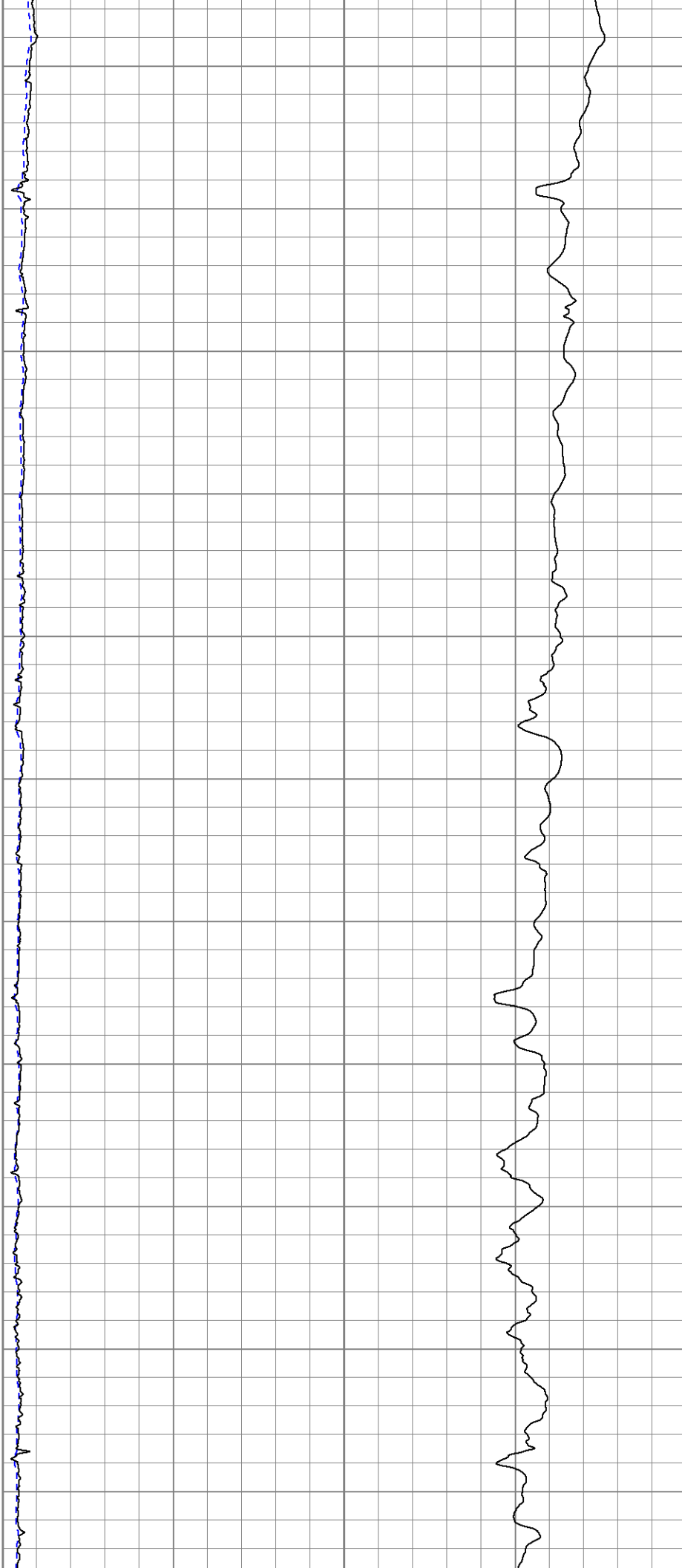
900

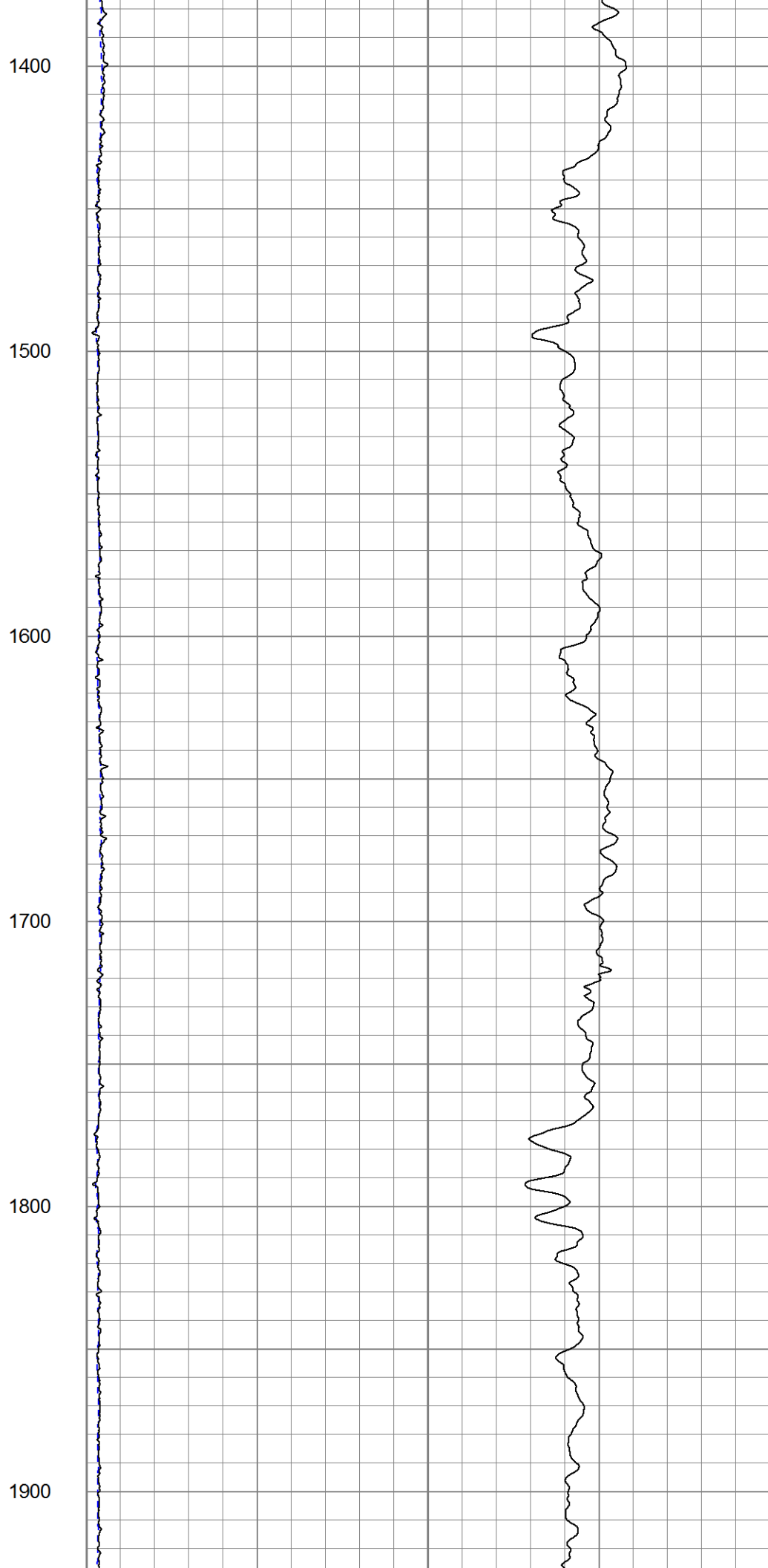
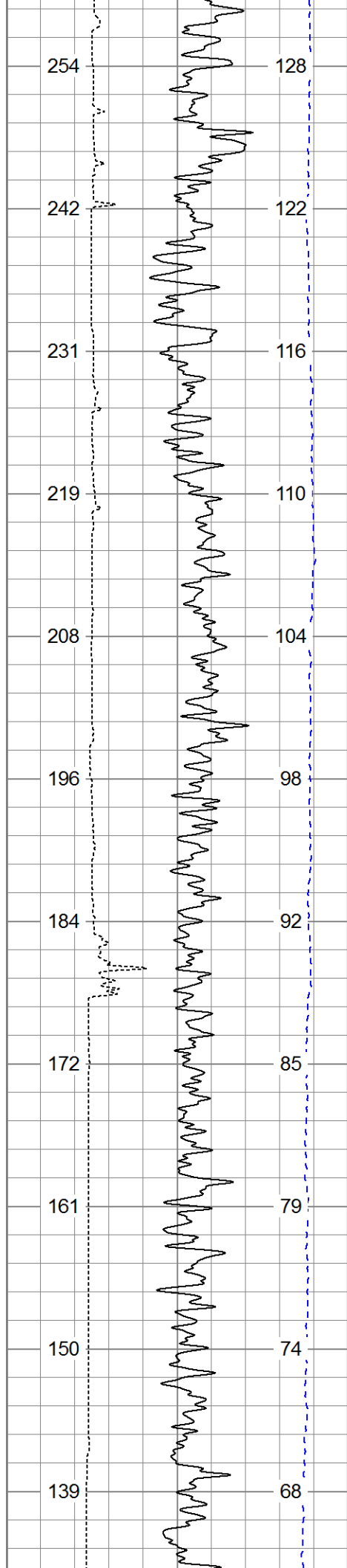
1000

