



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company		DEUTSCH OIL COMPANY	
Well		STALLINGS NO 2-31	
Field		STALLINGS	
County		HODGEMAN	
State		KANSAS	
Location:		API # : 15-083-21865-00-00 NE - NW- NE - SW 2320' FSL & 1820' FWL	
Permanent Datum		GROUND LEVEL Elevation 2455	
Log Measured From		KELLY BUSHING 10' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 31 TWP 23S RGE 23W		Other Services CNL/CDL MEL	
Elevation		K.B. 2465 D.F. 2463 G.L. 2455	
Date	11/28/2012		
Run Number	ONE		
Depth Driller	4820		
Depth Logger	4826		
Bottom Logged Interval	4802		
Top Log Interval	0		
Casing Driller	8 5/8" @ 268'		
Casing Logger	278		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.3/56		
pH / Fluid Loss	8.5/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.4@76F		
Rmf @ Meas. Temp	1.12@76F		
Rmc @ Meas. Temp	1.68@76F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	.865@123F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	6:00 A.M.		
Maximum Recorded Temperature	123		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	MIKE GARRISON		
Witnessed By	KENT DEUTSCH		

<<< 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 NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

DIRECTIONS:
JETMORE, KS 5 SOUTH, 1/2 EAST, NORTH

Database File:

40010140dildn.db

Dataset Pathname:

pass3.1

Presentation Format:

_dil2

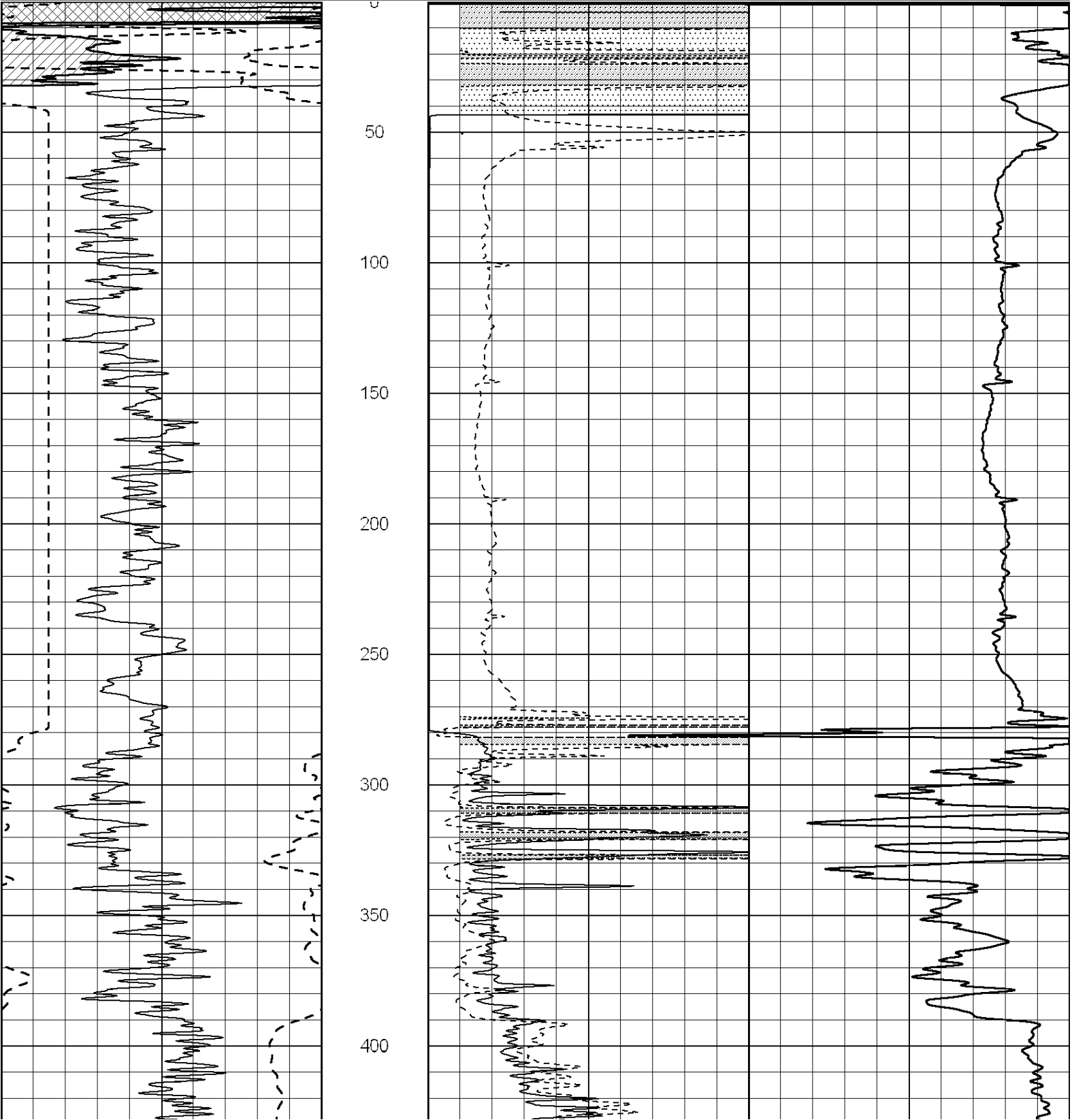
Dataset Creation:

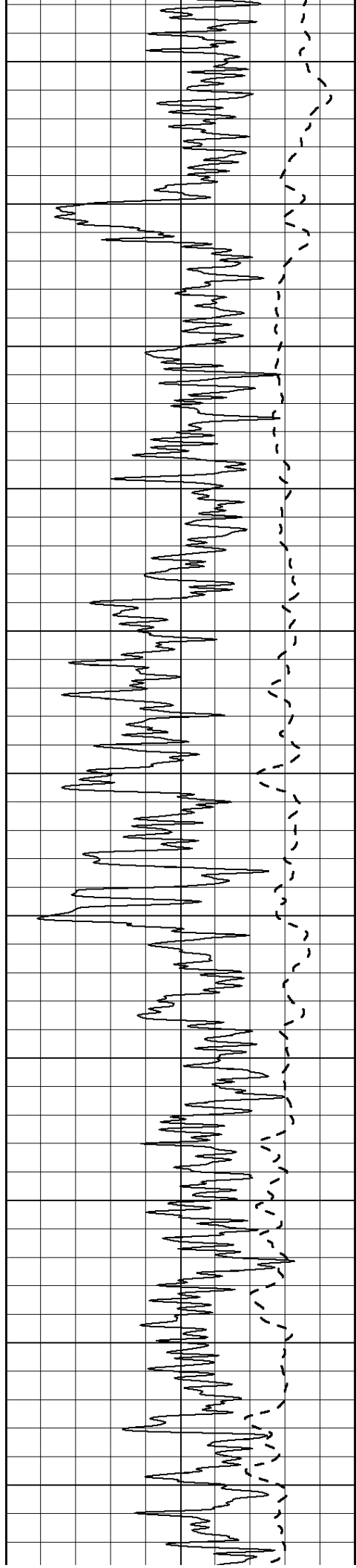
Wed Nov 28 19:30:08 2012 by Calc Open-Cased 090629

Charted by:

Depth in Feet scaled 1:600

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





450

500

550

600

650

700

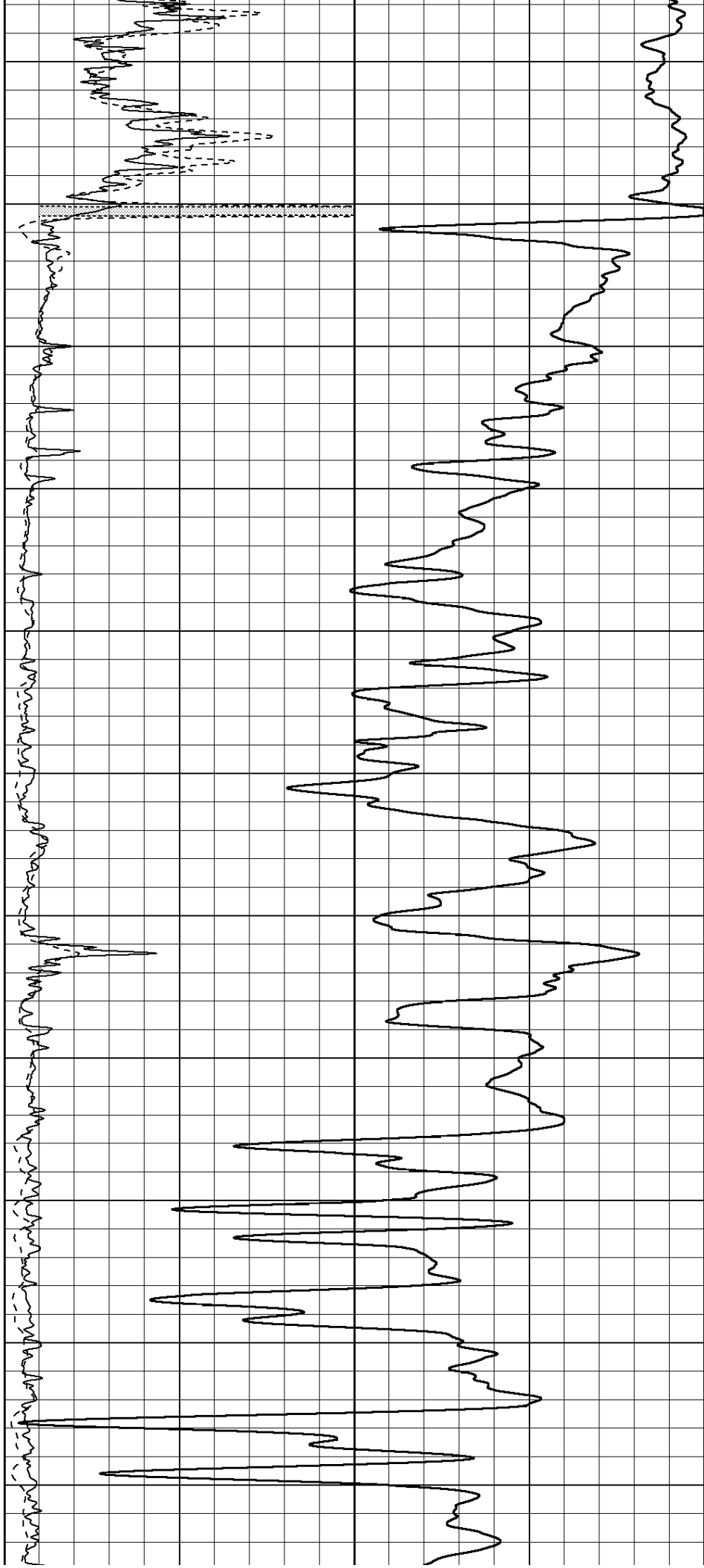
750

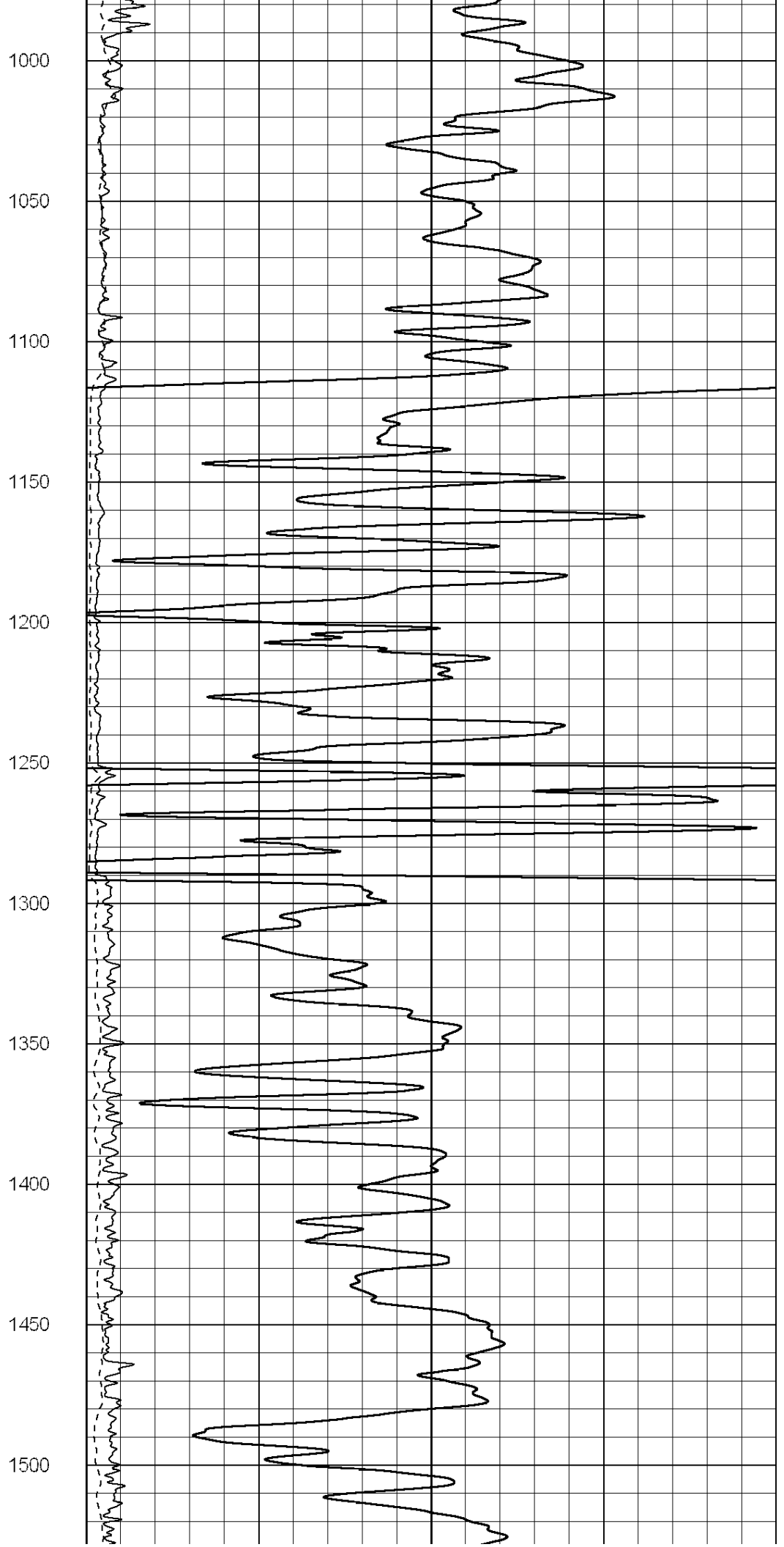
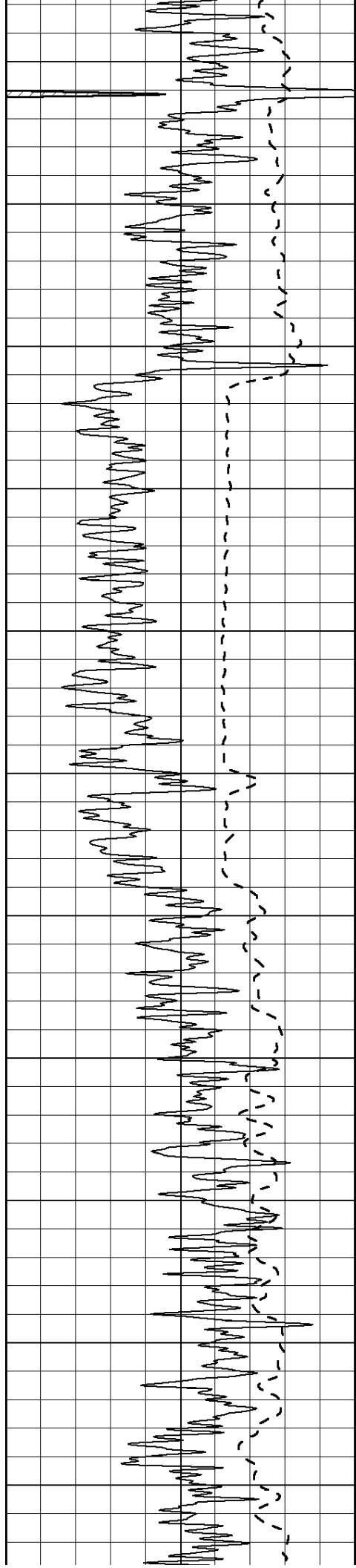
800

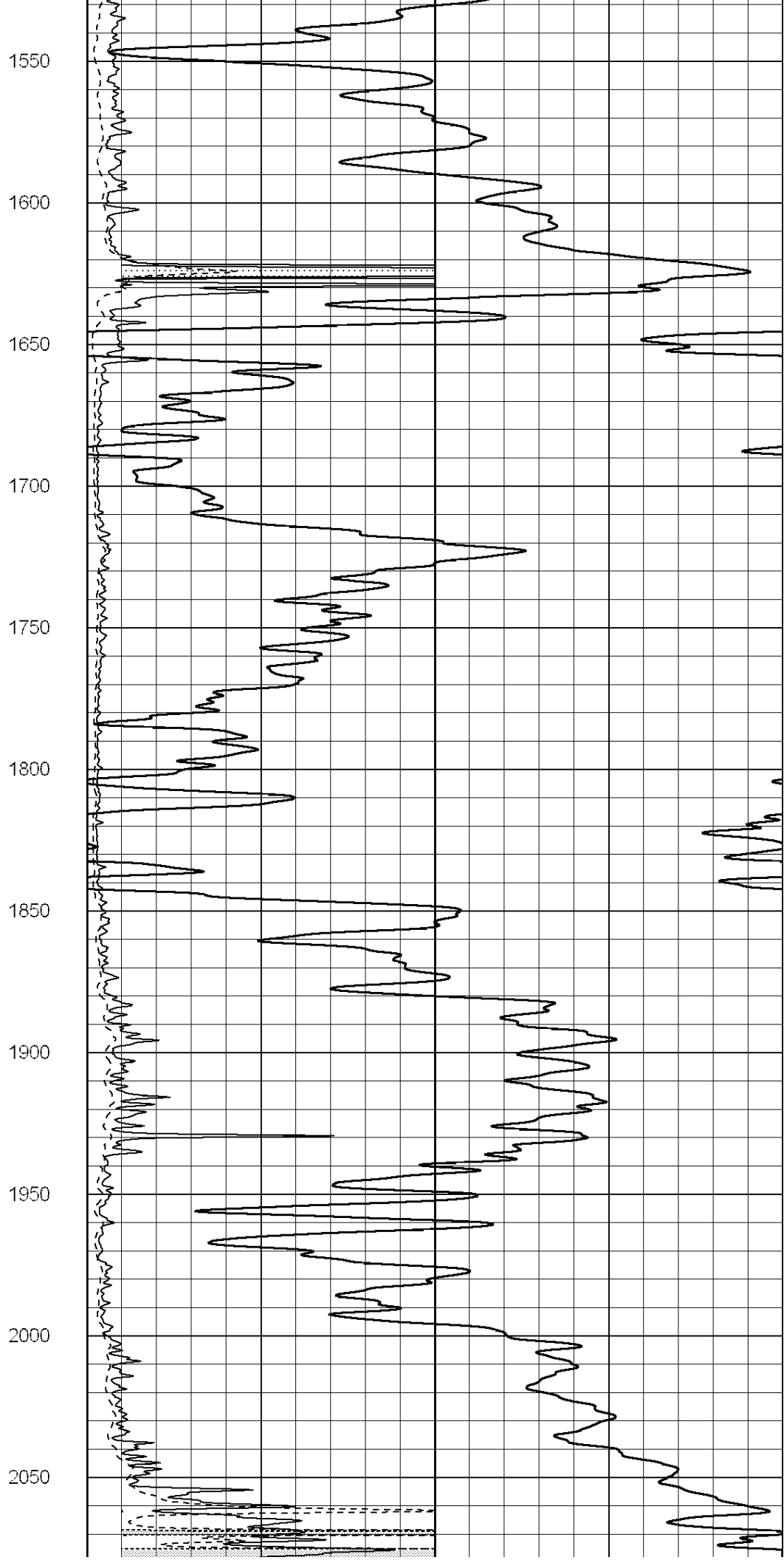
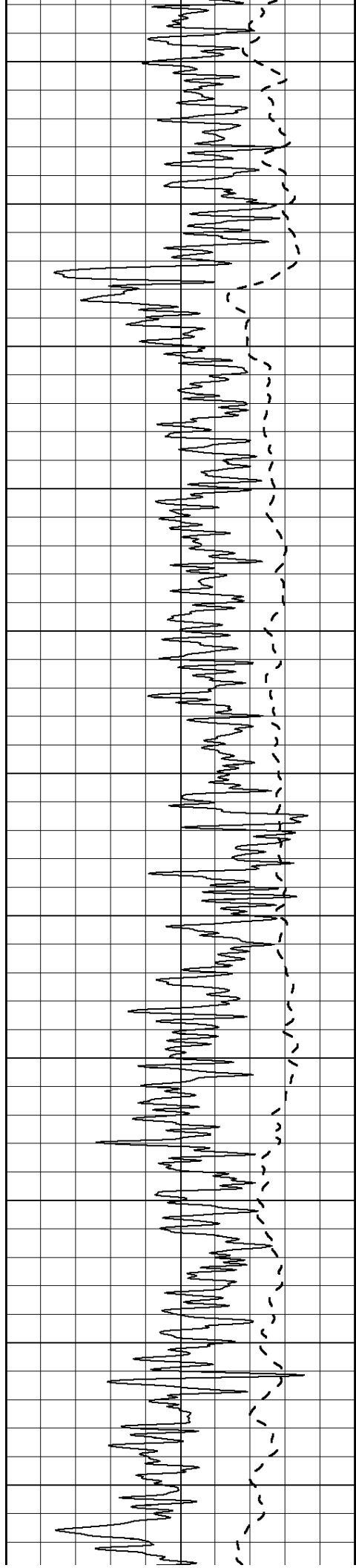
850

