



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company		MULL DRILLING COMPANY, INC.	
Well		BOWIE #1-14	
Field		WILDCAT	
County		HODGEMAN	
State		KANSAS	
Location:		AP1 # : 15-083-21702-0000	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 5' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 14 TWP 21S RGE 22W		Elevation	
361' FNL & 970' FWL		CDL/CNL	
		MEL/SON	
Date		5/19/11	
Run Number		ONE	
Depth Driller		4500	
Depth Logger		4500	
Bottom Logged Interval		4498	
Top Log Interval		00	
Casing Driller		8 5/8" @ 228	
Casing Logger		228	
Bit Size		7 7/8	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.9/50	
pH / Fluid Loss		7.0/6.0	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		.22 @ 91F	
Rmf @ Meas. Temp		.16 @ 91F	
Rmc @ Meas. Temp		.26 @ 91F	
Source of Rmf / Rmc		MEASURED	
Rim @ BHT		.16 @ 120F	
Time Circulation Stopped		2 HOURS	
Time Logger on Bottom			
Maximum Recorded Temperature		120F	
Equipment Number		680	
Location		HAYS, KS.	
Recorded By		JASON CAPPELLUCCI	
Witnessed By		MACKLIN ARMSTRONG	

<<< 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 SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
HANSTON KS. - HWY 156 & RD 228 - 7 N. - 1/4 E. - S. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 007065ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil2
Dataset Creation: Thu May 19 19:30:42 2011 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

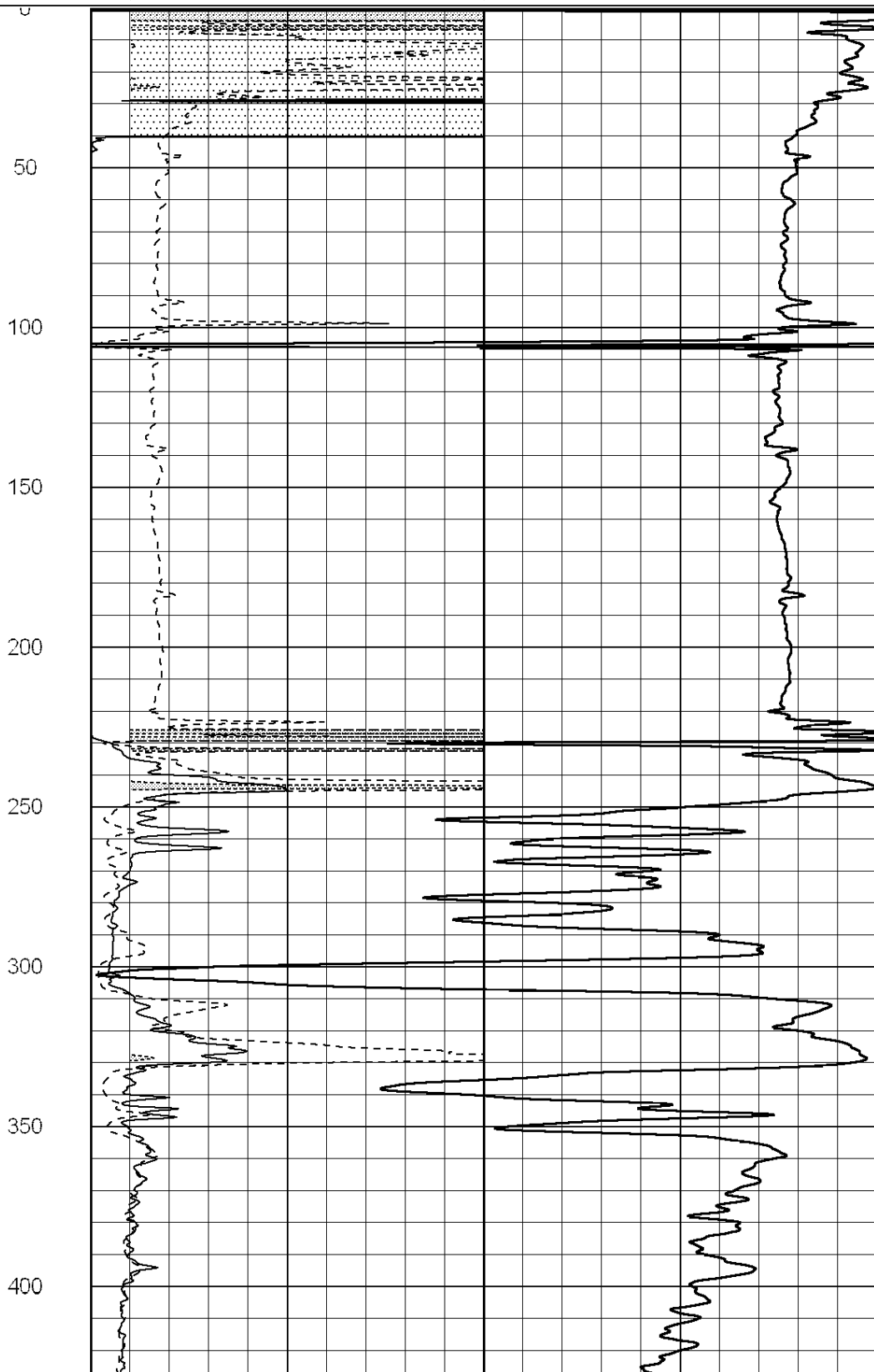
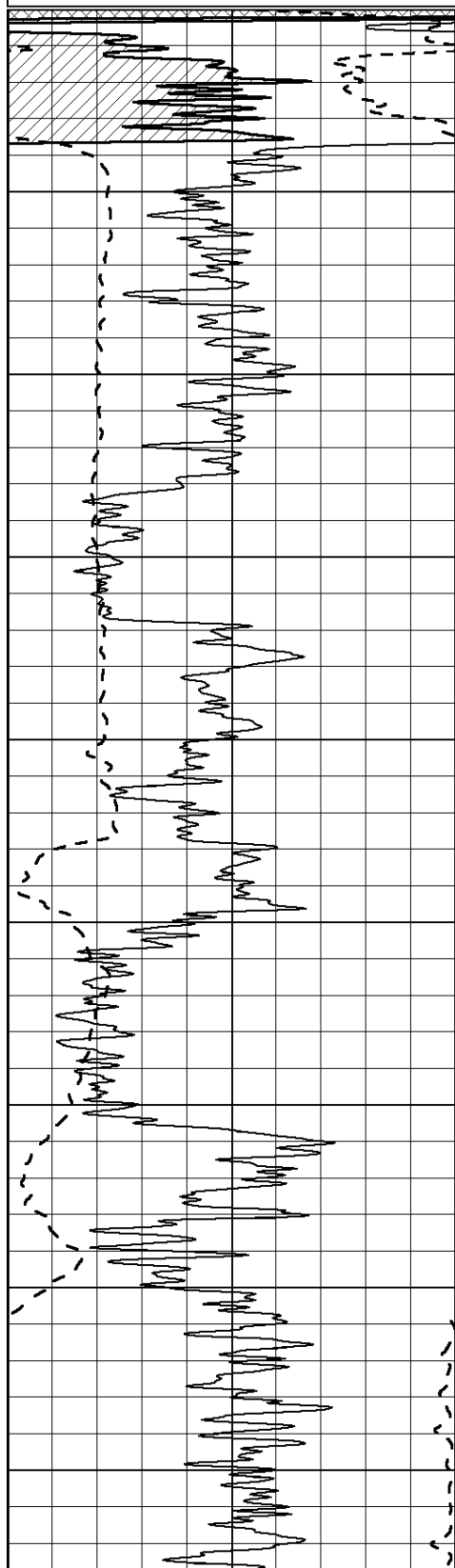
0	RLL3 (Ohm-m)	50
---	--------------	----

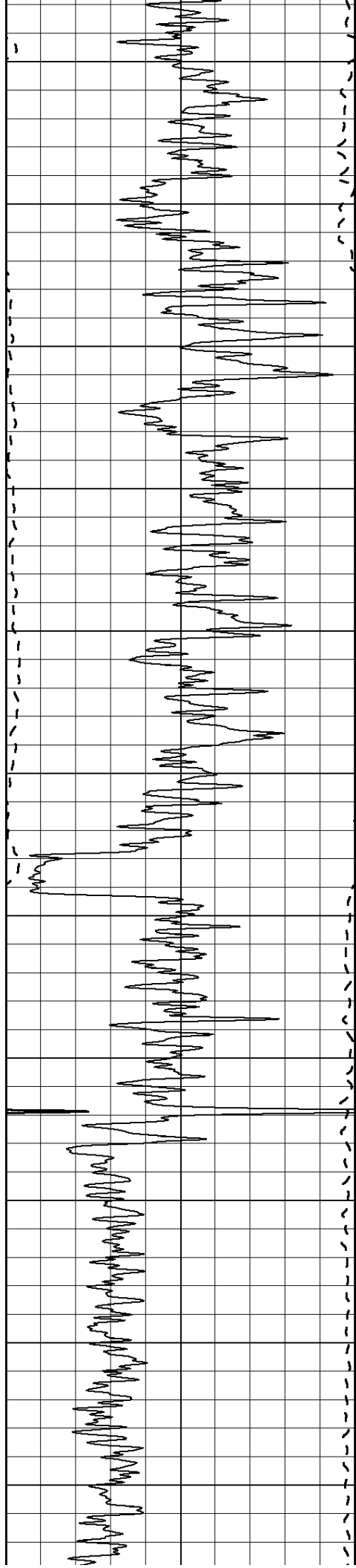
0	Deep Induction (Ohm-m)	50
---	------------------------	----

