



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company		MULL DRILLING COMPANY, INC.	
Well		#1-3 MARLENE	
Field			
County		NESS	
State		KANSAS	
Company		MULL DRILLING COMPANY, INC.	
Well		#1-3 MARLENE	
Field			
County		NESS	
State		KANSAS	
Location:		API # : 15-135-25377-0000 525' FSL & 660' FWL	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 5' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 3		TWP 20S	
RGE 23W		Elevation	
		K.B. 2266	
		D.F. 2264	
		G.L. 2261	
Date		4/26/12	
Run Number		ONE	
Depth Driller		4450	
Depth Logger		4452	
Bottom Logged Interval		4450	
Top Log Interval		00	
Casing Driller		8 5/8" @ 211	
Casing Logger		212	
Bit Size		7 7/8	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.3/49	
pH / Fluid Loss		10.0/8.0	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		.65 @ 85F	
Rinf @ Meas. Temp		.48 @ 85F	
Rmc @ Meas. Temp		.78 @ 85F	
Source of Rmf / Rmc		MEASURED	
Rim @ BHT		.46 @ 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		KEVIN KESSLER	

<<< 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
NESS CITY, KS. - 8 S. TO RD 50 - 2 E. - N. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 008850pe.db
 Dataset Pathname: pass3.2
 Presentation Format: _dil2
 Dataset Creation: Thu Apr 26 11:56:10 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

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

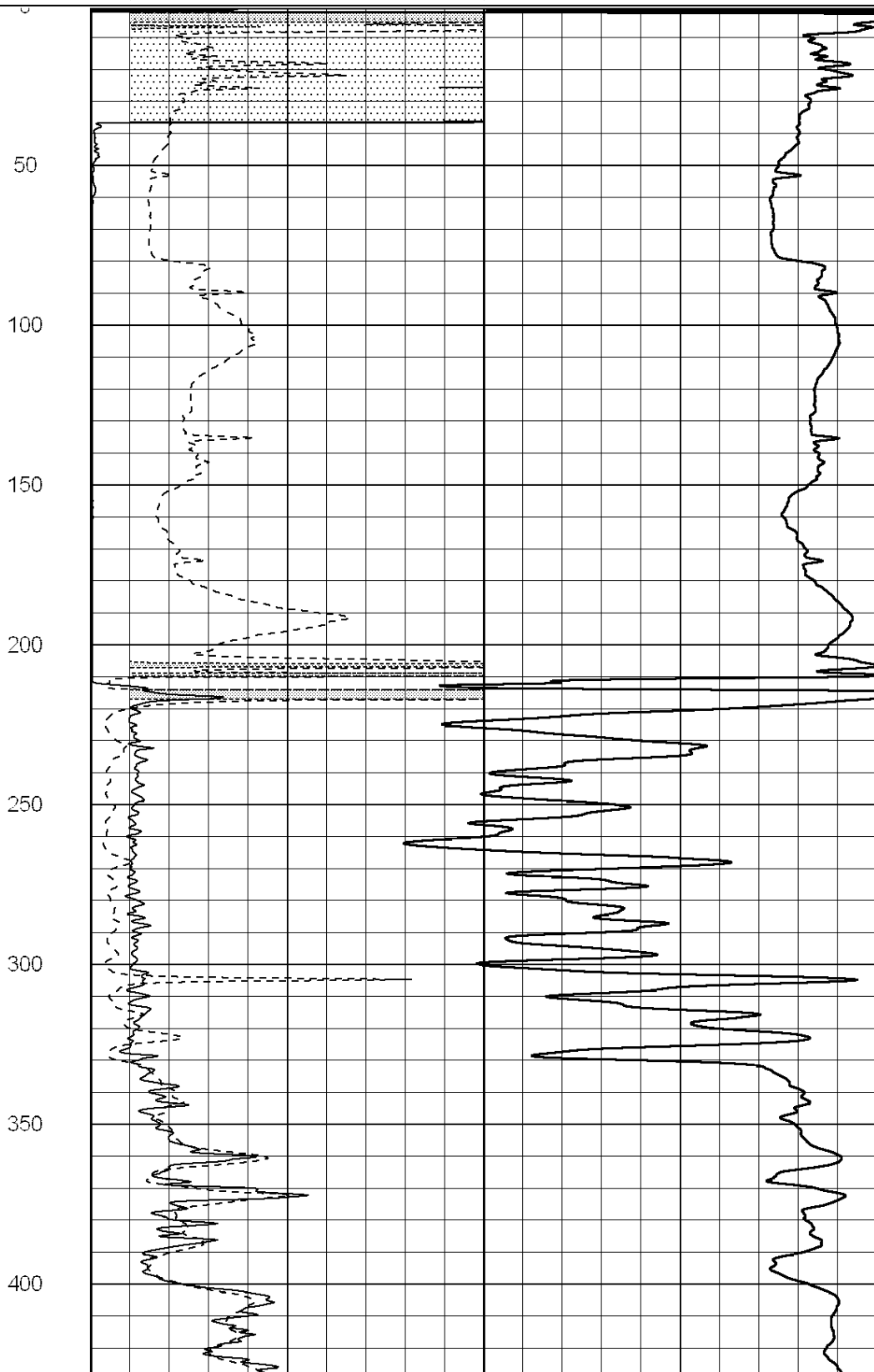
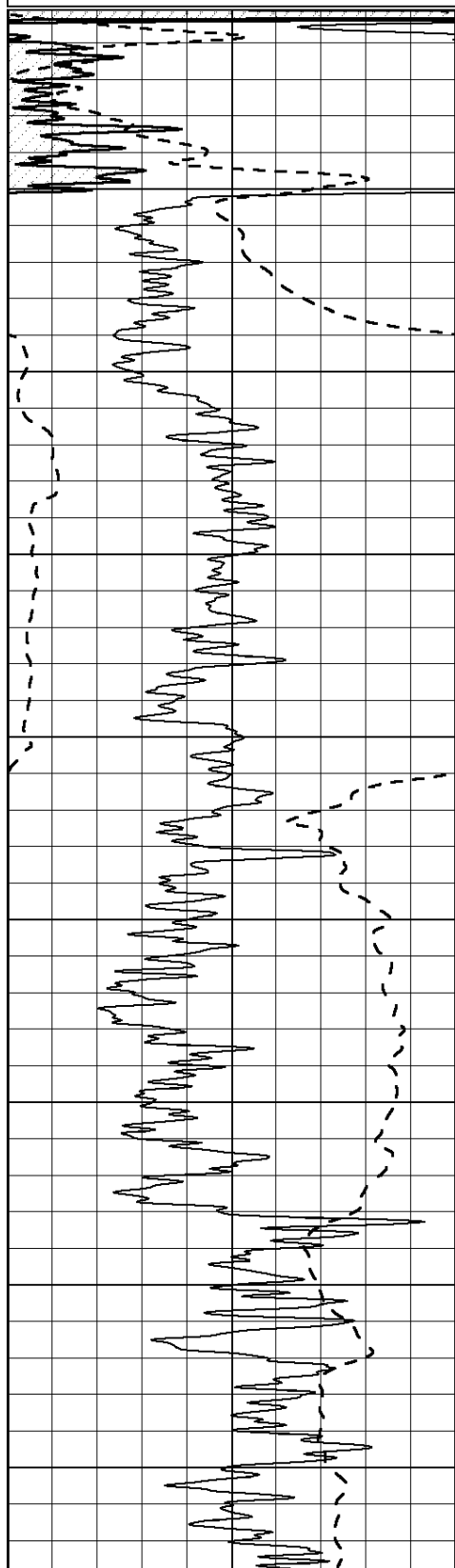
0	RLL3 (Ohm-m)	50
---	--------------	----

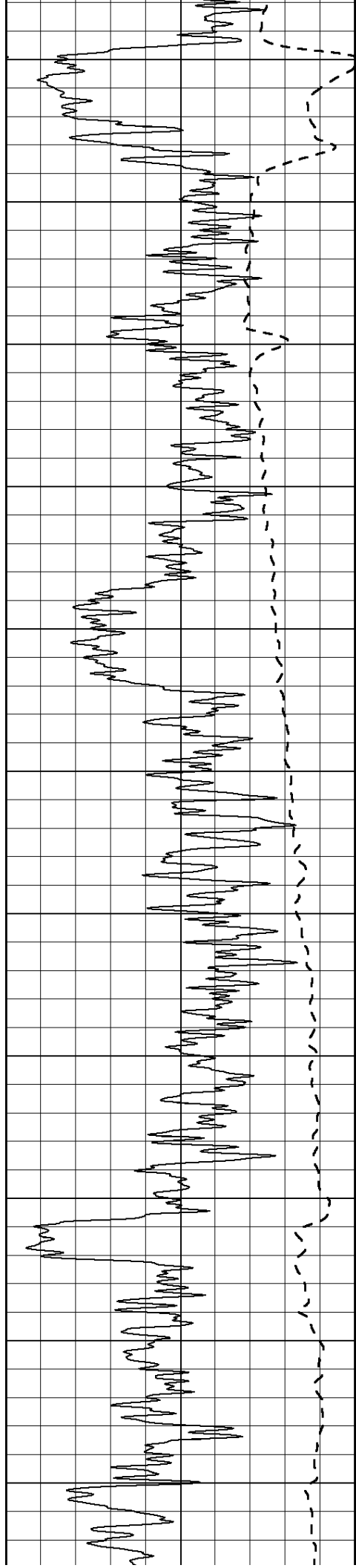
0	Deep Induction (Ohm-m)	50
---	------------------------	----

