



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company		DOUBLE D'S LLC.	
Well		SHORTY DREILING #1	
Field		MARTINA NORTH	
County		ELLIS	
State		KANSAS	
Location:		API # : 15-051-26514-0000	
Permanent Datum		344' FSL & 2031' FWL	
Log Measured From		SW - SE - SE - SW	
Drilling Measured From		SEC 14 TWP 15S RGE 19W	
Ground Level Elevation		1979	
Other Services		CDL/CNL MEL	
Elevation		K.B. 1986 D.F. 1984 G.L. 1979	
Date	4/23/13		
Run Number	ONE		
Depth Driller	3690		
Depth Logger	3693		
Bottom Logged Interval	3691		
Top Log Interval	0		
Casing Driller	8 5/8" @ 1171'		
Casing Logger	1170'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3300 PPM	
Density / Viscosity	9.0/50		
pH / Fluid Loss	11.0/7.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.85 @ 65F		
Rmt @ Meas. Temp	0.64 @ 65F		
Rmc @ Meas. Temp	1.02 @ 65F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.49 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	113F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	AL 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

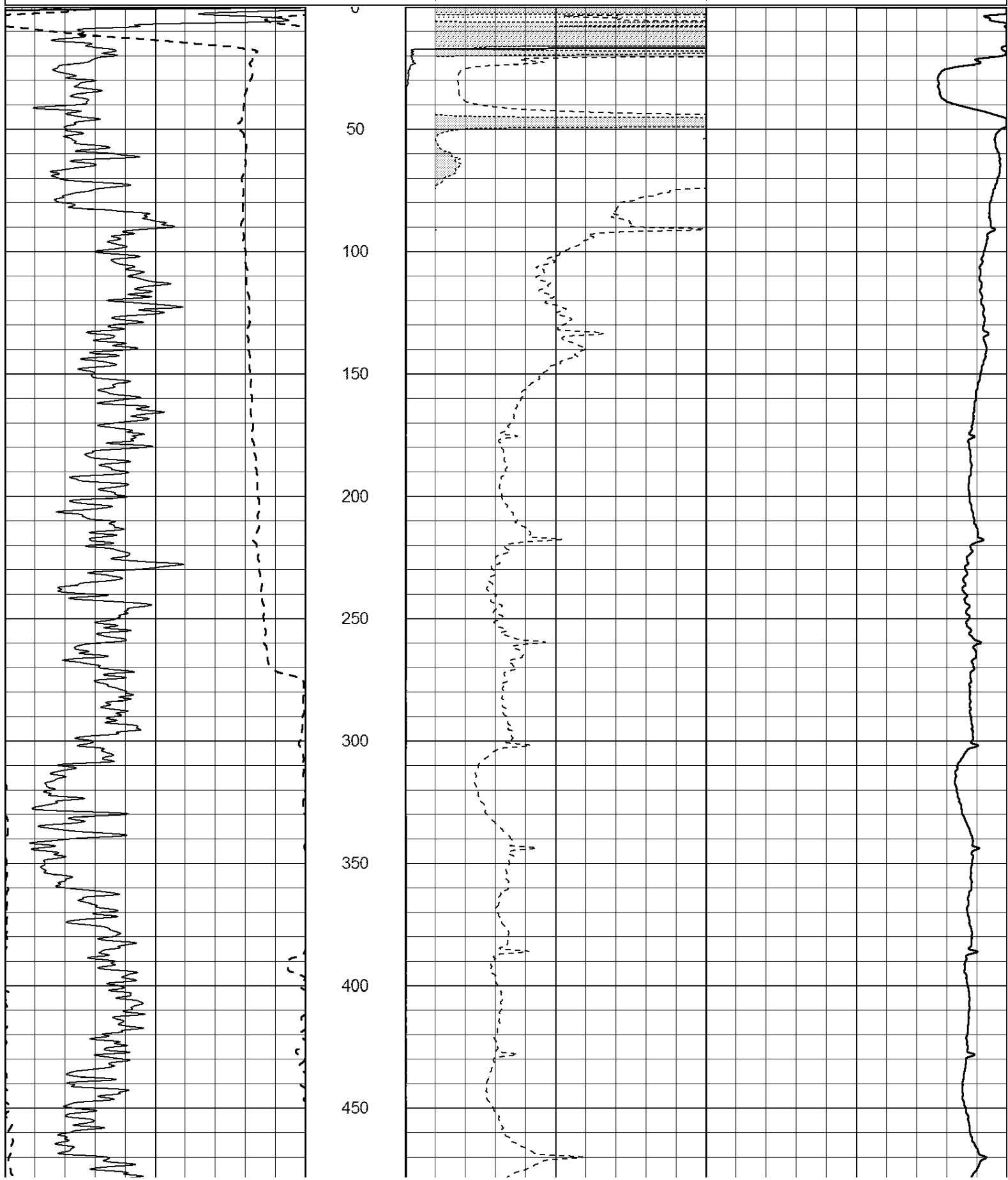
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
ANTONINO, KS - 3 MILES SOUTH - 1/2 MILE WEST - NORTH INTO

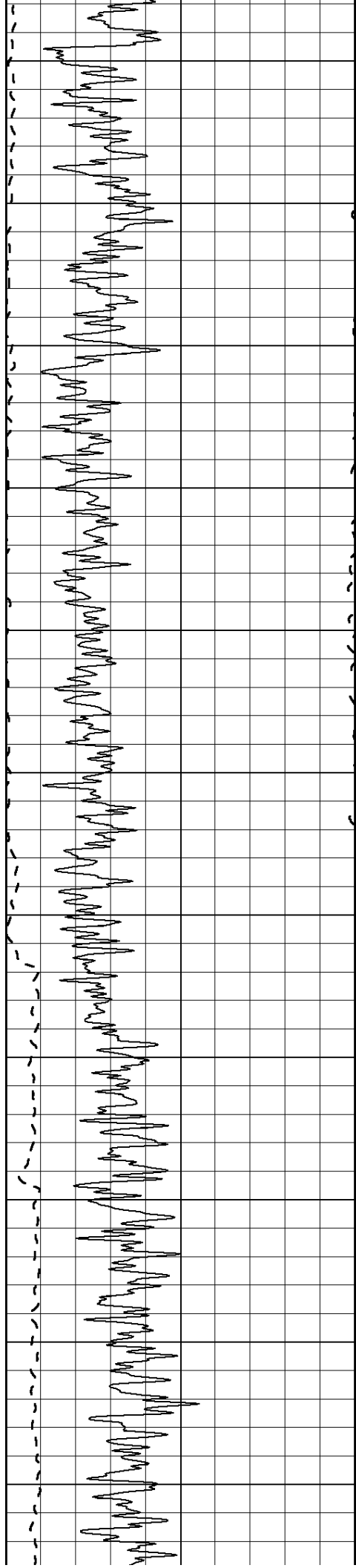
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

