



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL INDUCTION
LOG**

Company	DOWNING - NELSON OIL CO. INC.		
Well	GEORGINE STAAB #1-19		
Field	WILDCAT		
County	ELLIS		
State	KANSAS		
Company	DOWNING - NELSON OIL COMPANY, INC.		
Well	GEORGINE STAAB #1-19		
Field	WILDCAT		
County	ELLIS		
State	KANSAS		
Location:	API # : 15-051-26525-0000		Other Services CDL/CNL MEL/SONIC
Permanent Datum	GROUND LEVEL		Elevation
Log Measured From	2005' FSL & 2280' FWL SW - NE - NE - SW		2104
Drilling Measured From	SEC 19 TWP 14S RGE 18W KELLY BUSHING 8' A.G.L. KELLY BUSHING		K.B. 2112 D.F. 2110 G.L. 2104
Date	5/28/13		
Run Number	ONE		
Depth Driller	3830		
Depth Logger	3834		
Bottom Logged Interval	3832		
Top Log Interval	00		
Casing Driller	8 5/8"@638'		
Casing Logger	637		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		CHLORIDES 5,000 PPM
Density / Viscosity	9.0/52		
pH / Fluid Loss	10.0/9.6		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.500@90F		
Rmf @ Meas. Temp	.375@90F		
Rmc @ Meas. Temp	.600@90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.391@115F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:45 A.M.		
Maximum Recorded Temperature	115F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	MARC DOWNING		

<<< Fold Here >>>

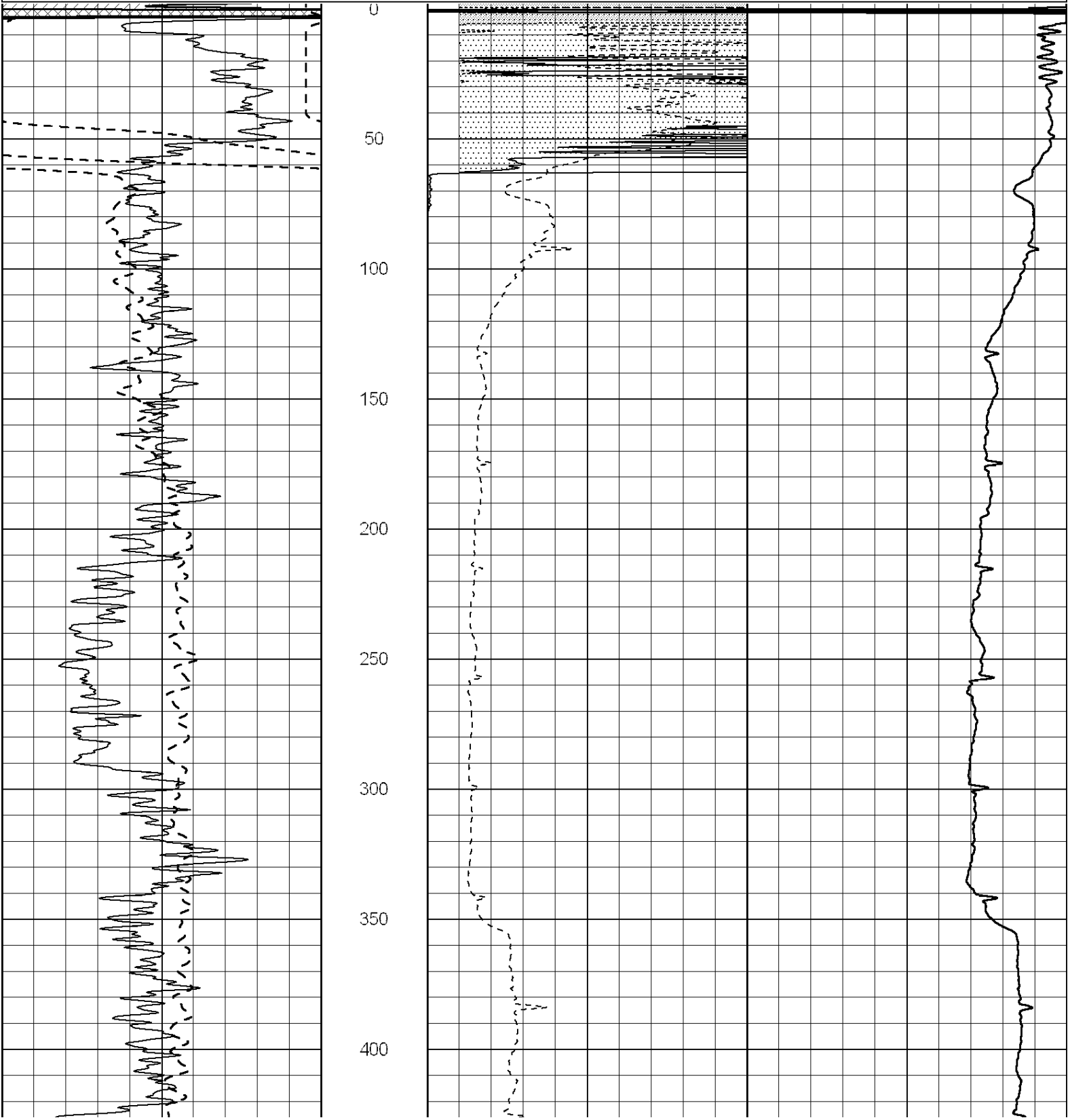
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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
HAYS, KS., 3S. ON EXPERIMENTATION RD. TO "MUNJOR RD.", 1 1/2W., N. INTO

Database File: 010914ddn.db
Dataset Pathname: pass3.9
Presentation Format: dil2
Dataset Creation: Tue May 28 11:57:14 2013
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
-----			1000	CILD (mmho/m)	
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500



450

500

550

600

650

700

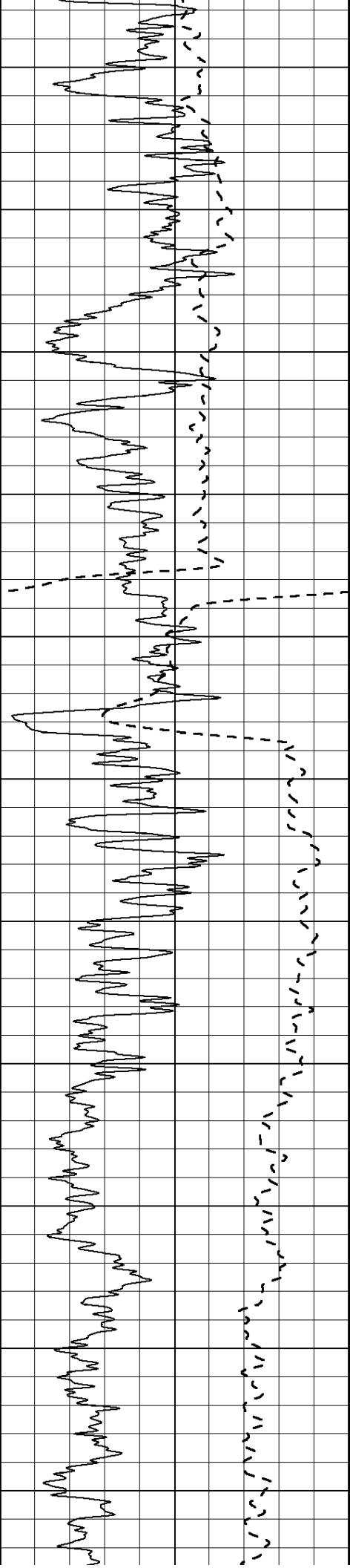
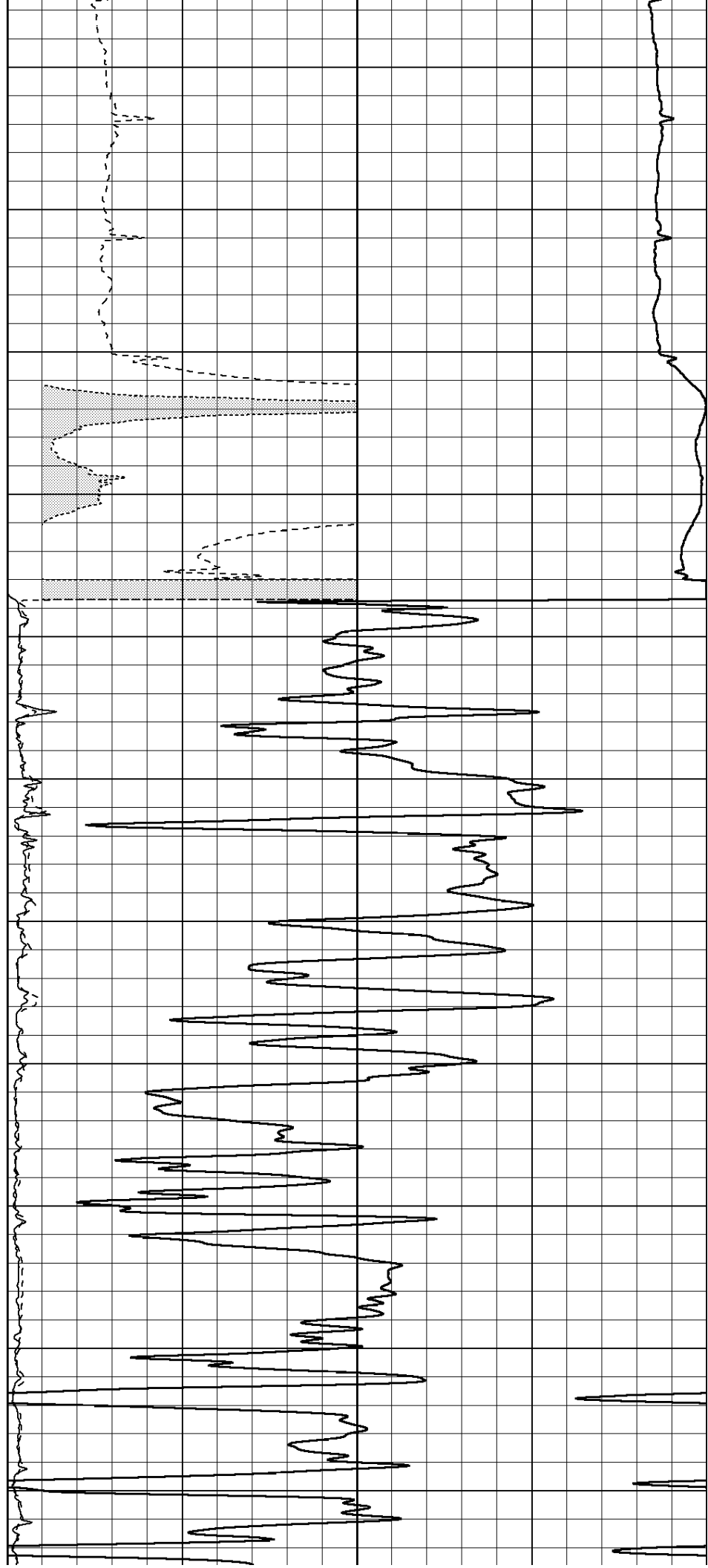
750