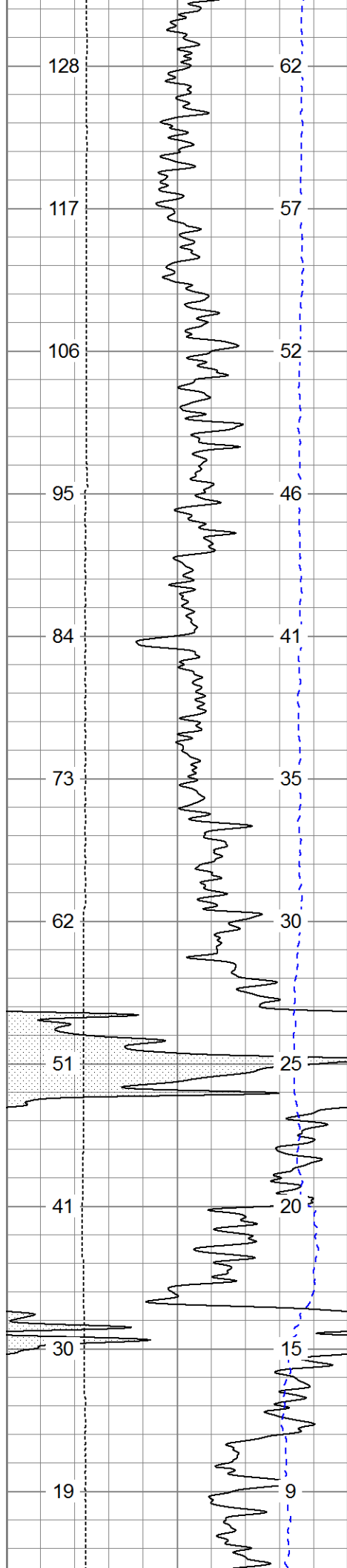
1100

1200

1300







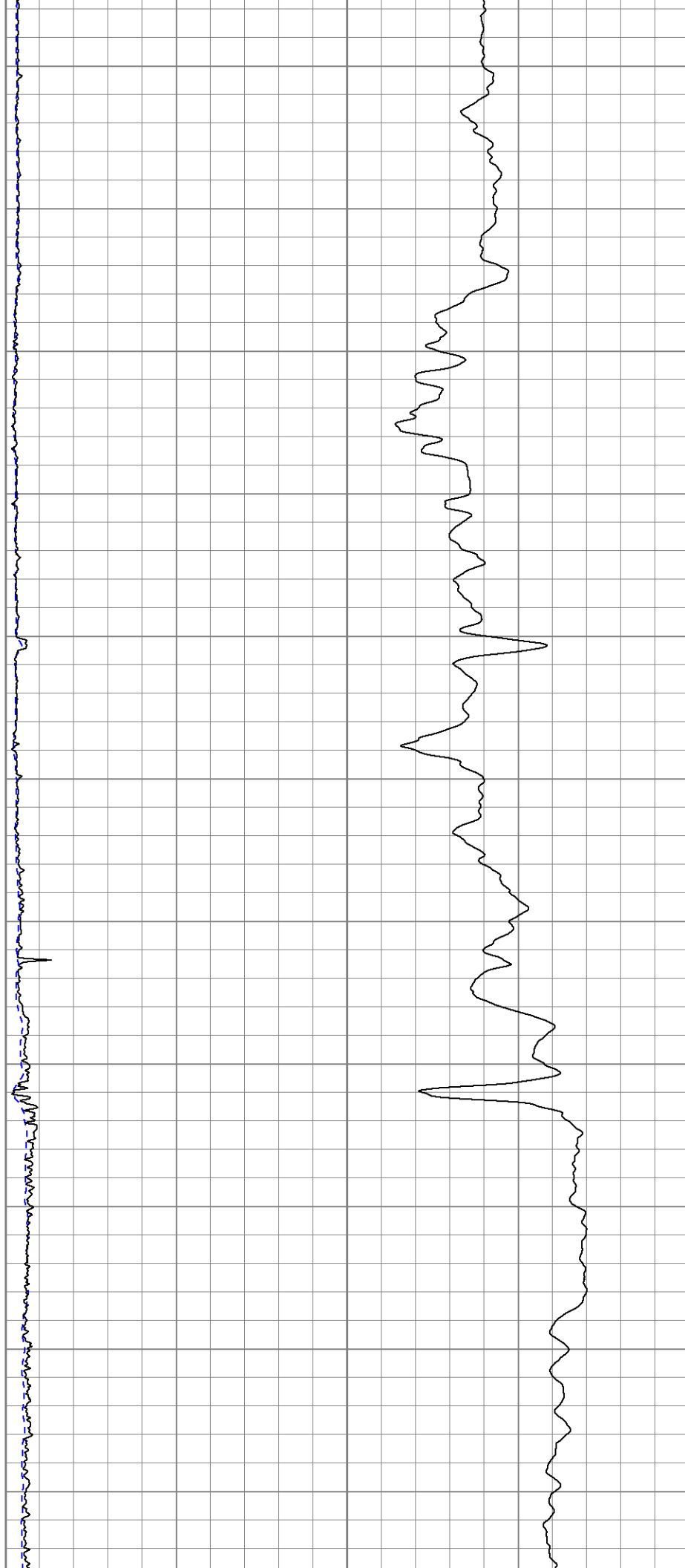
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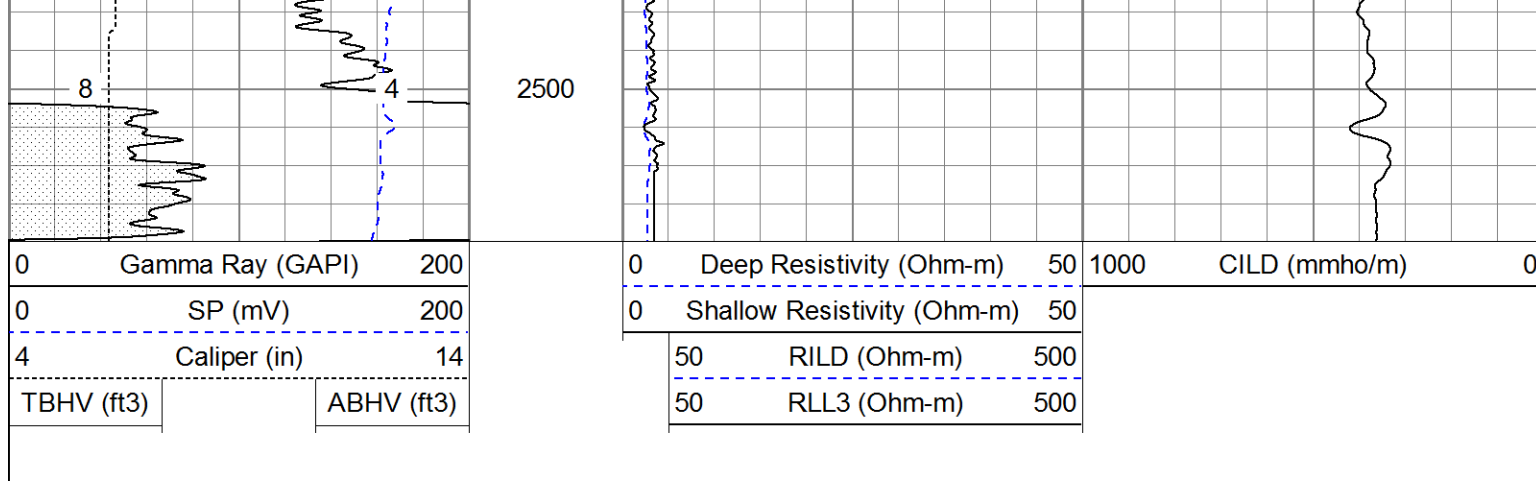
2100