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

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

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





450

500

550

600

650

700

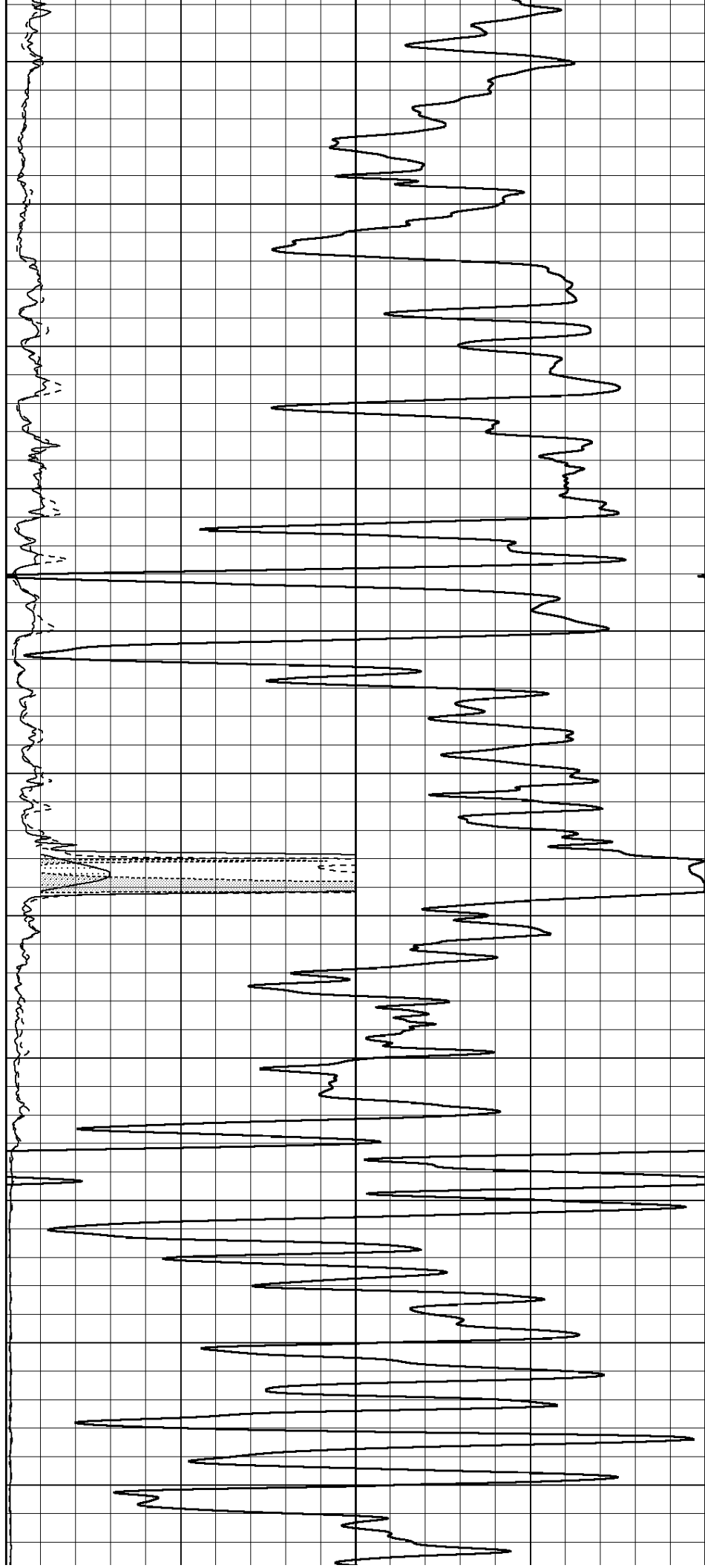
750

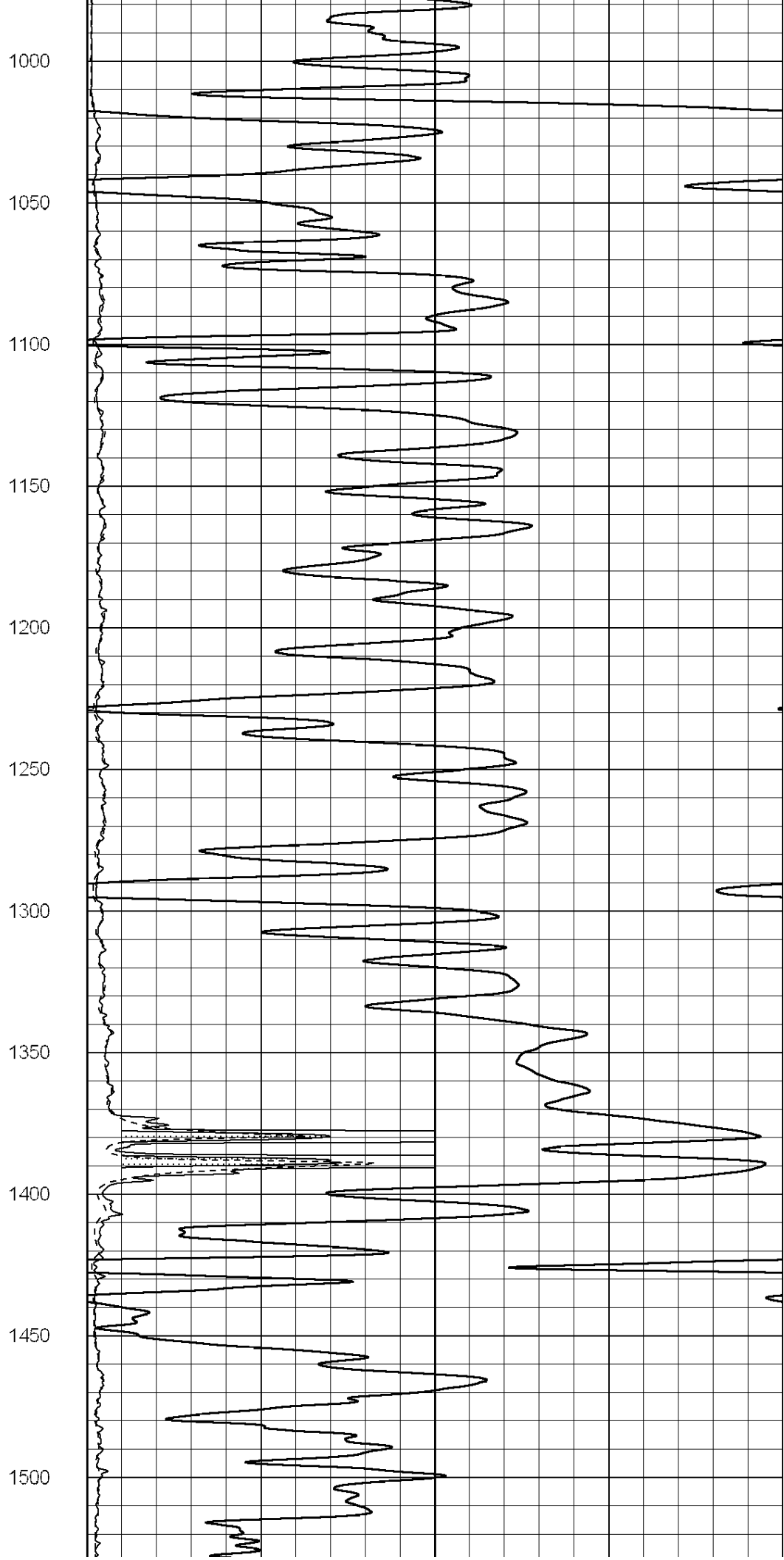
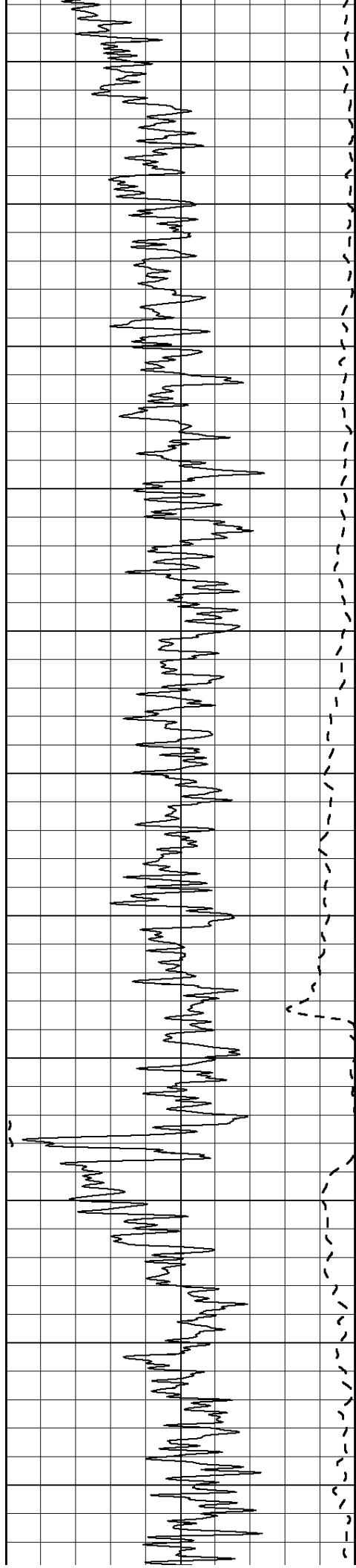
800

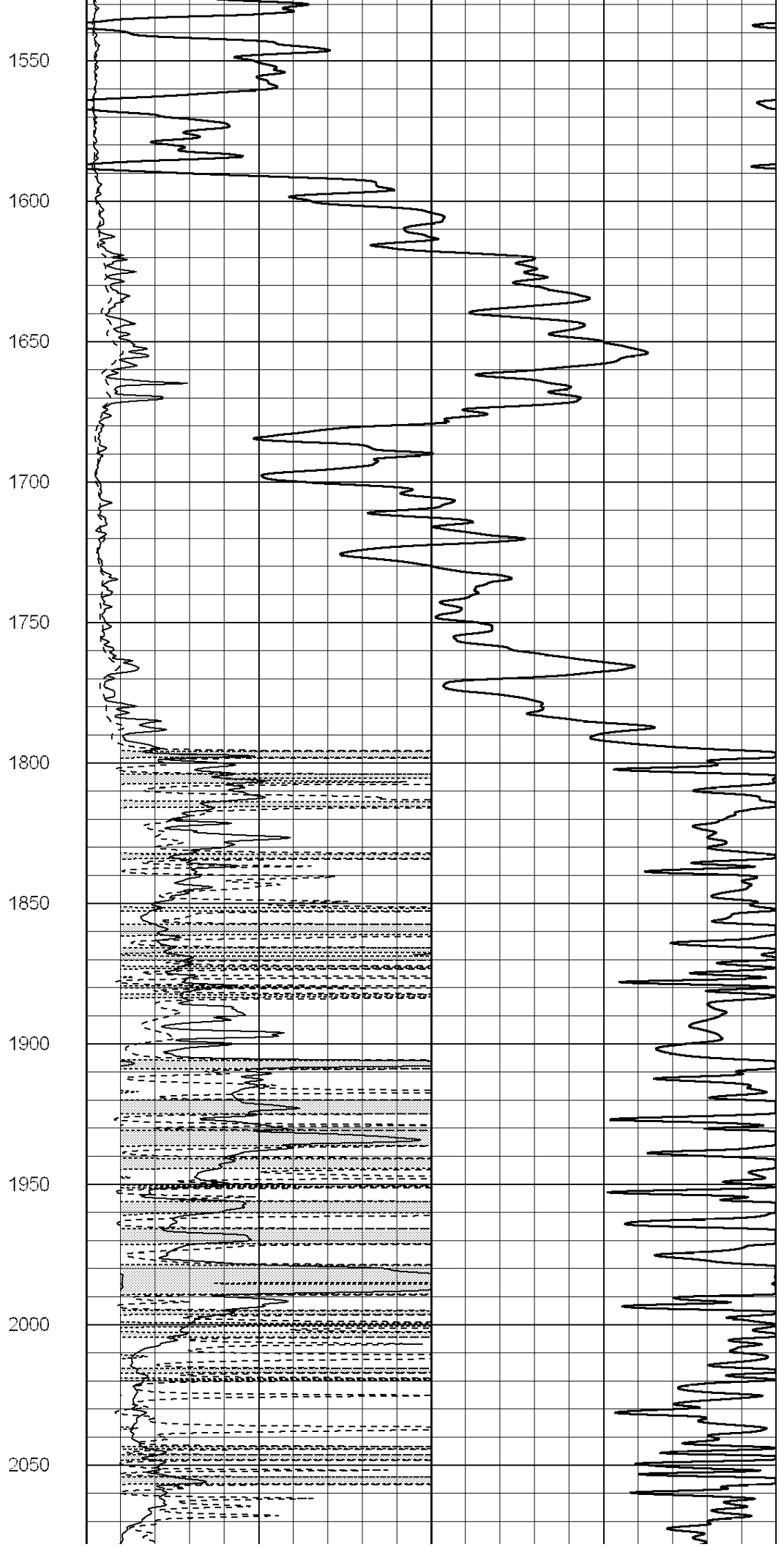
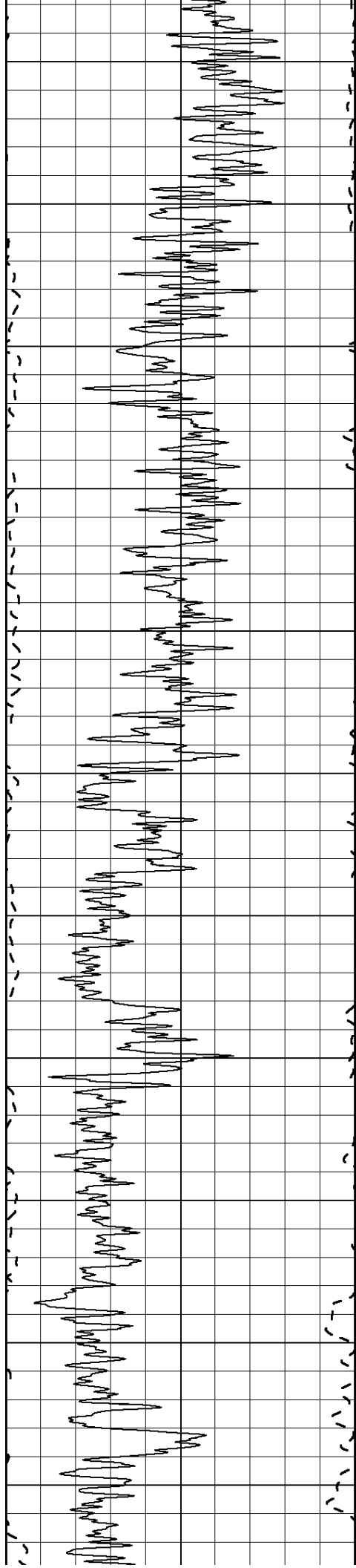
850

