



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company		ETERNITY EXPLORATION, LLC	
Well		CG MACKENDER #1	
Field		BUTTERFIELD - OVERLAND	
County		GOVE	
State		KANSAS	
Company		ETERNITY EXPLORATION, LLC	
Well		CG MACKENDER #1	
Field		BUTTERFIELD - OVERLAND	
County		GOVE	
State		KANSAS	
Location:		API # : 15-063-22040-00-00	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 8' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 29 TWP 14S RGE 30W		Elevation	
330' FSL & 3700' FEL		CDL/CNL	
W2-SW-SE		MEL	
2728		K.B. 2736	
		D.F. 2734	
		G.L. 2728	
Date	10/7/12		
Run Number	ONE		
Depth Driller	4500		
Depth Logger	4488		
Bottom Logged Interval	4486		
Top Log Interval	3500		
Casing Driller	8 5/8" @ 233'		
Casing Logger	232		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,300 PPM	
Density / Viscosity	9.3/44		
pH / Fluid Loss	10.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.10 @ 90F		
Rmt @ Meas. Temp	0.06 @ 90F		
Rmc @ Meas. Temp	0.12 @ 90F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.07 @ 121F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	121F		
Maximum Recorded Temperature	4010		
Equipment Number	HAYS, KANSAS		
Location	IAN MABB	JEFF GRONEWEG	
Recorded By	SCOTT ALBERG		
Witnessed By			

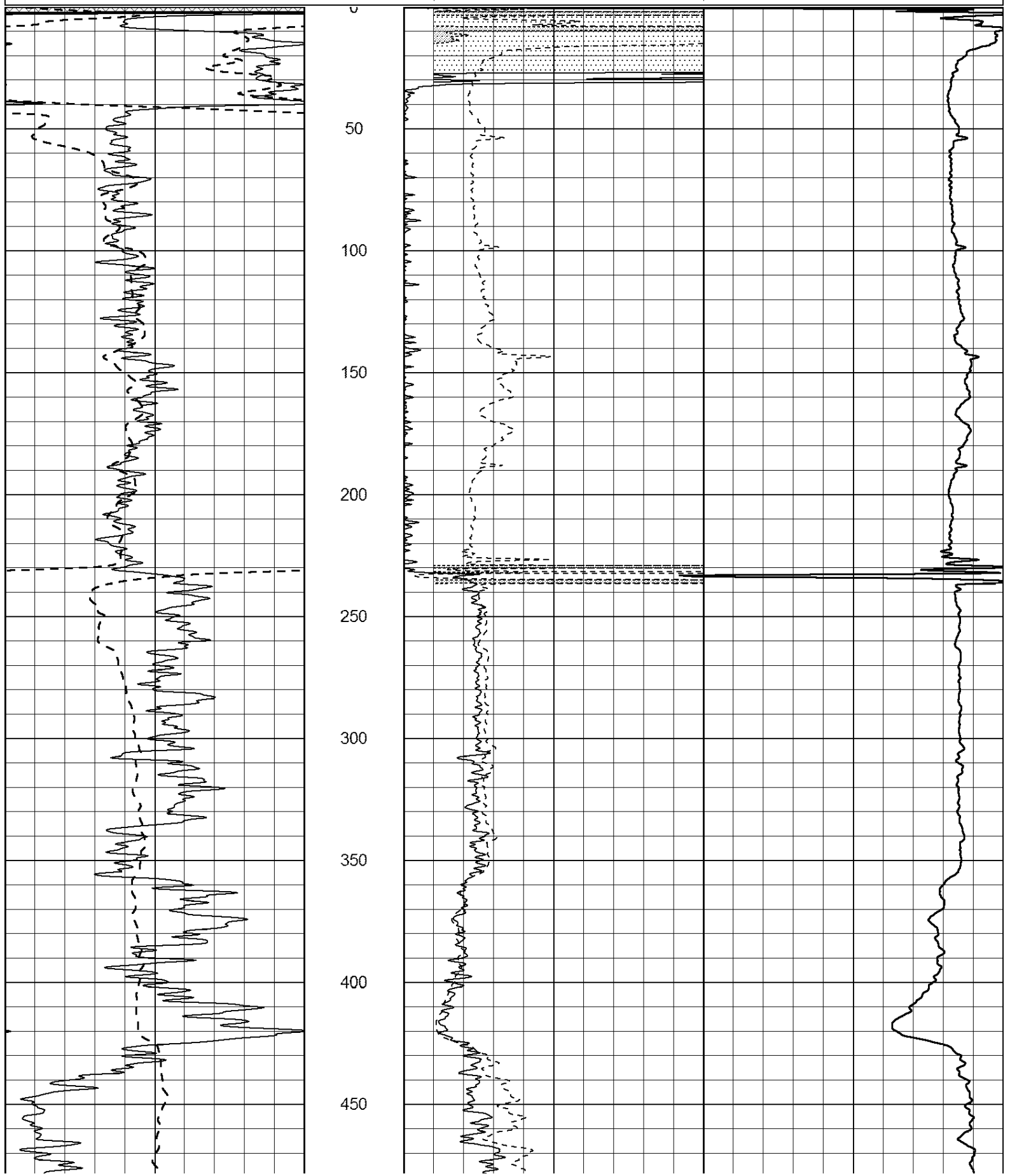
<<< Fold Here >>>

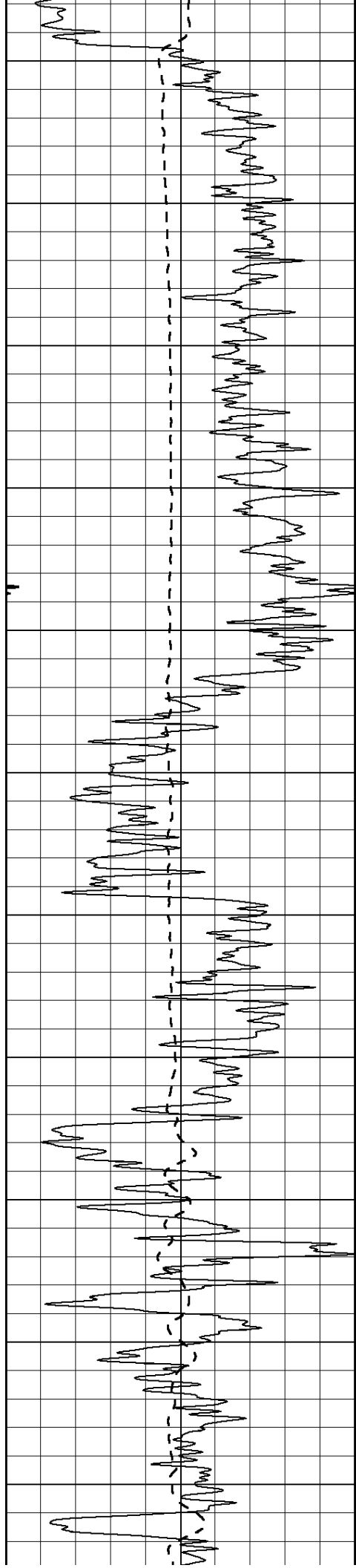
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 HAYS, KANSAS (785) 628-6395
DIRECTIONS
GOVE, KS. 10 MILES SOUTH, WEST 10 MILES ON RD I, SOUTH 1 MILE, EAST INTO

Charted by: _____ Depth in Feet scaled 1:500					
0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			-----		
			1000	CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500