2200

2300

2400



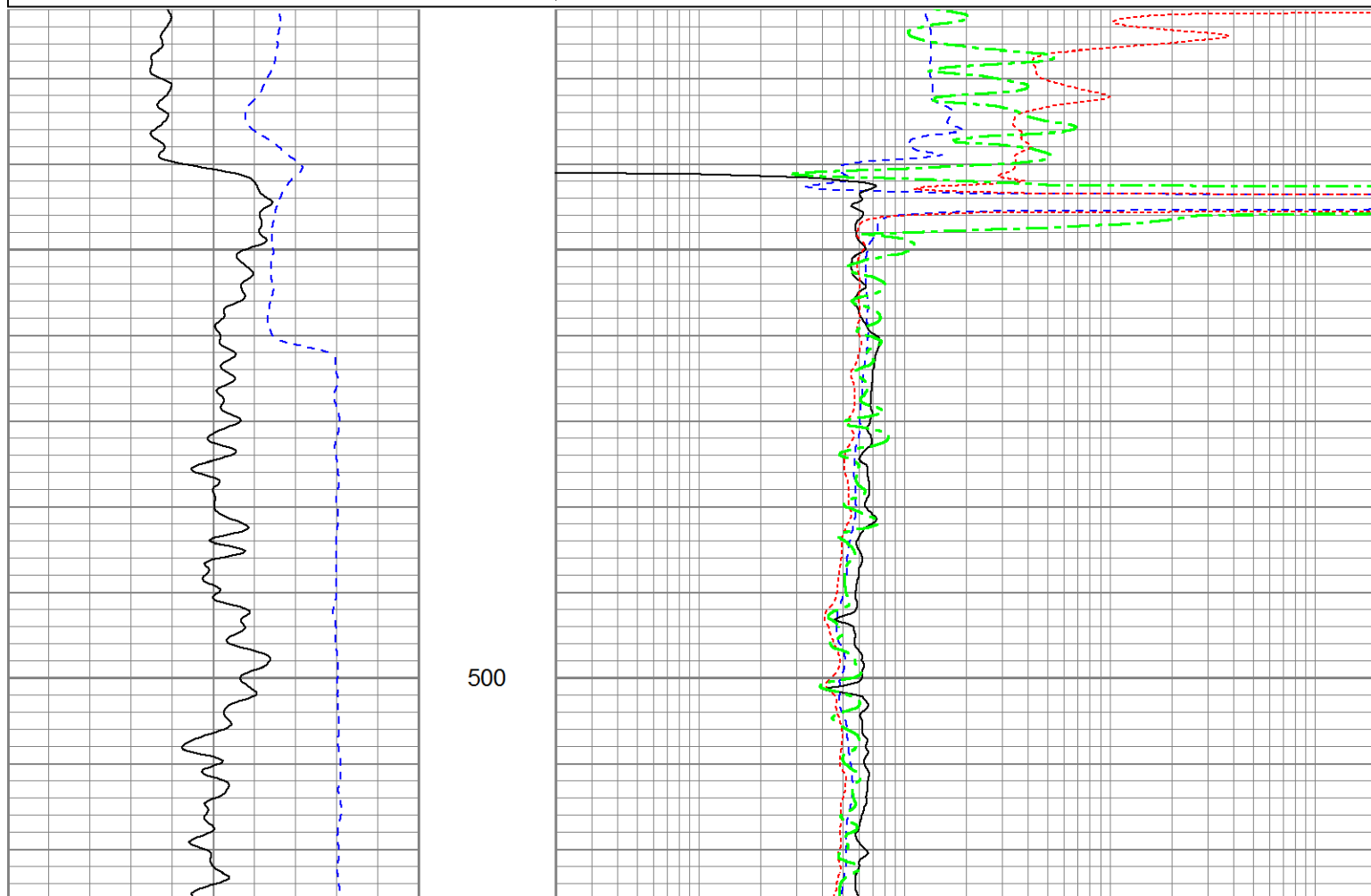


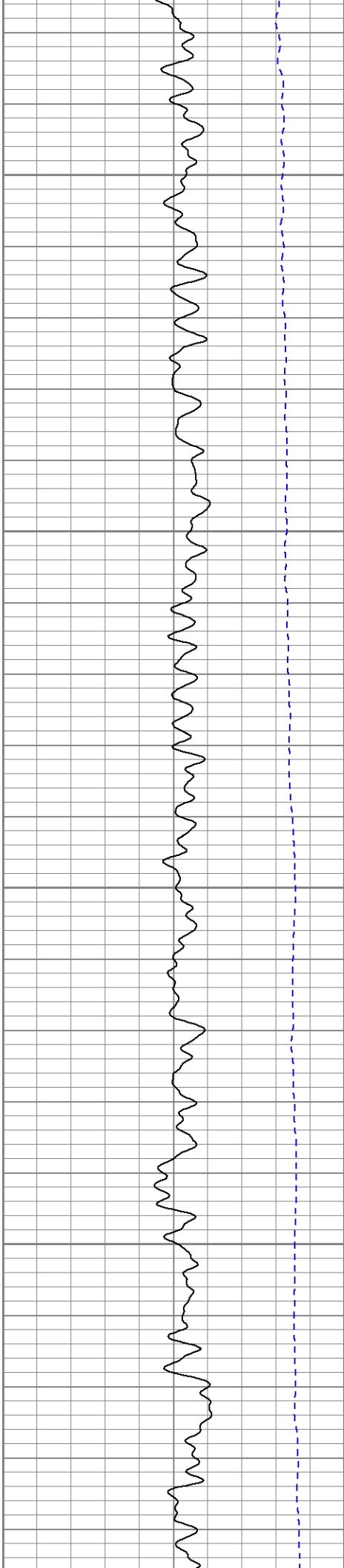
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# Main Pass

Database File: 13523.db  
 Dataset Pathname: pass3  
 Presentation Format: dil  
 Dataset Creation: Wed Jul 09 14:01:32 2014 by Log 0  
 Charted by: Depth in Feet scaled 1:240

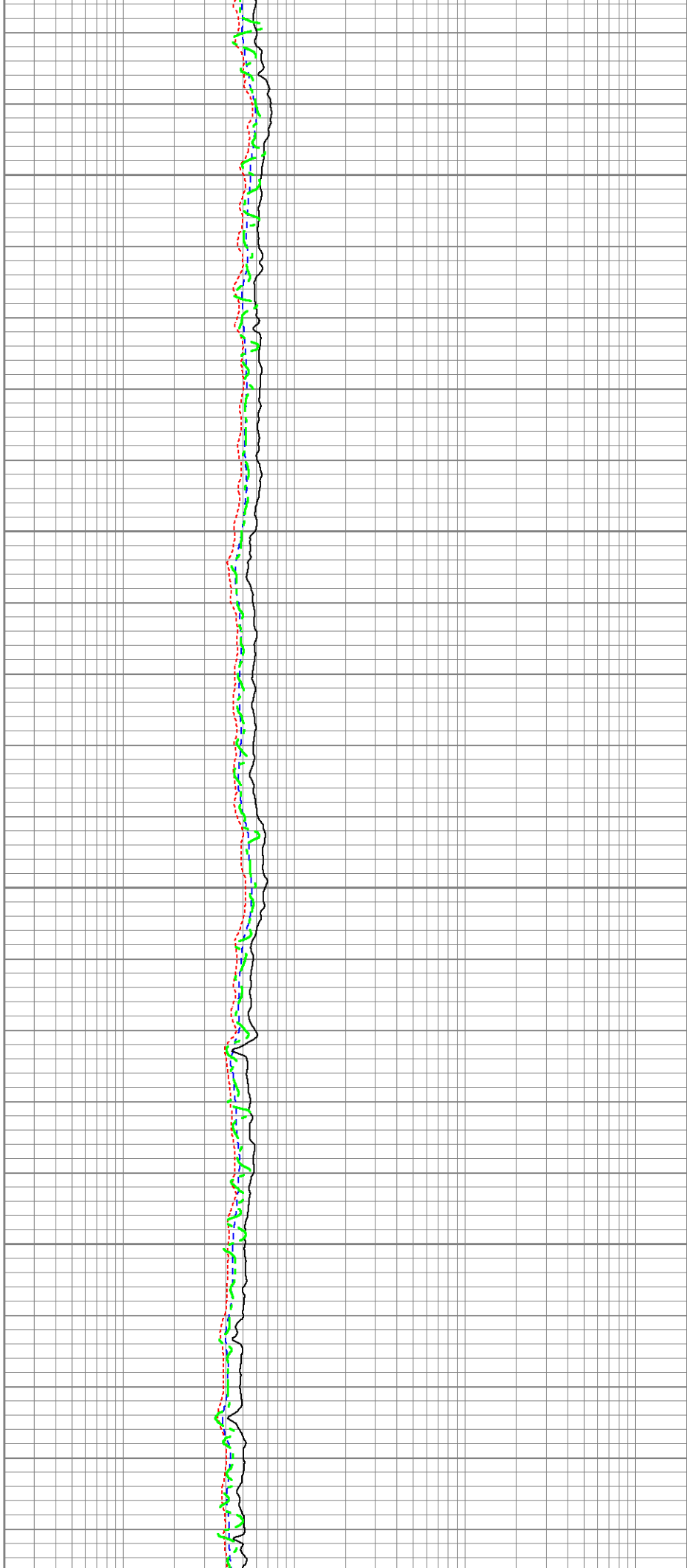
0	Gamma Ray (GAPI)	200	0.2	Deep Resistivity (Ohm-m)	2000
0	SP (mV)	200	0.2	Shallow Resistivity (Ohm-m)	2000
			0.2	Medium Resistivity (Ohm-m)	2000
			0.2	Rt (Ohm-m)	2000