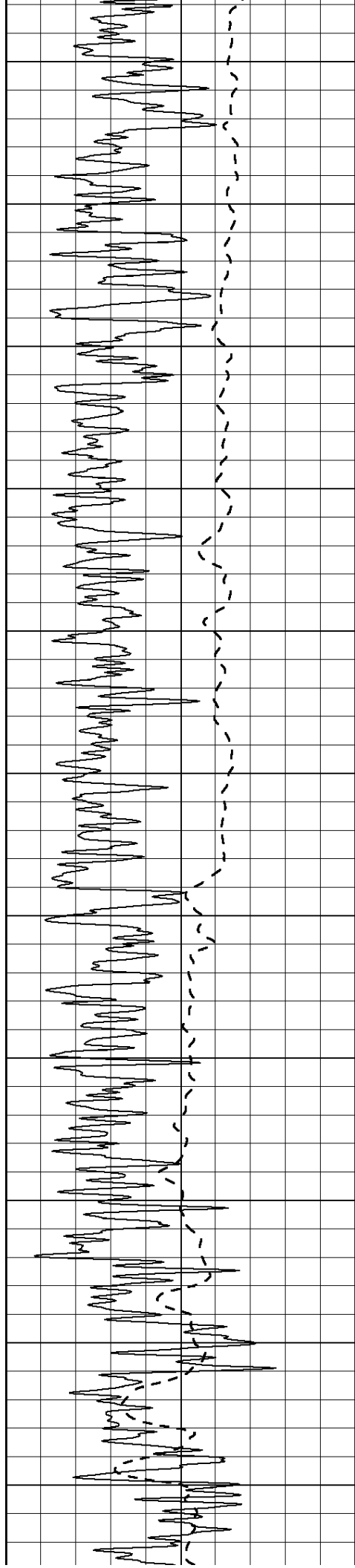
900

950









2100

2150

2200

2250

2300

2350

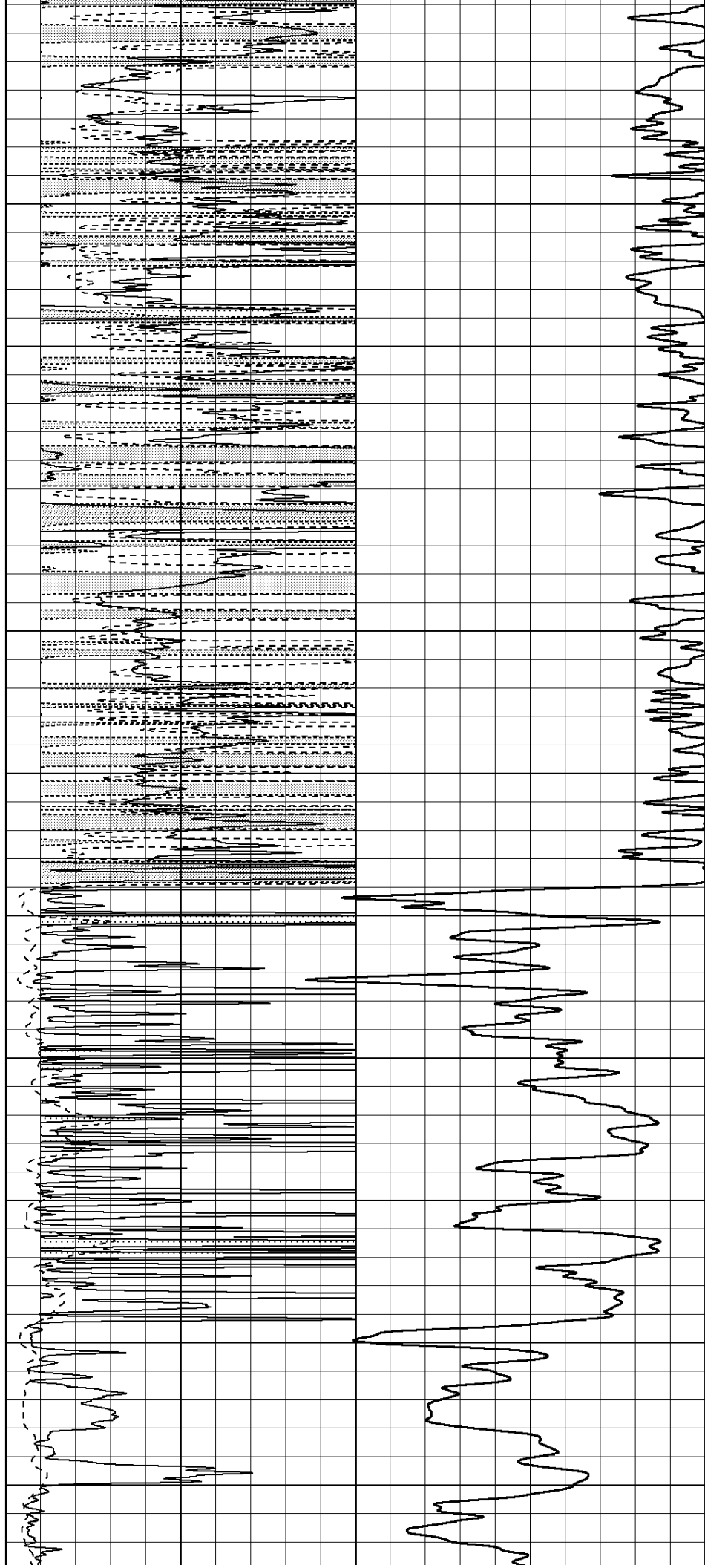
2400

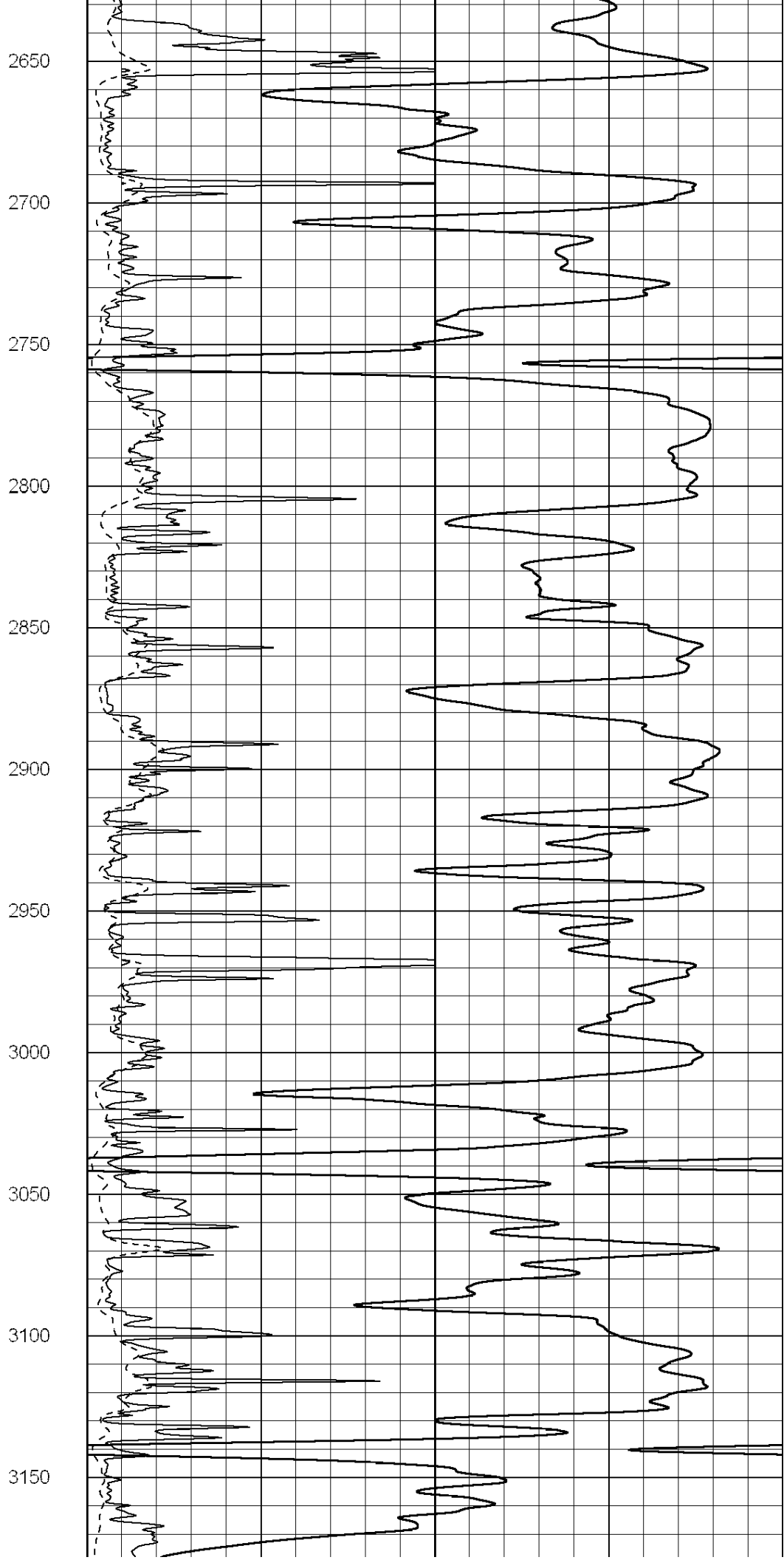
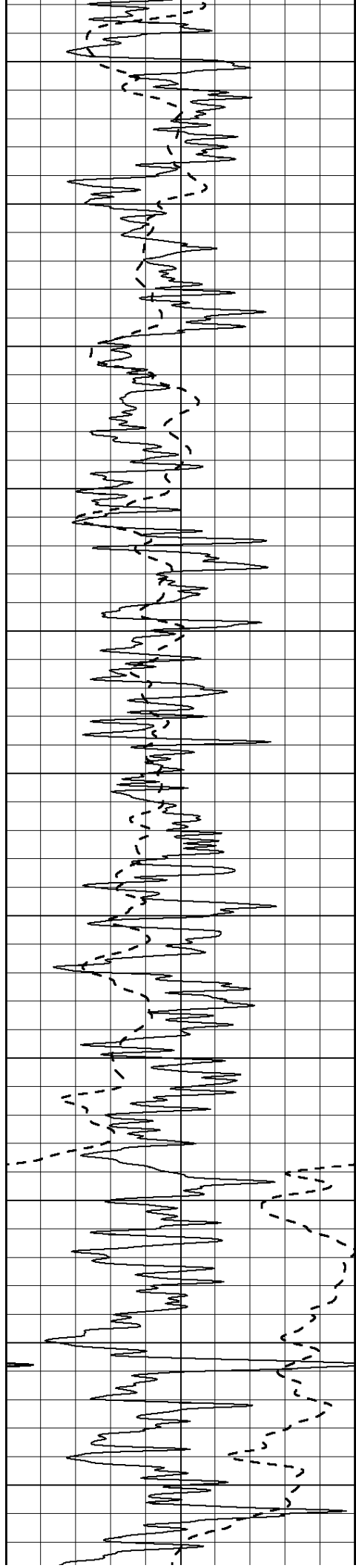
2450