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	





500

550

600

650

700

750

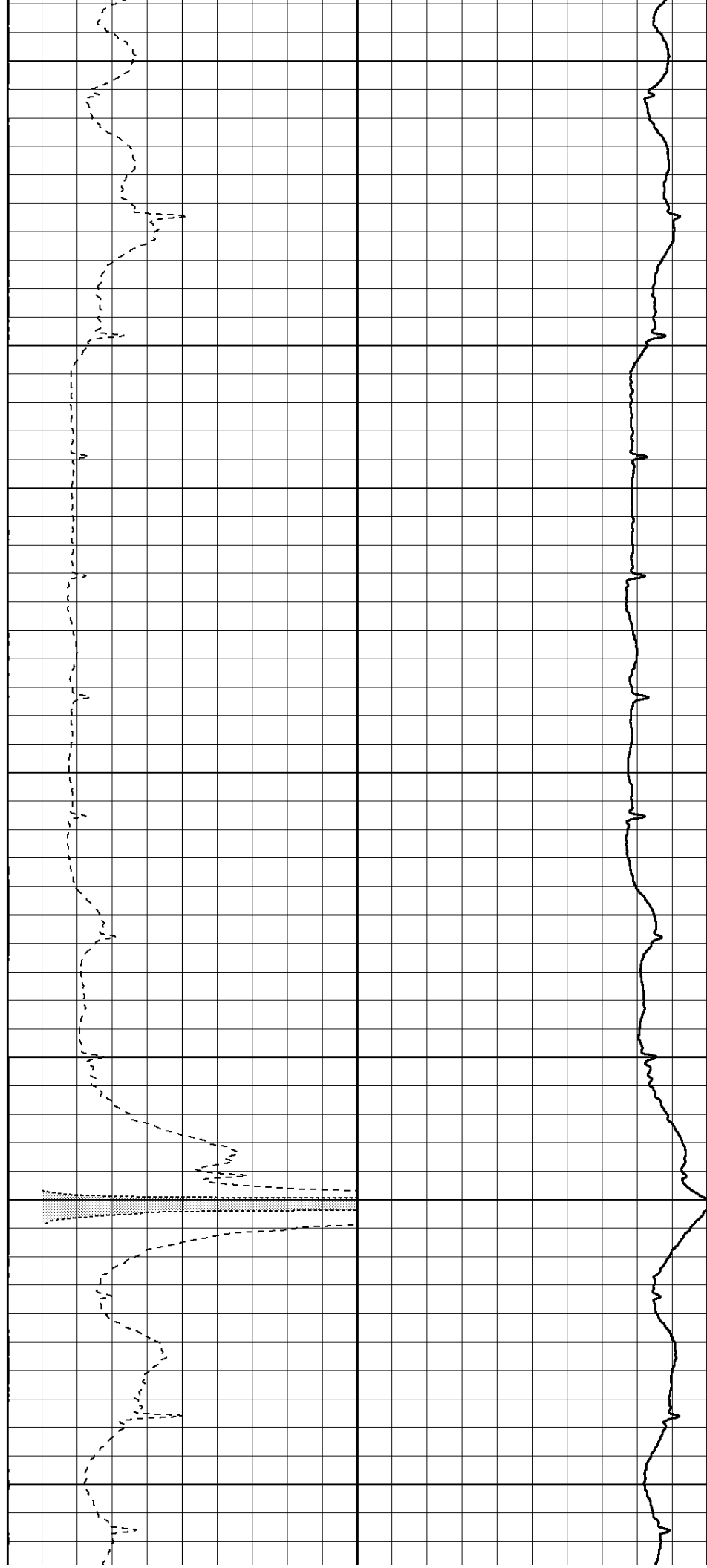
800

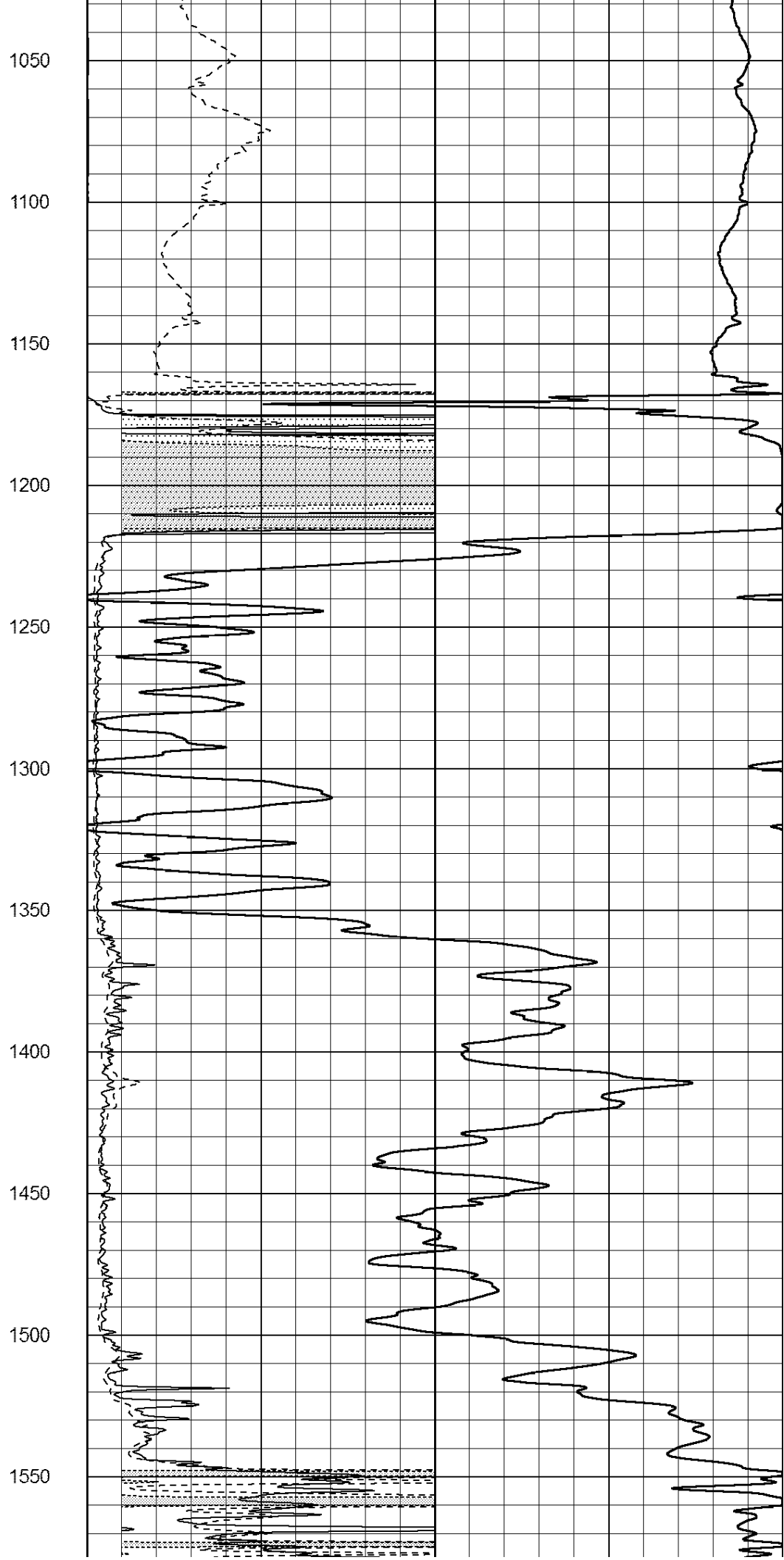
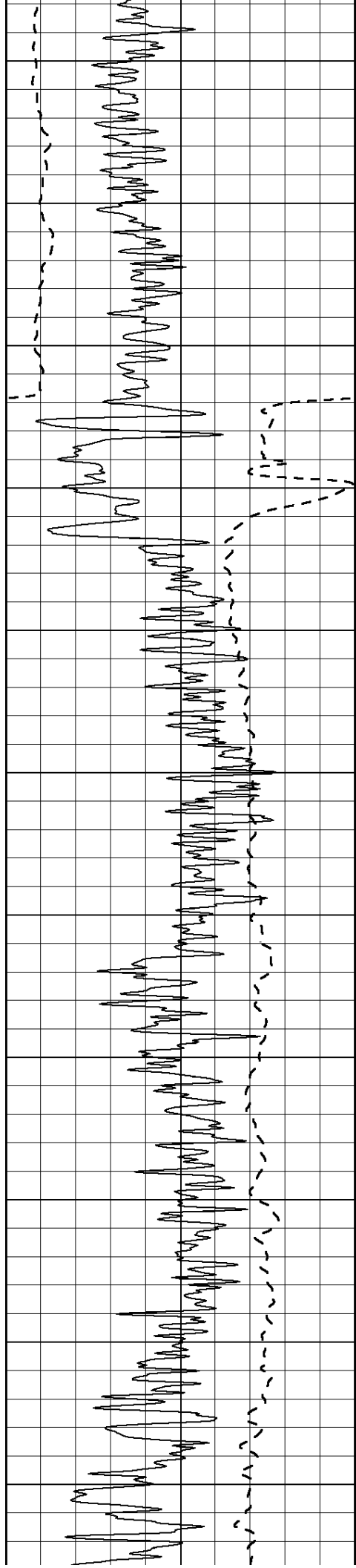
850