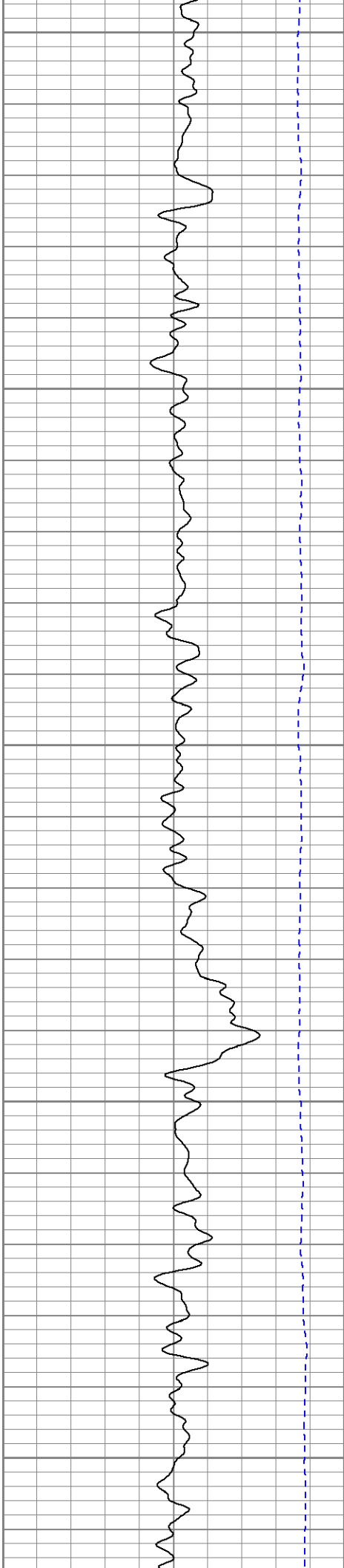


600

700

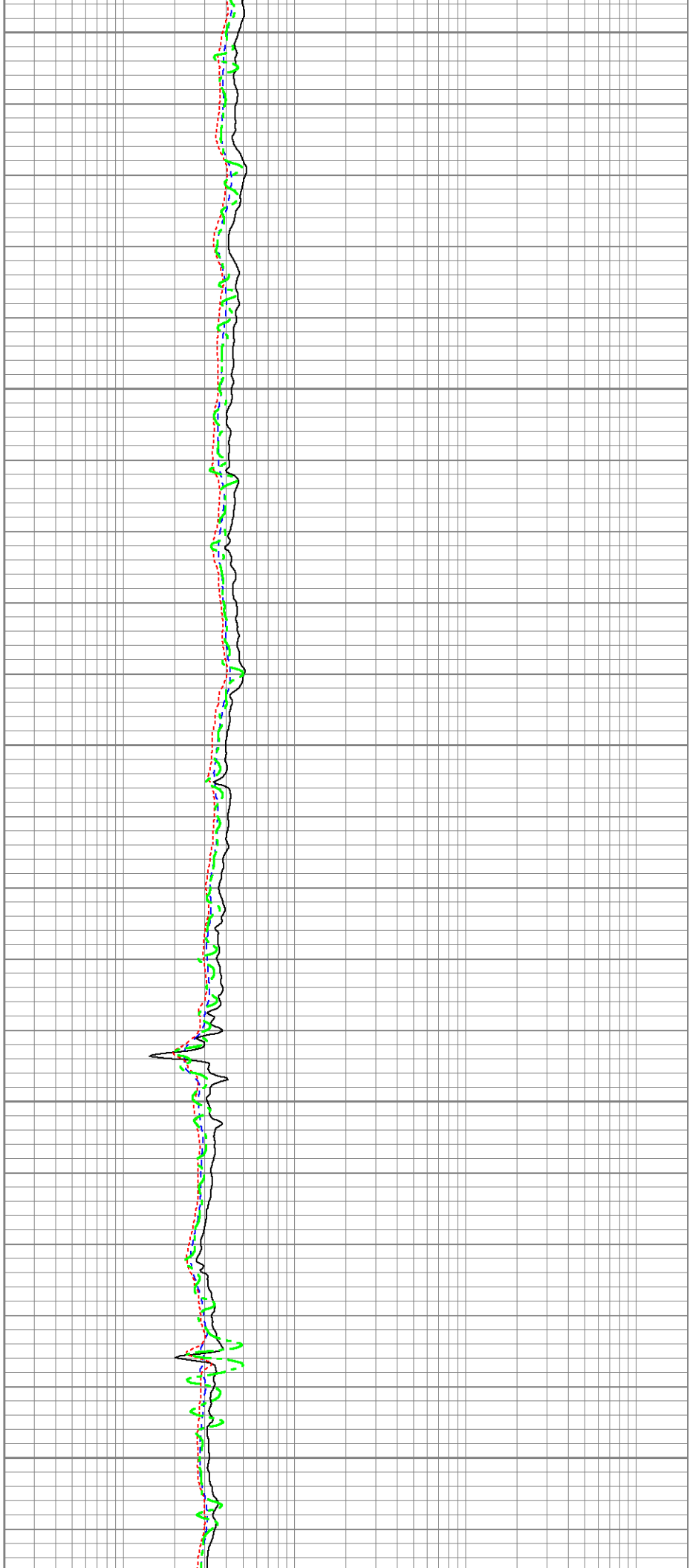


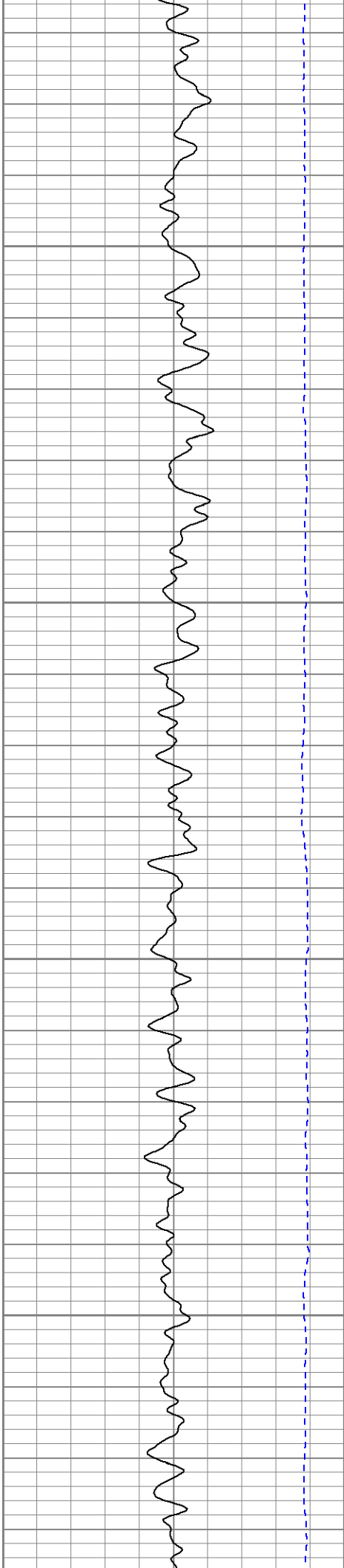




800

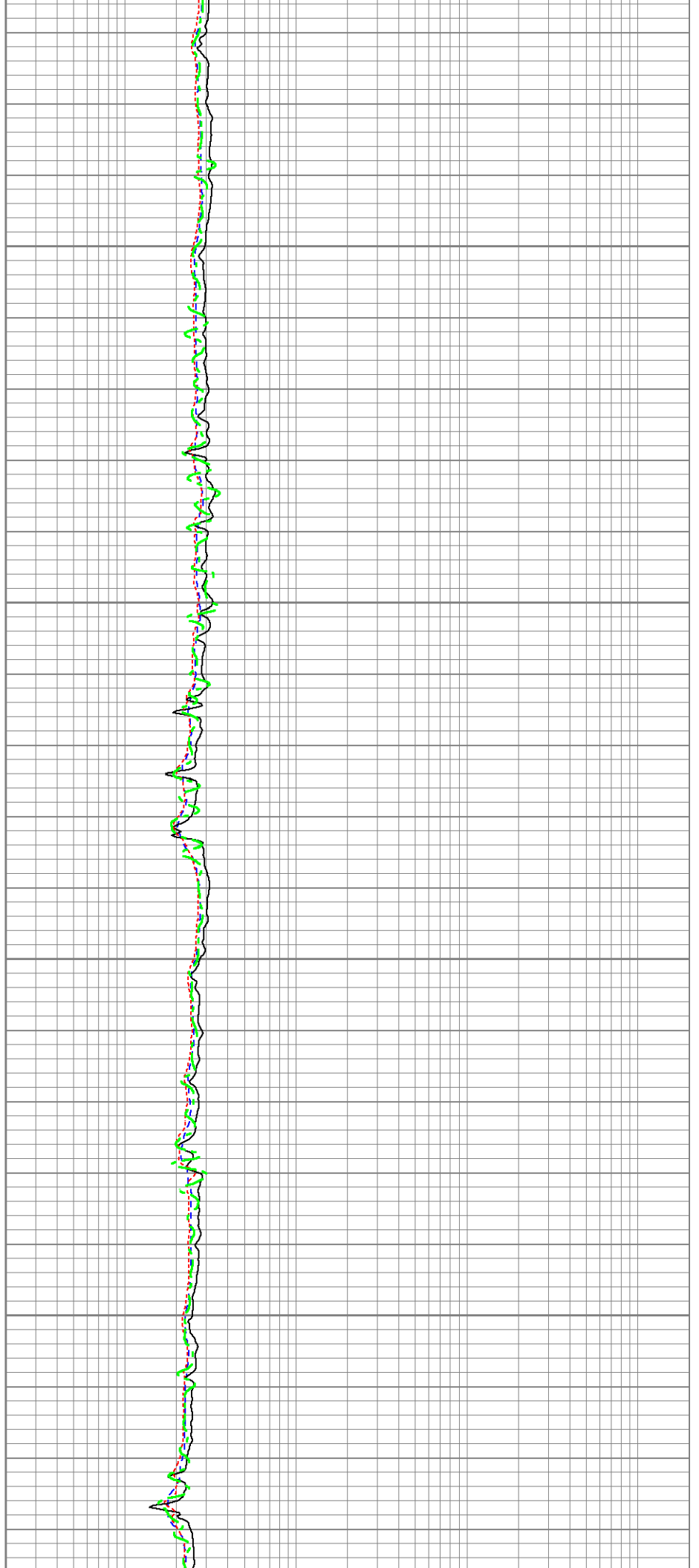
900

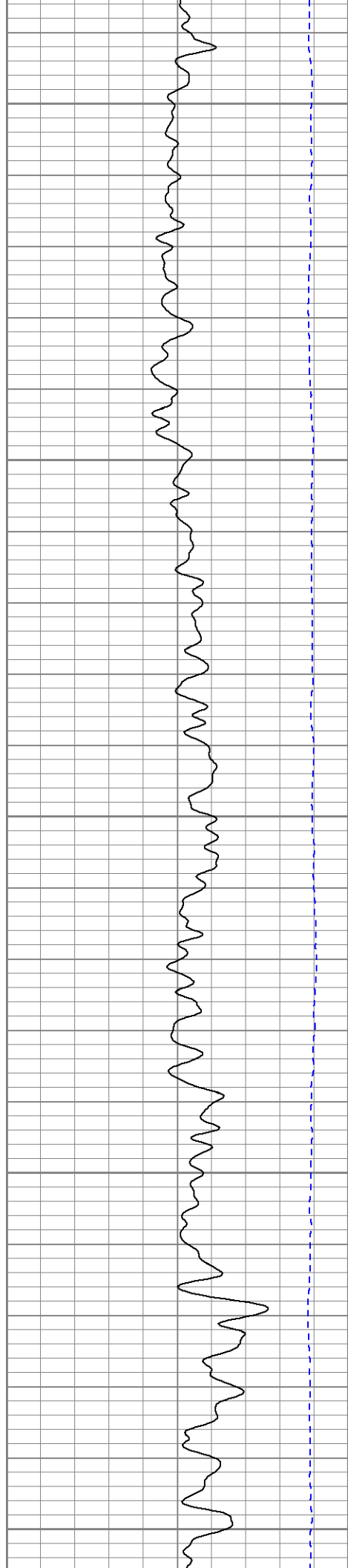




1000

1100

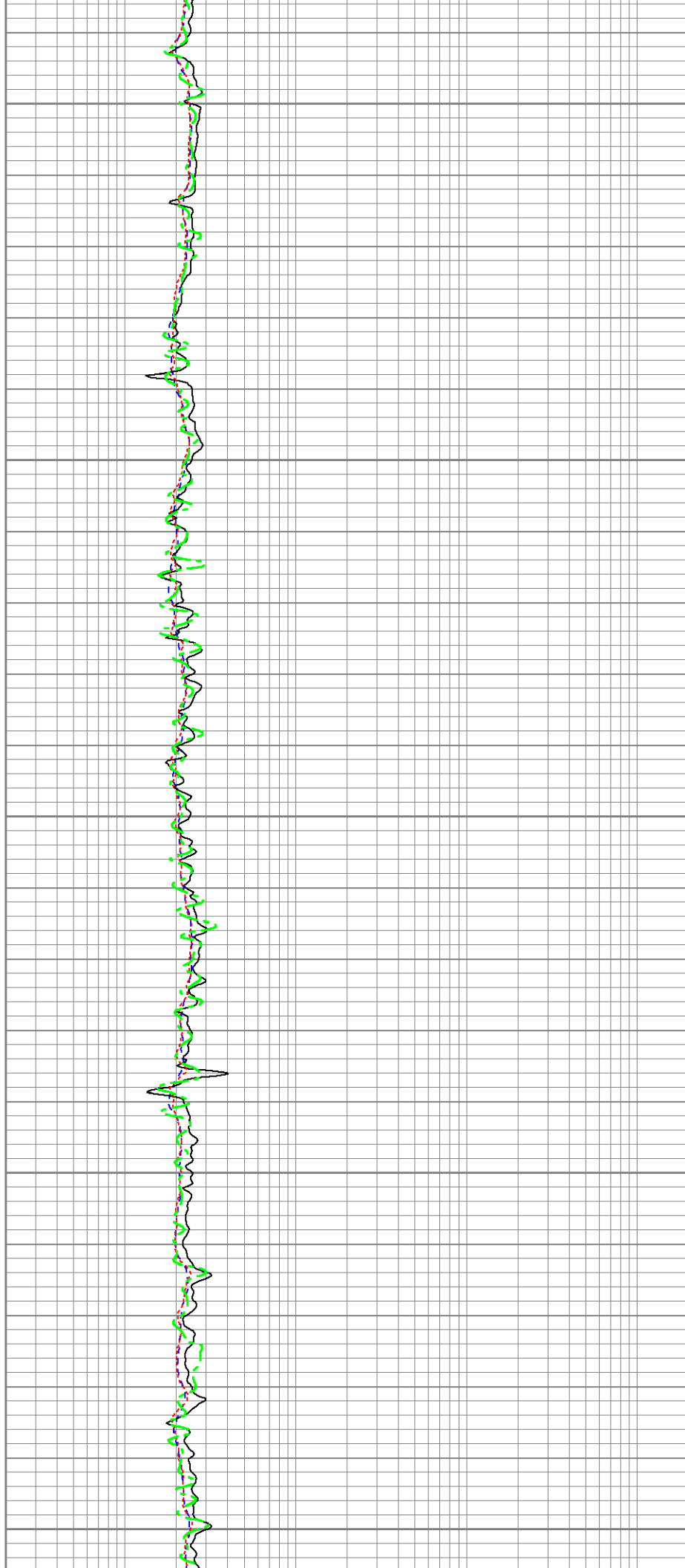


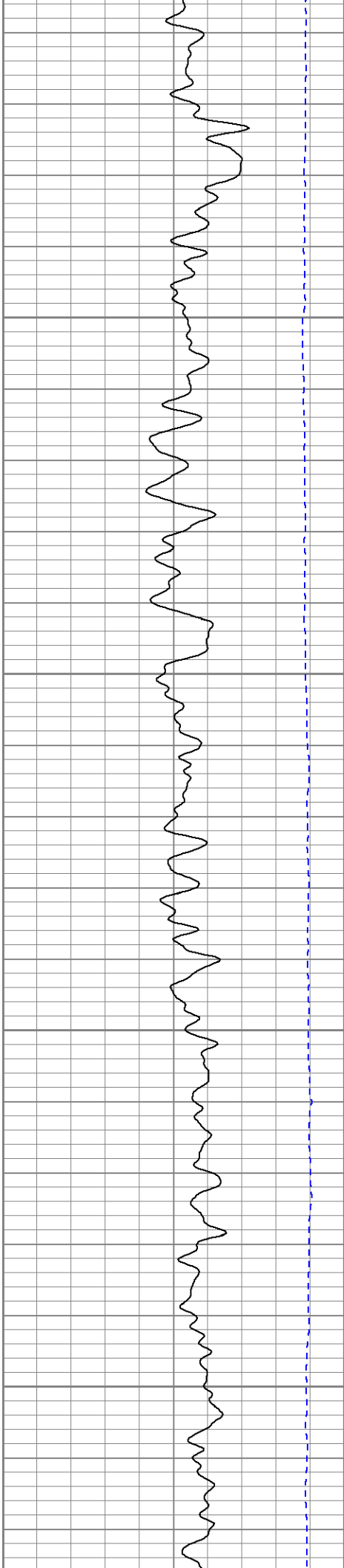


