

## DUAL INDUCTION LOG

Company	MULL DRILLING CO., INC.	Location:	API # : 05-073-06779-0000	Other Services CDL/CNL ML/SO
Well	BSR A #1-19	SEC 19 TWP 12S RGE 53W		
Field	WILDCAT	1364' FNL & 2481' FWL		
County	LINCOLN	State	COLORADO	
Permanent Datum	GROUND LEVEL	Elevation	4927	
Log Measured From	KELLY BUSHING 19' A.G.L.			
Drilling Measured From	KELLY BUSHING			
Date	10/17/21			
Run Number	ONE			
Depth Driller	6950			
Depth Logger	6950			
Bottom Logged Interval	6948			
Top Log Interval	00			
Casing Driller	8 5/8" @ 385			
Casing Logger	385			
Bit Size	7 7/8"			
Type Fluid in Hole	CHEMICAL MUD			
Density / Viscosity	9.4/45			
pH / Fluid Loss	10.0/8.8			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	1.2 @ 60F			
Rmf @ Meas. Temp	.60 @ 60F			
Rmc @ Meas. Temp	.96 @ 60F			
Source of Rmf / Rmc	MEASURED			
Rm @ BHT	.50 @ 143F			
Time Circulation Stopped	2 HOURS			
Time Logger on Bottom	////			
Maximum Recorded Temperature	143F			
Equipment Number	1523			
Location	HAYS, KANSAS			
Recorded By	GUS PFANENSTIEL			
Witnessed By	BLAKE MILLER			

<<< Fold Here >>>

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

THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395

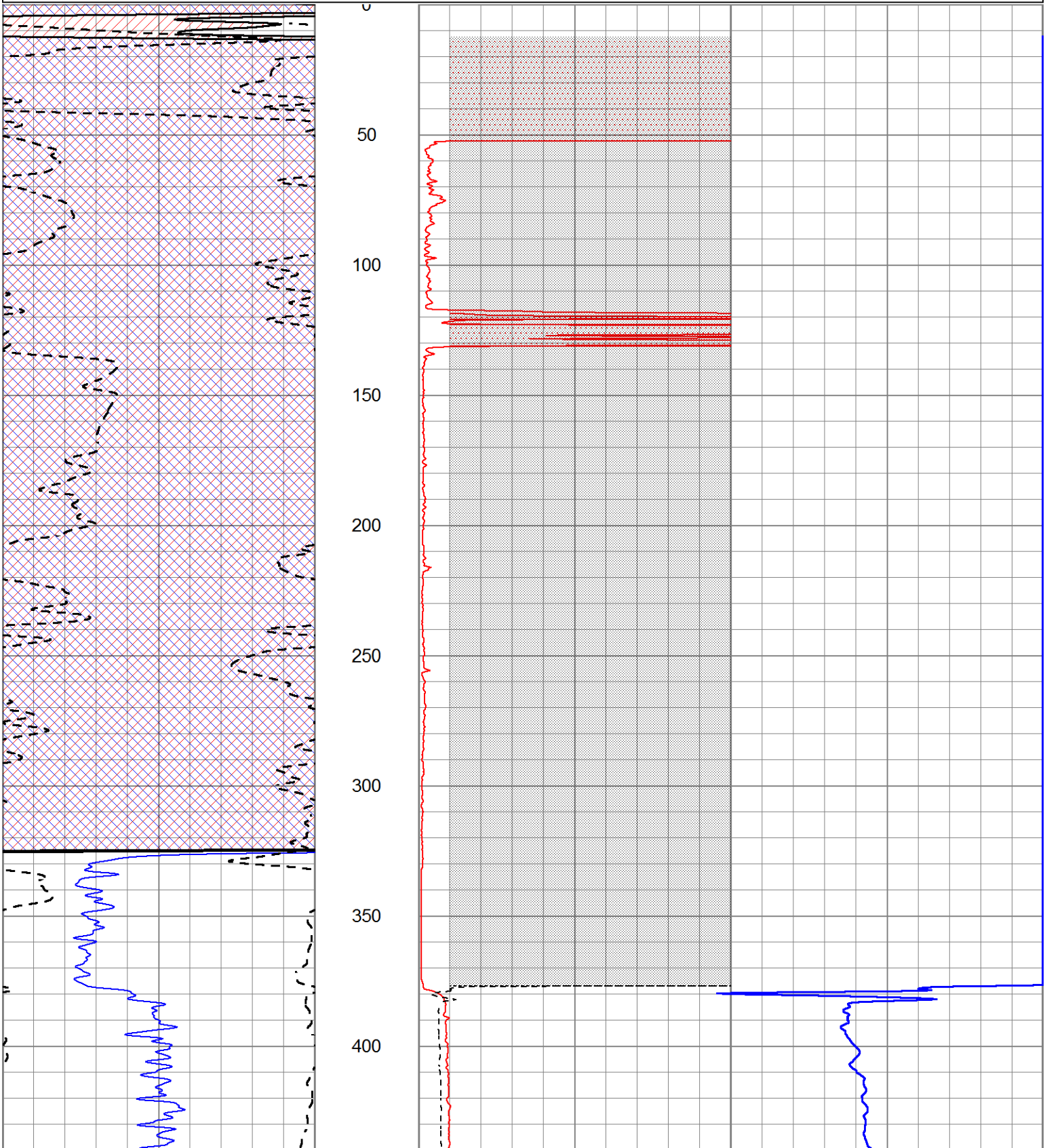
DIRECTIONS: HUGO COLORADO SOUTH 14 MILES TO G2 RD., WEST 5.5 MILES TO ENTRANCE, NORTH INTO ABOUT 2.5 MILES IN PASTURE.

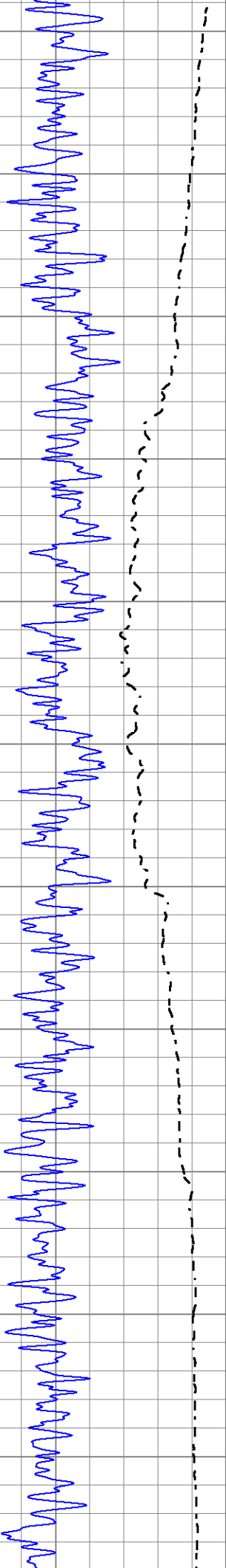


# MAIN PASS

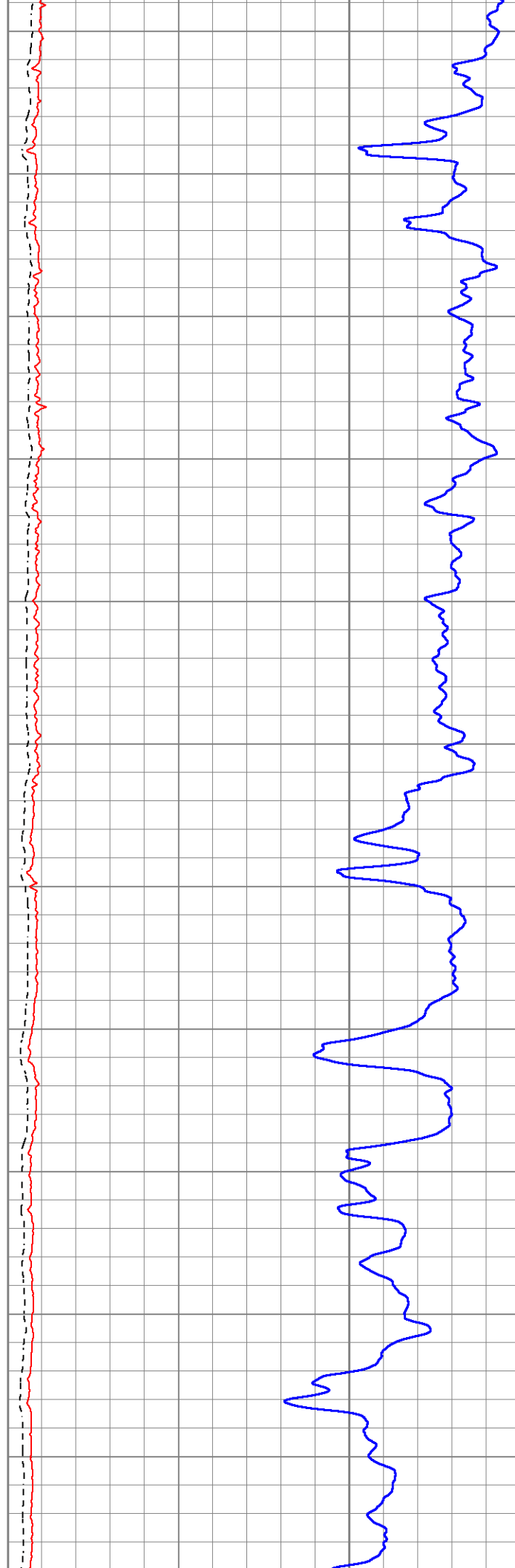
Database File	5887pe.db
Dataset Pathname	pass3.1
Presentation Format	_dil2
Dataset Creation	Sun Oct 17 09:47:44 2021
Charted by	Depth in Feet scaled 1:600

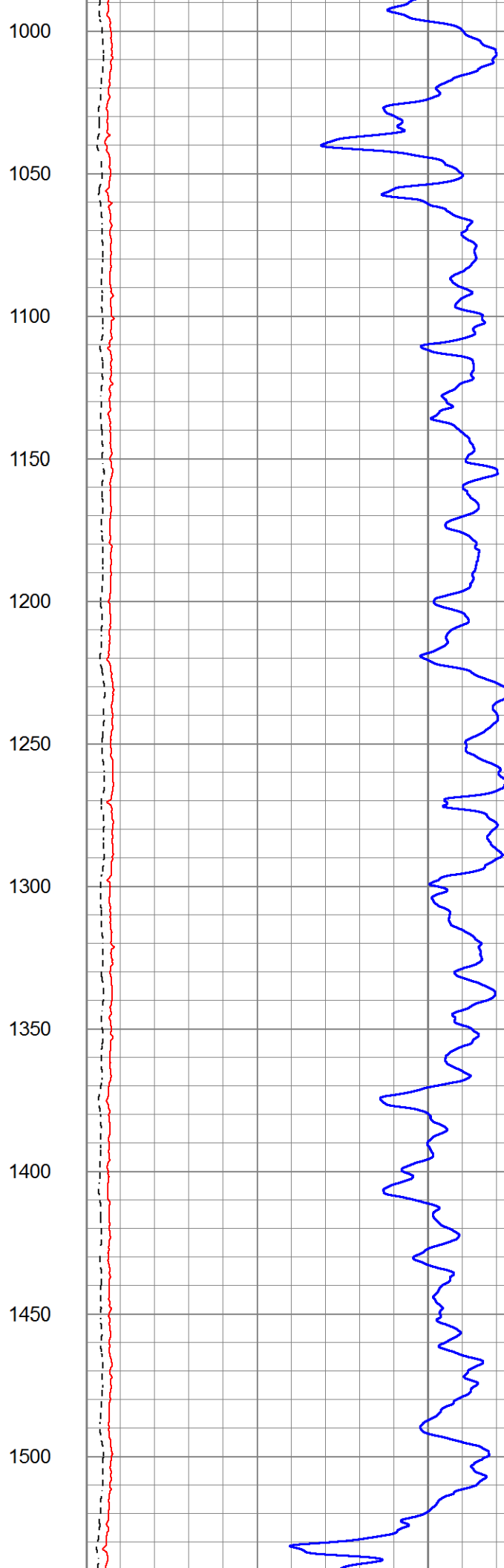
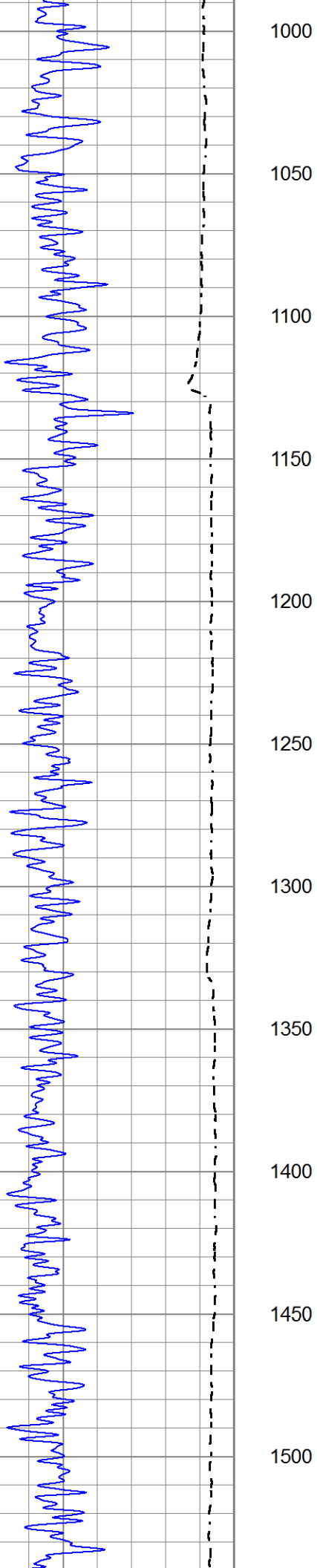
0	Gamma Ray (GAPI)	150	1000	CILD (mmho/m)	0
-100	SP (mV)	100	0	RLL3 (Ohm-m)	50
-----			0	RILD (Ohm-m)	50
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500