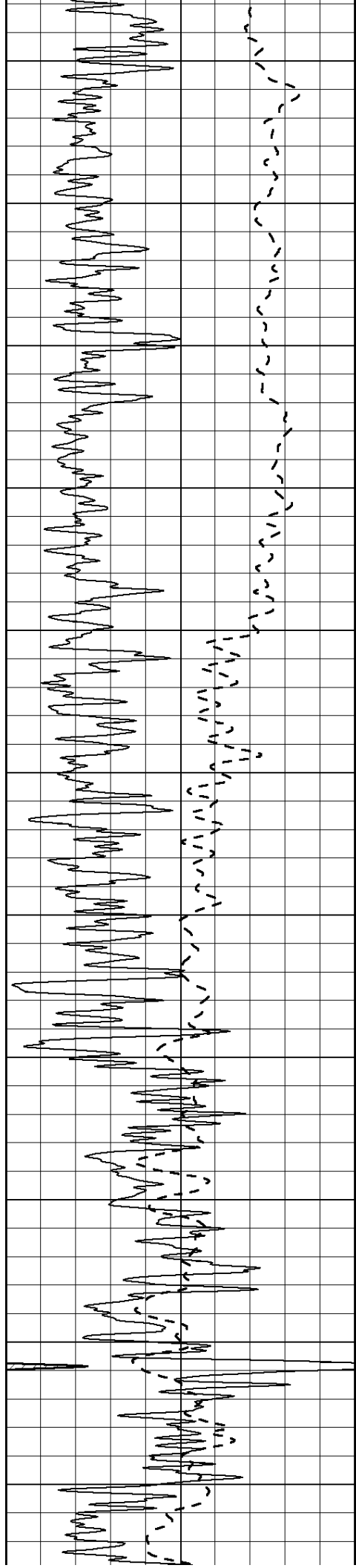
900

950

1000







1600

1650

1700

1750

1800

1850

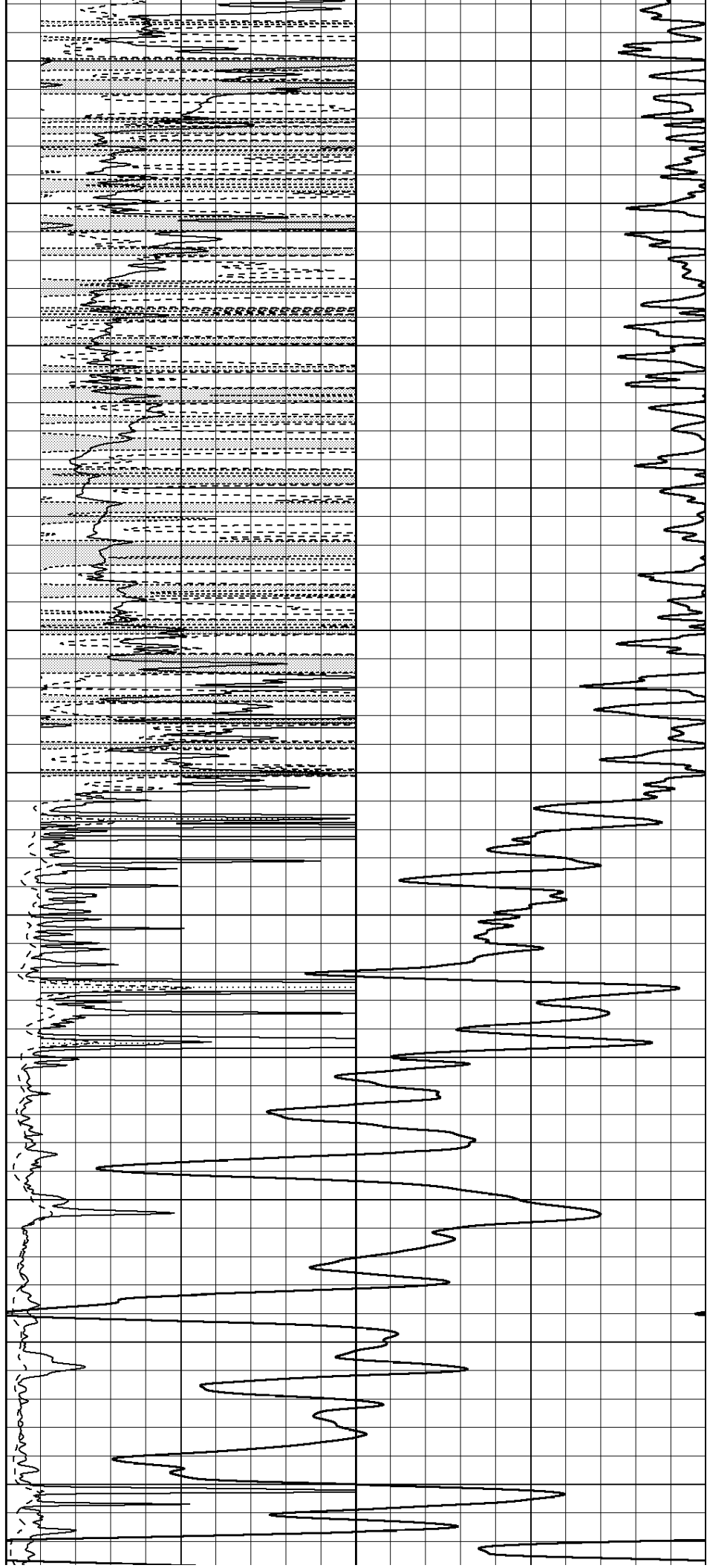
1900

1950

2000

2050

2100



2150

2200

2250