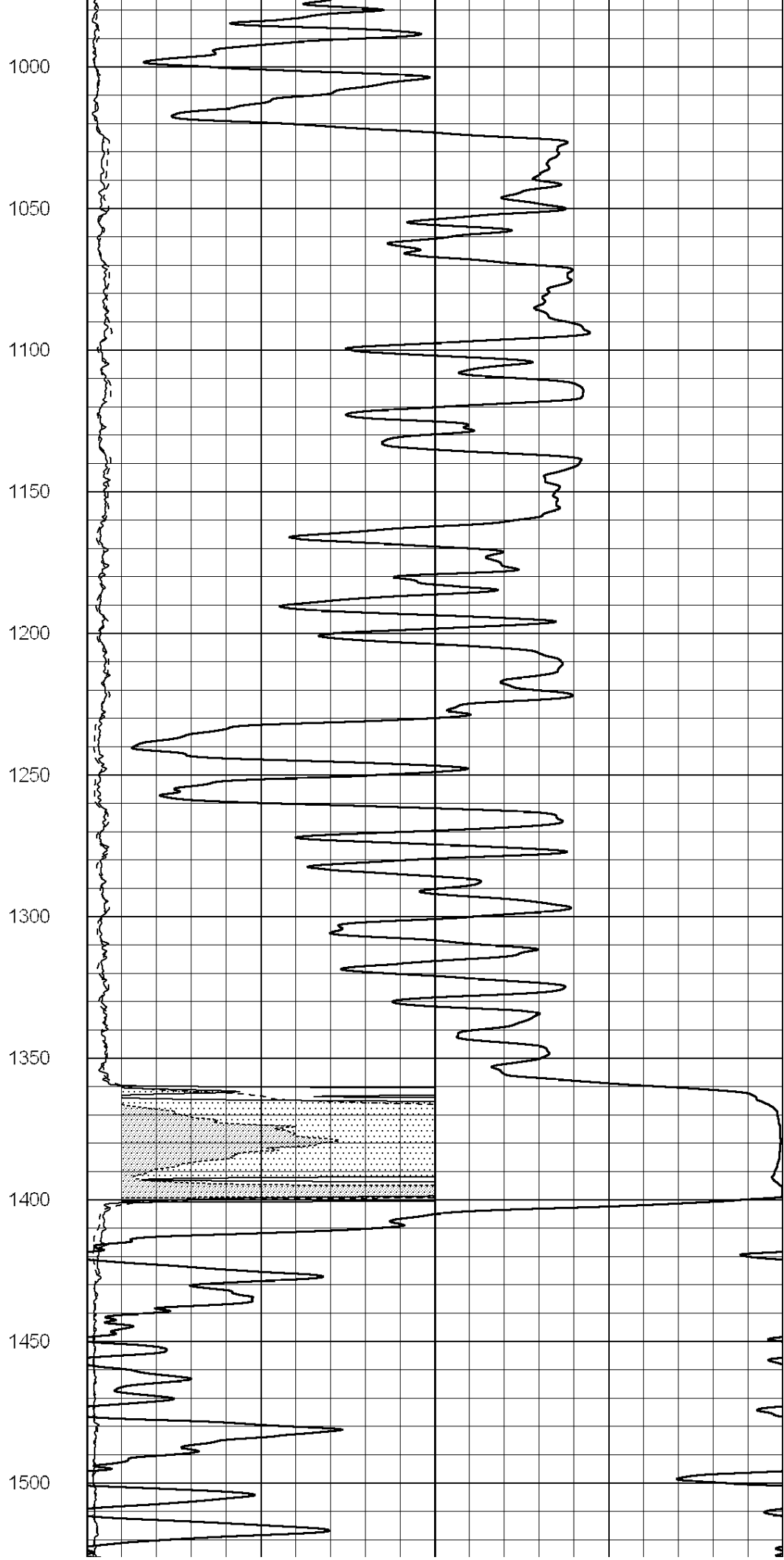
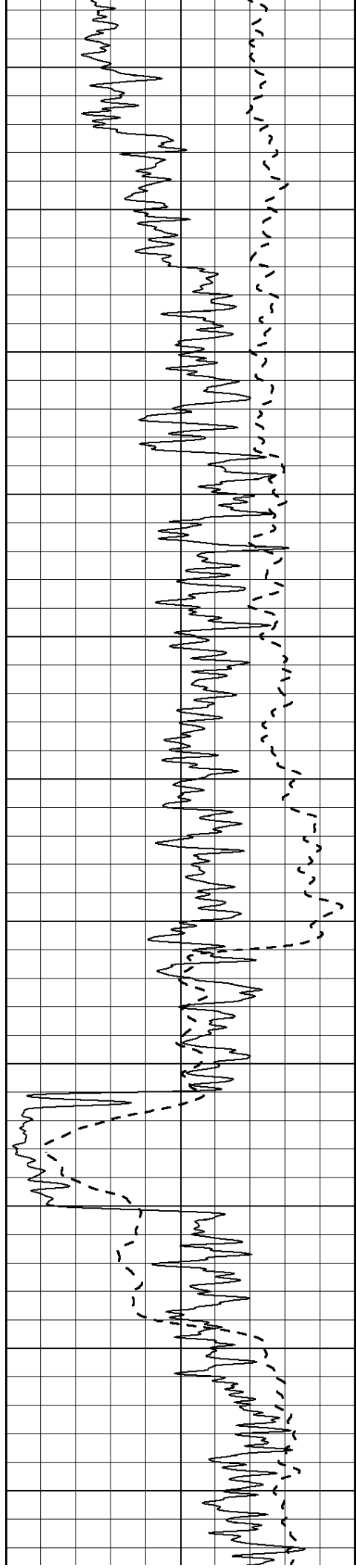
800