500

550

600

650

700

750

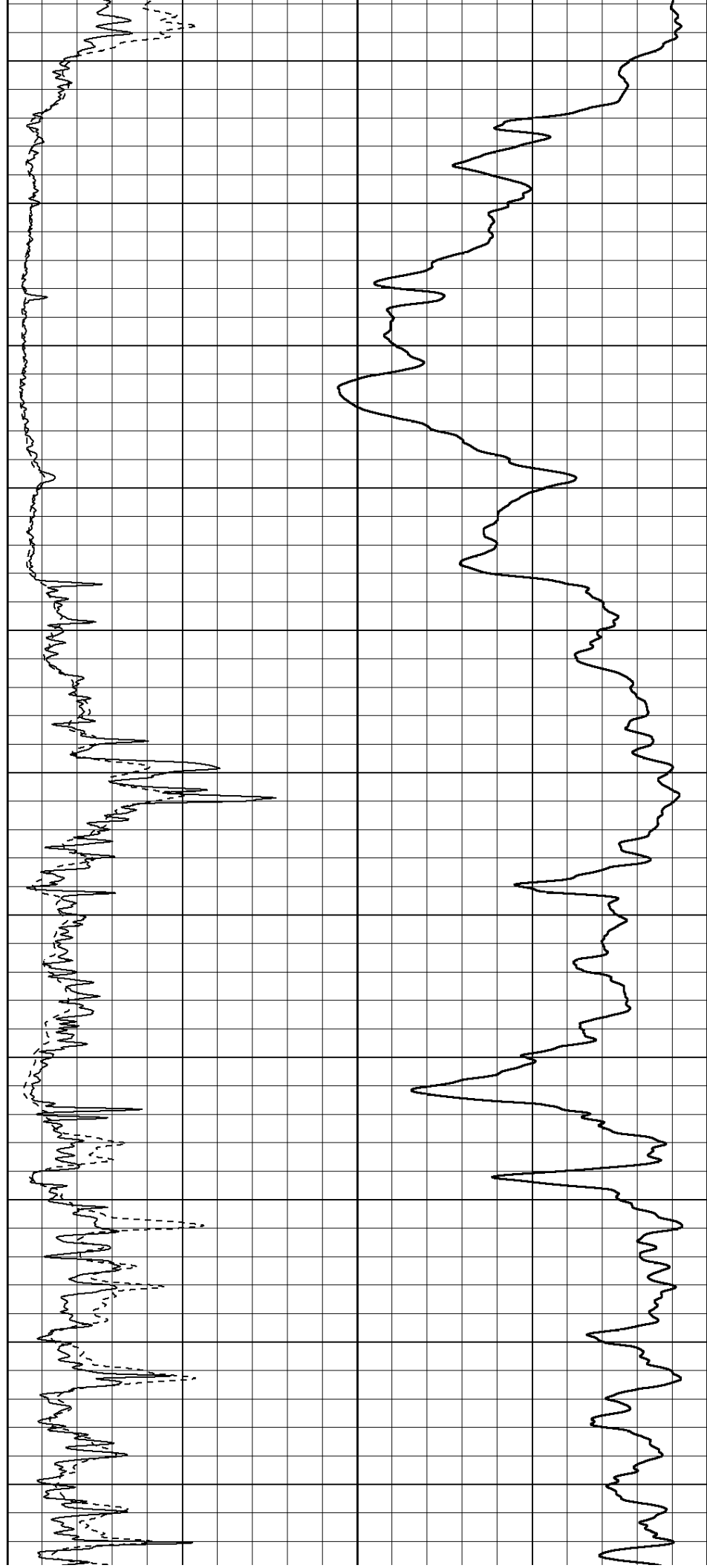
800

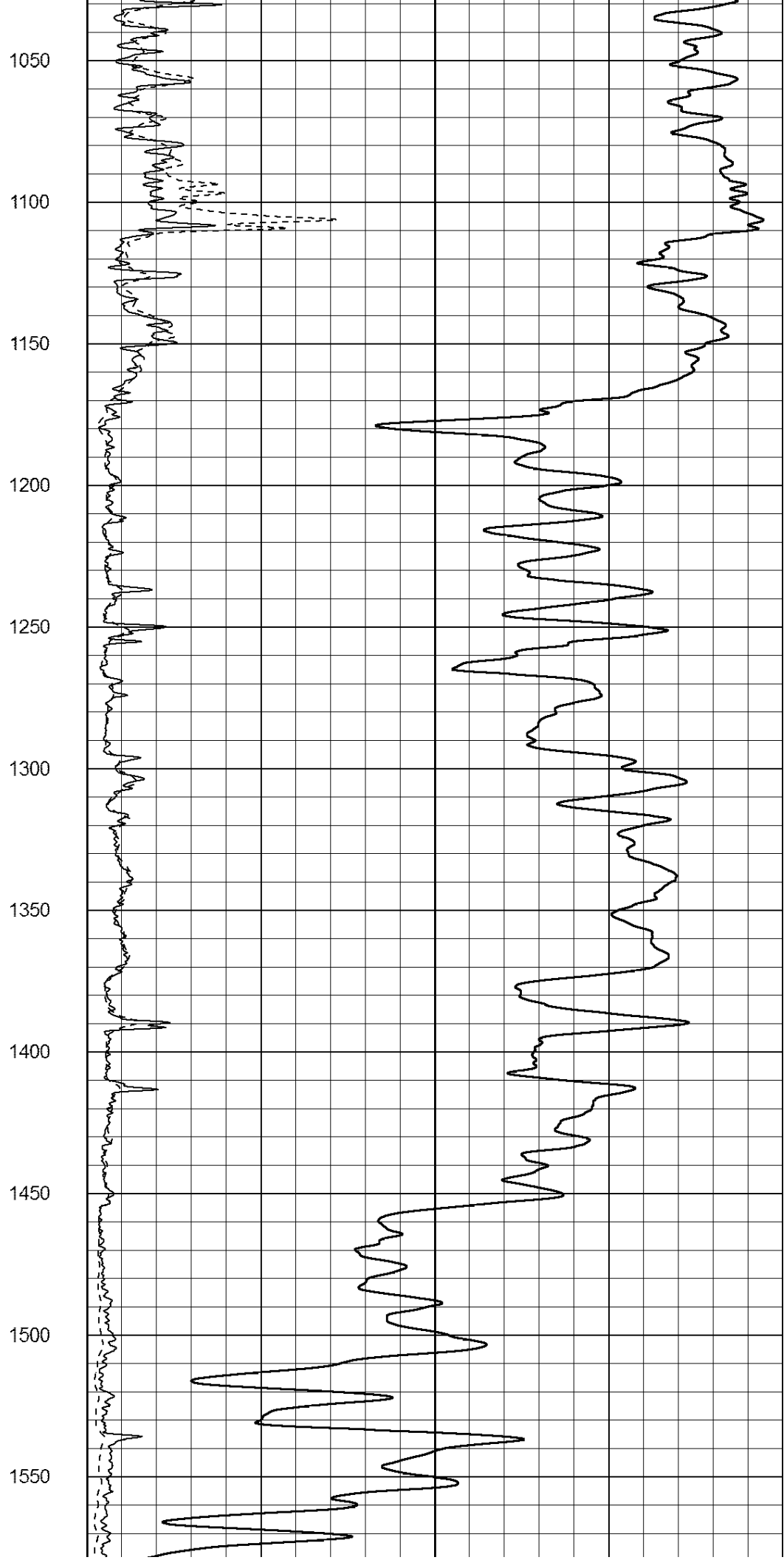
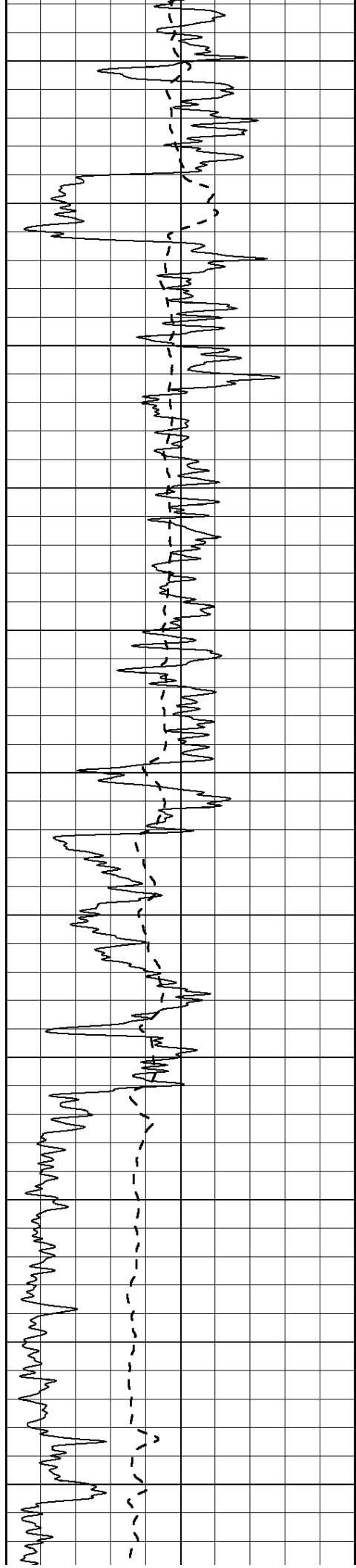
850

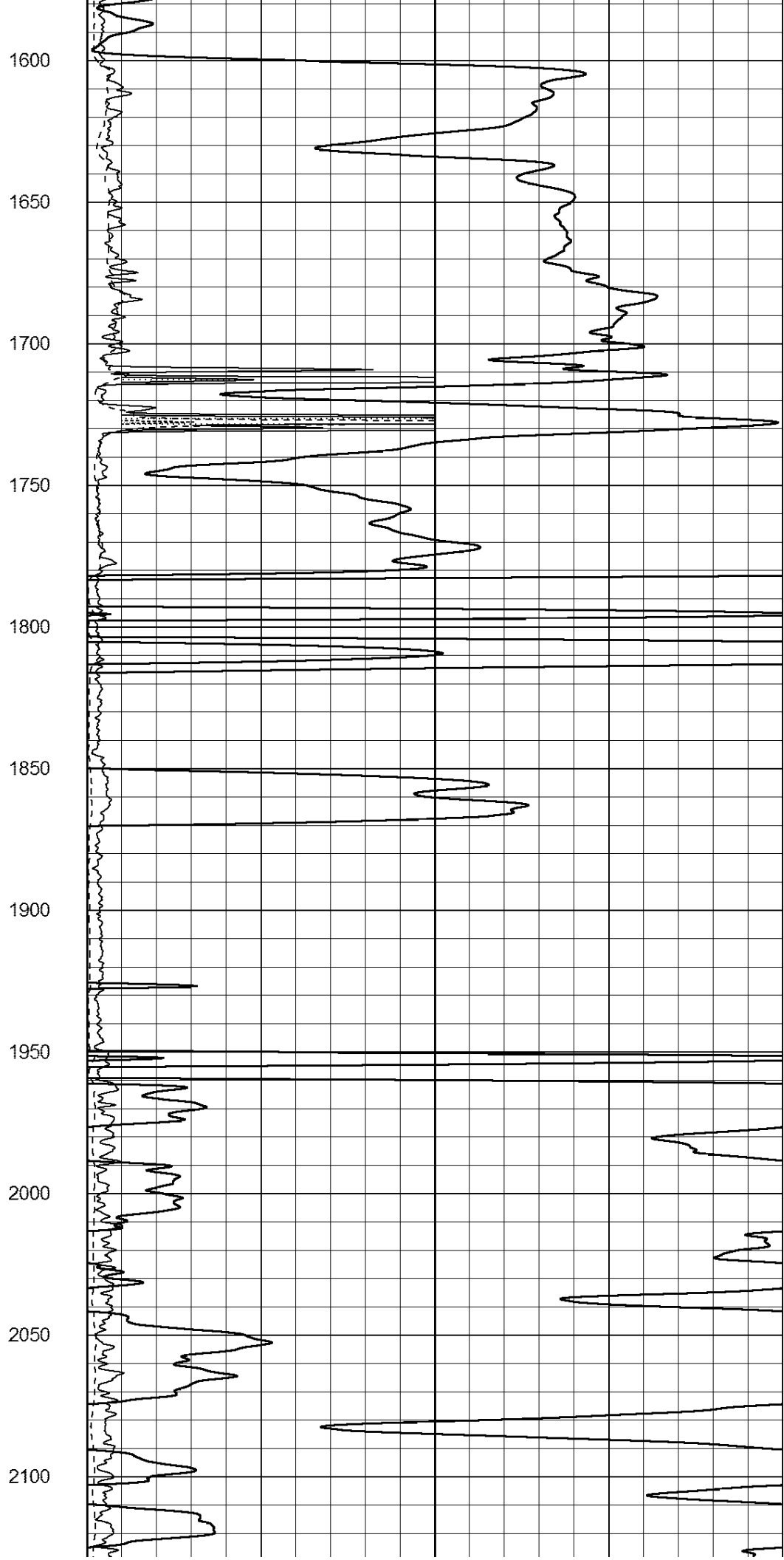
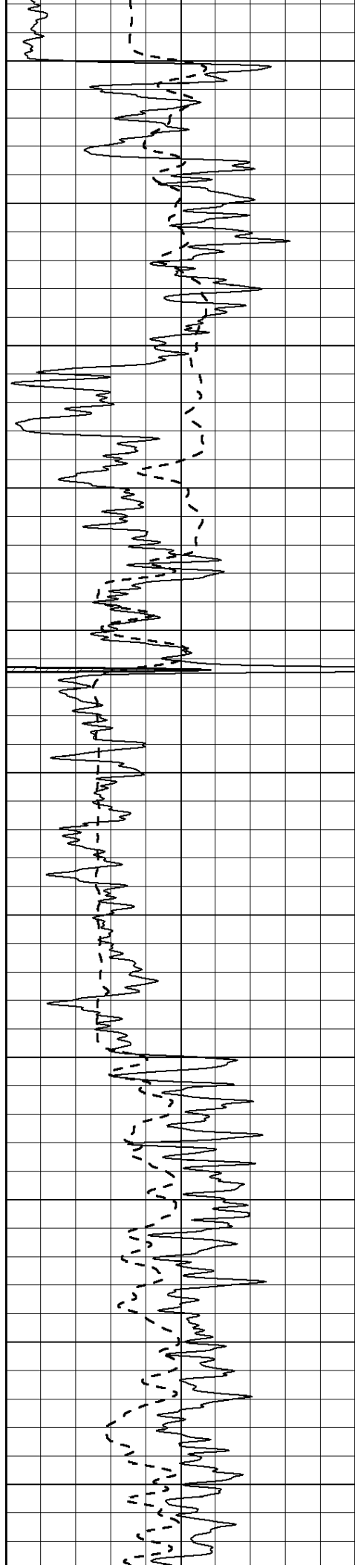
900