2300

2350

2400

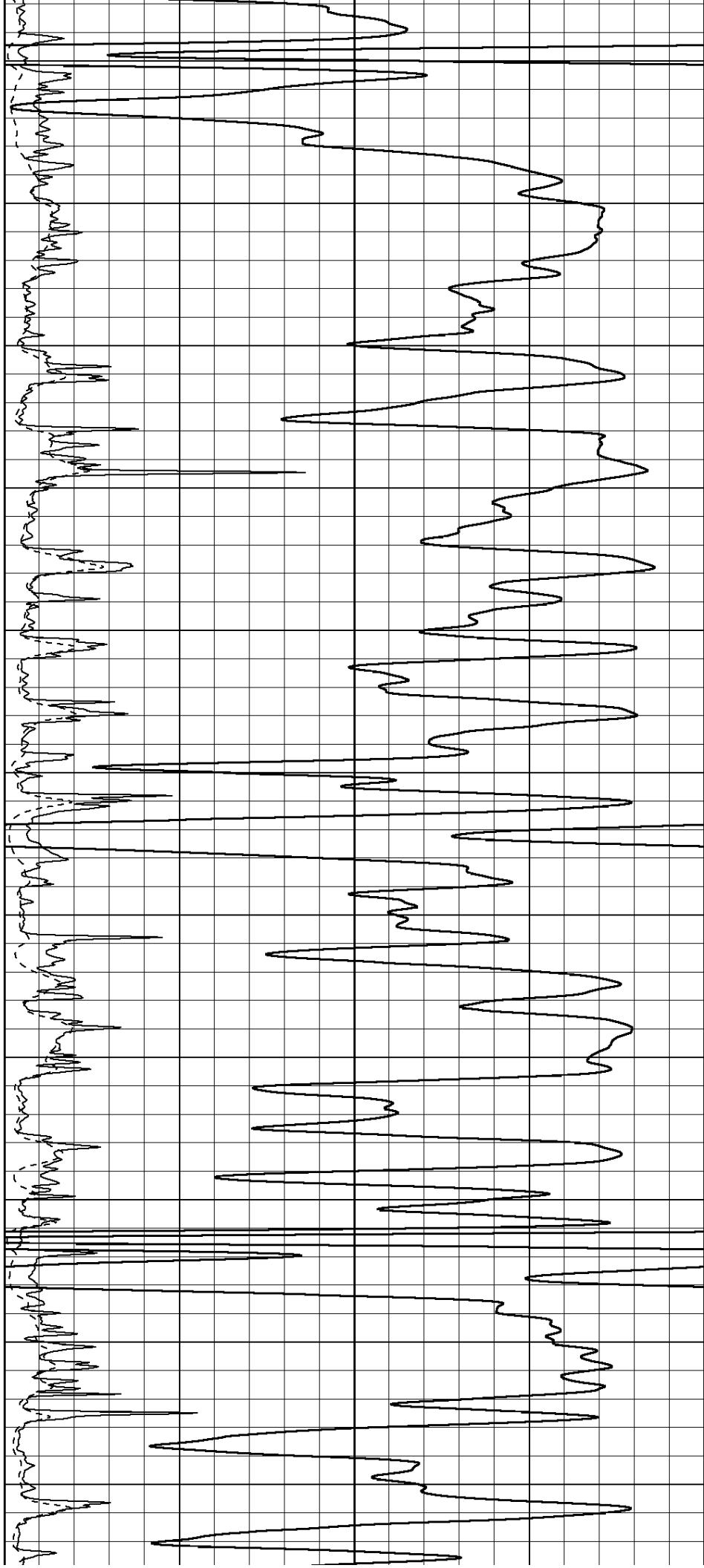
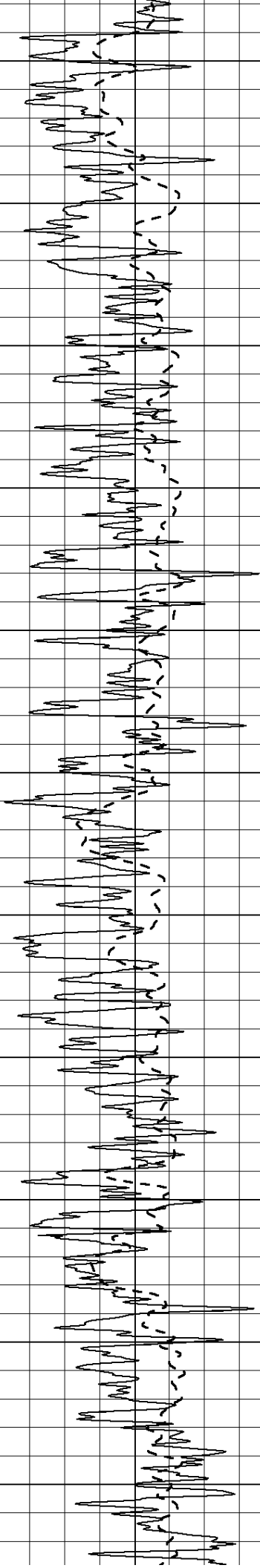
2450

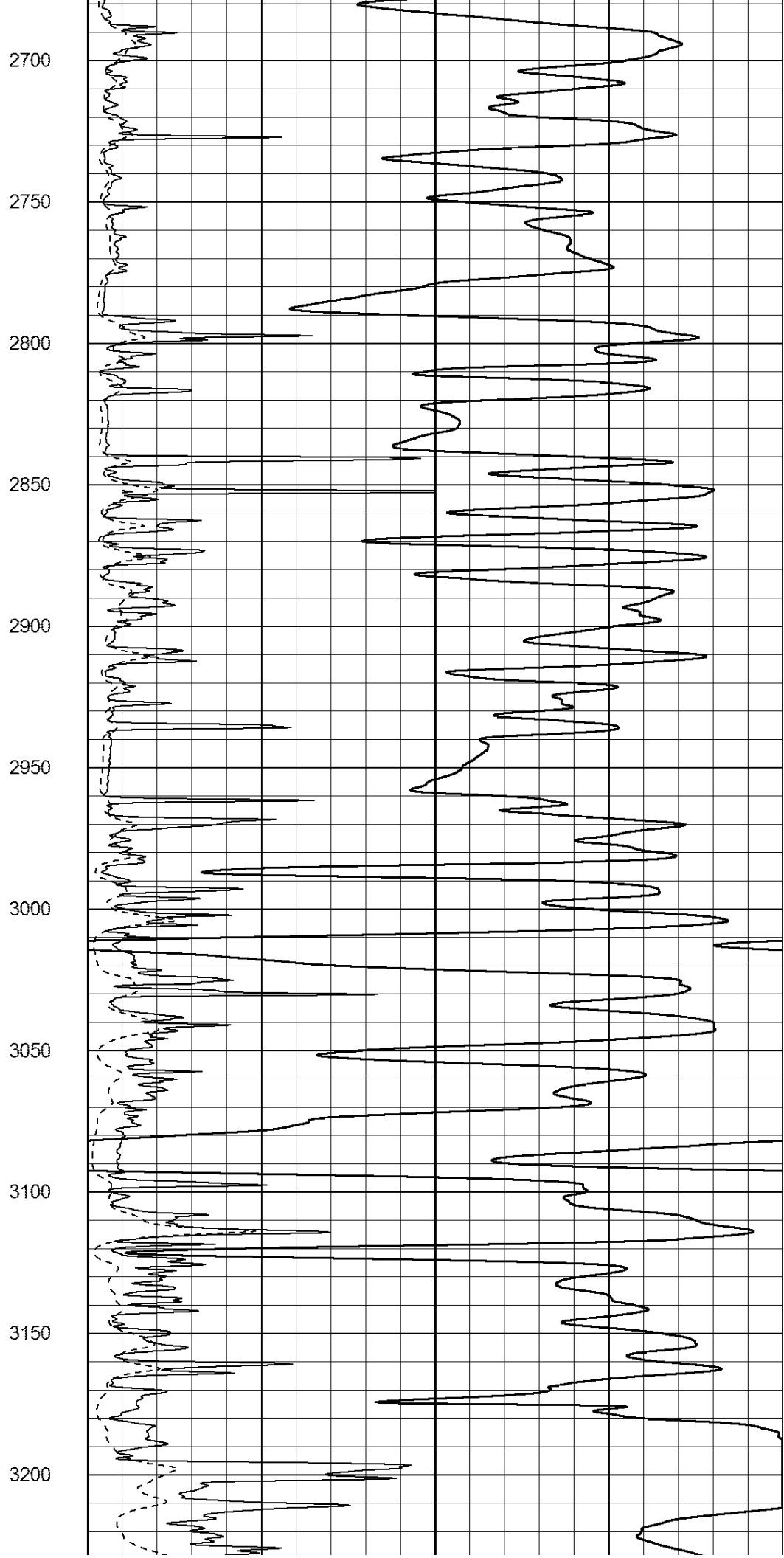
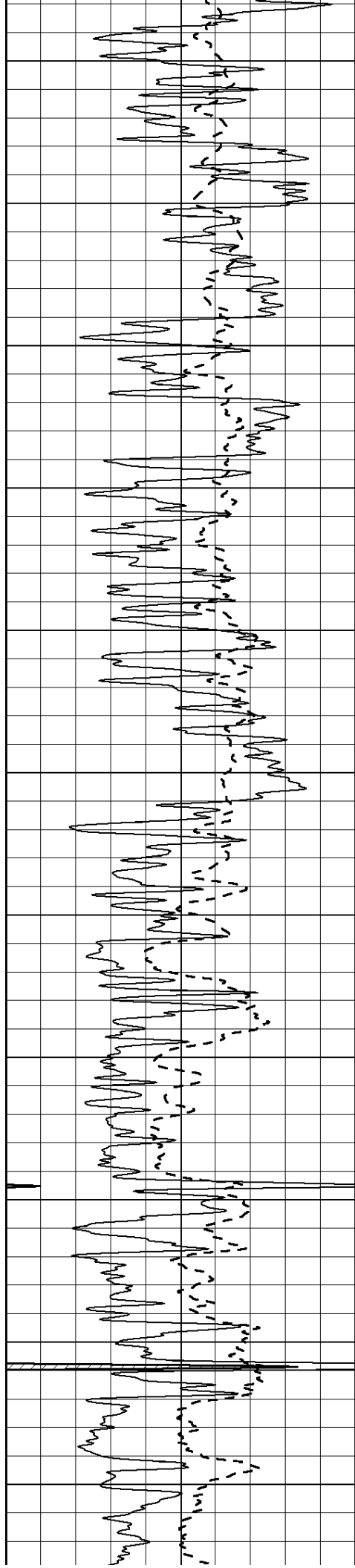
2500