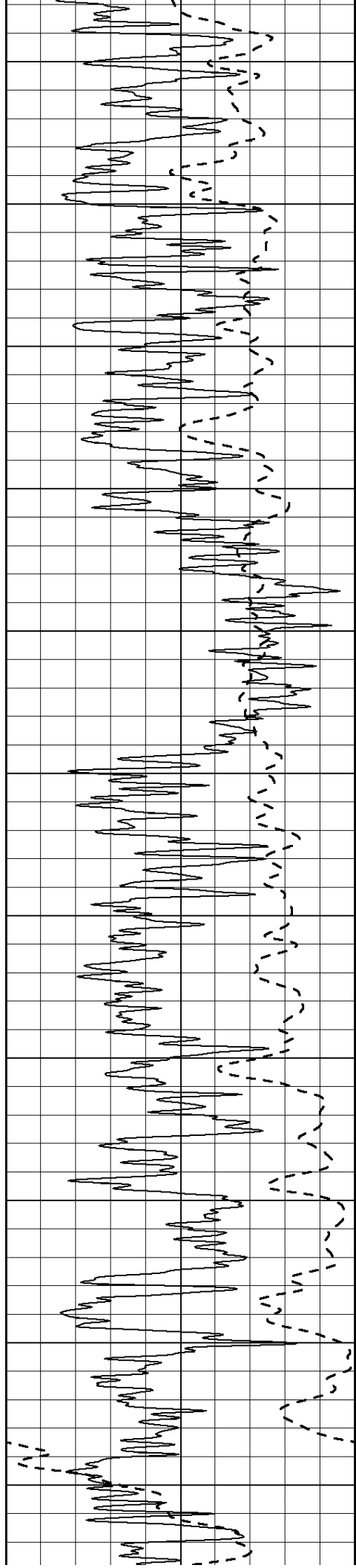
2500

2550

2600







3200

3250

3300

3350

3400

3450

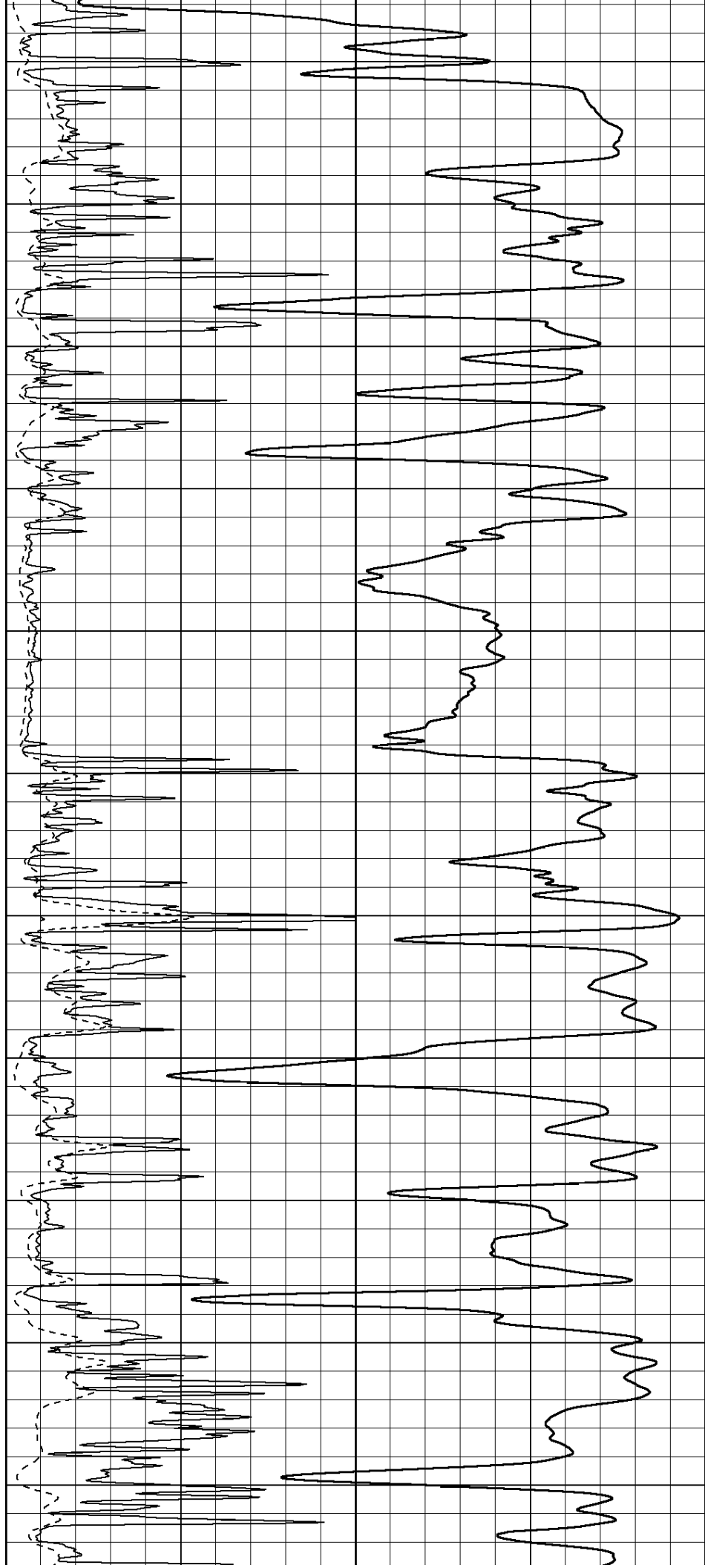
3500

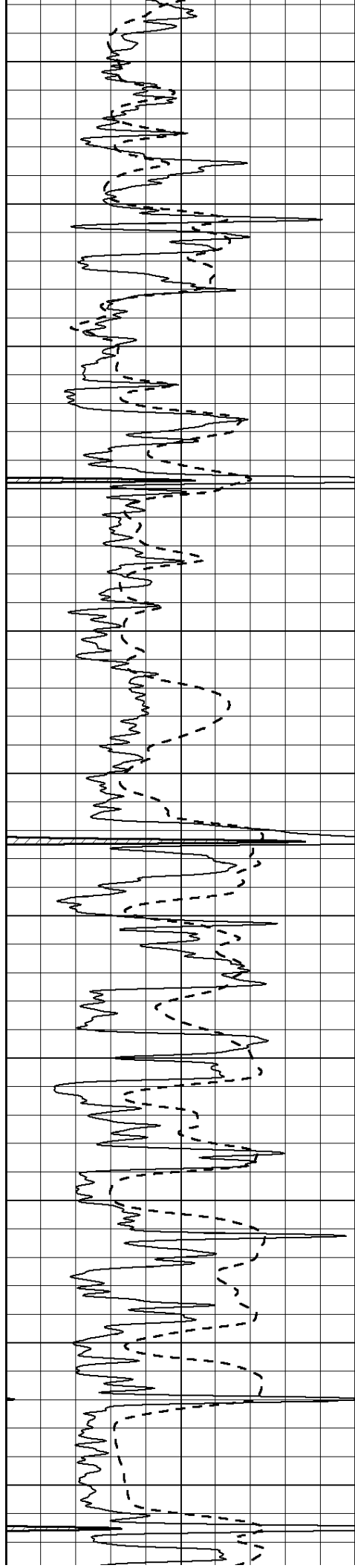
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