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

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

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





450

500

550

600

650

700

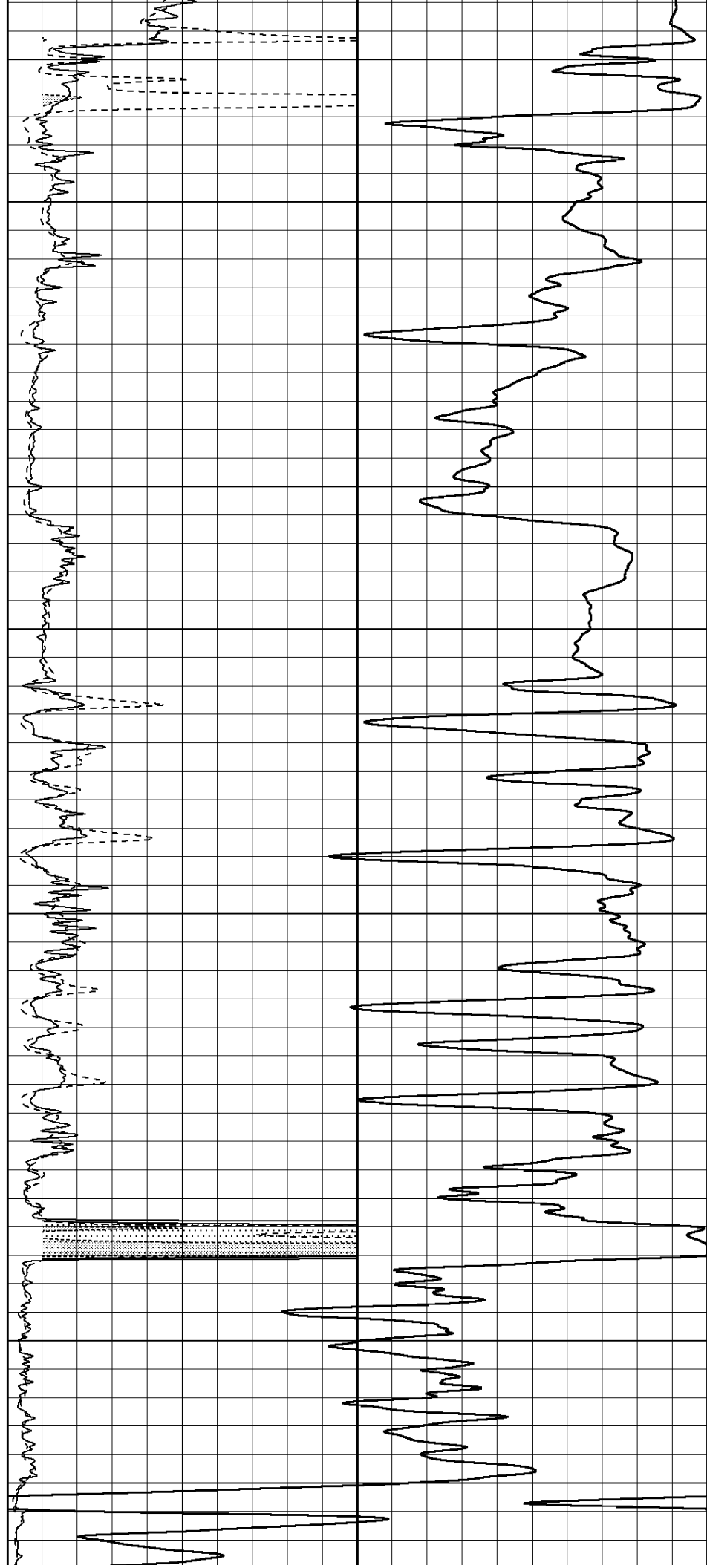
750

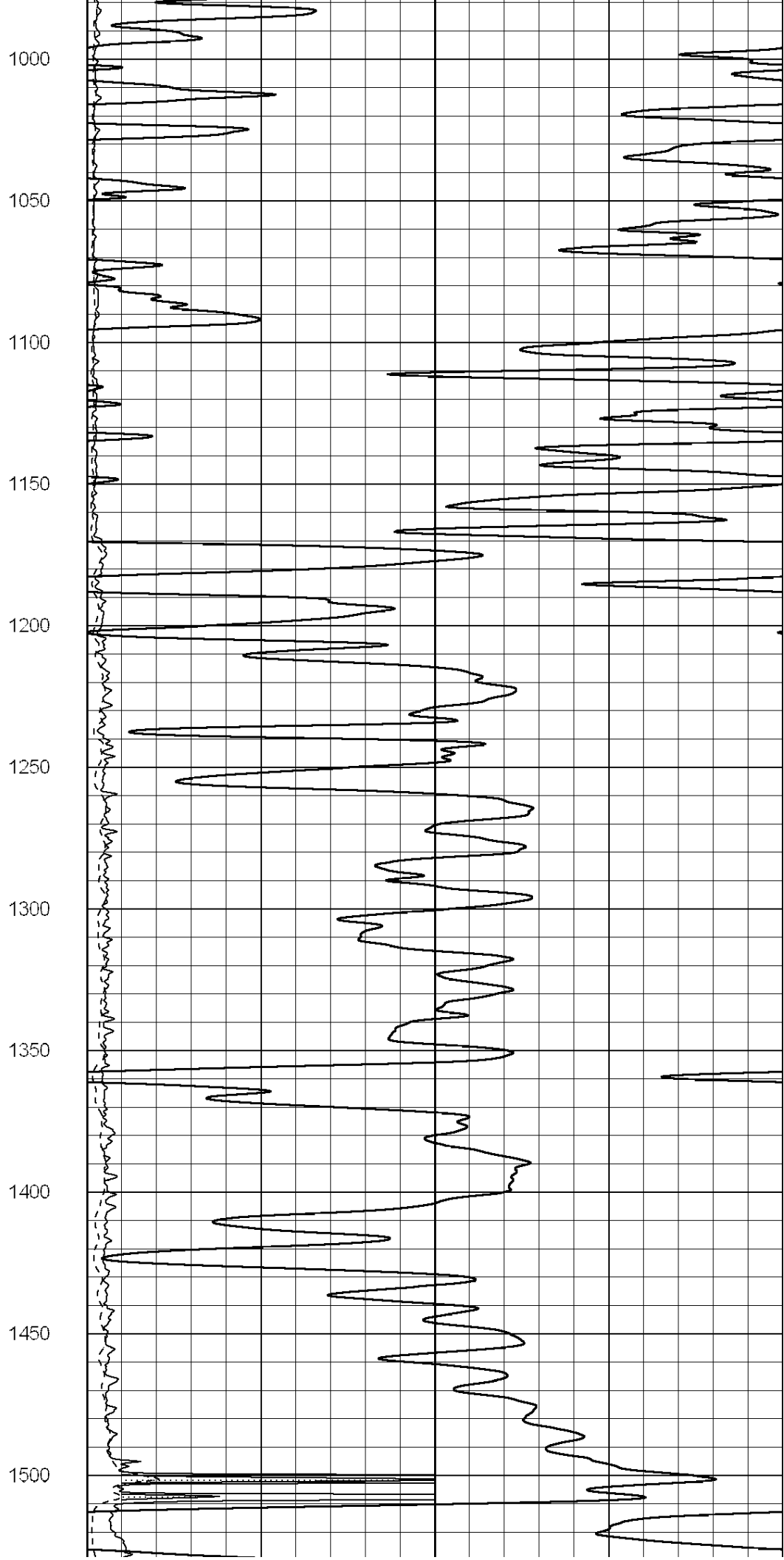
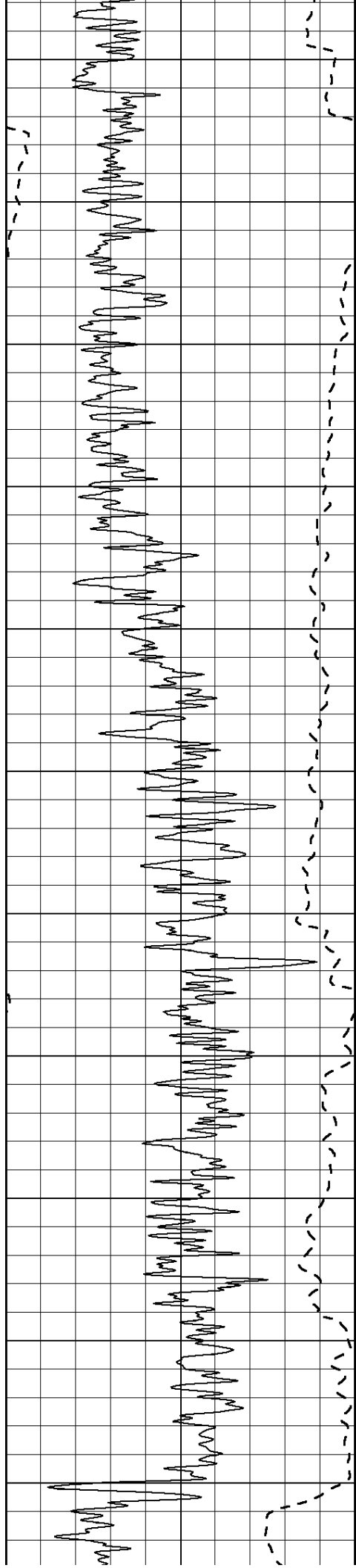
800

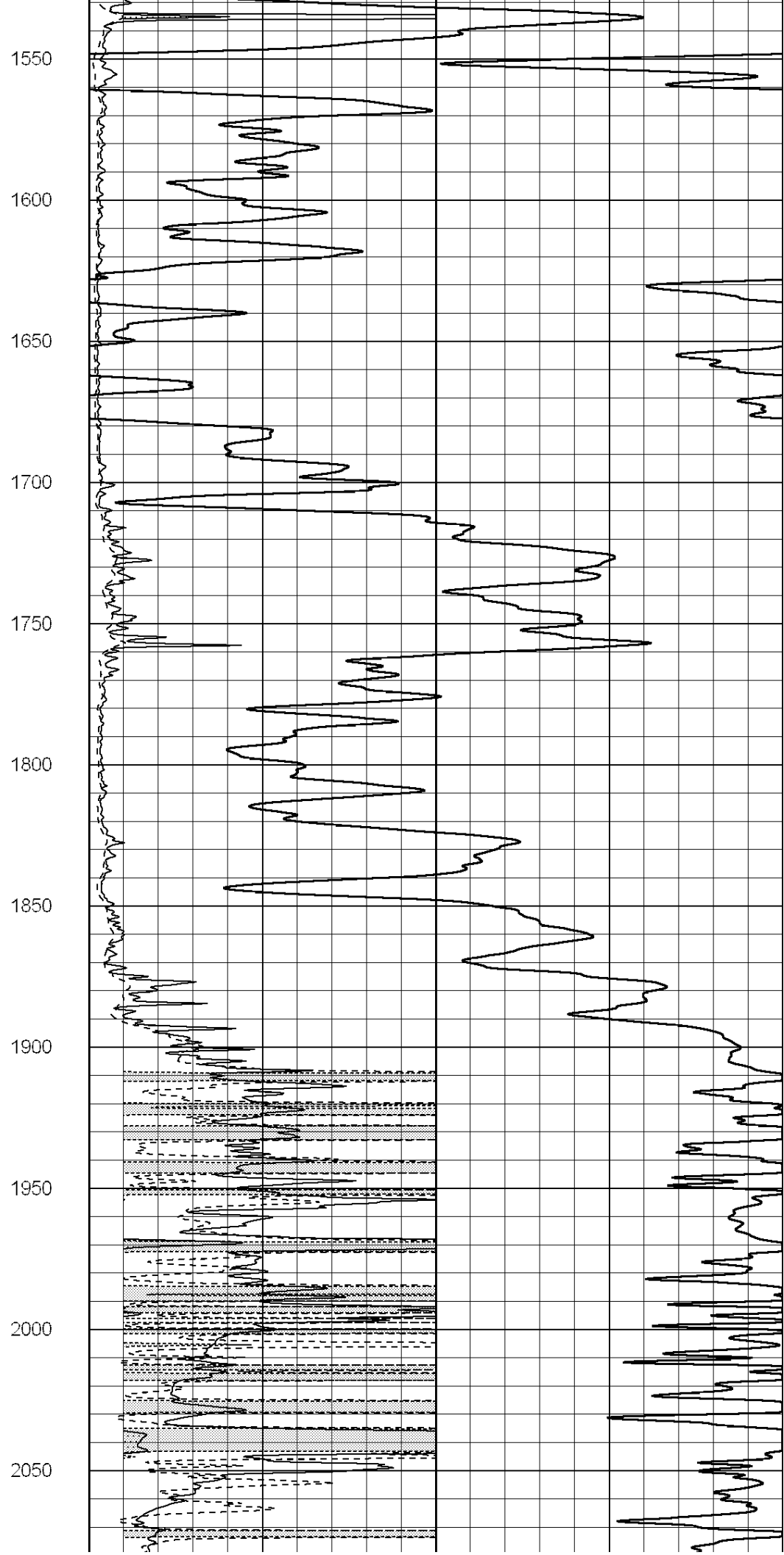
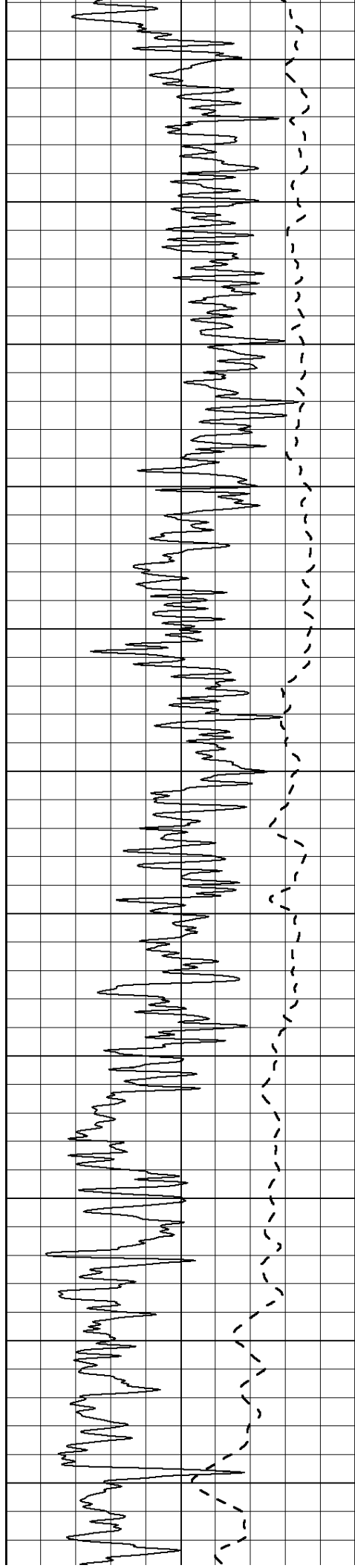
850