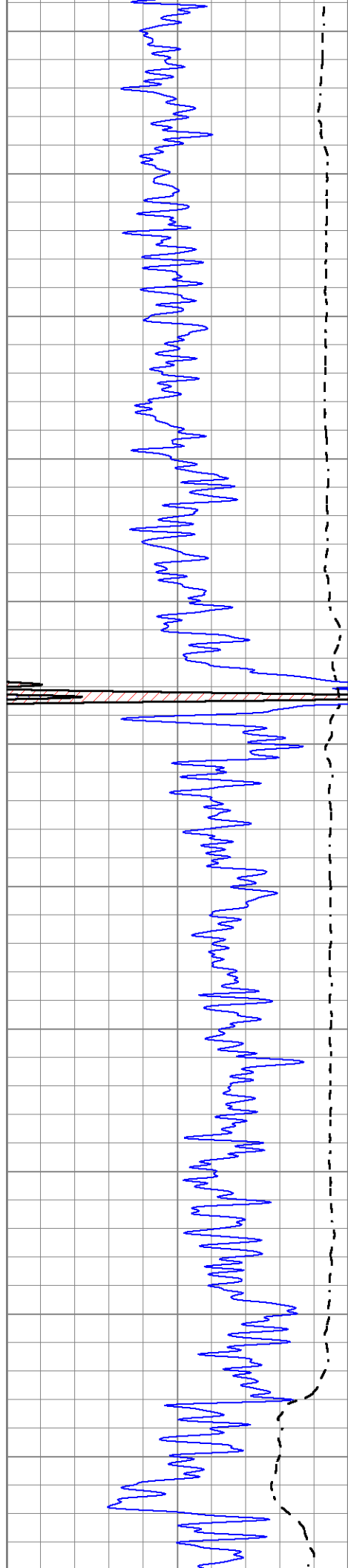




450  
500  
550  
600  
650  
700  
750  
800  
850  
900  
950







1550

1600

1650

1700

1750

1800

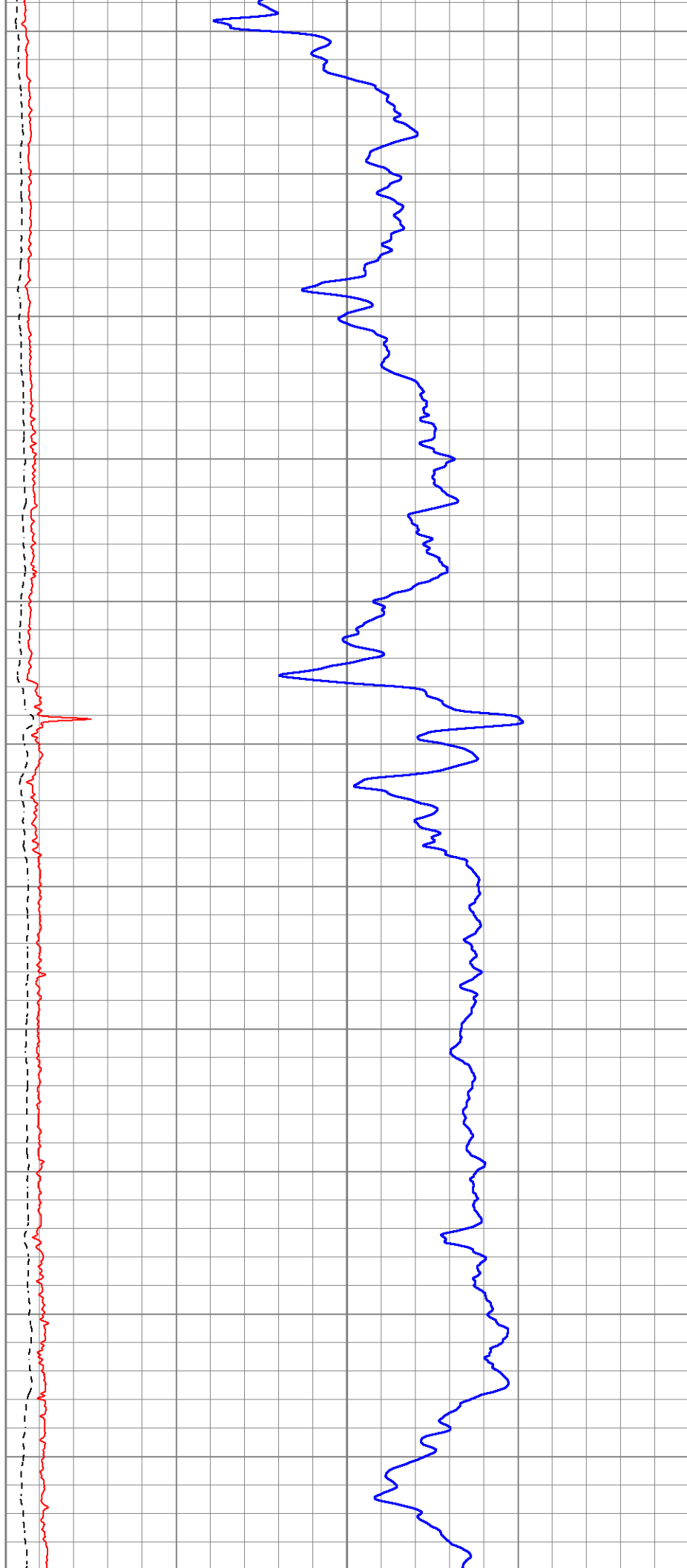
1850

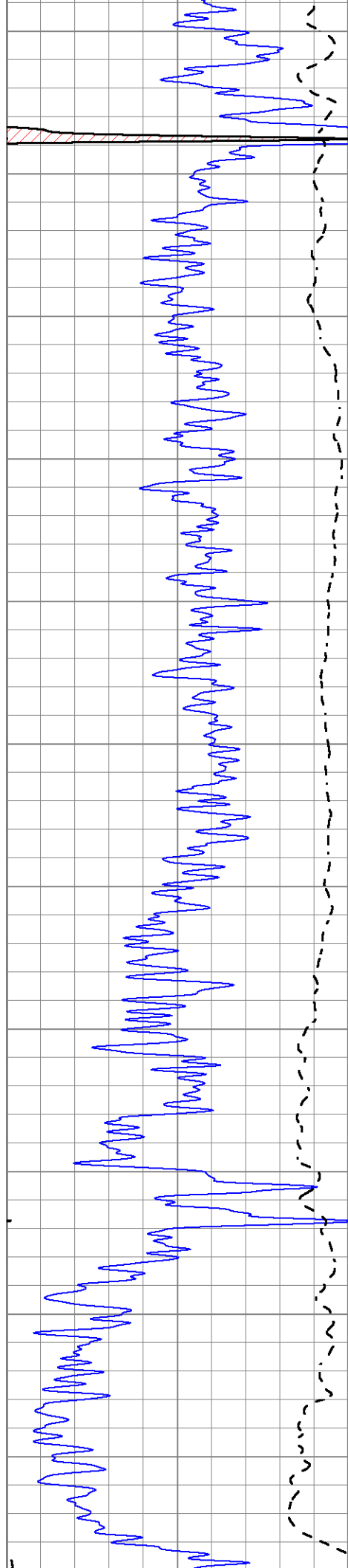
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

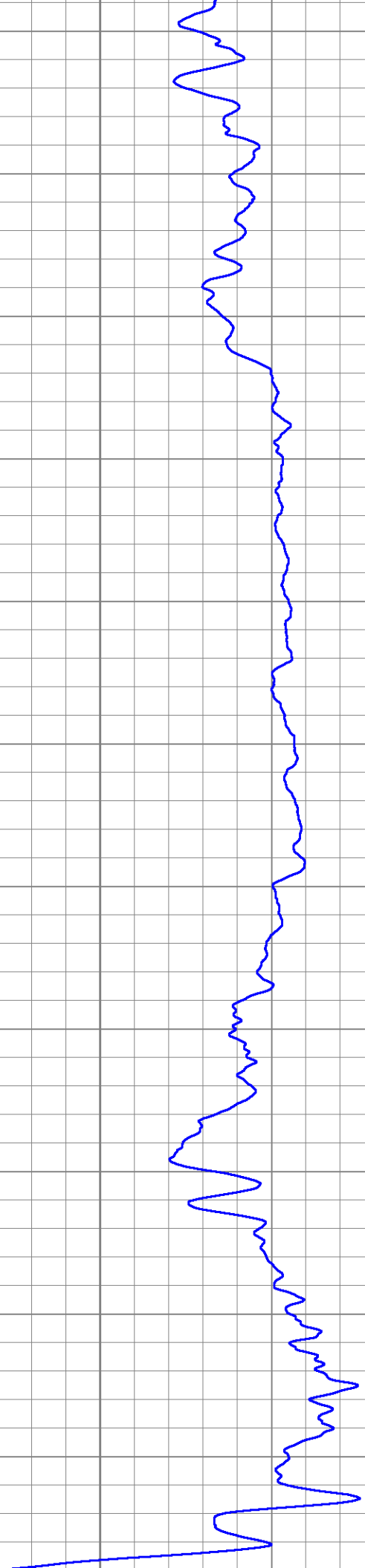
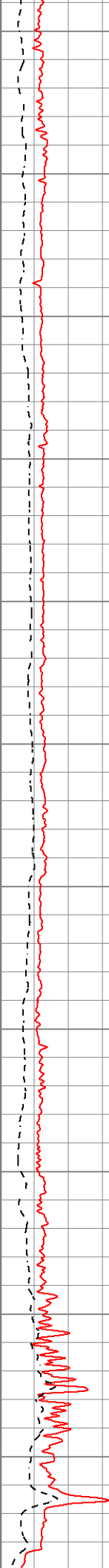
2400

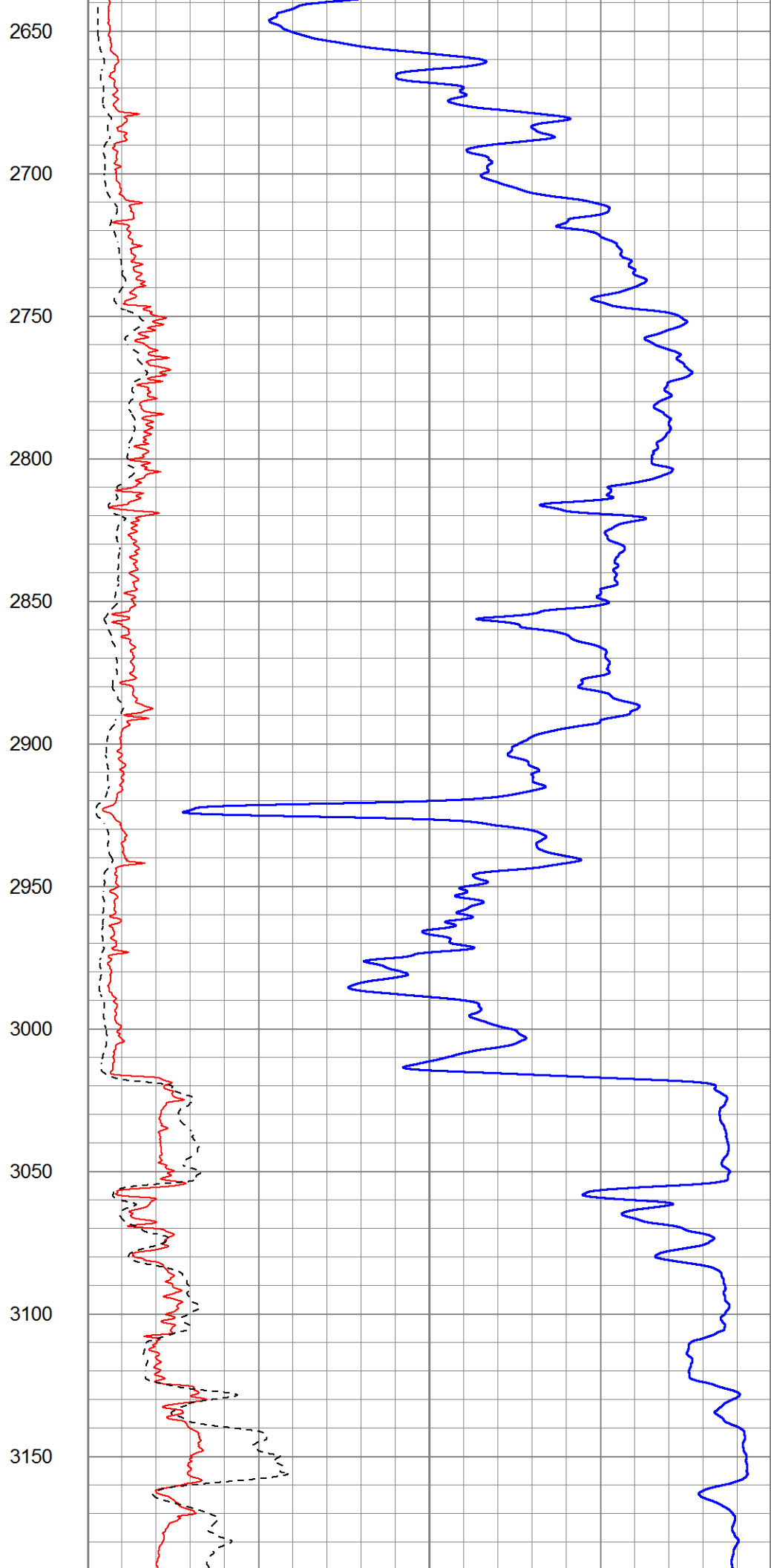
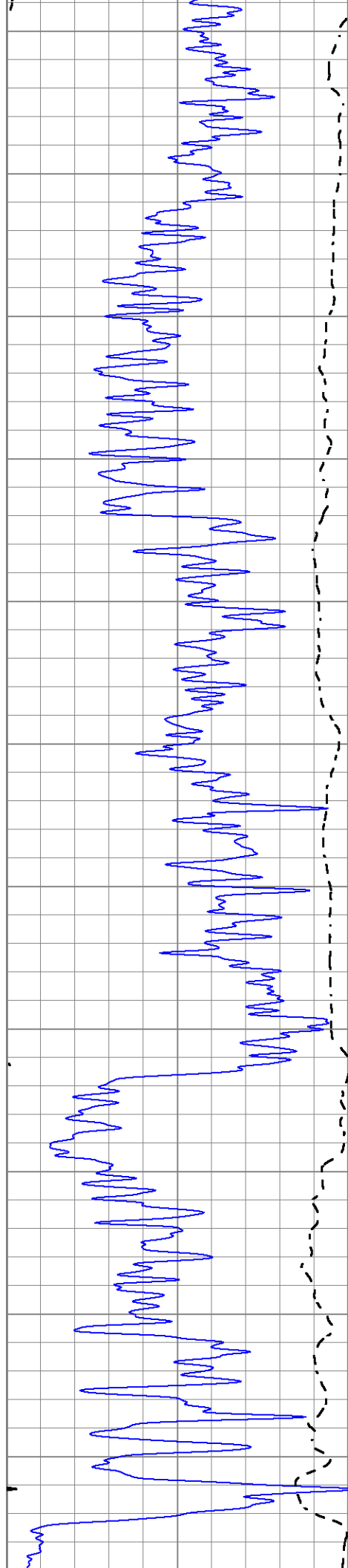
2450

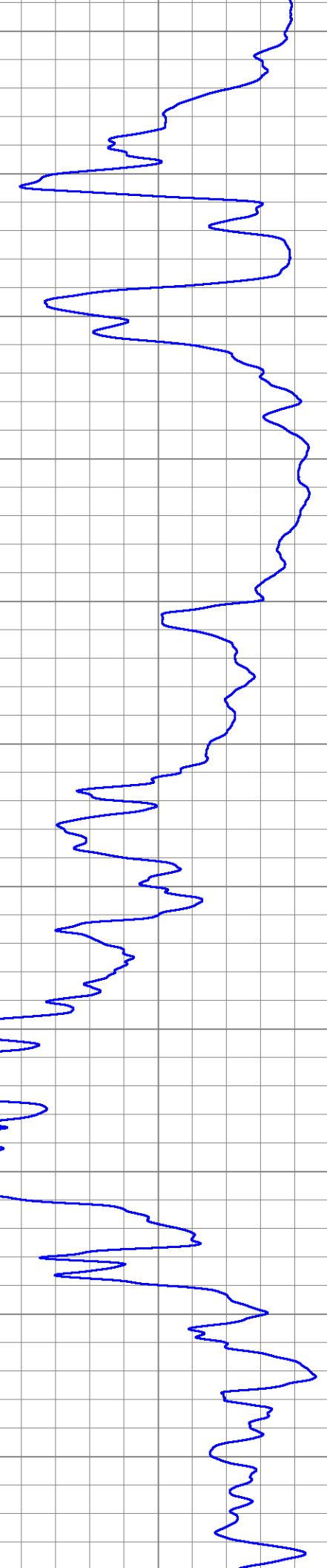
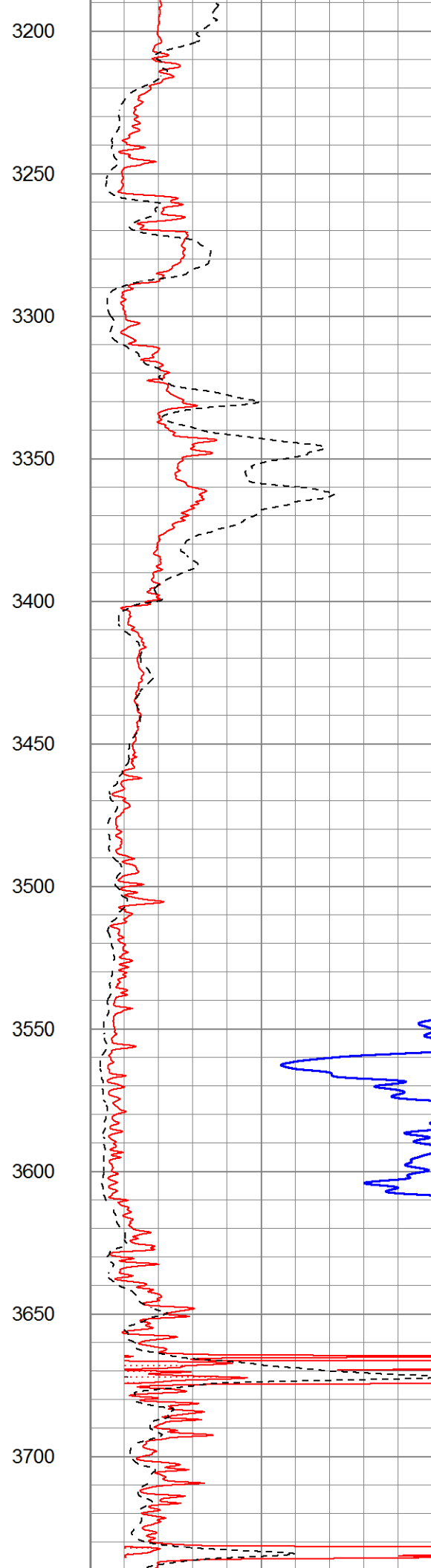
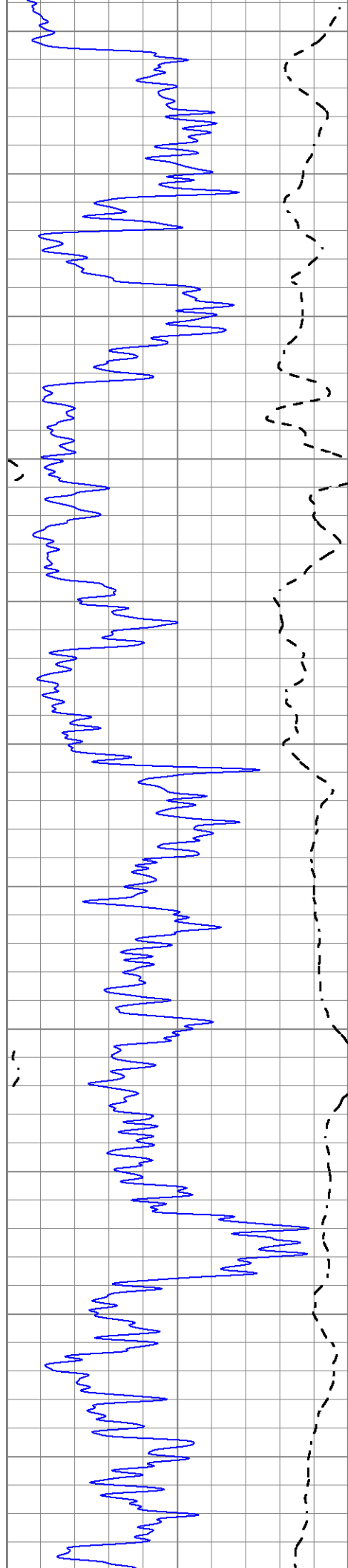
2500