1200

1300

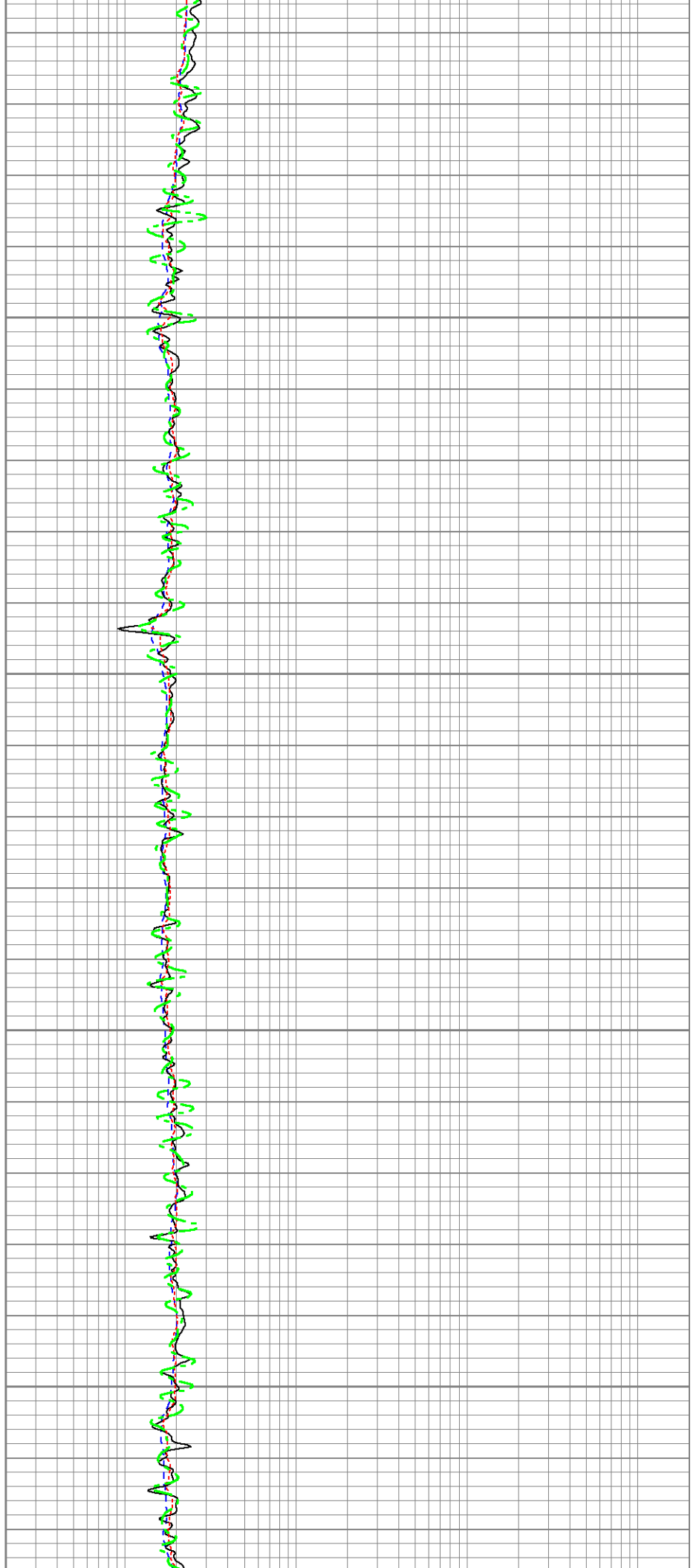
1400





1500

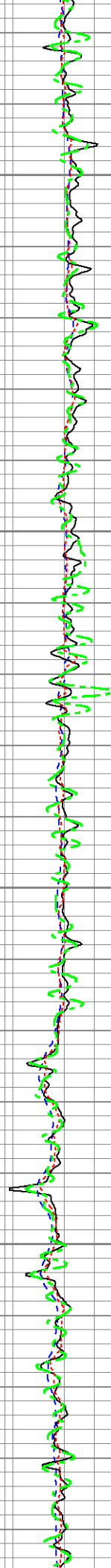
1600

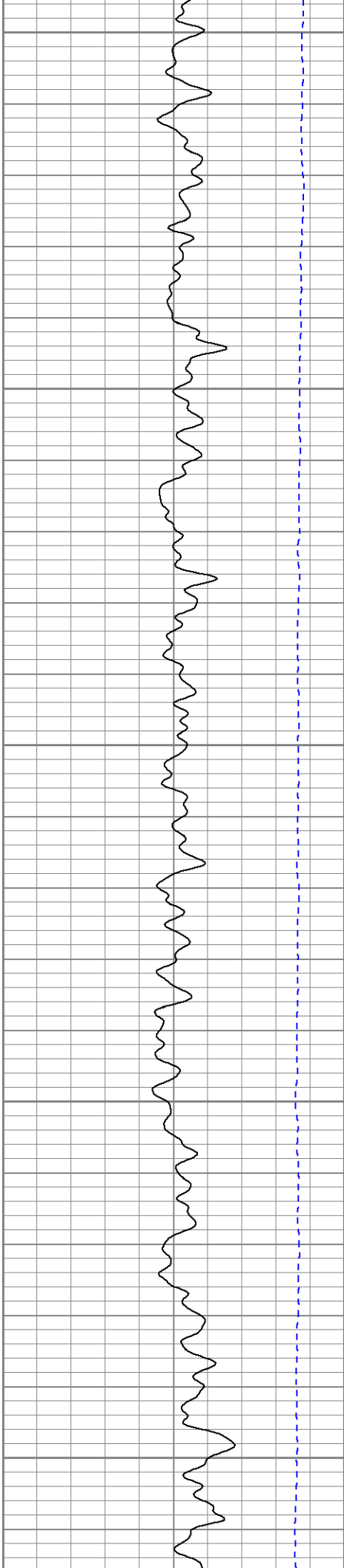




1700

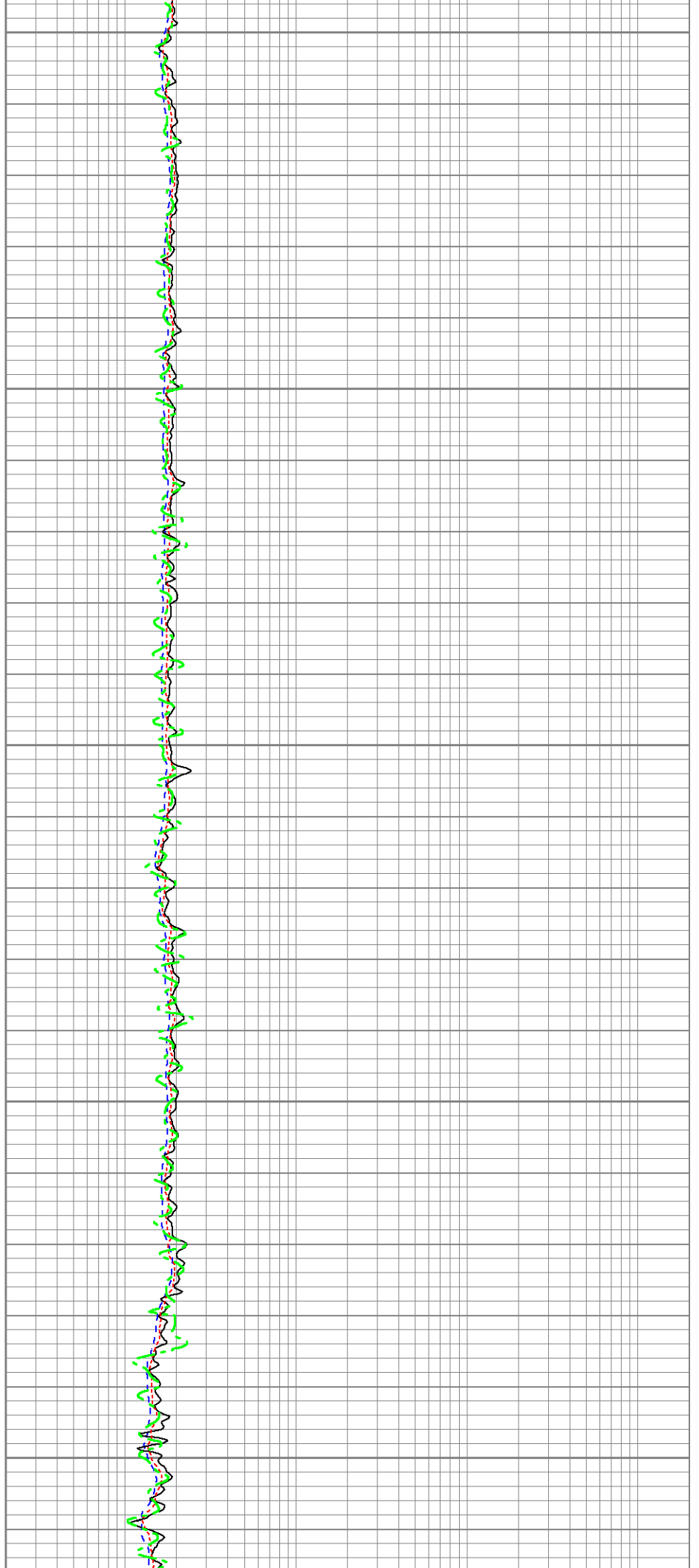
1800

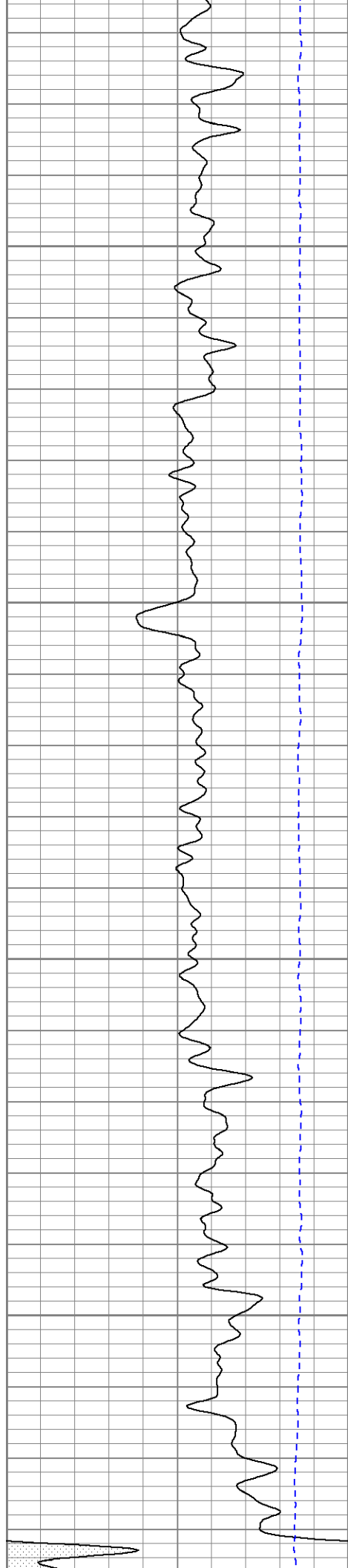




1900

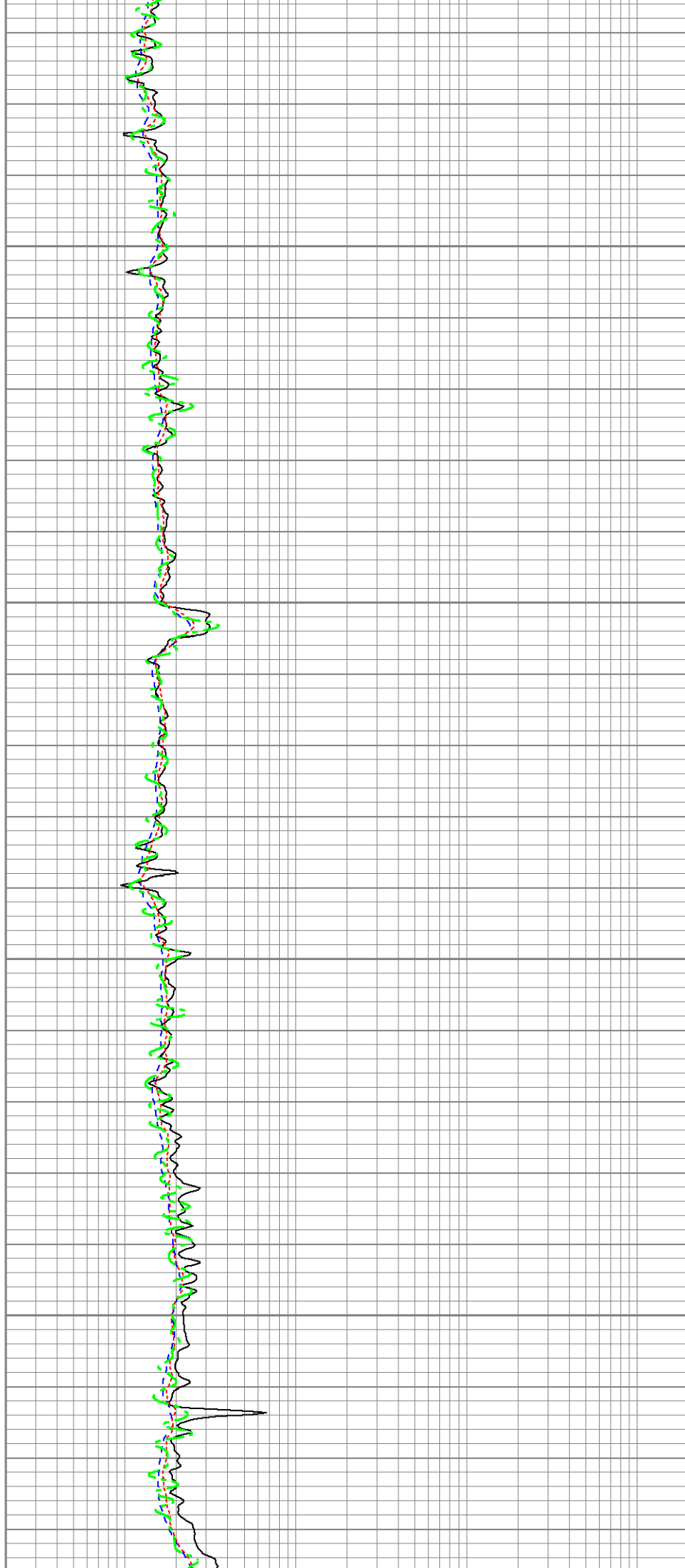
2000

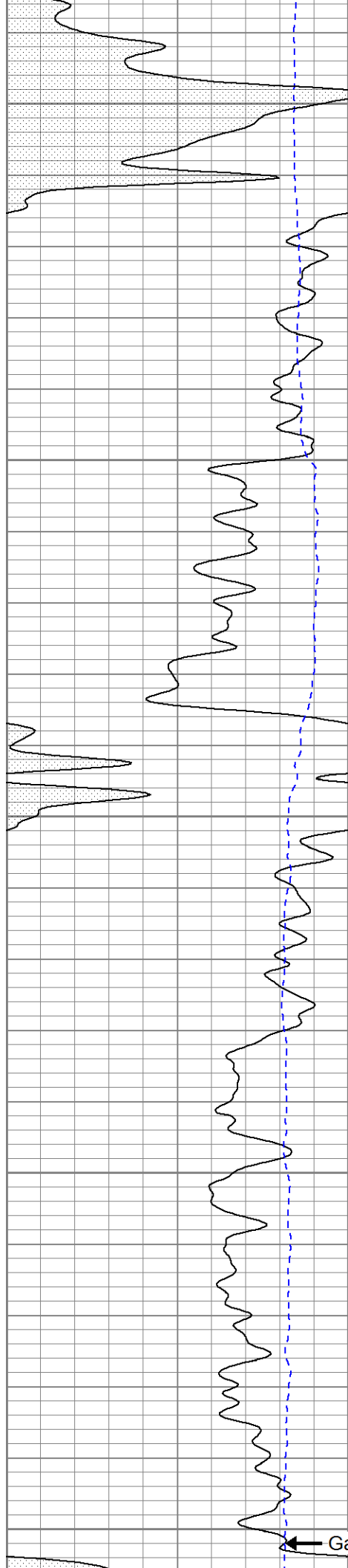