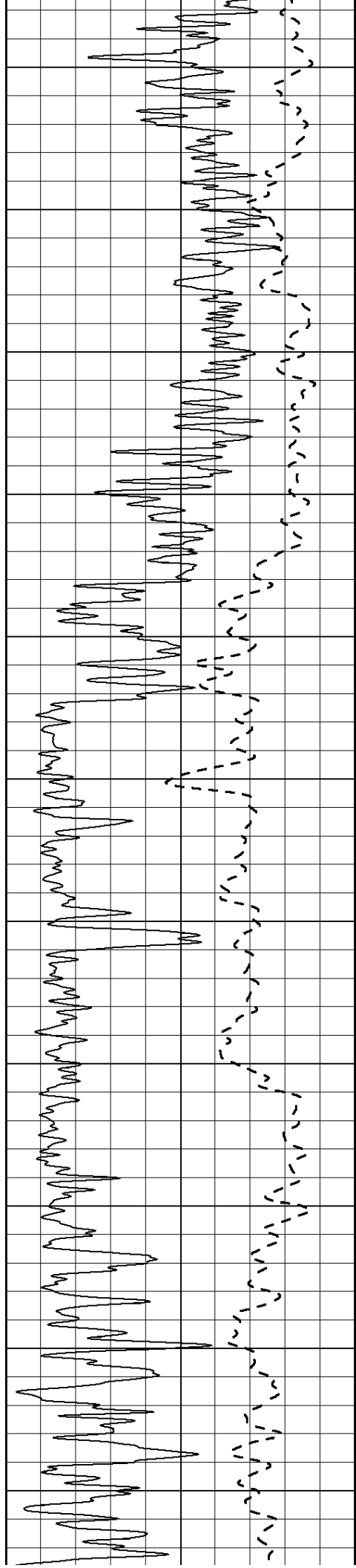
850

900

950







1550

1600

1650

1700

1750

1800

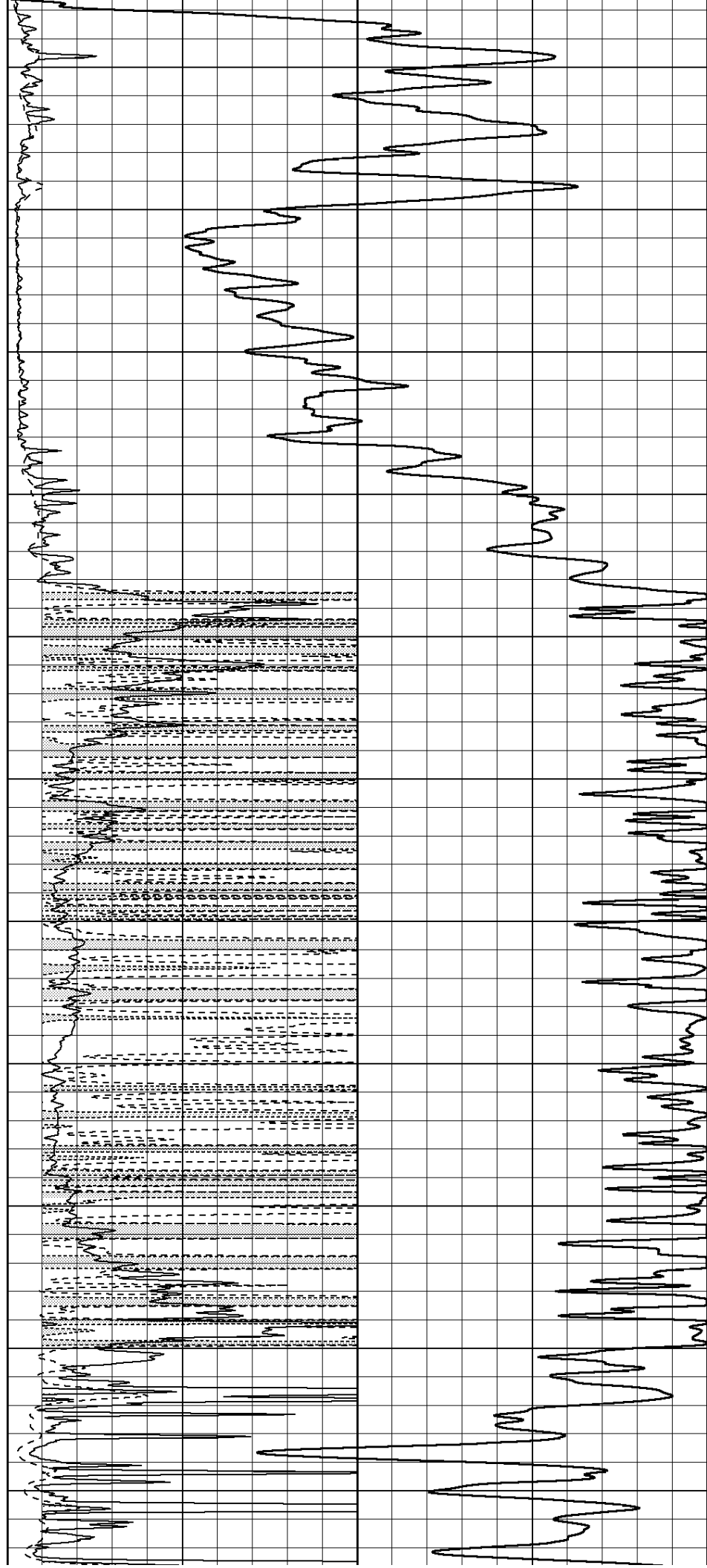
1850

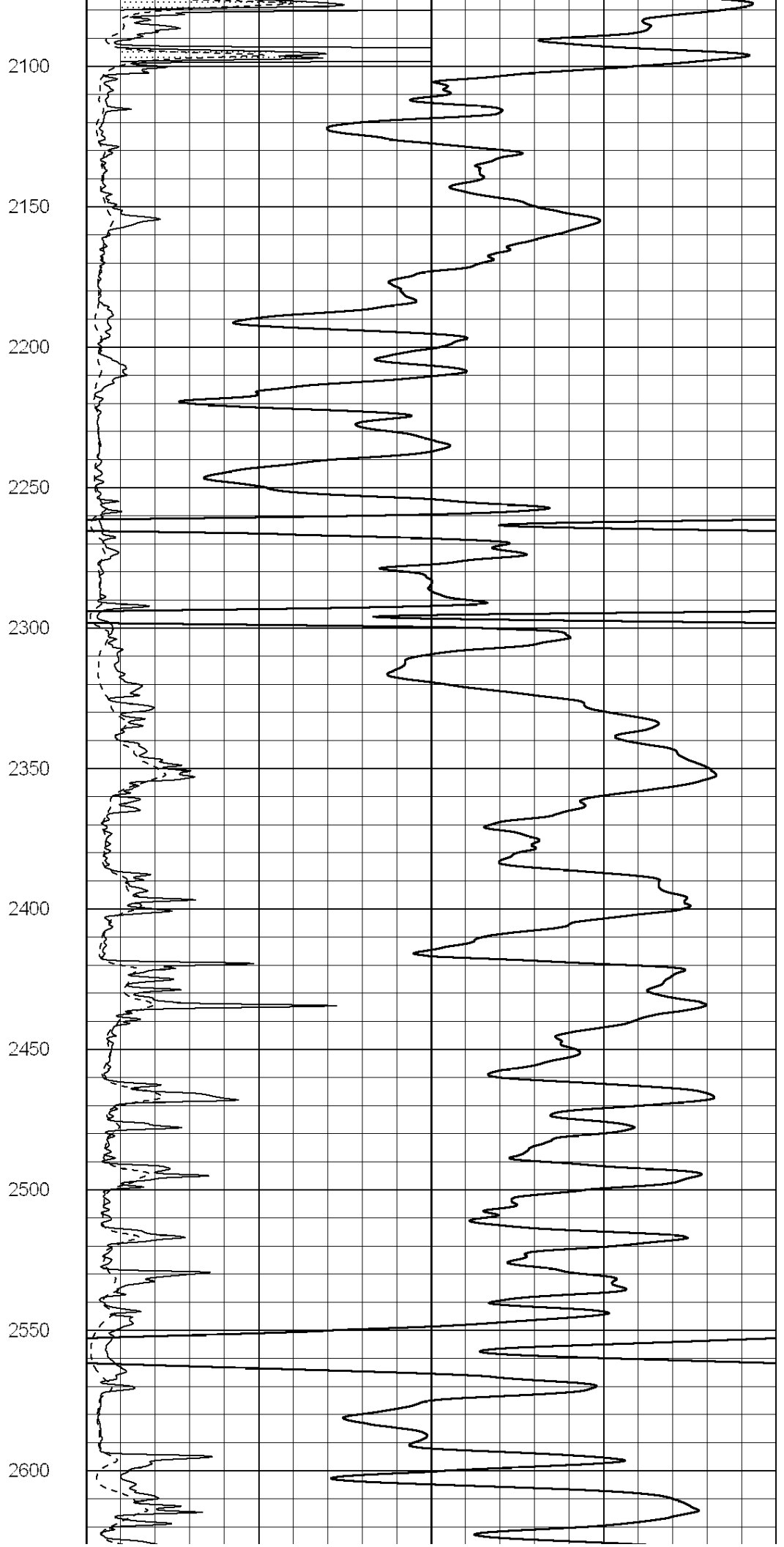
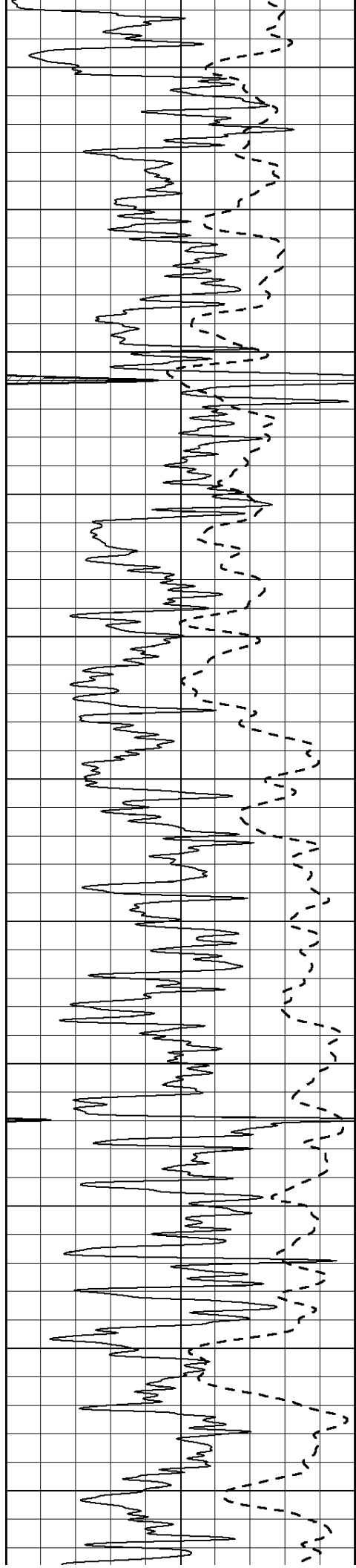
1900