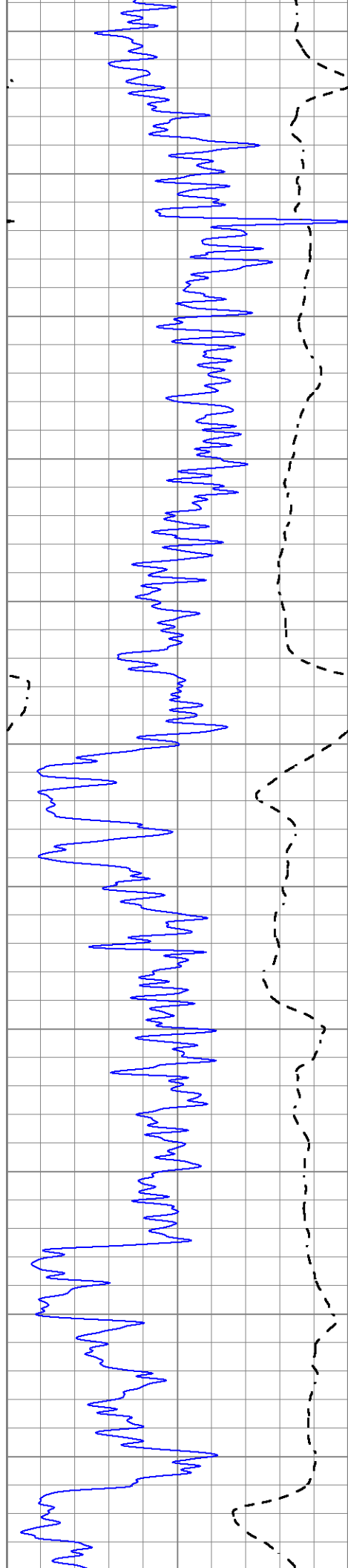
2550

2600









3750

3800

3850

3900

3950

4000

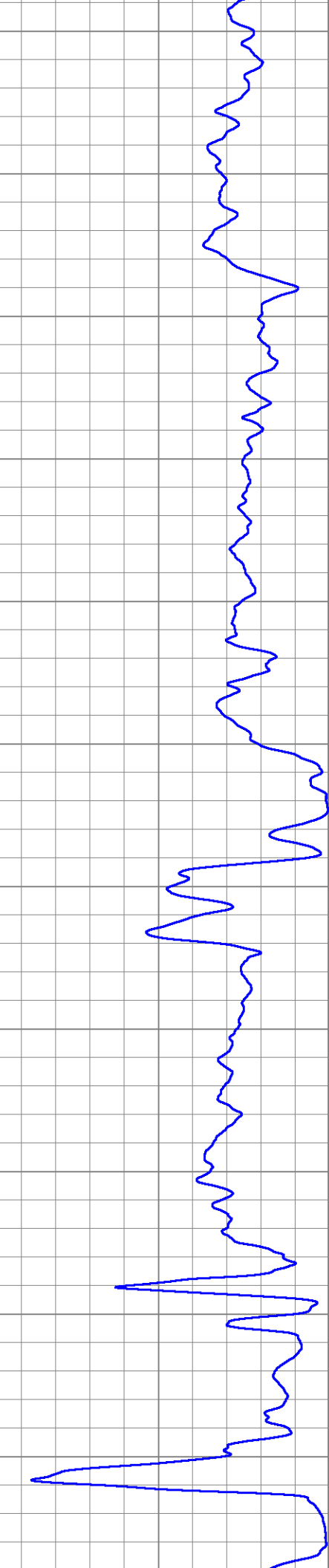
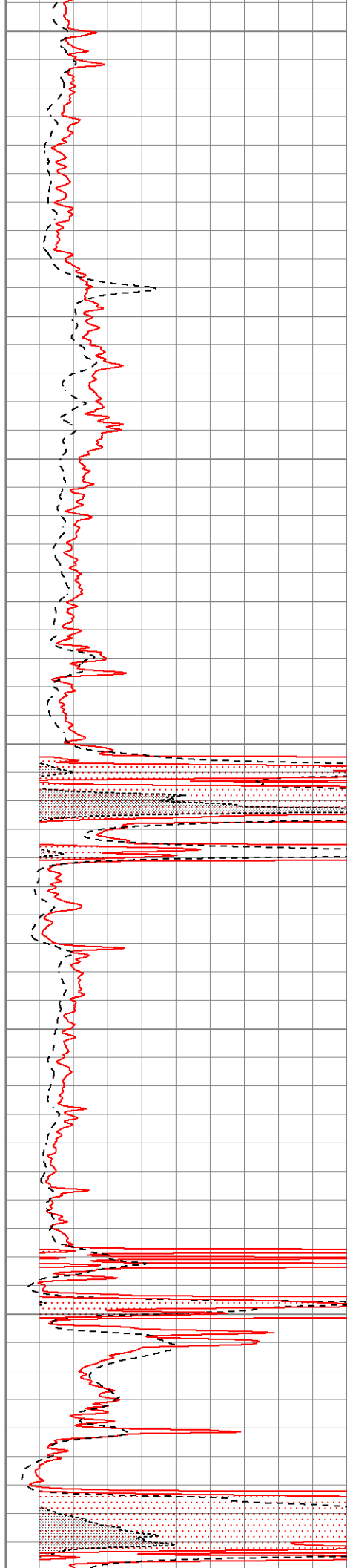
4050

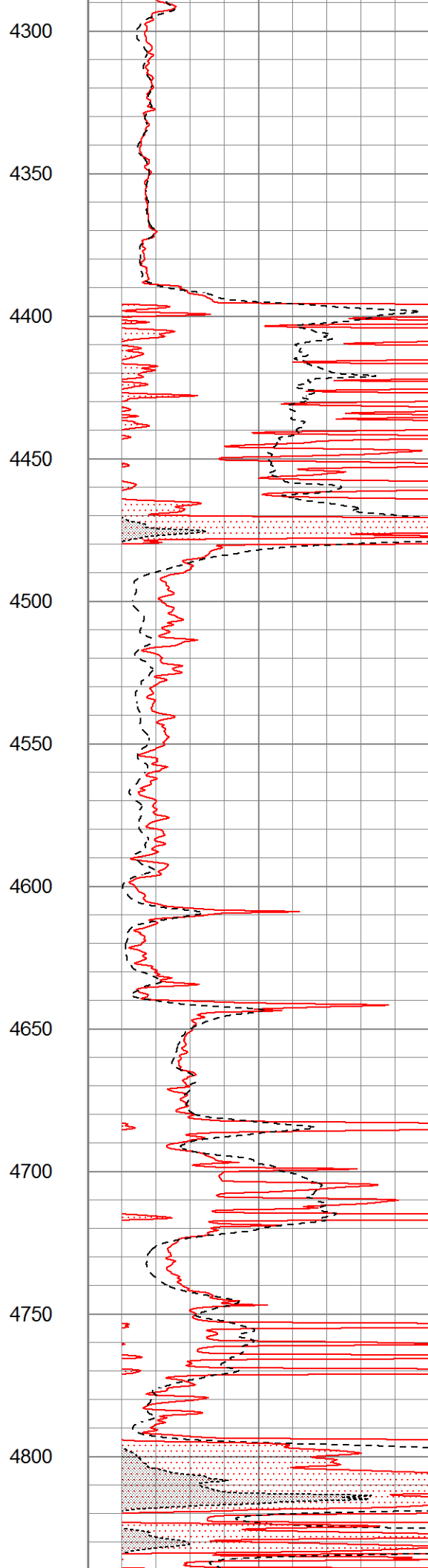
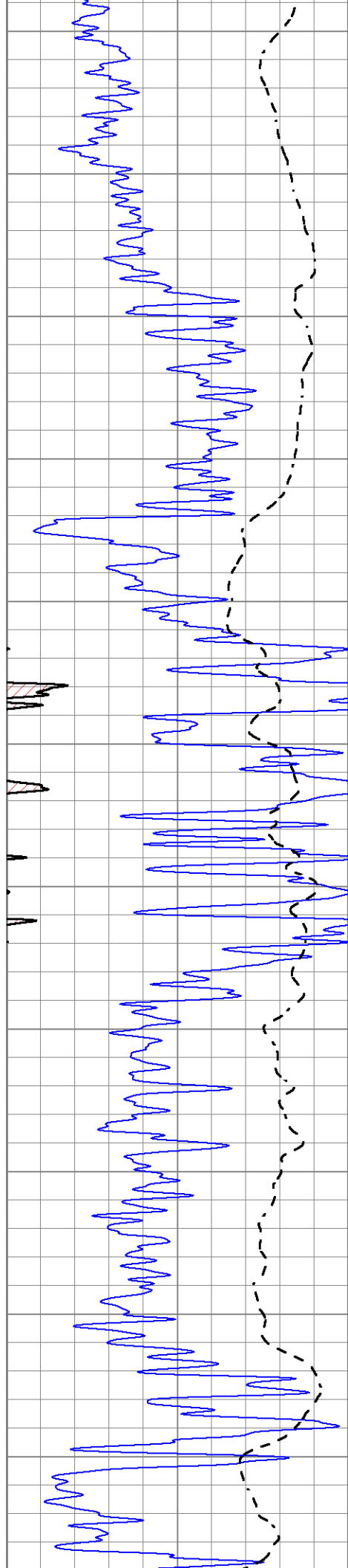
4100

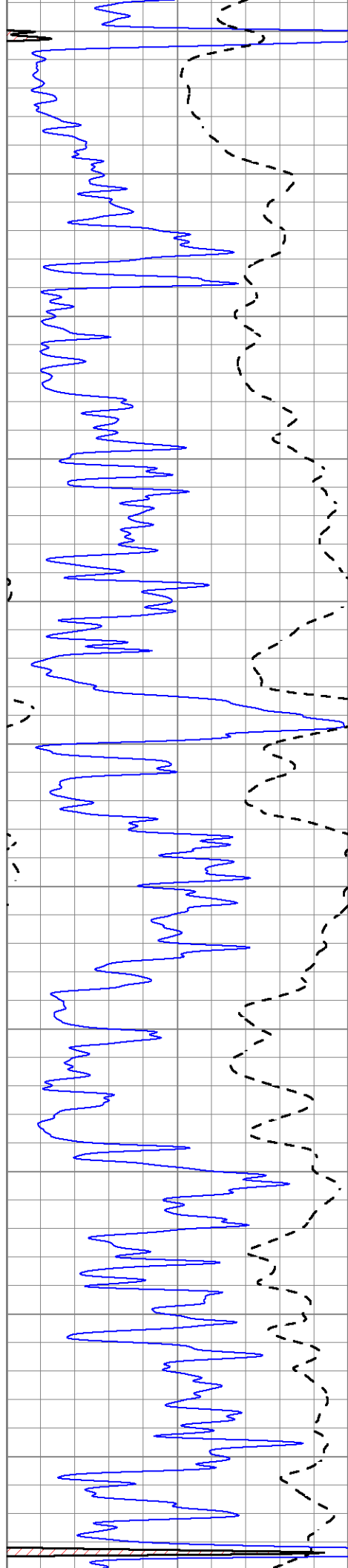
4150

4200

4250







4850

4900

4950

5000

5050

5100

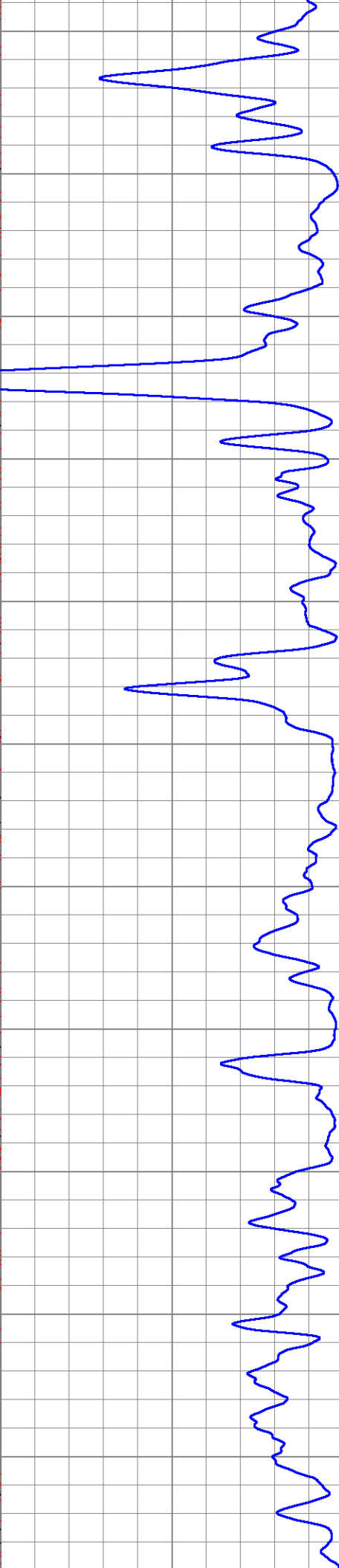
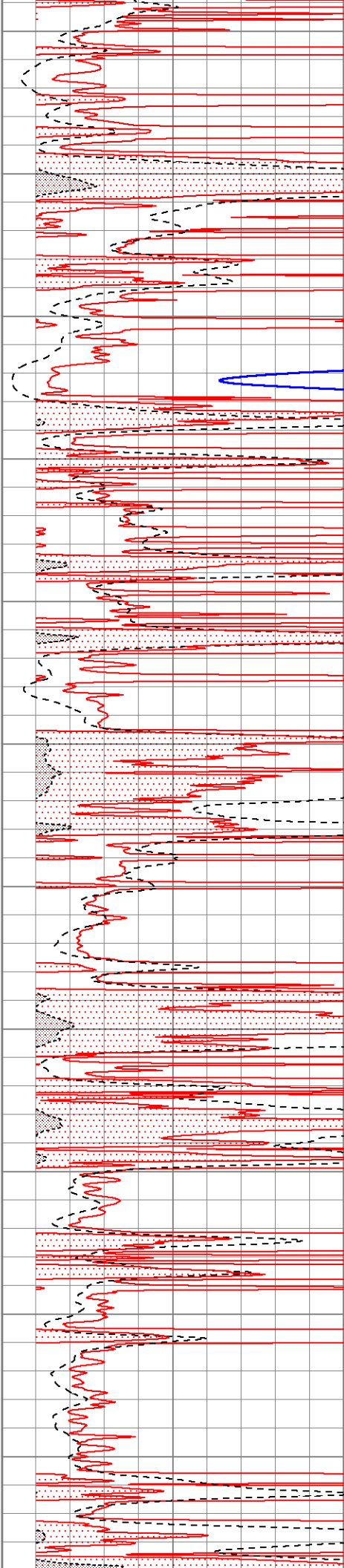
5150