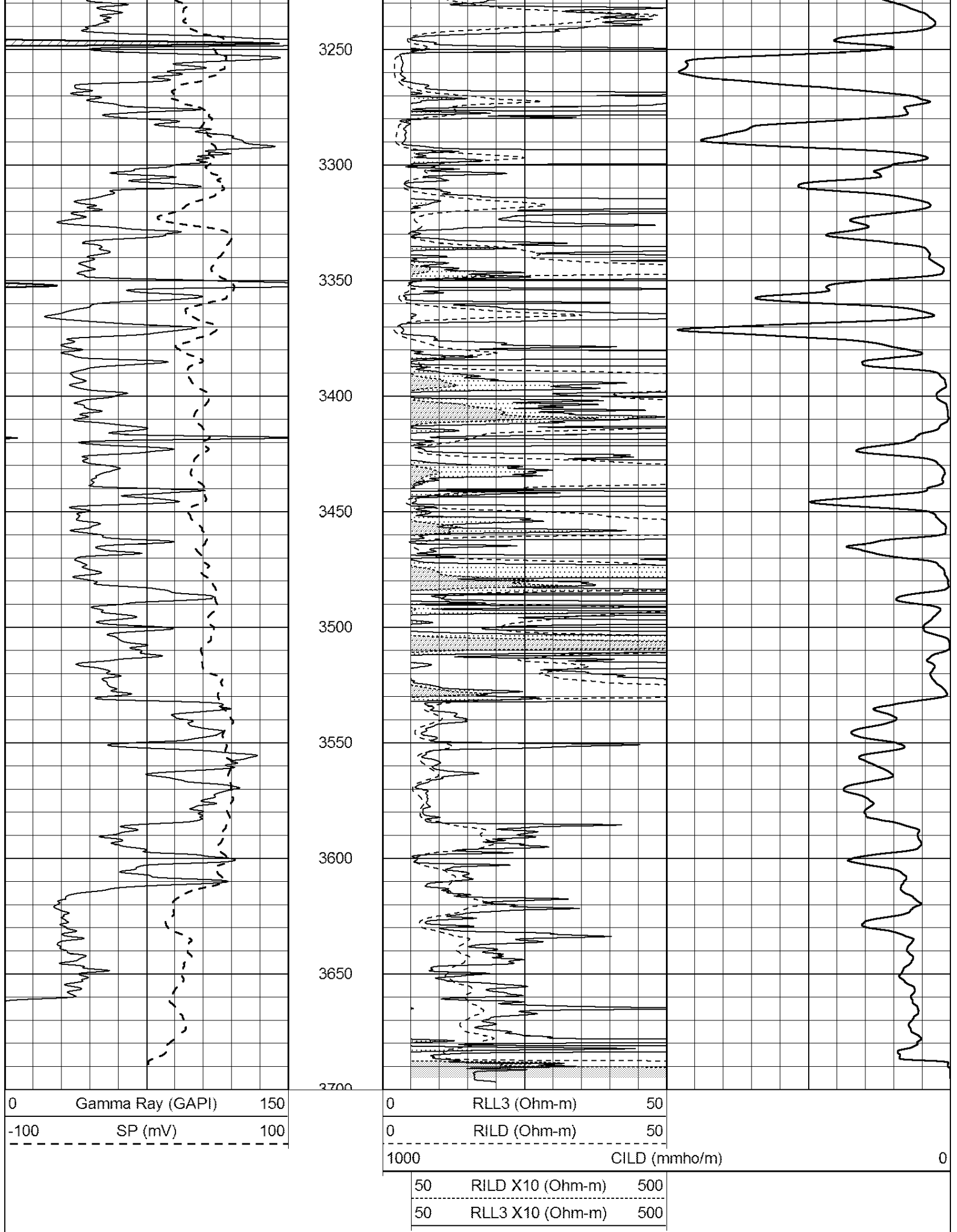
2550

2600

2650



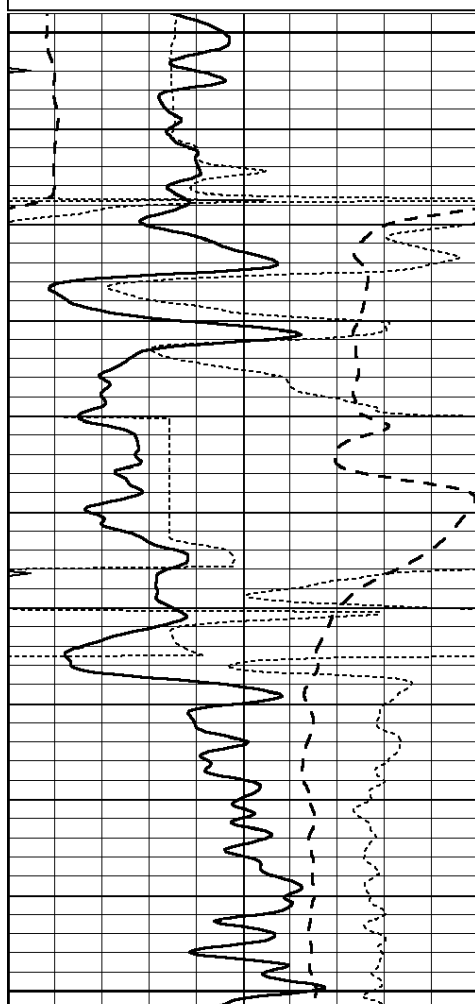




Database File: 010777ddn.db
Dataset Pathname: pass3.5
Presentation Format: _dil
Dataset Creation: Tue Apr 23 07:33:06 2013
Charted by: Depth in Feet scaled 1:240