950

1000







2150

2200

2250

2300

2350

2400

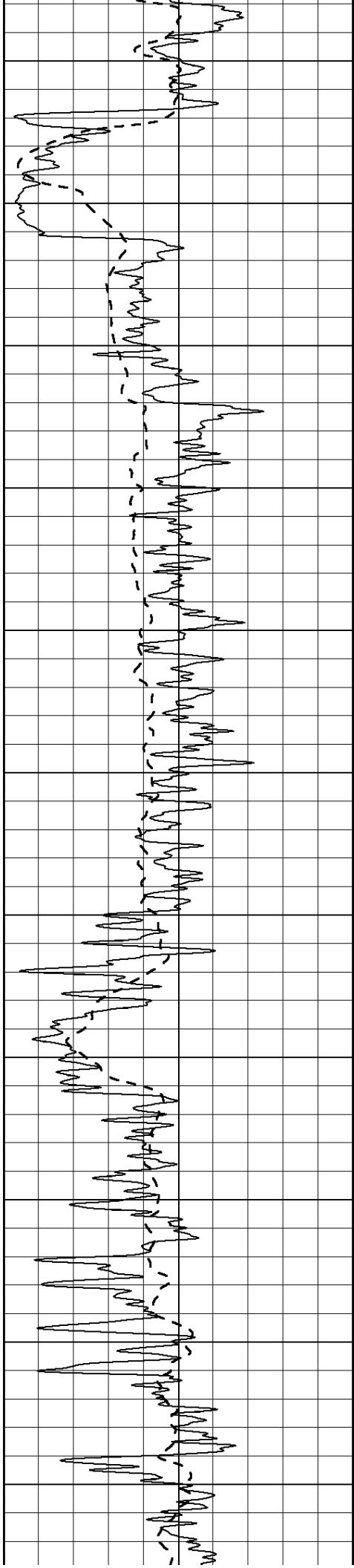
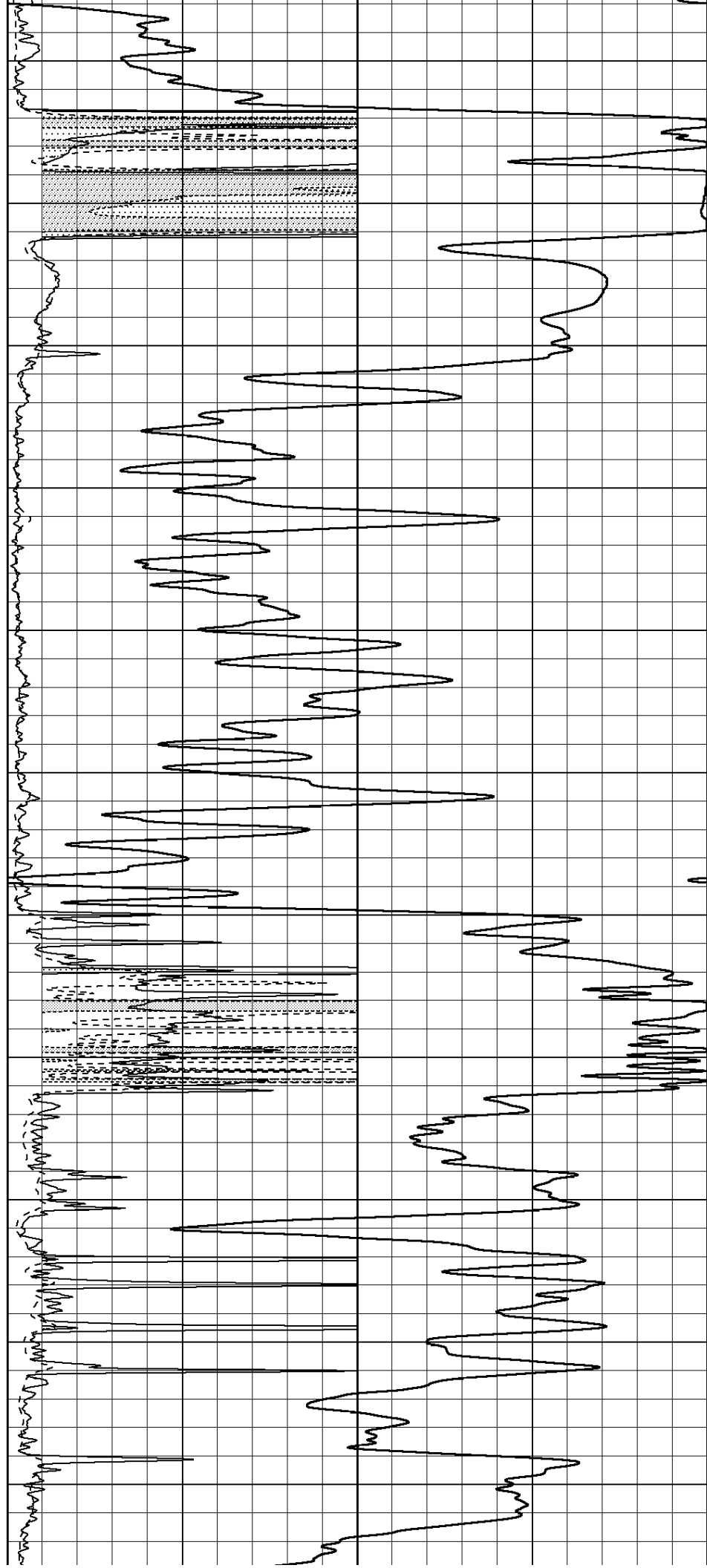
2450

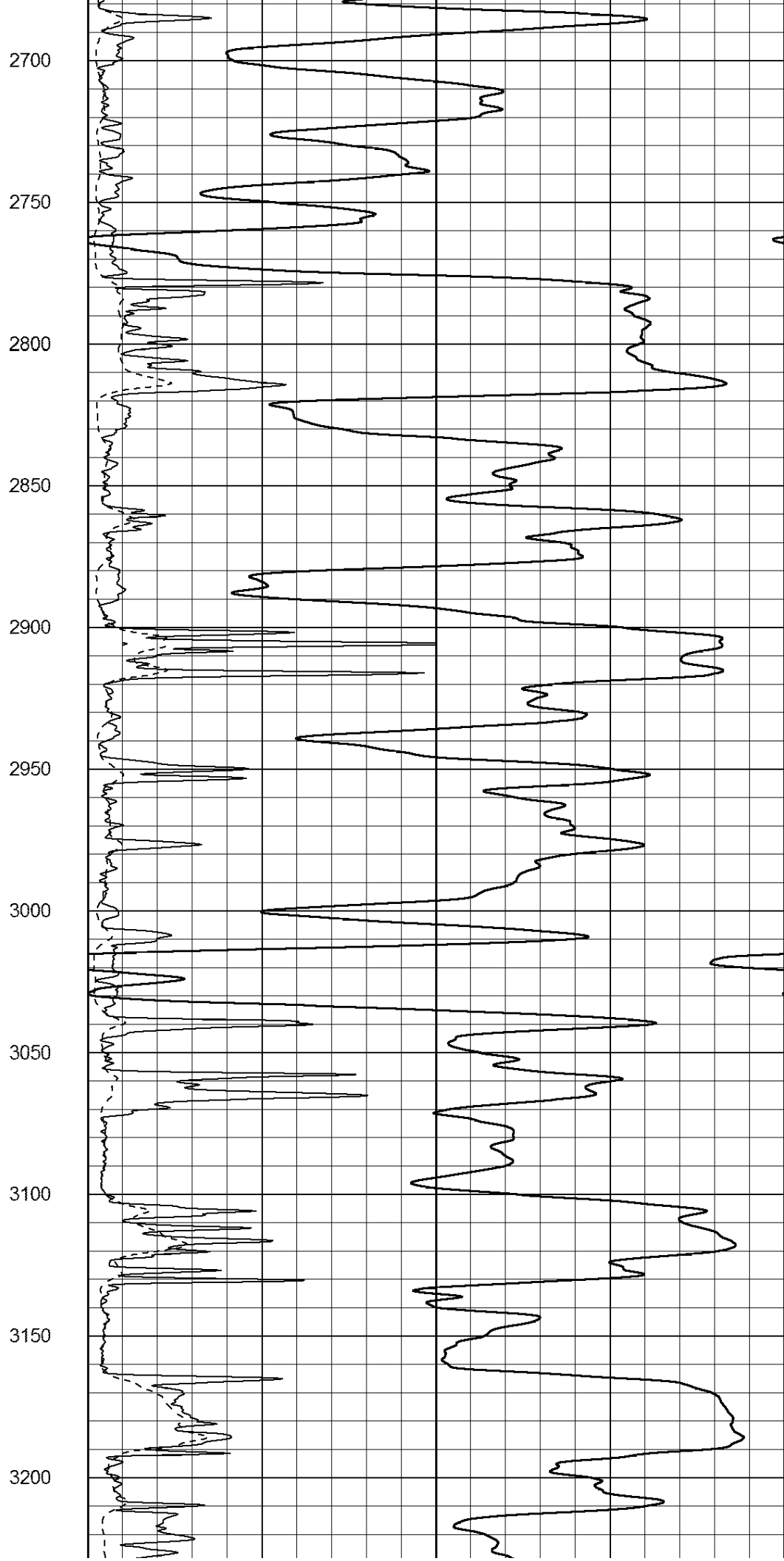
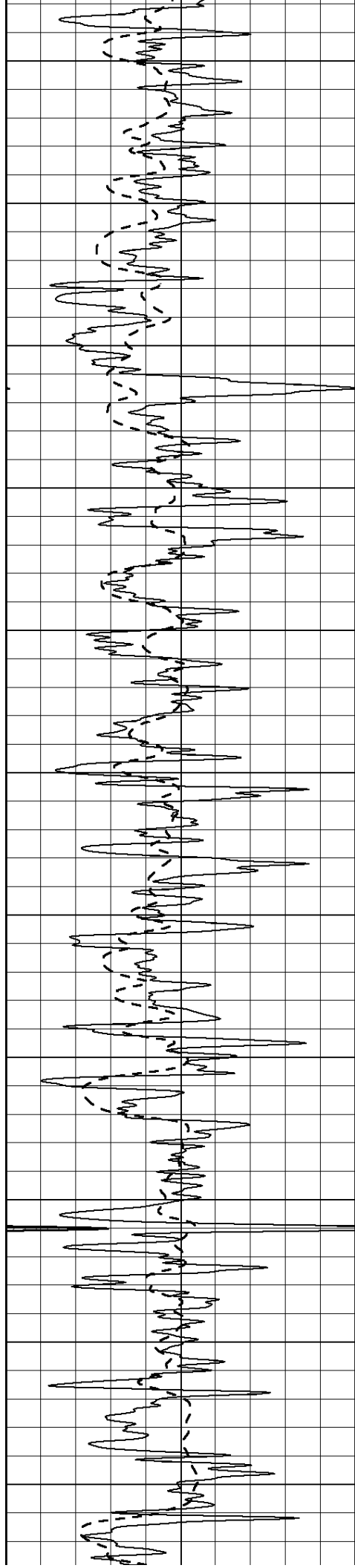
2500

