



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company		L.D. DRILLING, INC.	
Well		#1-7 CASEY	
Field		WILDCAT	
County		CHEYENNE	
State		KANSAS	
Company		L.D. DRILLING, INC.	
Well		#1-7 CASEY	
Field		WILDCAT	
County		CHEYENNE	
State		KANSAS	
Location:		API # : 15-023-21427-0000	
SEC 7 TWP 2S RGE 37W		CDL/CNL MEL	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 5' A.G.L.	
Drilling Measured From		KELLY BUSHING	
Elevation		3246	
K.B. 3251		D.F. 3249	
G.L. 3246			
Date	5/21/15		
Run Number	ONE		
Depth Driller	4951		
Depth Logger	4949		
Bottom Logged Interval	4947		
Top Log Interval	0		
Casing Driller	8 5/8"@309'		
Casing Logger	305		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.2/53		
pH / Fluid Loss	11.0/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	1.50@90F		
Rmf @ Meas. Temp	1.13@90F		
Rmc @ Meas. Temp	1.80@90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	1.08@125F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	125F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS	BLAKE WAGGONER	
Witnessed By	KIM SHOEMAKER		

<<< 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" HAYS, KANSAS (785) 628-6395
DIRECTIONS
BIRD CITY, KS., 10N. ON (HWY 161) TO "RD. X", 1/2E., 1/2S., 1E. INTO PASTURE

Database File:

26514ddn.db

Dataset Pathname:

passDILM3

Presentation Format:

_dil2

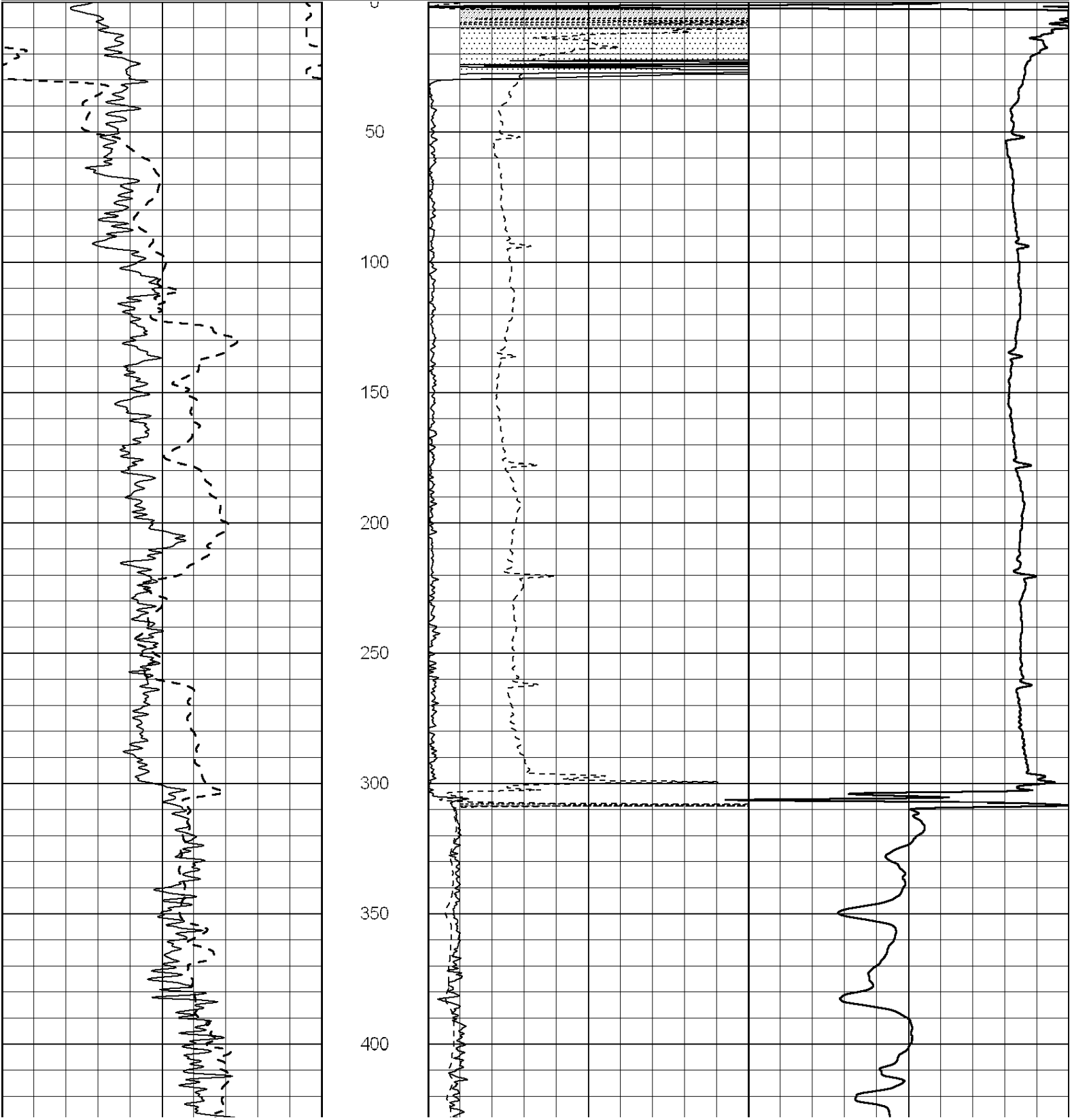
Dataset Creation:

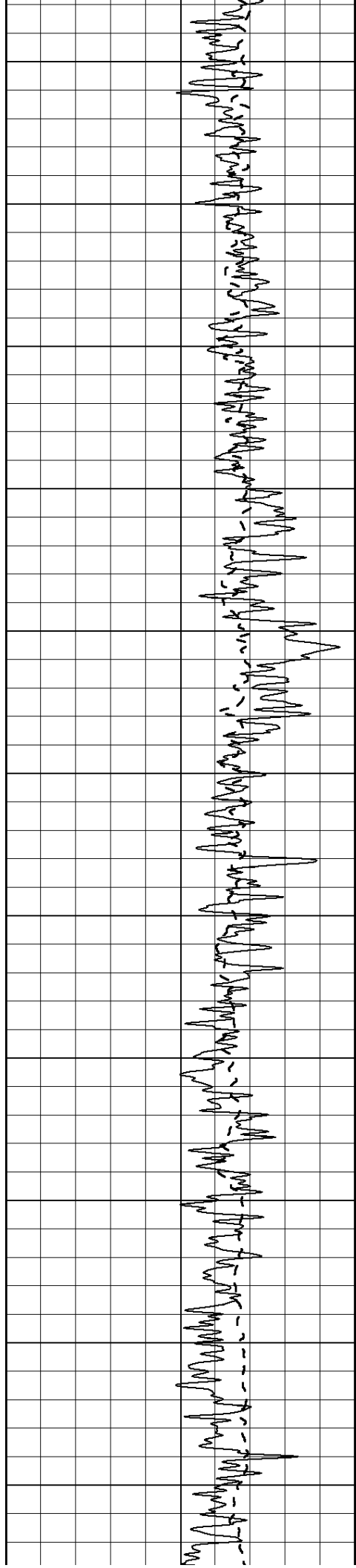
Thu May 21 14:21:49 2015

Charted by:

Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	0	RILD (Ohm-m)	50	
0	RWA (Ohm-m)	1	1000	CILD (mmho/m)		0
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	





450

500

550

600

650

700

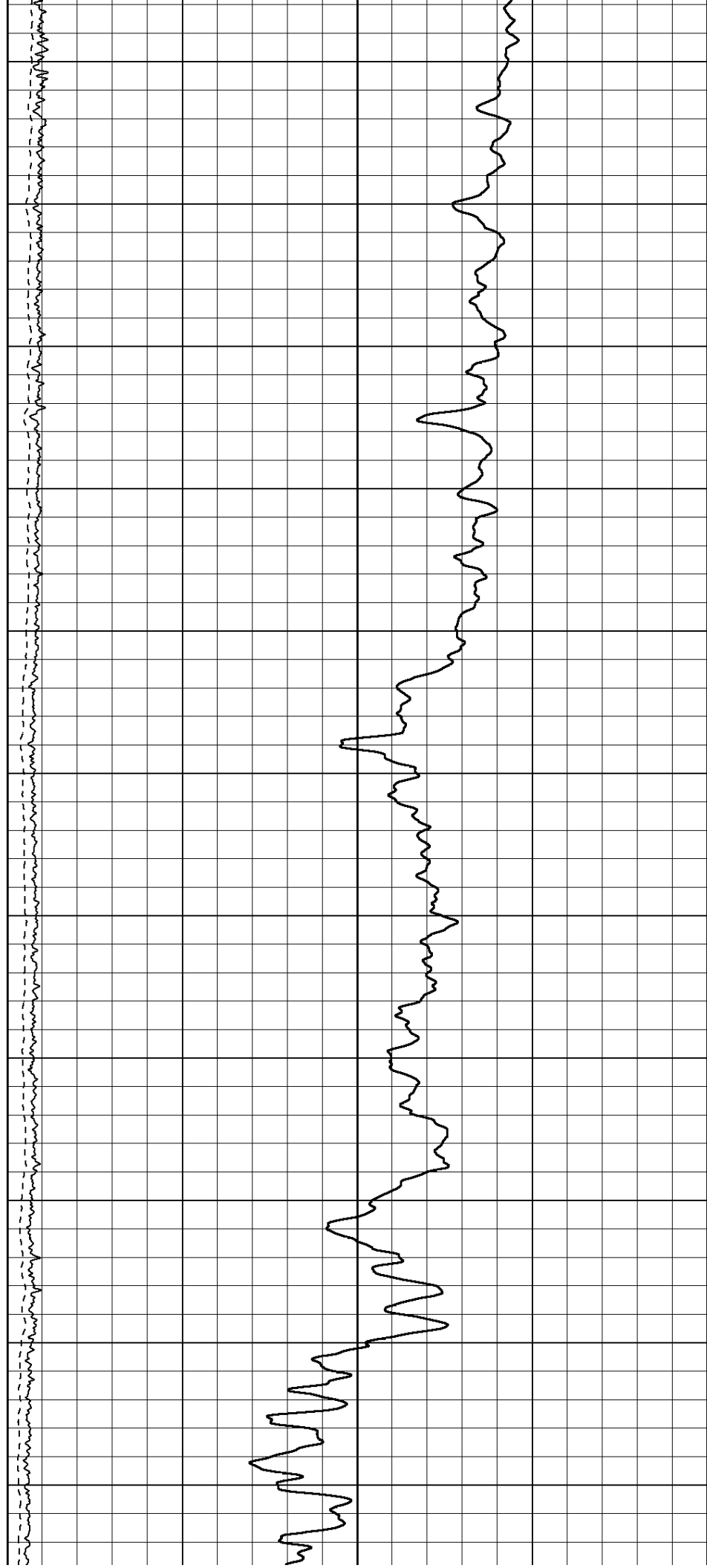
750

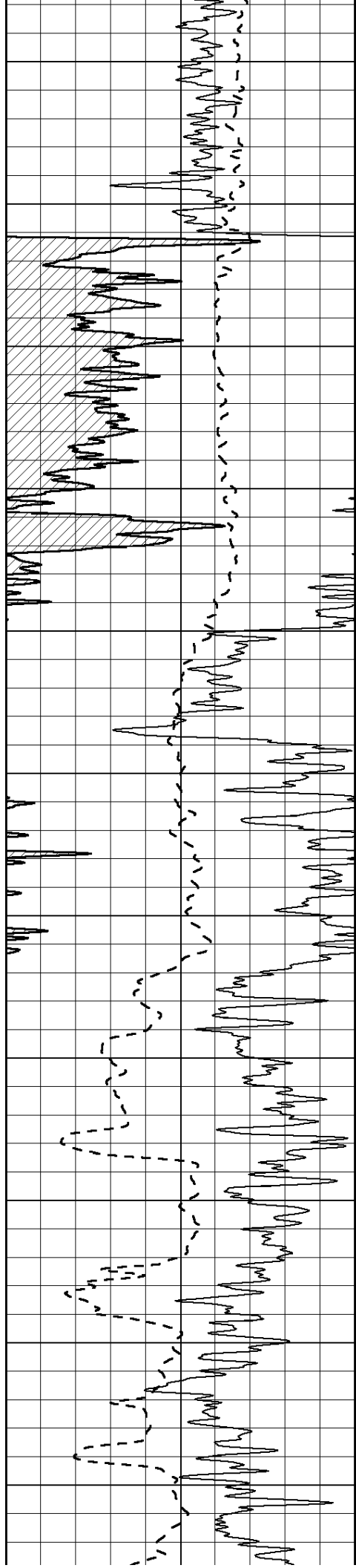
800

850

900

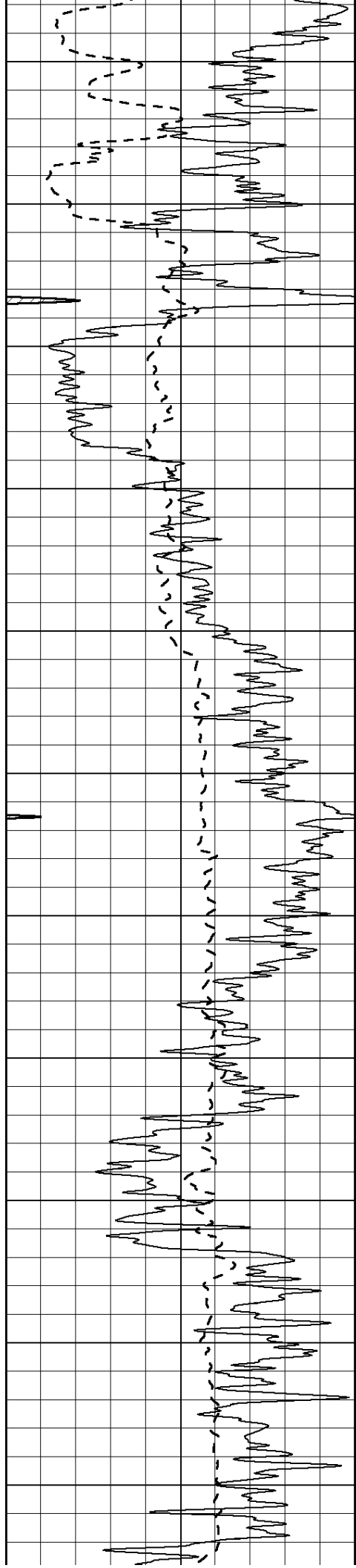
950





1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

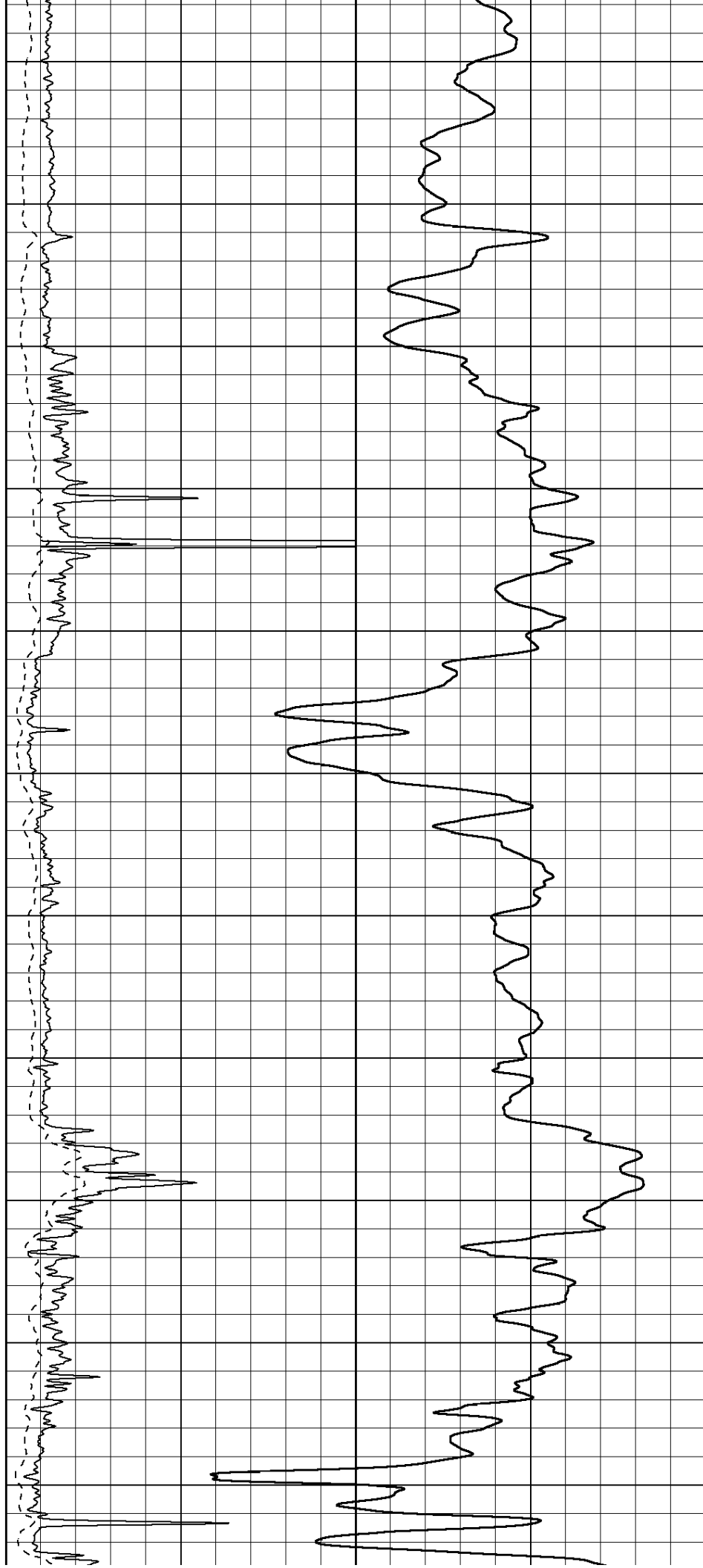
1850

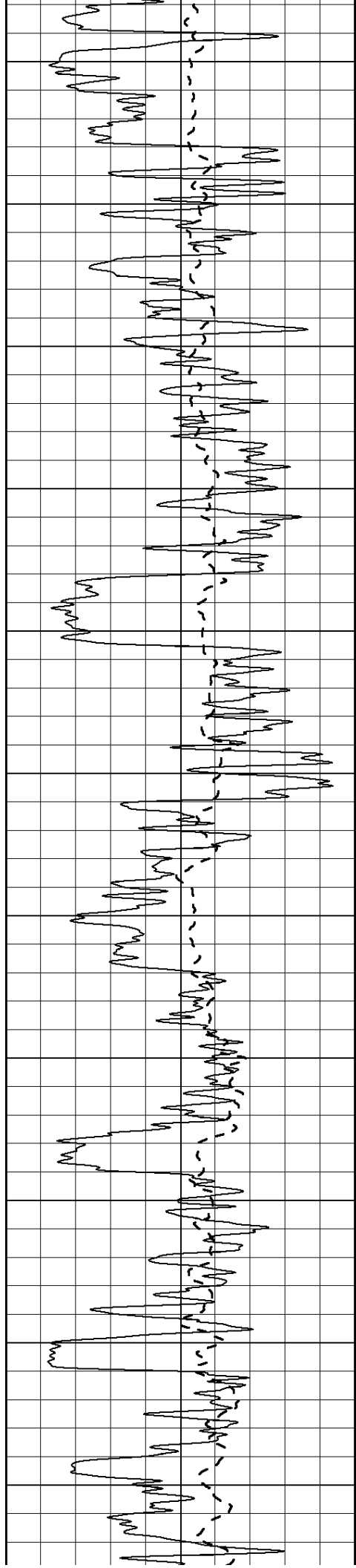
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

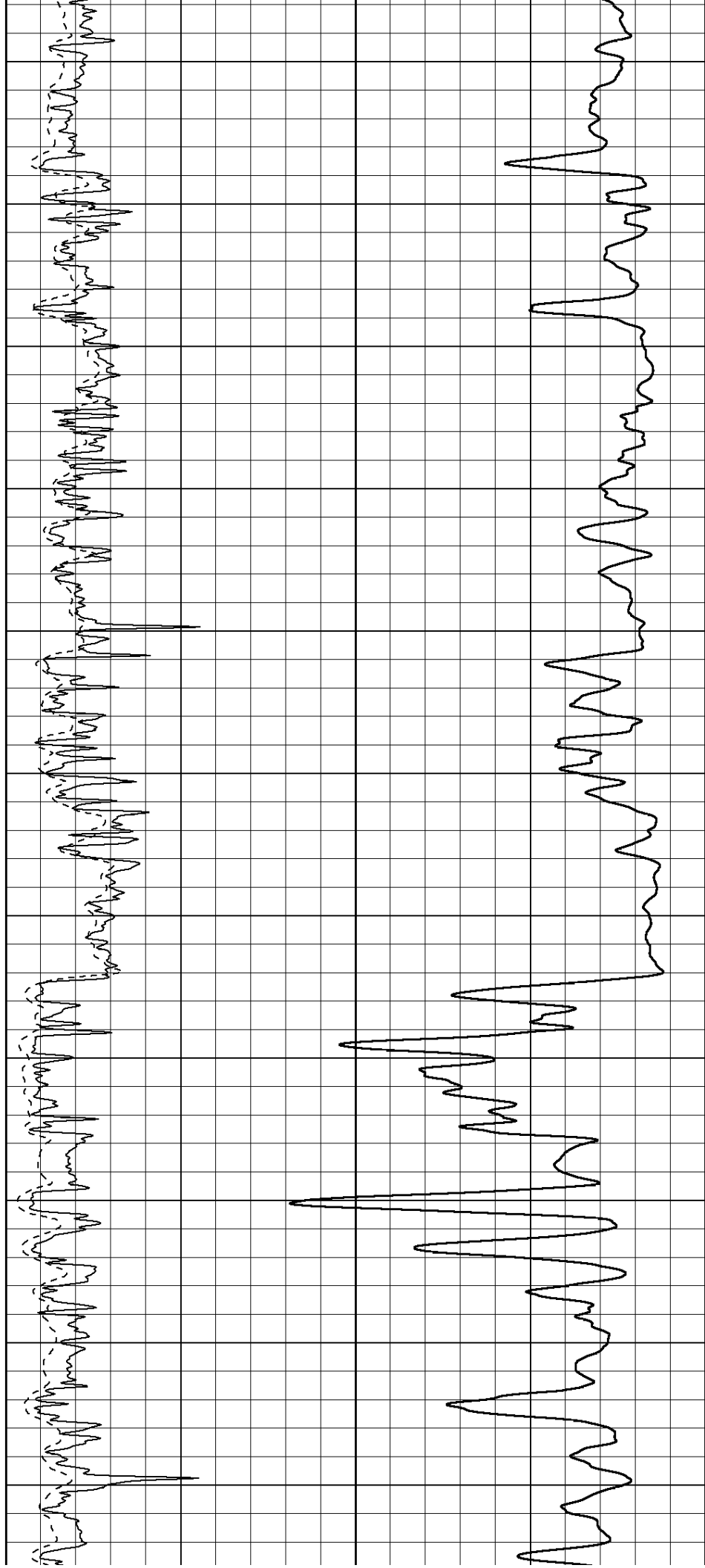
2400

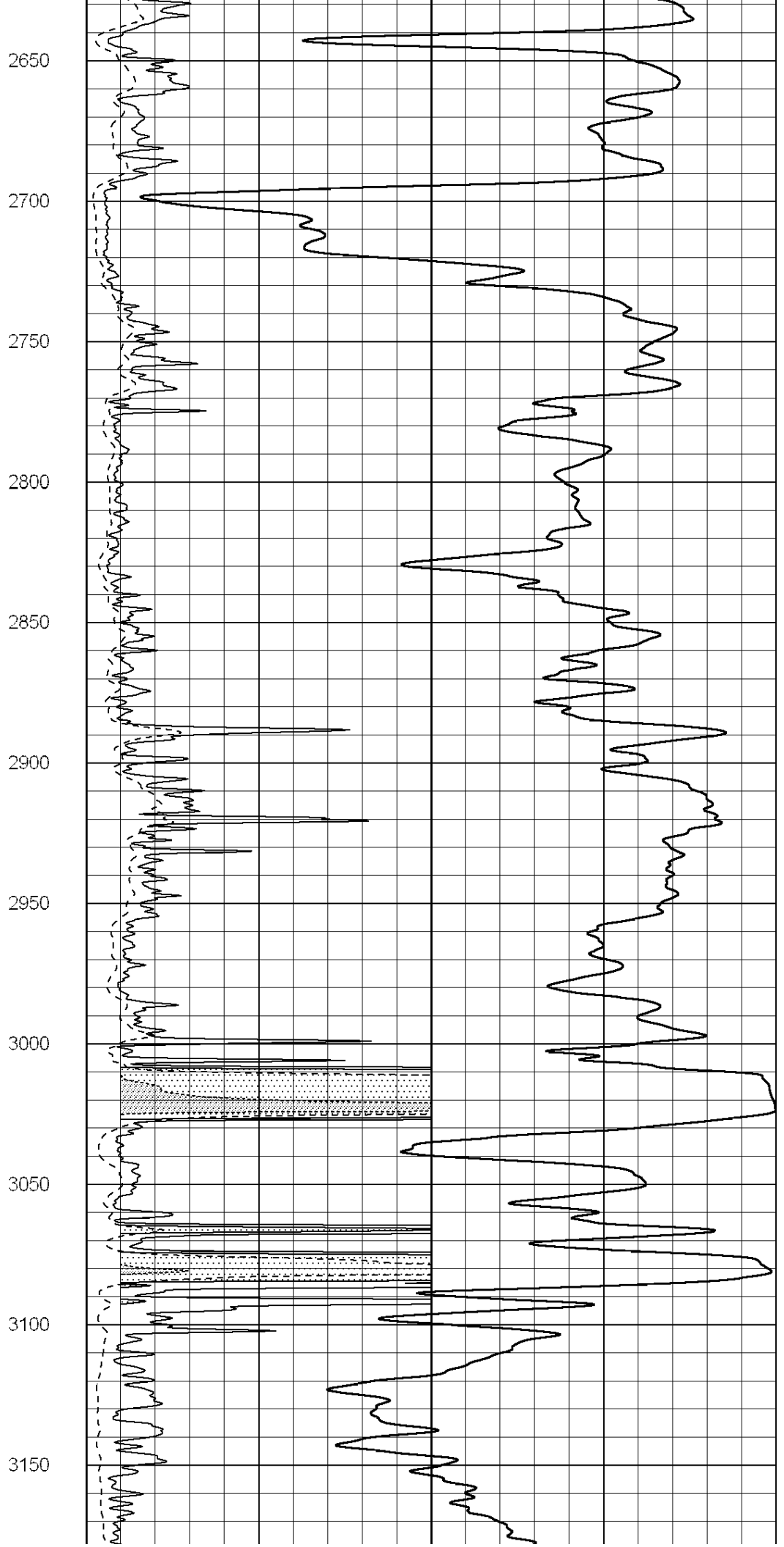
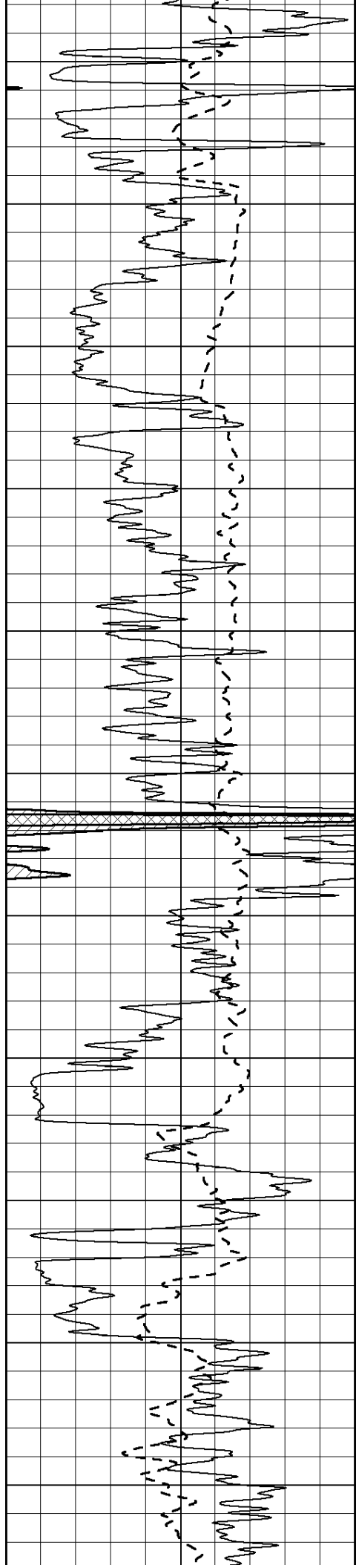
2450

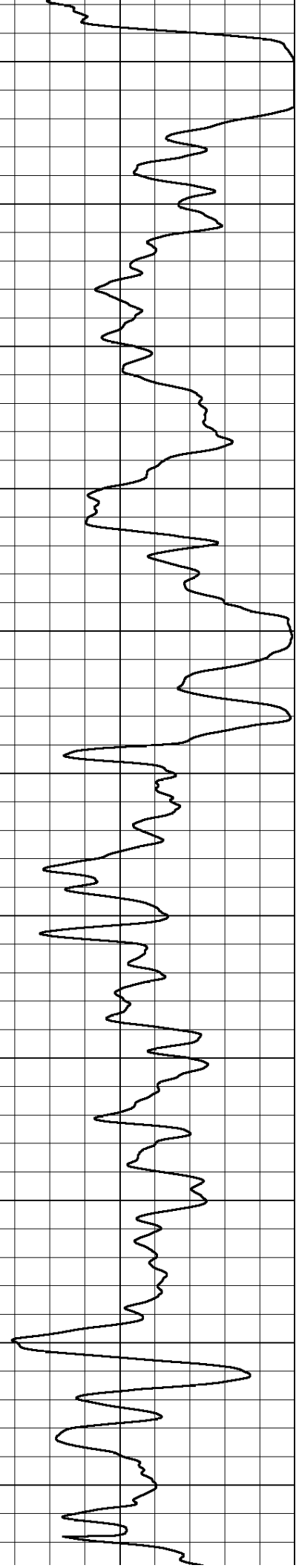
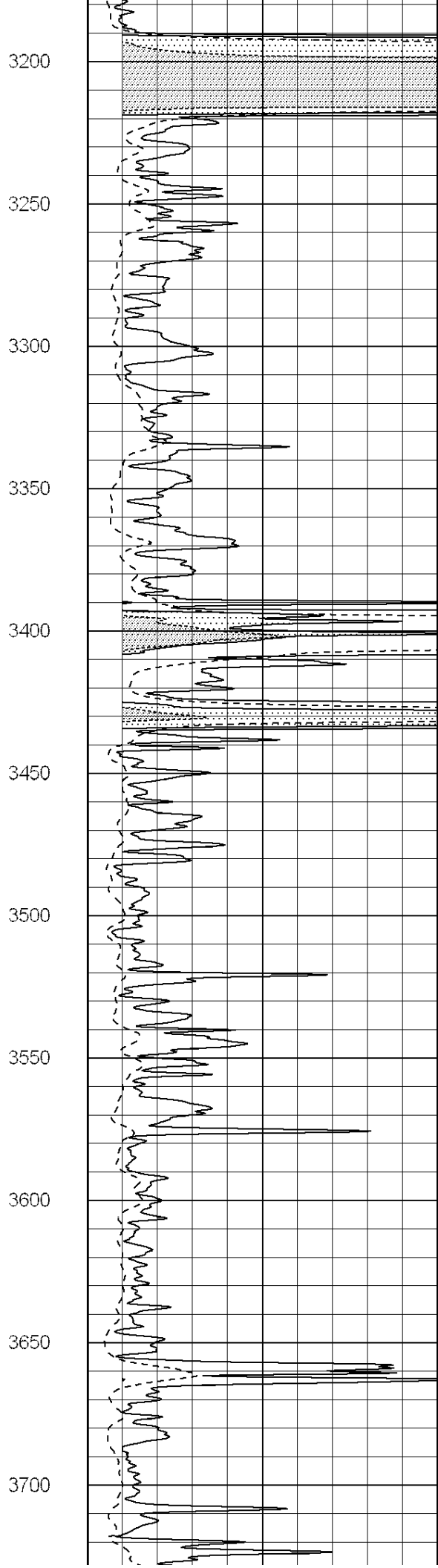
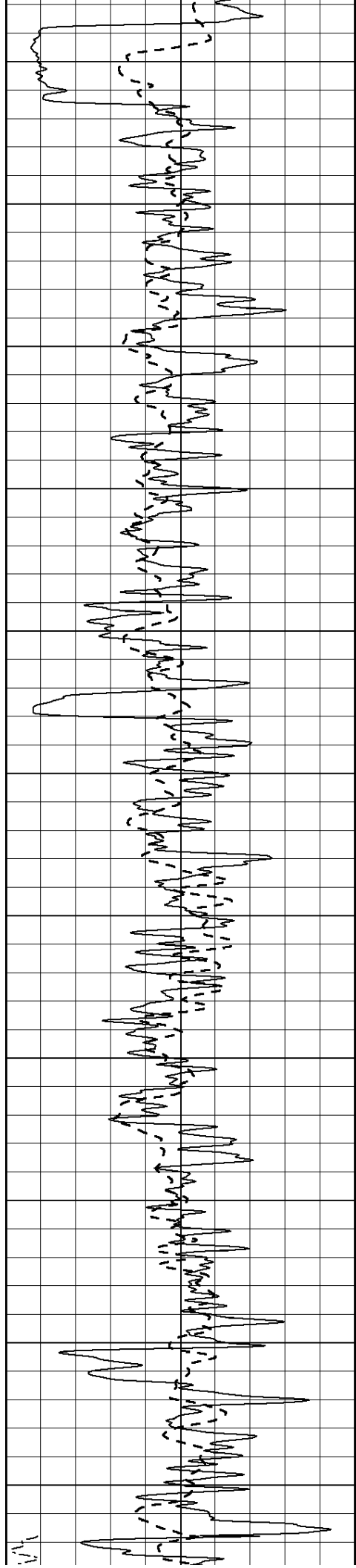
2500

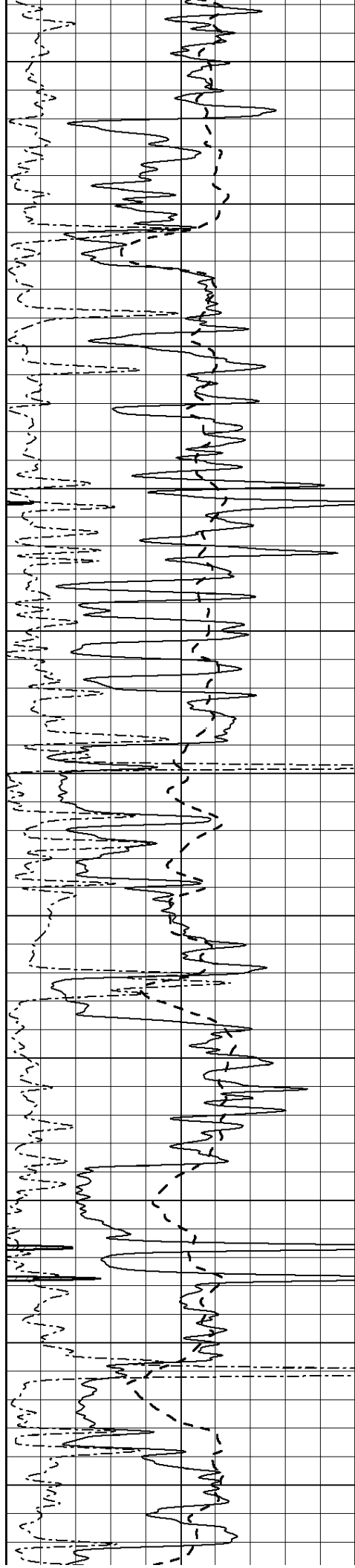
2550

2600









3750

3800

3850

3900

3950

4000

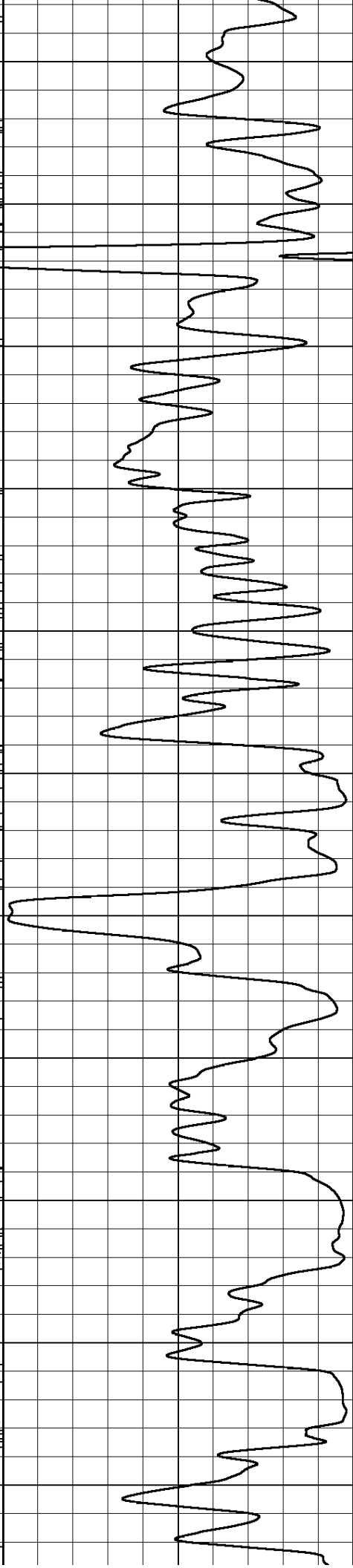
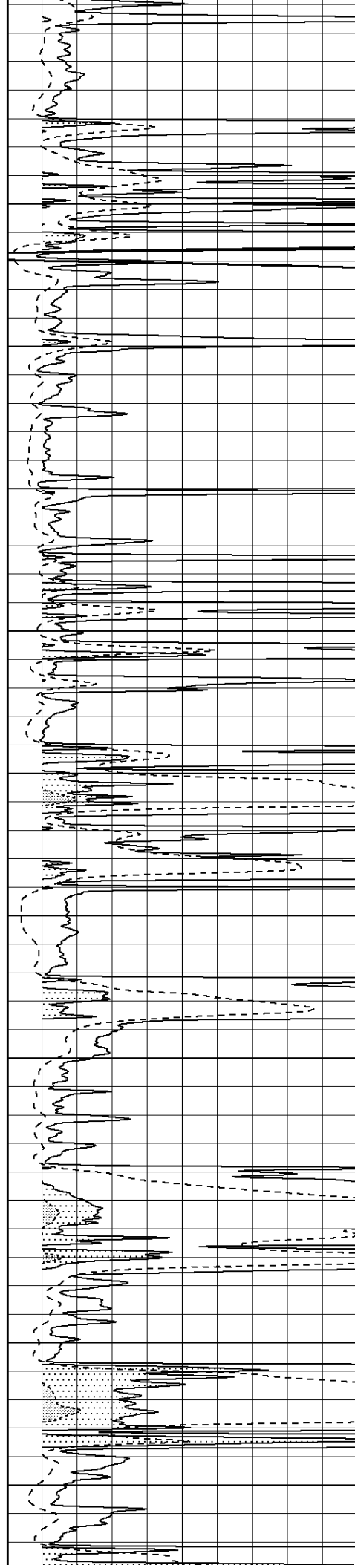
4050

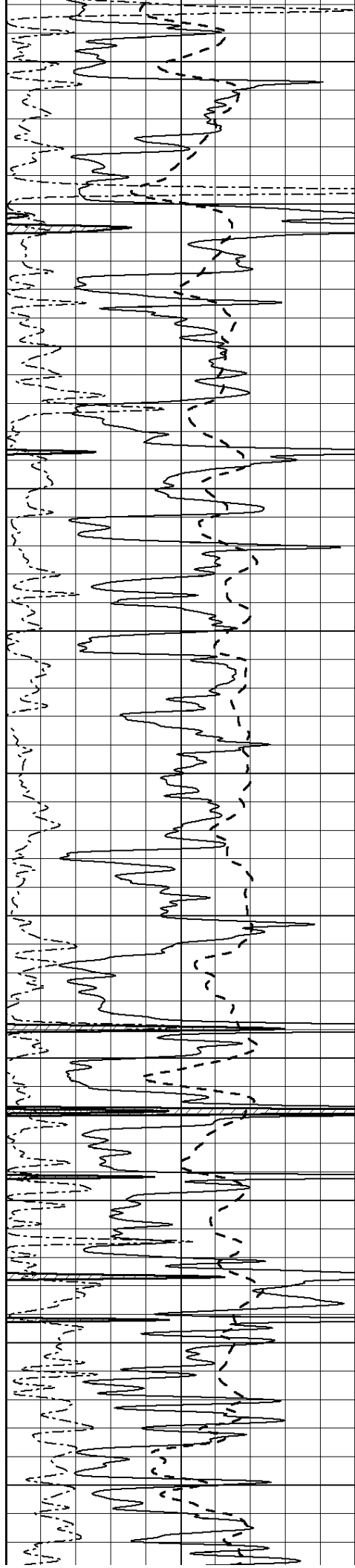
4100

4150

4200

4250





4300

4350

4400

4450

4500

4550

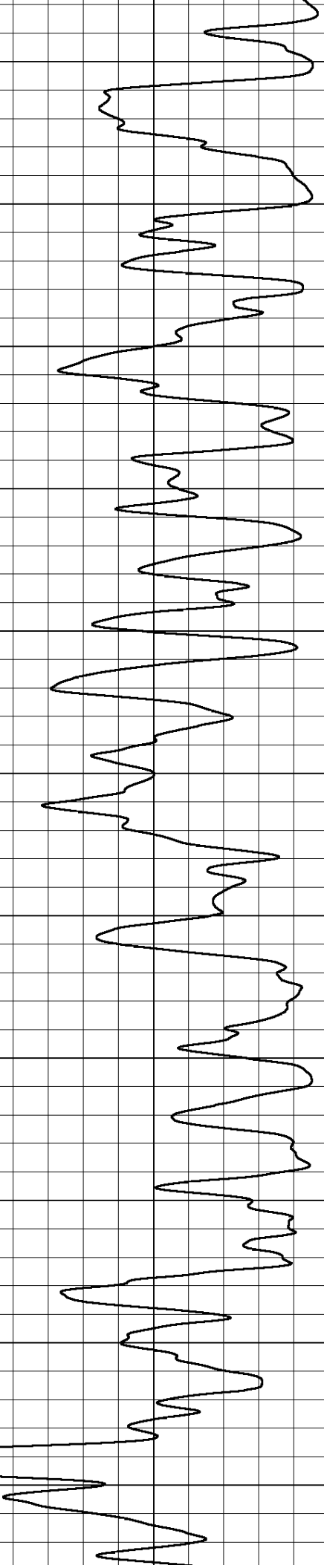
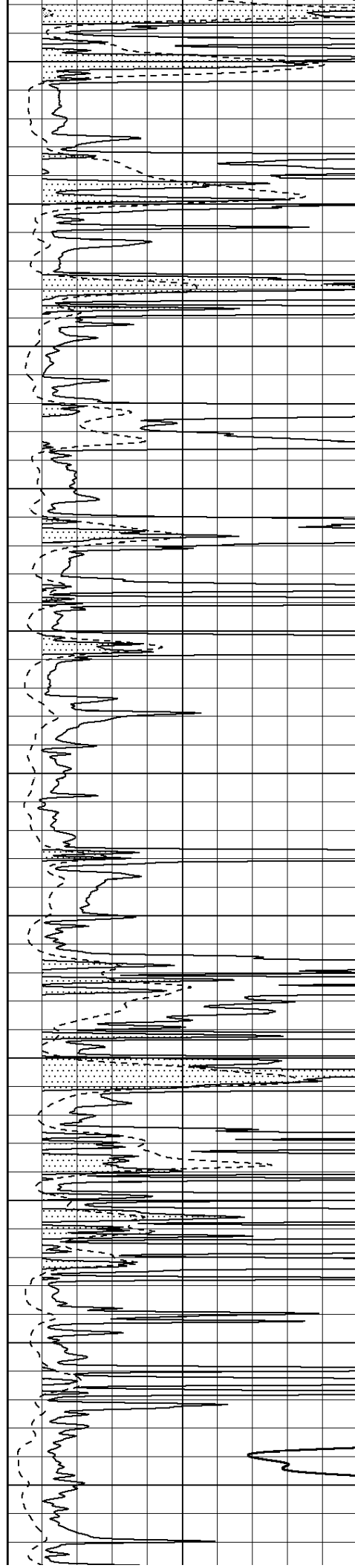
4600

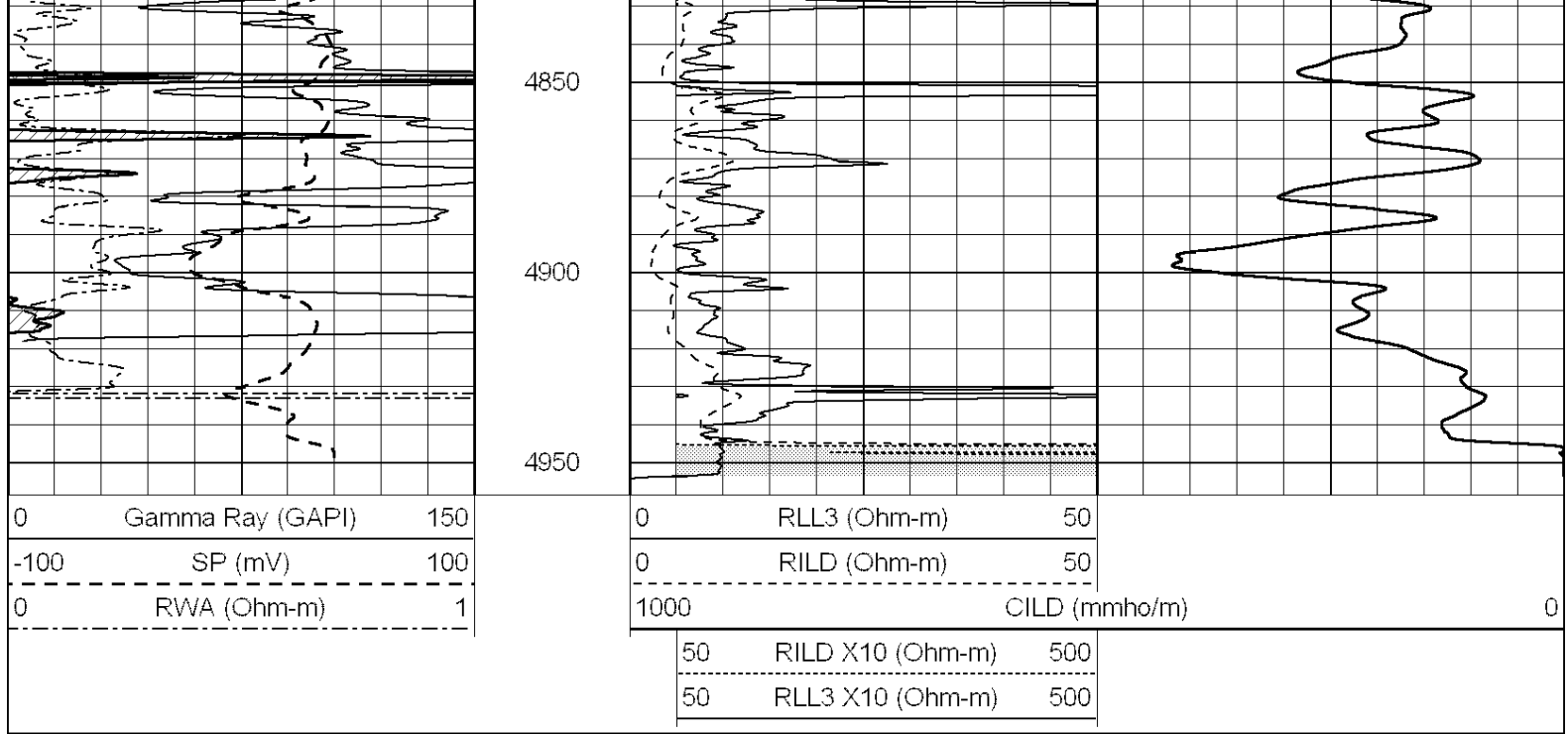
4650

4700

4750

4800





NABORS
COMPLETION
& PRODUCTION
SERVICES CO.

ANHYDRITE

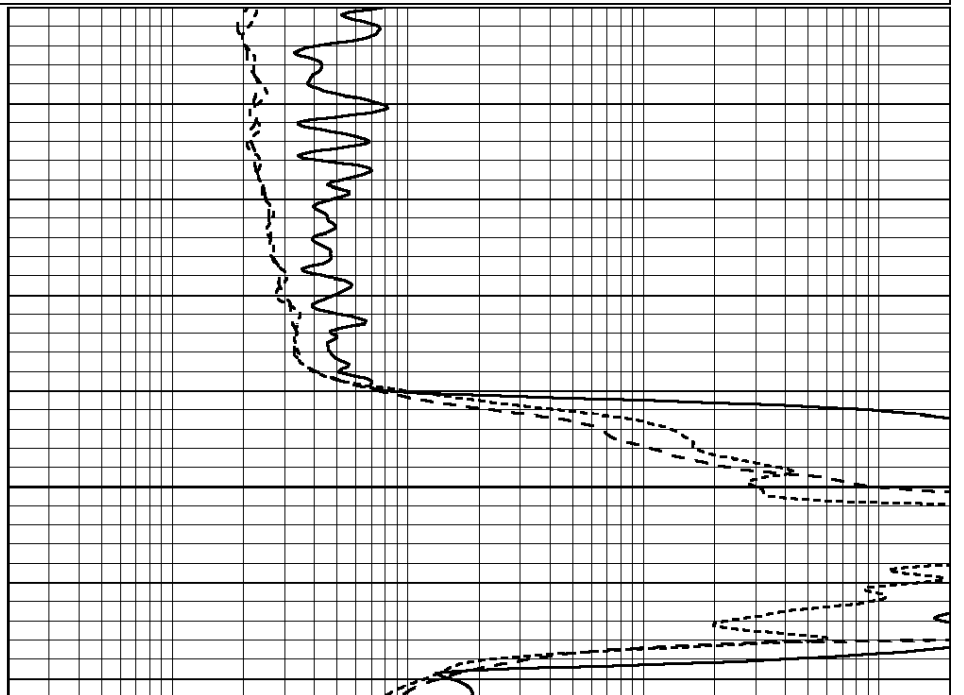
Database File: 26514ddn.db
Dataset Pathname: passDILM4
Presentation Format: _dil
Dataset Creation: Thu May 21 14:31:33 2015
Charted by: Depth in Feet scaled 1:240

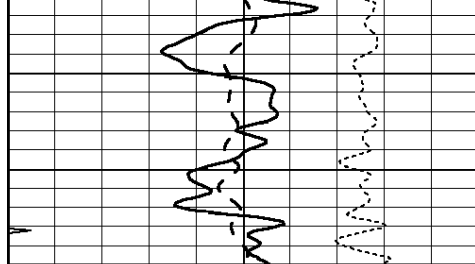
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



3150

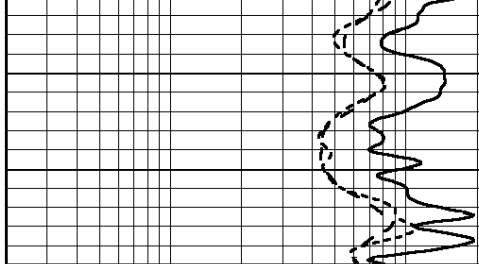
3200





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

3250



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



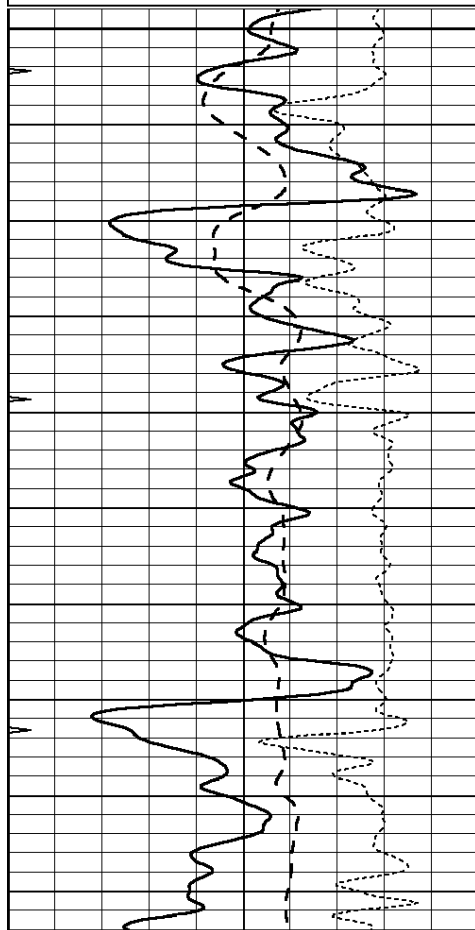
**COMPLETION
& PRODUCTION
SERVICES CO.**

MAIN SECTION

Database File: 26514ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: _dil
 Dataset Creation: Thu May 21 13:19:57 2015 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

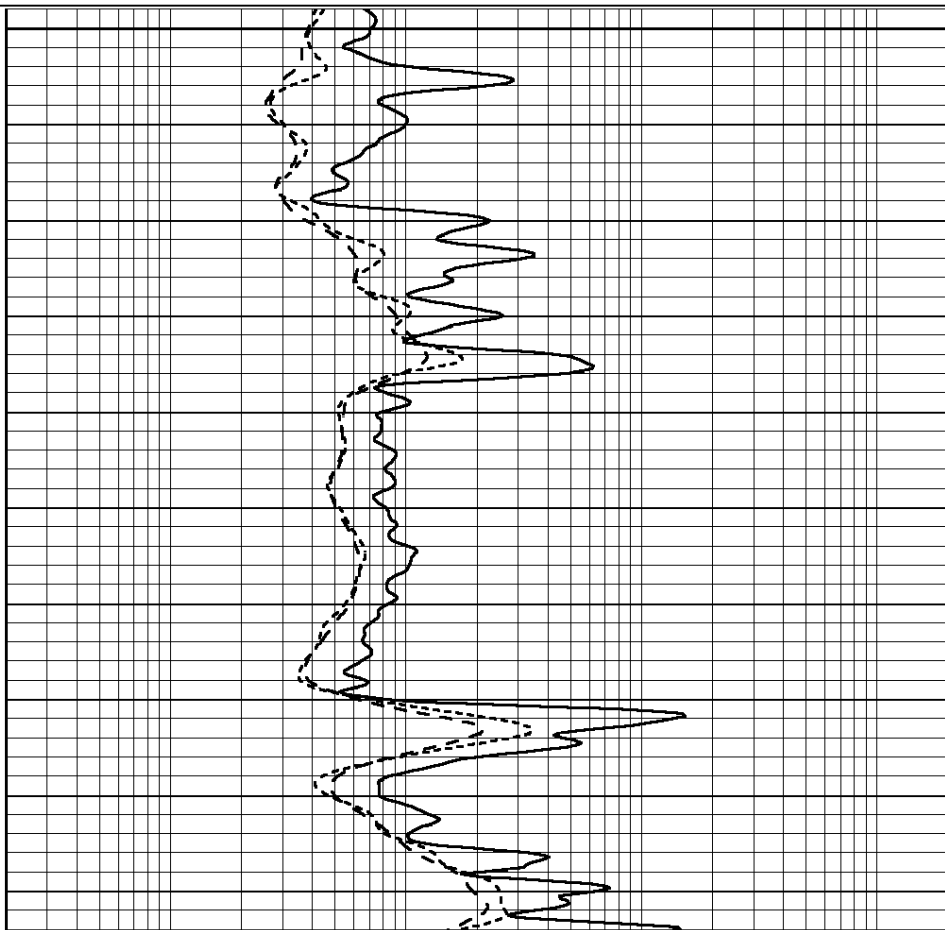
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

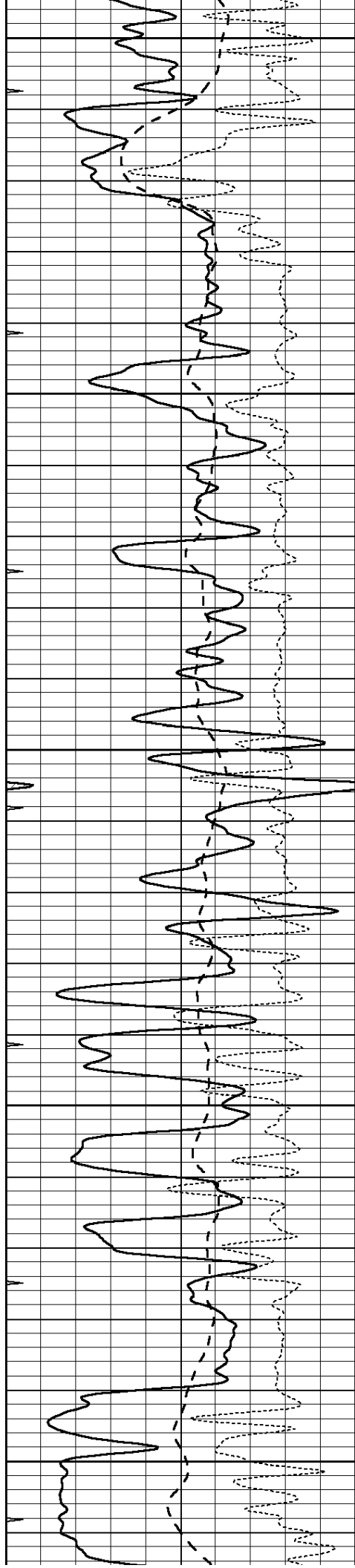
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3700

3750





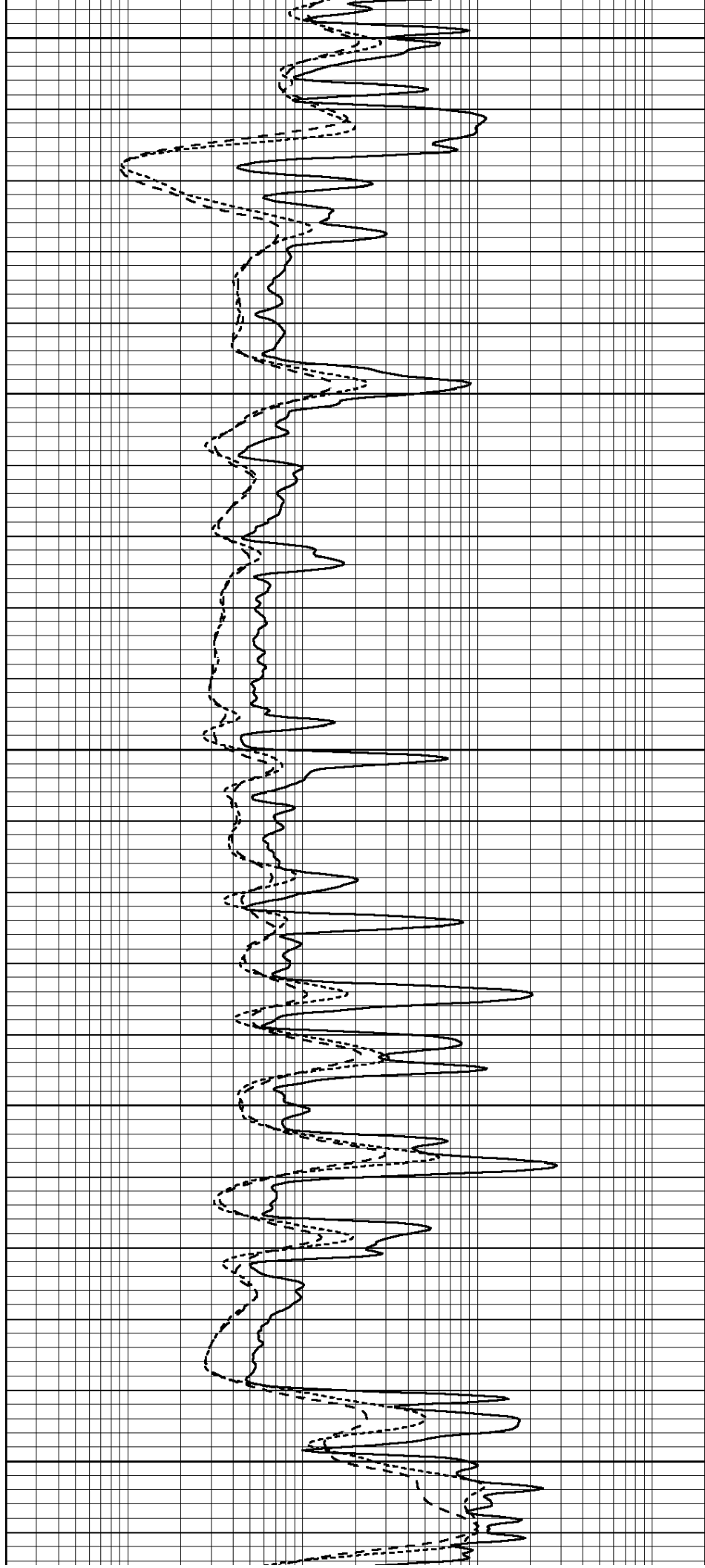
3800

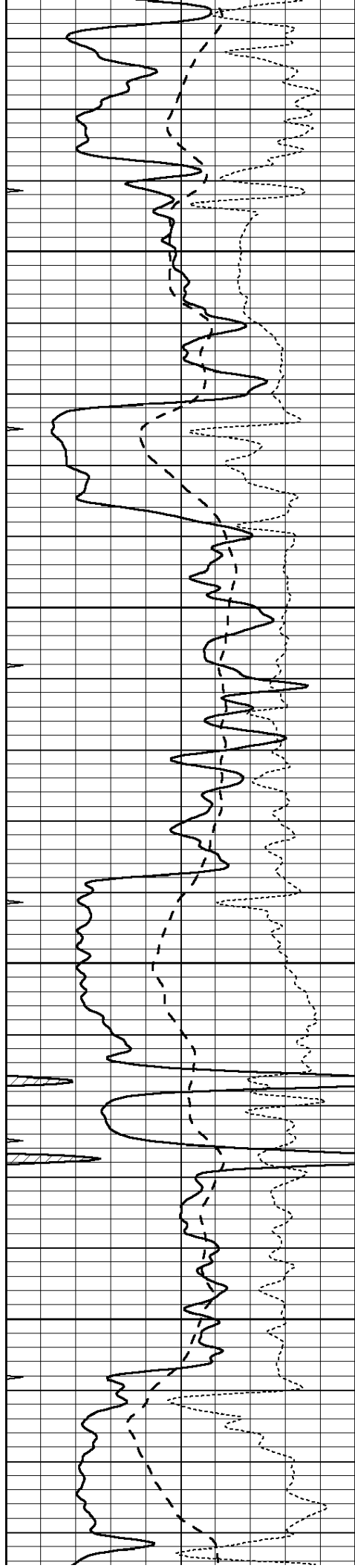
3850

3900

3950

4000



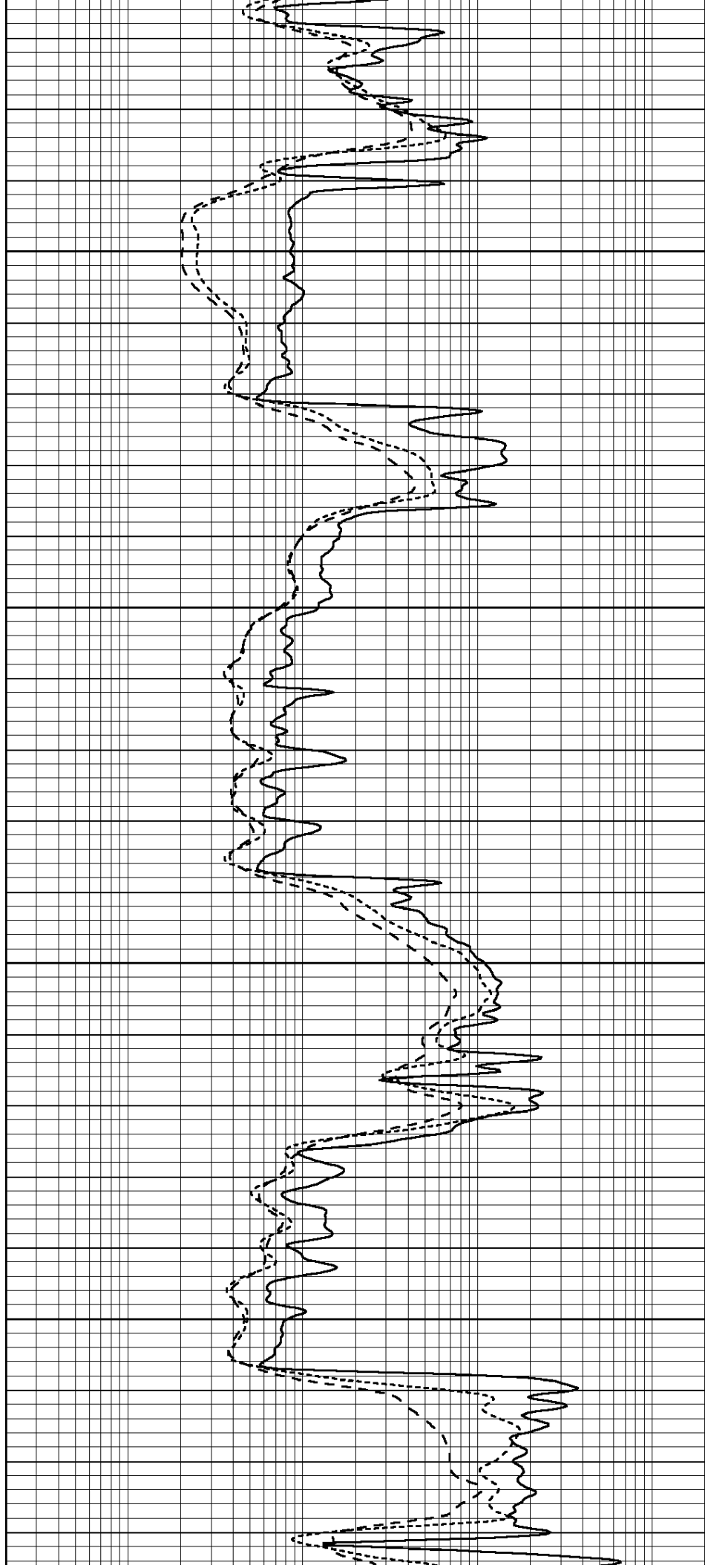


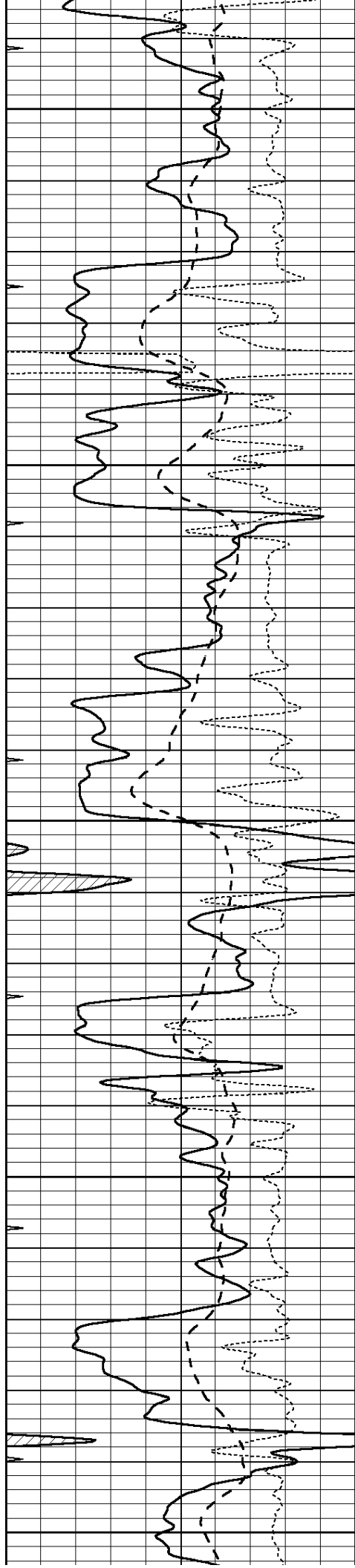
4050

4100

4150

4200





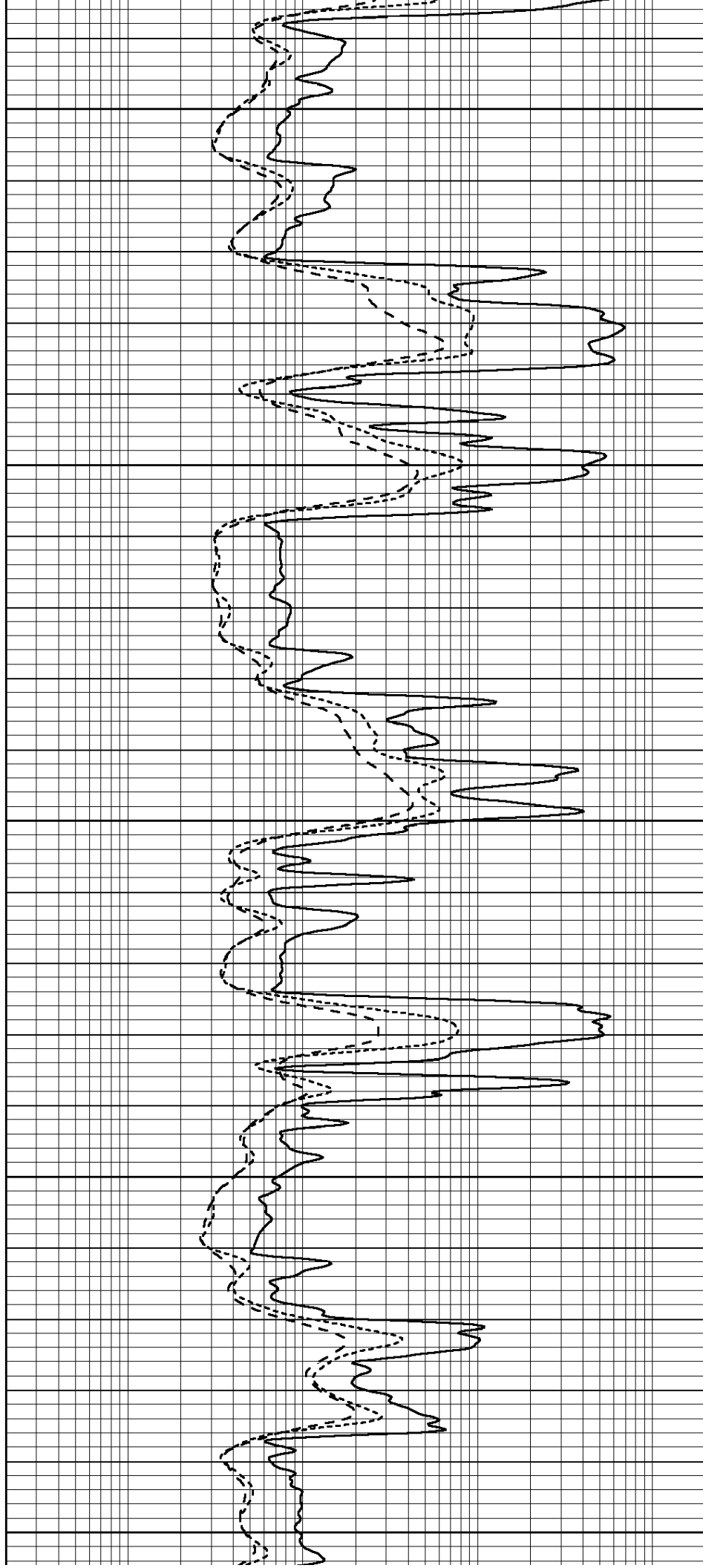
4250

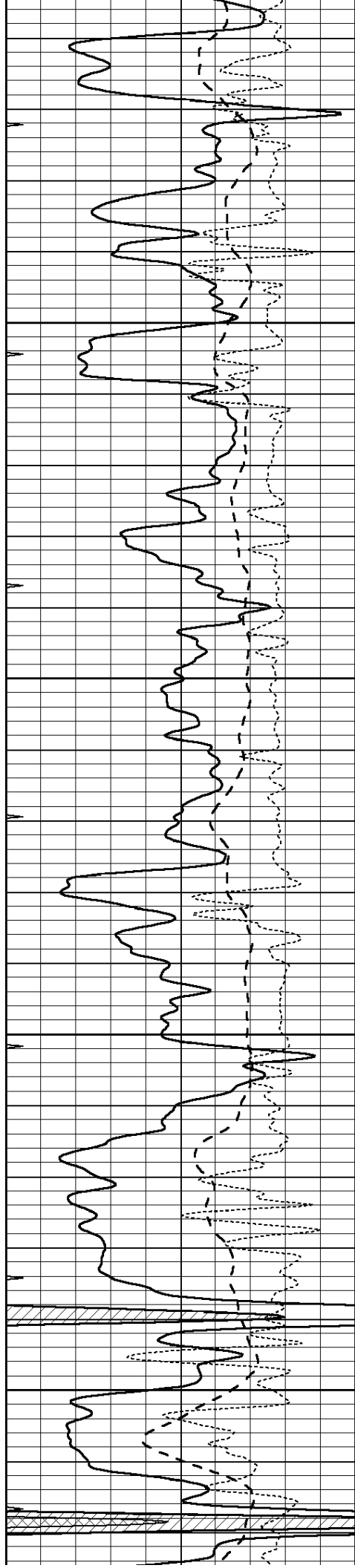
4300

4350

4400

4450



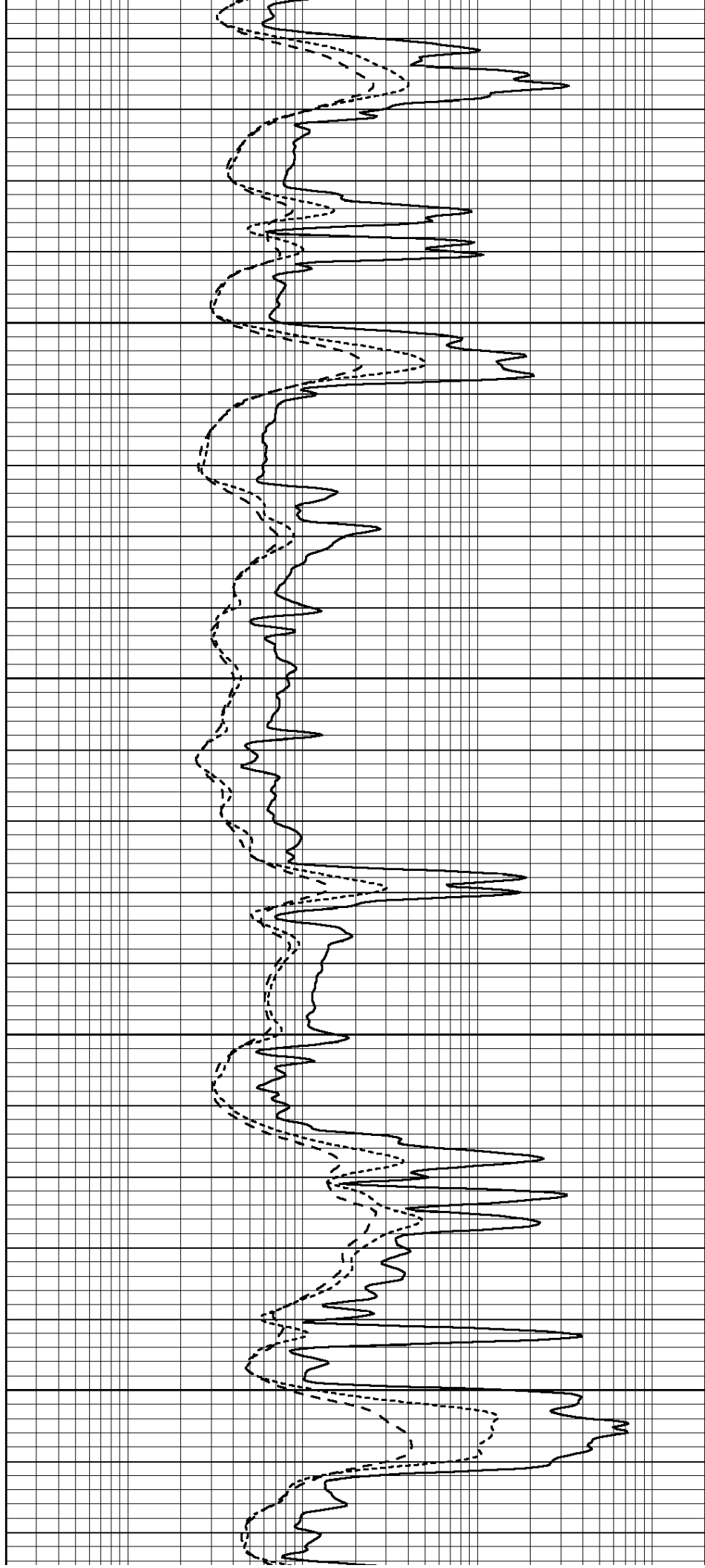


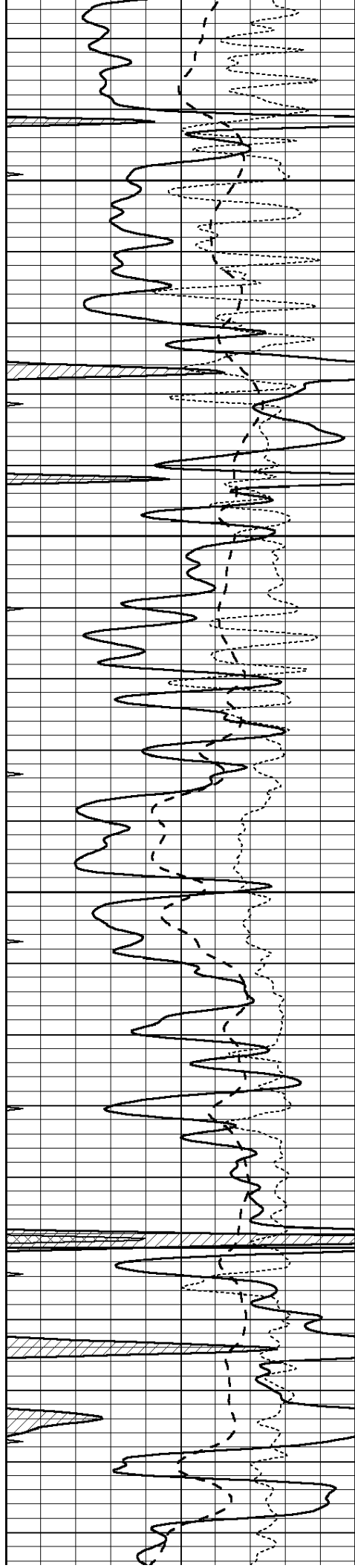
4500

4550

4600

4650



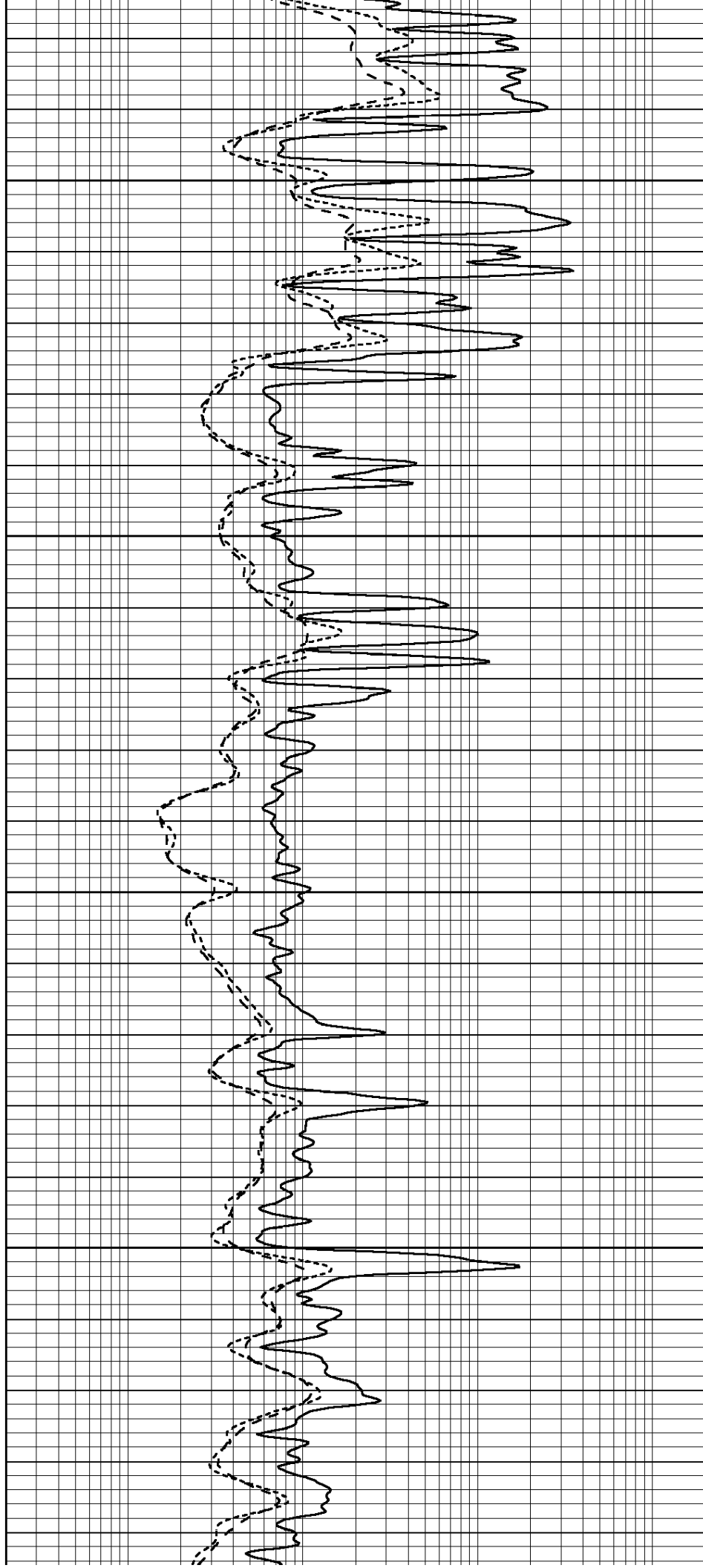


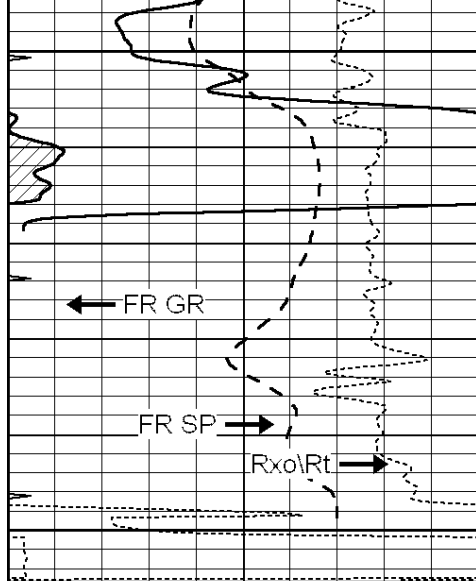
4700

4750

4800

4850

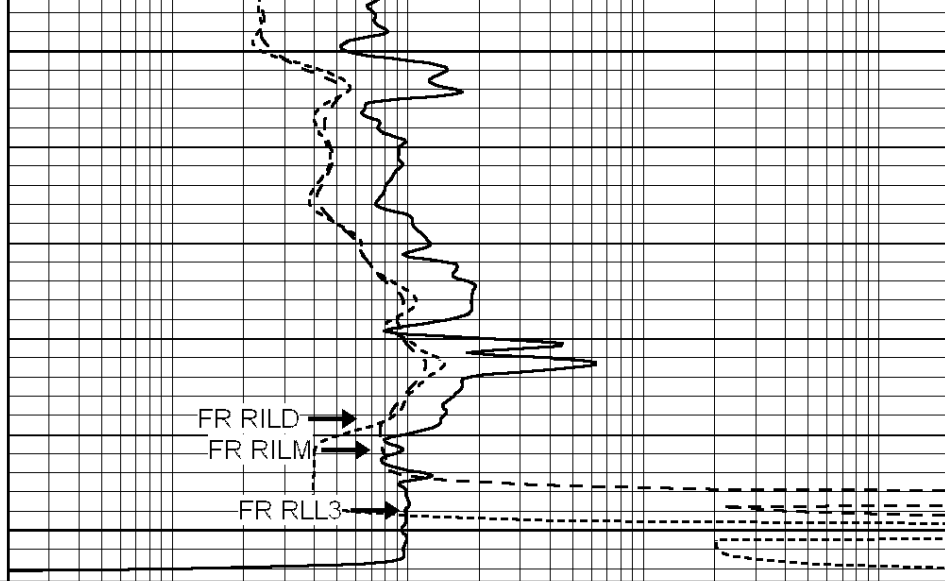




4900

LTD 4949

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

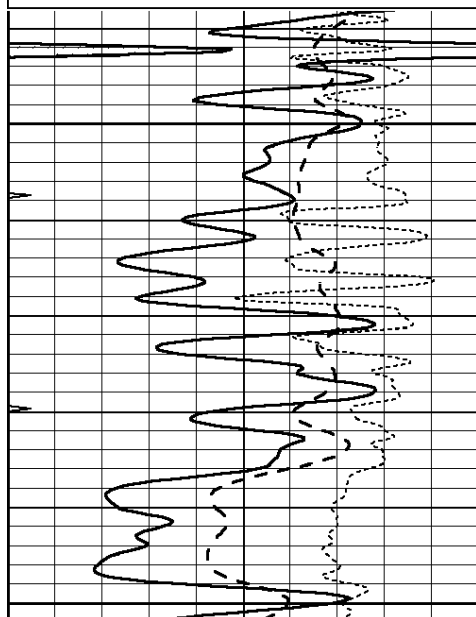


REPEAT SECTION

Database File: 26514ddn.db
 Dataset Pathname: pass2.5
 Presentation Format: _dil
 Dataset Creation: Thu May 21 10:40:12 2015 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

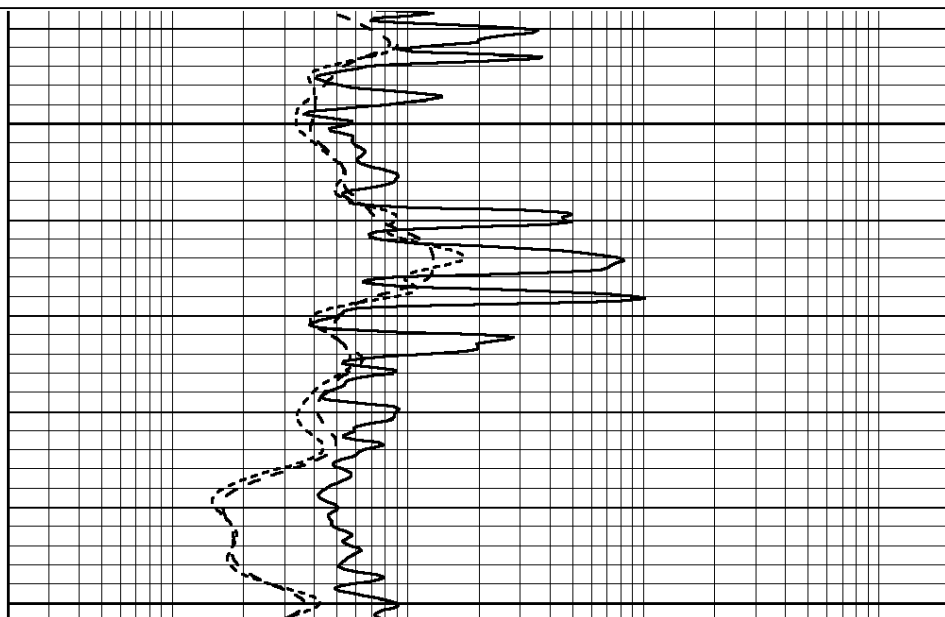
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

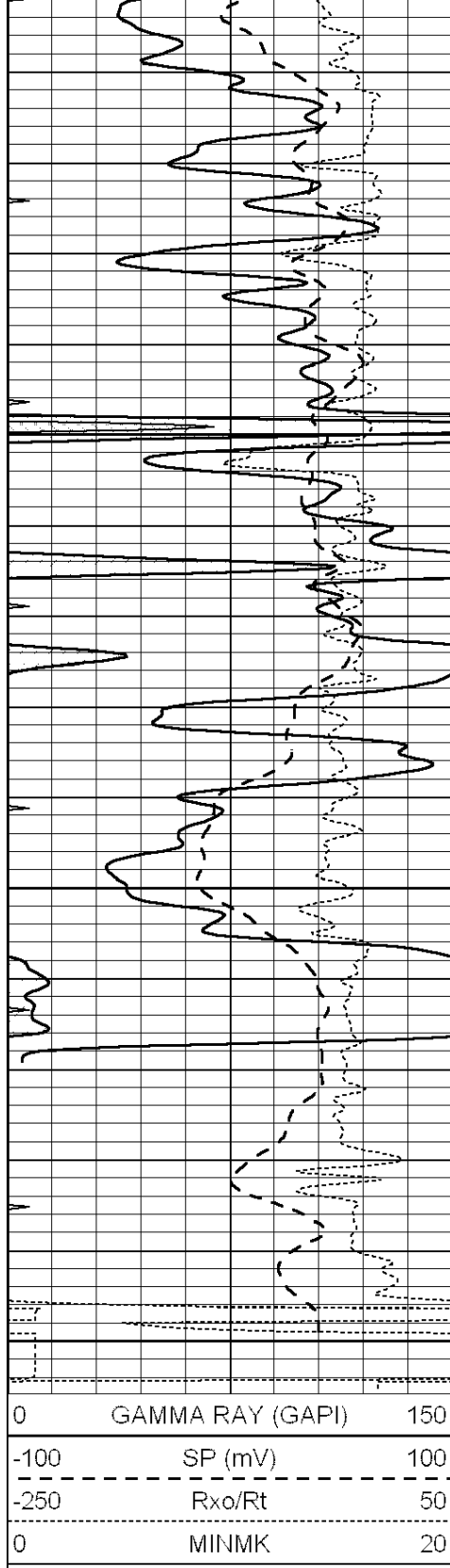
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4750

4800

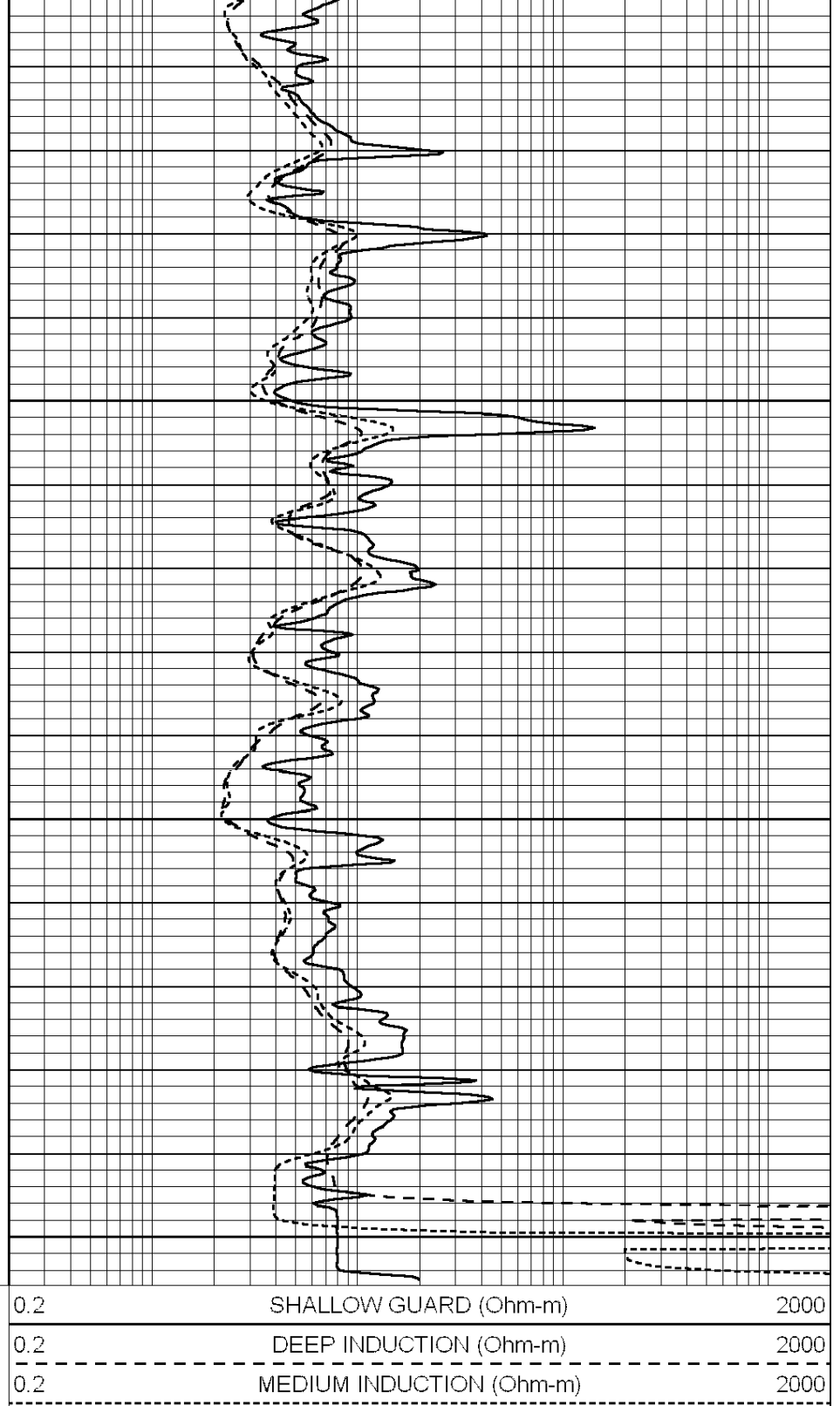




4850

4900

4950



Calibration Report

Database File: 26514ddn.db
Dataset Pathname: pass3.5
Dataset Creation: Thu May 21 13:19:57 2015 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Mon May 04 16:08:03 2015
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration								
Readings			References				Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	670.000	-16.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-28.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration								
Readings			References				Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	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: 003N				Model: PRB				

Master Calibration					Performed Tue Sep 08 14:14:44 2009			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	2042.6	12312.8	4225.8	13758.4				cps
Window 2	1855.8	10134.7	3624.2	11113.1				cps
Window 3	1639.4	6760.2	2716.3	7260.3				cps
Window 4	466.4	469.2	466.1	476.5				cps
Long Space	0.0	8278.9	1768.4	9257.4				cps
Short Space	2.2	2377.3	1544.1	2574.2				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio				: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept				: -18.8

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: 070808
Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: 070558
Tool Model: OPEN_GR
Performed: Sat Mar 21 17:40:37 2015

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.2600 GAPI/cps