2100

2200





2300

2400

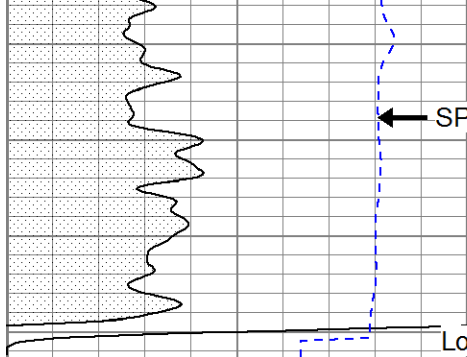
2500  
← Gamma Ray

Medium Resistivity →

Rt →

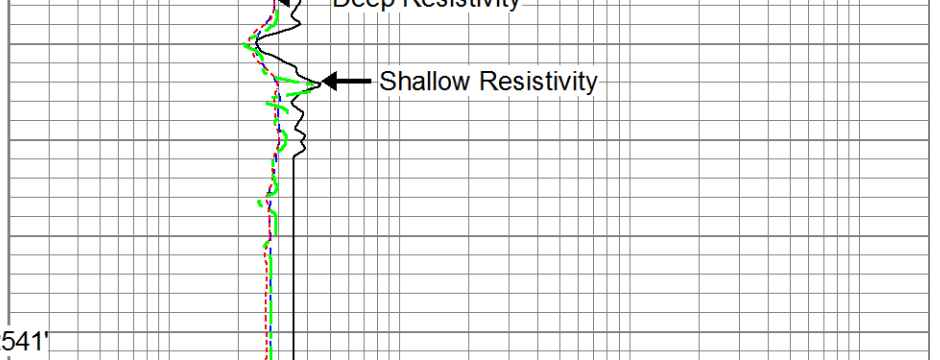
→ Deep Resistivity





Logger's TD: 2541'

0	Gamma Ray (GAPI)	200
0	SP (mV)	200



0.2	Deep Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Rt (Ohm-m)	2000