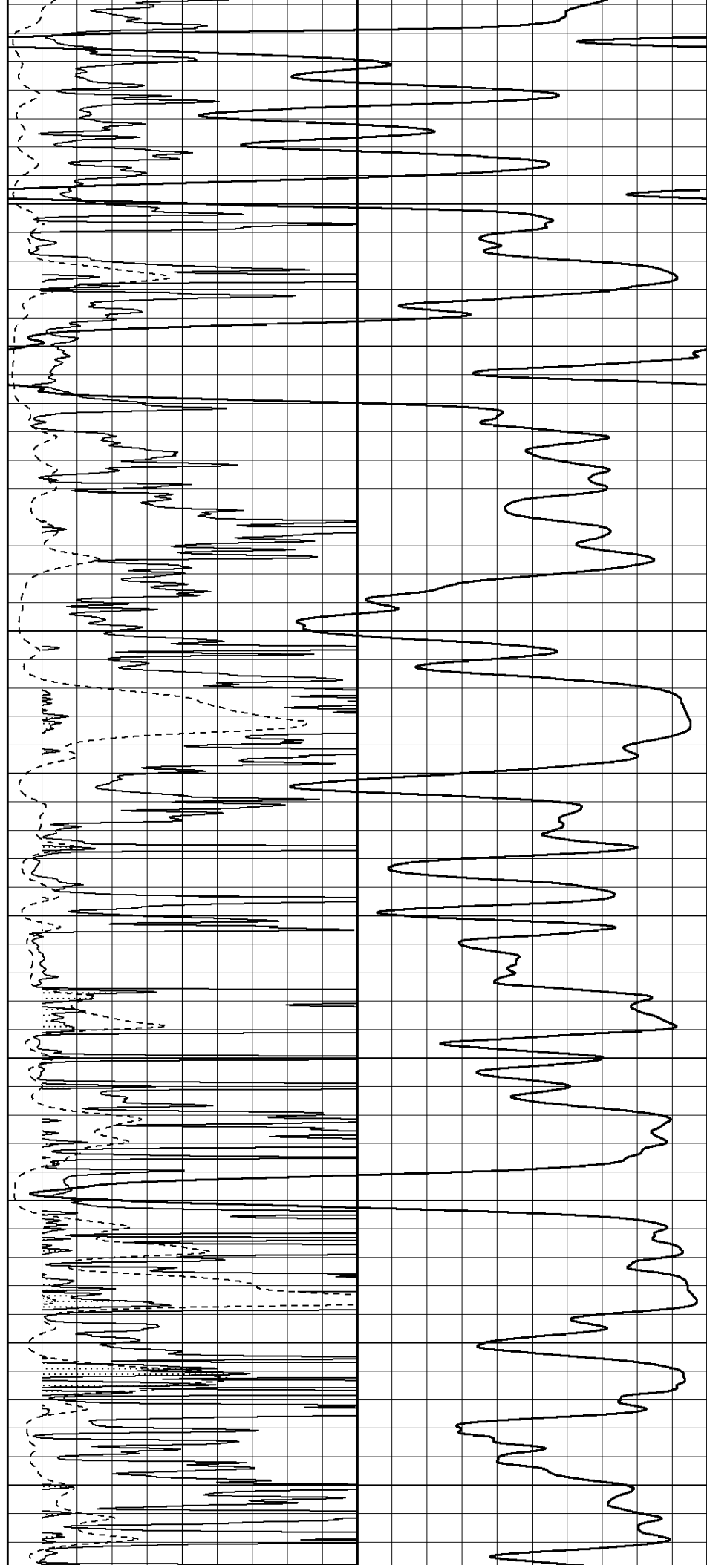
4050

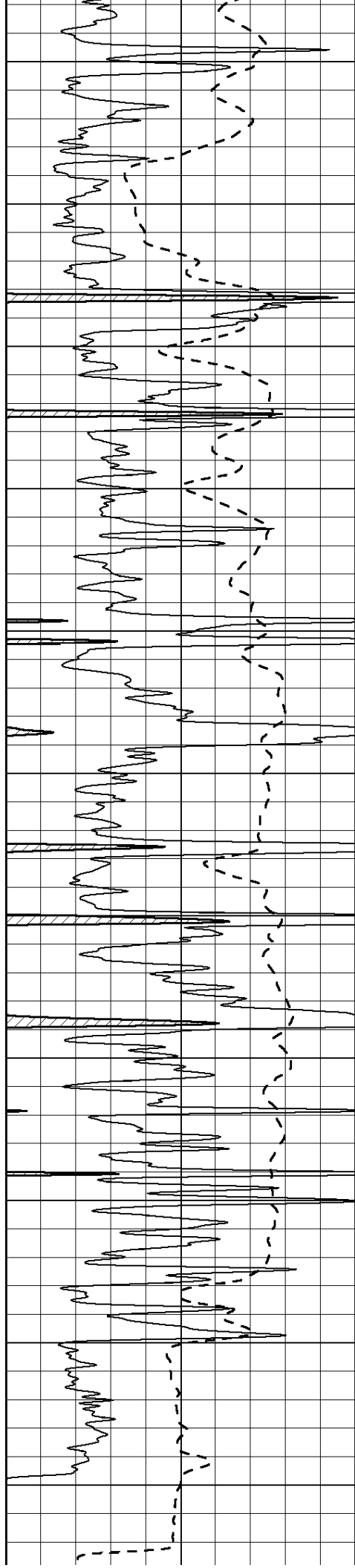
4100

4150

4200

4250





4300

4350

4400

4450

4500

4550

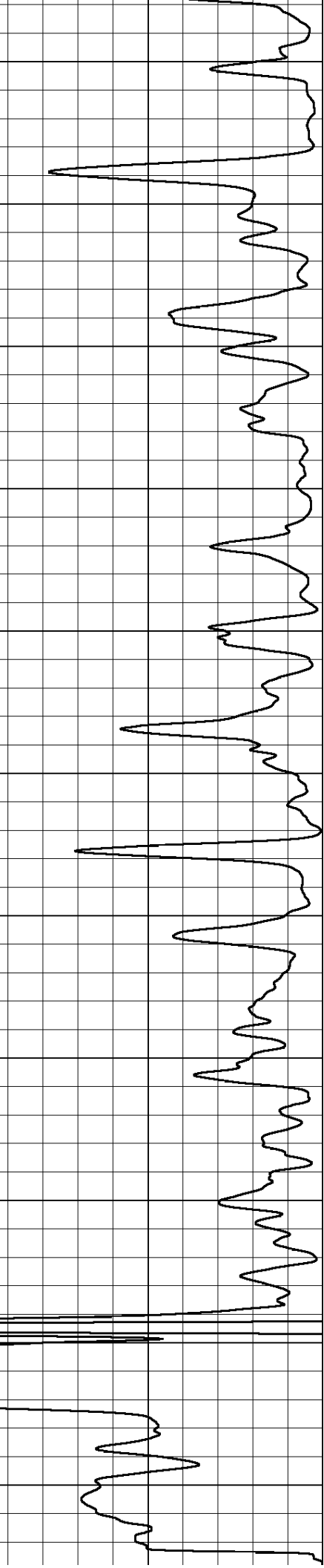
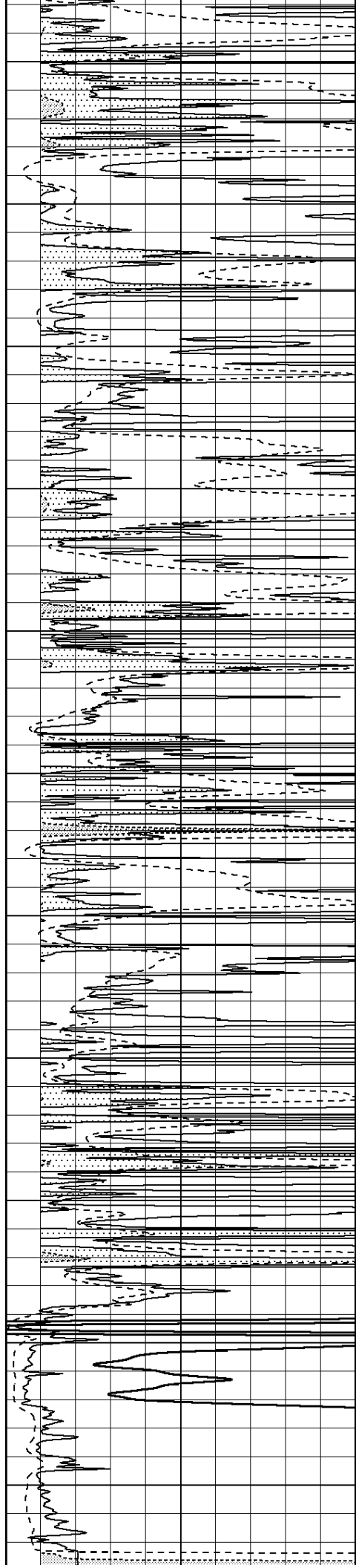
4600

4650

4700

4750

4800



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

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



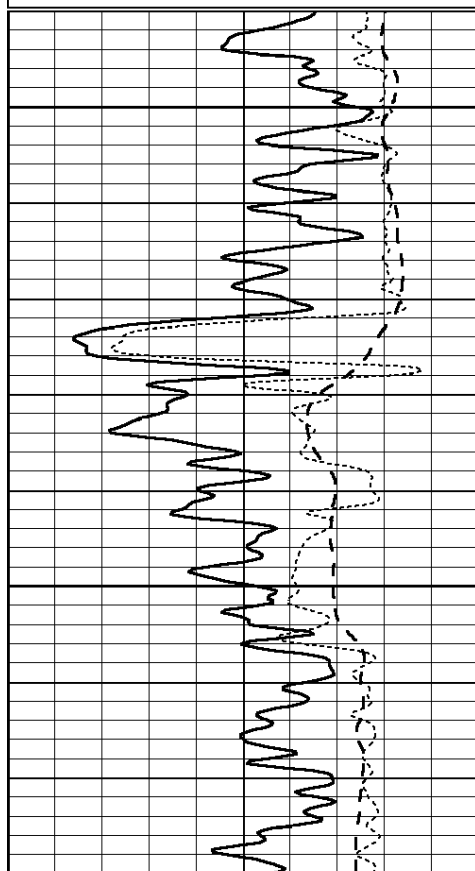
**COMPLETION
& PRODUCTION
SERVICES CO.**

MAIN SECTION

Database File: 40010140dildn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Wed Nov 28 19:30:08 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

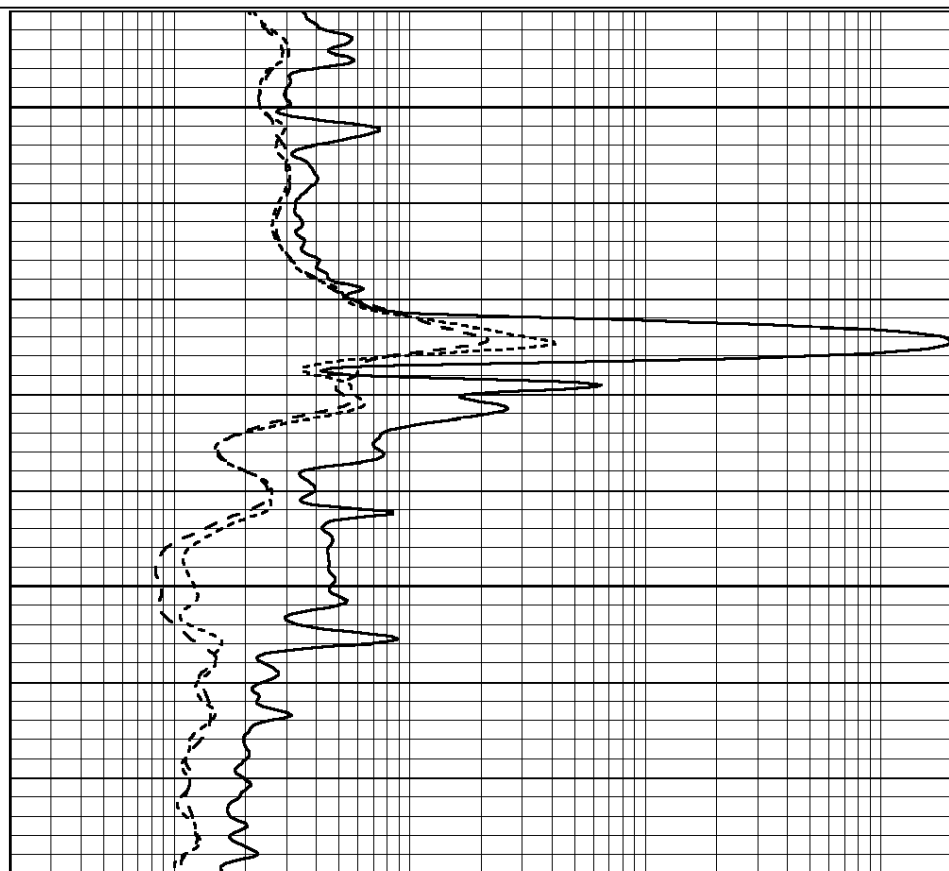
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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



1600

1650



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

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



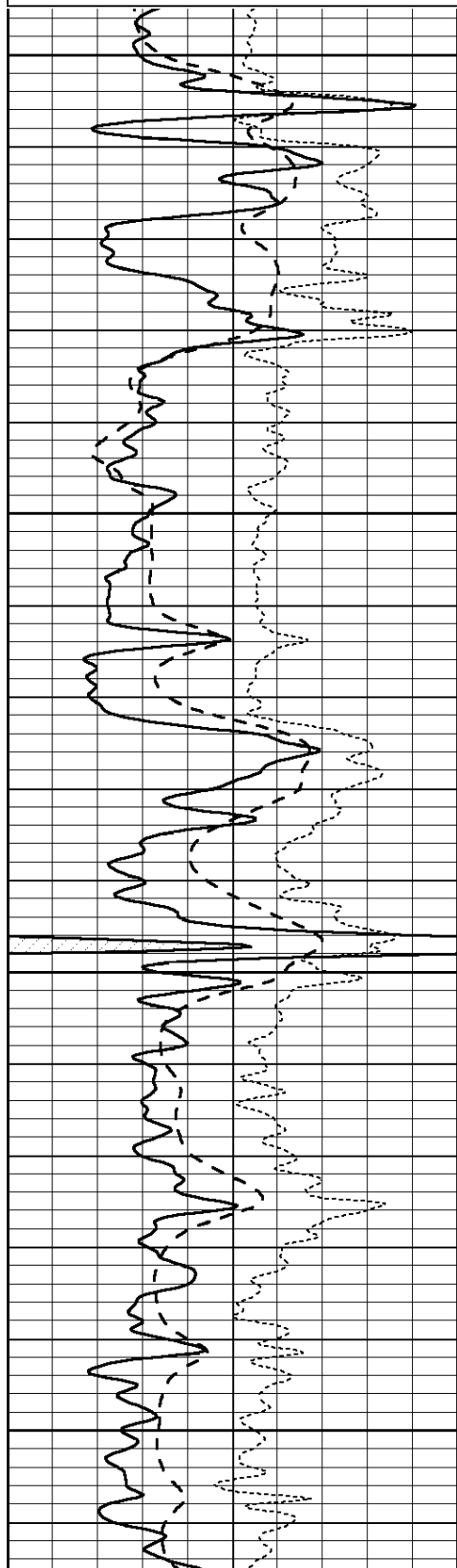
COMPLETION

MAIN SECTION

Database File: 40010140dildn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Wed Nov 28 19:30:08 2012 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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