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

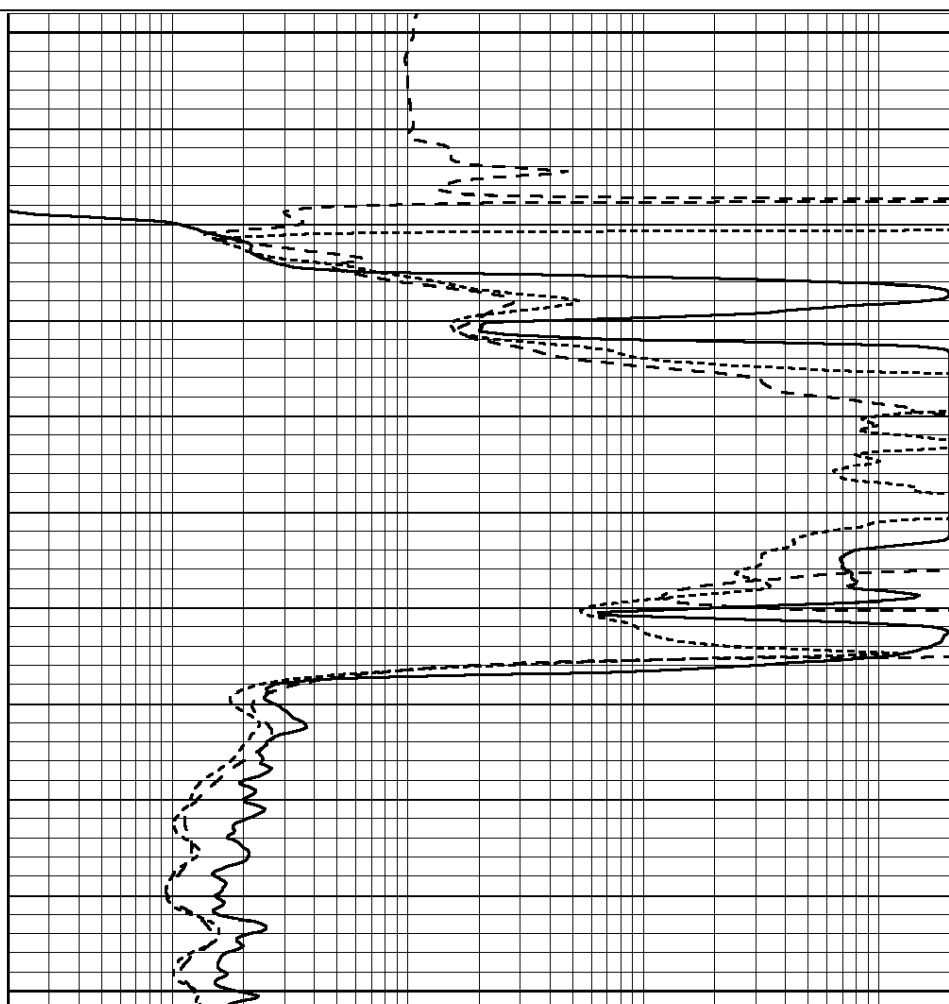
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



1150

1200

1250



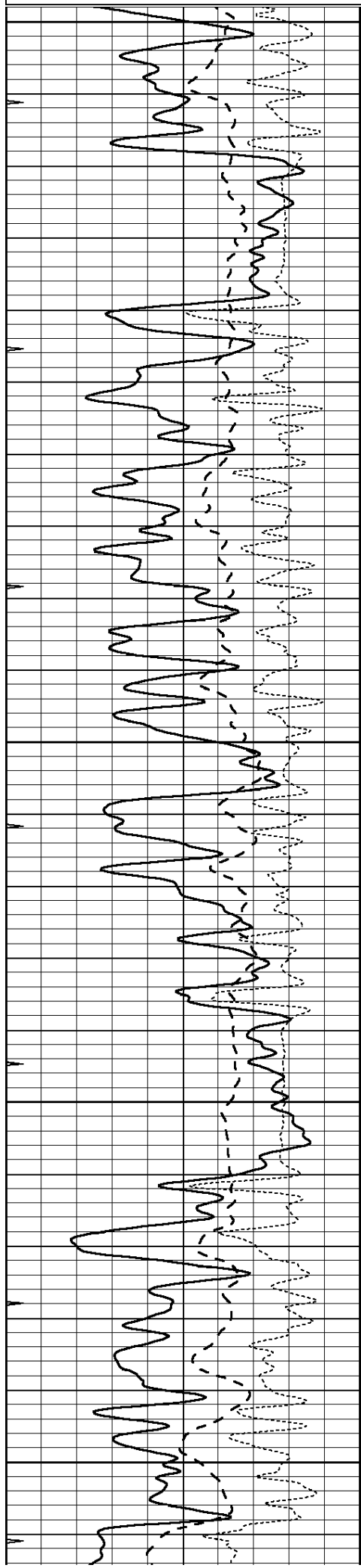
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

Database File: 010777ddn.db
Dataset Pathname: pass3.5
Presentation Format: _dil
Dataset Creation: Tue Apr 23 07:33:06 2013
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