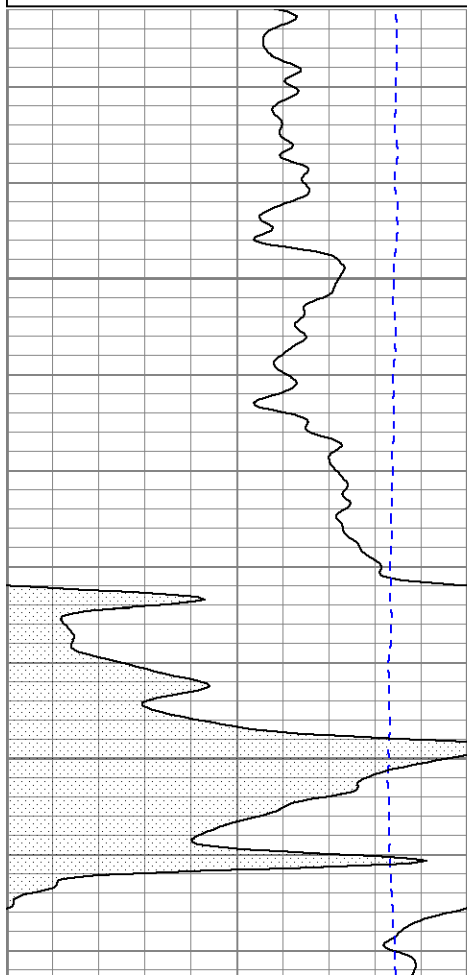
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# Repeat Pass

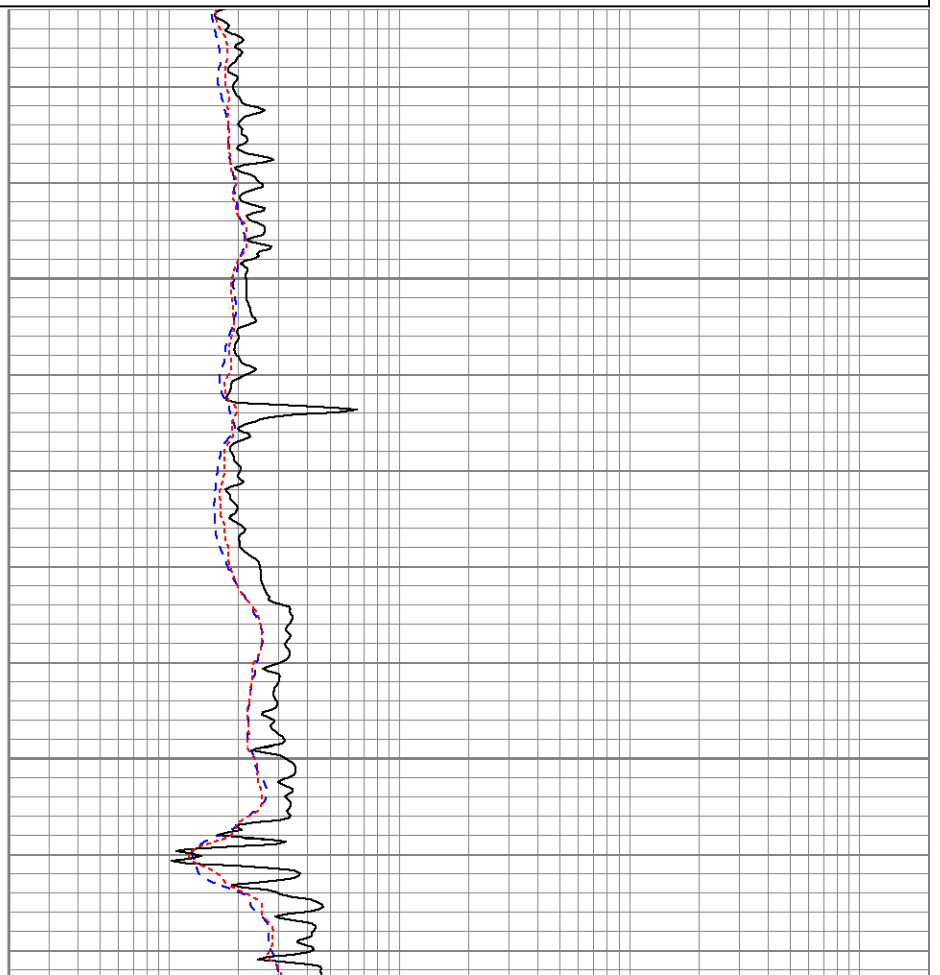
Database File: 13523.db  
 Dataset Pathname: pass2.3  
 Presentation Format: dil  
 Dataset Creation: Wed Jul 09 14:09:55 2014 by Calc 0  
 Charted by: Depth in Feet scaled 1:240