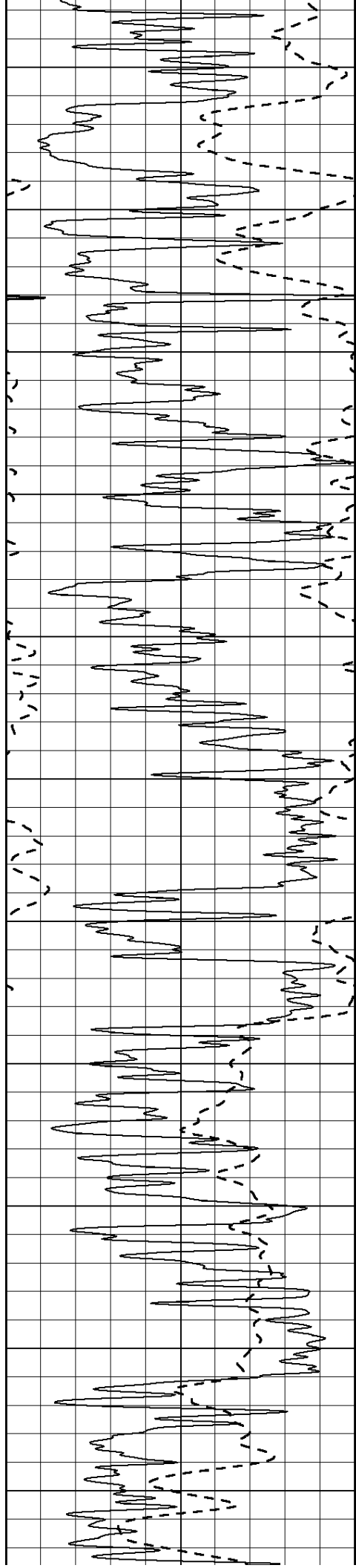
1950

2000

2050







2650

2700

2750

2800

2850

2900

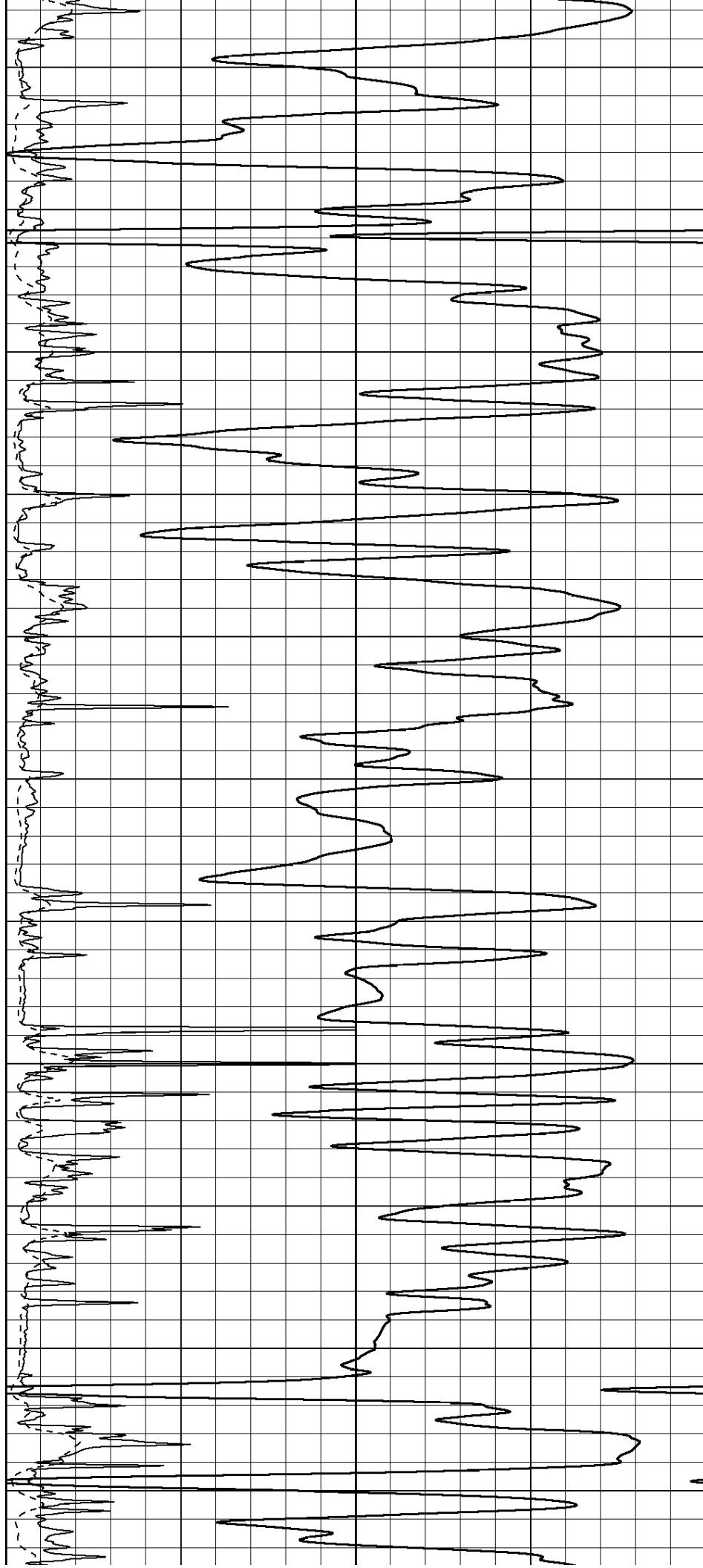
2950

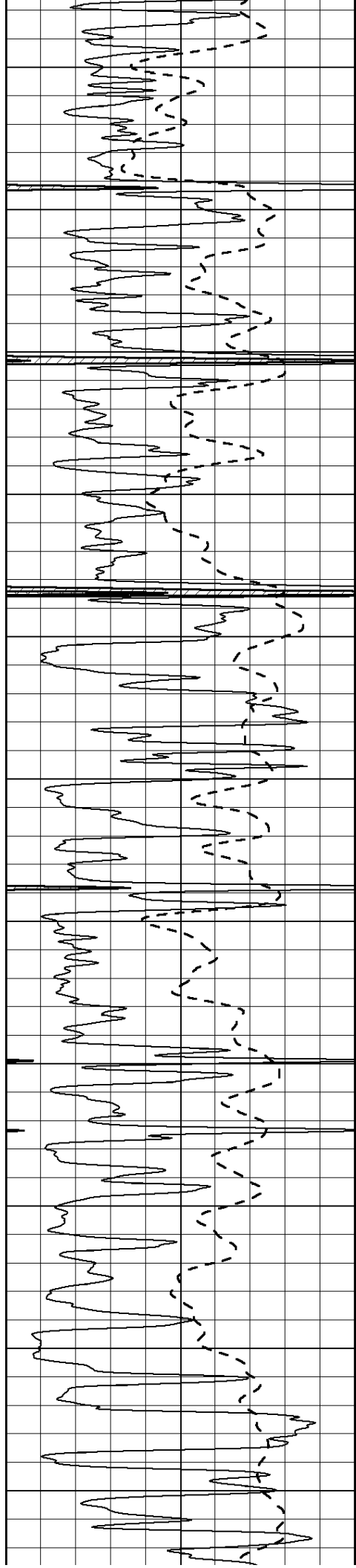
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

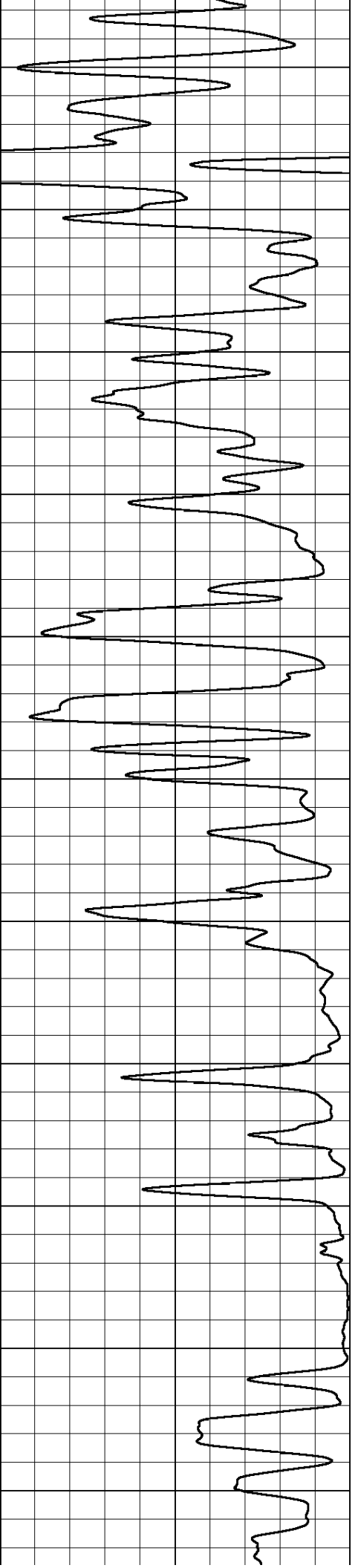
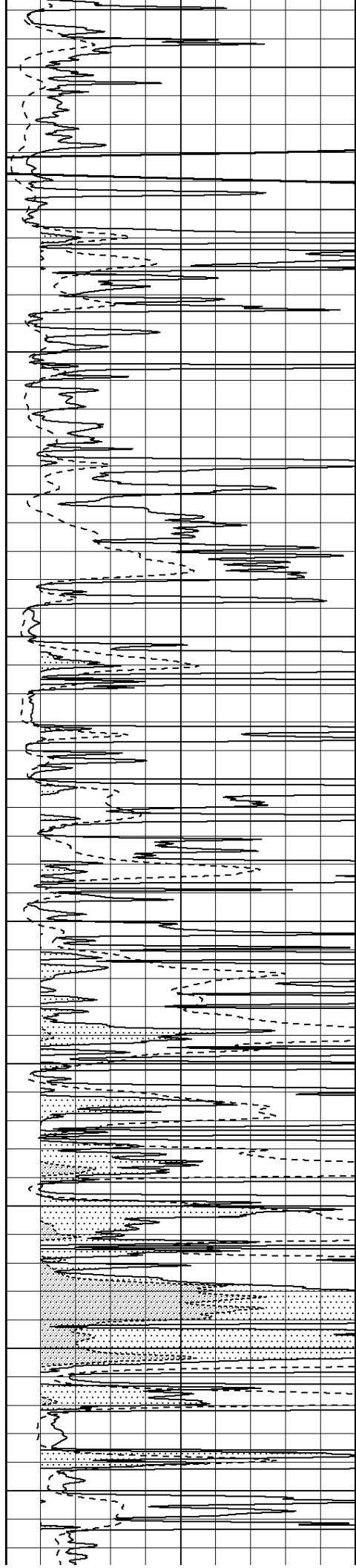
3500

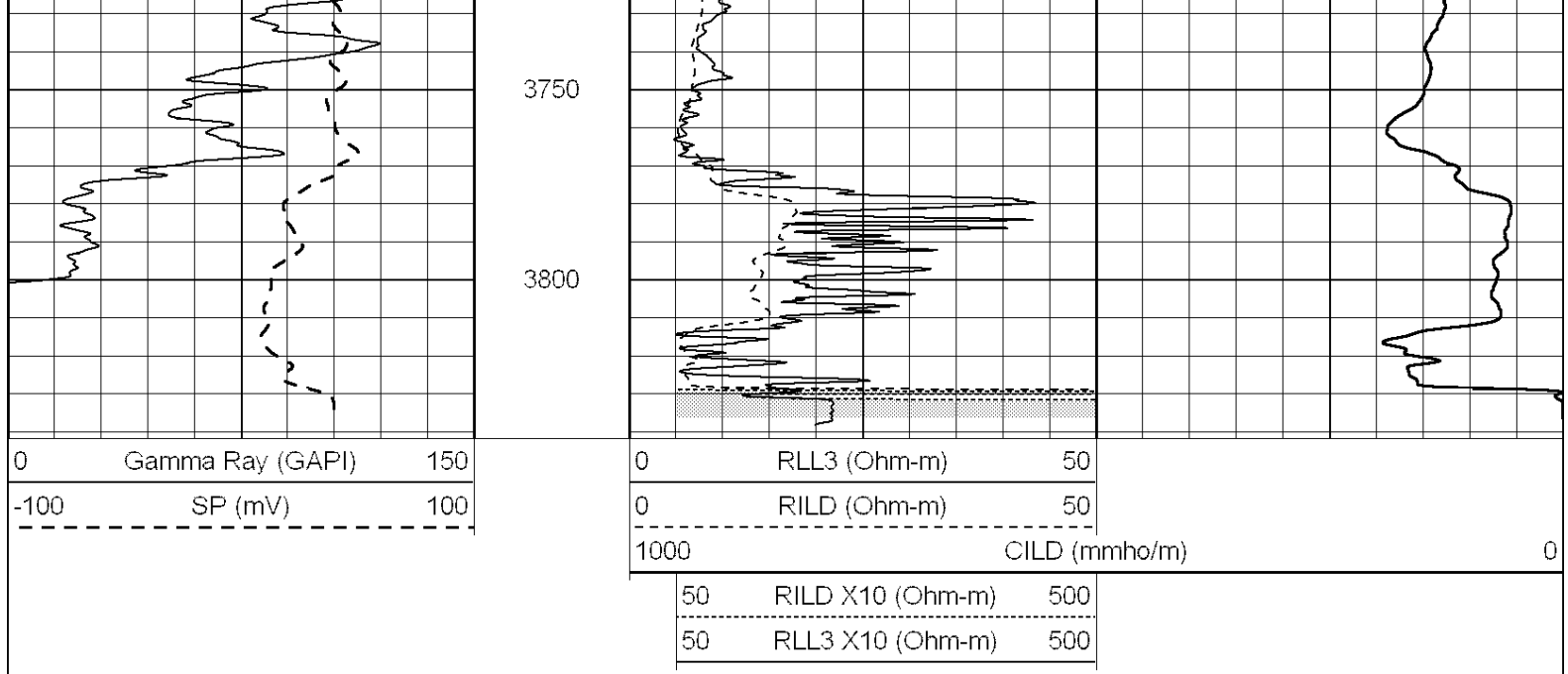
3550

3600

3650

3700



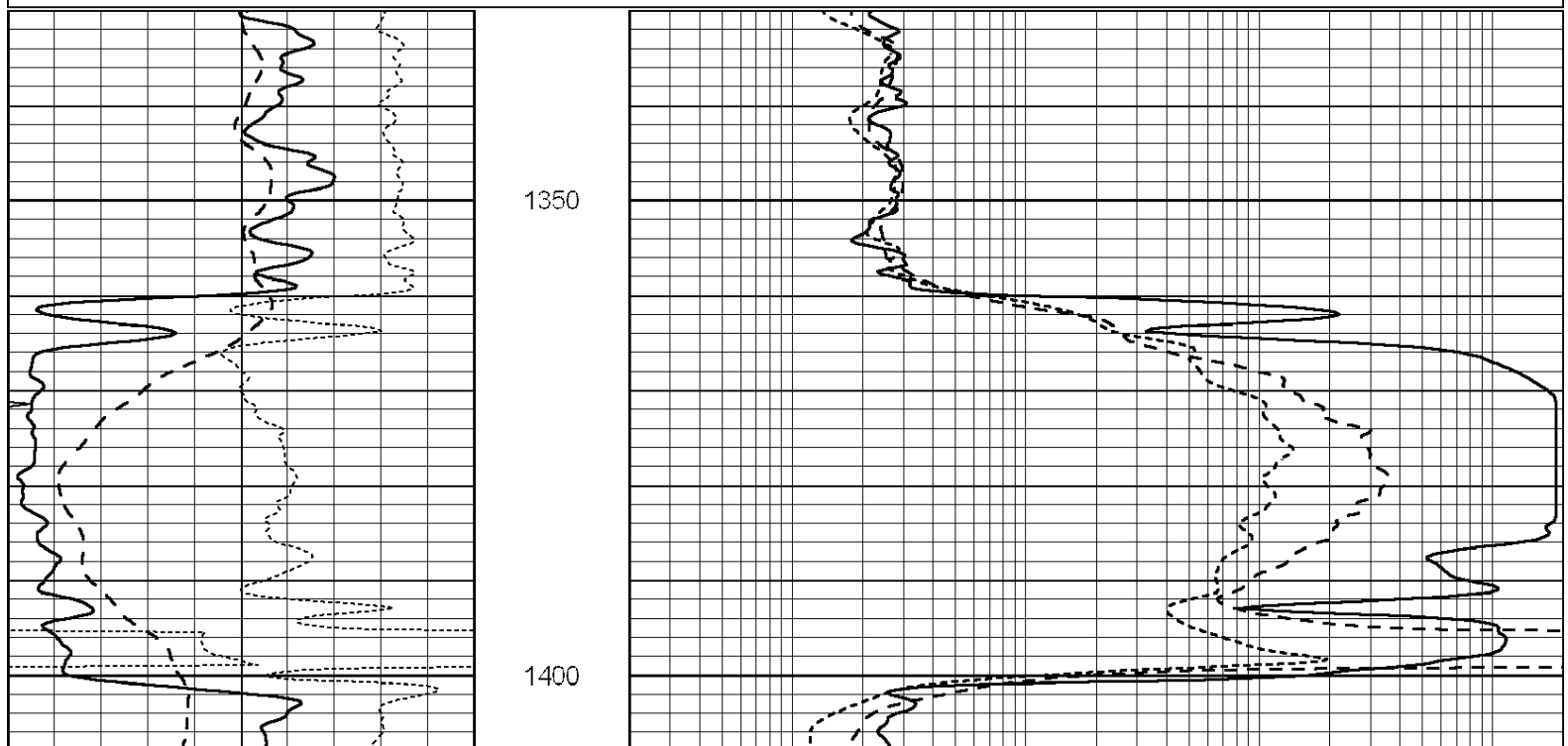


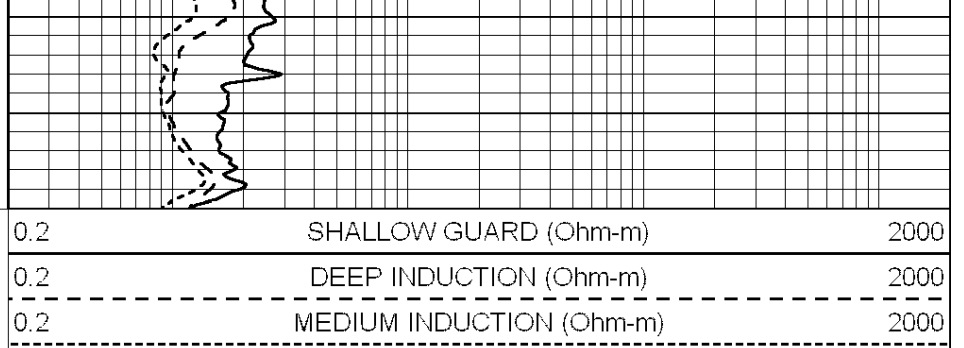
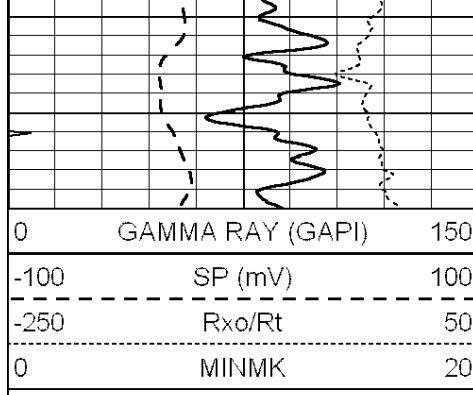
NABORS
COMPLETION
& PRODUCTION
SERVICES CO.

ANHYDRITE

Database File: 010914ddn.db
Dataset Pathname: pass3.10
Presentation Format: dil
Dataset Creation: Tue May 28 11:57:27 2013
Charted by: Depth in Feet scaled 1:240

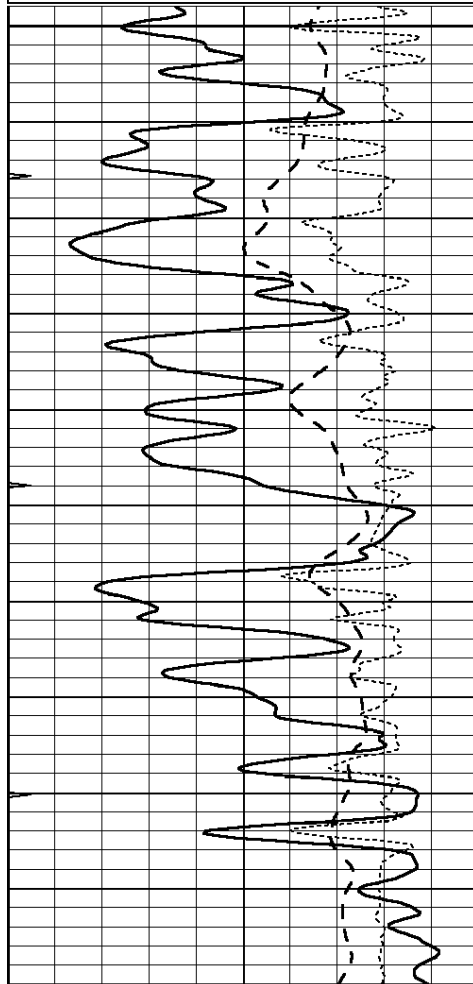
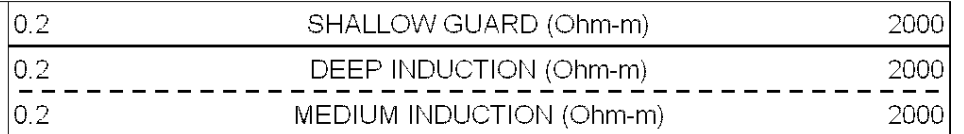
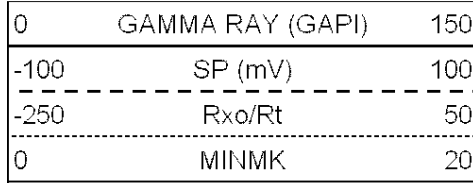
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