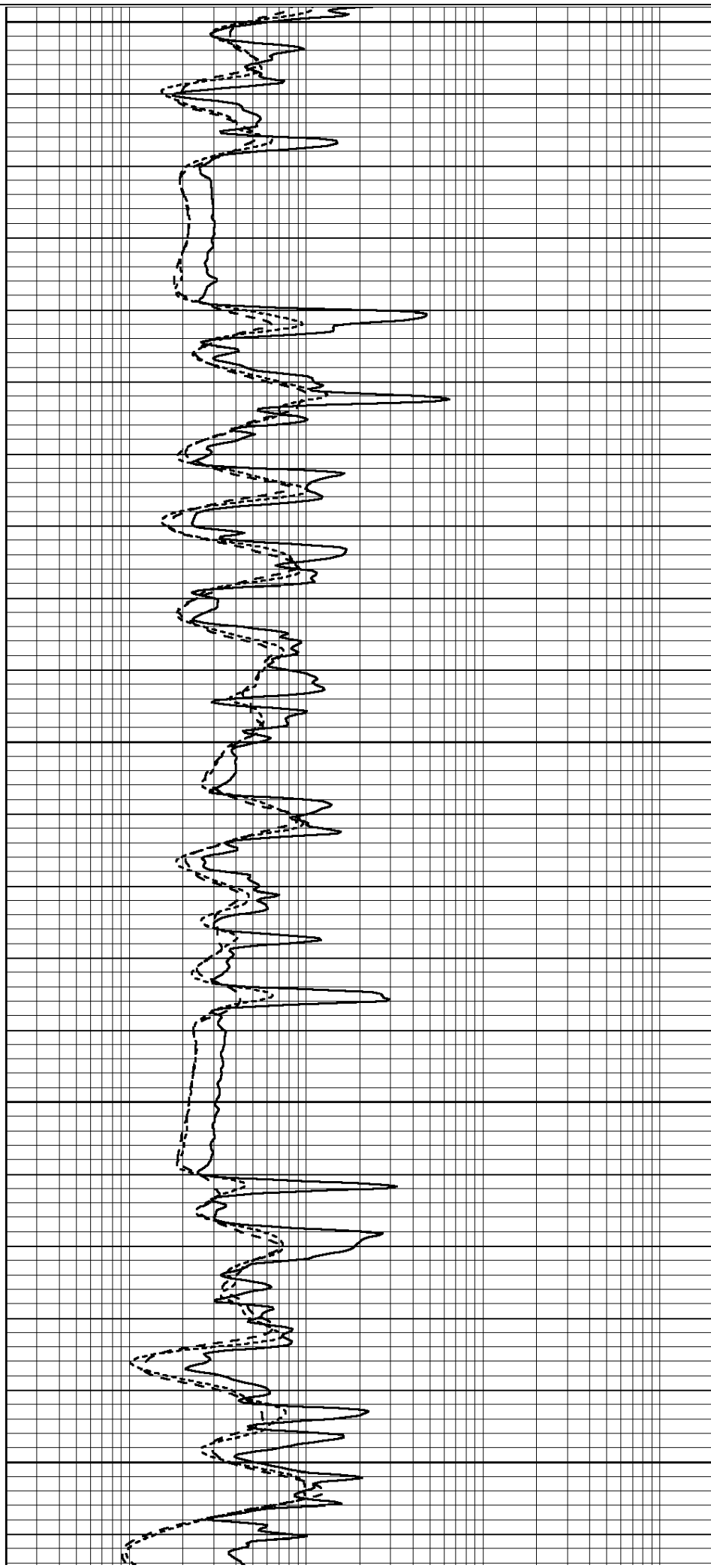
2800

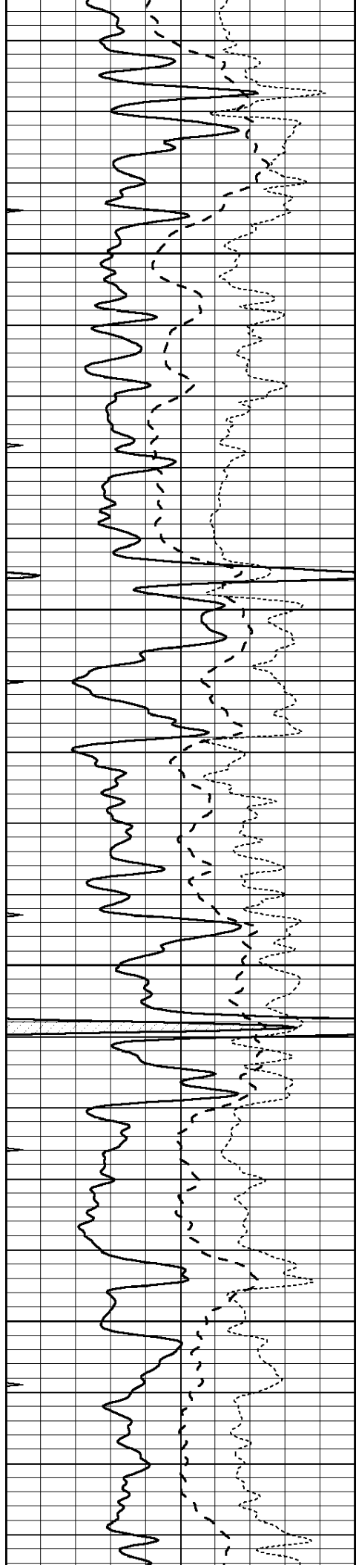
2850

2900

2950

3000



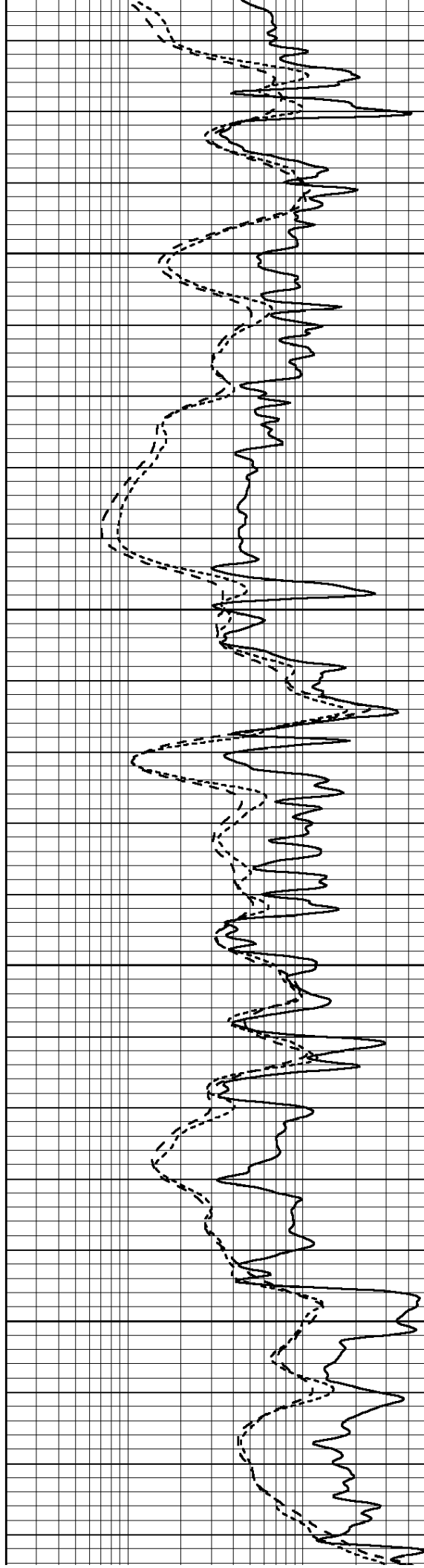


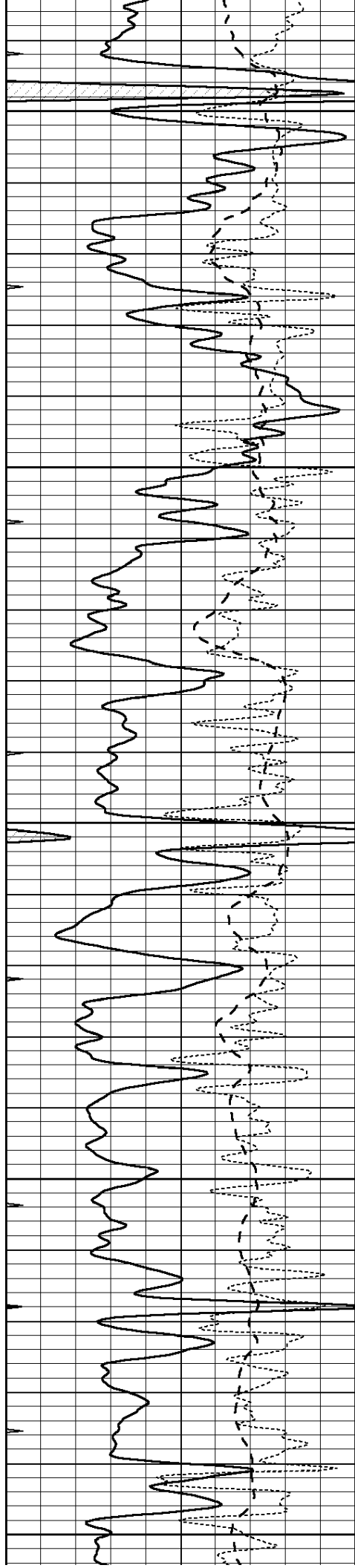