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

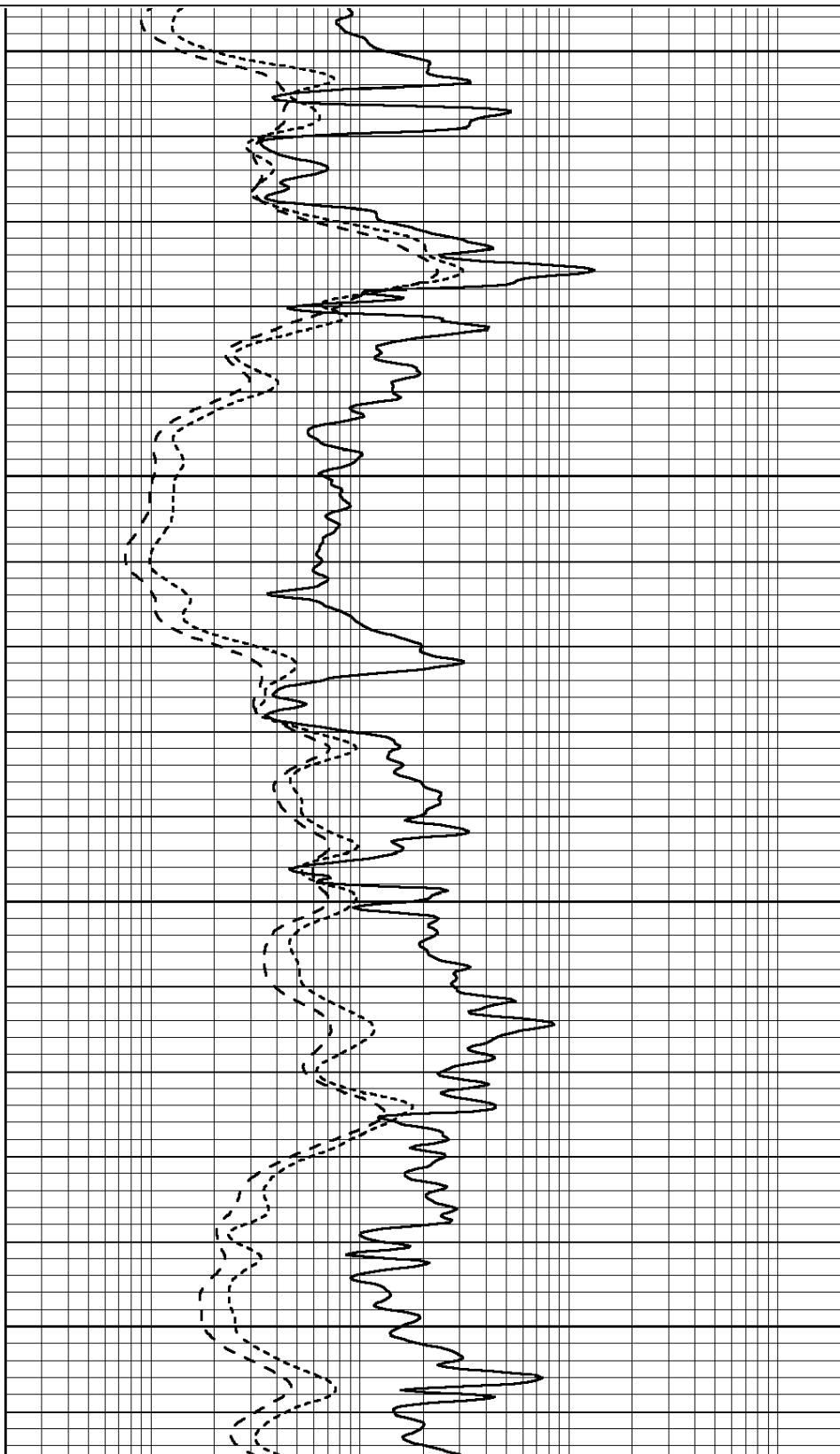


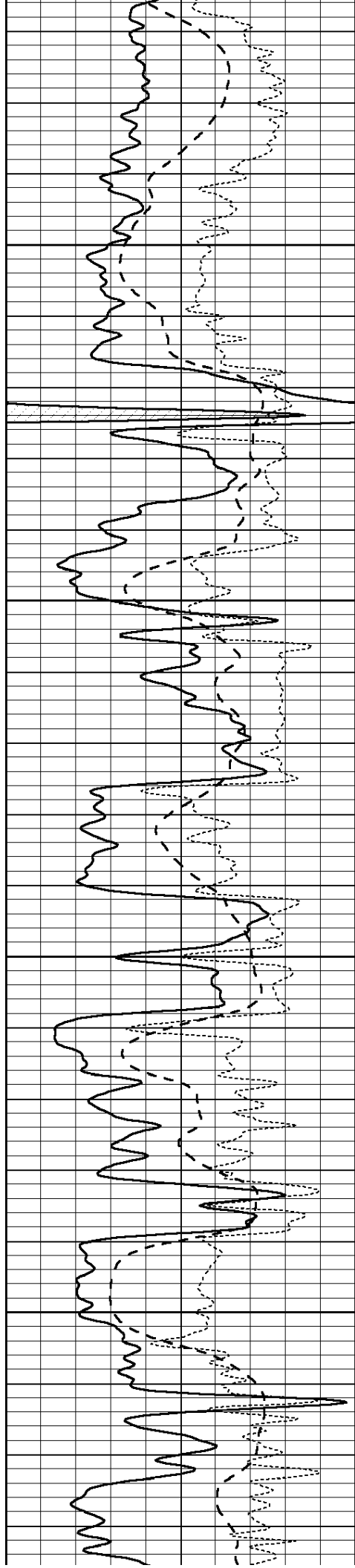
3800

3850

3900

3950



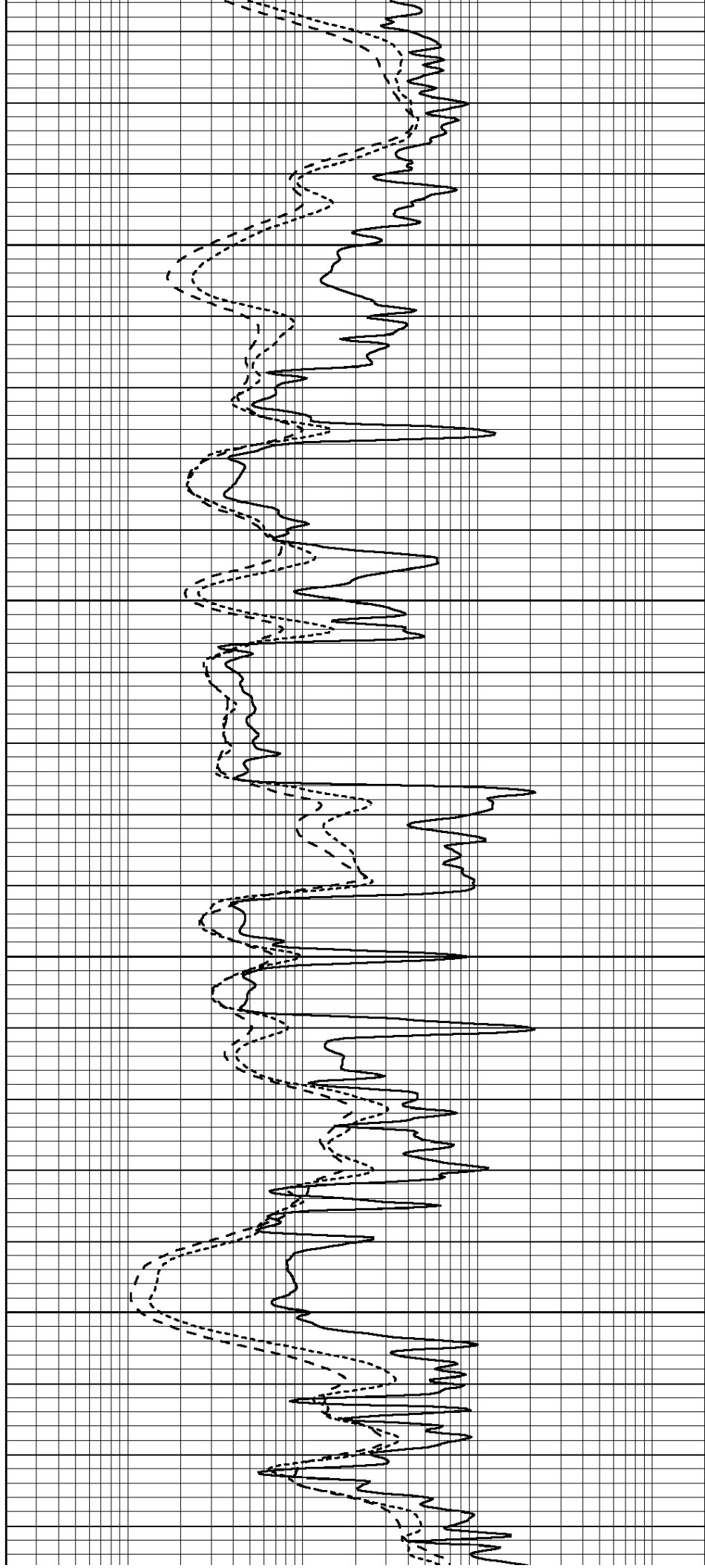


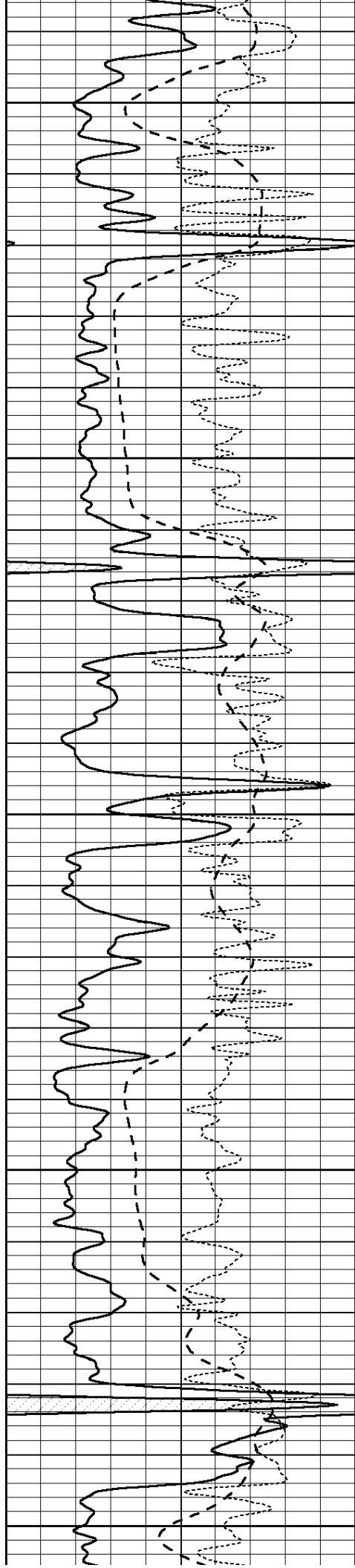
4000

4050

4100

4150





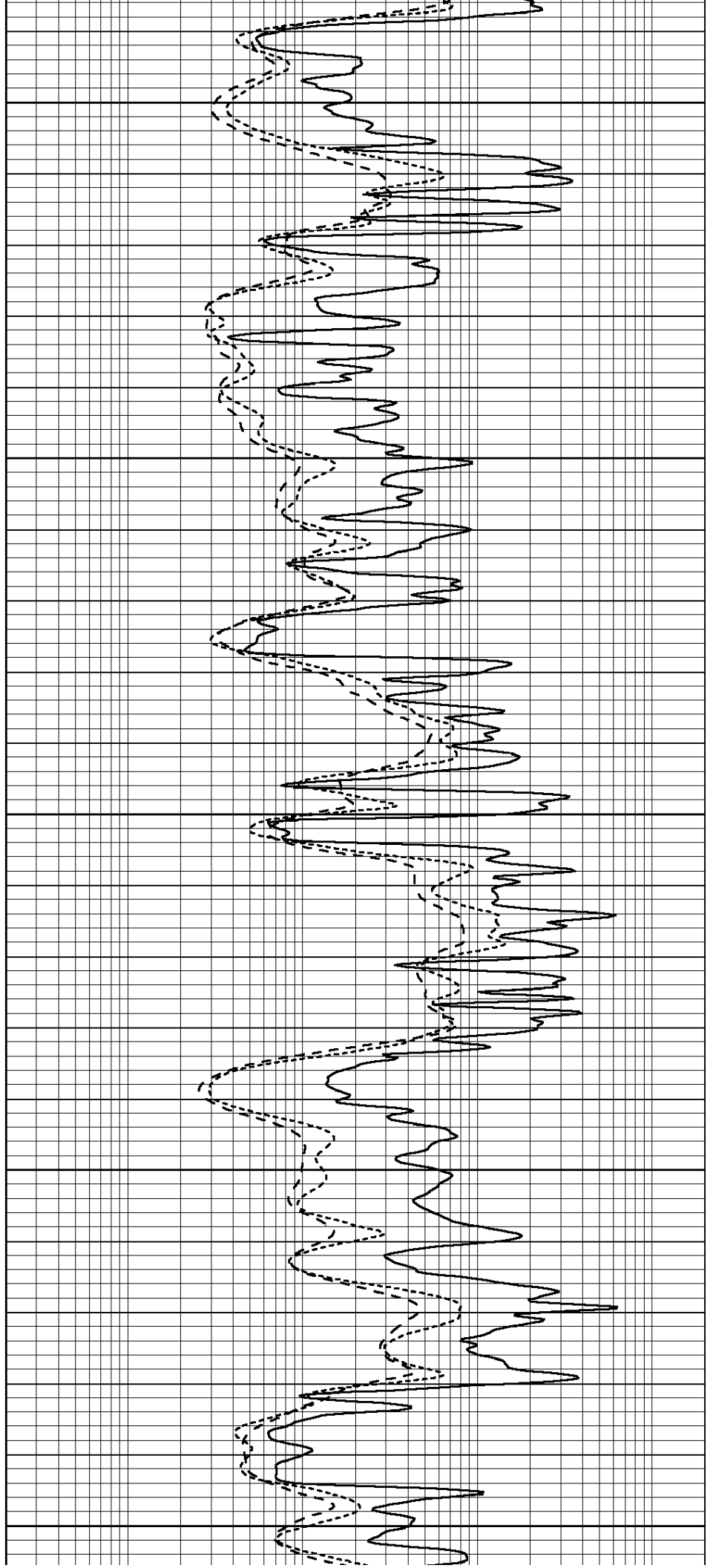
4200

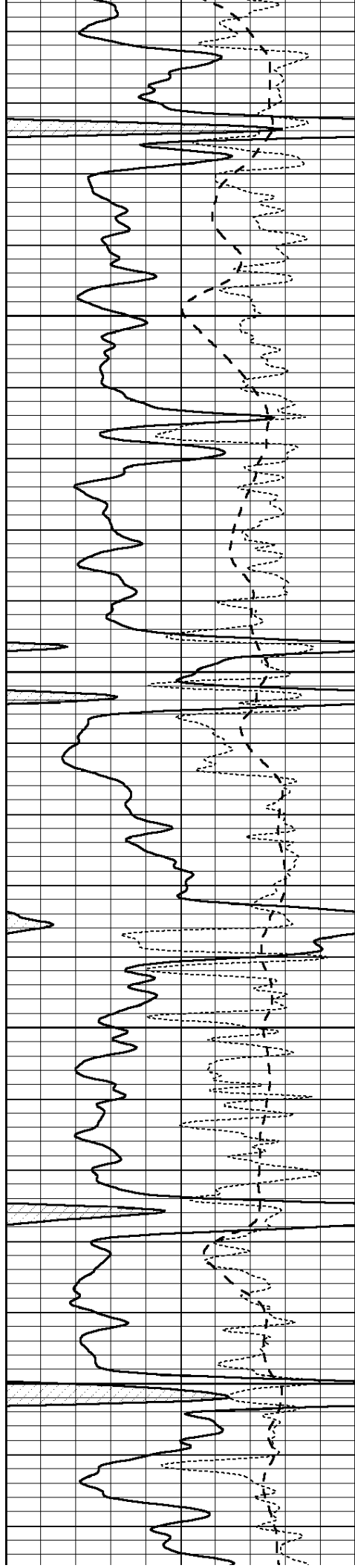
4250

4300

4350

4400



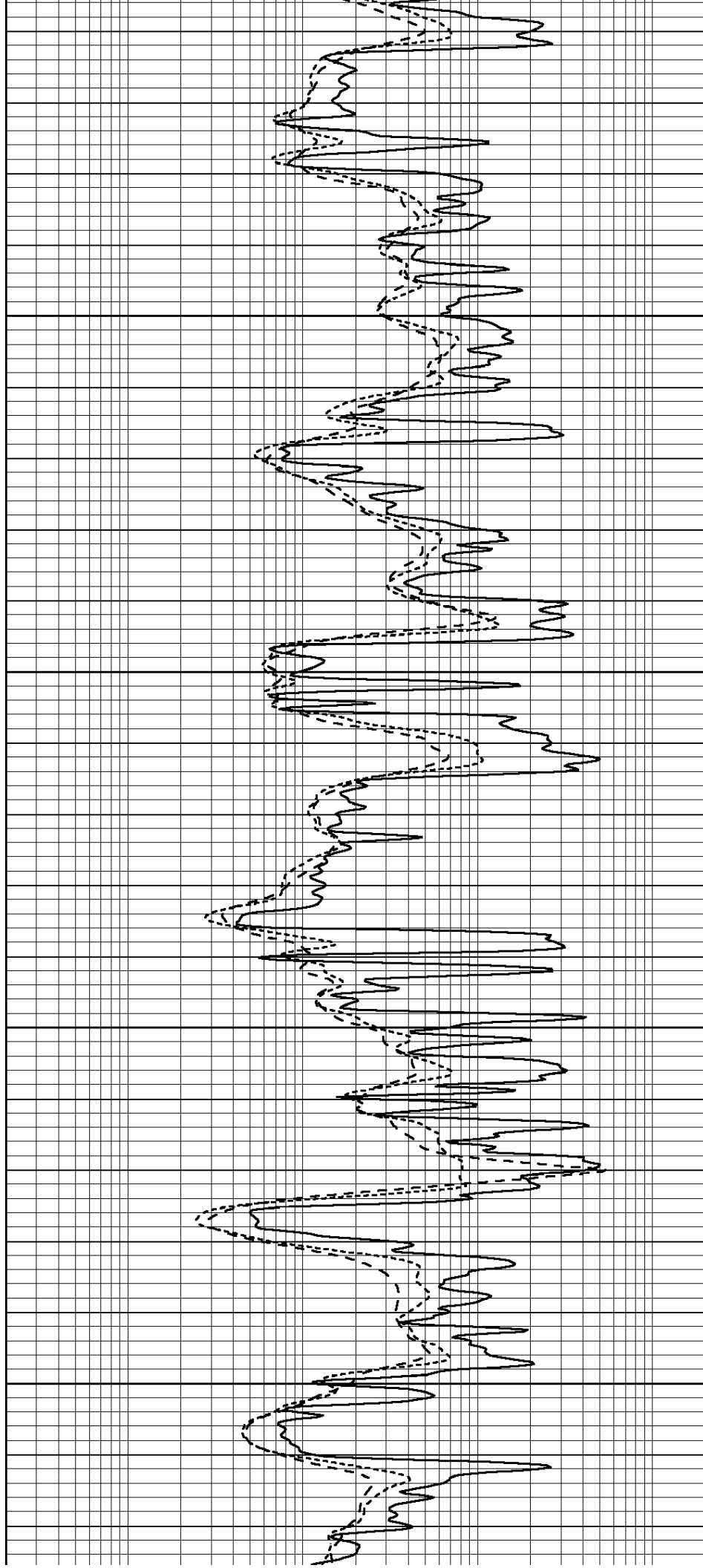


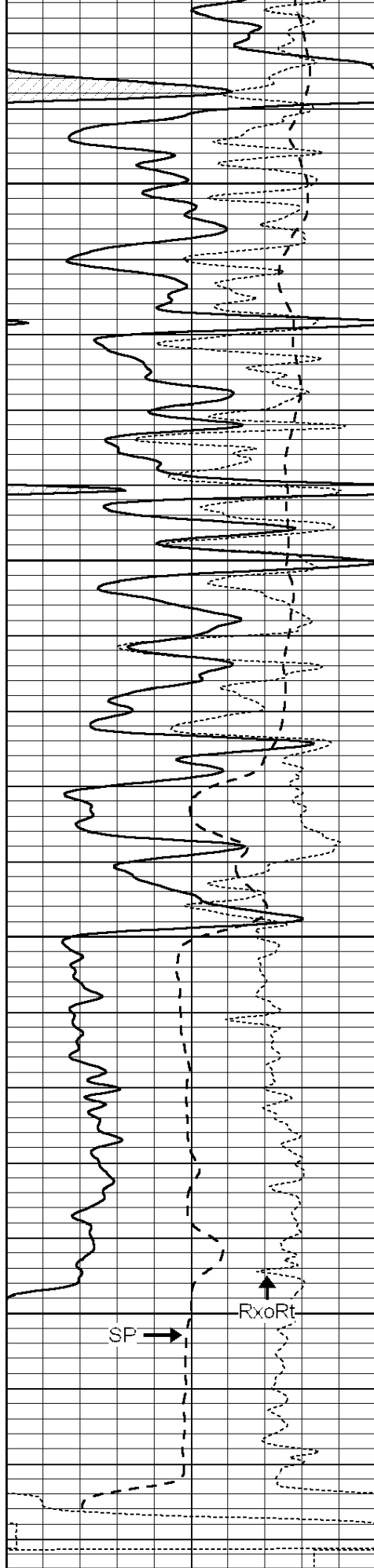
4450

4500

4550

4600





4650

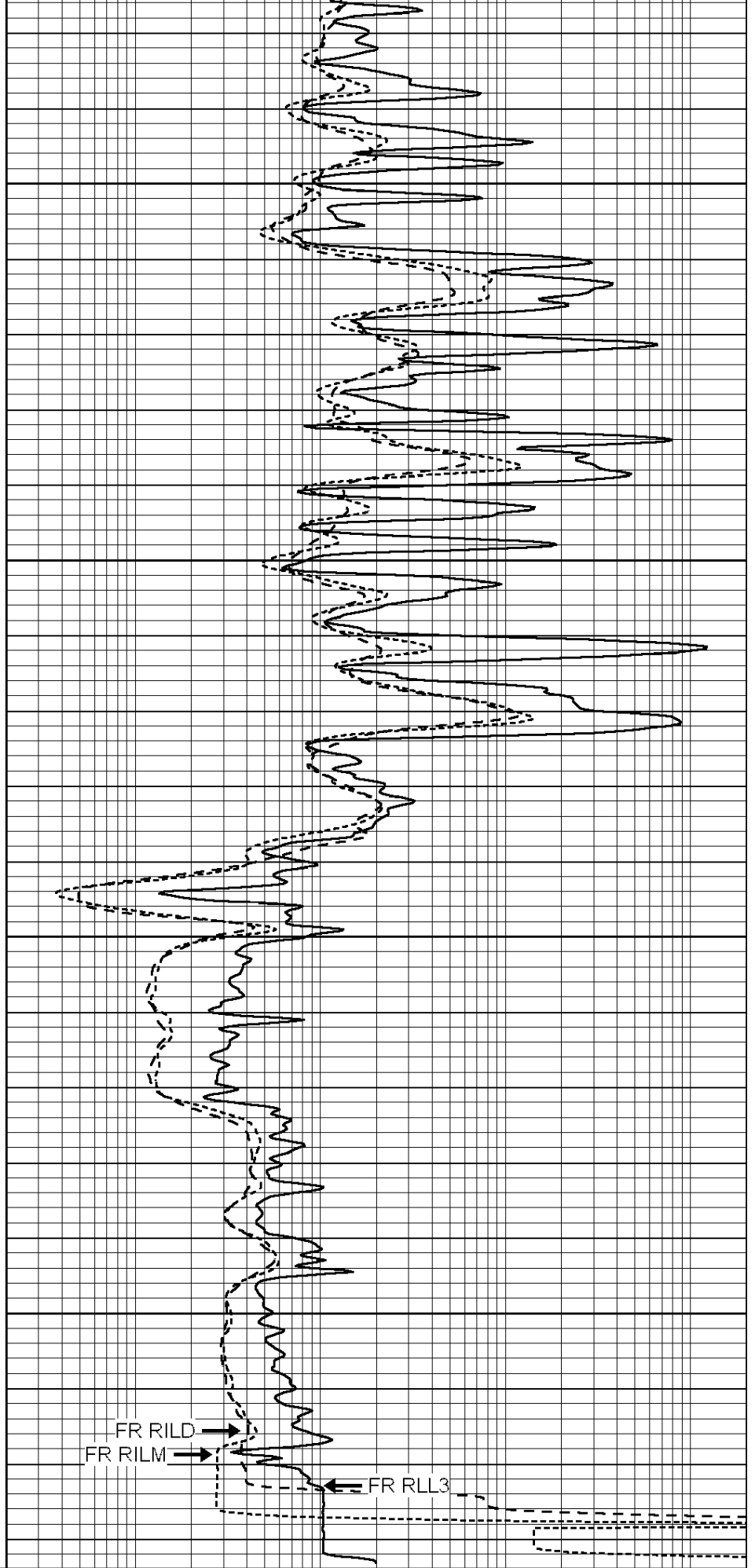
4700

4750

4800

LTD 4826

0 GAMMA RAY (GAPI) 150
 -100 SP (mV) 100
 250 Rx/Rt 50



FR RILD →
 FR RILM →
 ← FR RLL3

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

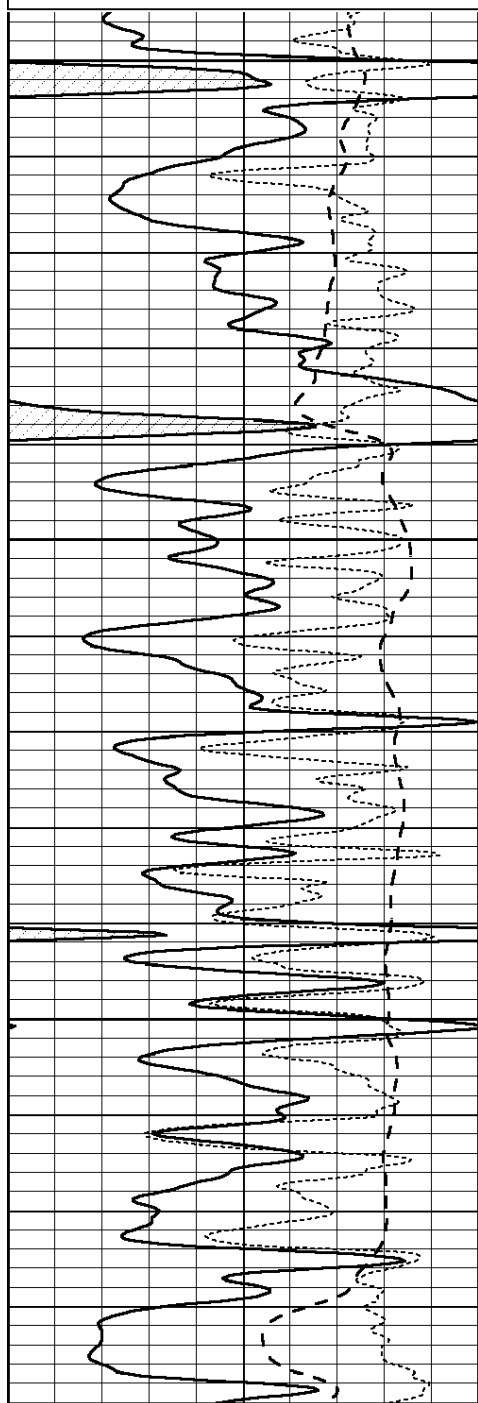