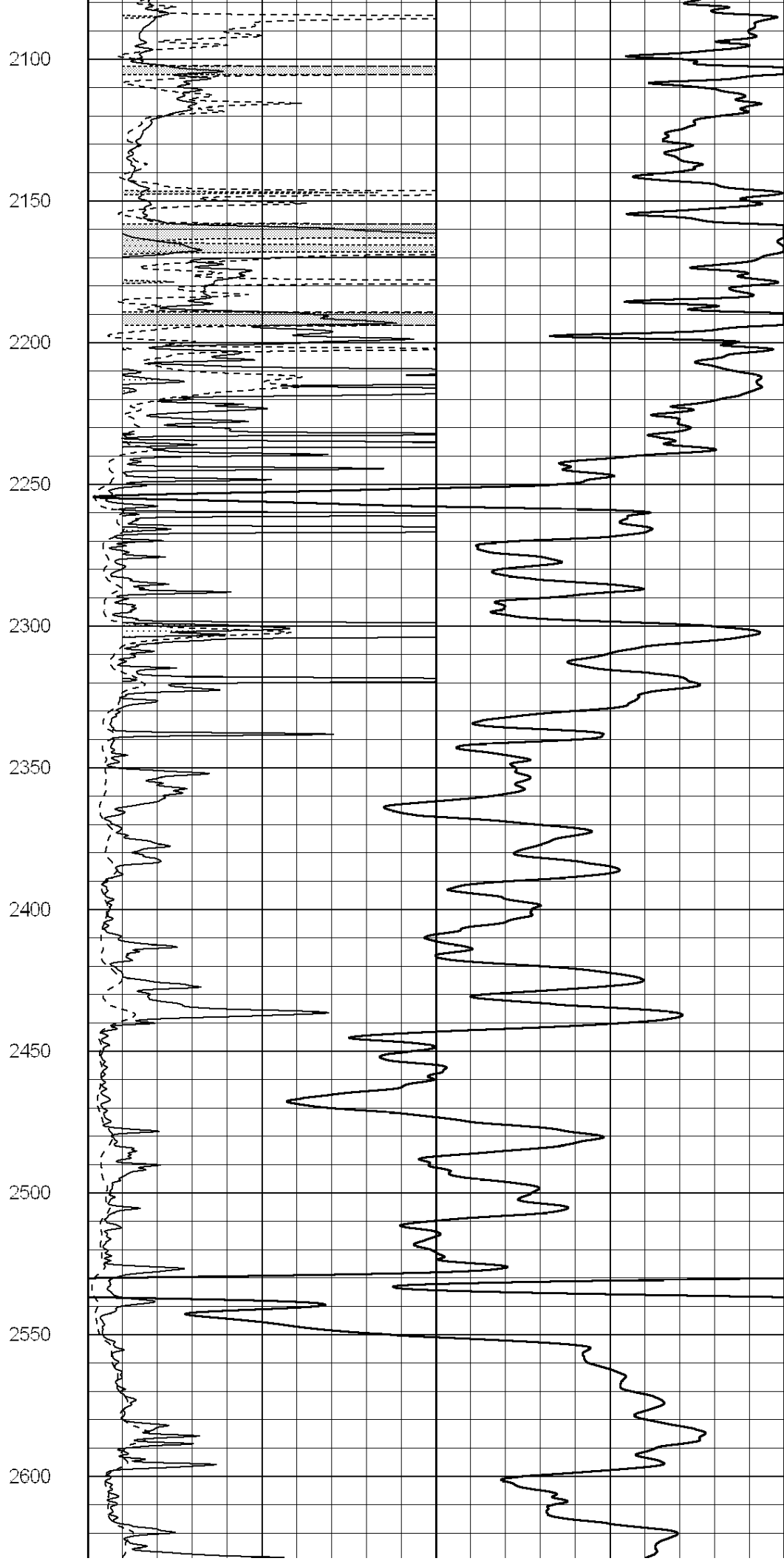
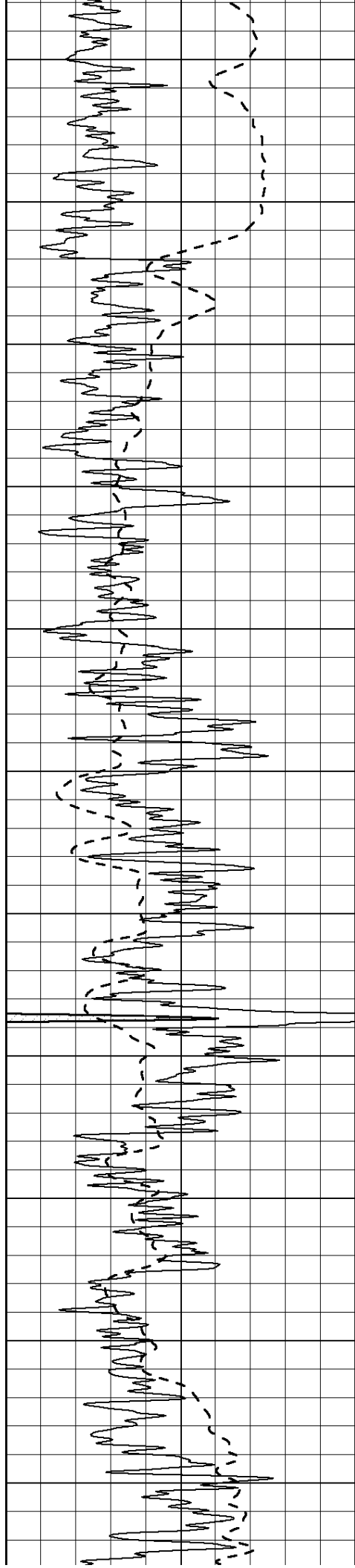
900

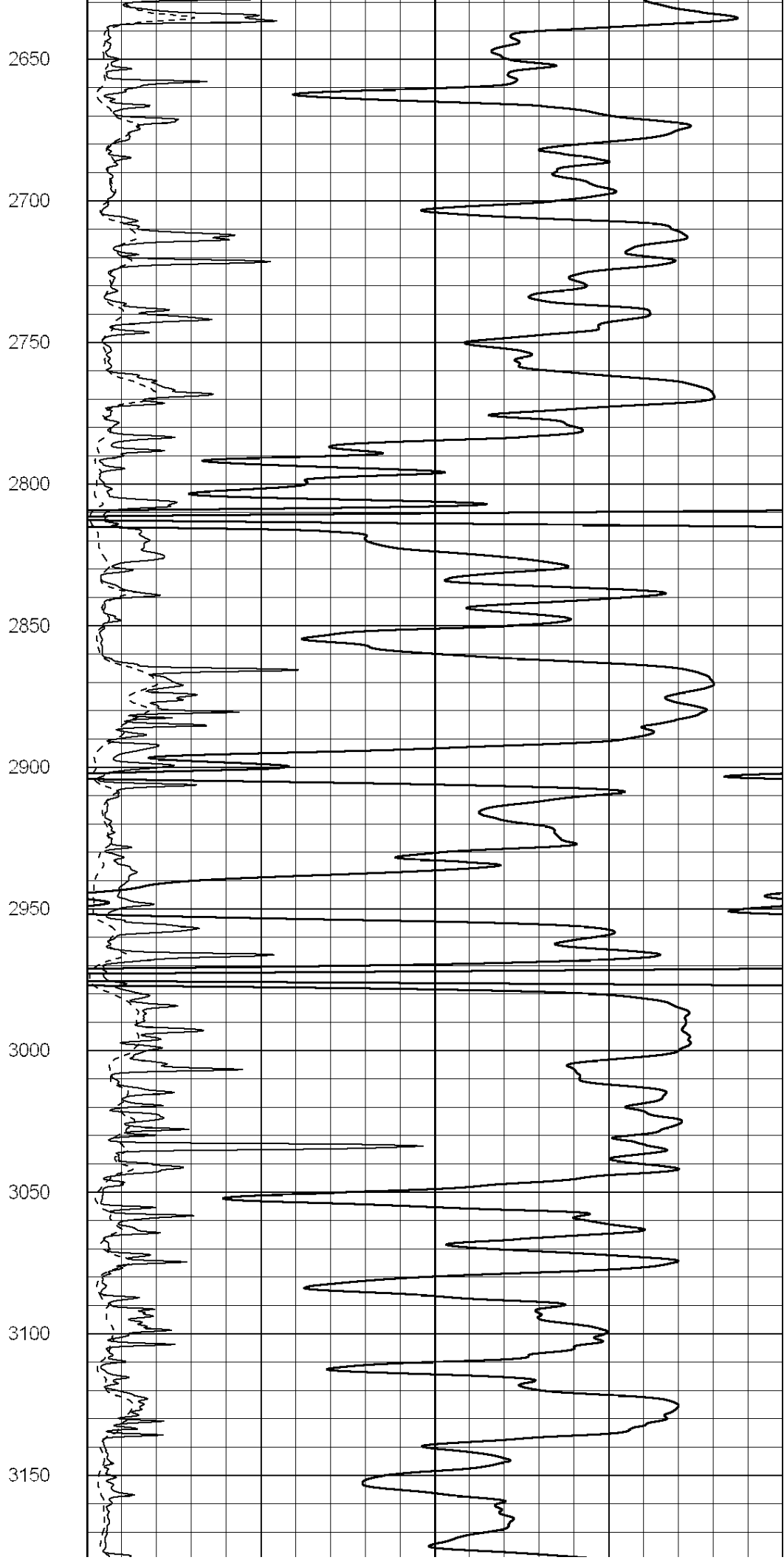
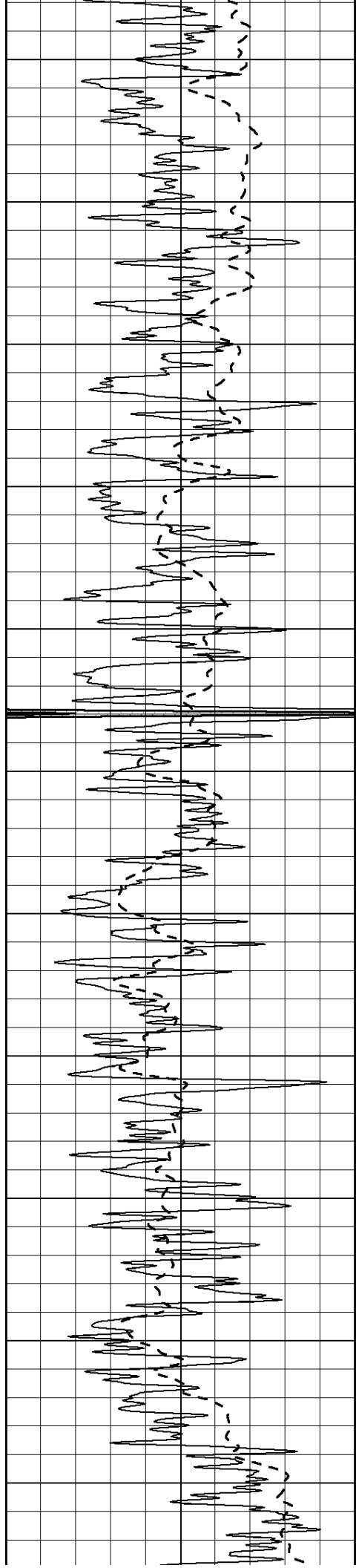
950