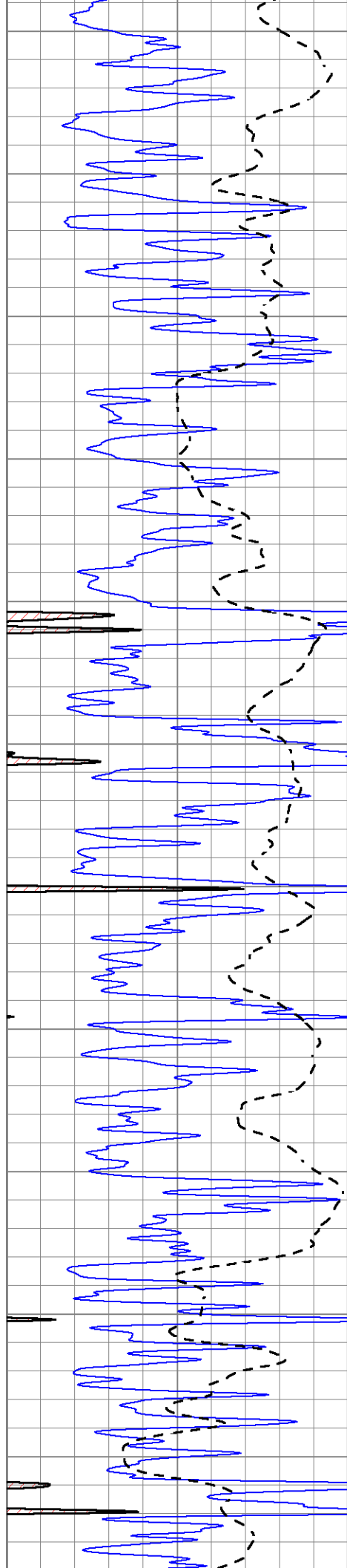
5200

5250

5300

5350





5400

5450

5500

5550

5600

5650

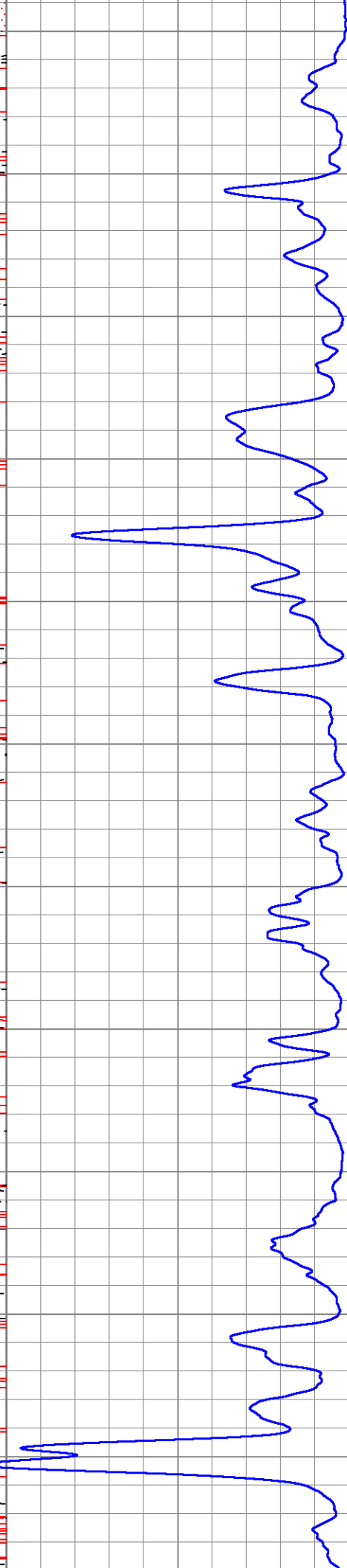
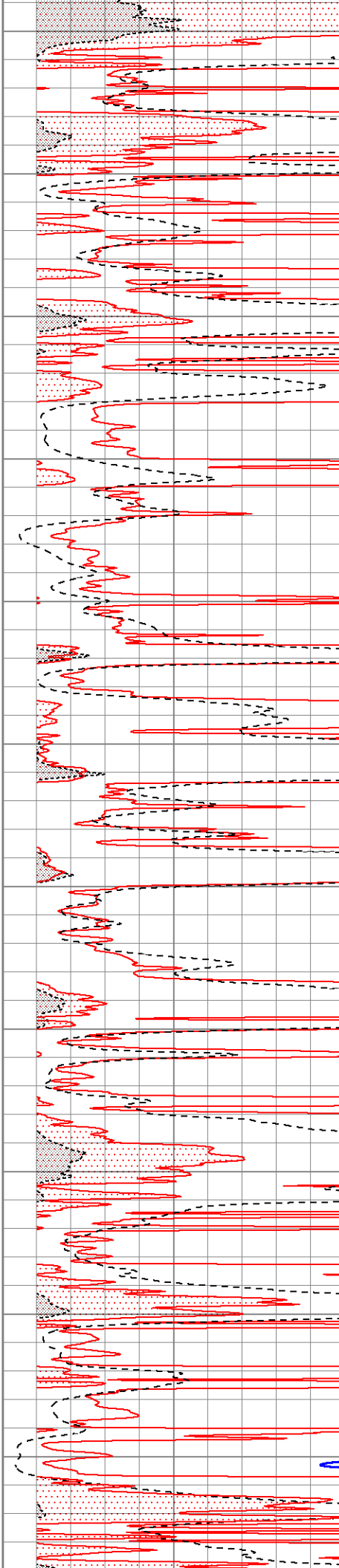
5700

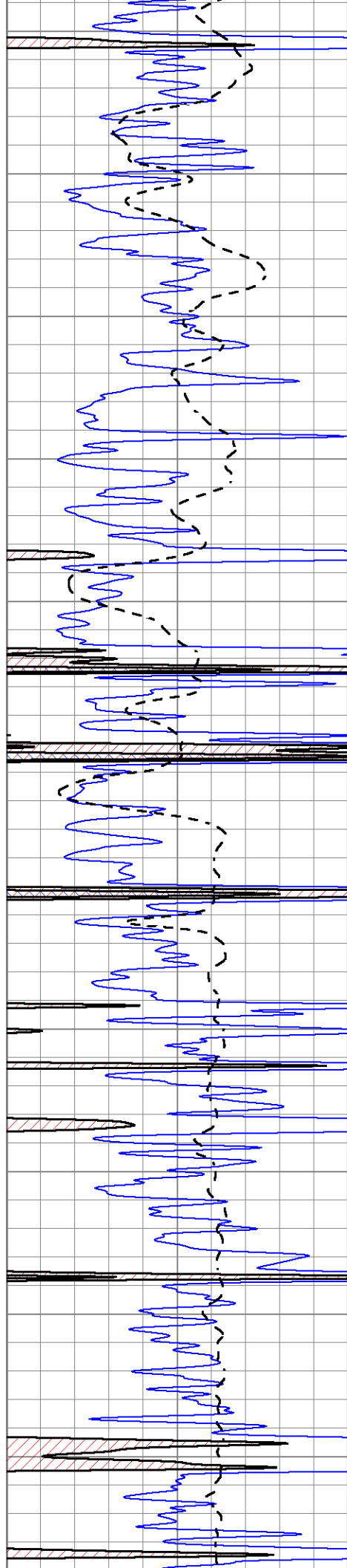
5750

5800

5850

5900





5950

6000

6050

6100

6150

6200

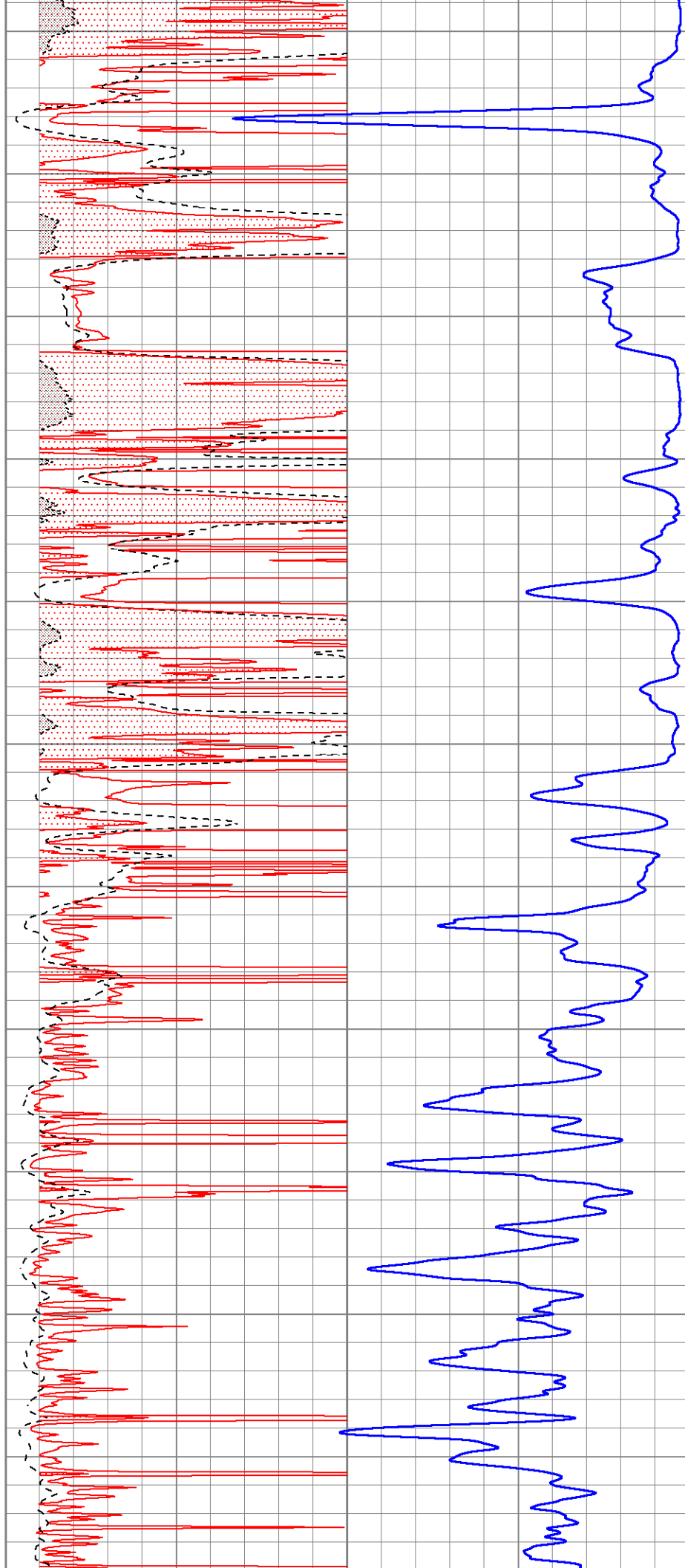
6250

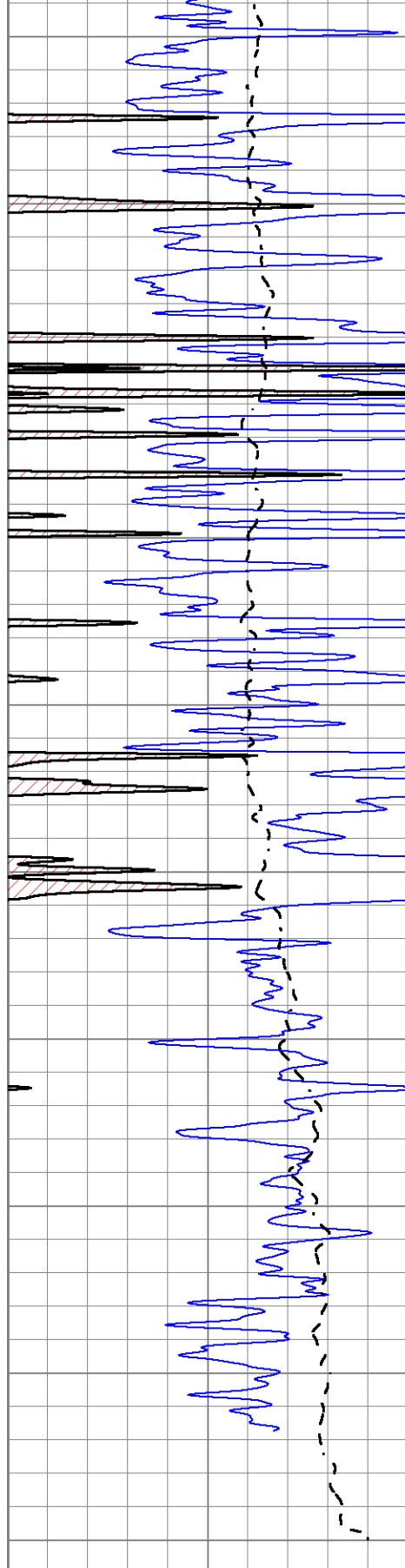
6300

6350

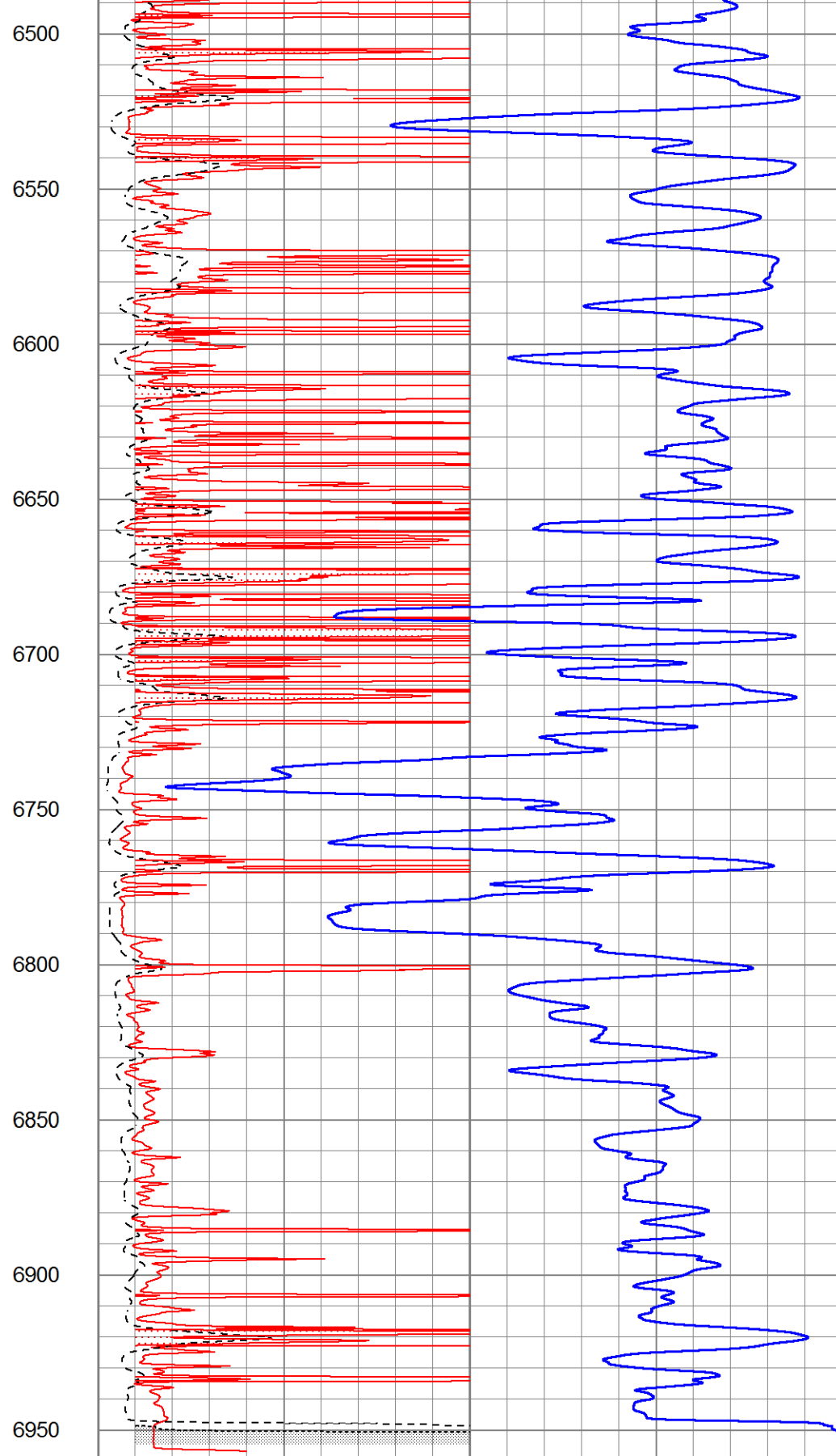
6400

6450





0	Gamma Ray (GAPI)	150
-100	SP (mV)	100



1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

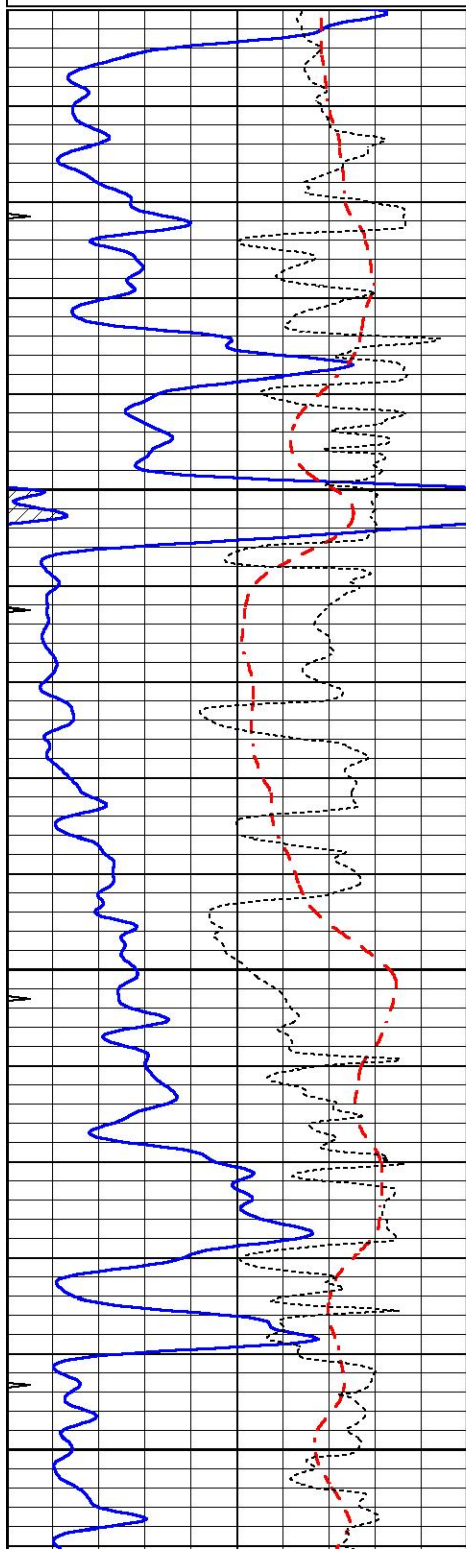


# MAIN PASS

Database File 5887pe.db  
Dataset Pathname pass3.1  
Presentation Format \_dil  
Dataset Creation Sun Oct 17 09:47:44 2021  
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