MAIN SECTION

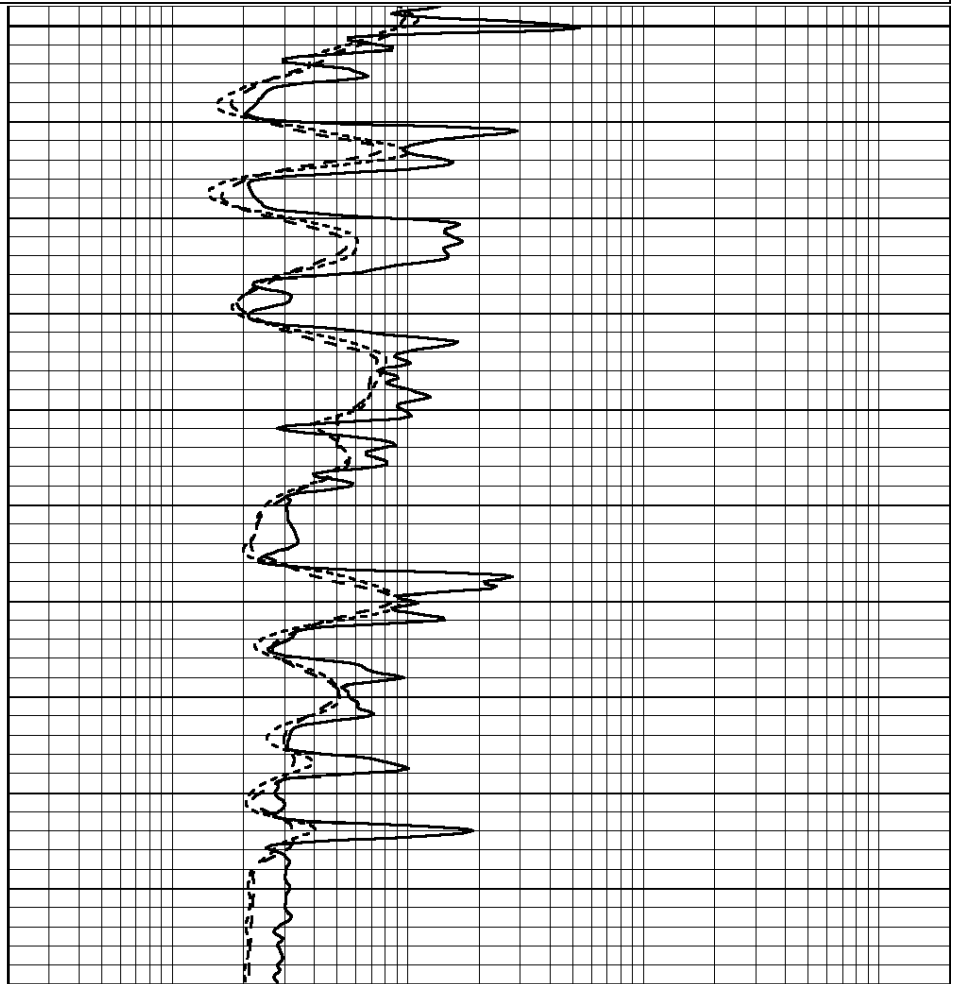
Database File: 010914ddn.dlb
 Dataset Pathname: pass3.9
 Presentation Format: dil
 Dataset Creation: Tue May 28 11:57:14 2013
 Charted by: Depth in Feet scaled 1:240