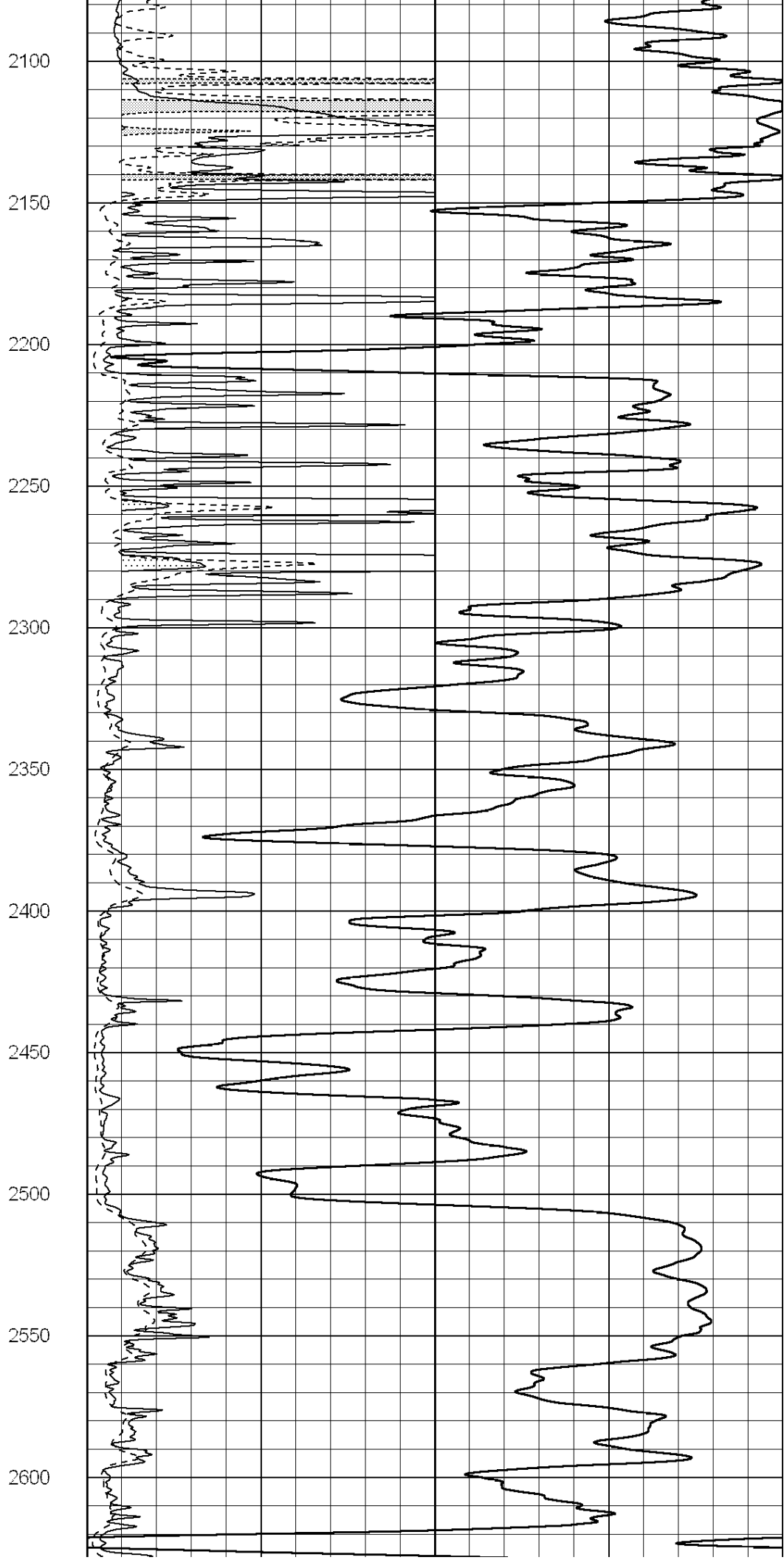
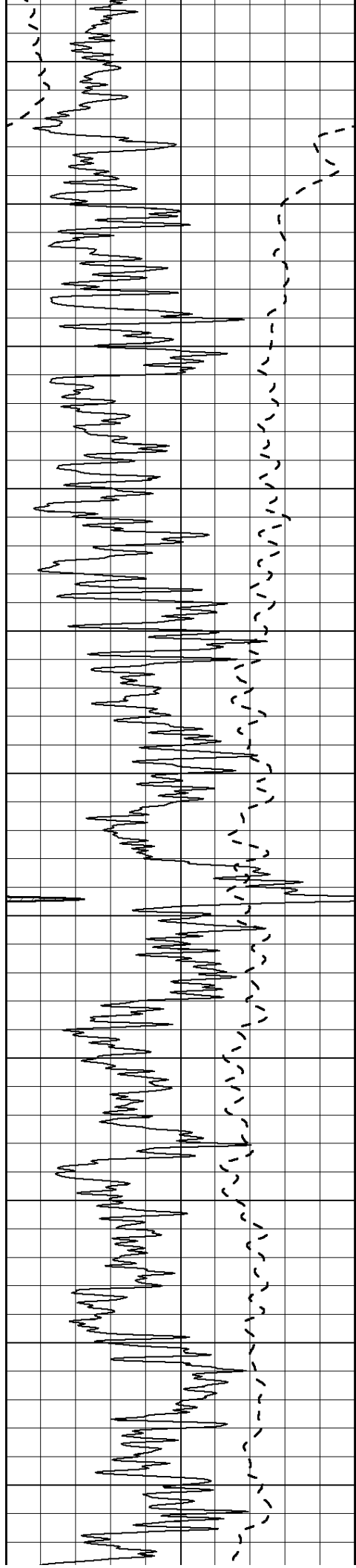
900