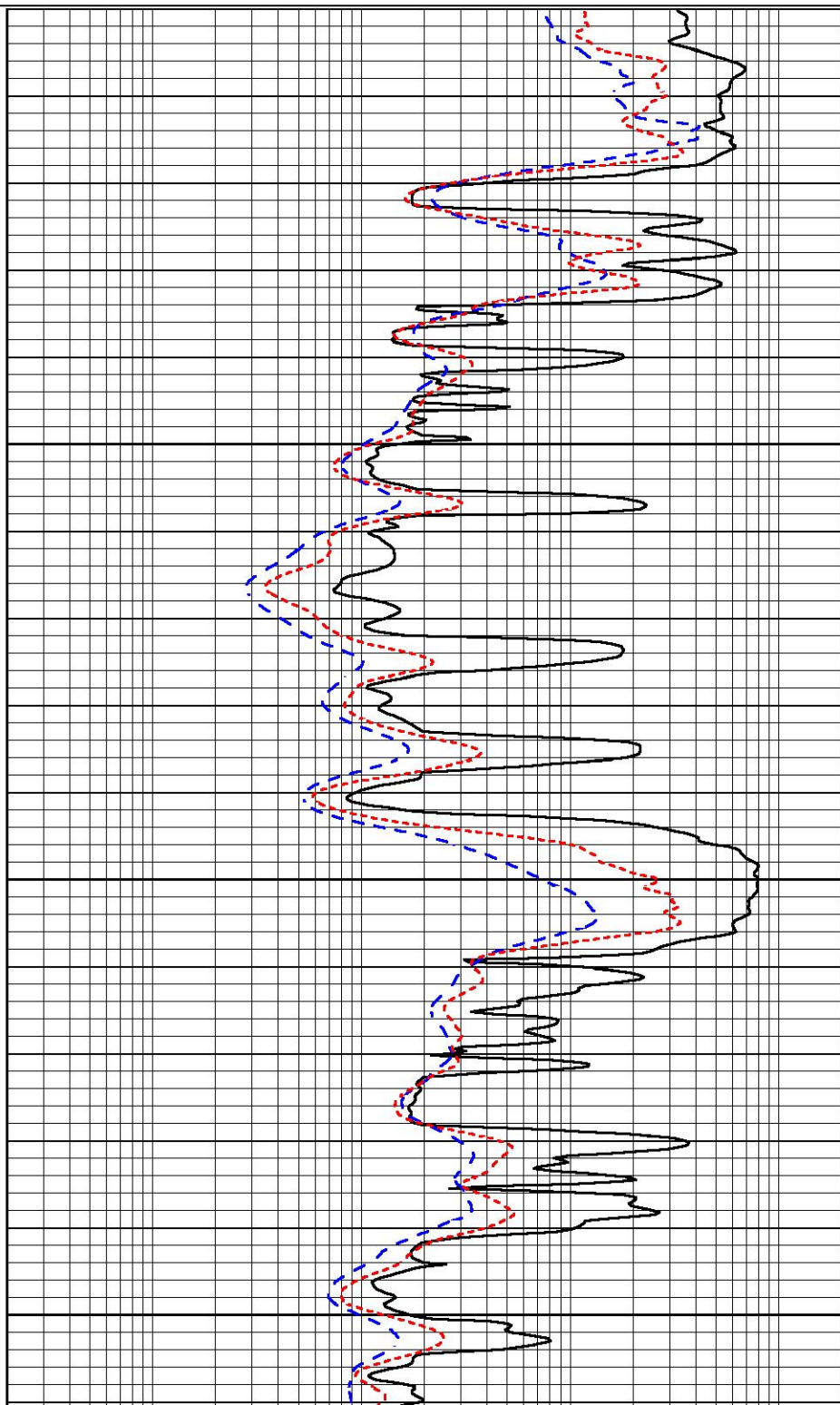


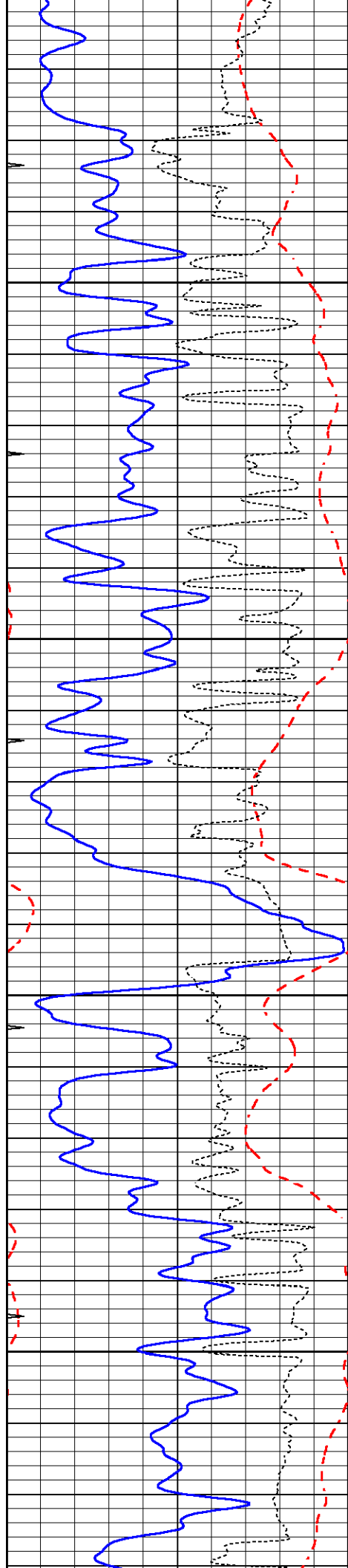
4000

4850

4900

4950



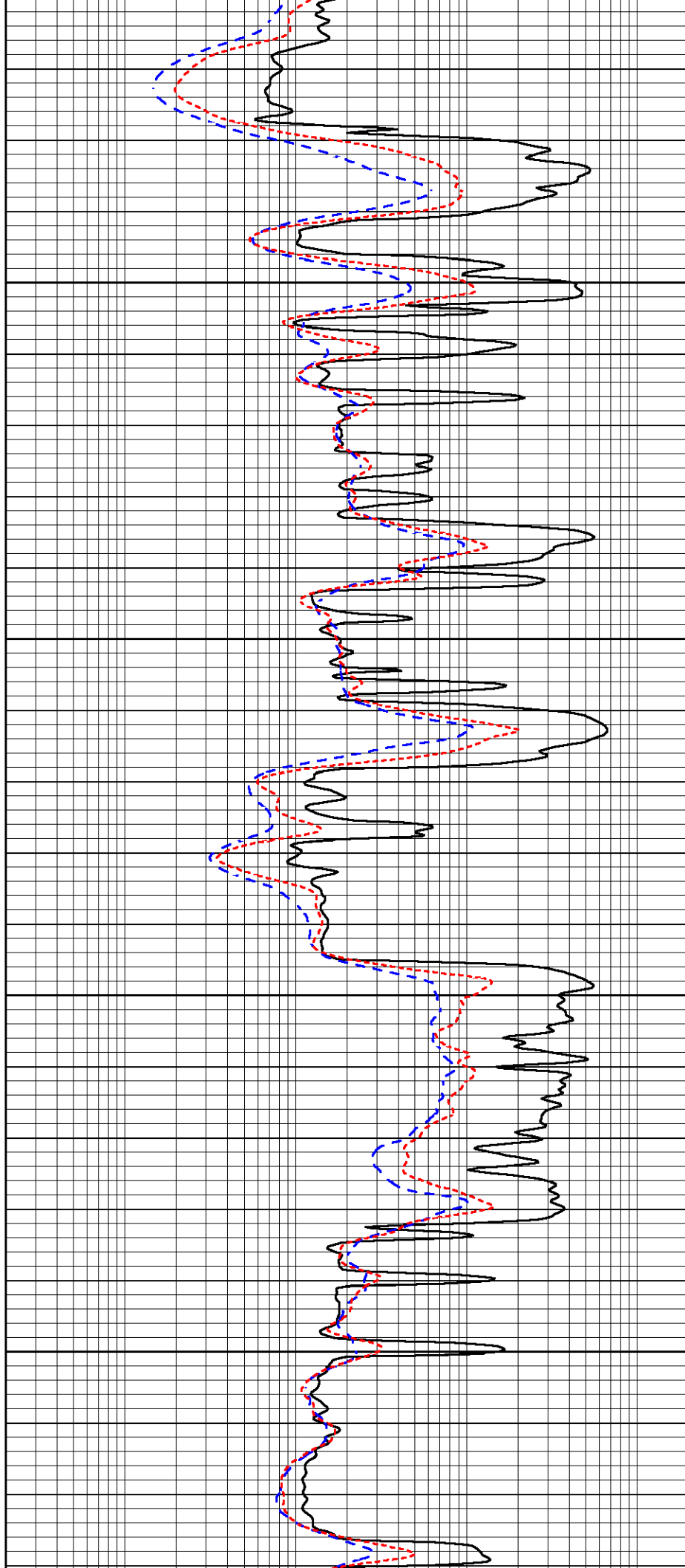


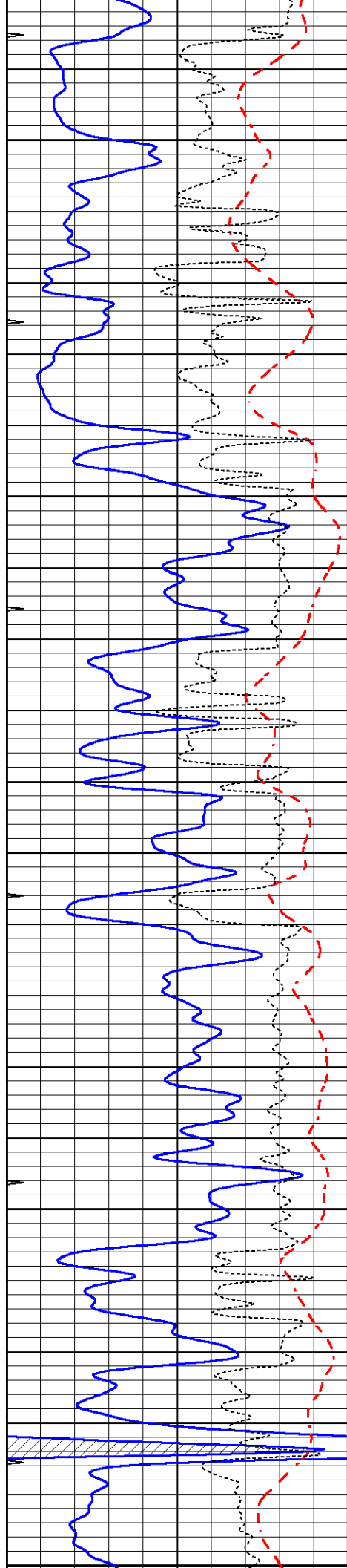
5000

5050

5100

5150





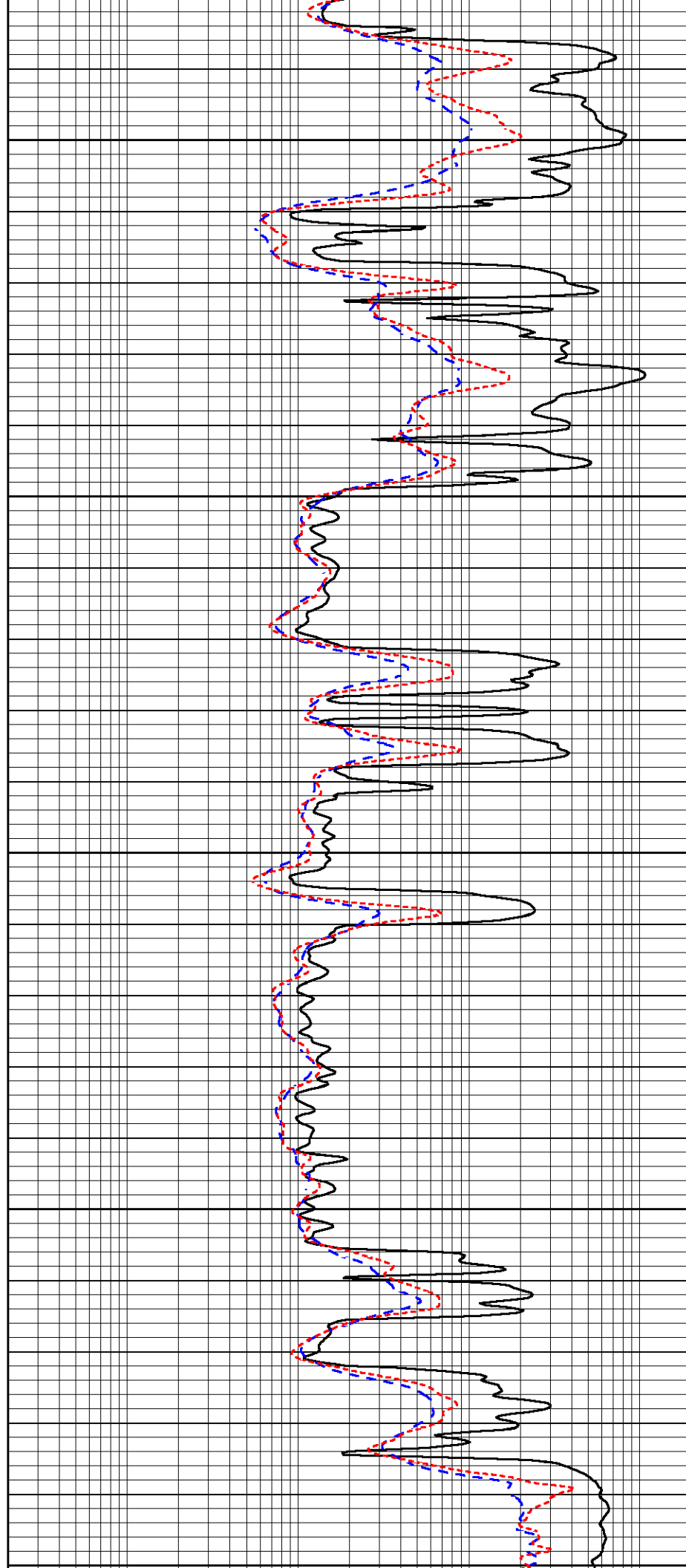
5200

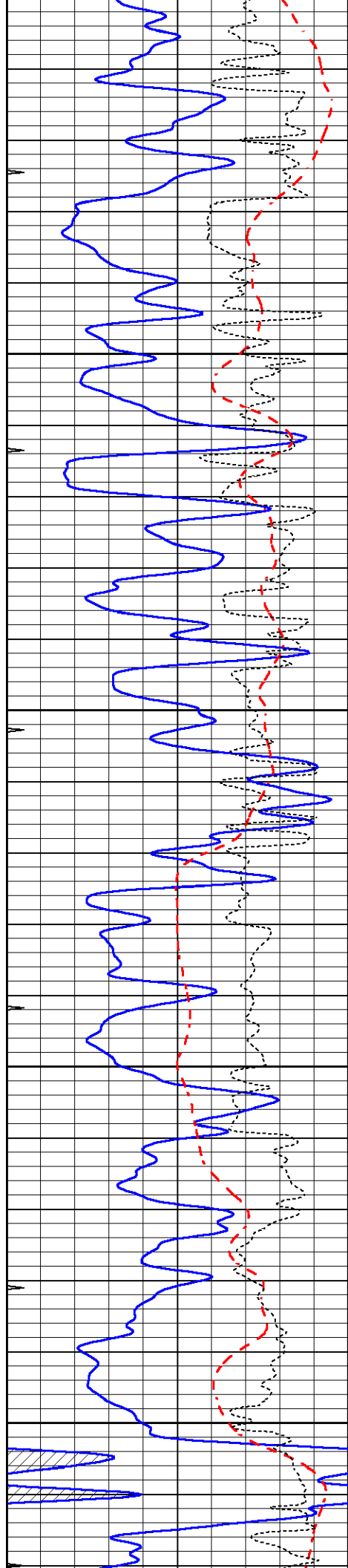
5250

5300

5350

5400





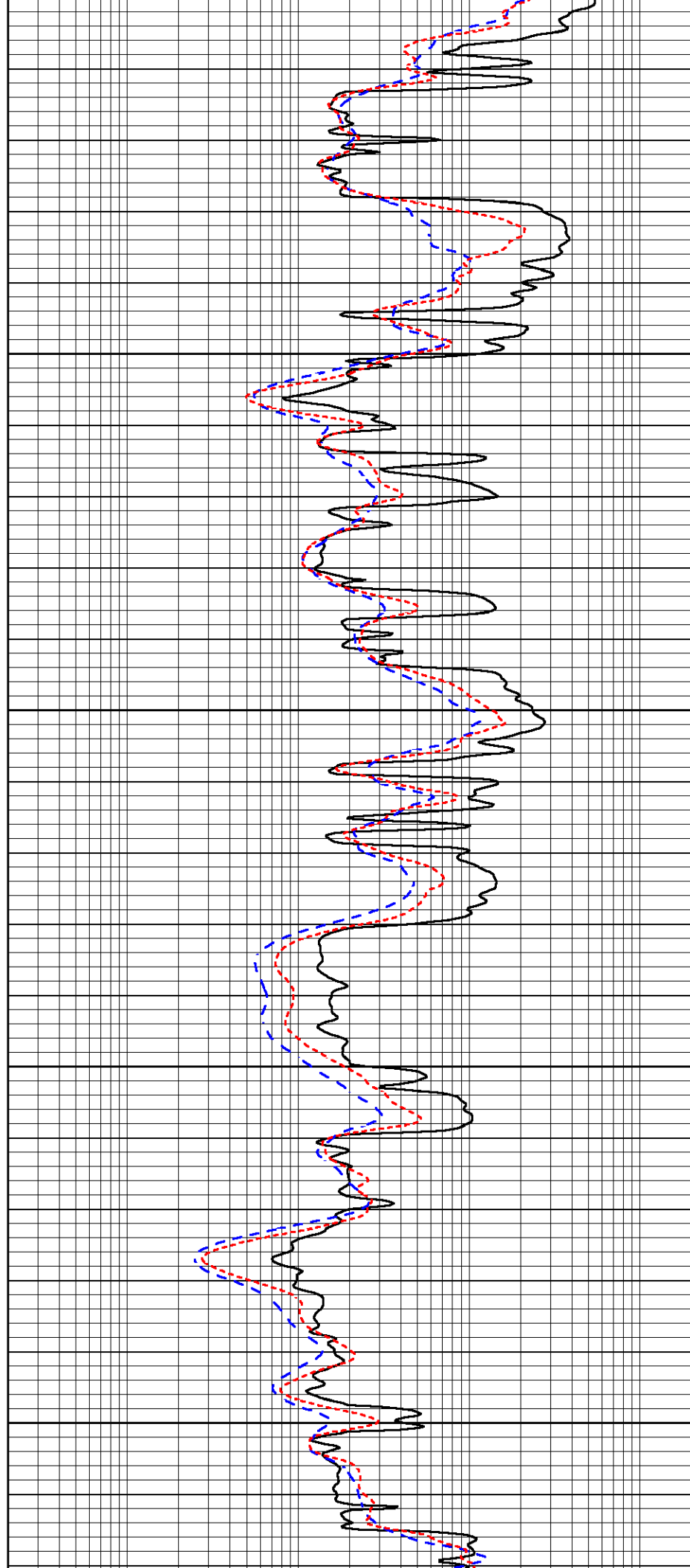
5400

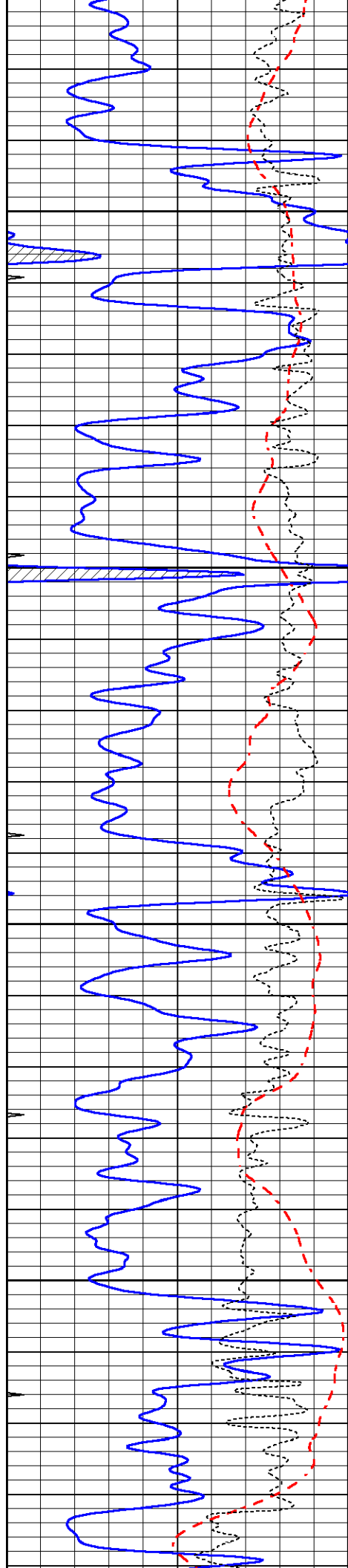
5450

5500

5550

5600



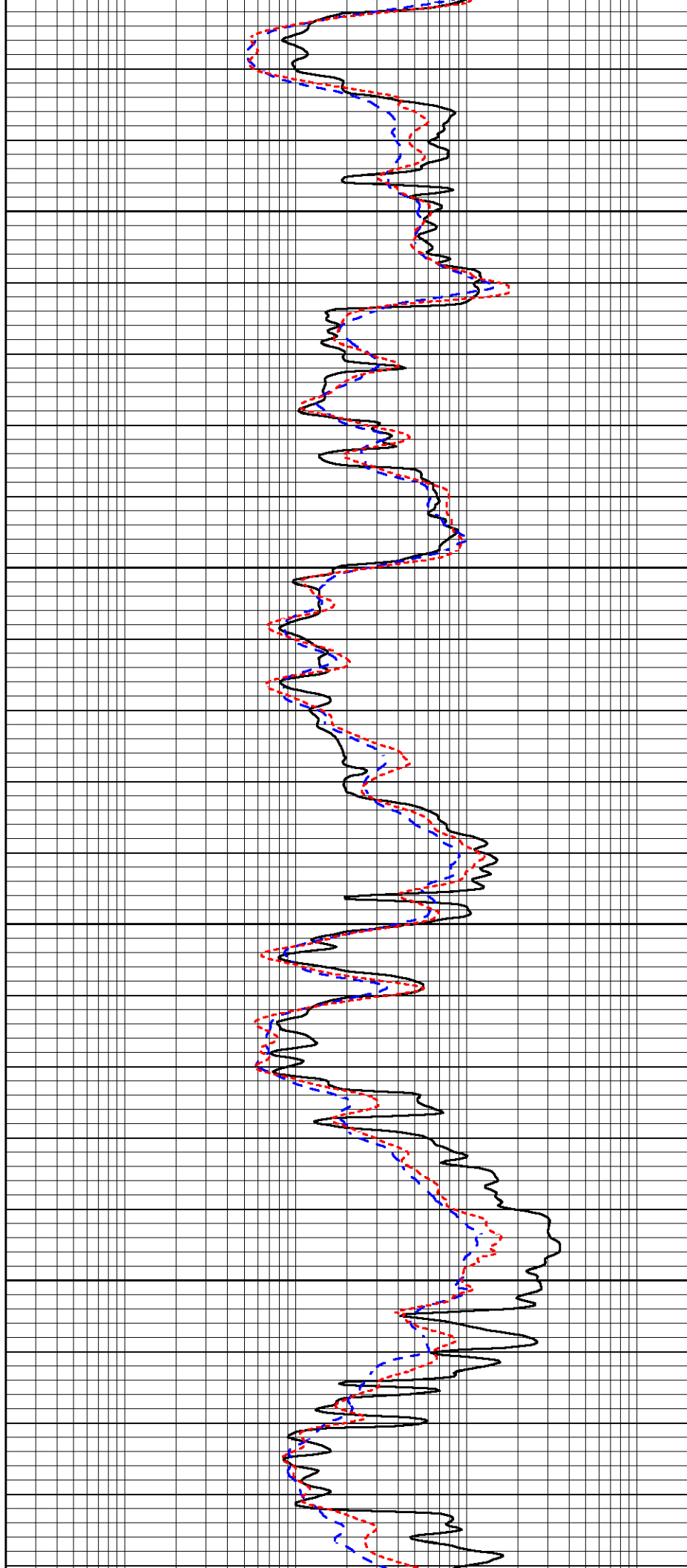


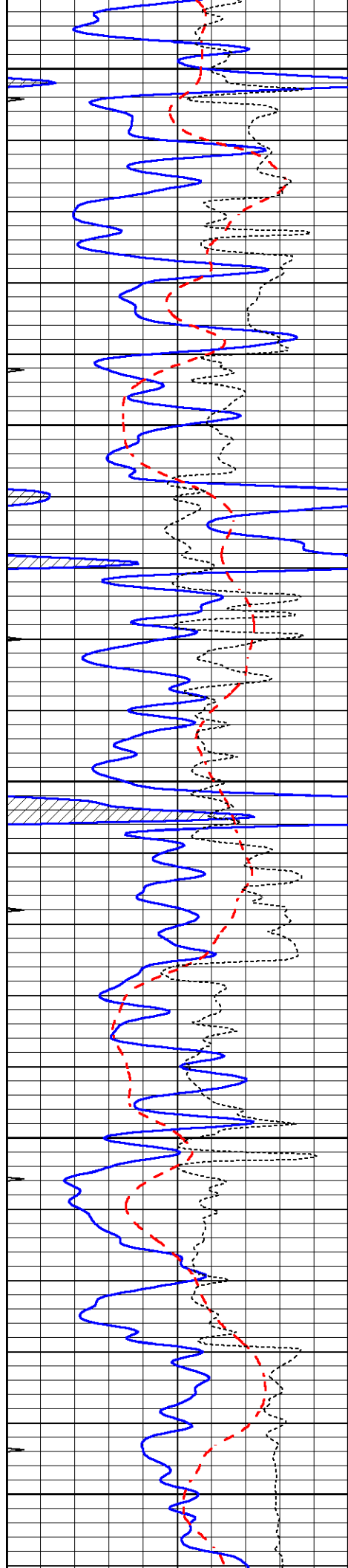
5650

5700

5750

5800





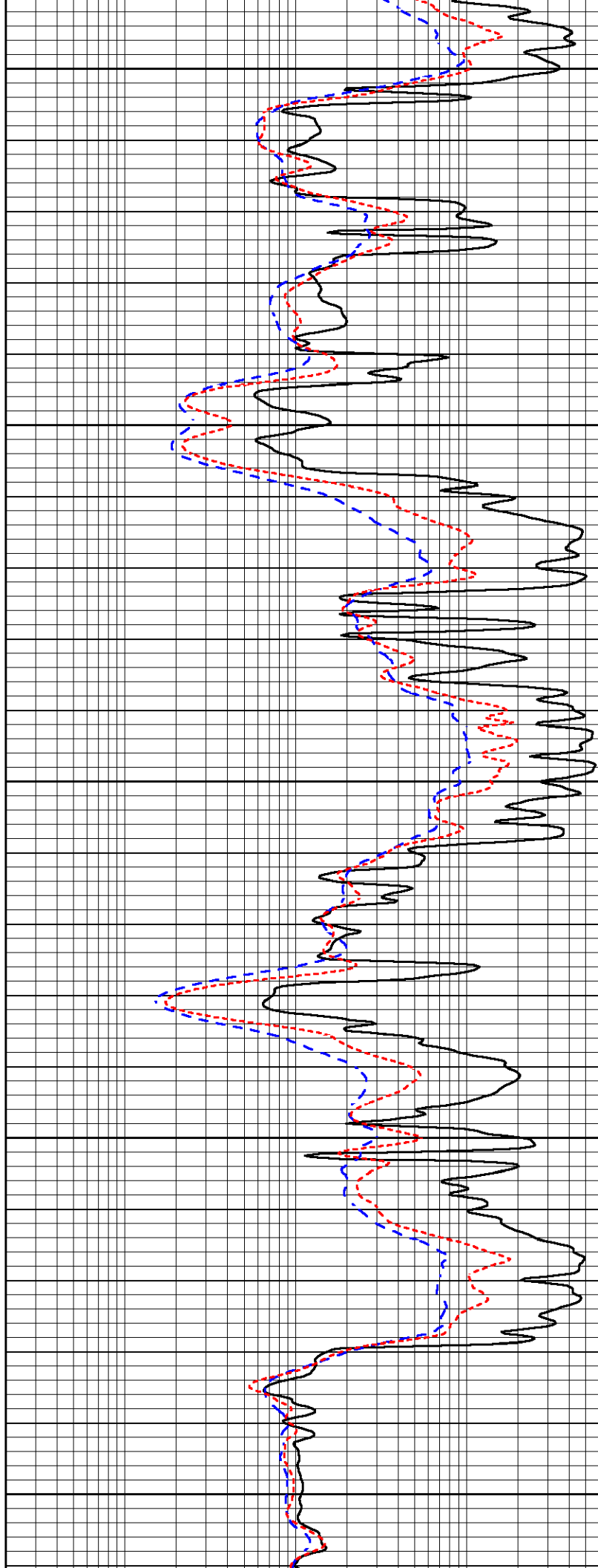
5850

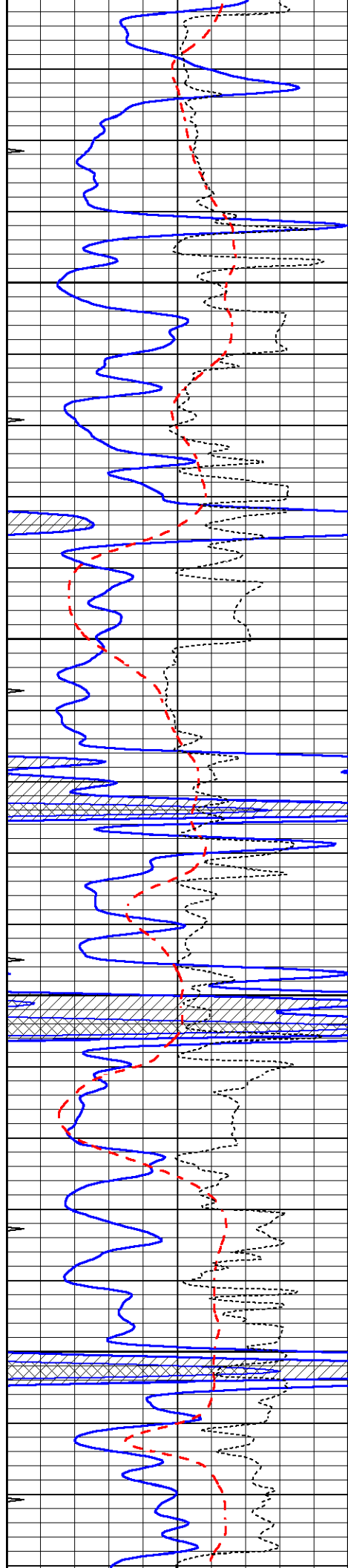
5900

5950

6000

6050



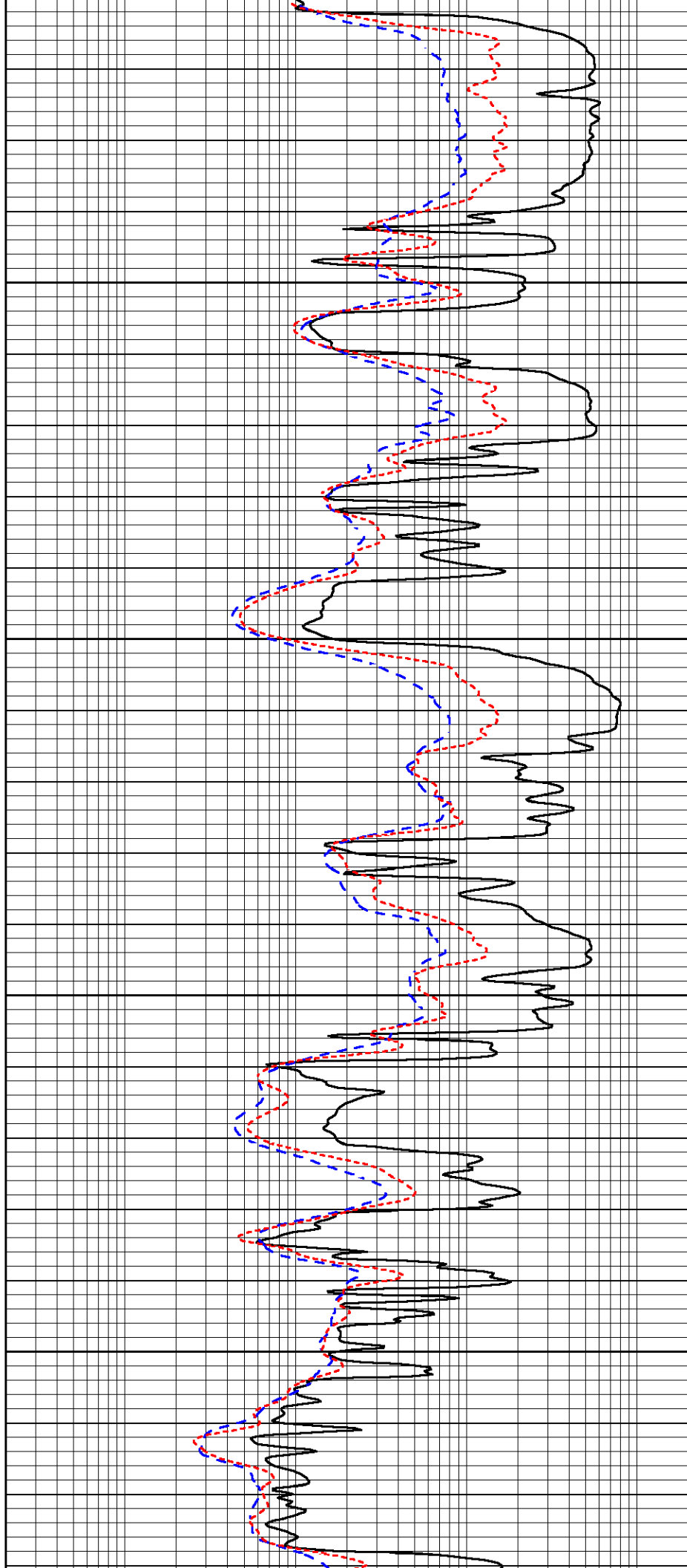


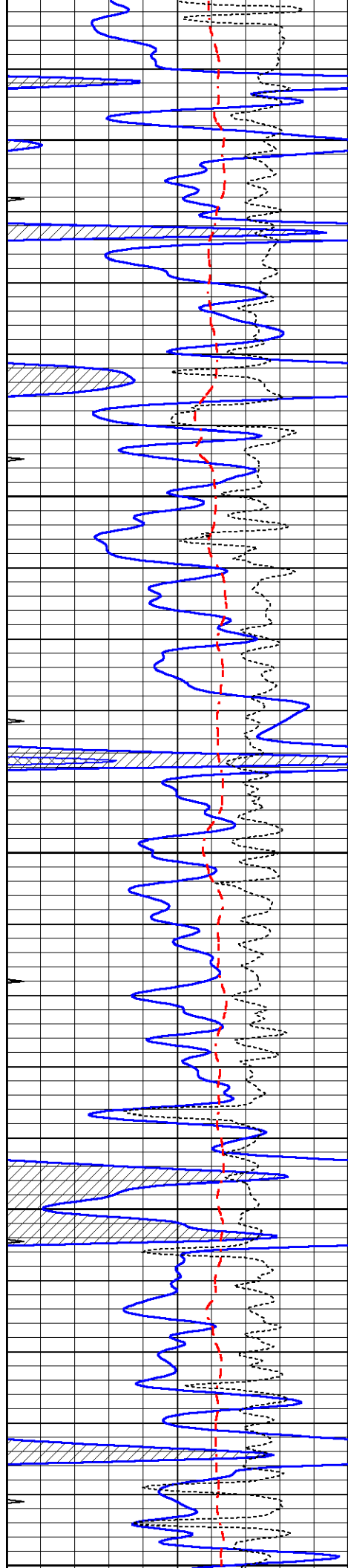
6100

6150

6200

6250





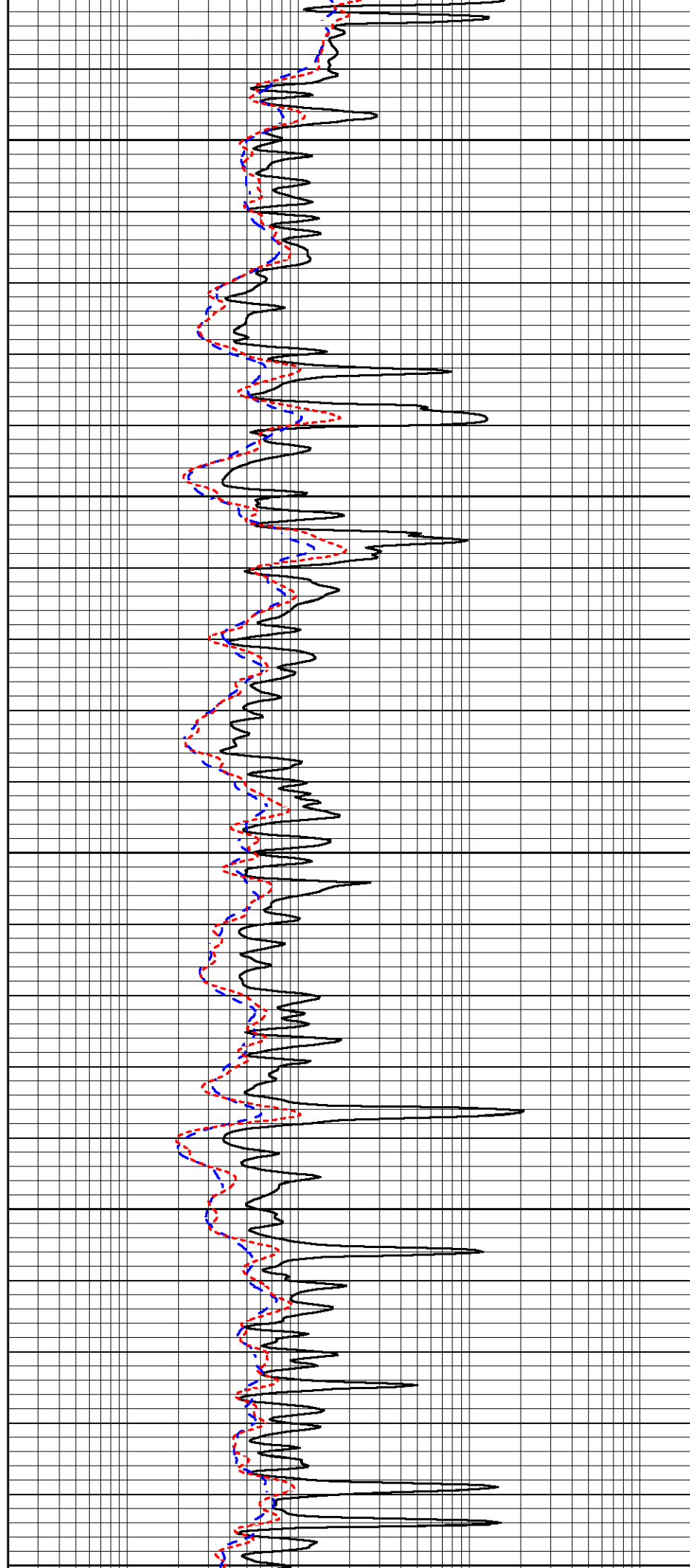
6300

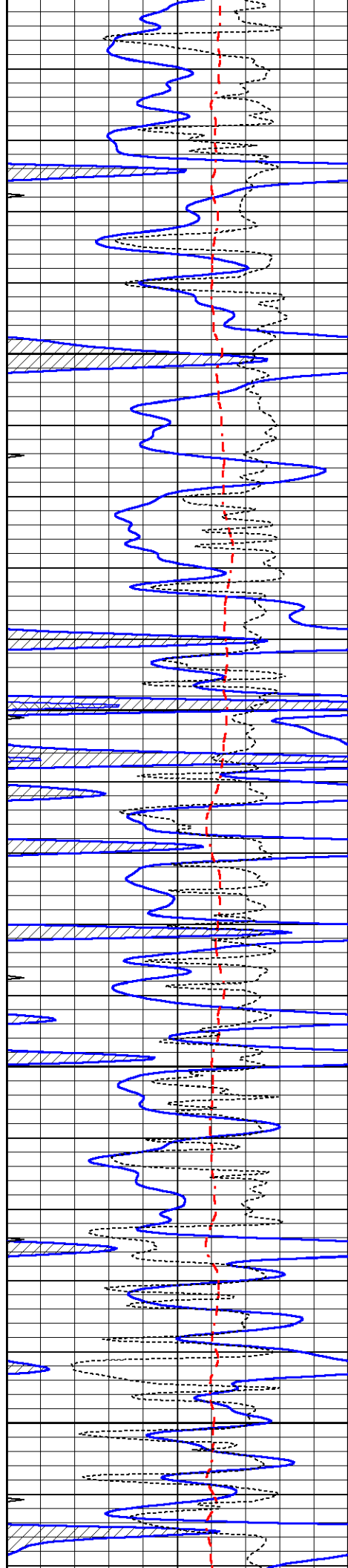
6350

6400

6450

6500