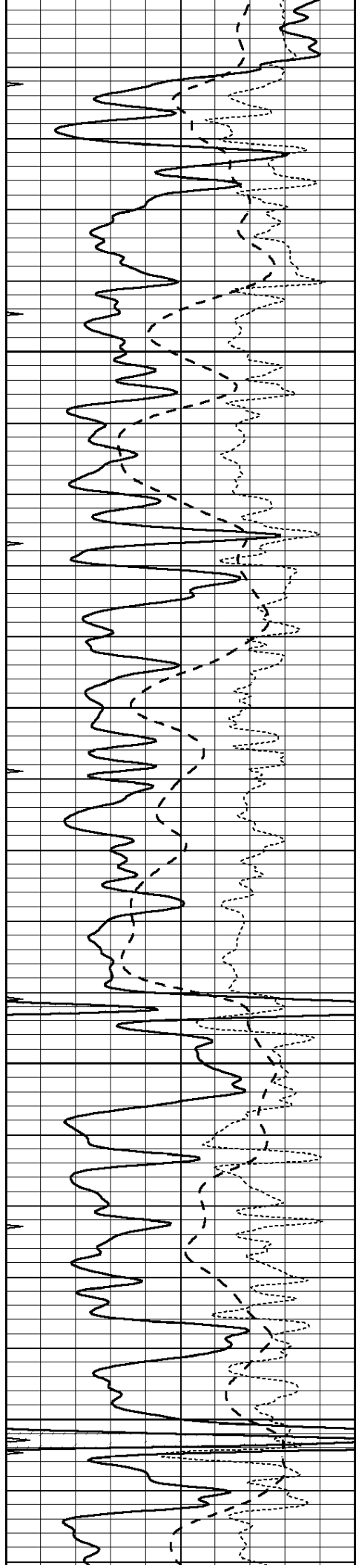


3000

3050

3100





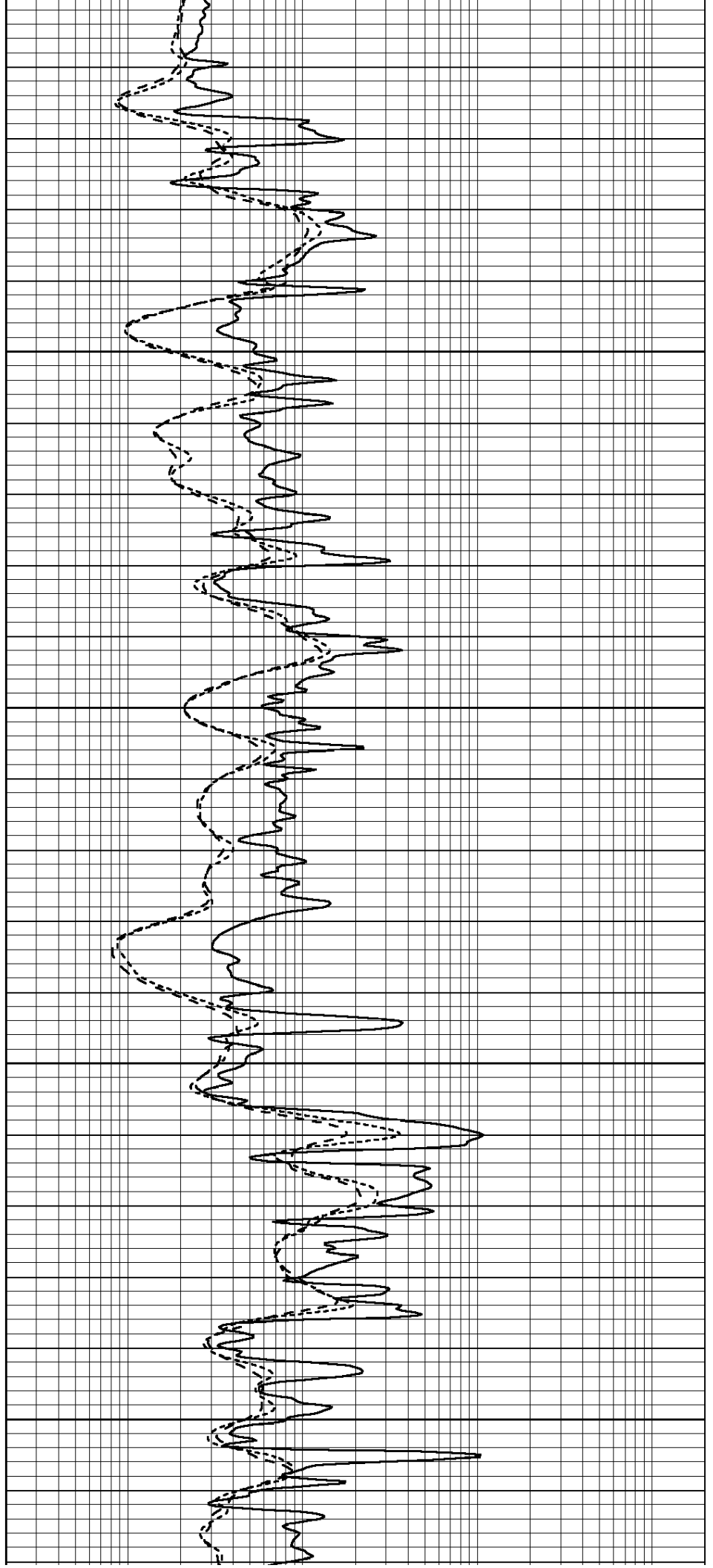
3100

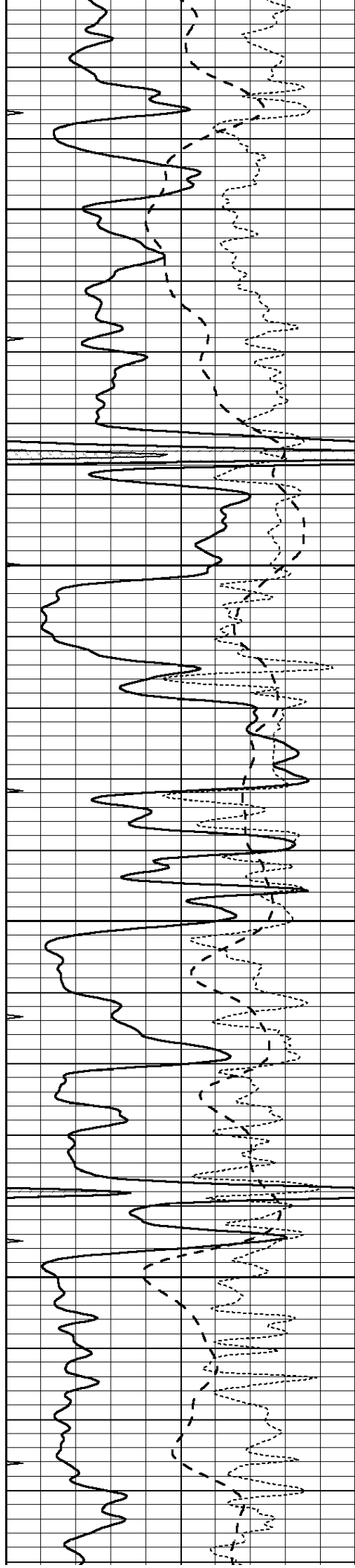
3150

3200

3250

3300



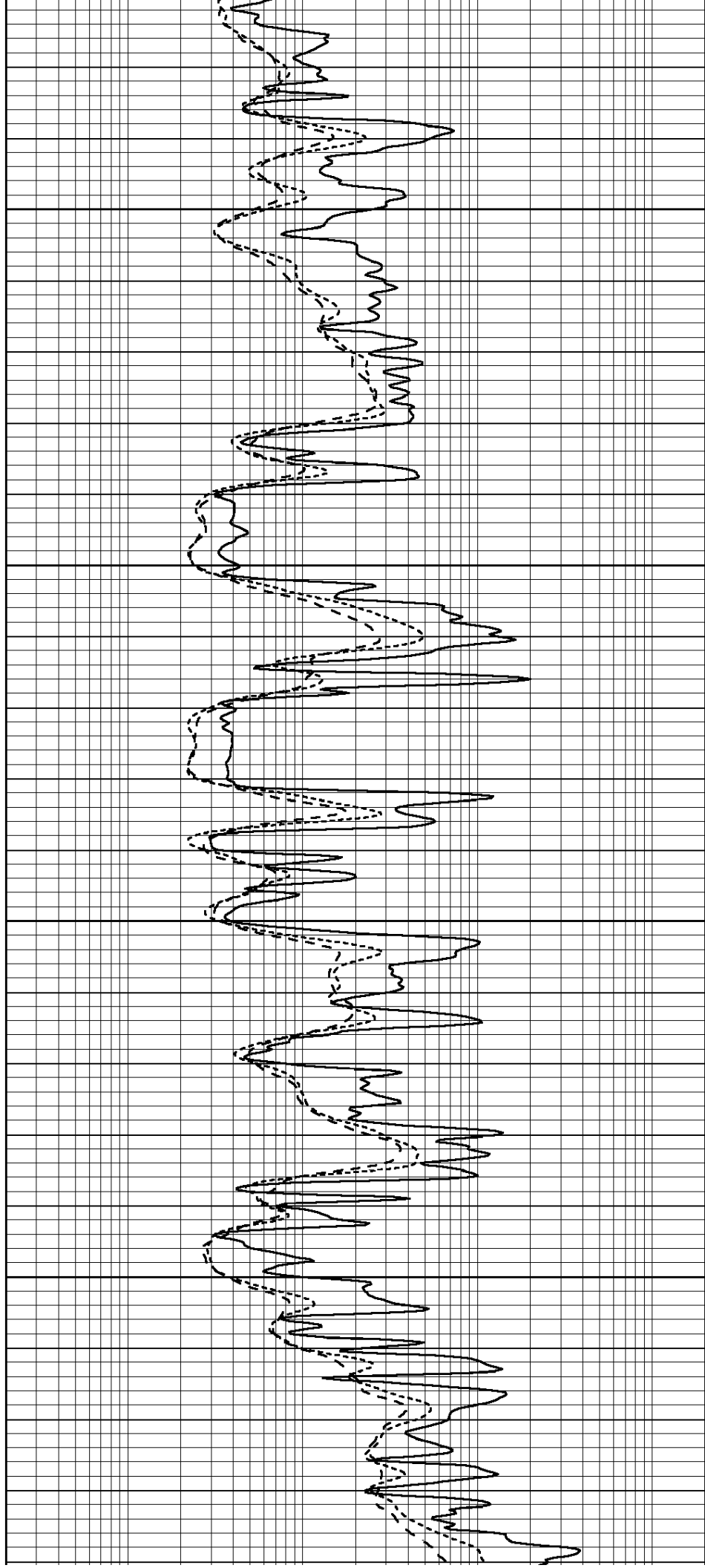


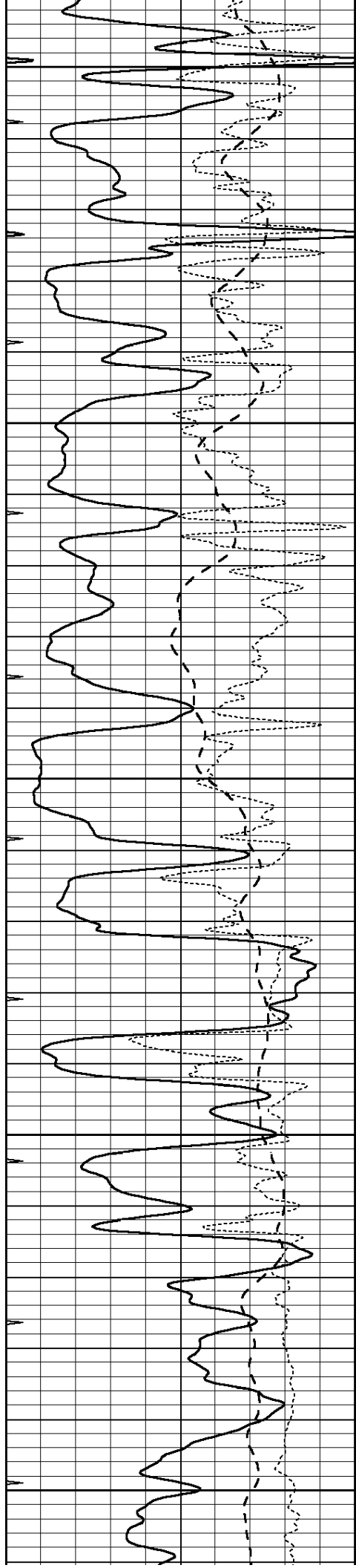
3350

3400

3450

3500





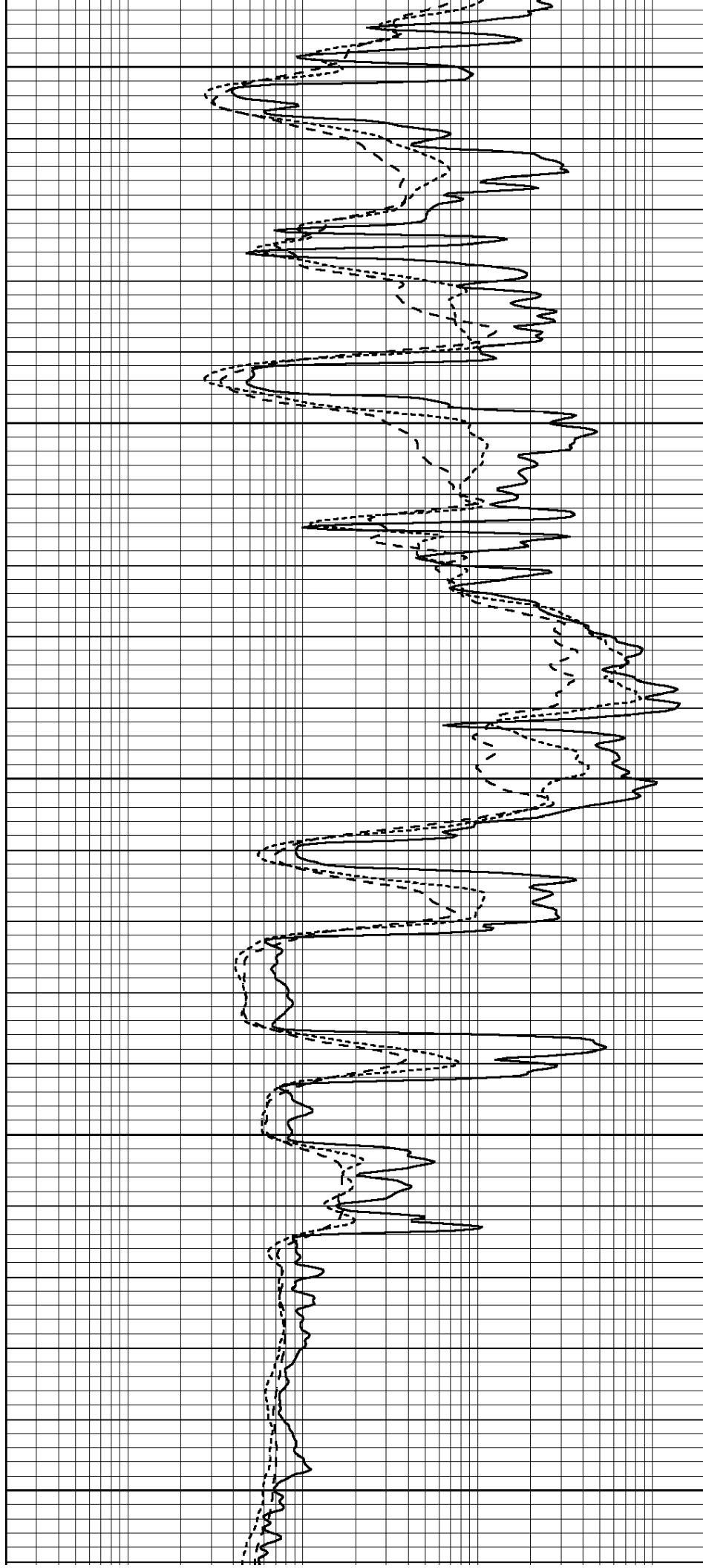
3550

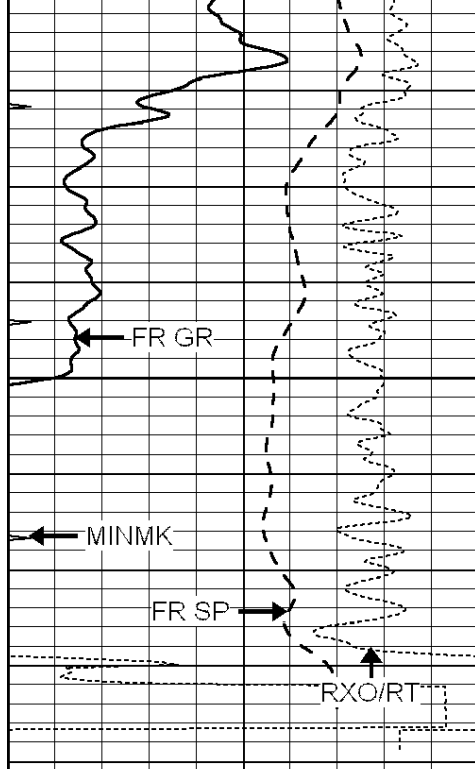
3600

3650

3700

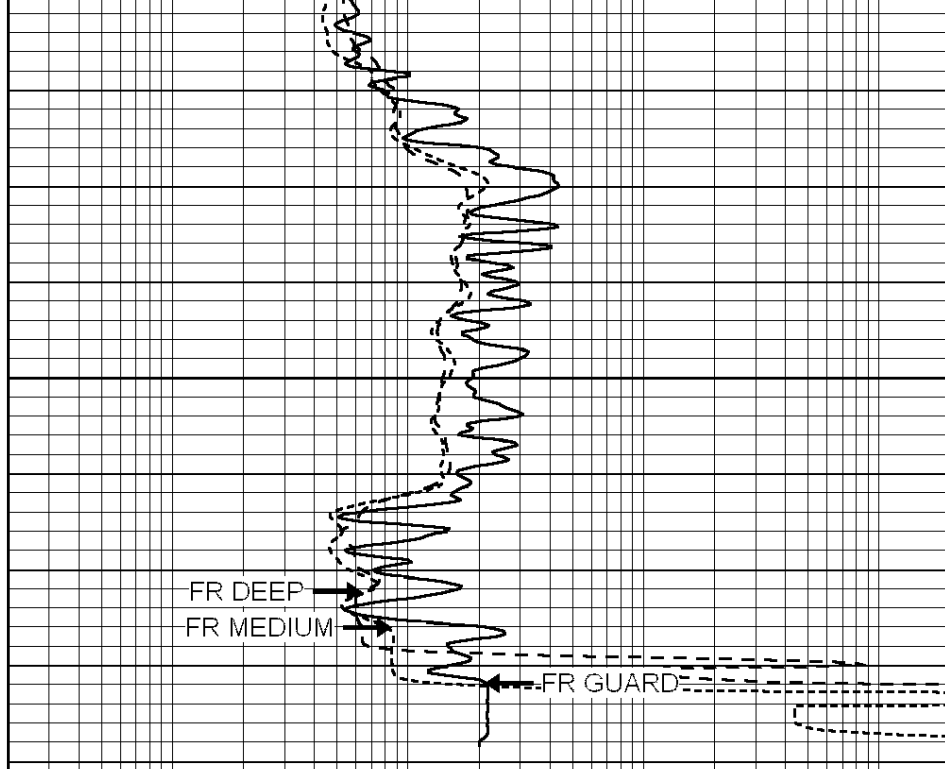
3750





LTD 3834

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

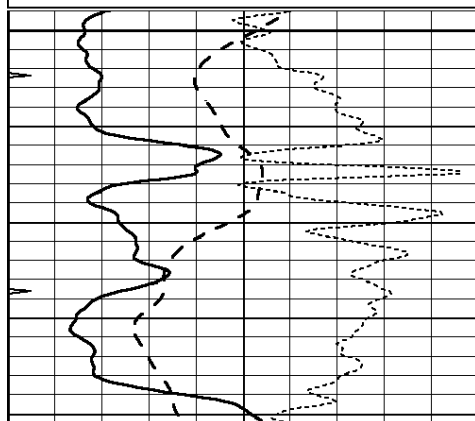


REPEAT SECTION

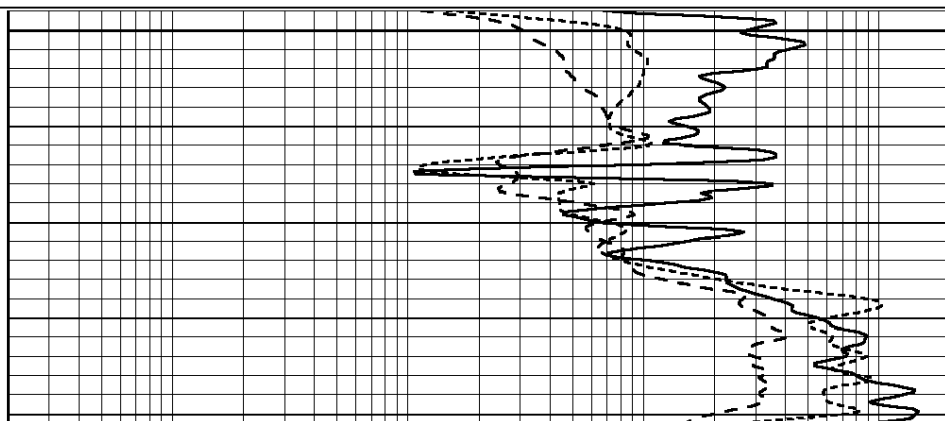
Database File: 010914ddn.db
 Dataset Pathname: pass2.4
 Presentation Format: dil
 Dataset Creation: Tue May 28 11:26:12 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

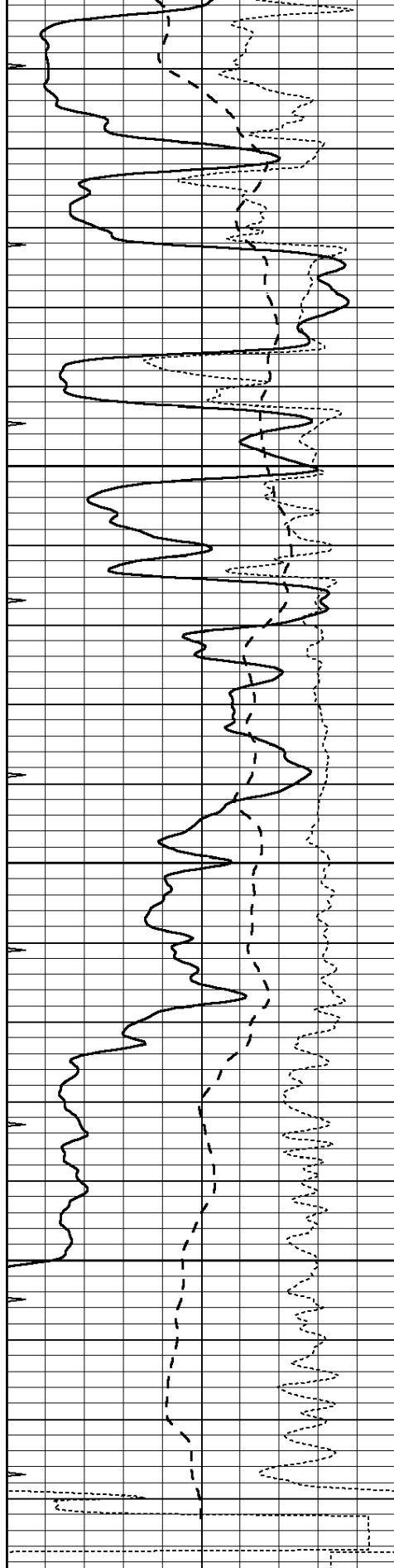
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3600





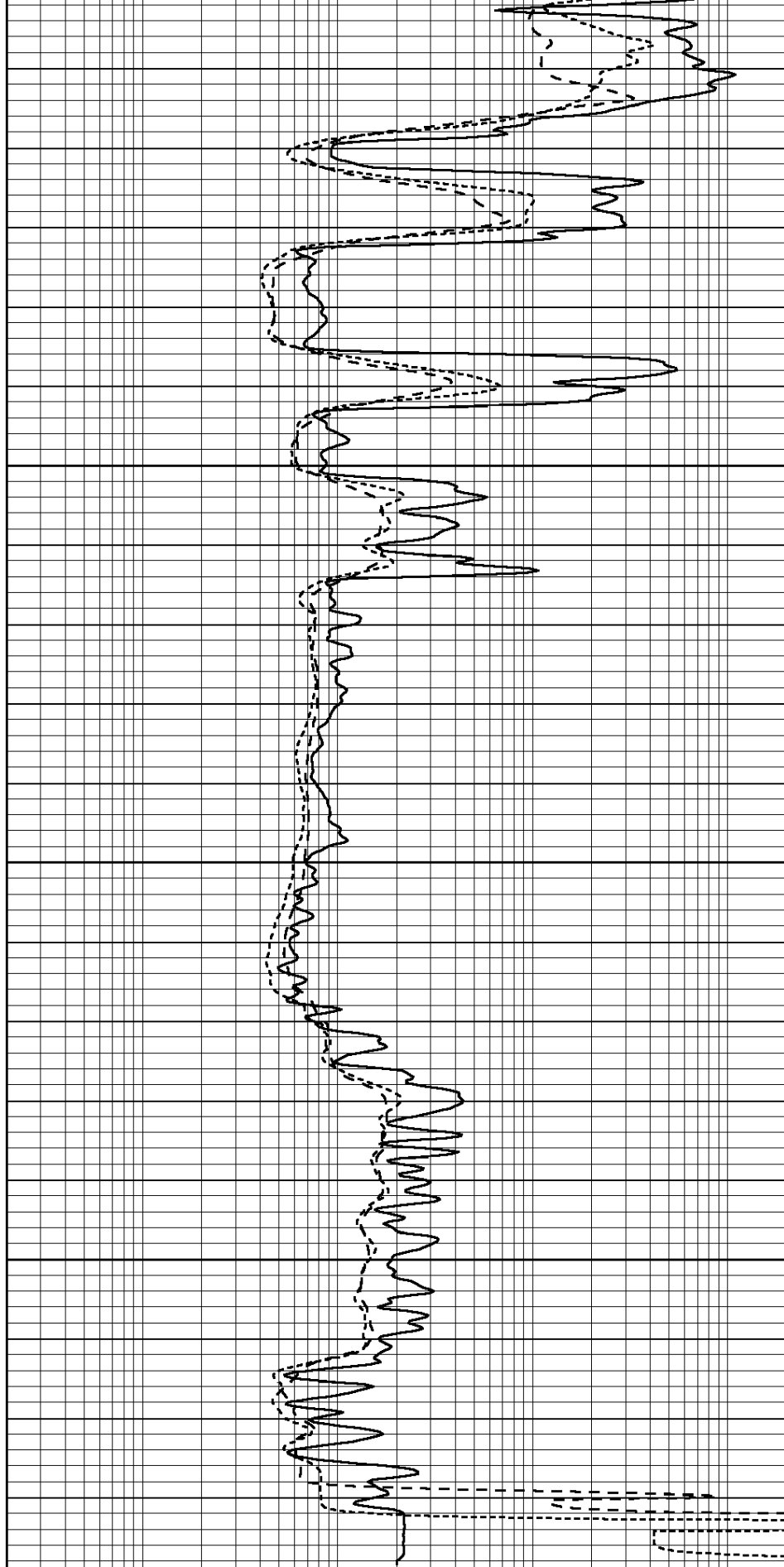
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3650

3700

3750

3800



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

Calibration Report

Database File: 010914ddn.db
Dataset Pathname: pass3.9
Dataset Creation: Tue May 28 11:57:14 2013

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
Surface Cal Performed: Mon May 20 12:15:25 2013
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	621.923	-7.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-13.000
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: 001 Model: PRB

Master Calibration

Performed Tue May 28 08:54:22 2013

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1890.3	12786.5	4236.7	13497.2	cps
Window 2	1764.1	11051.7	3765.5	11456.4	cps
Window 3	1442.8	5894.4	2376.2	5911.4	cps
Window 4	428.0	428.9	420.8	426.5	cps
Long Space	0.0	9287.6	2001.3	9692.3	cps
Short Space	3.2	3351.1	2186.8	3398.0	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.5	Rib Slope	: 0.981	Density/Spine Ratio	: 0.552
Spine Angle	: 74.5	Spine Slope	: 3.596	Spine Intercept	: -20.1

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: 070559
Tool Model: OPEN_GR
Performed: Mon Apr 15 10:30:52 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3500 GAPI/cps