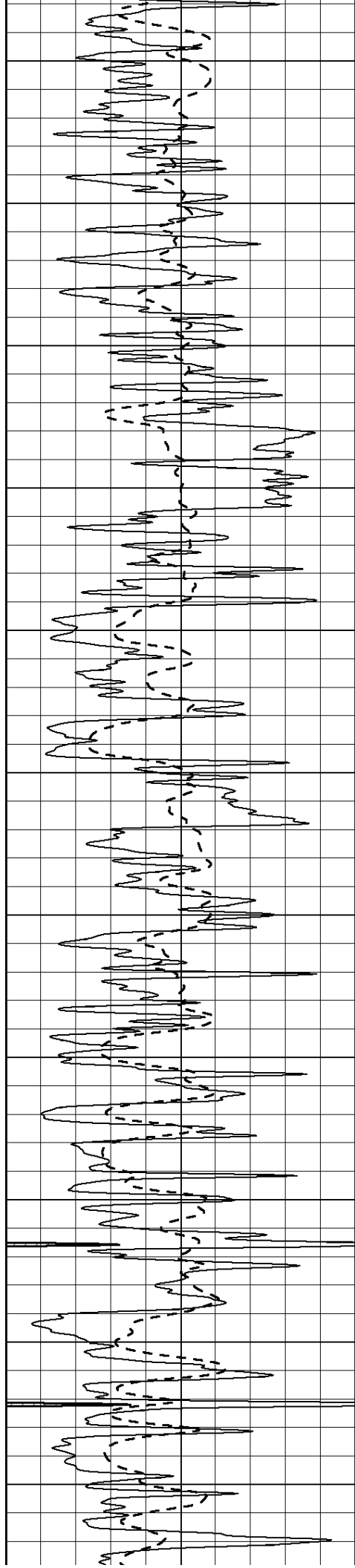
2550

2600

2650







3250

3300

3350

3400

3450

3500

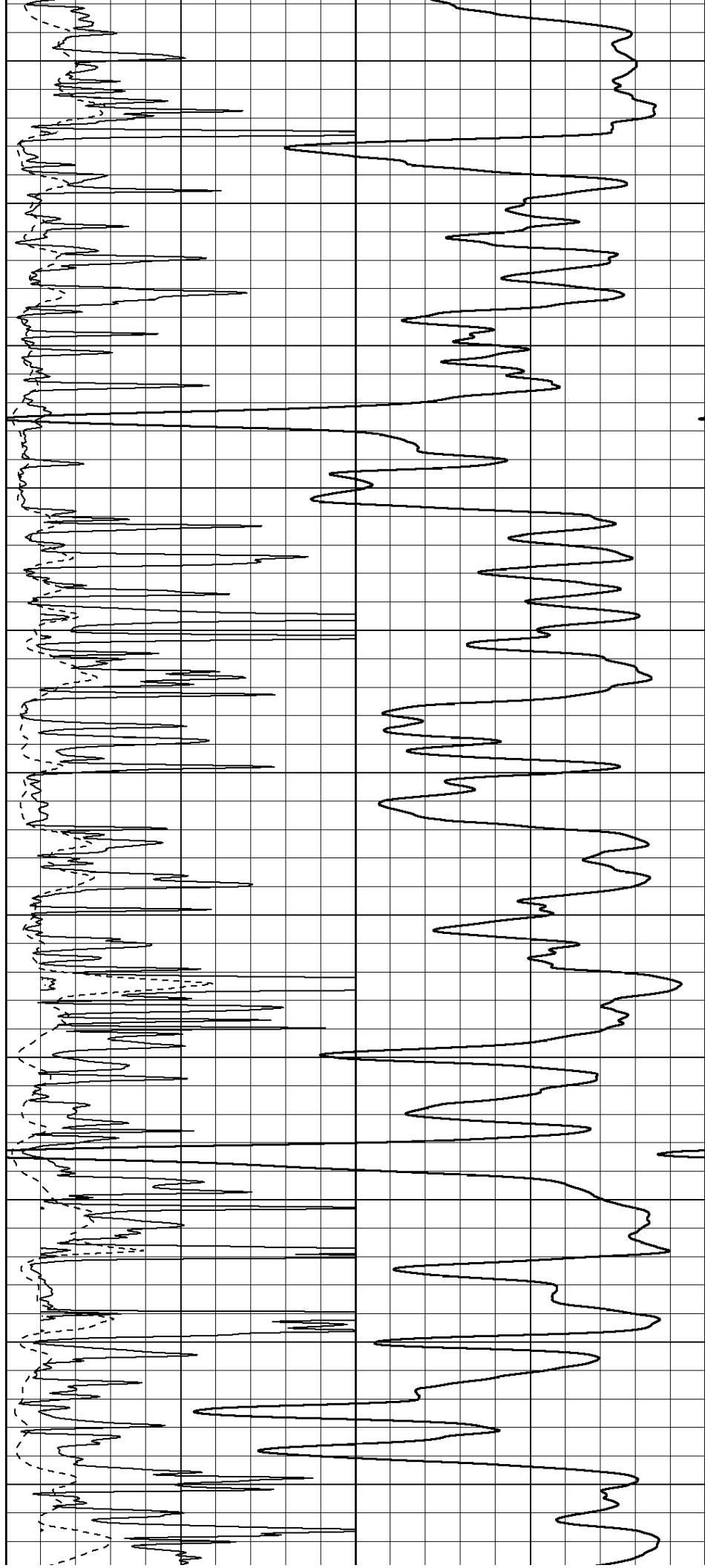
3550

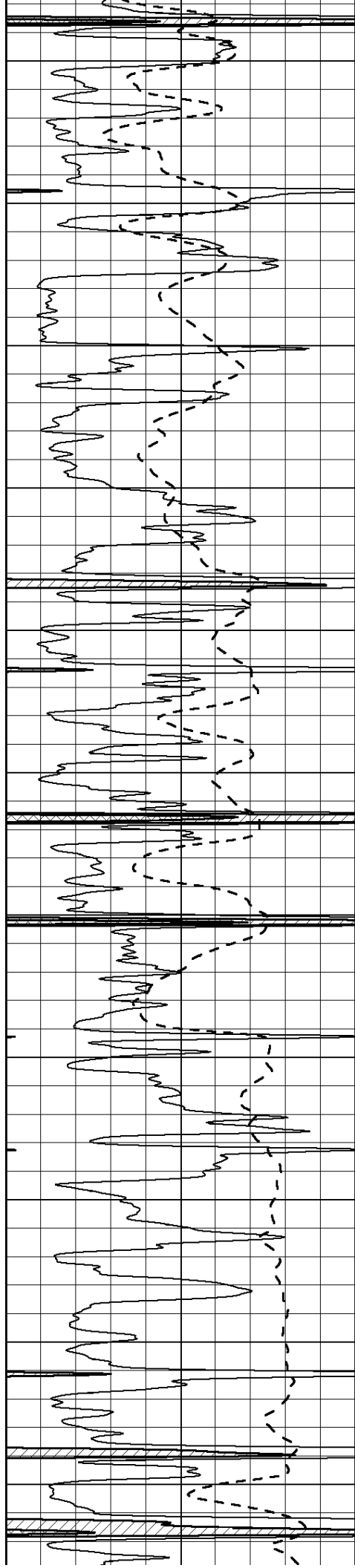
3600

3650

3700

3750





3800

3850

3900

3950

4000

4050

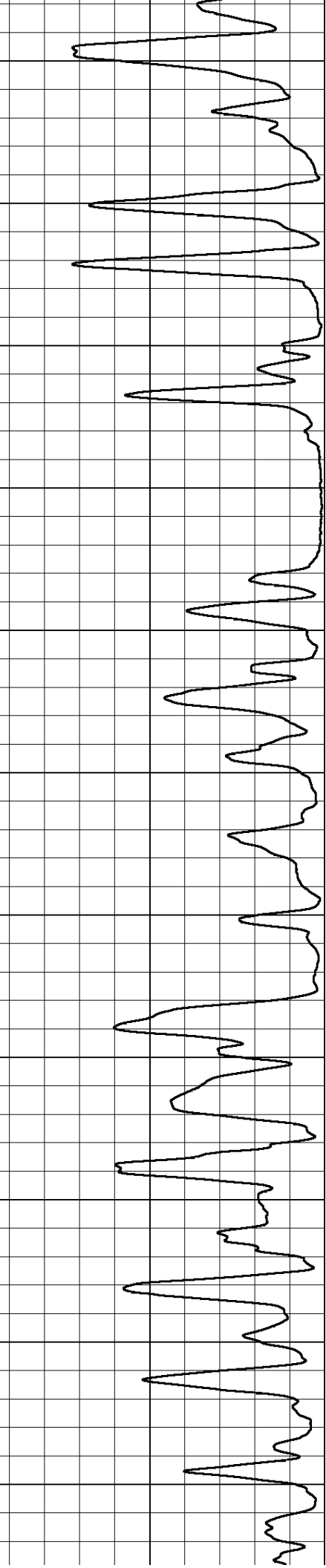
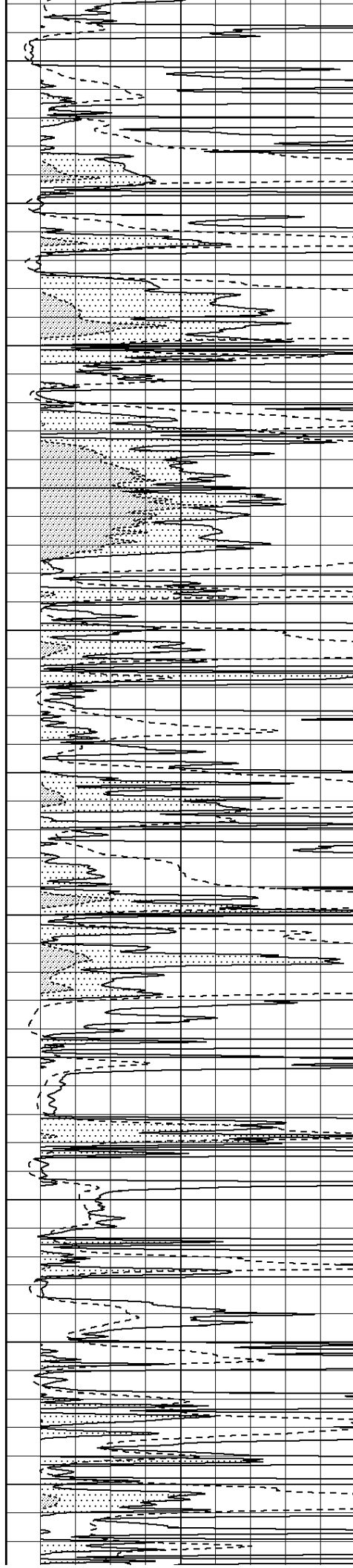
4100