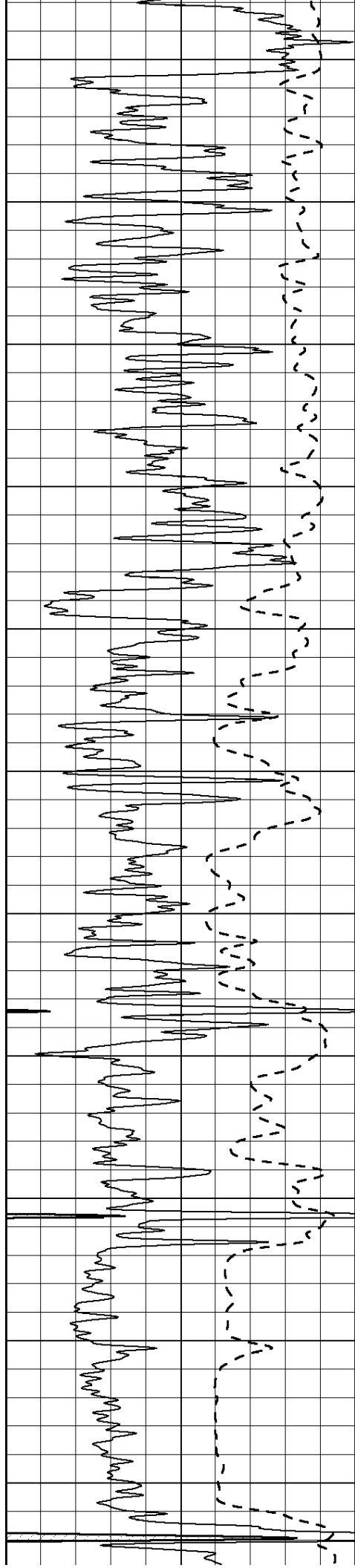












3200

3250

3300

3350

3400

3450

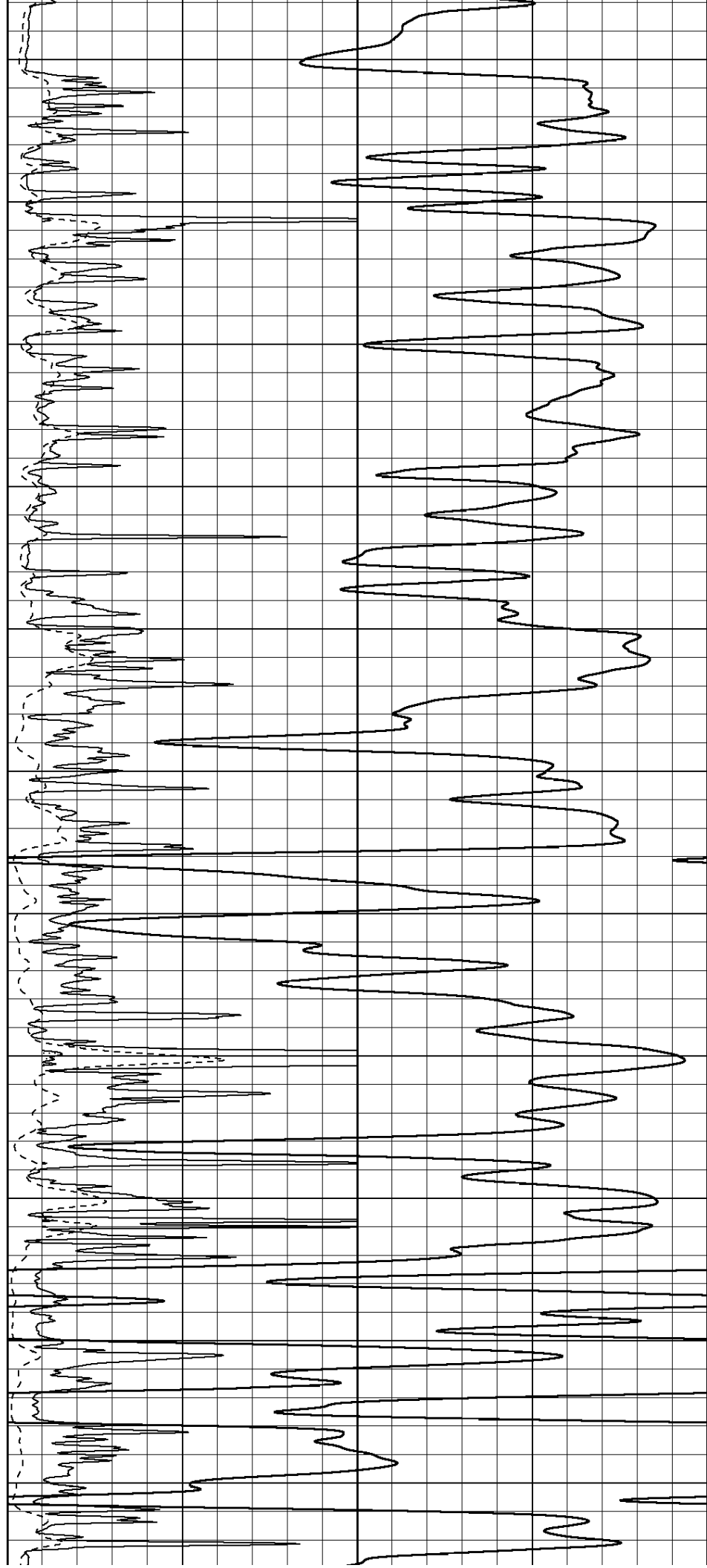
3500

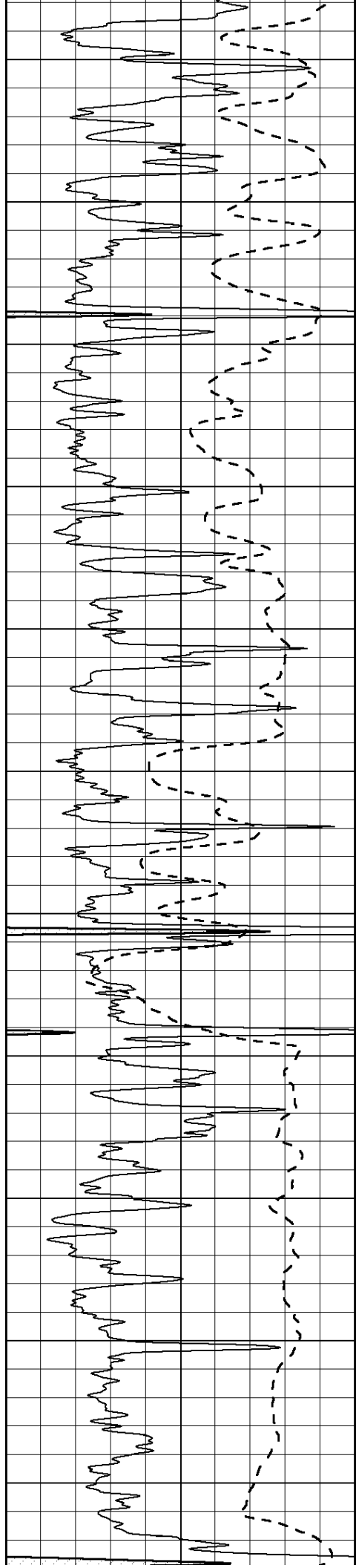
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

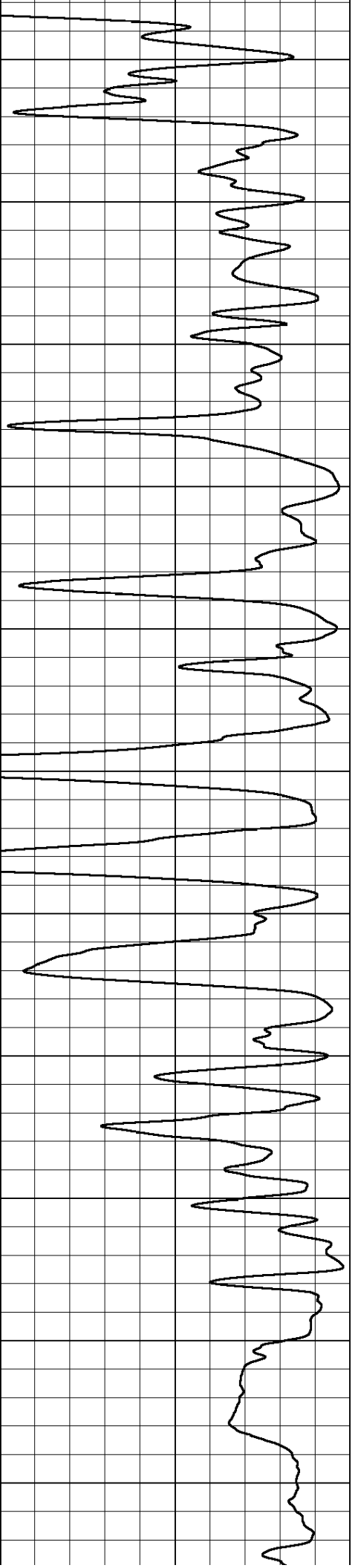
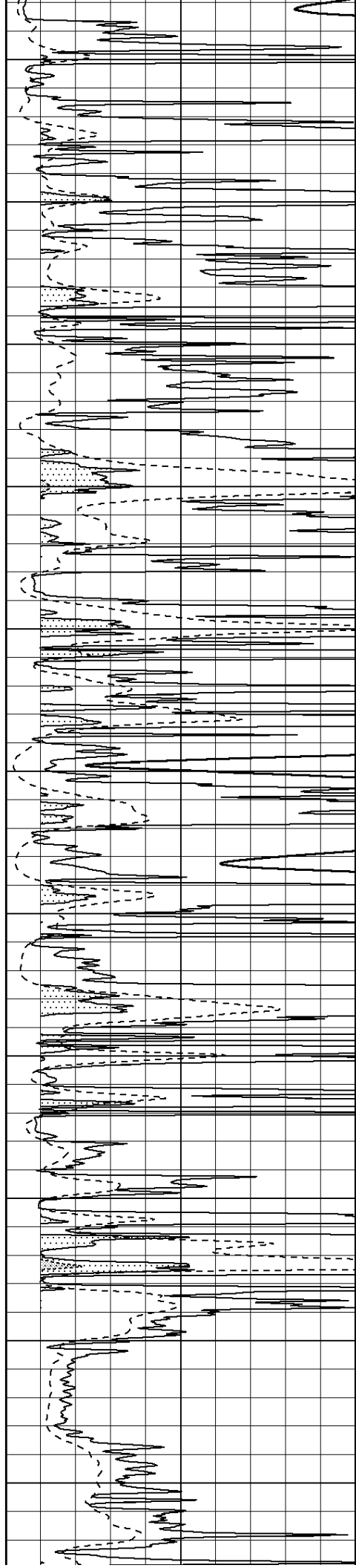
4050

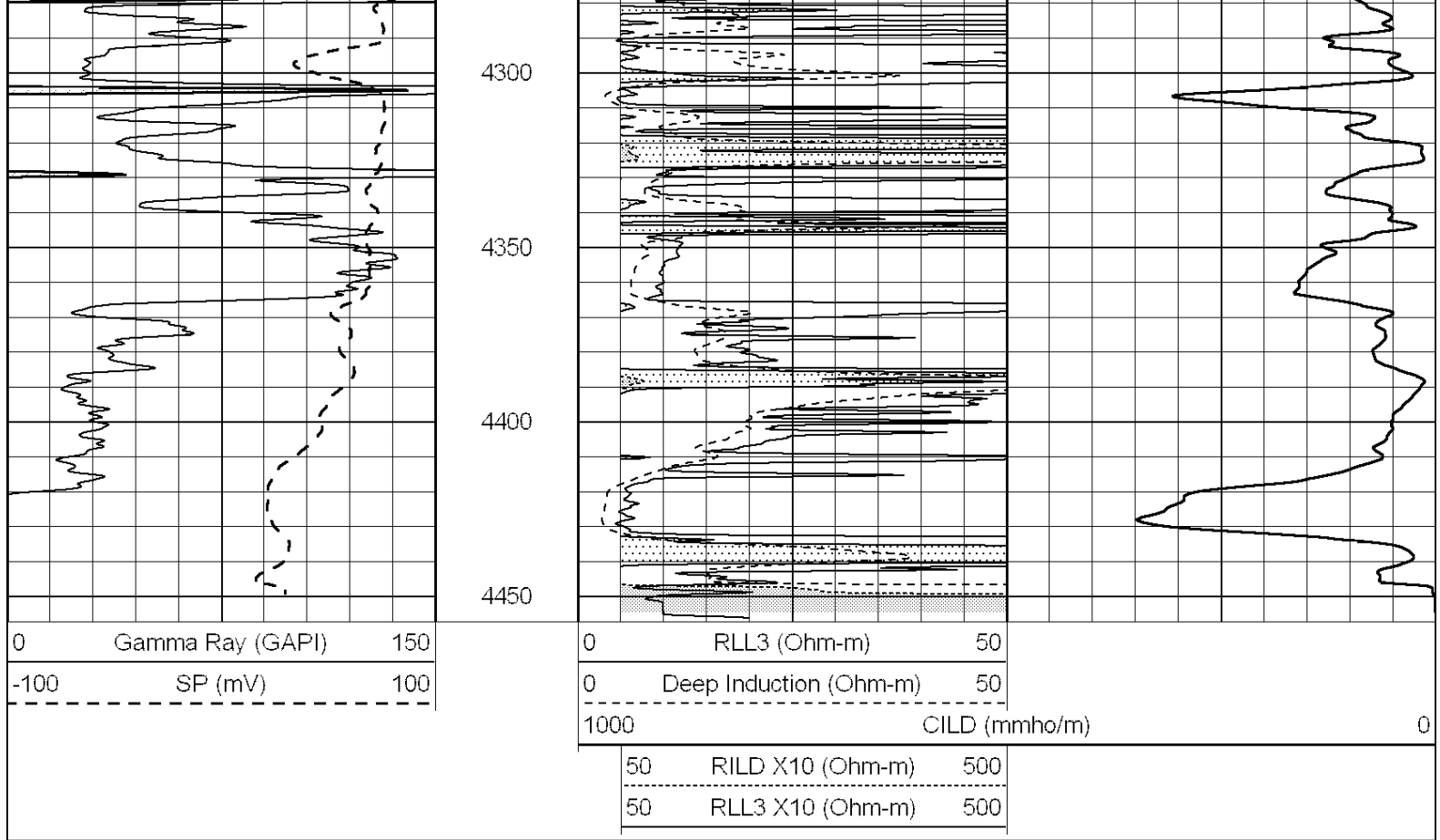
4100

4150

4200

4250



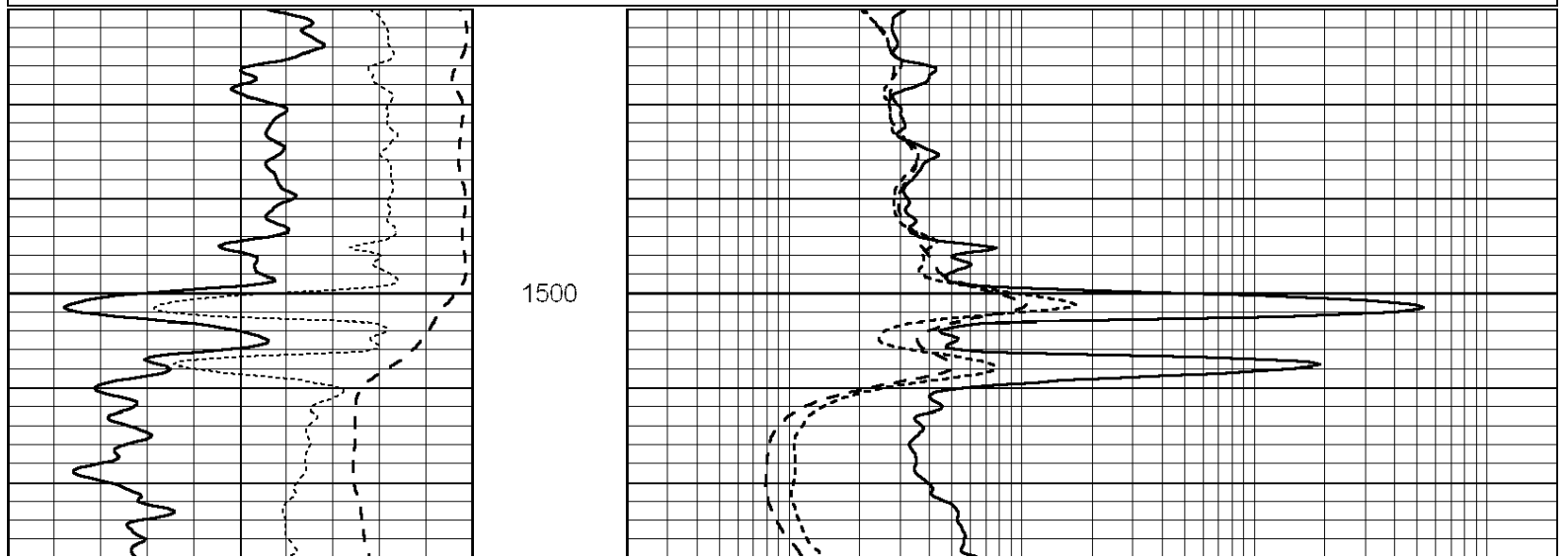


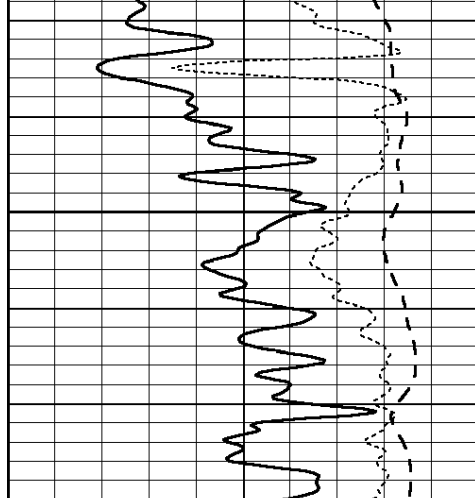
SUPERIOR
Hays,
Kansas

ANHYDRITE

Database File: 008850pe.db
 Dataset Pathname: pass3.3
 Presentation Format: _dil
 Dataset Creation: Thu Apr 26 11:24:31 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

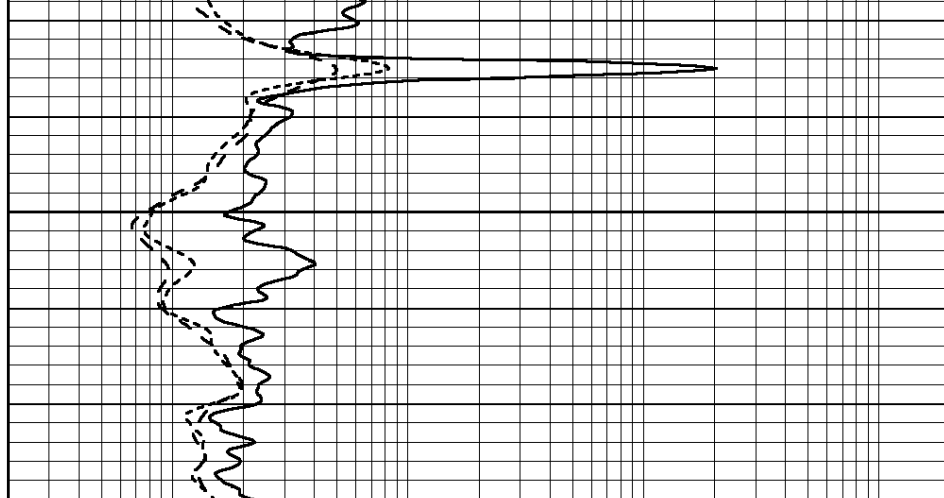
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000





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

1550



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



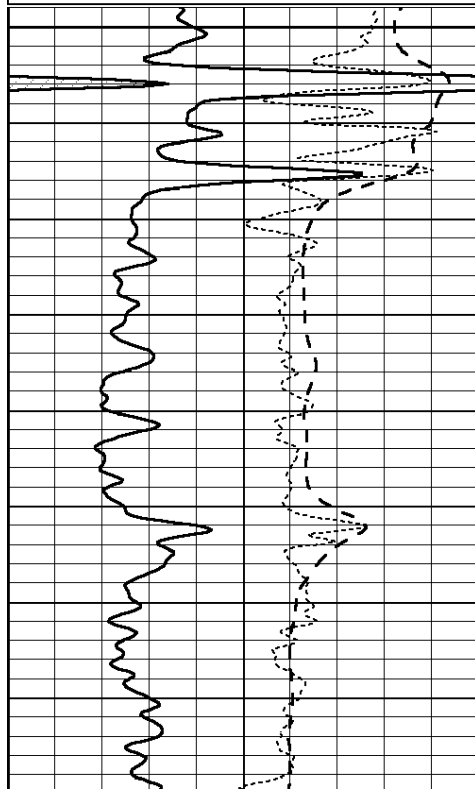
SUPERIOR
WELL SERVICES
Hays,
Kansas

MAIN SECTION

Database File: 008850pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu Apr 26 11:01:41 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

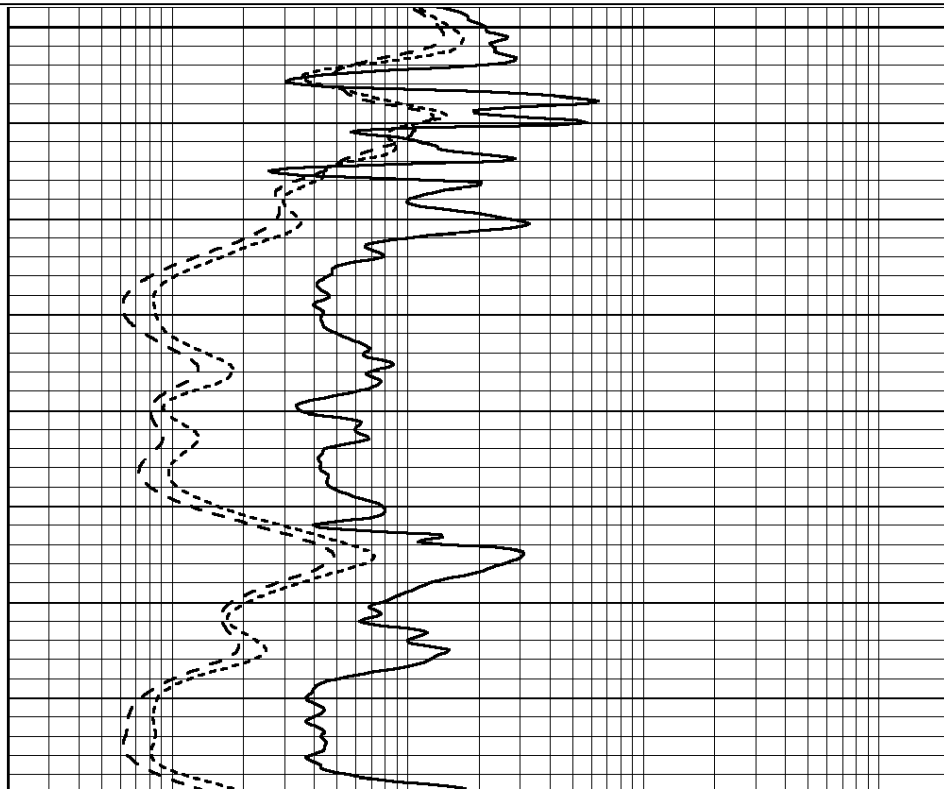
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

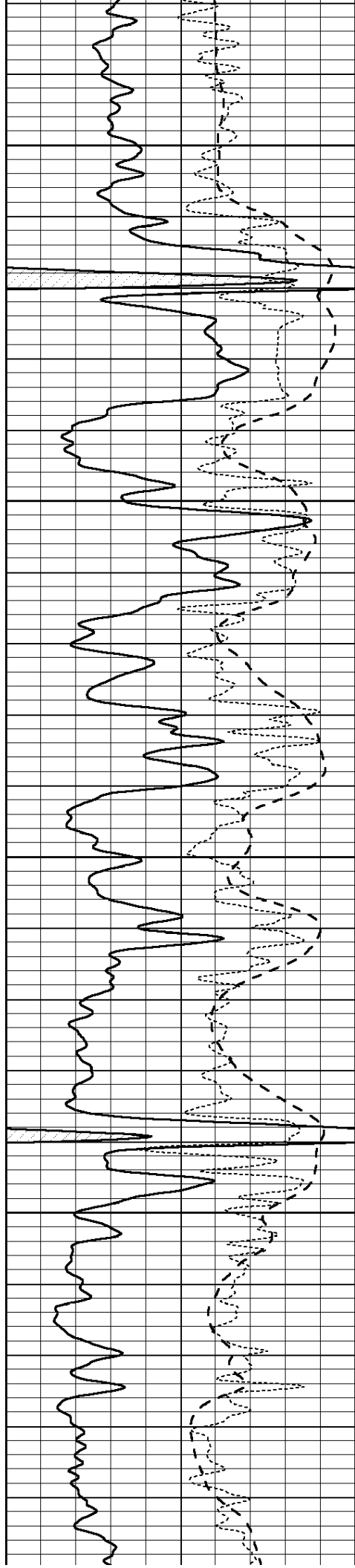
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