REPEAT SECTION

Database File: 40010140dildn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Wed Nov 28 18:40:12 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

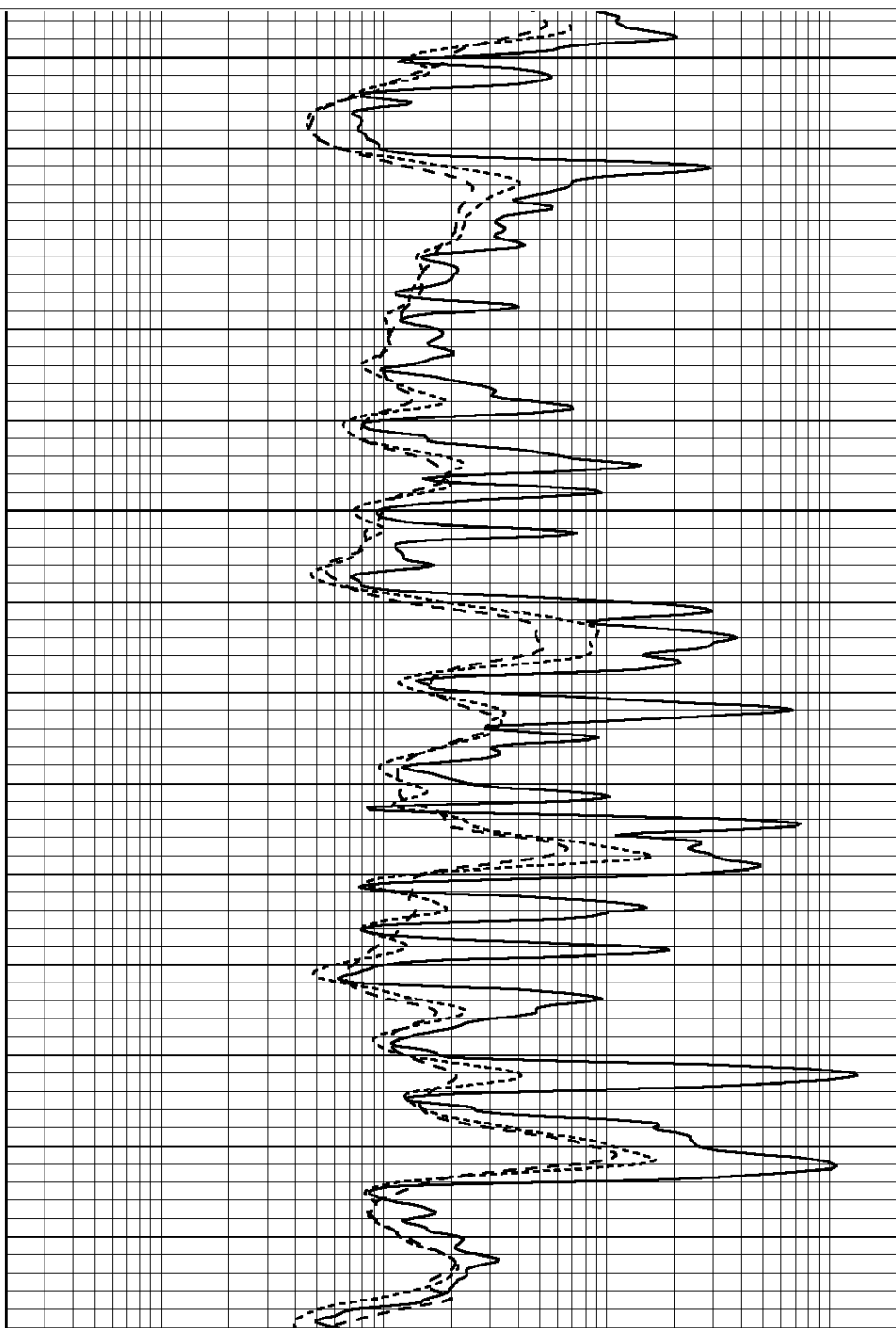
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

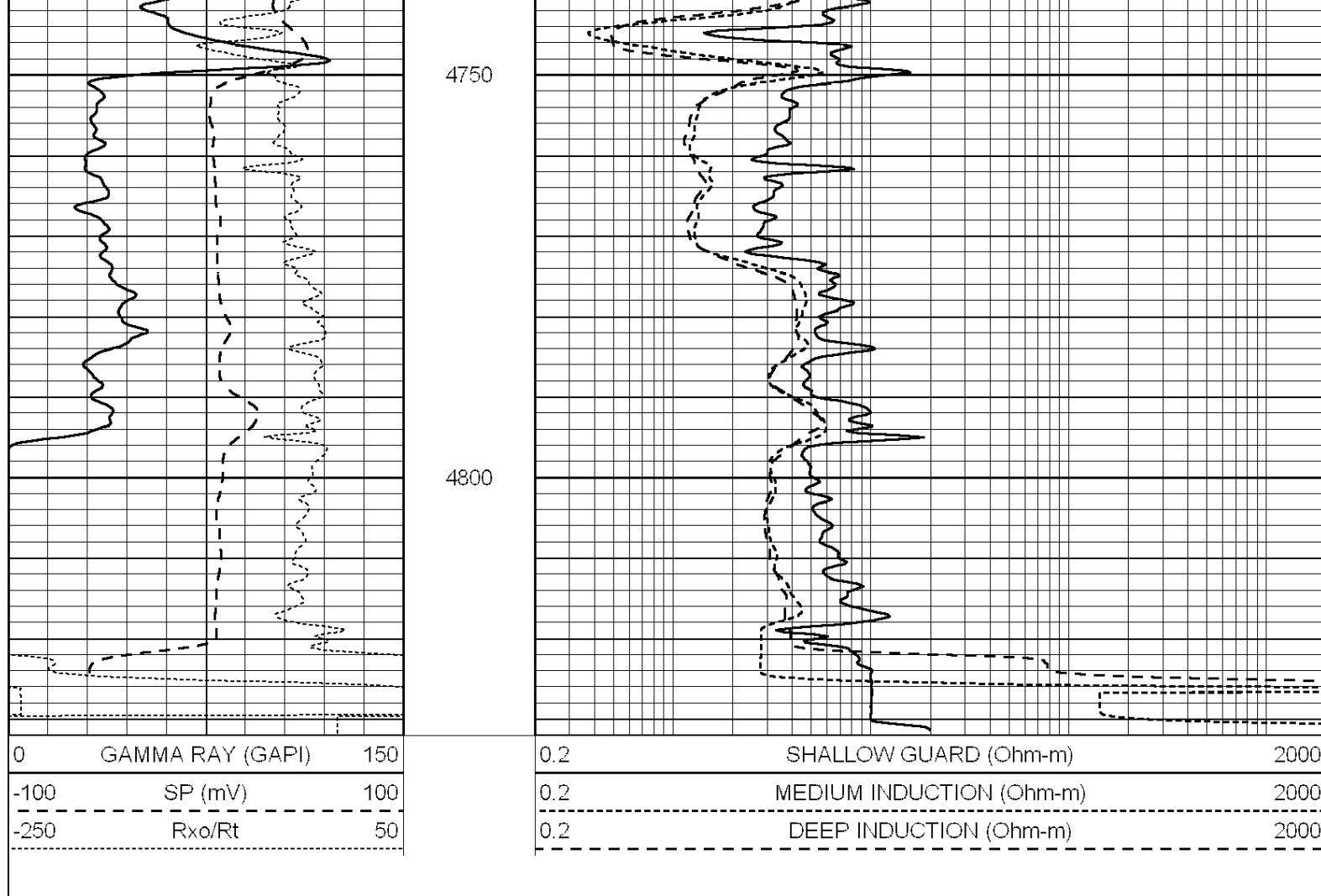


4600

4650

4700





Calibration Report									
Database File:		40010140dildn.db							
Dataset Pathname:		pass3.1							
Dataset Creation:		Wed Nov 28 19:30:08 2012 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Fri Aug 01 06:33:19 2008							
Downhole Cal Performed:		Mon Jul 28 11:08:27 2008							
After Survey Verification Performed:		Mon Jul 28 11:08:27 2008							
Surface Calibration									
		Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b	
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680	
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		

Compensated Density Calibration Report

Serial-Model:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Mon Mar 19 19:07:19 2012

Master Calibration						
	Density			Far Detector		
Magnesium	1.710	g/cc		1015.91	497.51	cps
Aluminum	2.600	g/cc		227.67	350.20	cps
Spine Angle = 76.79				Density/Spine Ratio = 0.579		
	Size			Reading		
Small Ring	8.00	in		3.21	V	
Large Ring	14.00	in		5.46	V	

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

Gamma Ray Calibration Report

Serial Number:	#8	
Tool Model:	OPEN	
Performed:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps