



DUAL INDUCTION LOG

Company	SHELBY RESOURCES, LLC		
Well	FROETSCHNER #1-12		
Field	WILDCAT		
County	PAWNEE	State	KANSAS
Location:	SEC 12 TWP 22S RGE 17W		Other Services CDL/CNL MEL/SON
Permanent Datum	GROUND LEVEL	Elevation	2020
Log Measured From	KELLY BUSHING 11' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	7/5/18		
Run Number	ONE		
Depth Driller	4020		
Depth Logger	4020		
Bottom Logged Interval	4018		
Top Log Interval	00		
Casing Driller	8 5/8"@1057'		
Casing Logger	1057		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,600 PPM	
Density / Viscosity	9.3/59		
pH / Fluid Loss	10.5/8.8		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.600@90F		
Rmf @ Meas. Temp	.450@90F		
Rmc @ Meas. Temp	.720@90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.466@116F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	8:15 A.M.		
Maximum Recorded Temperature	116F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JEREMY SCHWARTZ		

<<< 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, KANSAS (785) 628-6395
DIRECTIONS
LARNED, KS., (MAIN ST. & HWY 56) 2 S.W. ON HWY 56, N. INTO



MAIN SECTION

Database File: 2658ddn.db
Dataset Pathname: pass3.4
Presentation Format: dil2
Dataset Creation: Thu Jul 05 09:36:45 2018 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

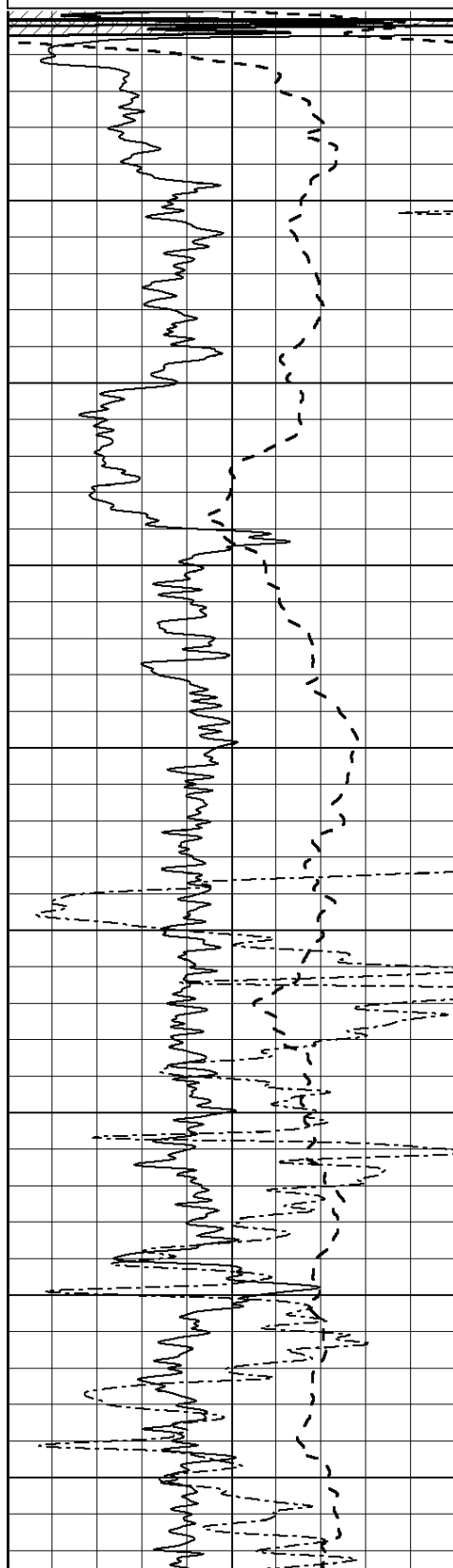
0	RLL3 (Ohm-m)	50
---	--------------	----

0	RILD (Ohm-m)	50
---	--------------	----

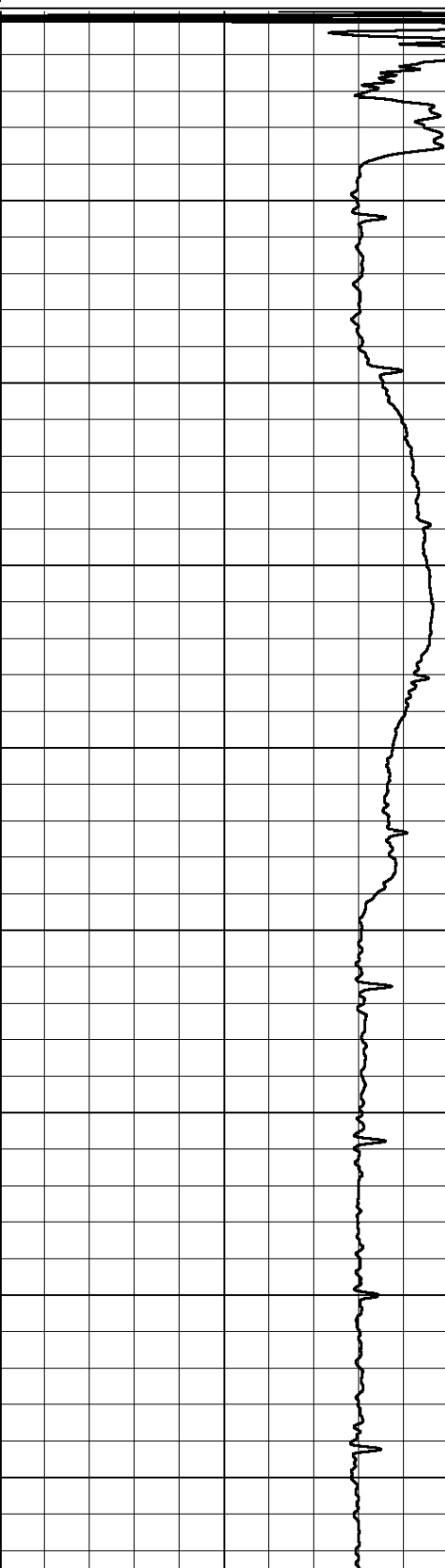
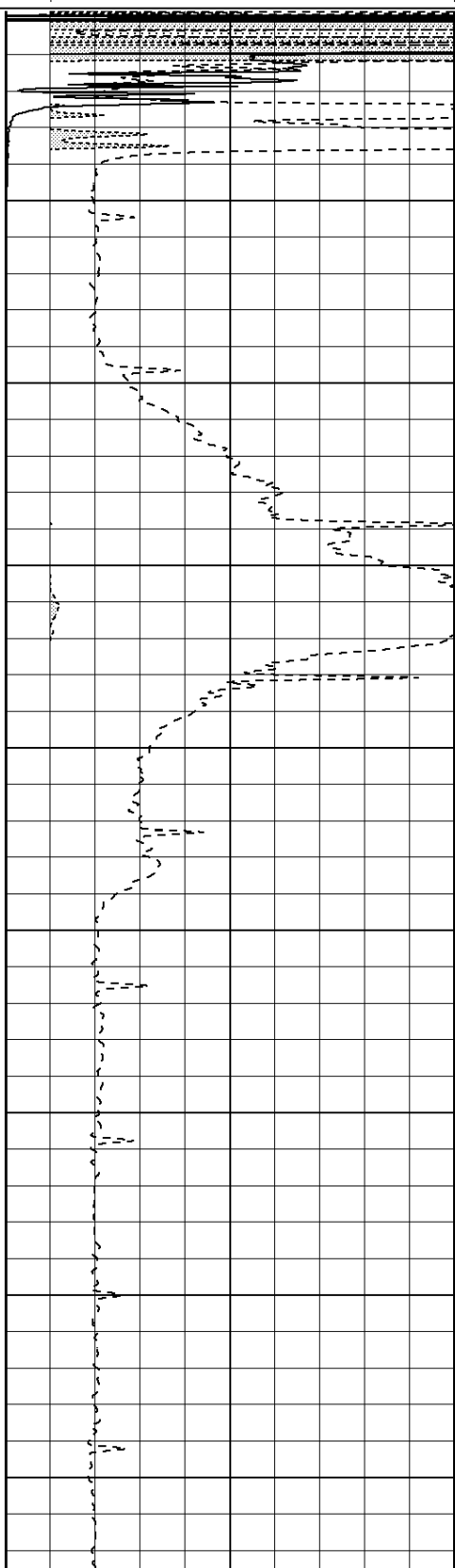
1000	CILD (mmho/m)	0
------	---------------	---

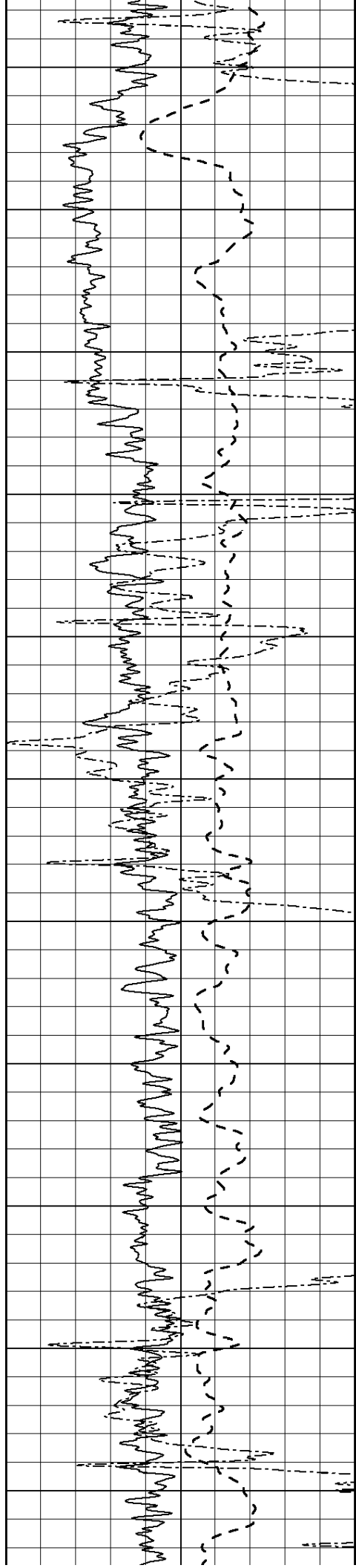
50	RILD X10 (Ohm-m)	500
----	------------------	-----

50	RLL3 X10 (Ohm-m)	500
----	------------------	-----



0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

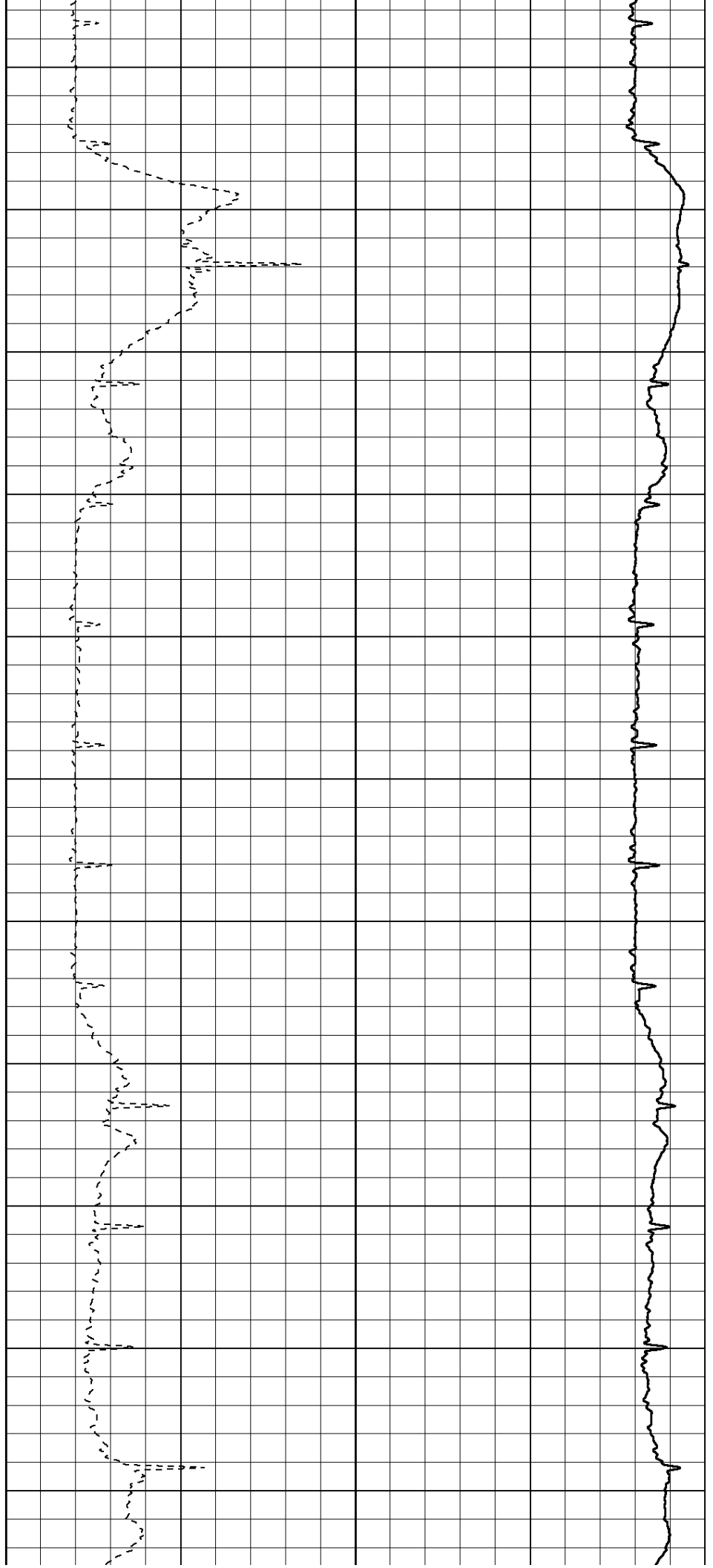
750

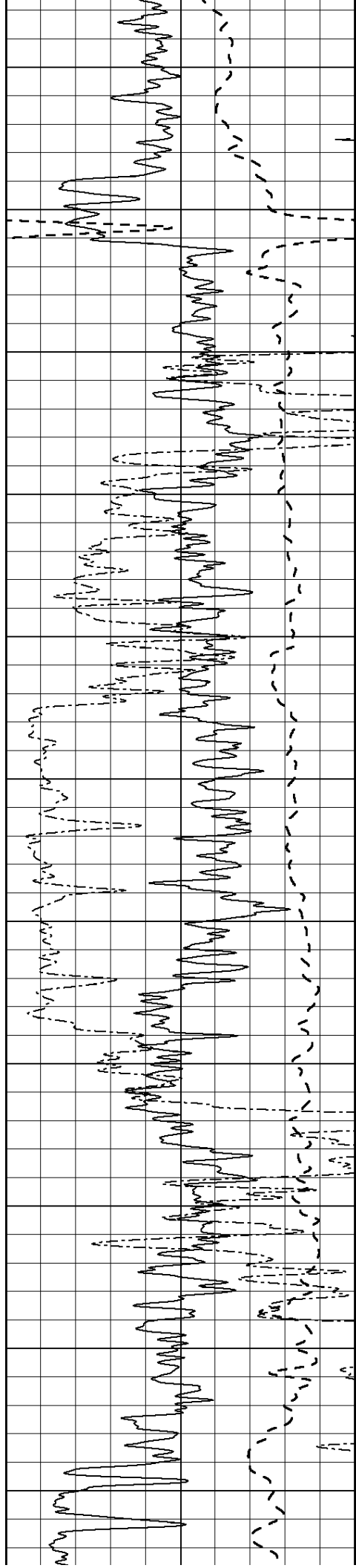
800

850

900

950





1000

1050

1100

1150

1200

1250

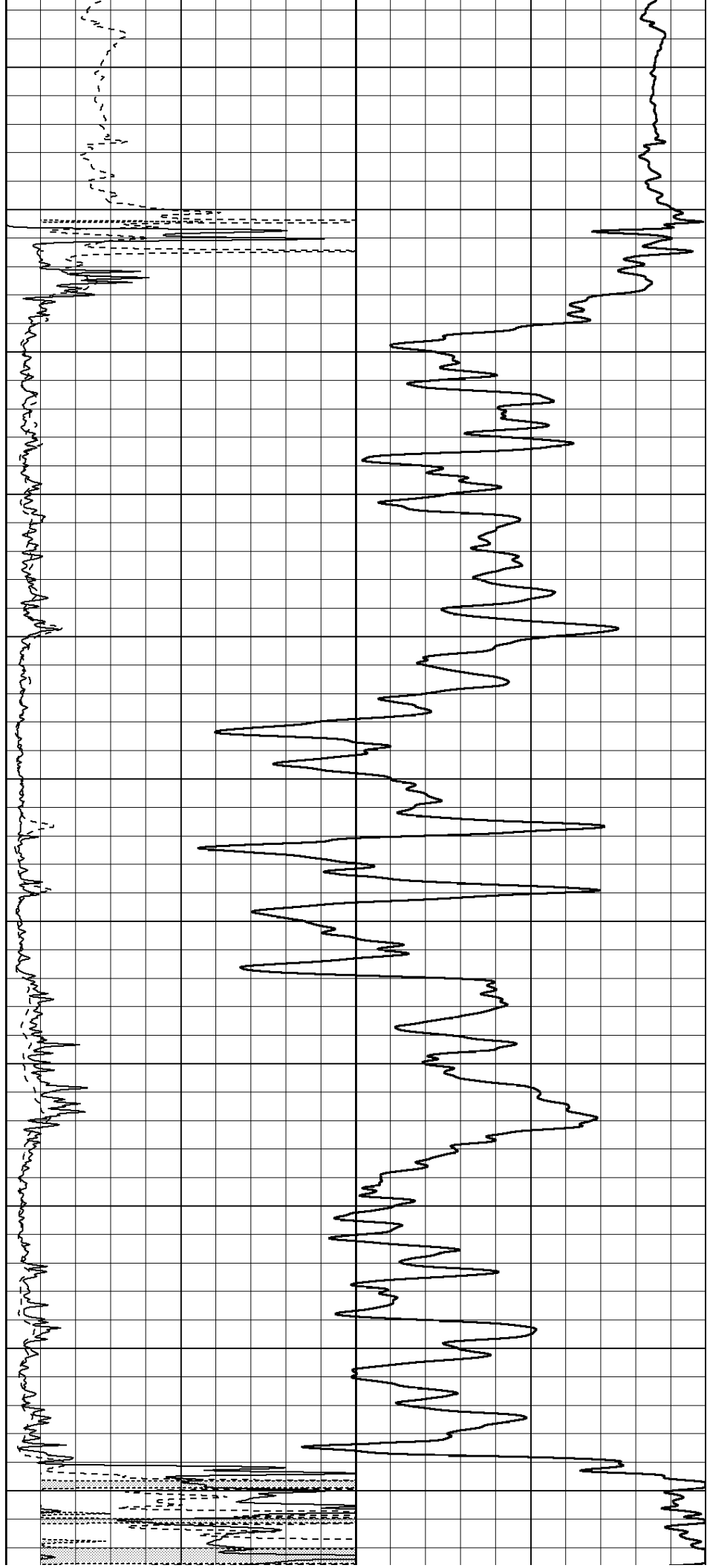
1300

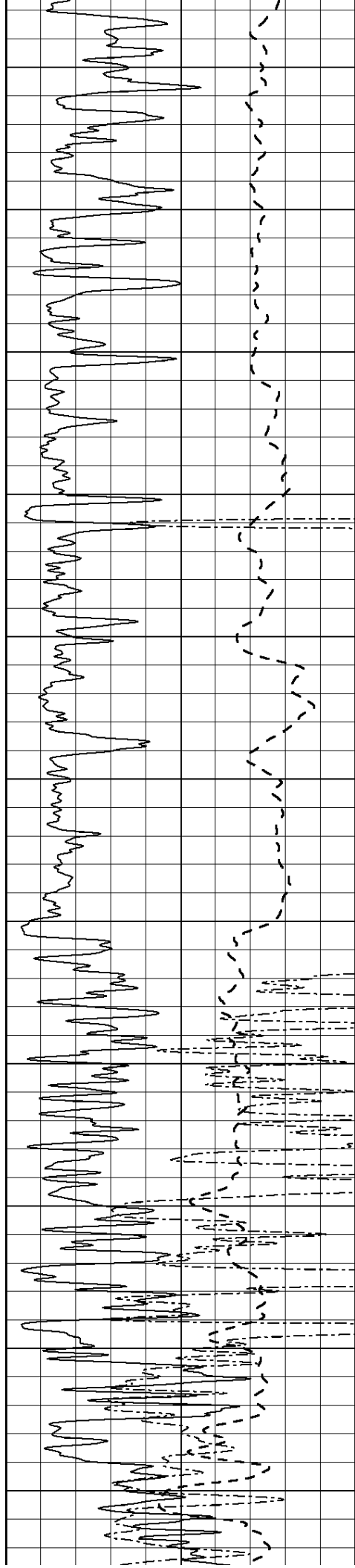
1350

1400

1450

1500





1550

1600

1650

1700

1750

1800

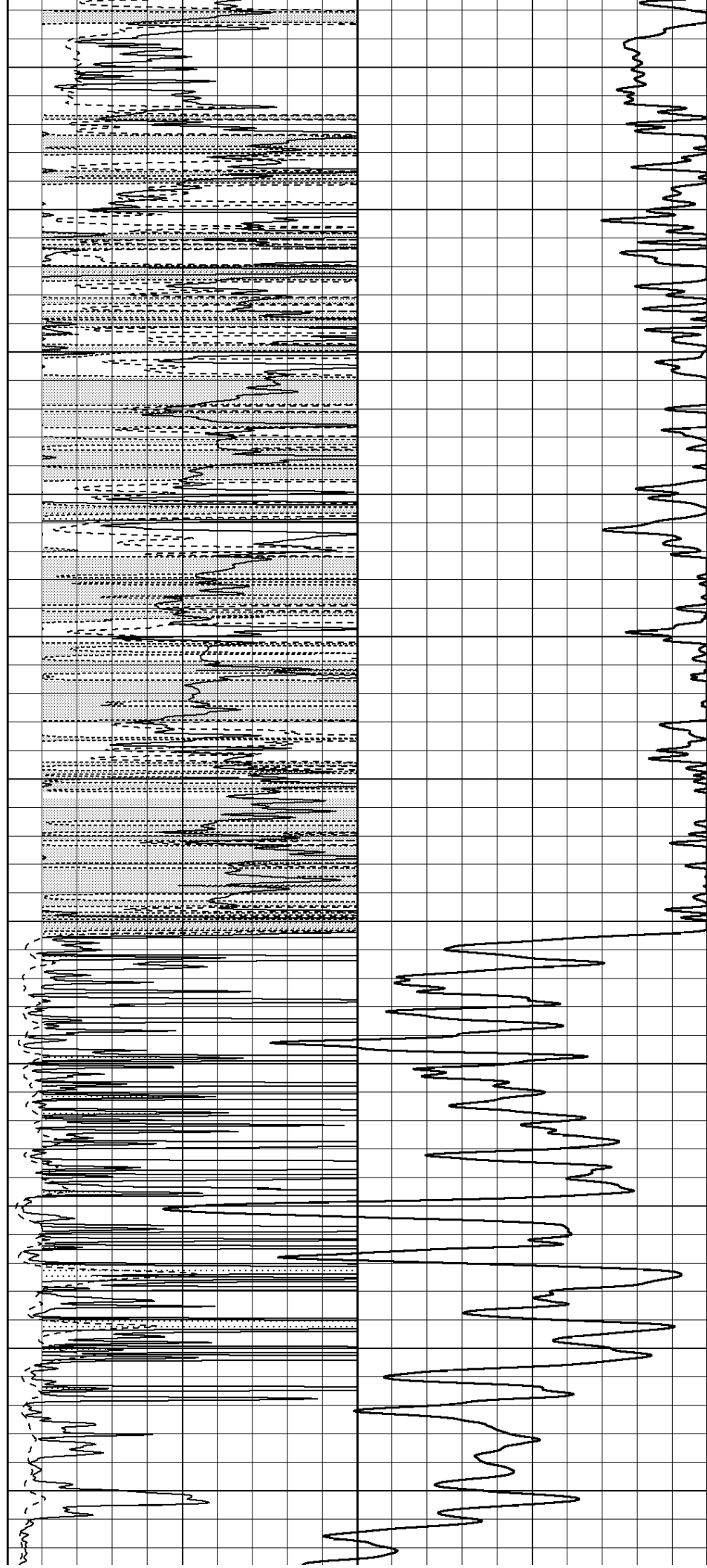
1850

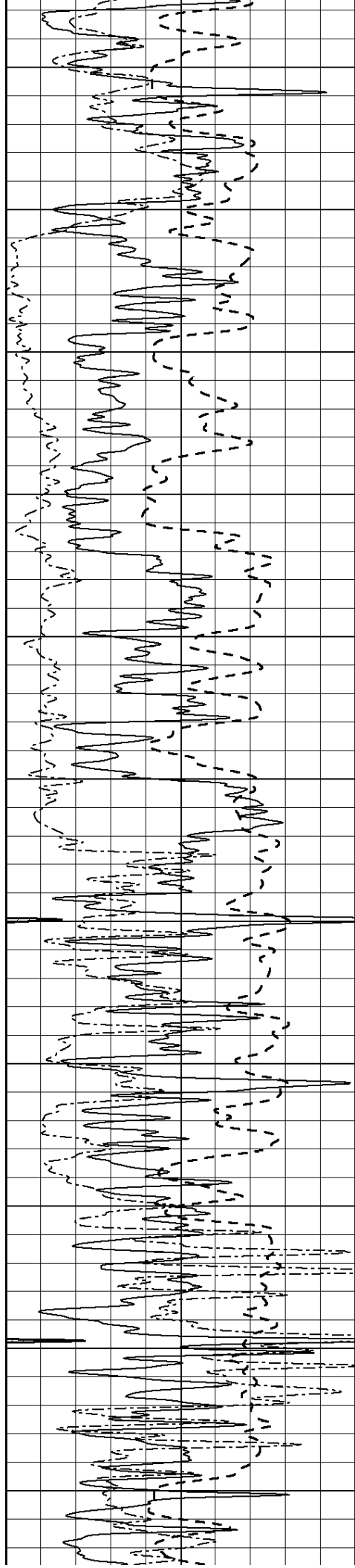
1900

1950

2000

2050





2100

2150

2200

2250

2300

2350

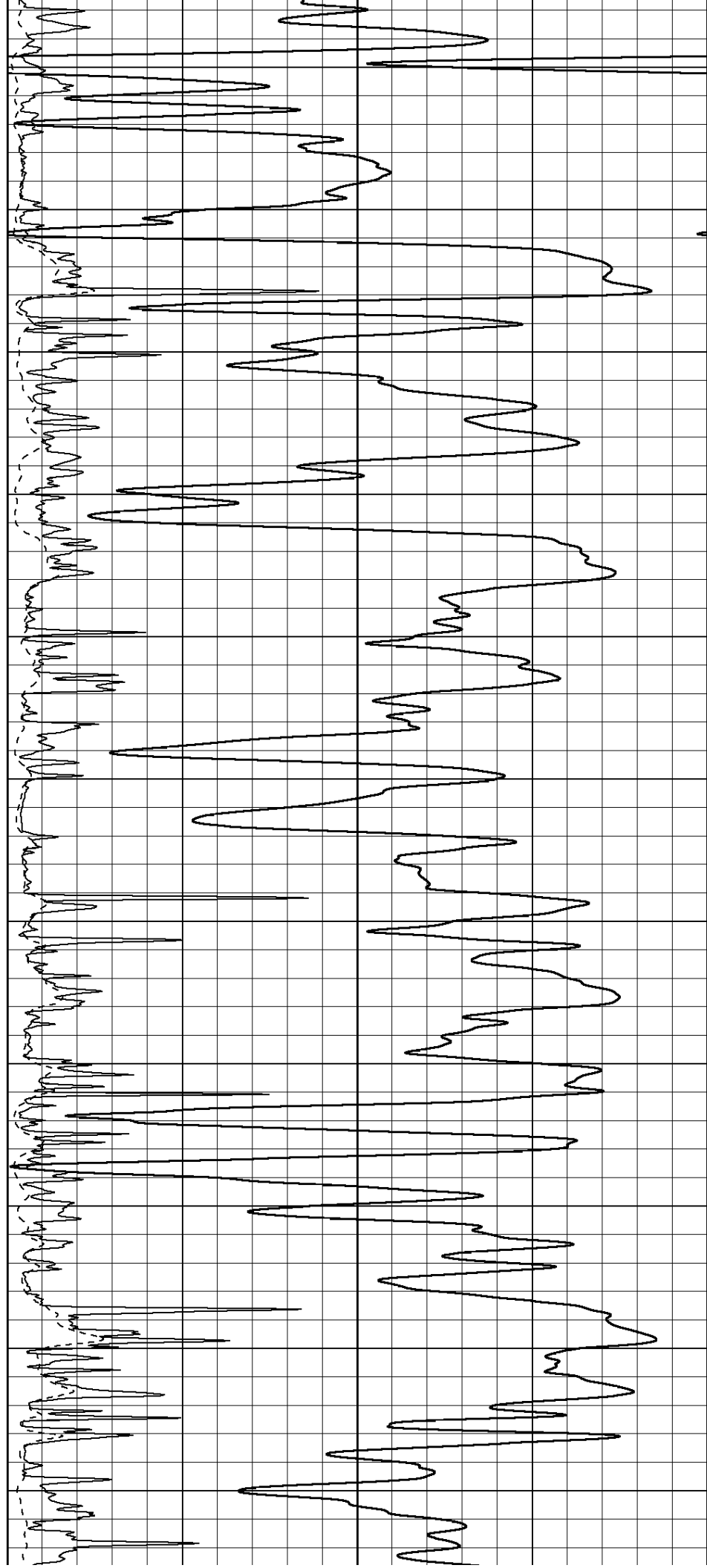
2400

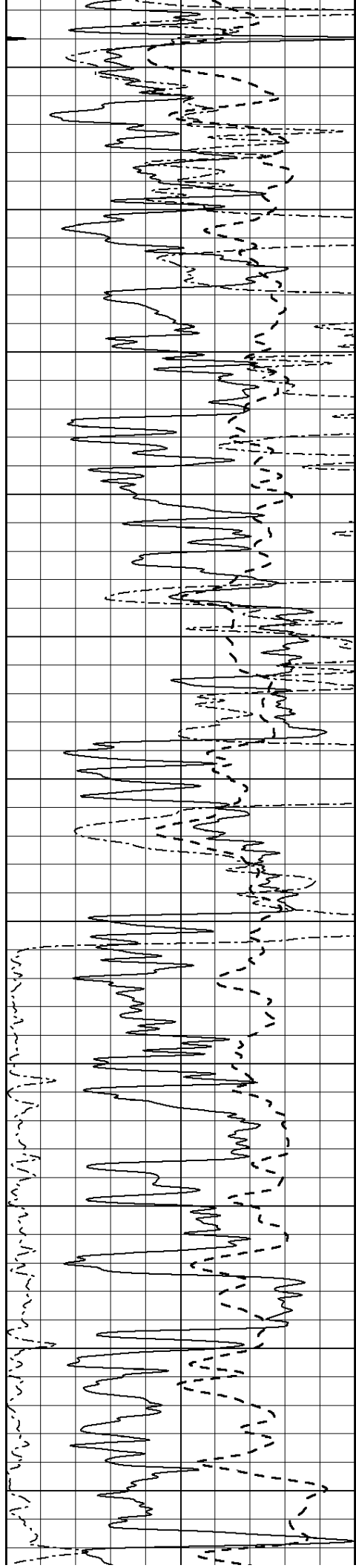
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

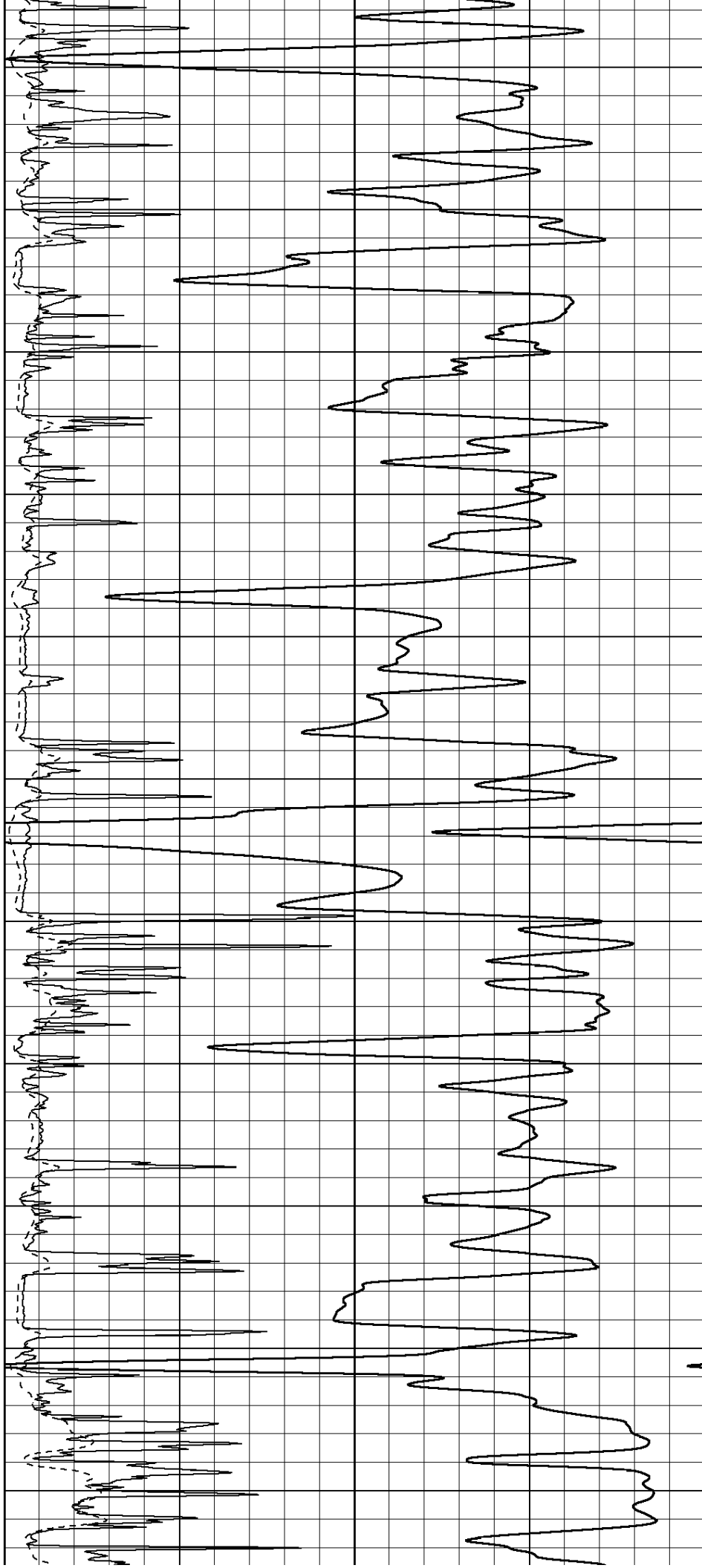
2950

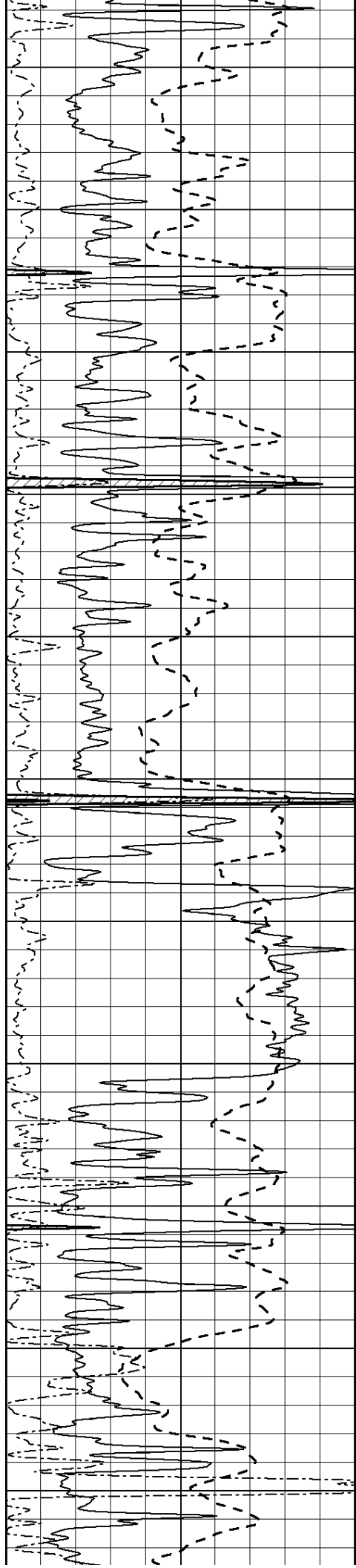
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

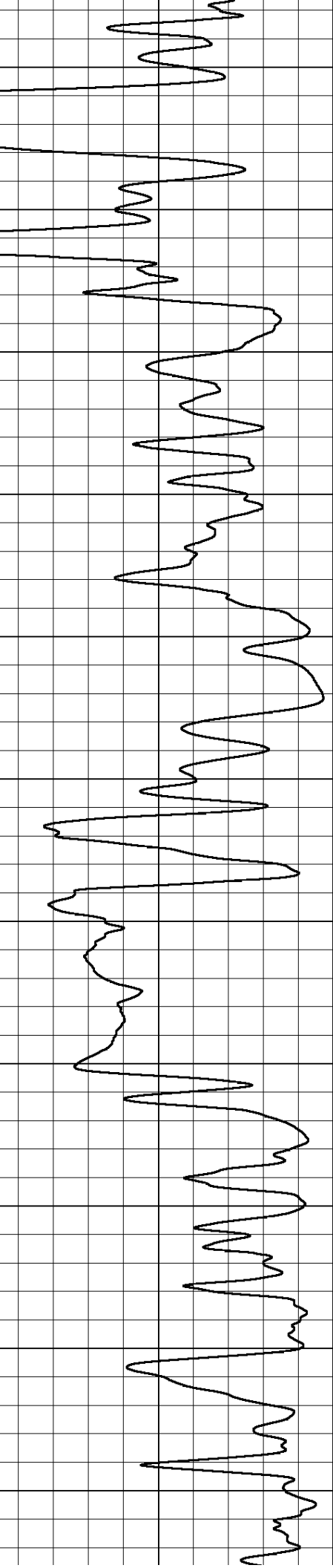
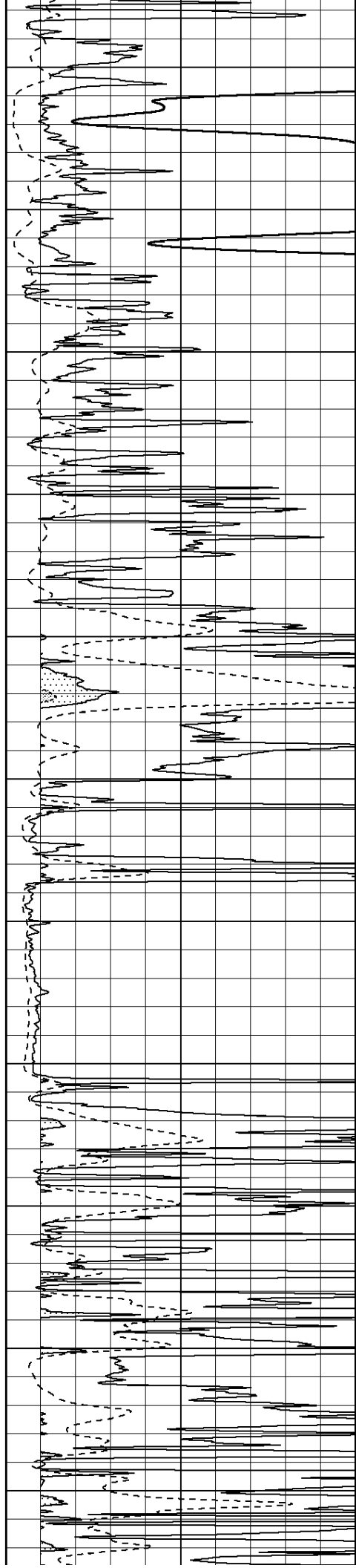
3500

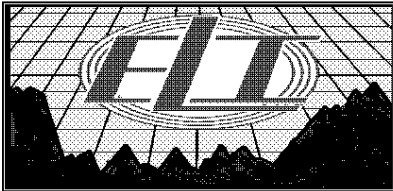
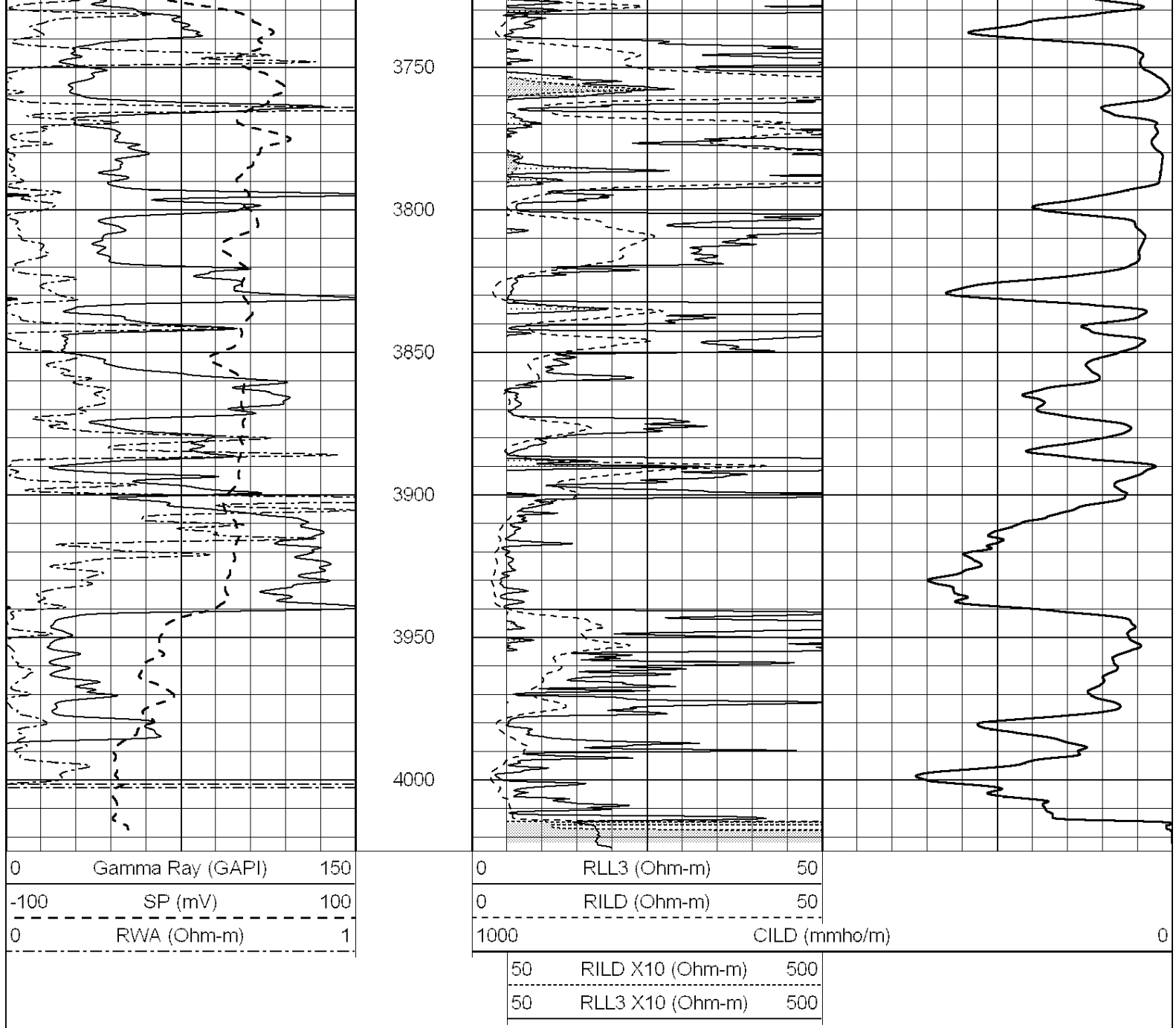
3550

3600

3650

3700



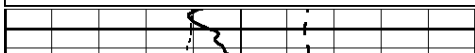


ANHYDRITE

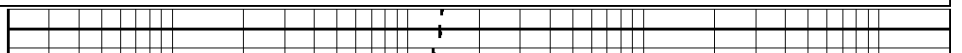
Database File: 2658ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: _dil
 Dataset Creation: Thu Jul 05 09:45:06 2018 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

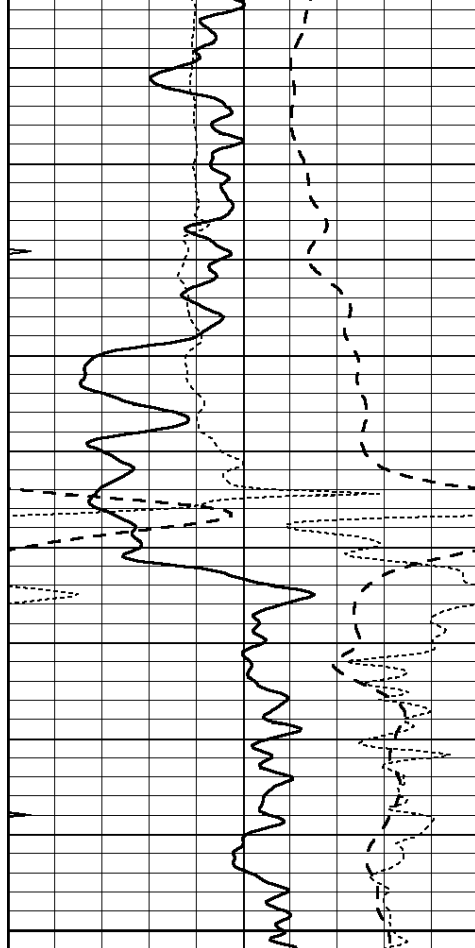
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



1000

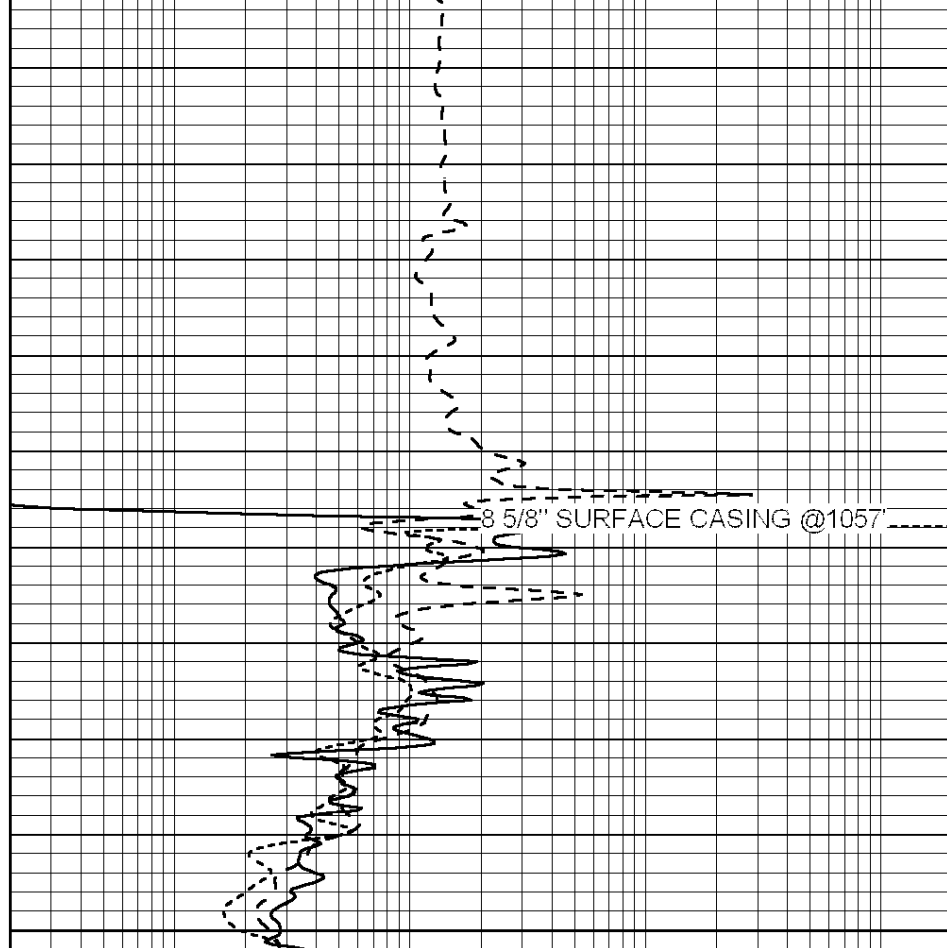




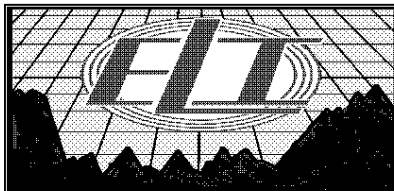
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

1050

1100



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



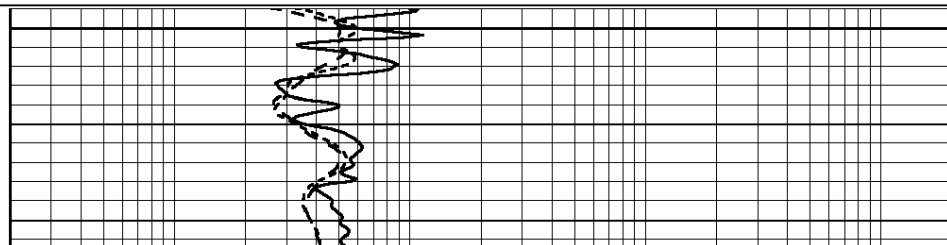
MAIN SECTION

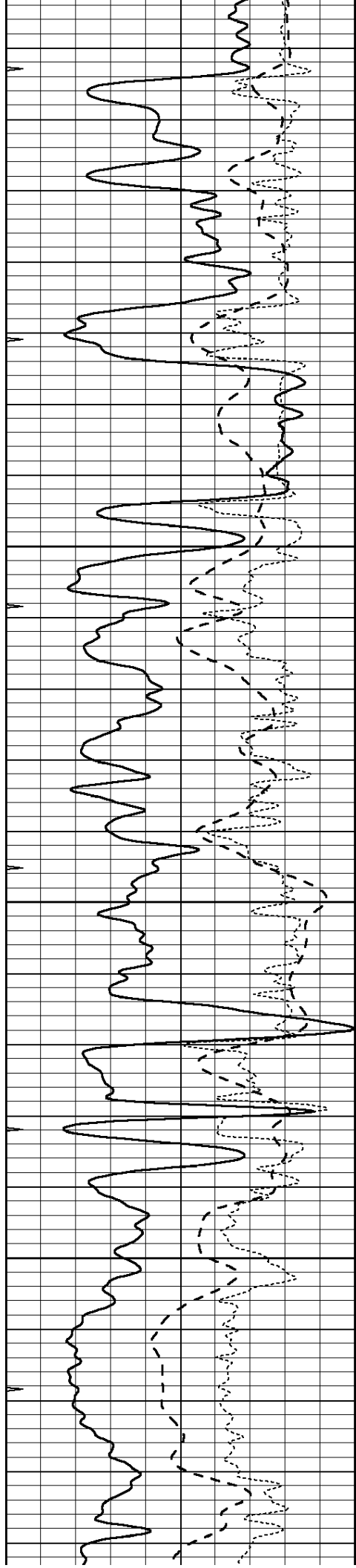
Database File: 2658ddn.db
 Dataset Pathname: pass3.4
 Presentation Format: _dil
 Dataset Creation: Thu Jul 05 09:36:45 2018 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

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

3000



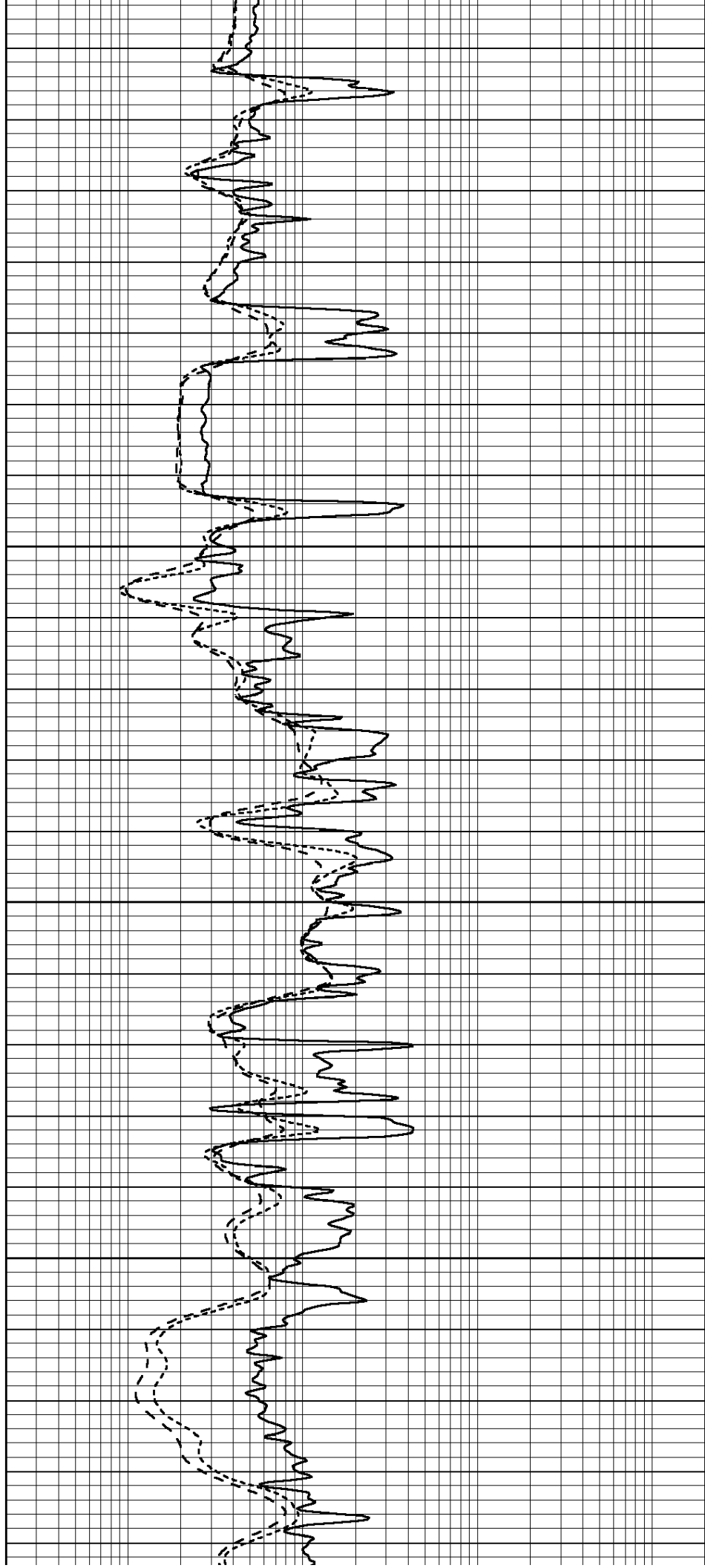


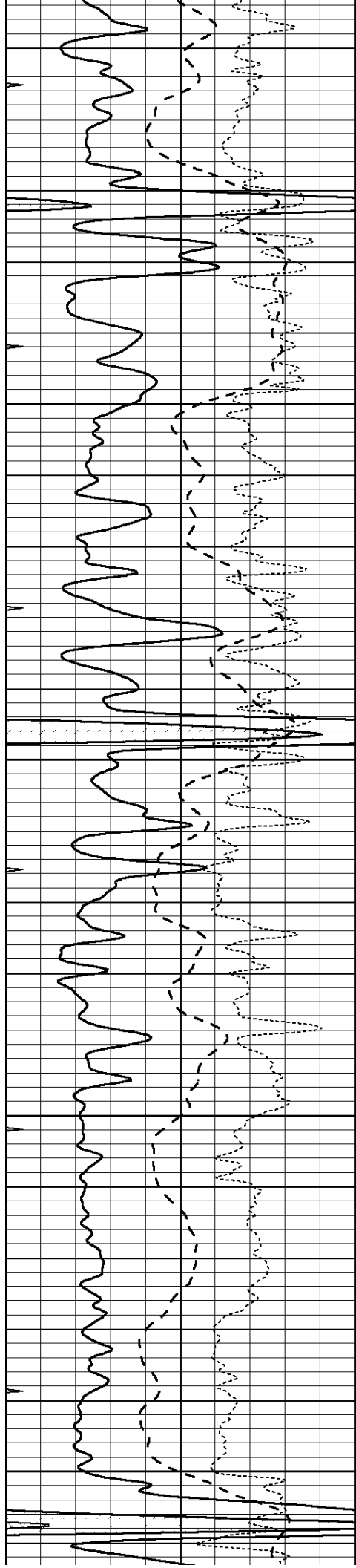
3050

3100

3150

3200





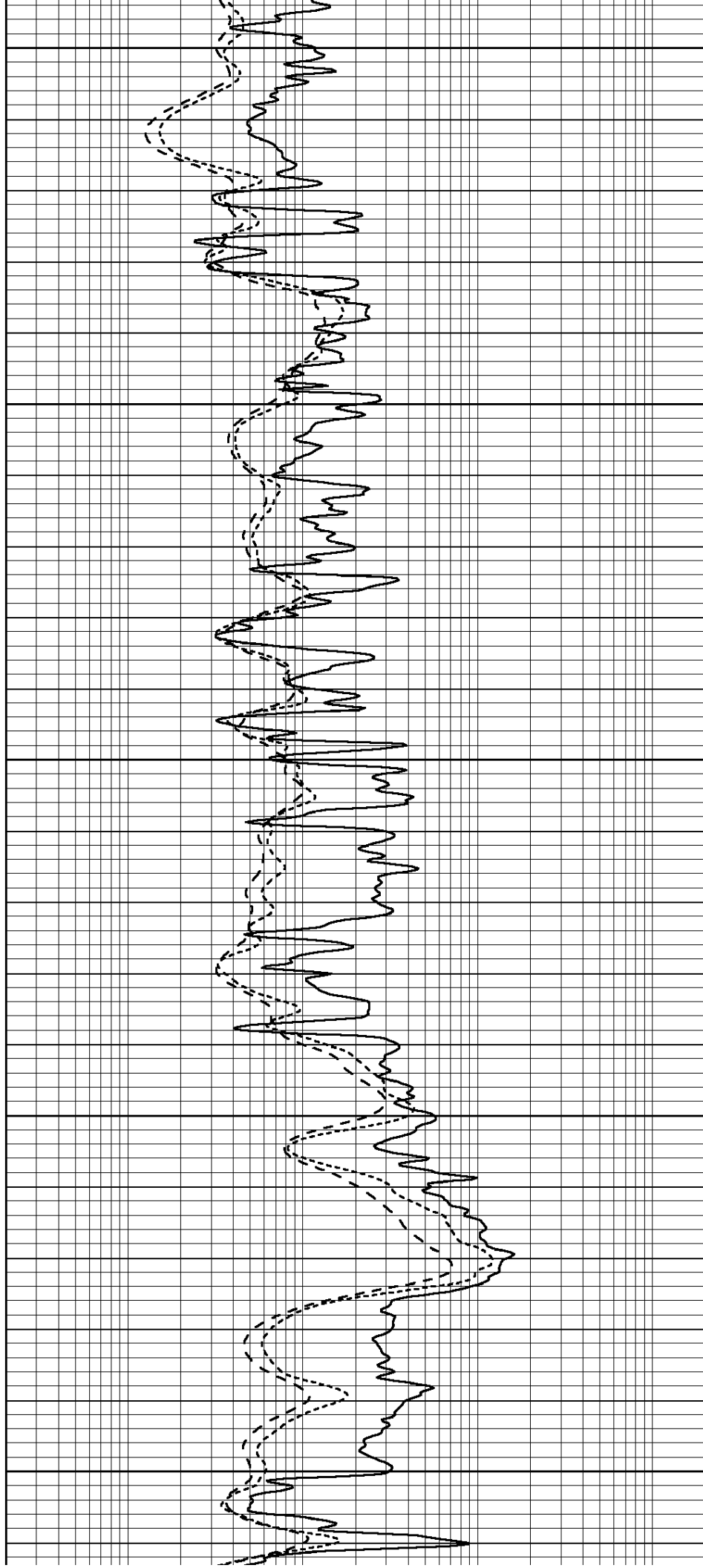
3250

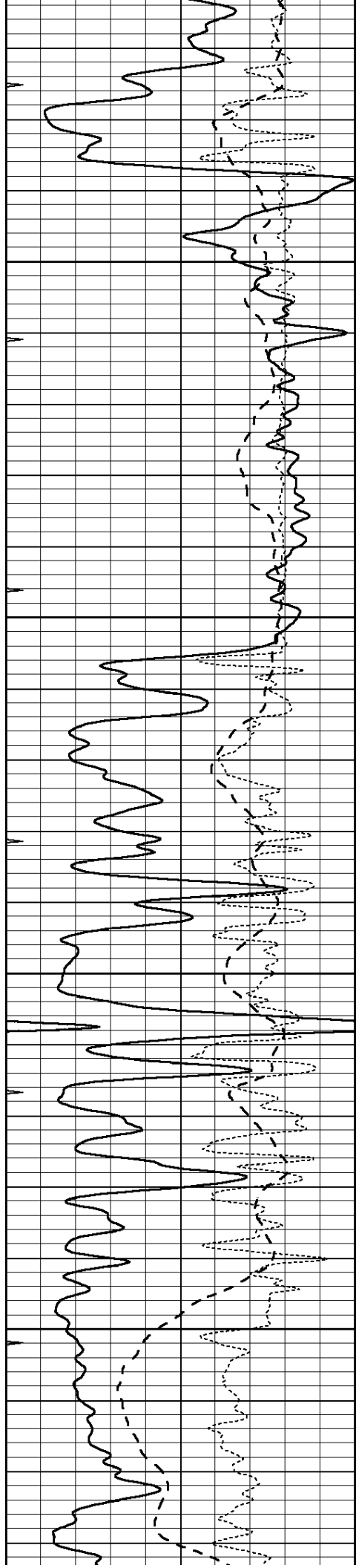
3300

3350

3400

3450



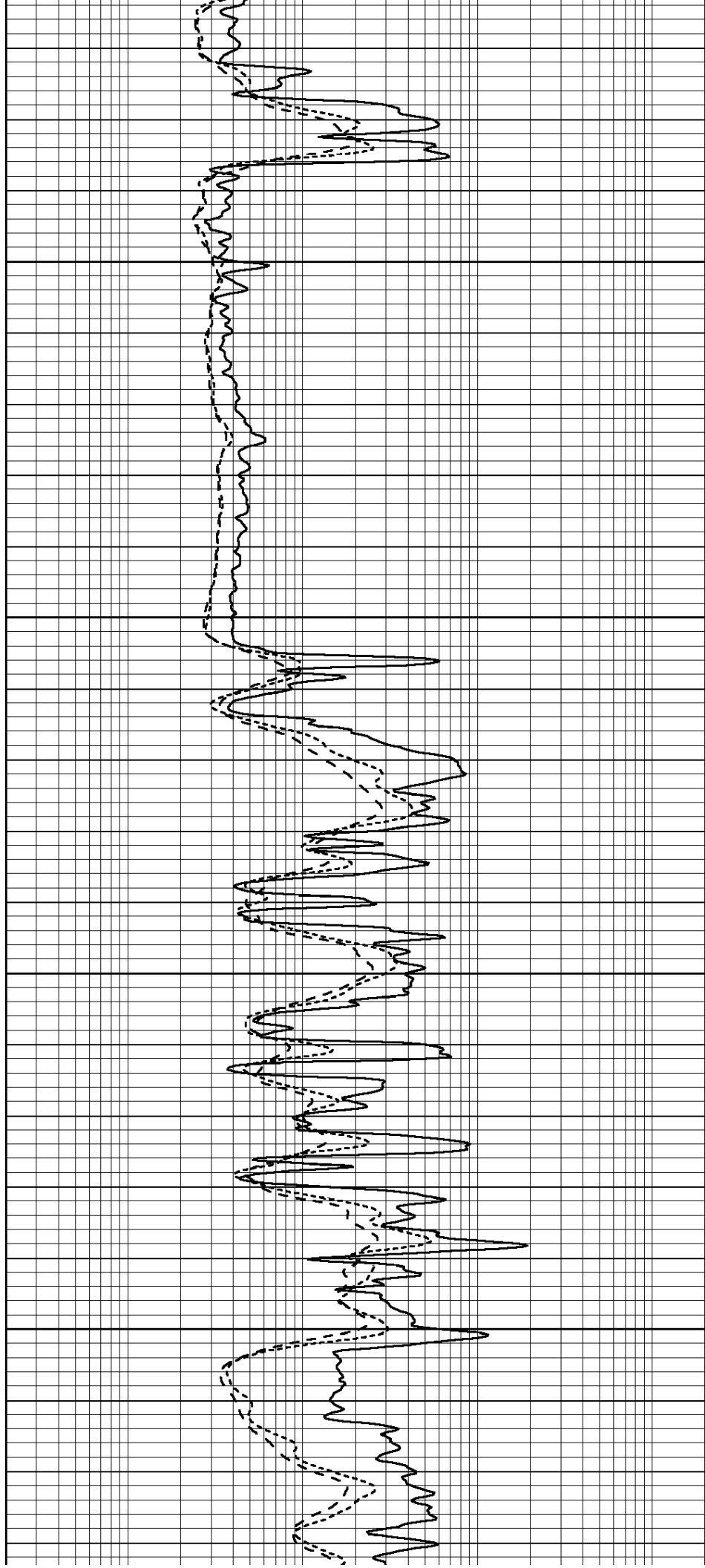


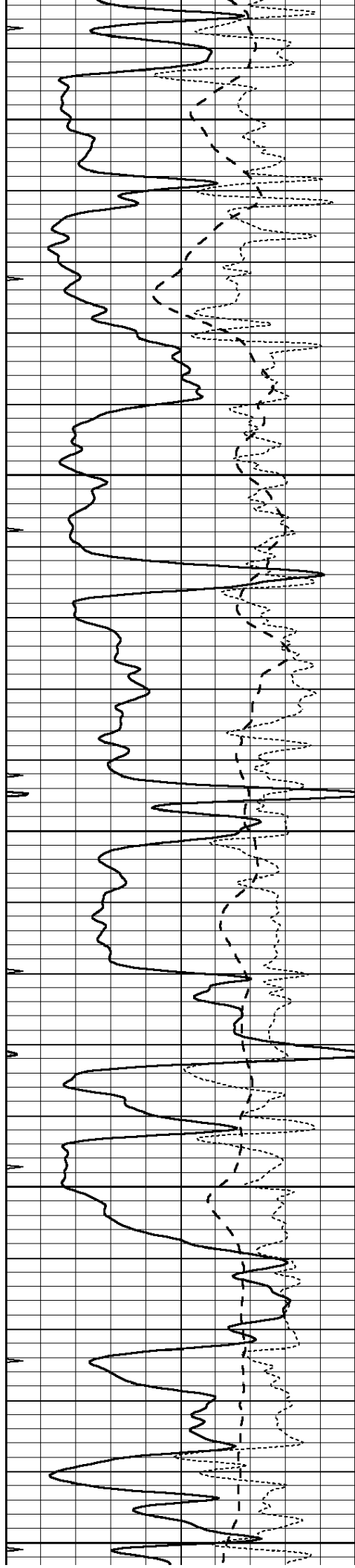
3500

3550

3600

3650





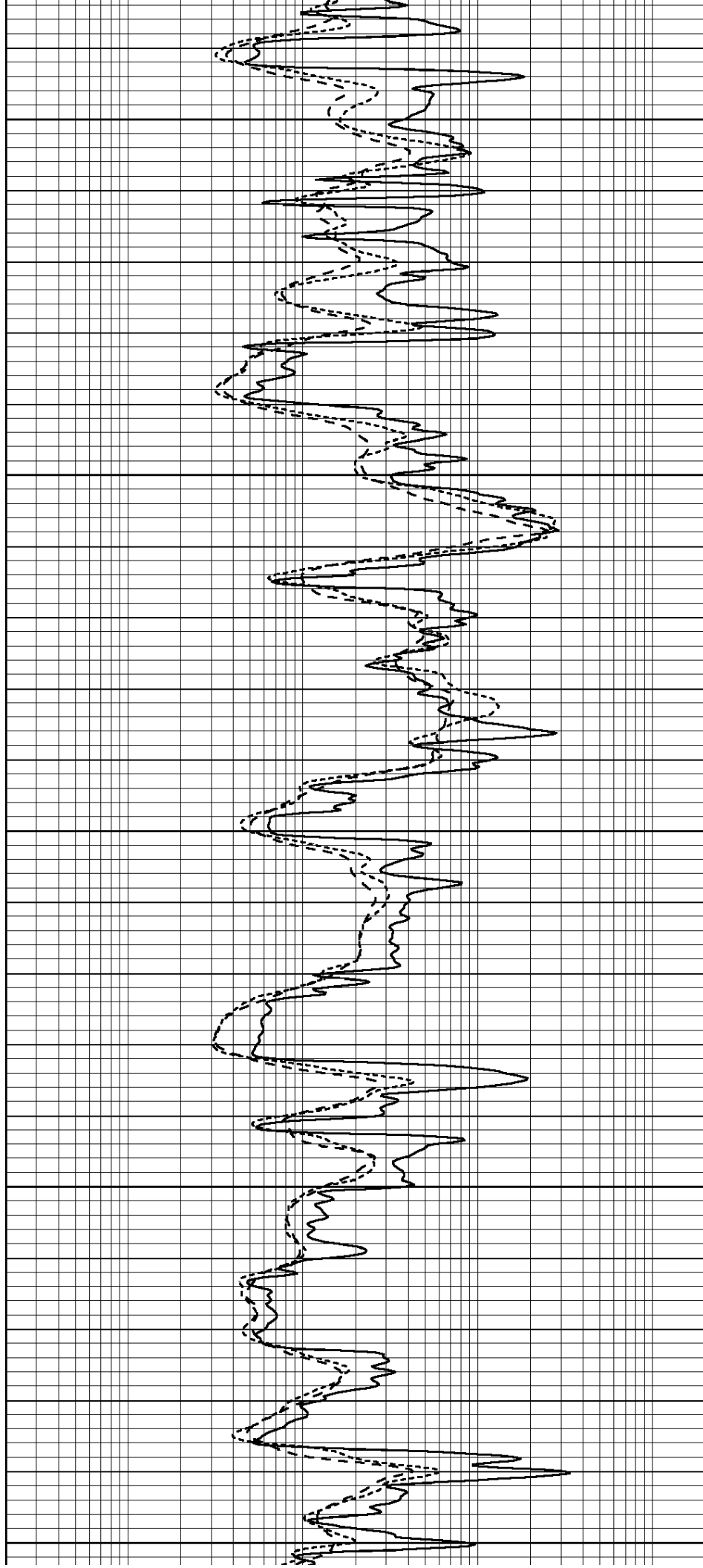
3700

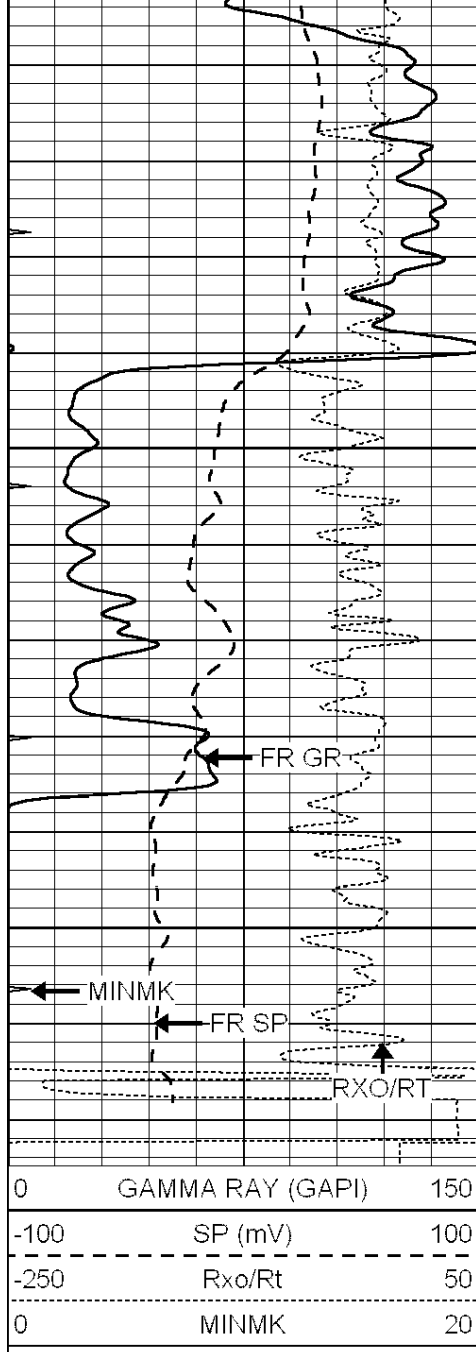
3750

3800

3850

3900

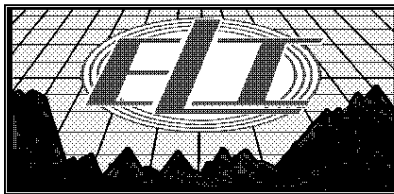
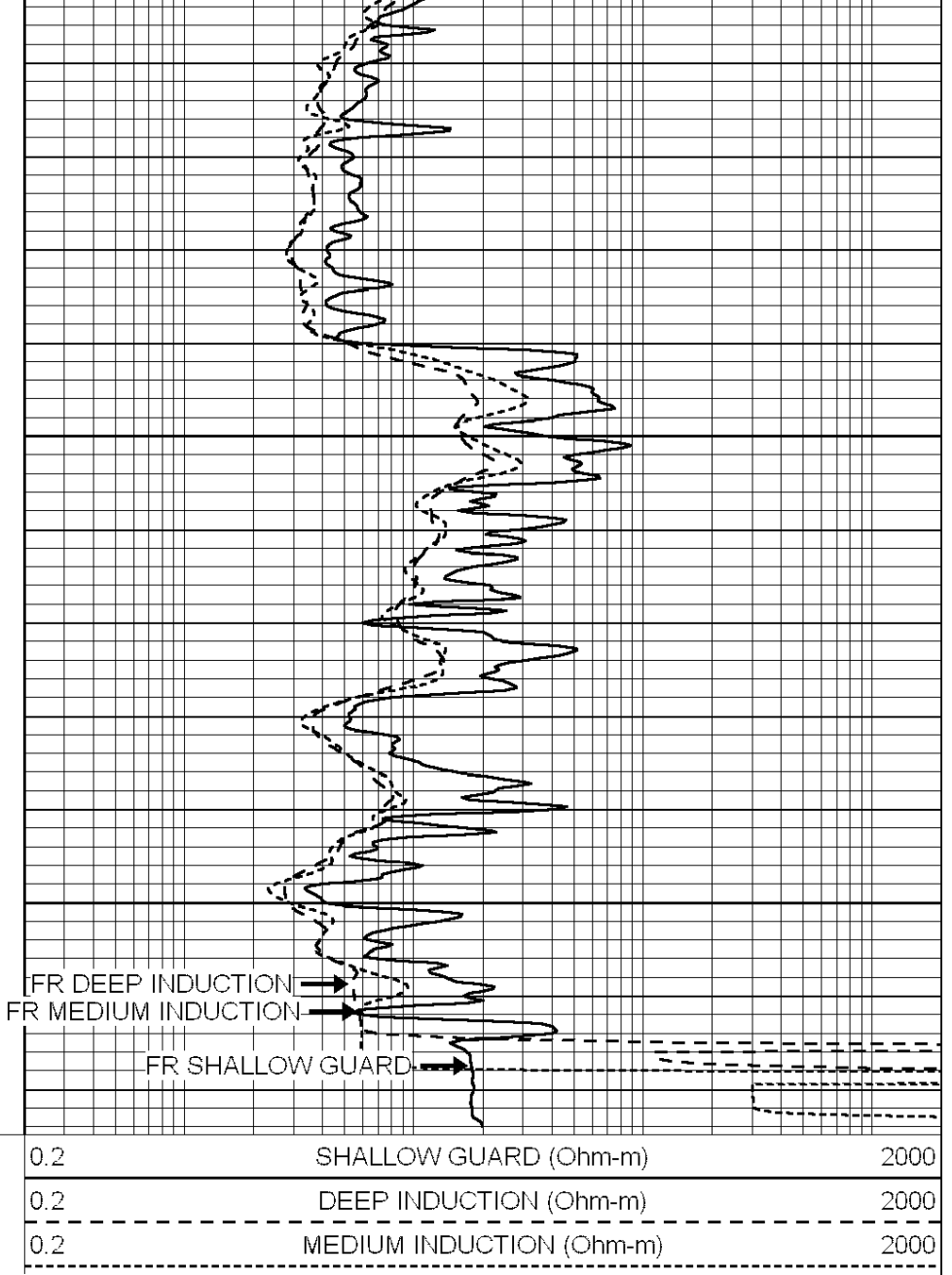




3950

4000

LTD 4020

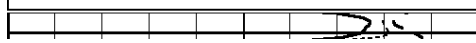


REPEAT SECTION

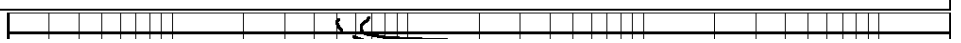
Database File: 2658ddn.db
 Dataset Pathname: pass2.2
 Presentation Format: _dil
 Dataset Creation: Thu Jul 05 08:21:27 2018 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

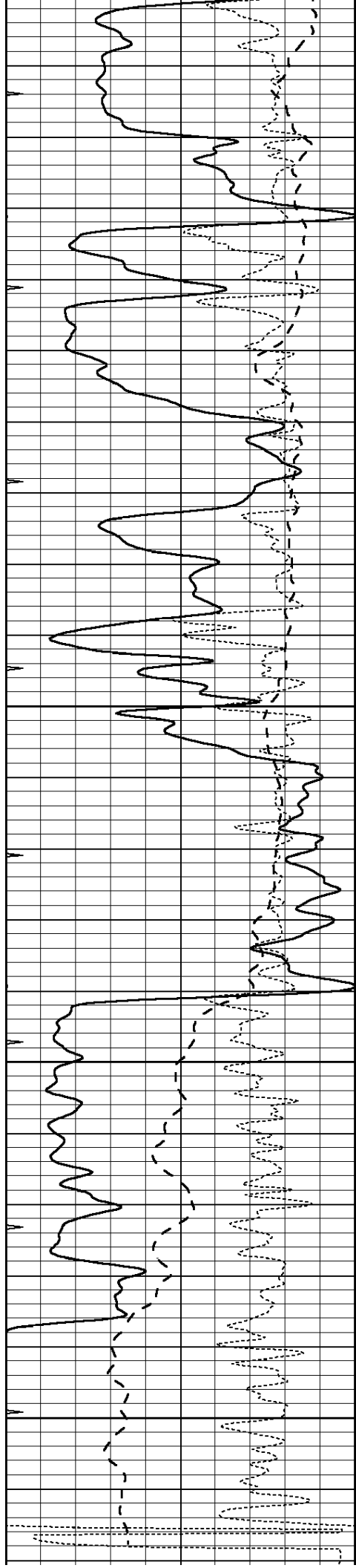
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3800



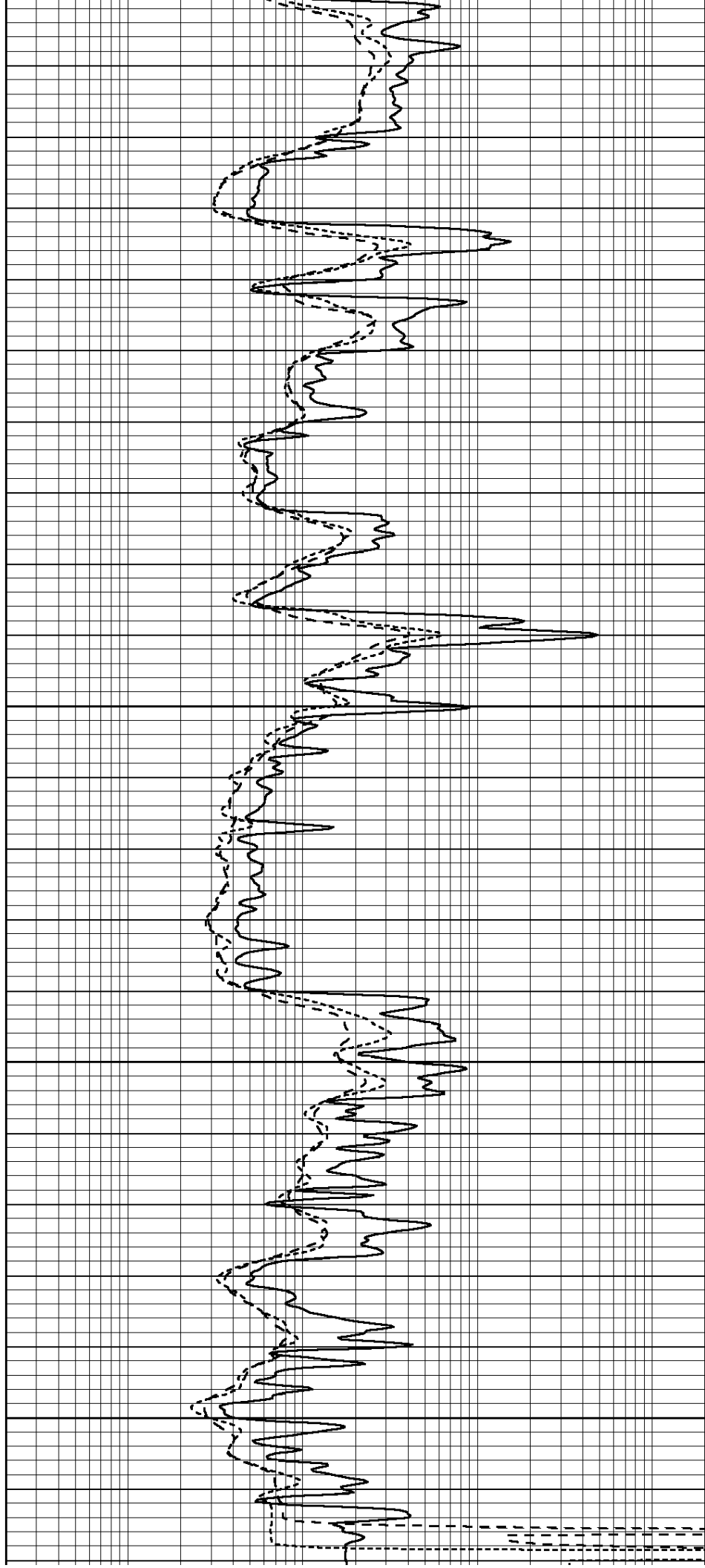


3850

3900

3950

4000



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			

Calibration Report	
Database File:	1598ddn.db
Dataset Pathname:	pass4
Dataset Creation:	Wed Aug 30 02:13:00 2017 by Log SOC 120430

Dual Induction Calibration Report	
Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Wed Aug 30 00:06:33 2017
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	620.000	0.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000
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: 002	Model: PRB

Master Calibration		Performed Mon Aug 21 11:27:42 2017			
	Background	Magnesium	Aluminum	Sandstone	
Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Count	0.0	0015.4	1700.1	0105.0	ms

Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6

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:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps

Sensitivity:

0.2800

GAPI/cps