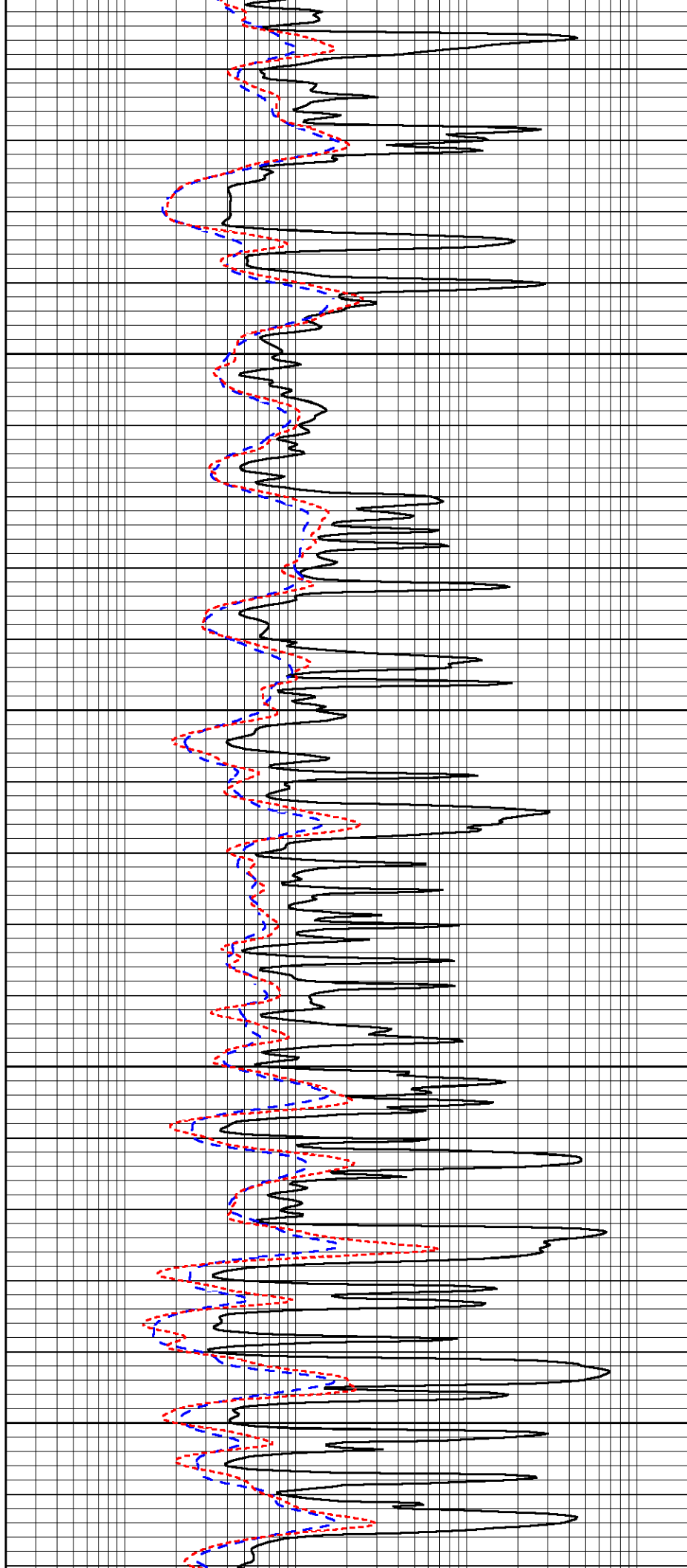
6500

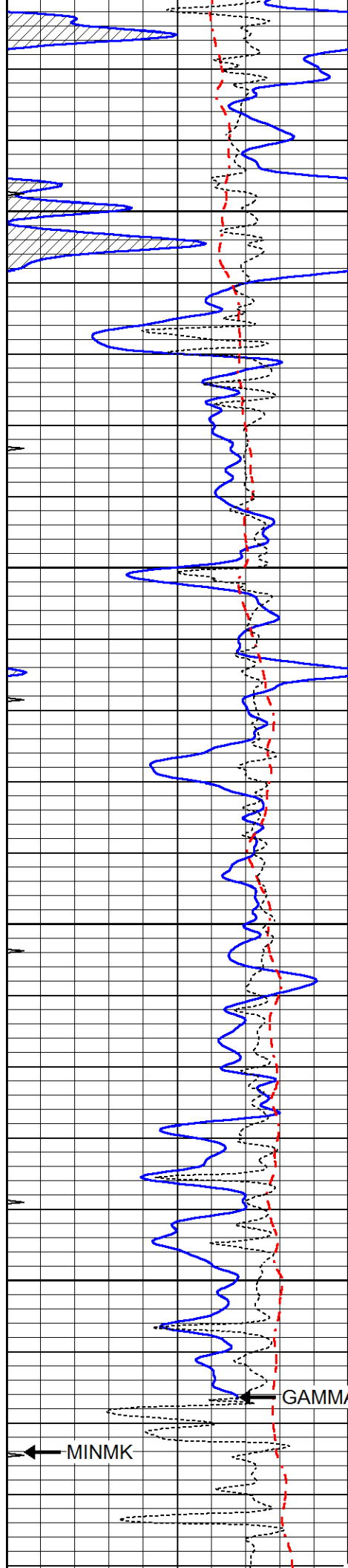
6550

6600

6650

6700





6750

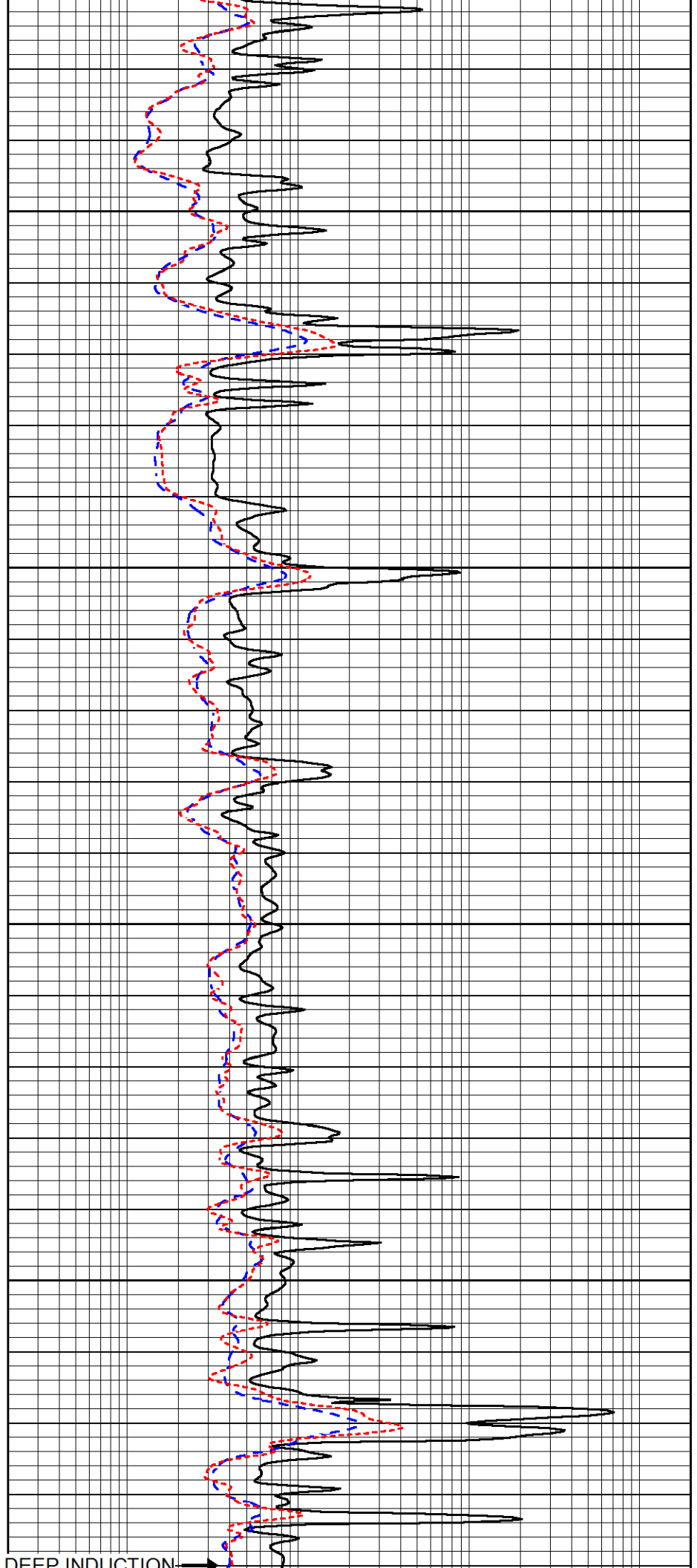
6800

6850

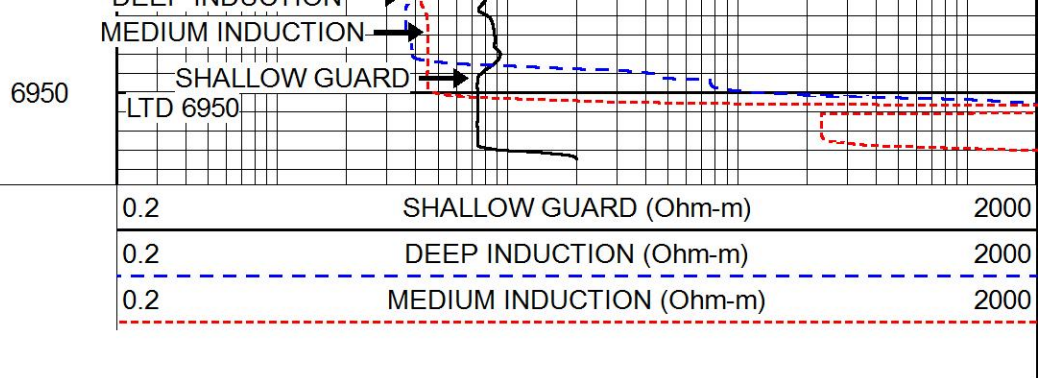
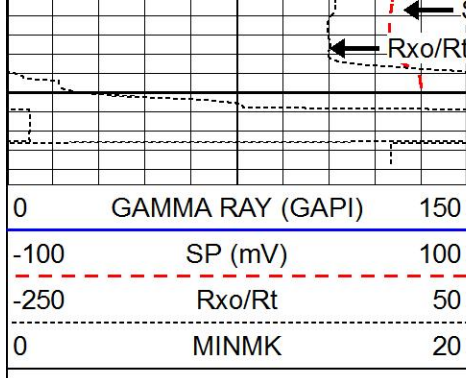
6900

MINMK

GAMMA RAY

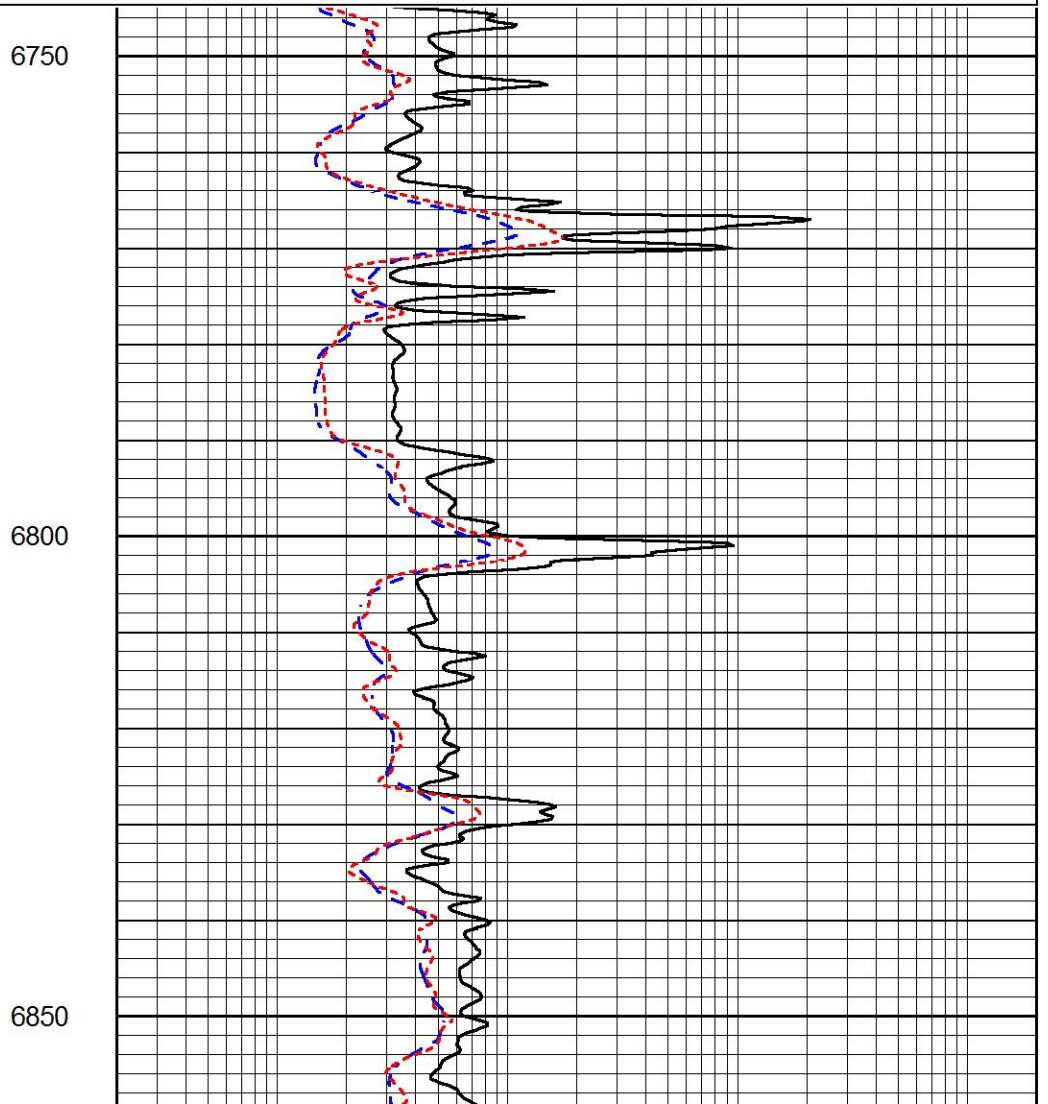
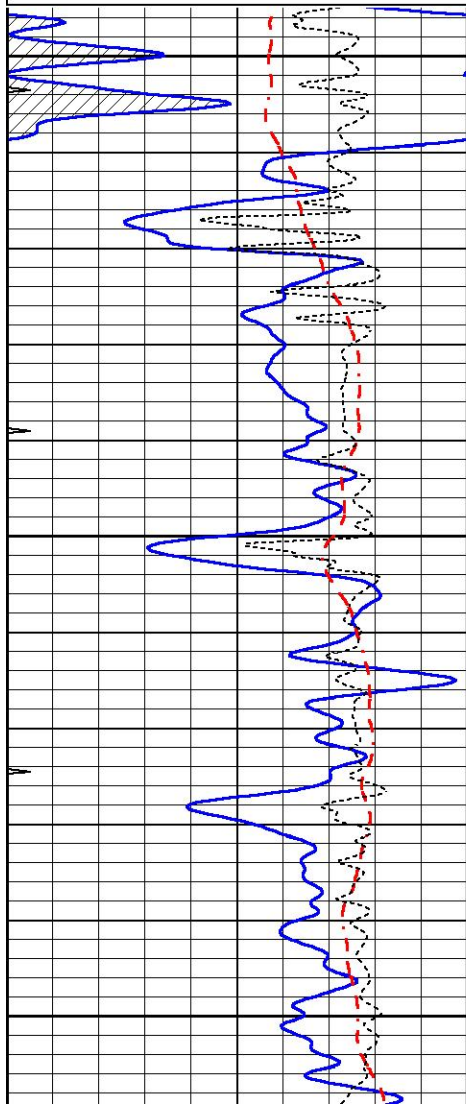
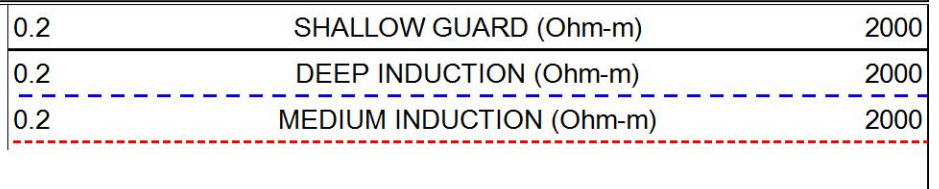
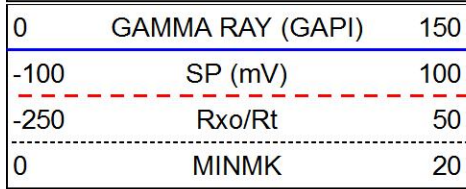


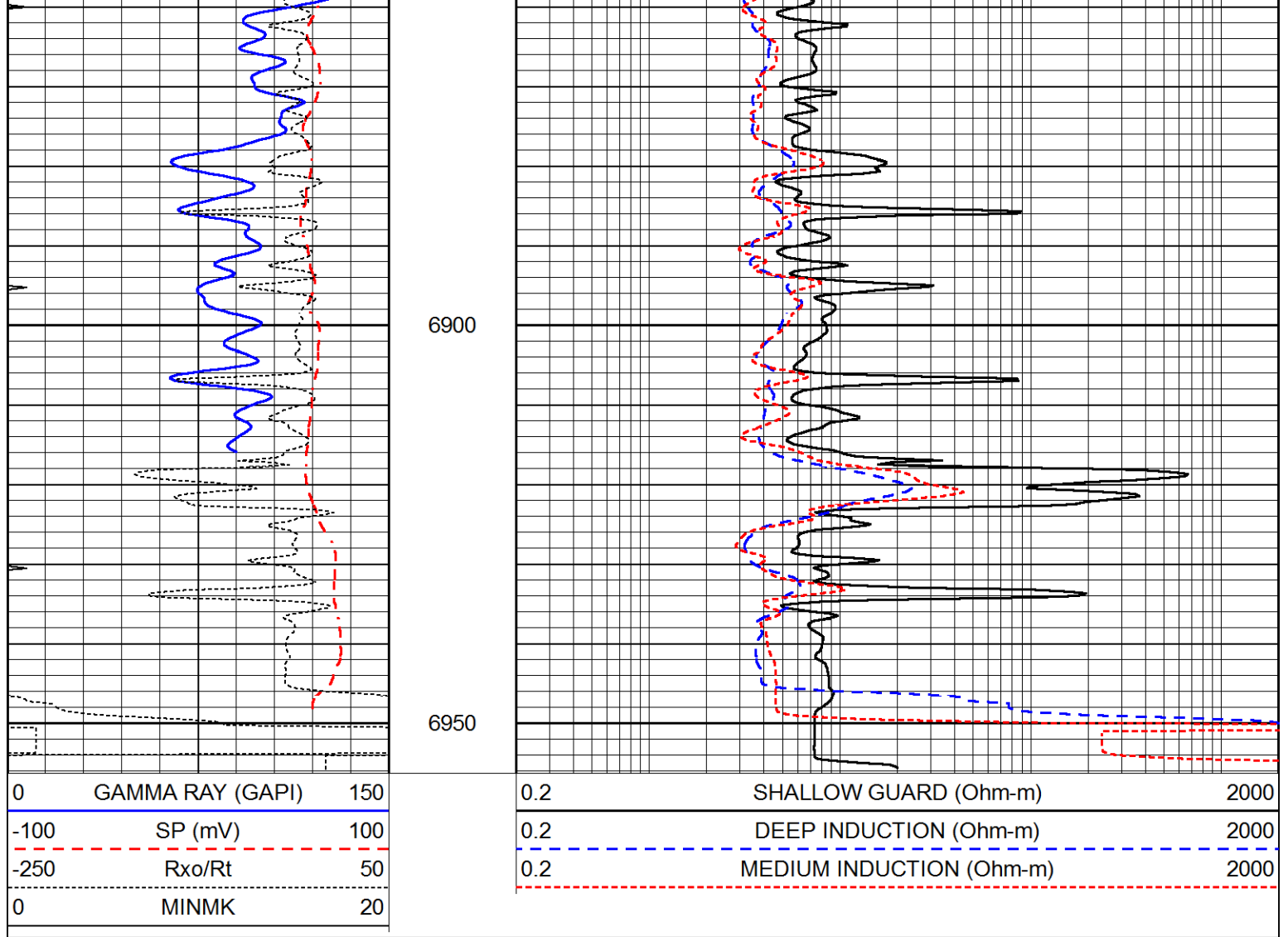
DEEP INDUCTION



# REPEAT SECTION

Database File 5887pe.db  
 Dataset Pathname pass2.1  
 Presentation Format \_dil  
 Dataset Creation Sun Oct 17 10:04:21 2021  
 Charted by Depth in Feet scaled 1:240





Calibration Report									
Database File	5887pe.db								
Dataset Pathname	pass2.1								
Dataset Creation	Sun Oct 17 10:04:21 2021								
Dual Induction Calibration Report									