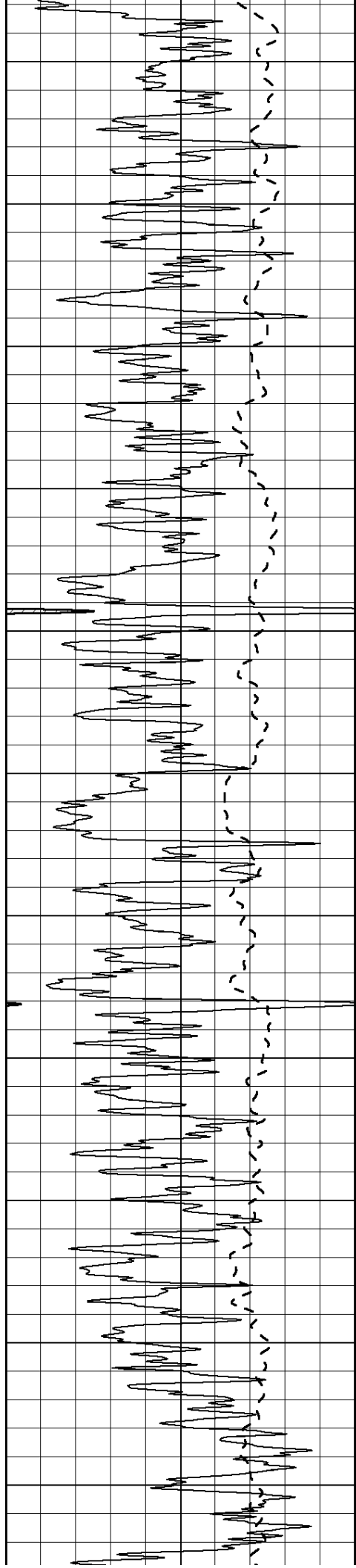
950











2650

2700

2750

2800

2850

2900

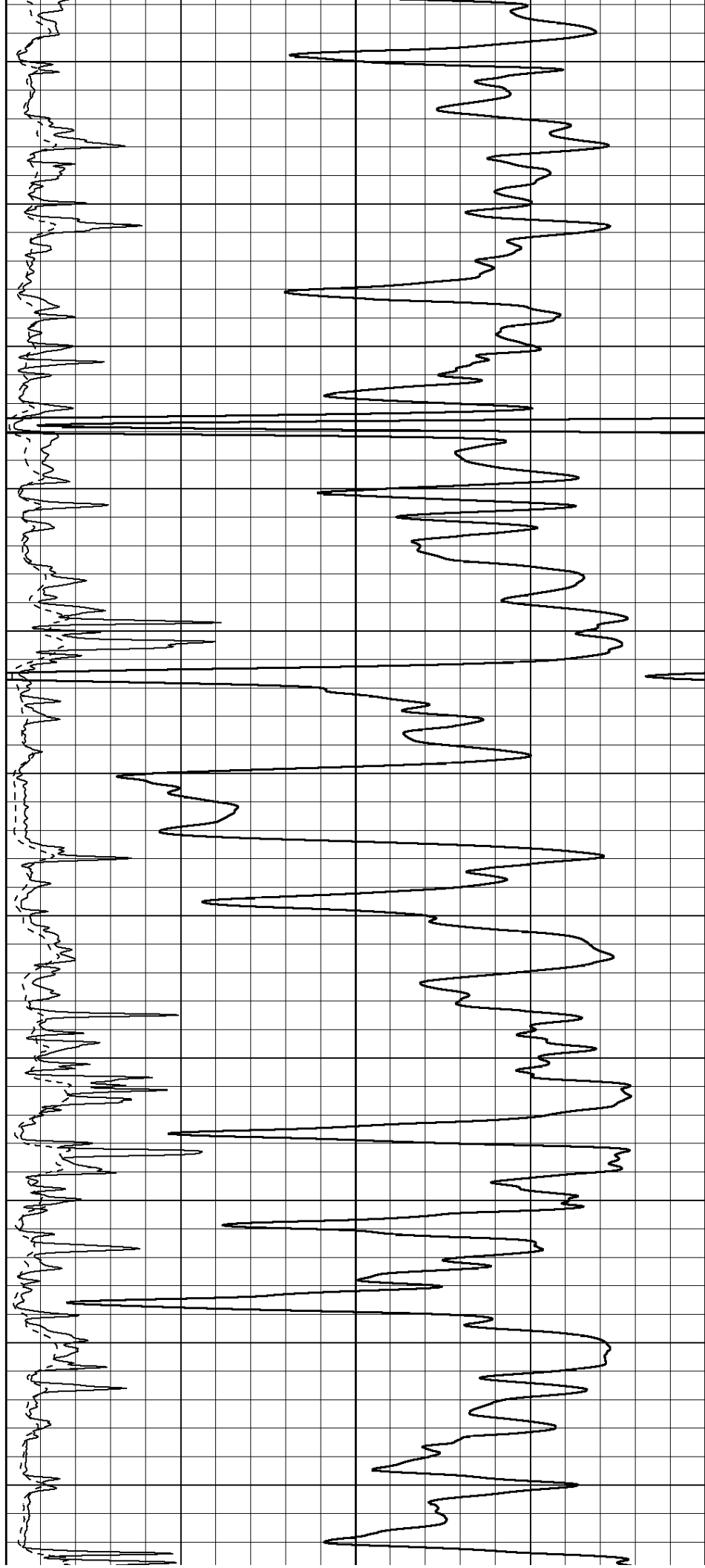
2950

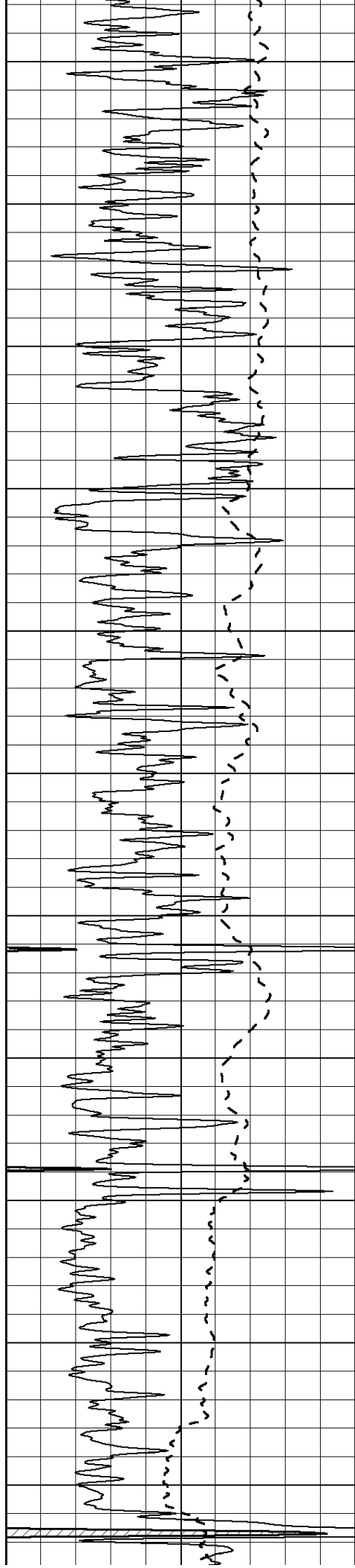
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

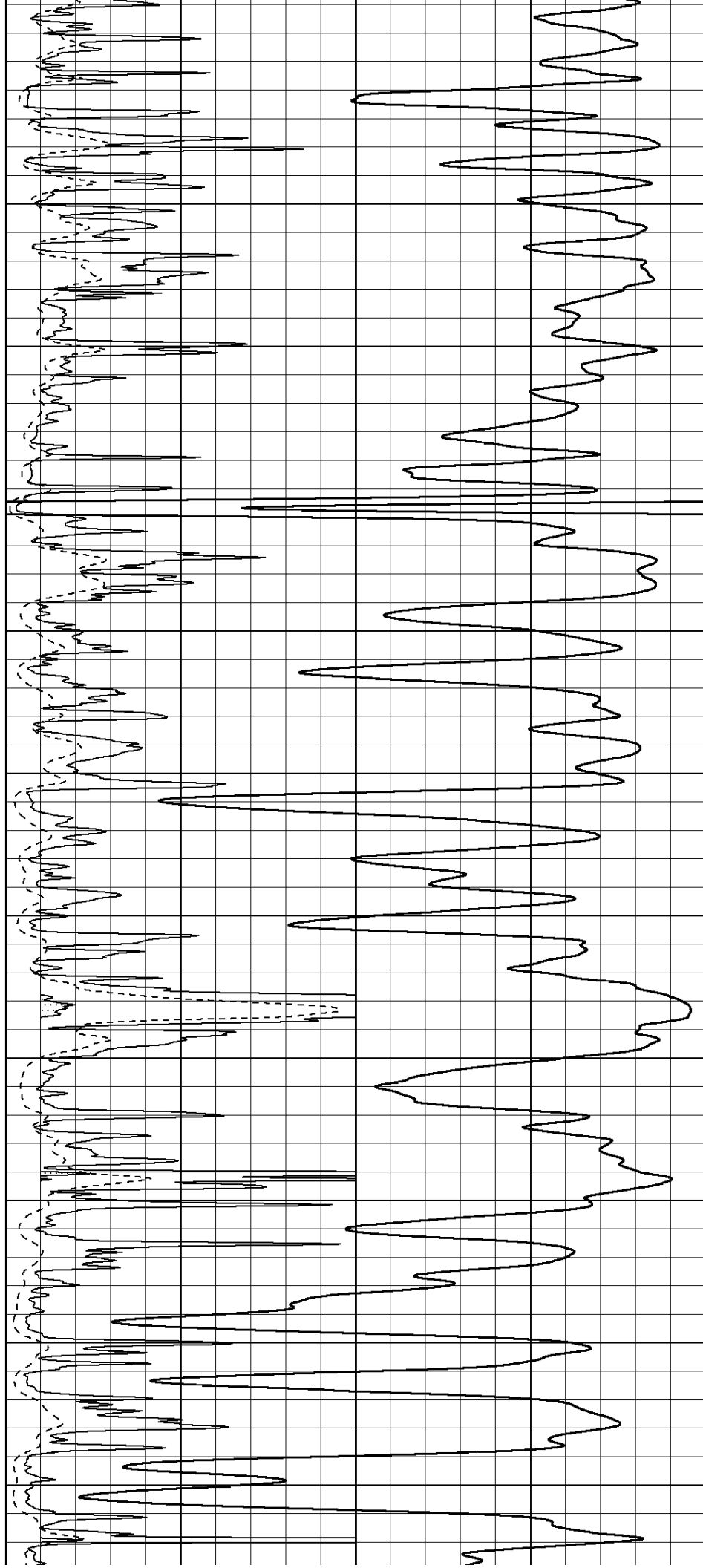
3500

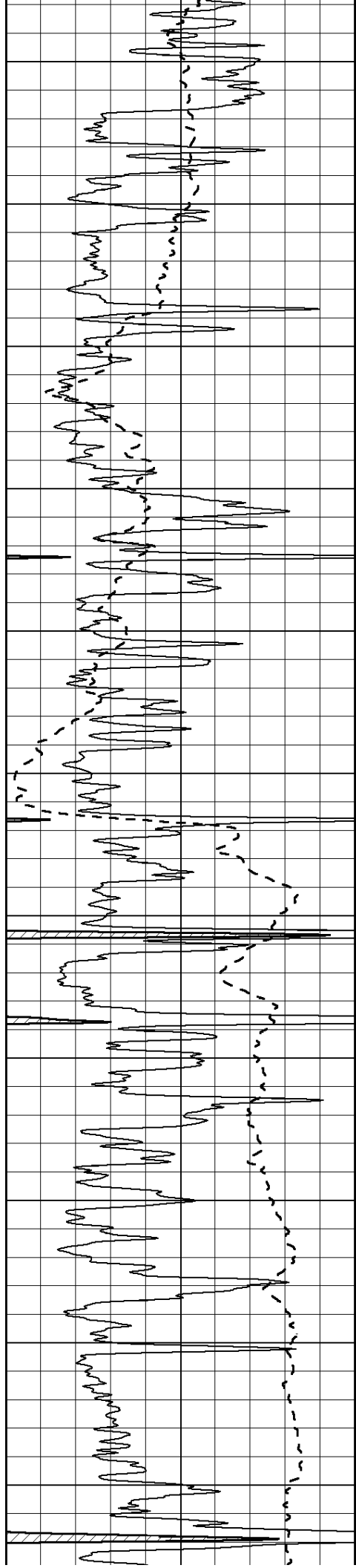
3550

3600

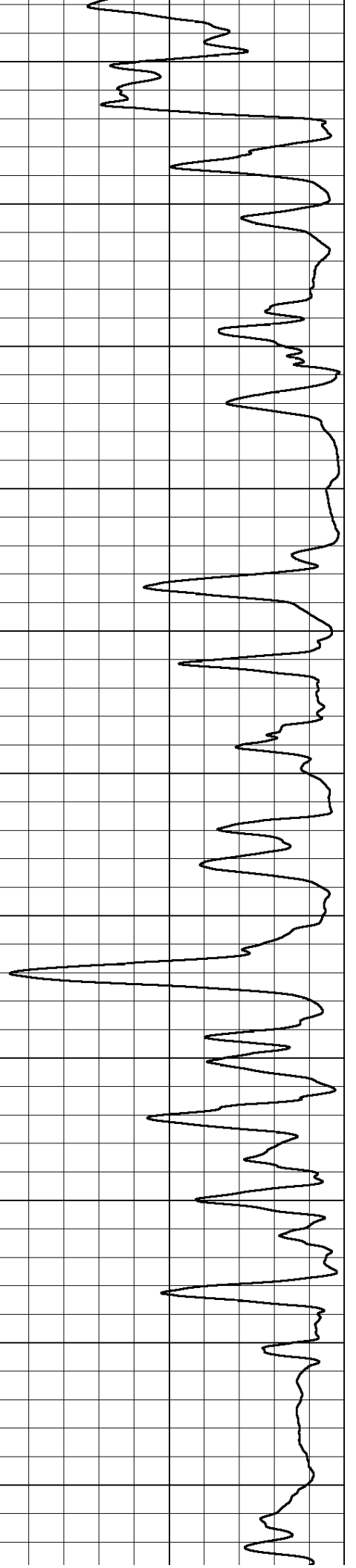
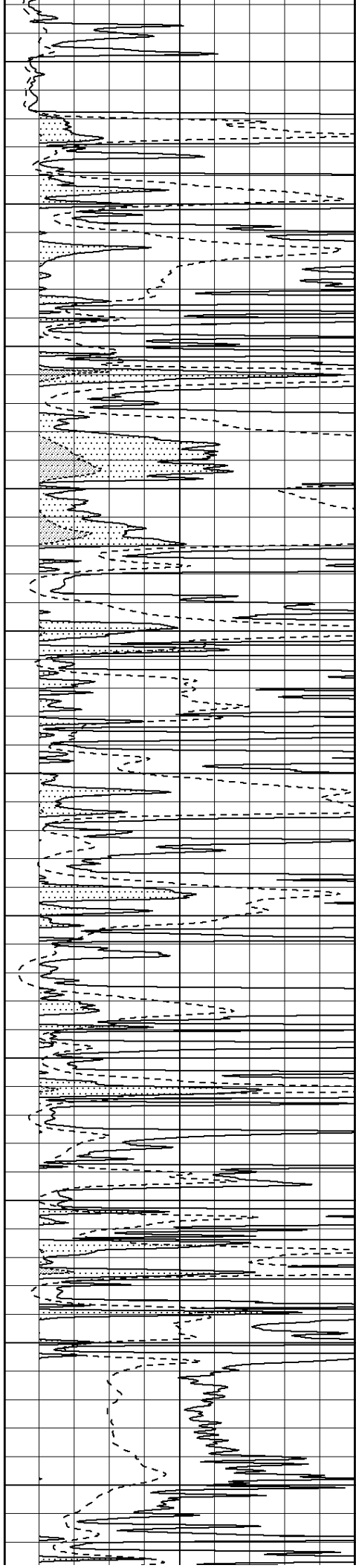
3650

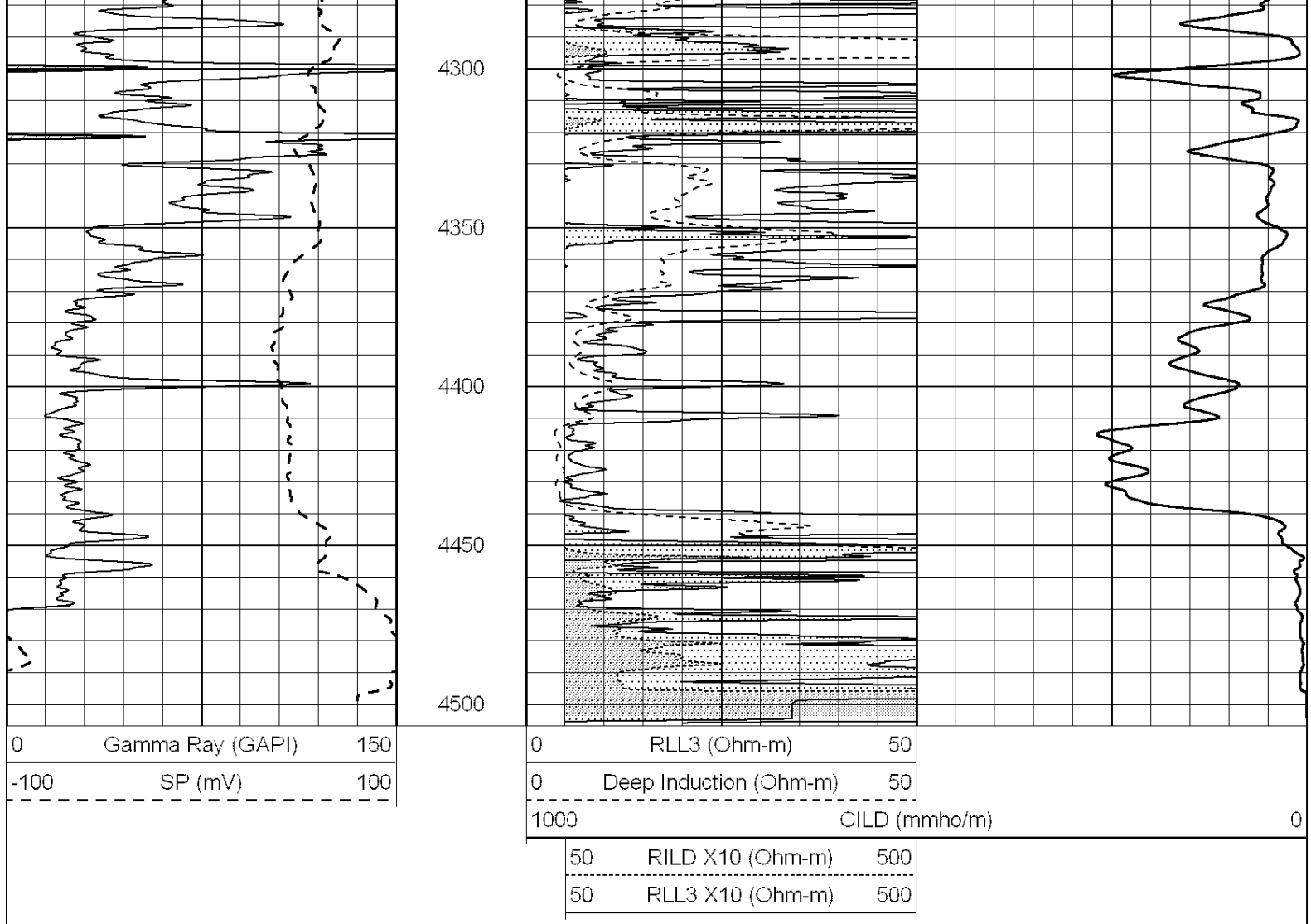
3700





3750
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250



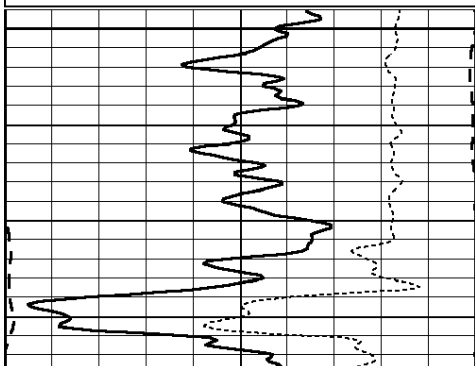


SUPERIOR
Hays,
Kansas

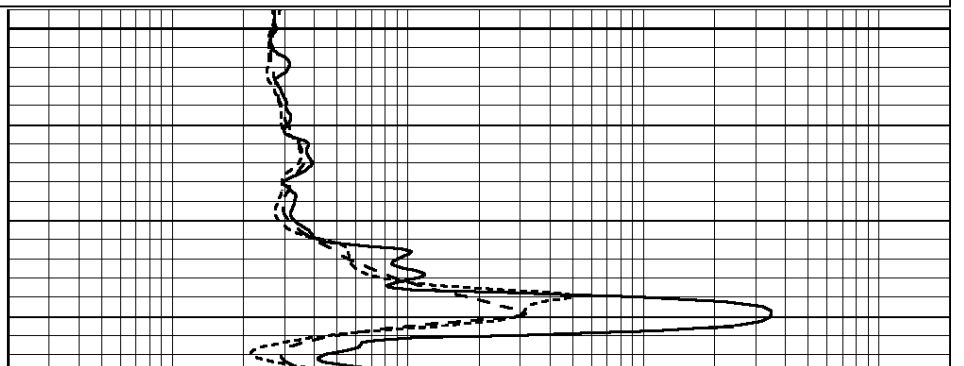
ANHYDRITE

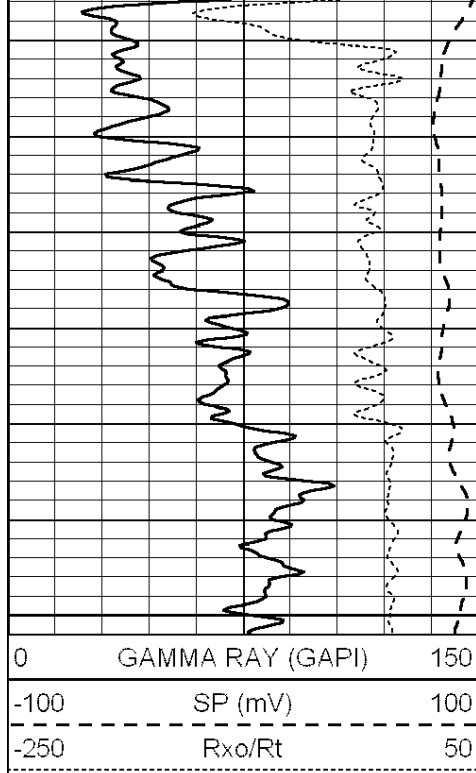
Database File: 007065ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: _dil
 Dataset Creation: Thu May 19 19:00:24 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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



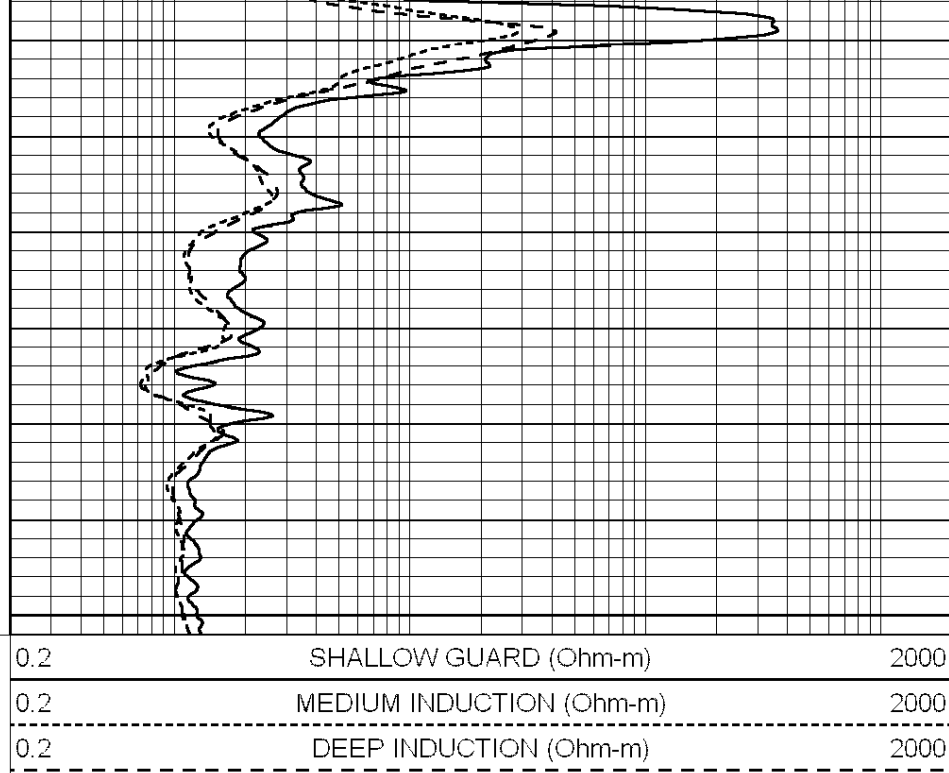
1350





1400

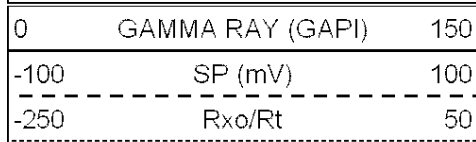
1450



SUPERIOR
WELL SERVICES
**Hays,
Kansas**

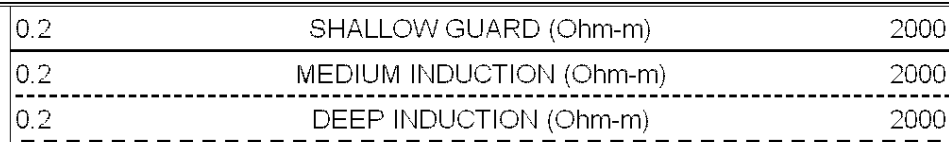
MAIN SECTION

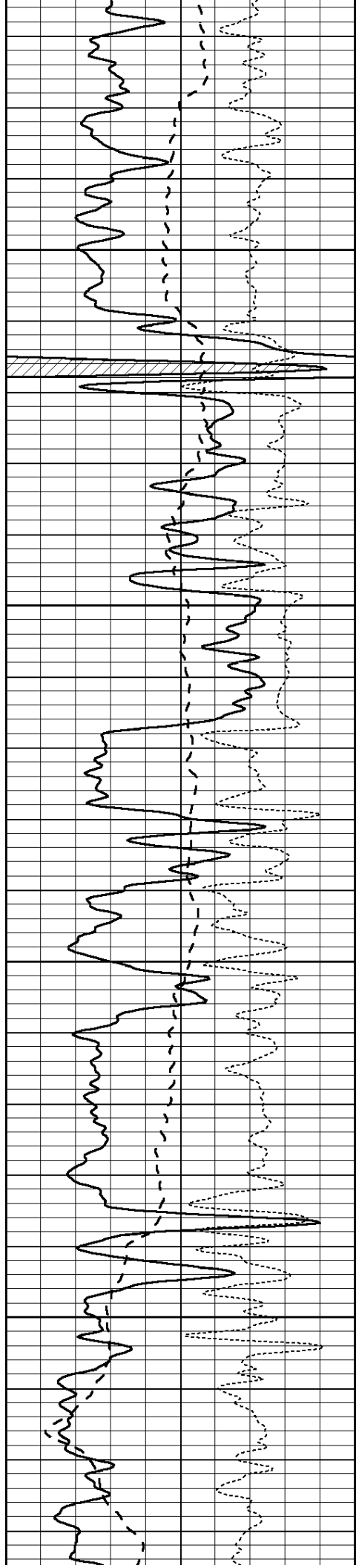
Database File: 007065ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu May 19 18:41:18 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