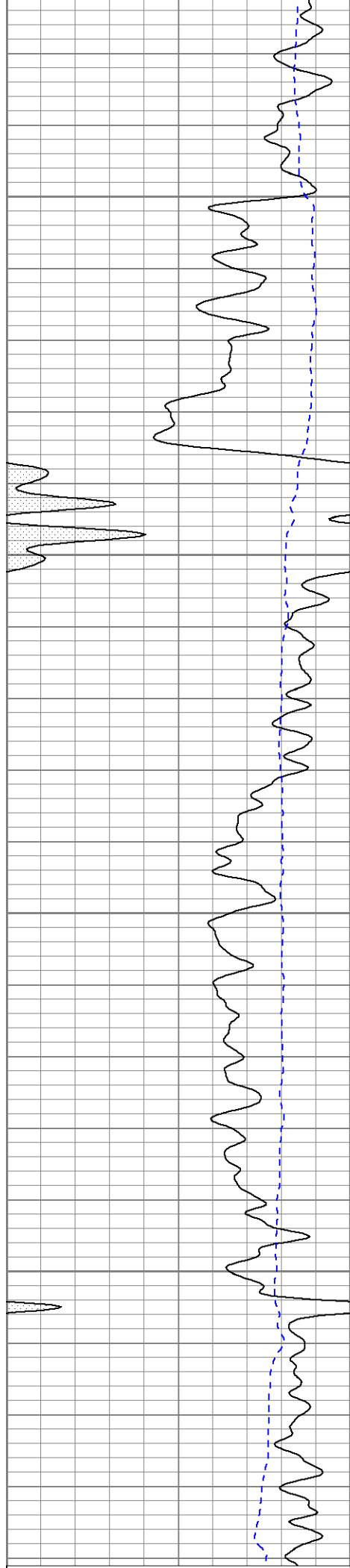
0	Gamma Ray (GAPI)	200
0	SP (mV)	200

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000



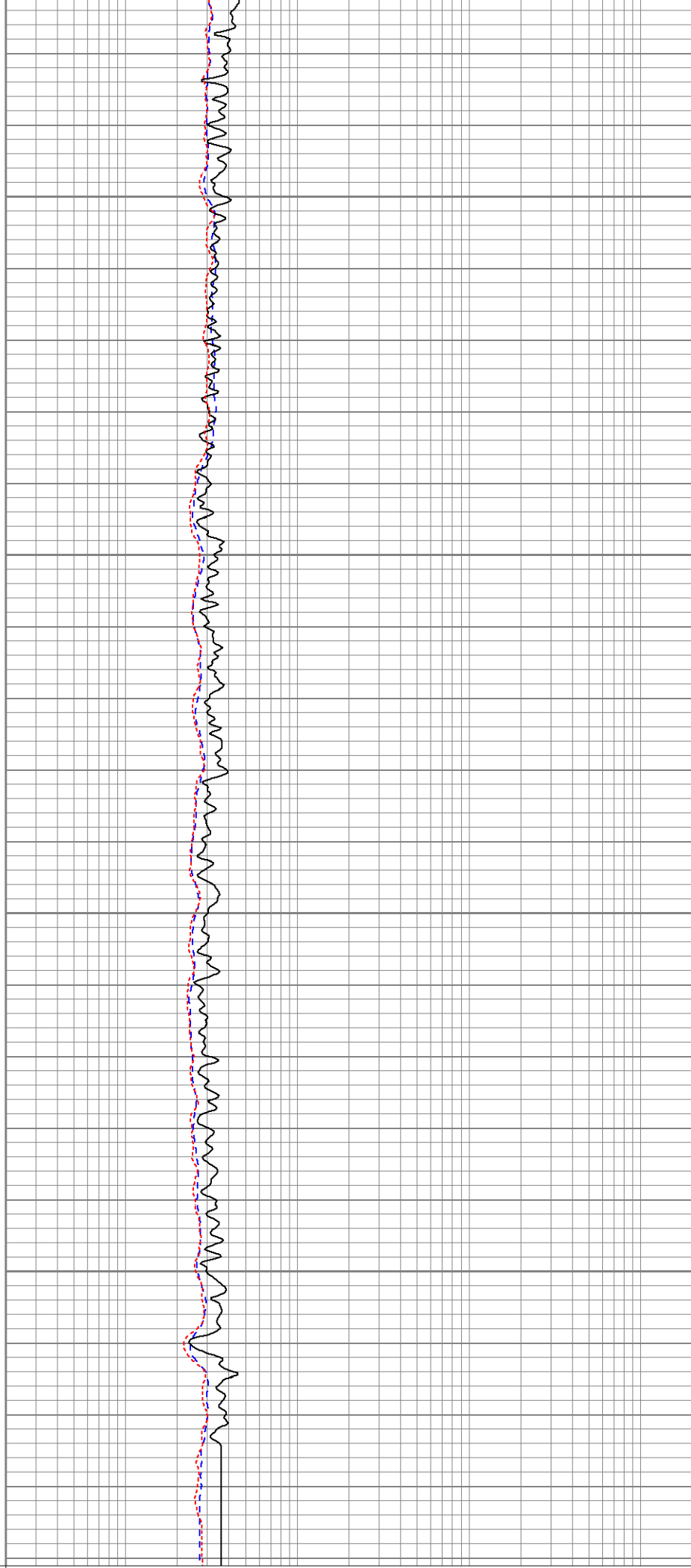
2300





2400

2500



0	Gamma Ray (GAPI)	200	0.2	Deep Resistivity (Ohm-m)	2000
0	SP (mV)	200	0.2	Shallow Resistivity (Ohm-m)	2000
			0.2	Medium Resistivity (Ohm-m)	2000

Calibration Report									
Database File:		13523.db							
Dataset Pathname:		pass1							
Dataset Creation:		Wed Jul 09 13:19:26 2014 by Log 0							
Dual Induction Calibration Report									
Serial-Model:		1039-PSI							
Surface Cal Performed:									
		Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.000	1.000		0.000	1.000	mmho/m	0.570	-45.000	
Medium	0.000	1.000		0.000	1.000	mmho/m	0.490	-40.000	
Compensated Density Calibration Report									
Serial-Model:		770-PSI							
Source / Verifier:		4400 / PSI							
Master Calibration Performed:		Wed Jun 04 12:13:48 2014							
Before Survey Verification Performed:									
After Survey Verification Performed:									
Master Calibration									
		Density		Far Detector		Near Detector			
Magnesium		1.750	g/cc		6052.27		9575.17	cps	
Aluminum		2.690	g/cc		1090.90		5872.16	cps	
		Spine Angle = 74.07			Density/Spine Ratio = 0.528				
		Size		Reading					
Small Ring		4.50	in	1.80					
Large Ring		13.00	in	1.46					
Before Survey Verification									
		Target		Measured					
		g/cc		g/cc					
		g/cc		g/cc					
		g/cc		g/cc					
After Survey Verification									
		Target		Measured					
		g/cc		g/cc					
		g/cc		g/cc					
		g/cc		g/cc					
Compensated Neutron Calibration Report									
Serial Number:		853							
Tool Model:		PSI							

# CALIBRATION

Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.9000
Long Space	1.00	cps	1.00	cps	2.0600

## PRE-SURVEY VERIFICATION

	Detector	Readings		Measured	Target
1)	Short Space		cps		
	Long Space		cps	pu	pu
2)	Short Space		cps		
	Long Space		cps	pu	
3)	Short Space		cps		
	Long Space		cps	pu	

## POST-SURVEY VERIFICATION

	Detector	Readings		Measured	Target
1)	Short Space		cps		
	Long Space		cps	pu	pu
2)	Short Space		cps		
	Long Space		cps	pu	pu
3)	Short Space		cps		
	Long Space		cps	pu	pu

## Gamma Ray Calibration Report

Serial Number: 223  
 Tool Model: PSI  
 Performed: Tue Apr 29 09:44:02 2014  
  
 Calibrator Value: 253.0 GAPI  
  
 Background Reading: 30.0 cps  
 Calibrator Reading: 380.0 cps  
  
 Sensitivity: 0.6300 GAPI/cps



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