Serial-Model:					PROBE8-DILG				
Surface Cal Performed:					Fri Oct 01 14:24:33 2021				
Downhole Cal Performed:					Mon Sep 10 14:28:38 2018				
After Survey Verification Performed:					Mon Sep 10 14:28:40 2018				
Surface Calibration									
		Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-15.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619	
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739	
Downhole Calibration									
		Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'	

Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		
After Survey Verification								
	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		
Litho Density Calibration Report								
Serial: 002N      Model: PRB								
Master Calibration			Performed Tue Mar 10 15:08:00 2020					
	Background		Magnesium		Aluminum		Aluminum+Fe	
Window 1	780.1		6981.9		2088.6		1871.2	cps
Window 2	718.6		5898.2		1813.8		1664.1	cps
Window 3	580.0		2989.5		1088.0		1039.1	cps
Window 4	172.8		175.7		175.3		173.5	cps
Long Space	0.0		5179.6		1095.2		945.5	cps
Short Space	1.1		1228.6		821.2		690.4	cps
Rho			1.7100		2.5900		0.0000	g/cc
Pe			2.0000		2.7500		5.7900	
Rib Angle	: 45.5		Rib Slope	: 1.016	Density/Spine Ratio		: 0.548	
Spine Angle	: 75.5		Spine Slope	: 3.857	Spine Intercept		: -18.9	
Before Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	
After Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	

## Compensated Neutron Calibration Report

Serial Number: 6I  
Tool Model: G

## CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000
Long Space	1.00 cps	1.00 cps	1.0000

## 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:	GR6
Tool Model:	OPEN
Performed:	Thu Jul 30 20:04:35 2020
Calibrator Value:	150.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	276.0 cps
Sensitivity:	0.7500 GAPI/cps