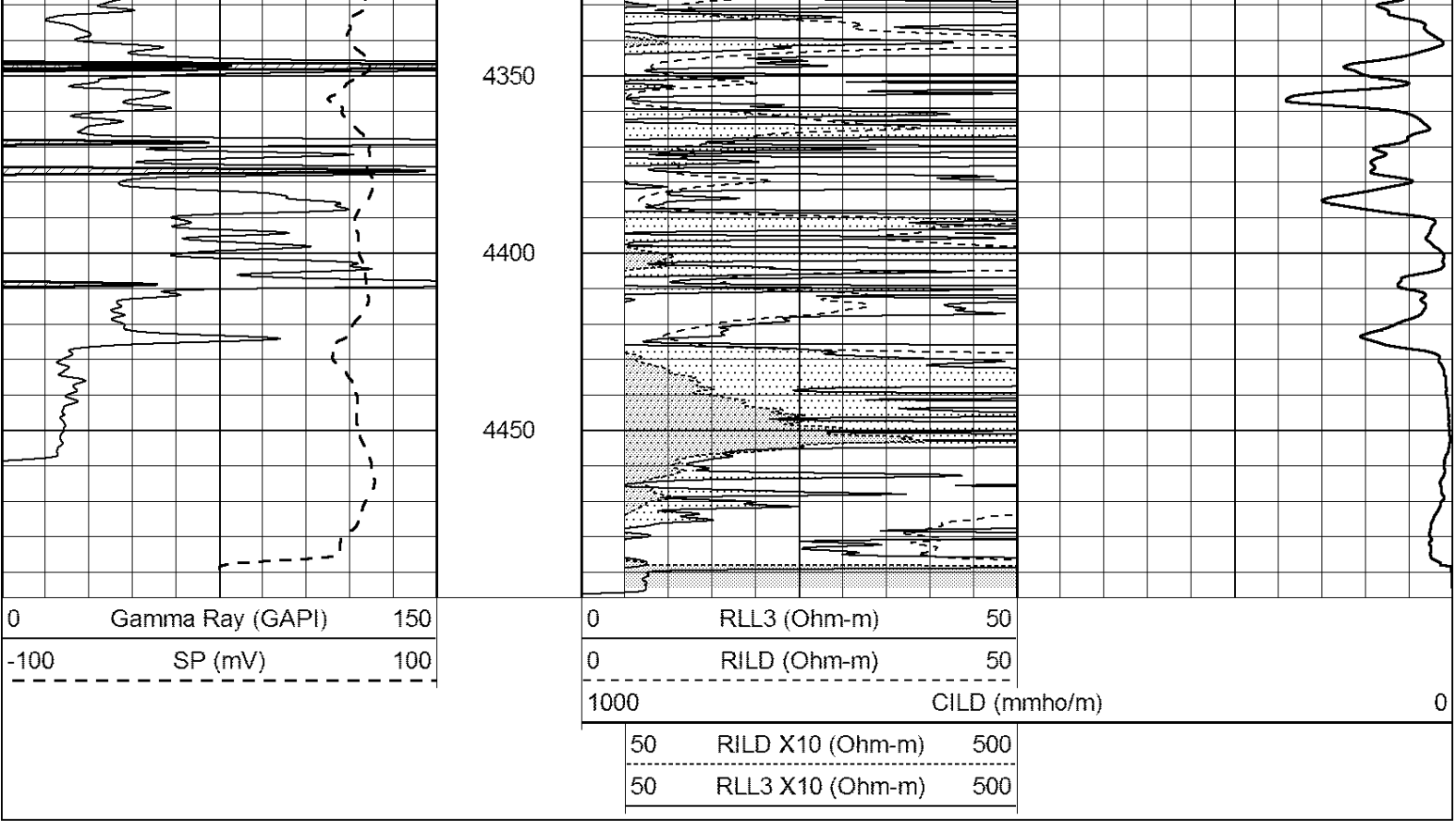
4150

4200

4250

4300

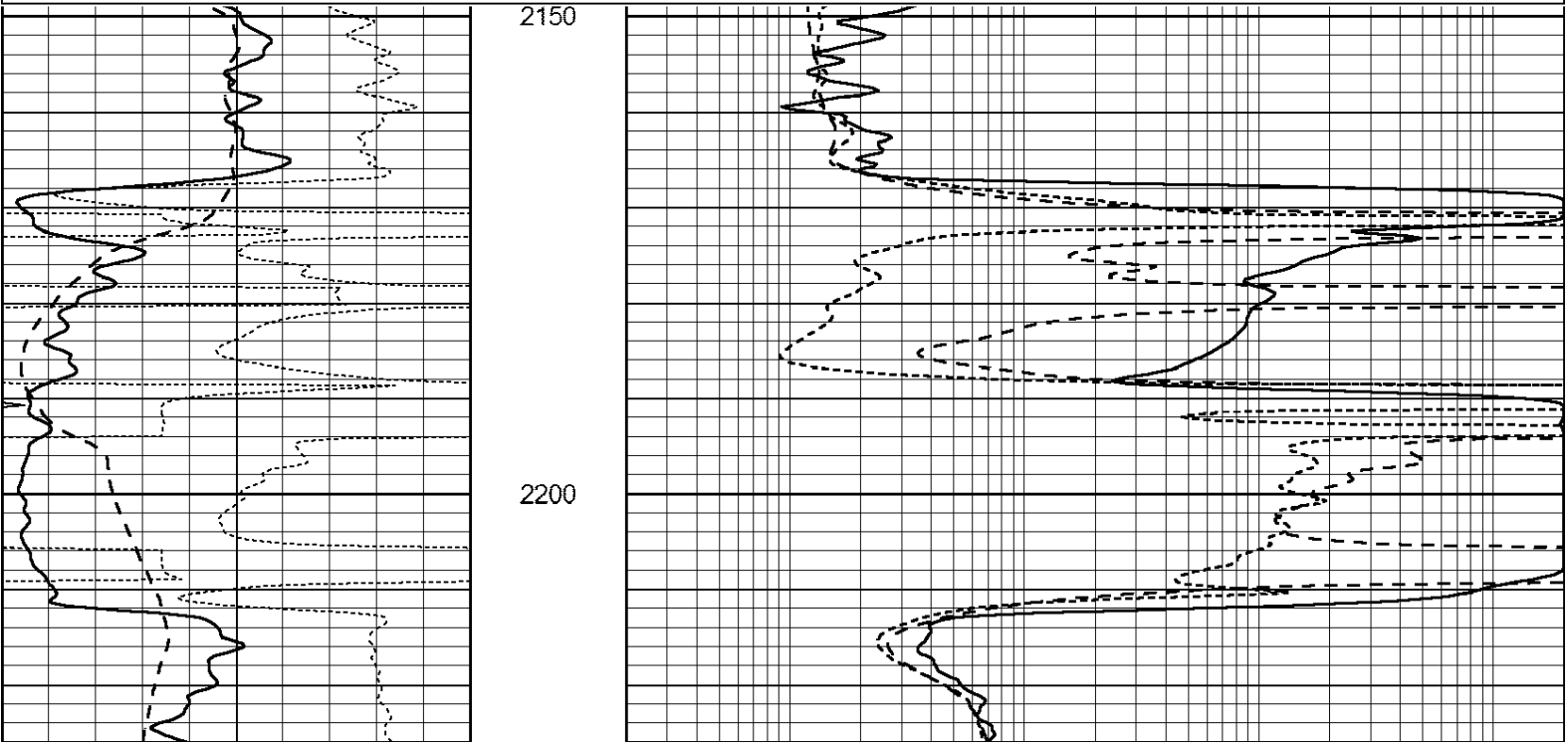


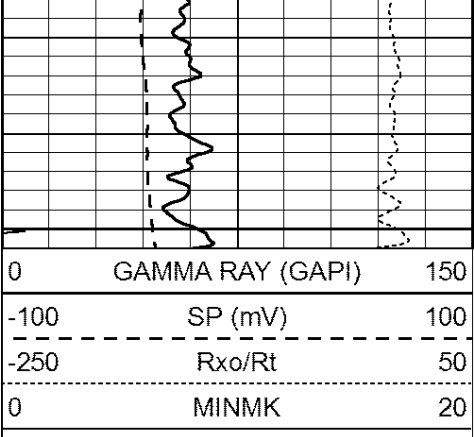


Database File: 409690ddn.db	
Dataset Pathname: pass4.3	
Presentation Format: _dil	
Dataset Creation: Sun Oct 07 23:28:57 2012 by Calc Open-Cased 110302	
Charted by: Depth in Feet scaled 1:240	

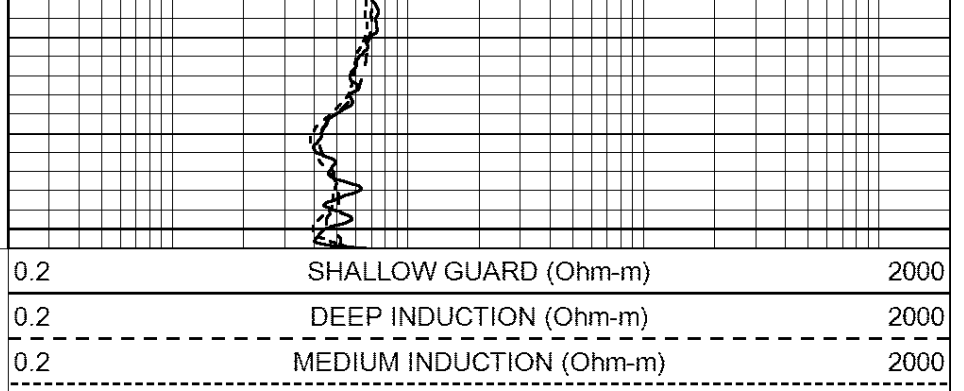
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

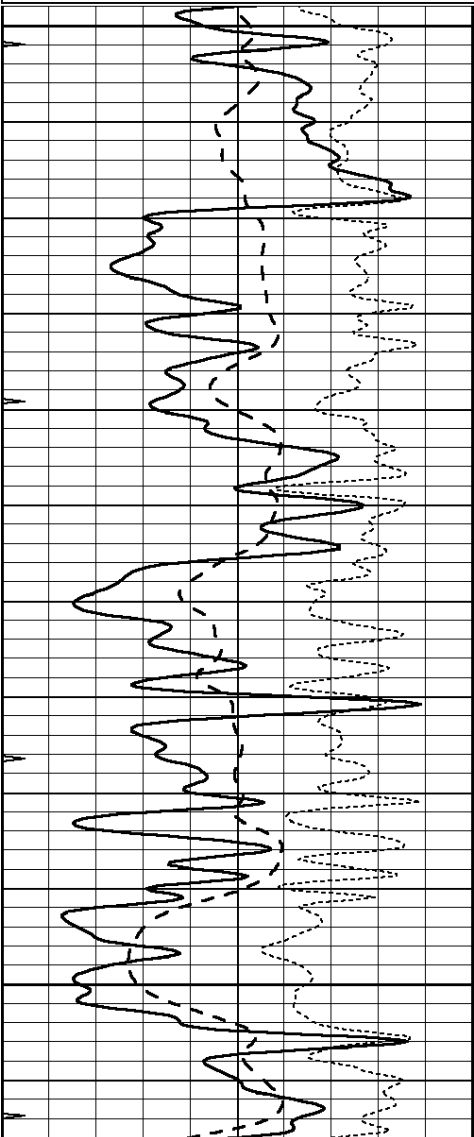
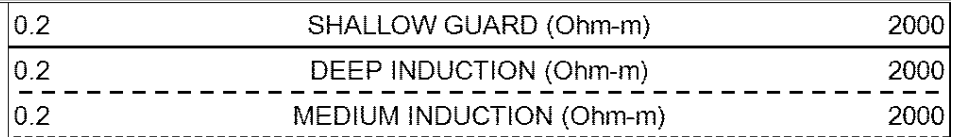
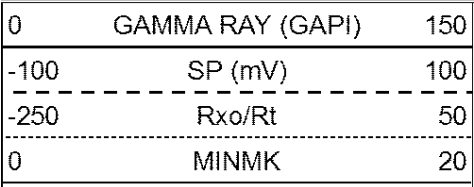