3600

3650



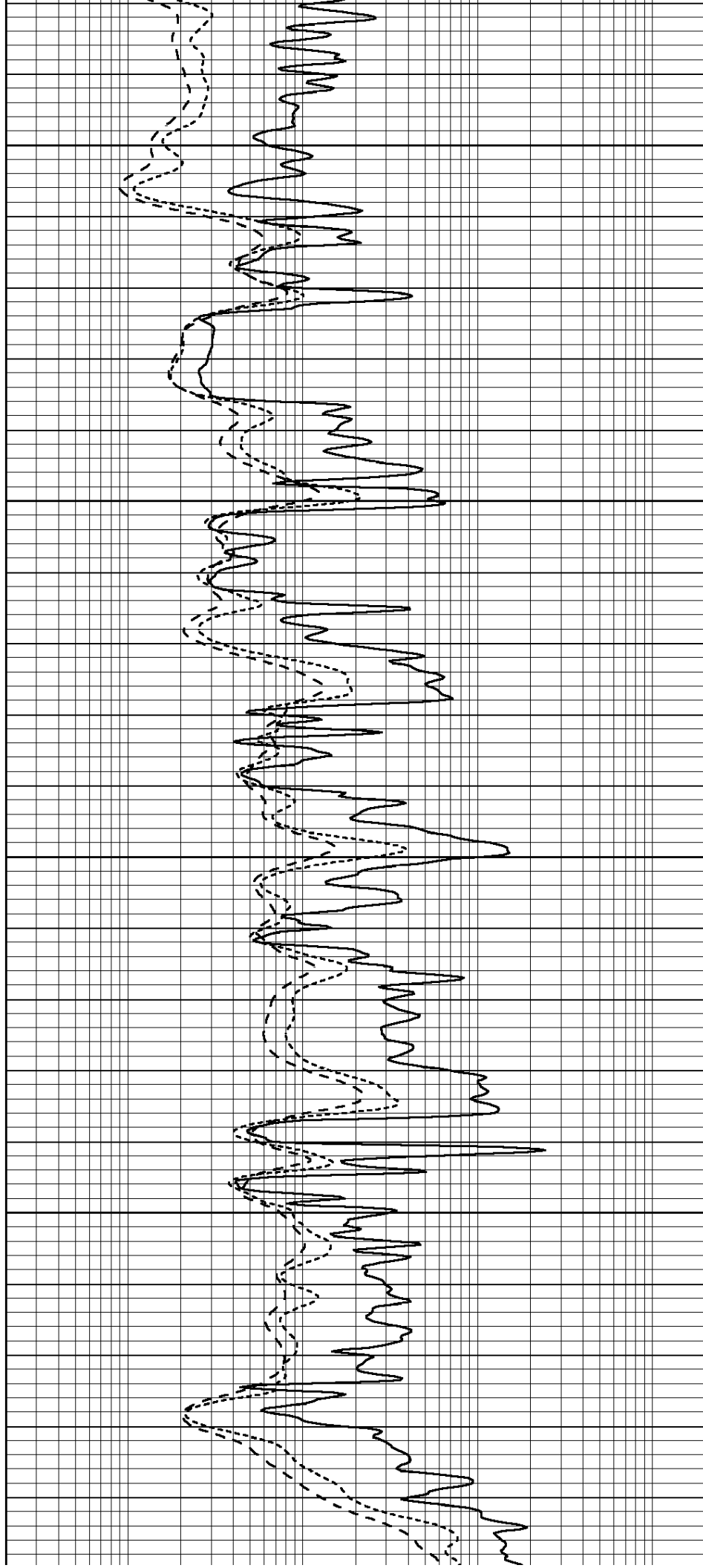


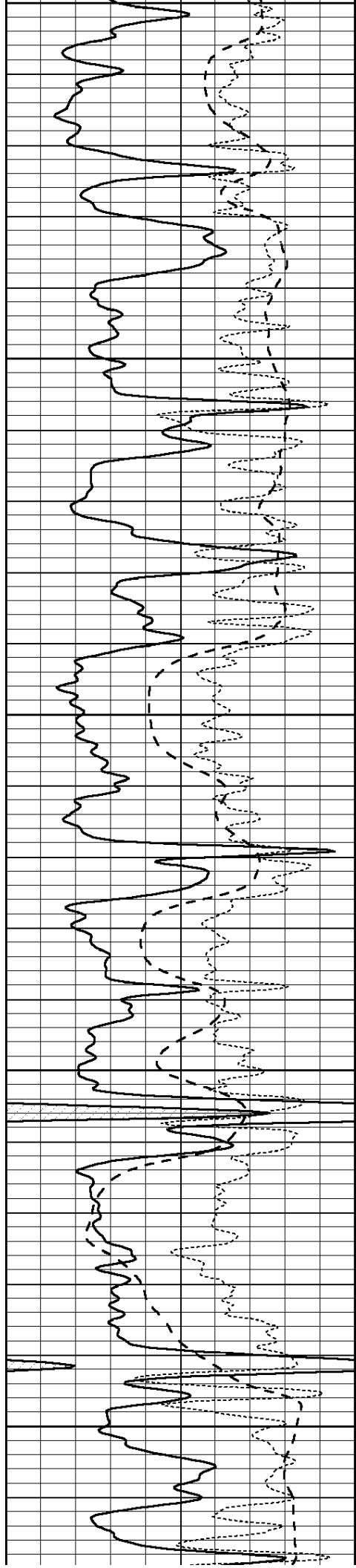
3700

3750

3800

3850





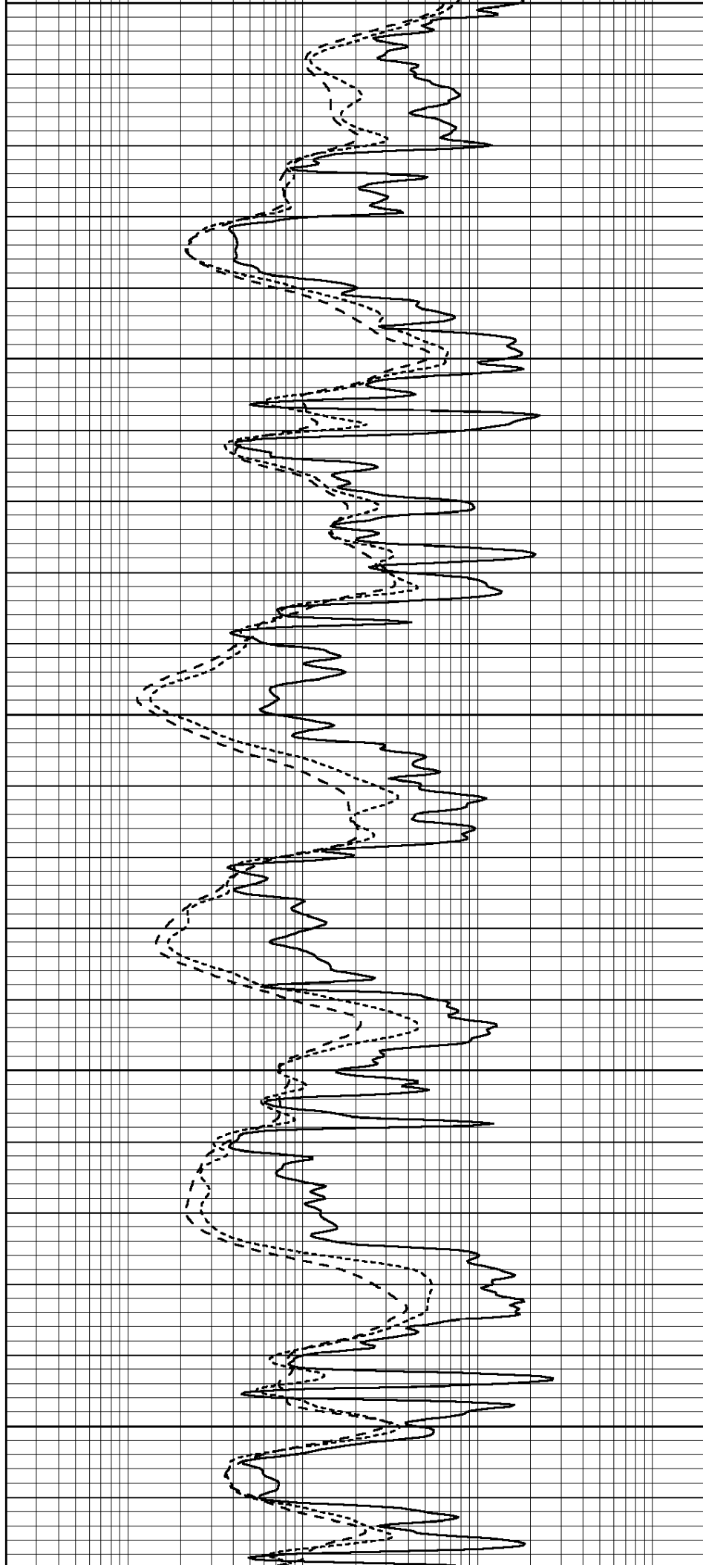
3900

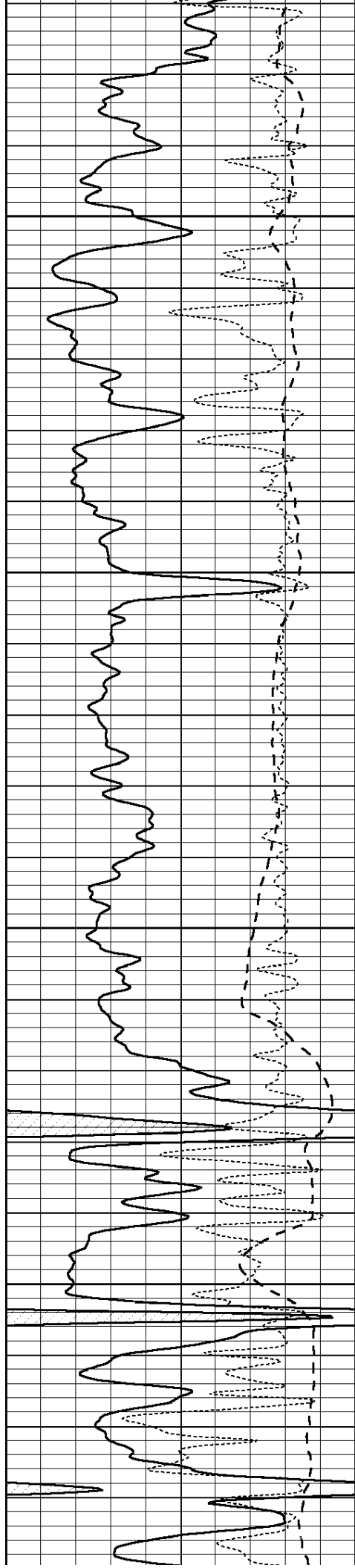
3950

4000

4050

4100



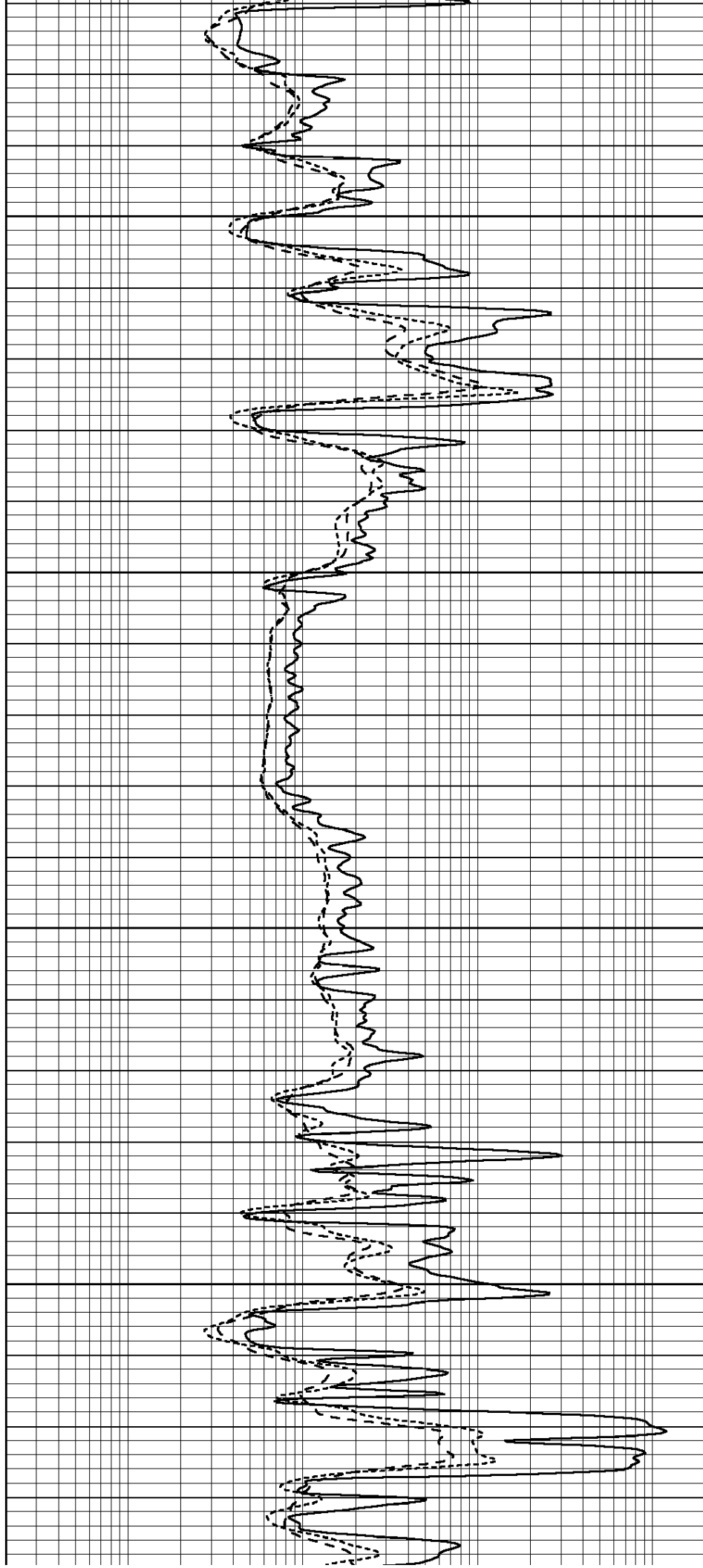


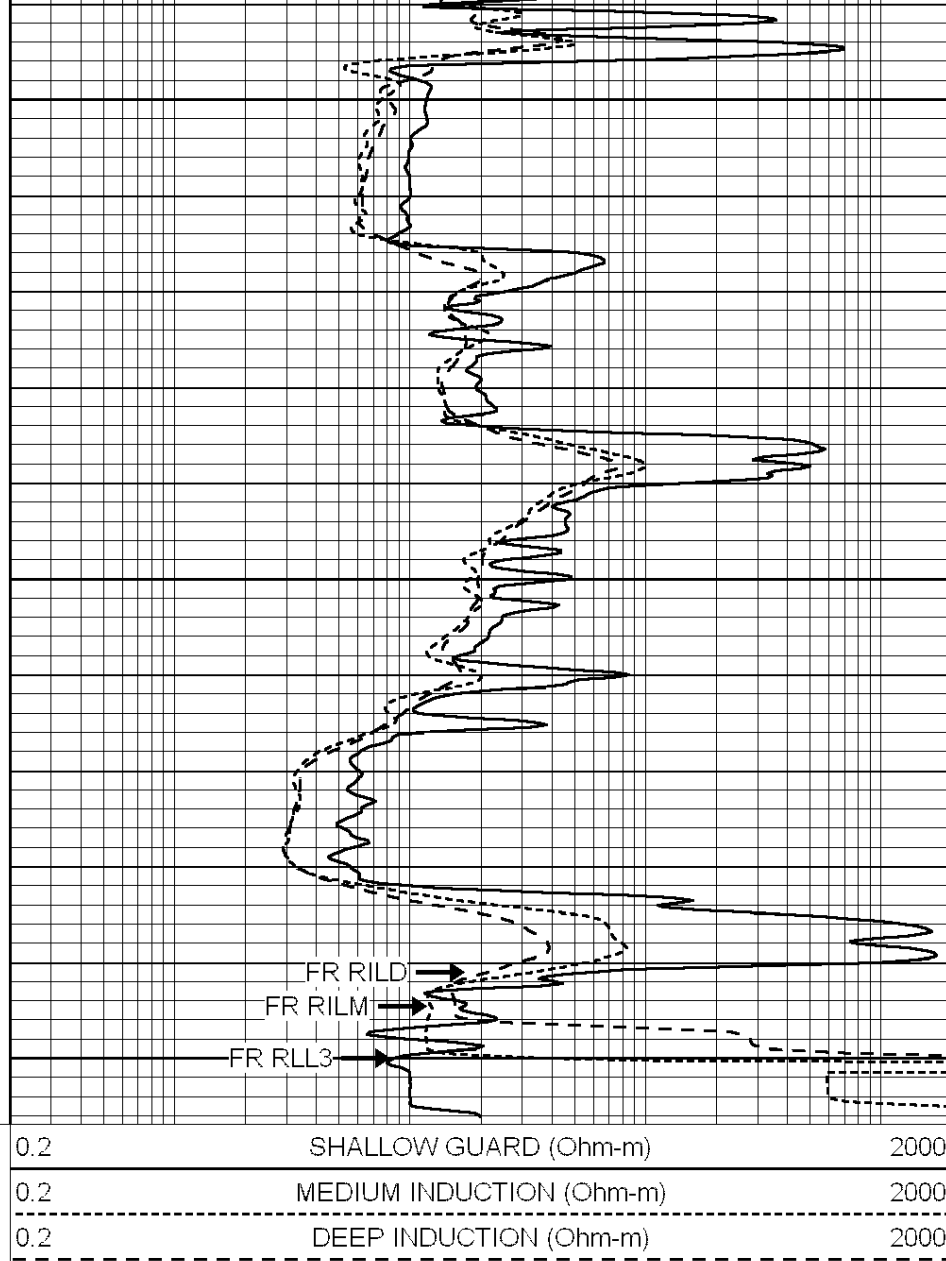
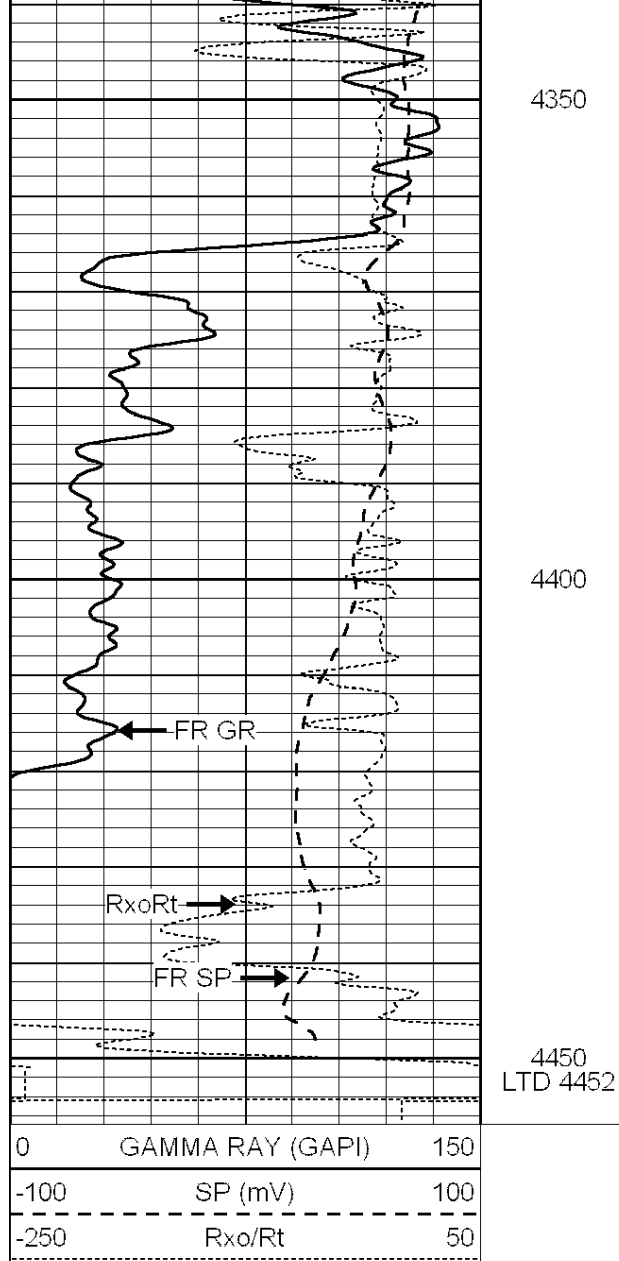
4150

4200

4250

4300





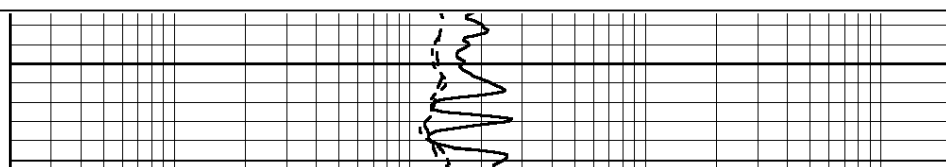
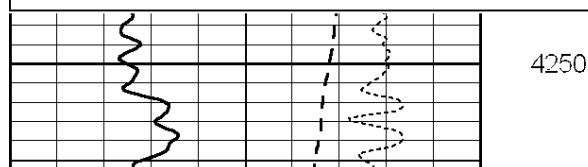
SUPERIOR
Hays,
Kansas

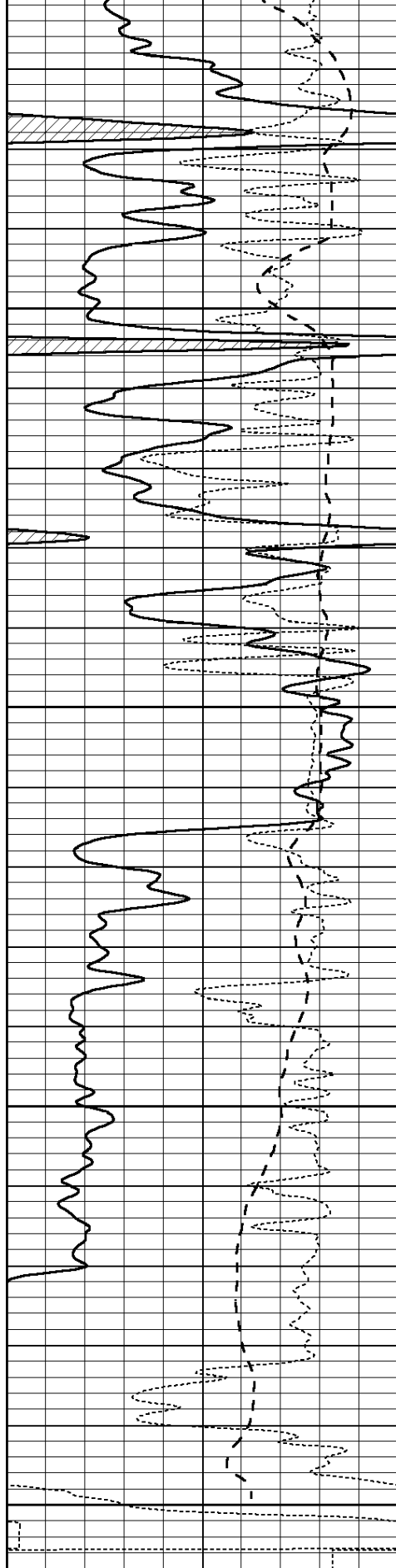
REPEAT SECTION

Database File: 008850pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Thu Apr 26 10:52:59 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





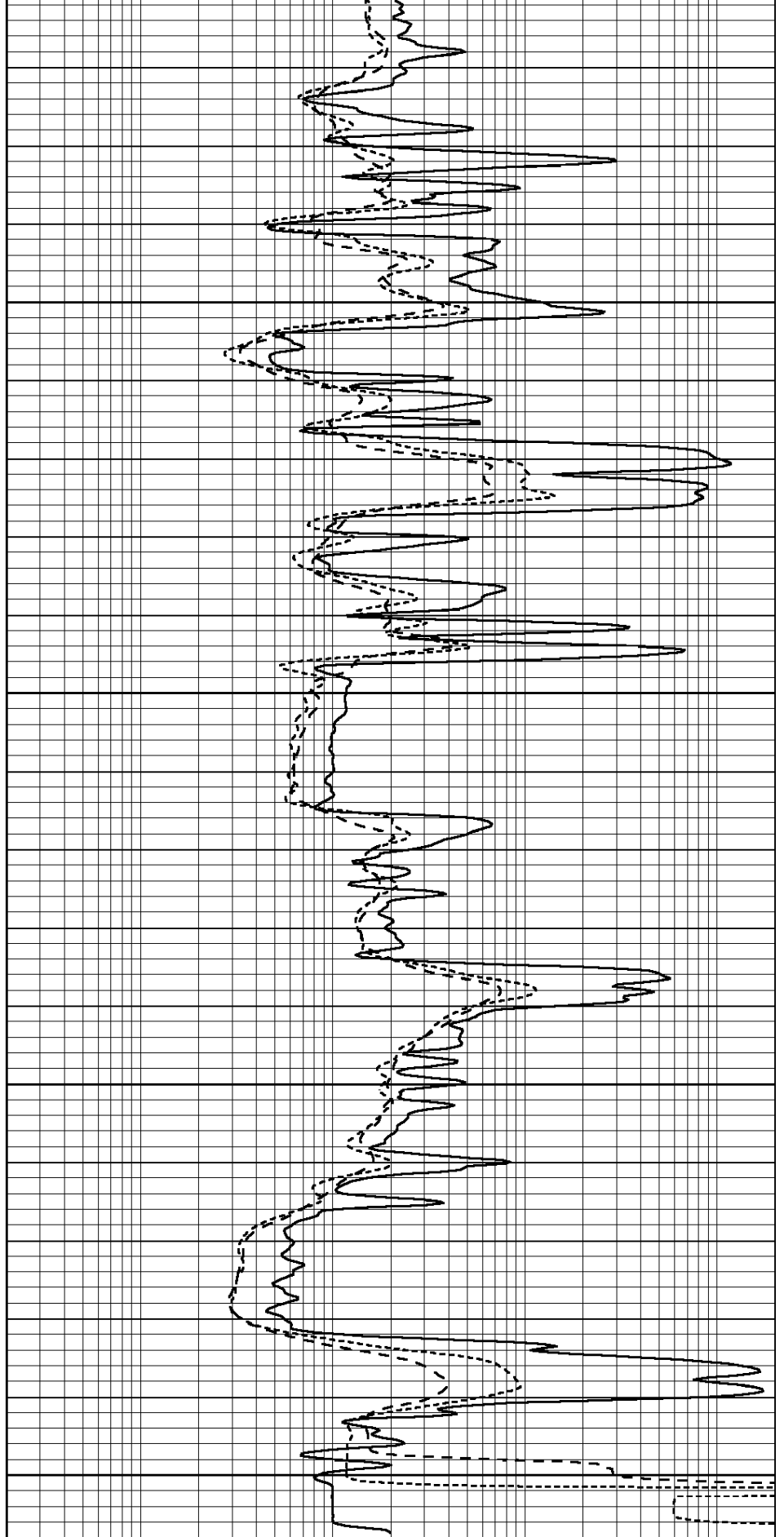
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

4300

4350

4400

4450



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

Calibration Report

Database File: 008850pe.db
Dataset Pathname: pass3.1
Dataset Creation: Thu Apr 26 11:01:41 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		

Litho Density Calibration Report

Serial: 002 Model: PRB
Performed Mon Apr 02 18:34:45 2012

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	870.3	7347.3	2308.1	8190.4	cps
Window 2	820.7	6010.4	1961.8	6596.5	cps
Window 3	670.4	3295.4	1229.9	3546.4	cps
Window 4	200.2	200.9	202.7	203.6	cps
Long Space	0.0	5189.7	1141.2	5775.9	cps
Short Space	1.1	1012.5	681.4	1078.9	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 45.3	Rib Slope	: 1.012	Density/Spine Ratio	: 0.562
Spine Angle	: 75.3	Spine Slope	: 3.825	Spine Intercept	: -17.9

Caliper	Readings	Reference			
Low Ref	3.7	8.0			
High Ref	6.1	14.0			
	Gain: 2.5		Offset: -1.3		
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		