3600

3650



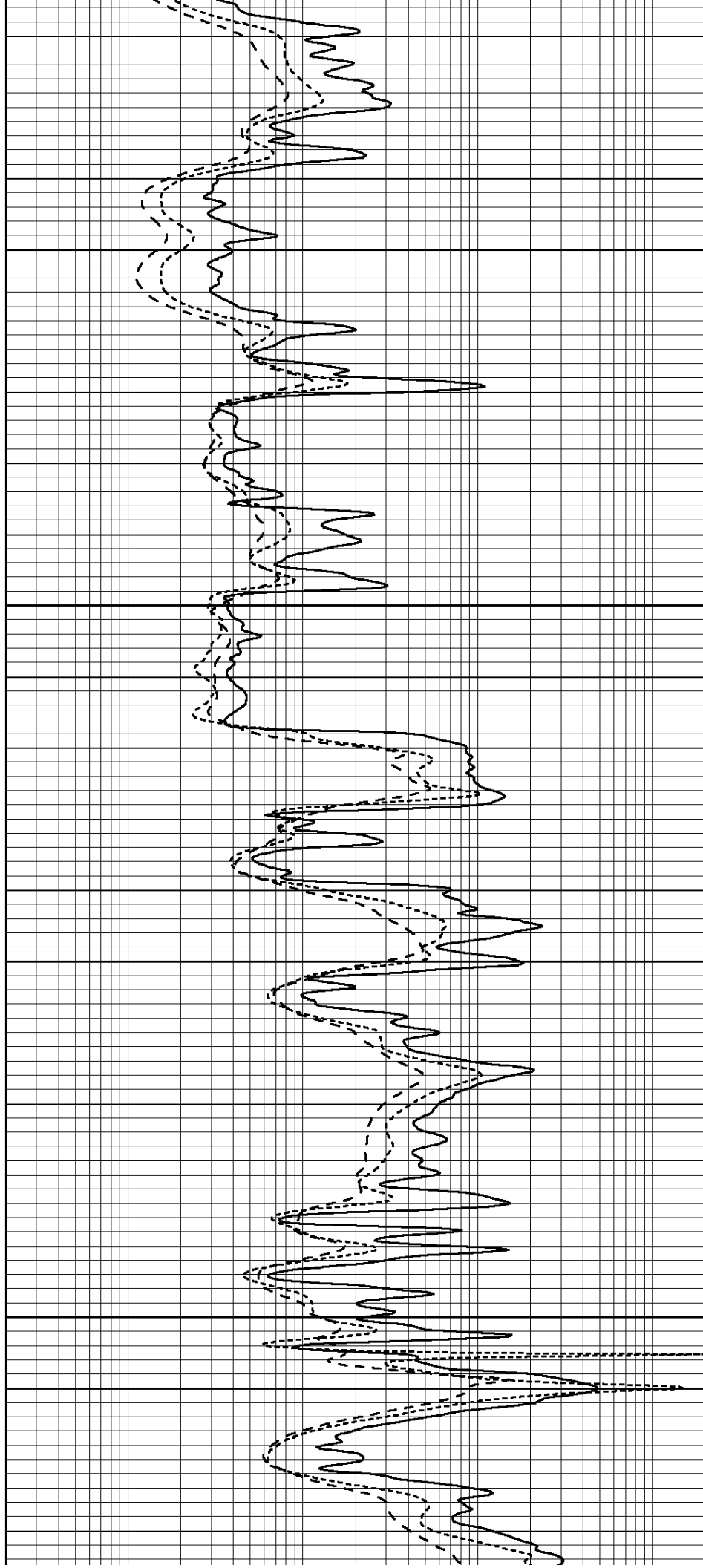


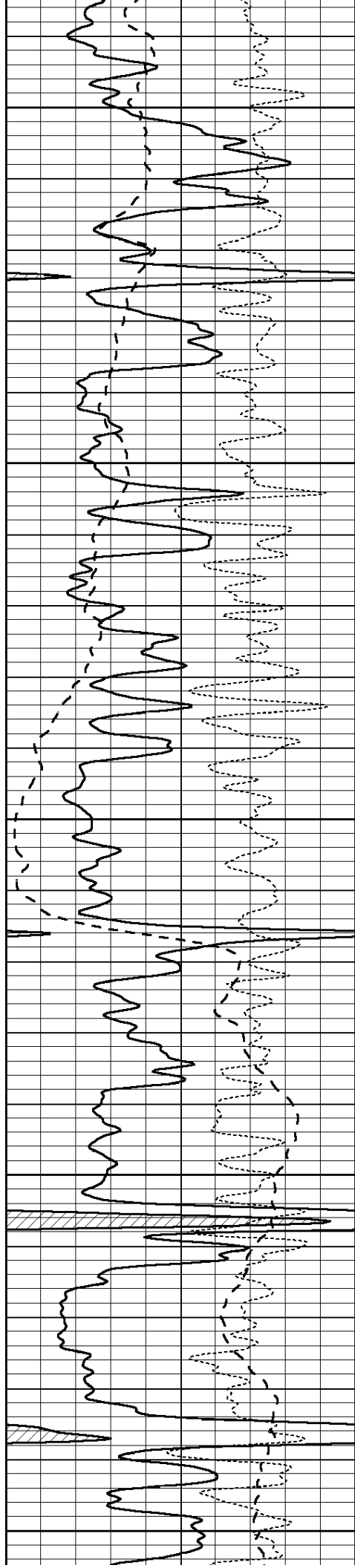
3700

3750

3800

3850





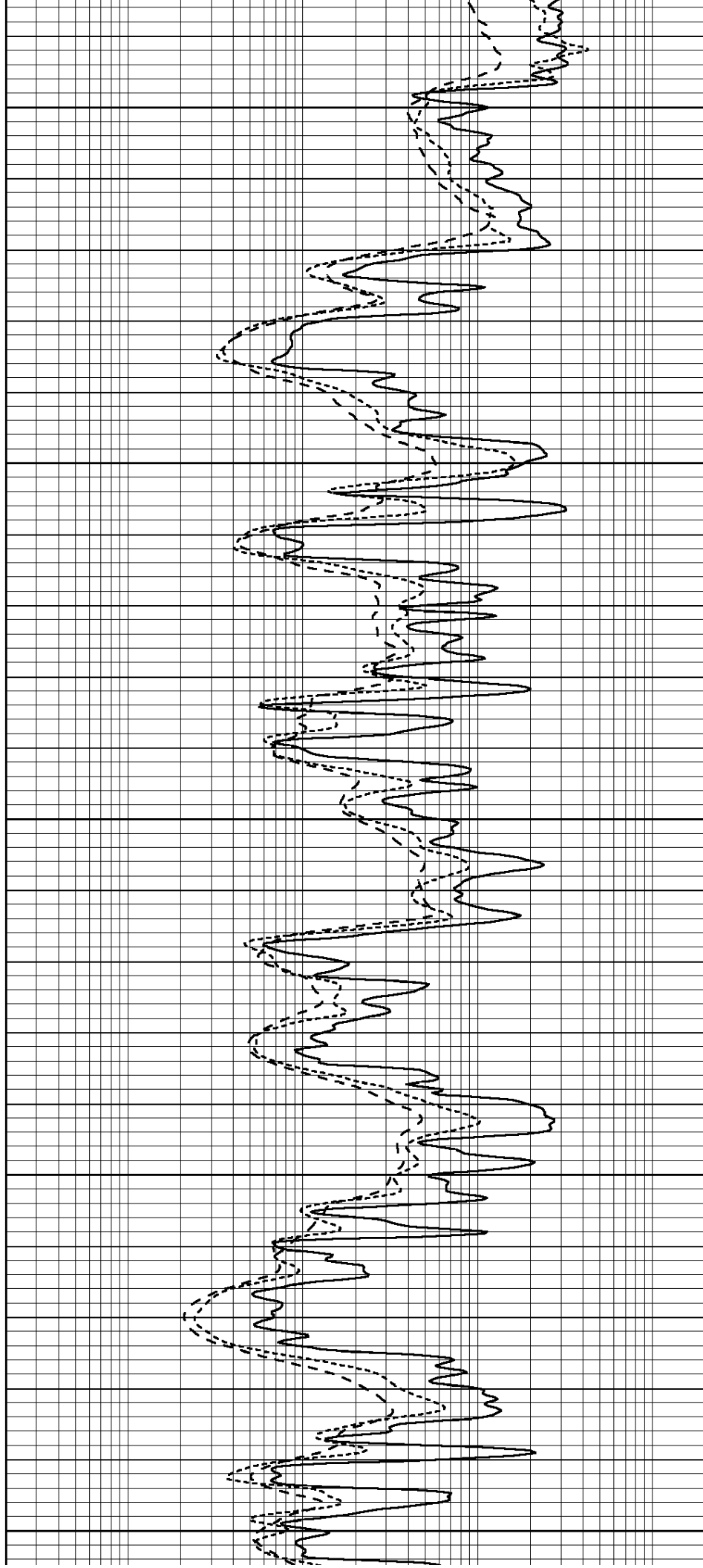
3900

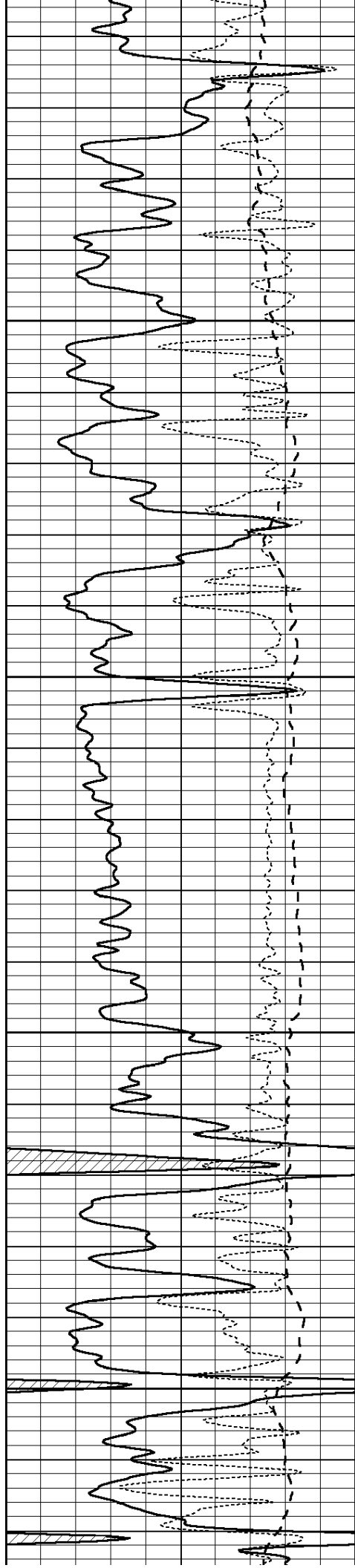
3950

4000

4050

4100



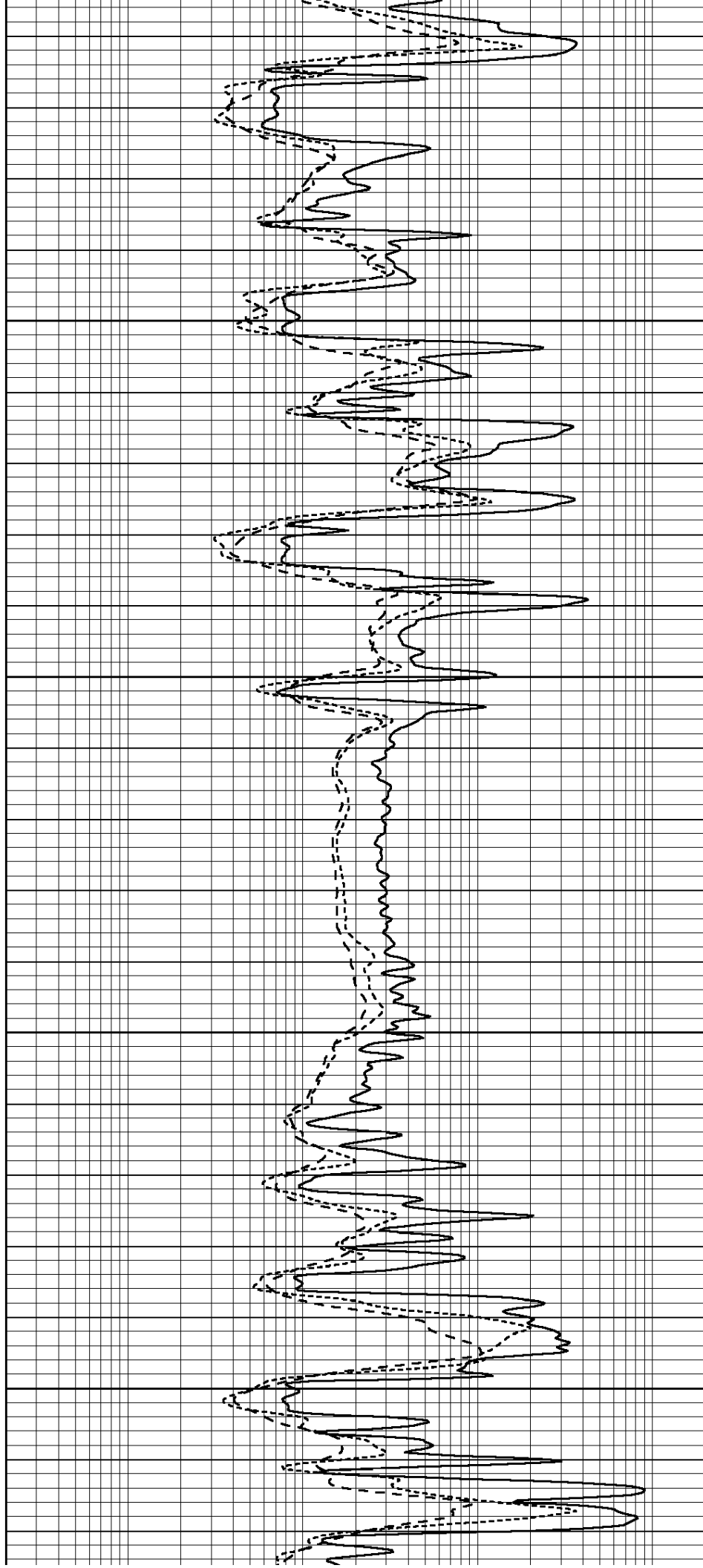


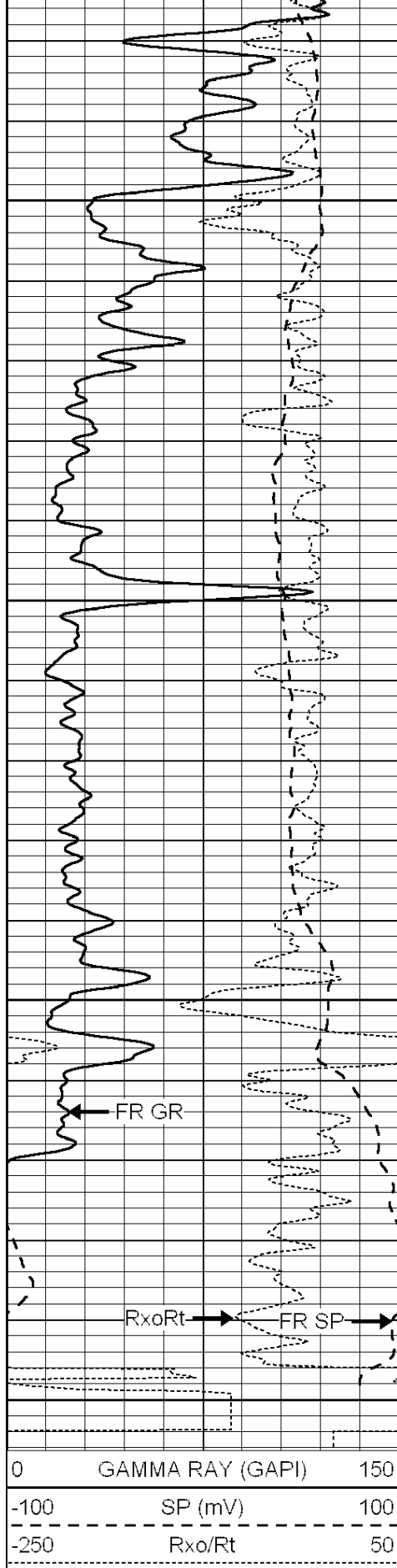
4150

4200

4250

4300

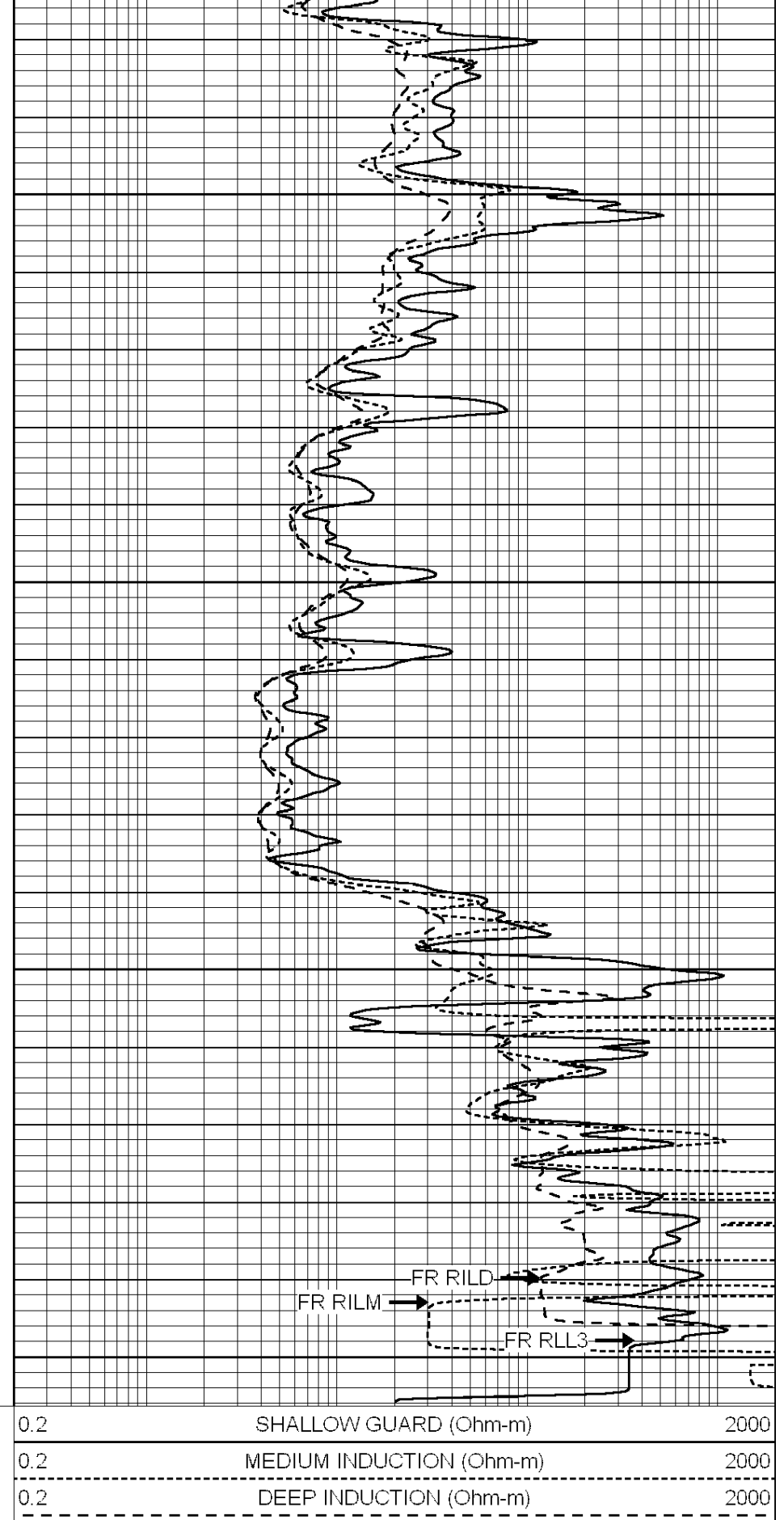




4350

4400

4450



SUPERIOR
Hays,

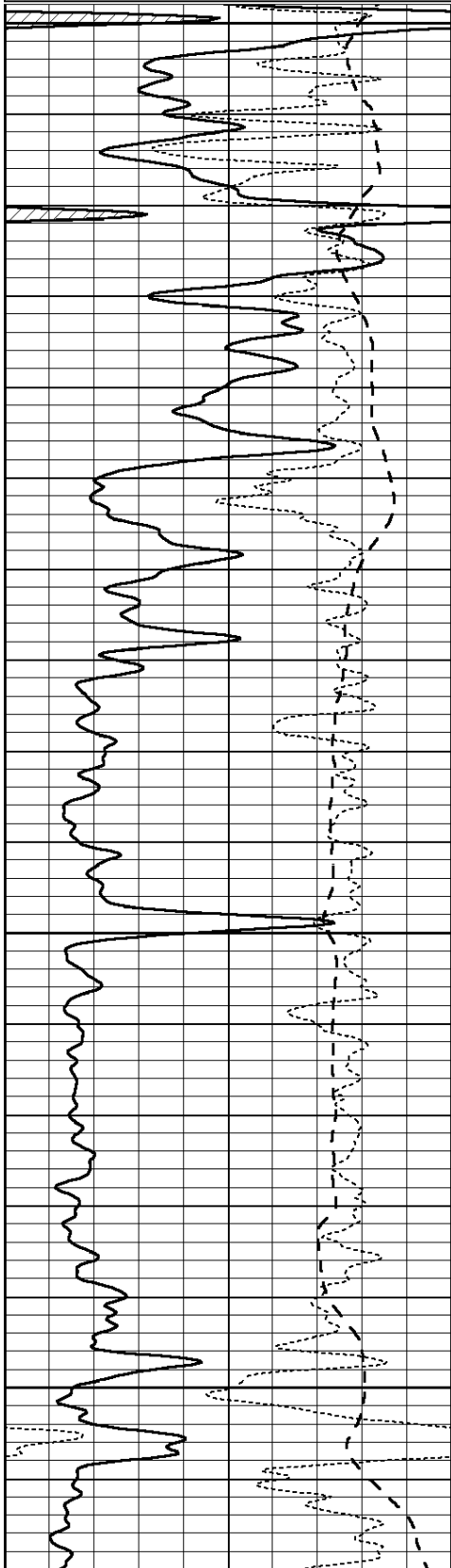
REPEAT SECTION



Database File: 007065ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Thu May 19 18:50:41 2011 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

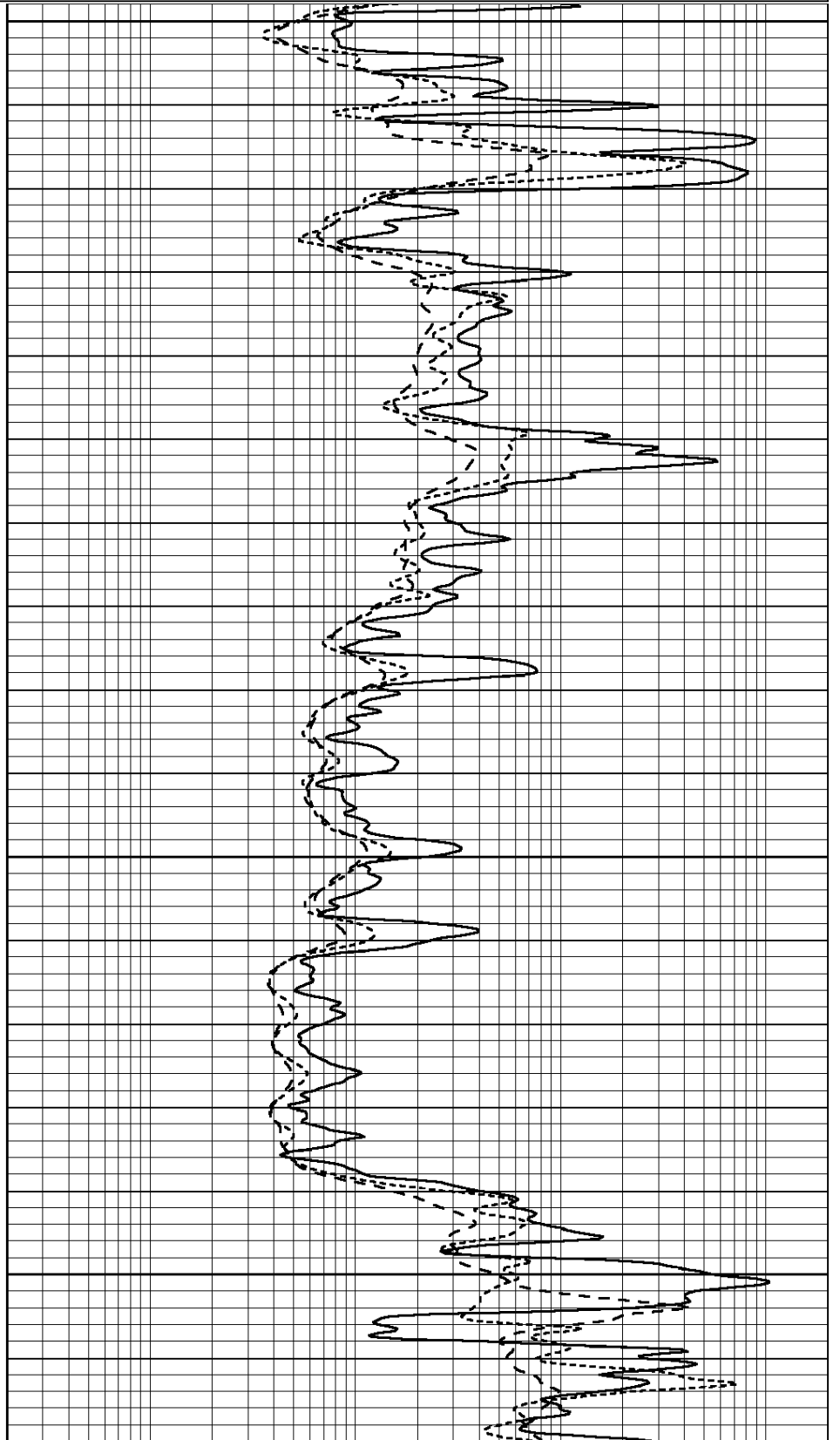


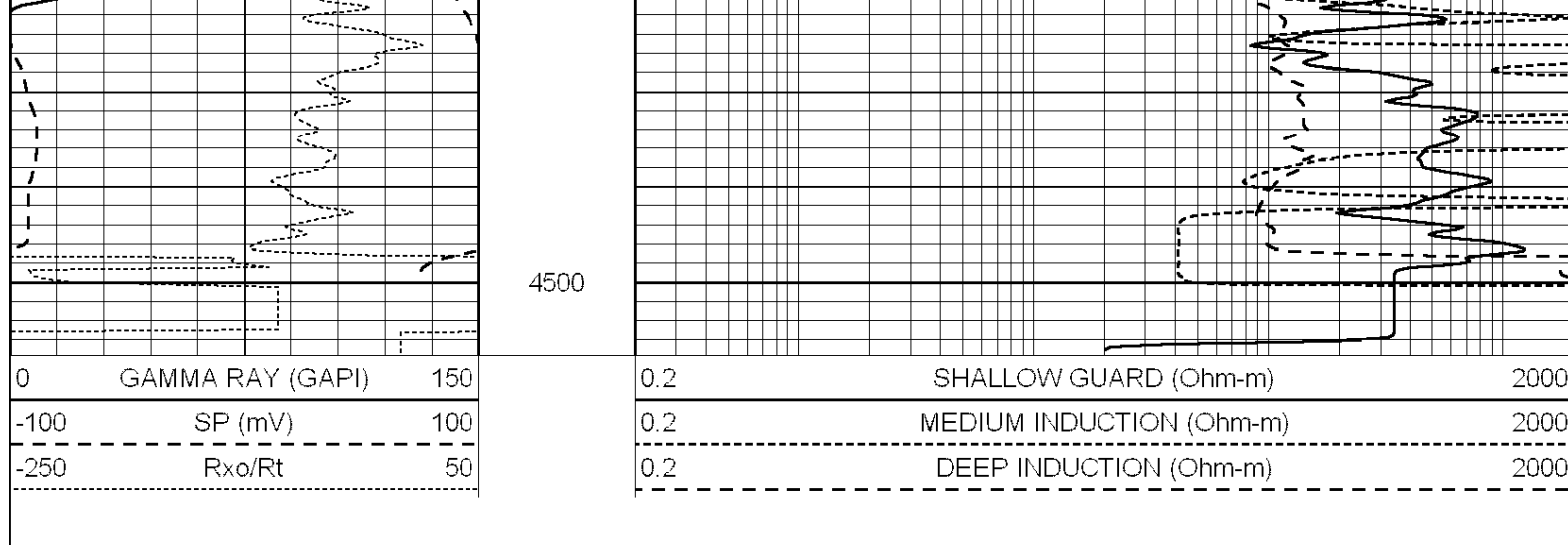
4300

4350

4400

4450





Calibration Report

Database File: 007065ddh.db
 Dataset Pathname: pass2.1
 Dataset Creation: Thu May 19 18:50:41 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Wed Jul 30 06:14:24 2008
 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	8.759
Medium	0.039	0.728	V	0.000	464.000	mmho/m	673.322	-26.058
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		

Compensated Density Calibration Report

Master Calibration

	Density		Far Detector		Near 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	2.50		V	
Large Ring	14.00	in	4.70		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:	Sun Apr 10 22:50:36 2011
Calibrator Value:	150.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	175.0 cps
Sensitivity:	0.8971 GAPI/cps