2250



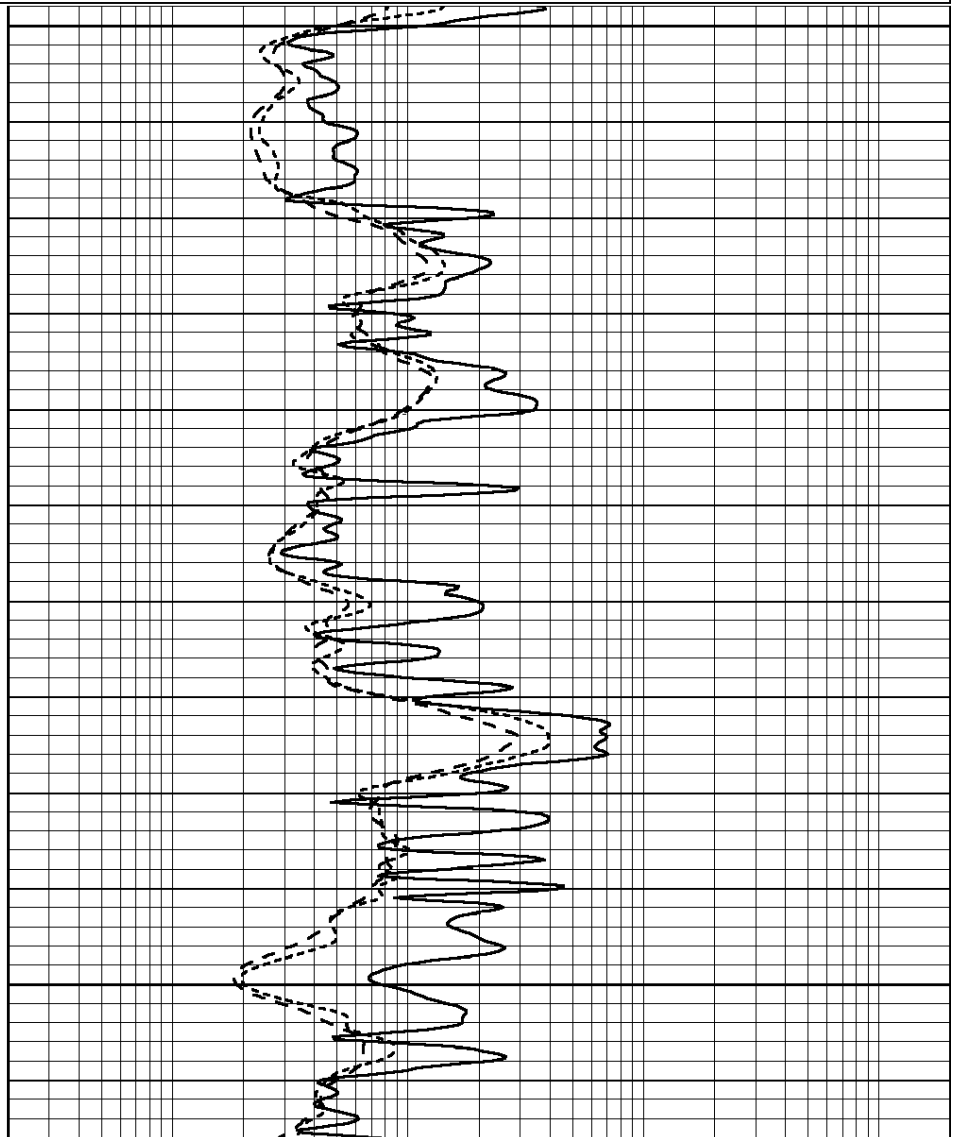
Database File: 409690ddn.db
Dataset Pathname: pass4.2
Presentation Format: _dil
Dataset Creation: Sun Oct 07 22:51:58 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

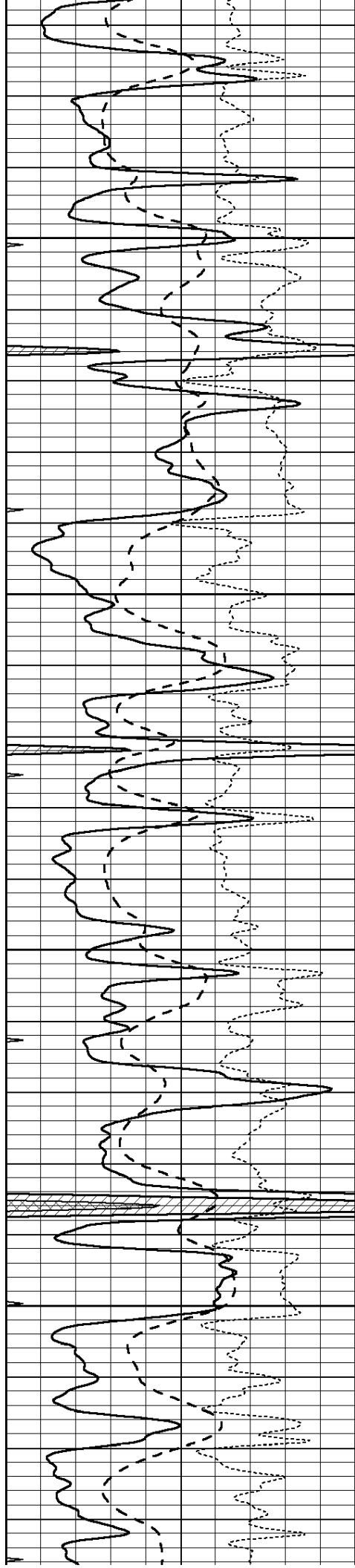


3500

3550

3600



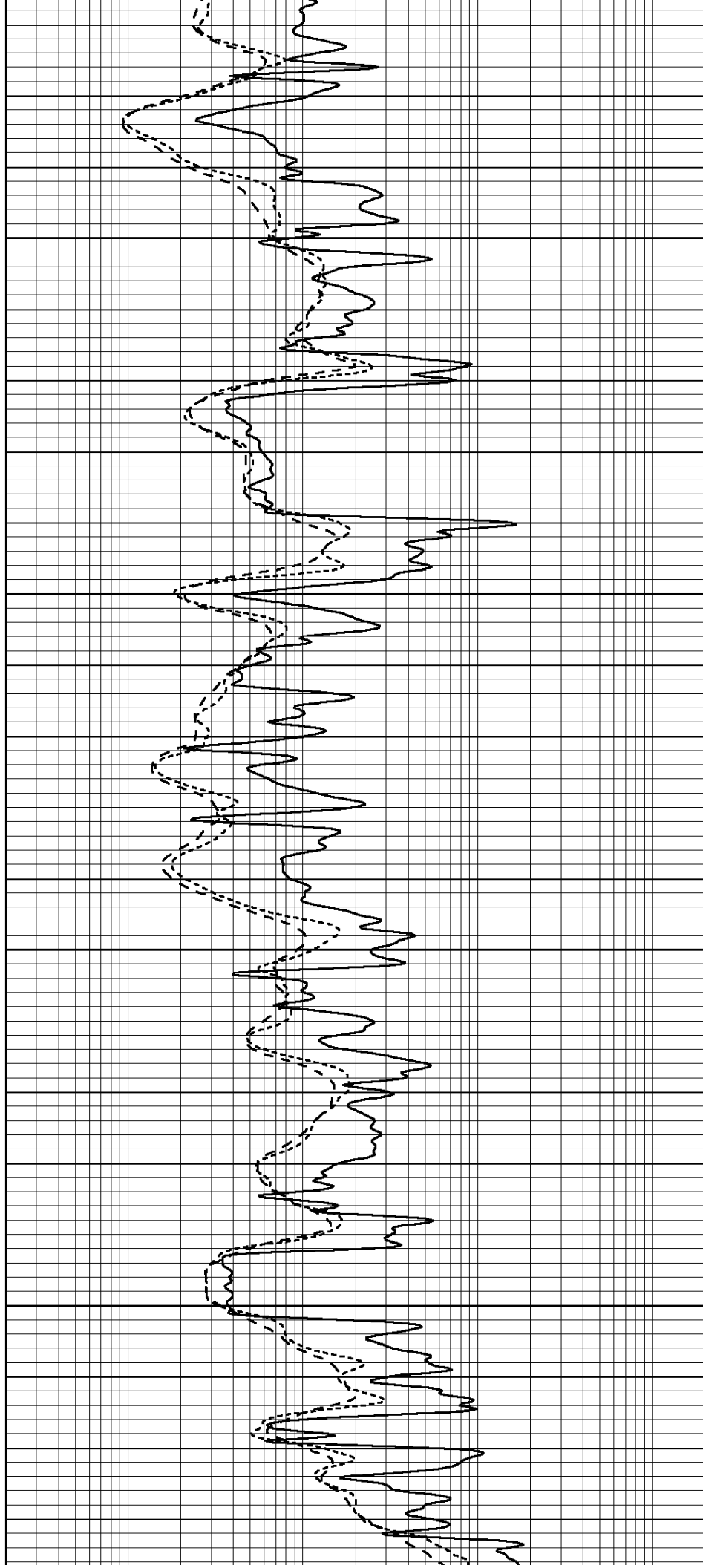


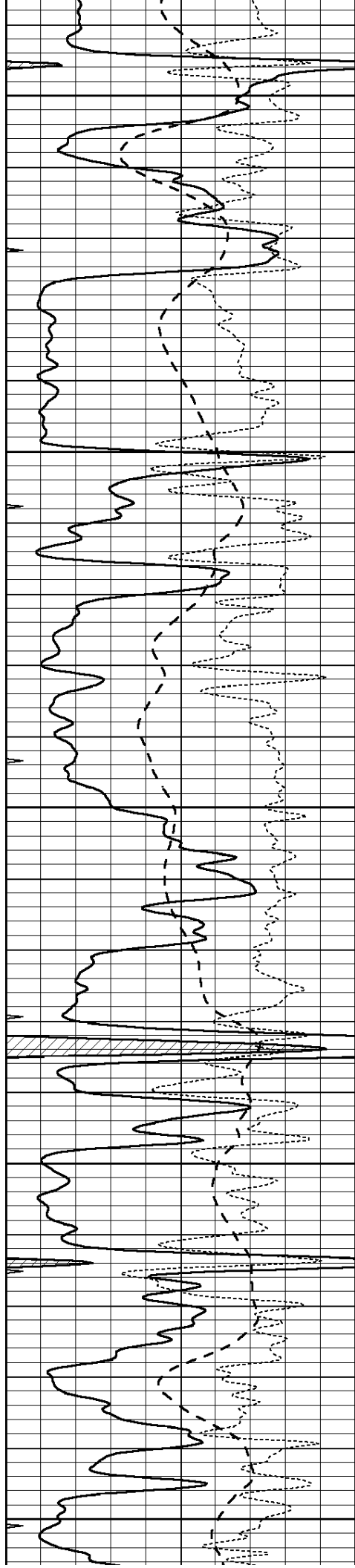
3650

3700

3750

3800





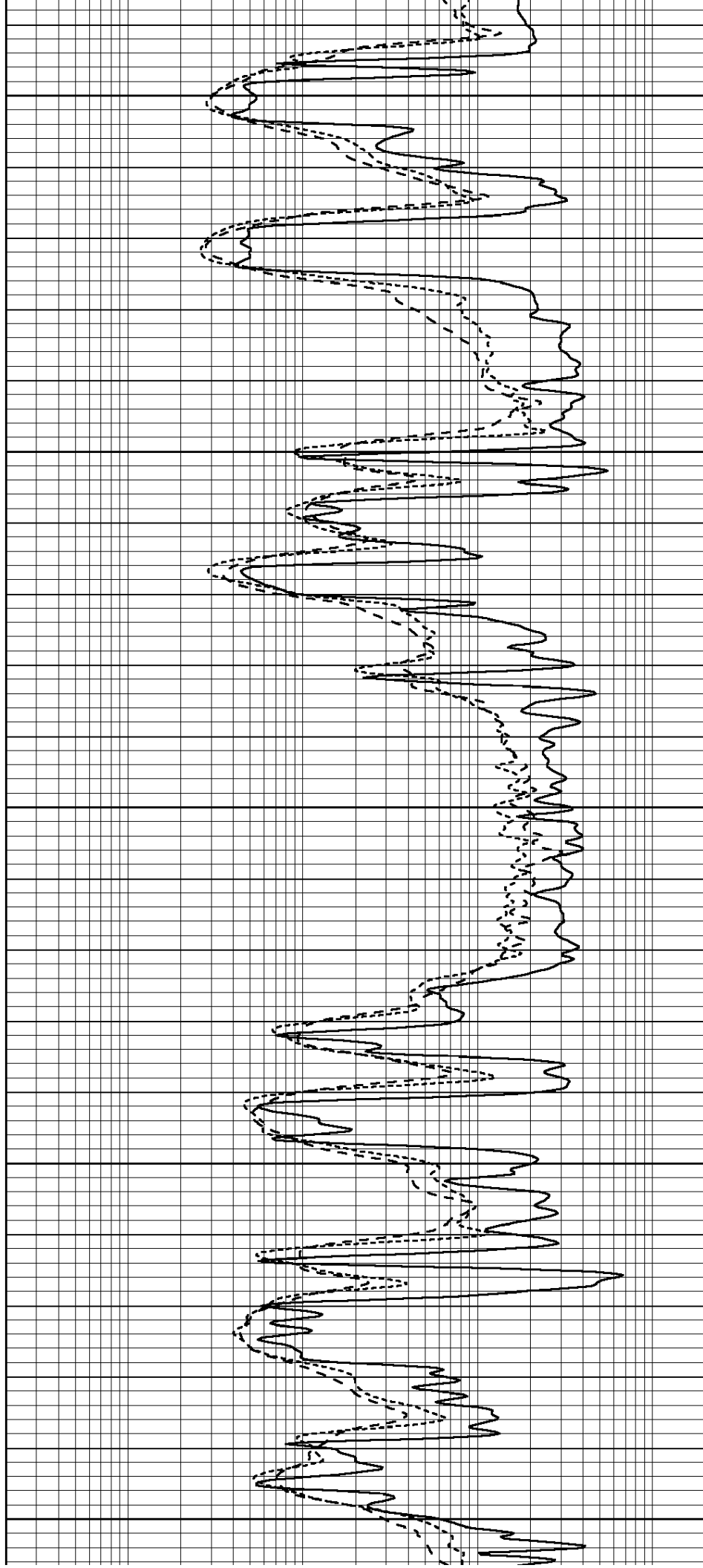
3850

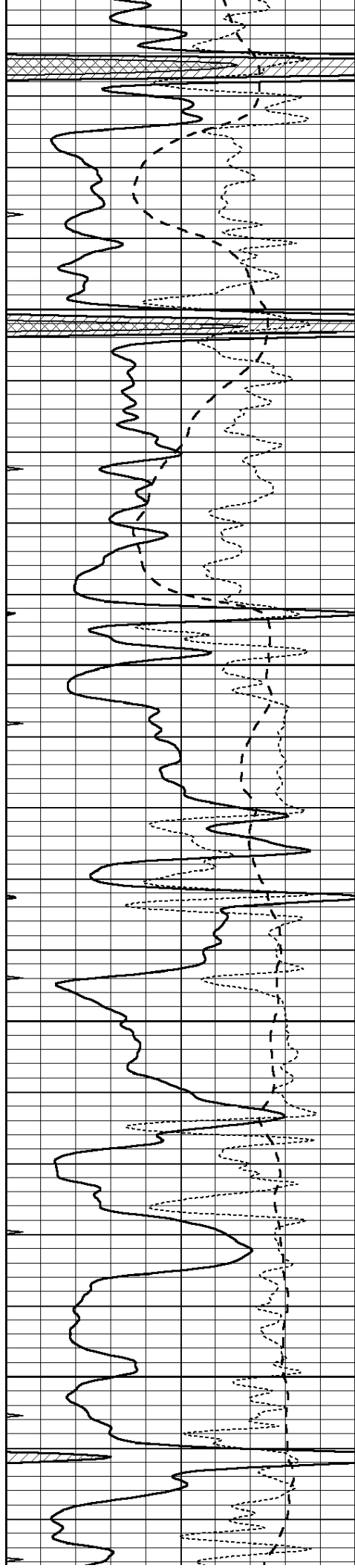
3900

3950

4000

4050



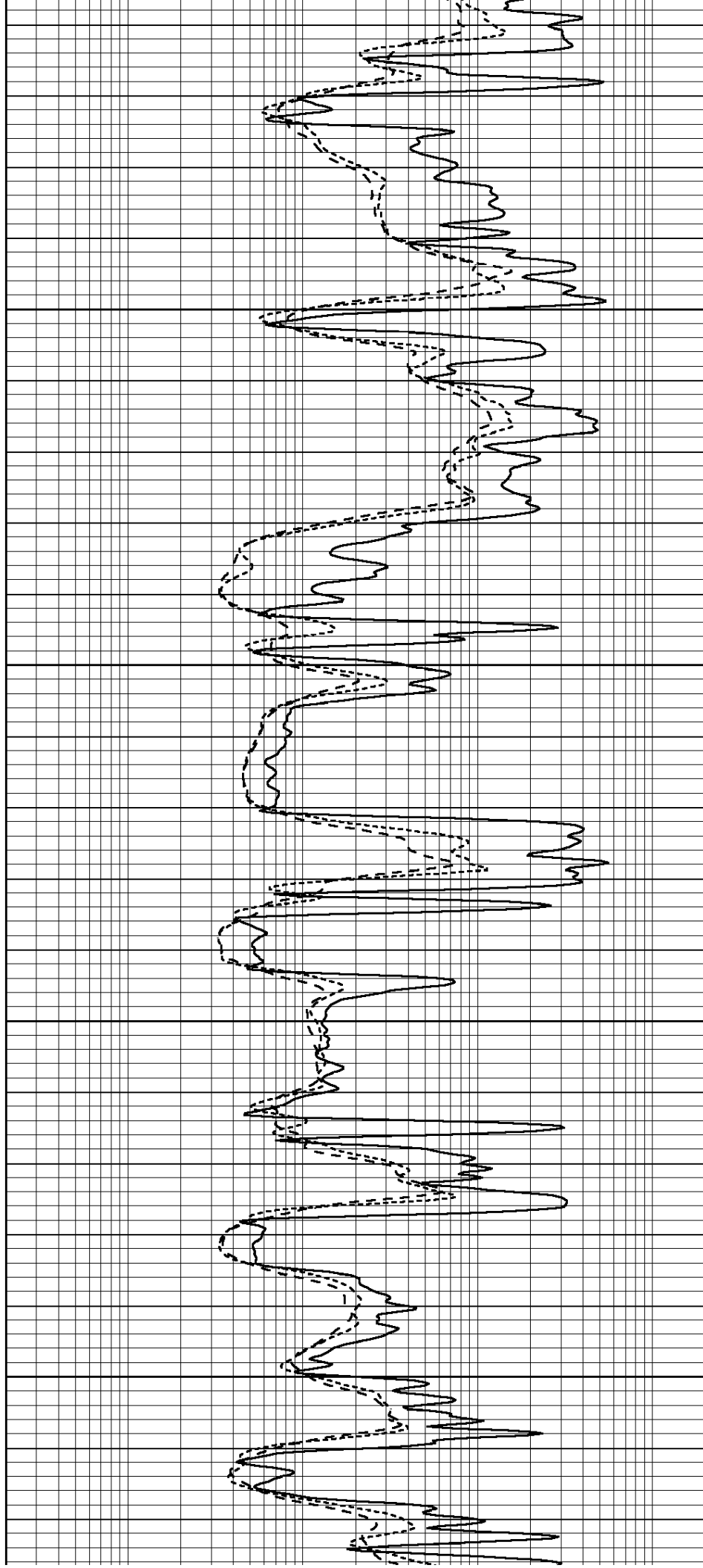


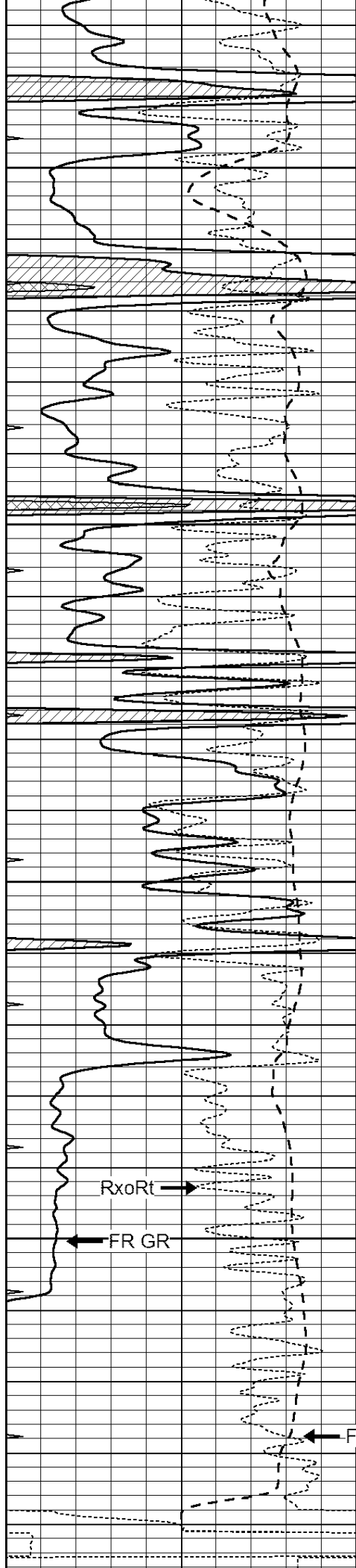
4100

4150

4200

4250





4300

4350

4400

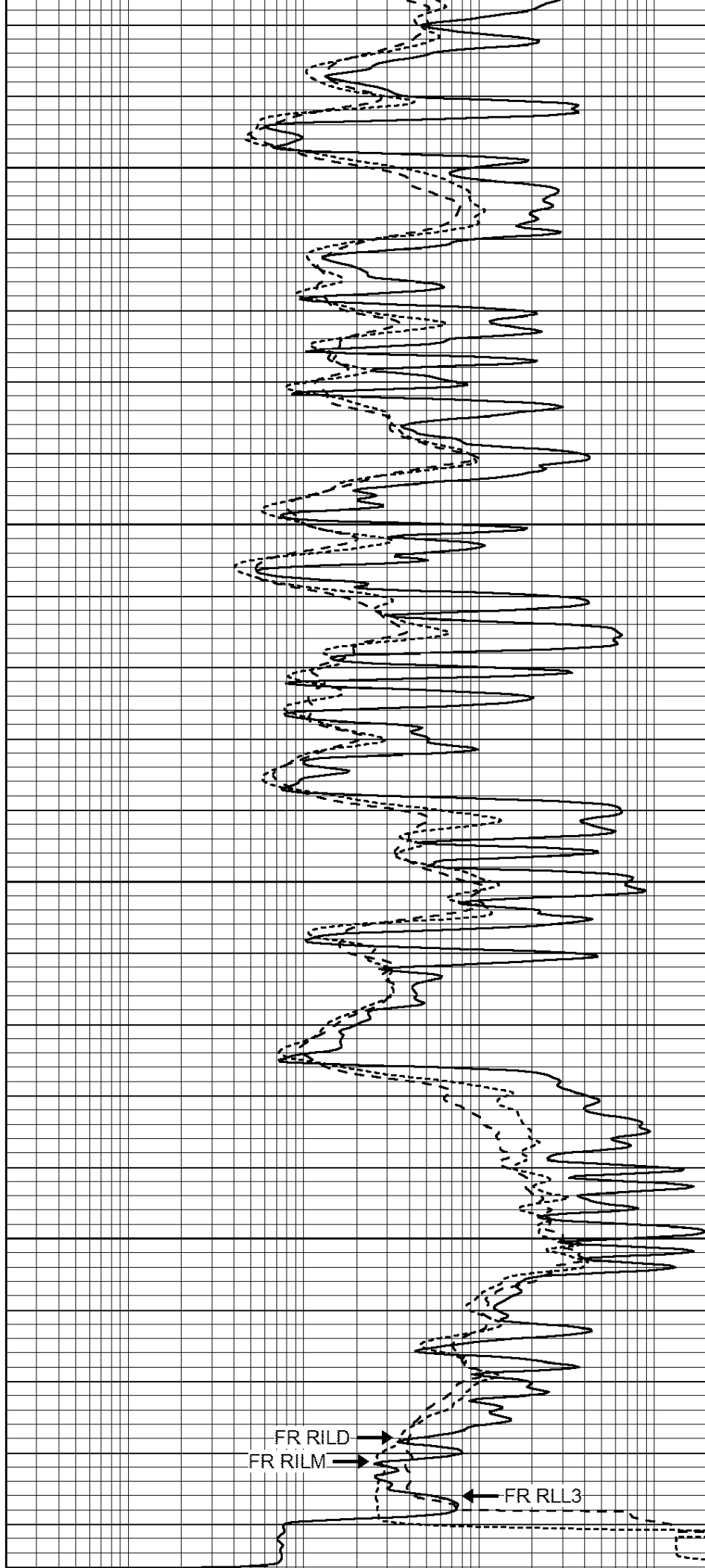
4450

RxoRt →

← FR GR

← FR SP

LTD 4488



FR RILD →

FR RILM →

← FR RLL3

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



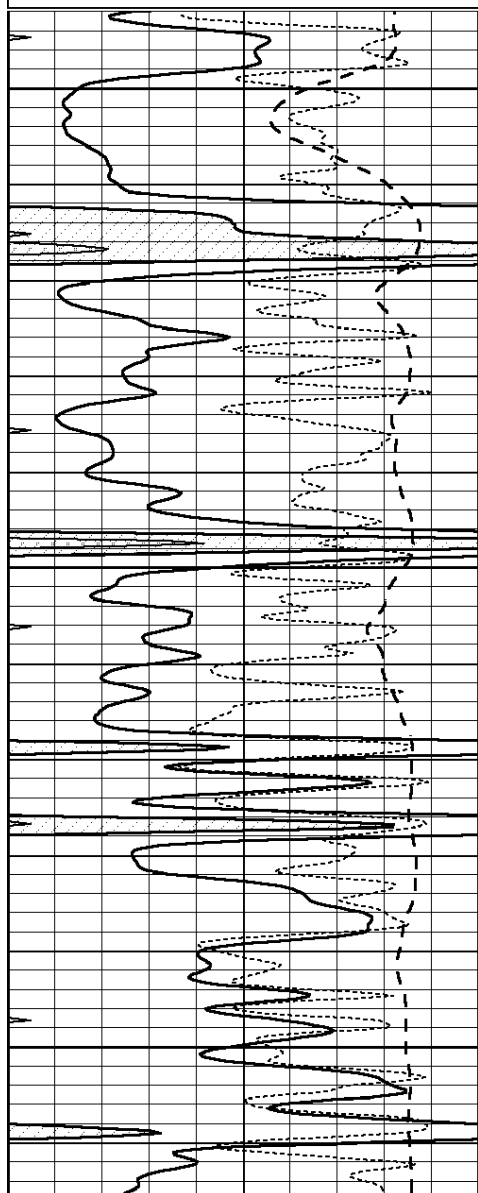
**COMPLETION
& PRODUCTION
SERVICES CO.**

REPEAT SECTION

Database File: 409690ddn.db
Dataset Pathname: pass3.4
Presentation Format: _dil
Dataset Creation: Sun Oct 07 22:21:30 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

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

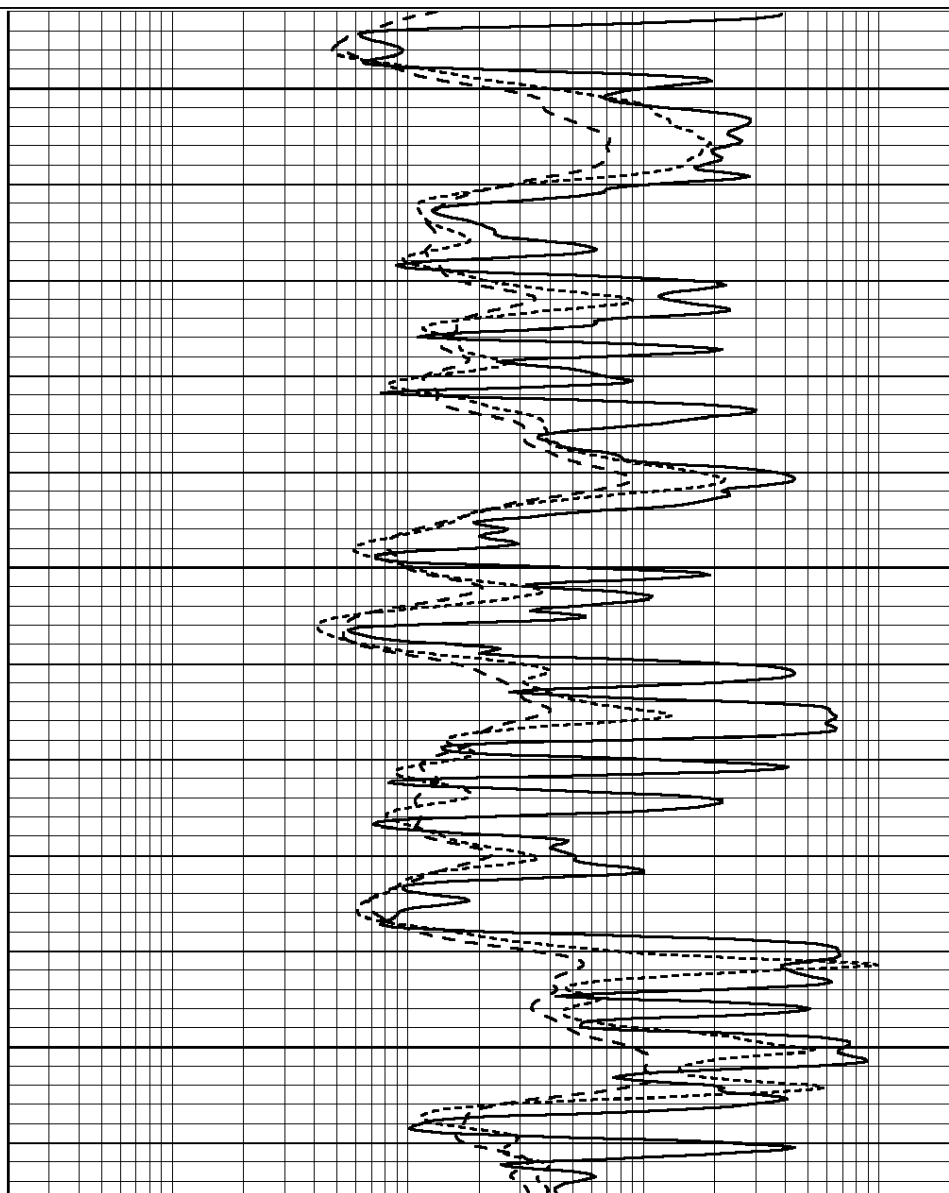
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

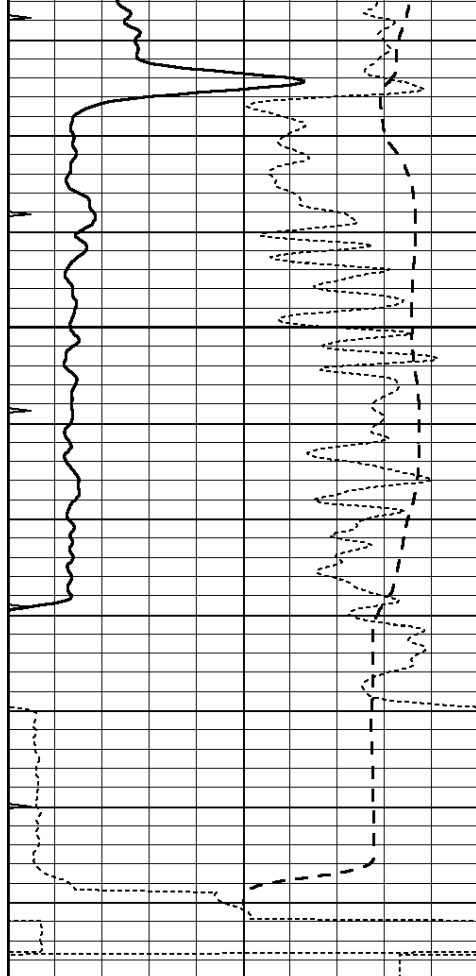


4300

4350

4400





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

4450

4500



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: 409690ddn.db
 Dataset Pathname: pass4.3
 Dataset Creation: Sun Oct 07 23:28:57 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Mon Oct 01 18:43:03 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	12.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-6.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report
 Serial: 006 Model: PRB
 Performed Sun Aug 15 09:48:41 2010

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Caliper					
	Readings	Reference			
Low Ref	3.5	6.7			
High Ref	5.5	15.0			
	Gain: 4.3		Offset: -8.6		

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:	Wed Sep 19 15:58:00 2012			
	Calibrator Value:	1.0	GAPI		
	Background Reading:	0.0	cps		
	Calibrator Reading:	1.0	cps		
	Sensitivity:	0.3000	GAPI/cps		