3050

3100

3150

3200





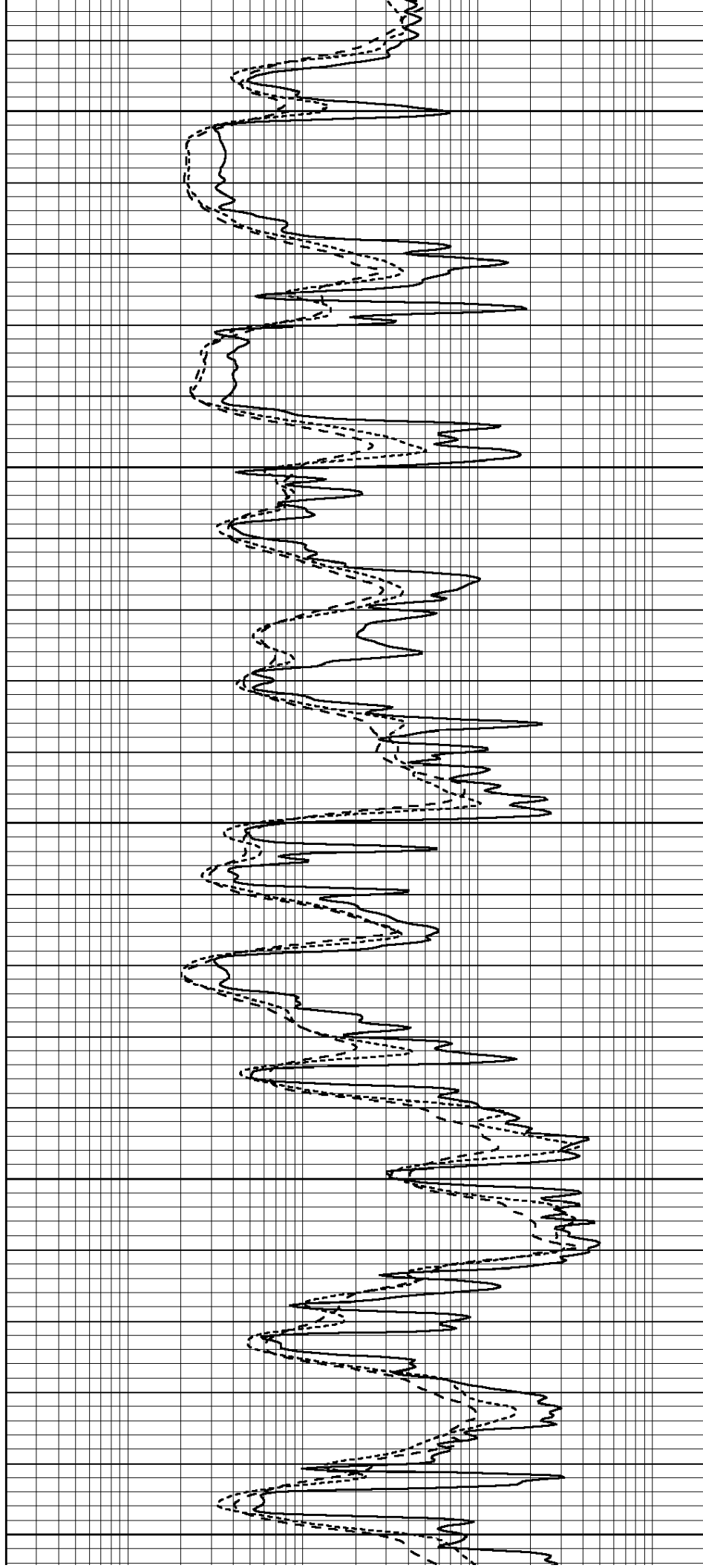
3250

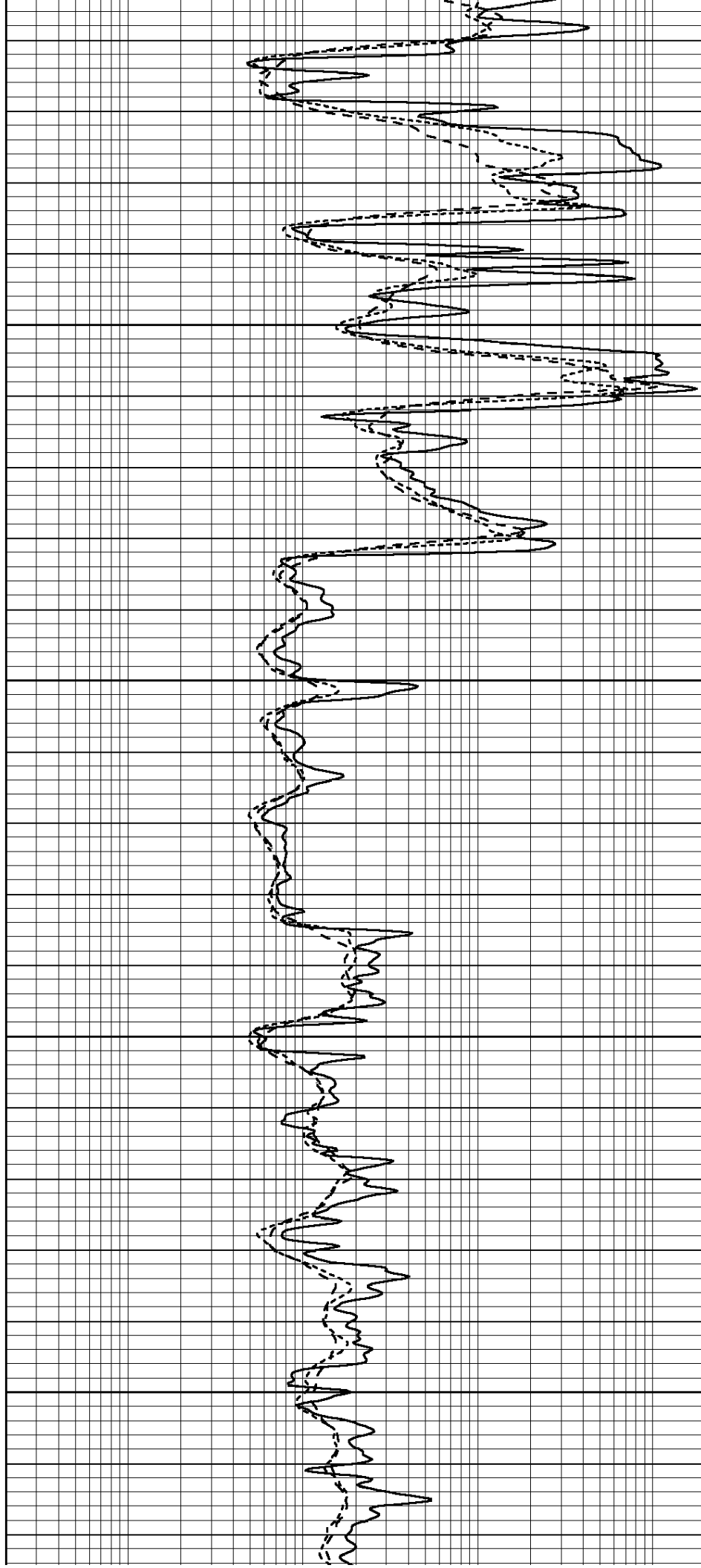
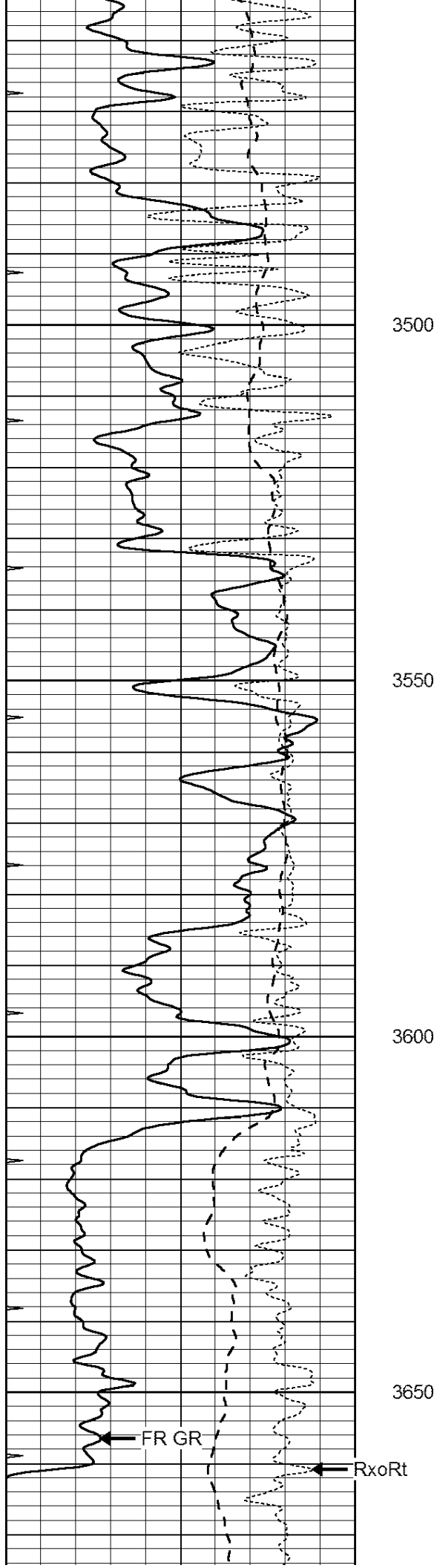
3300

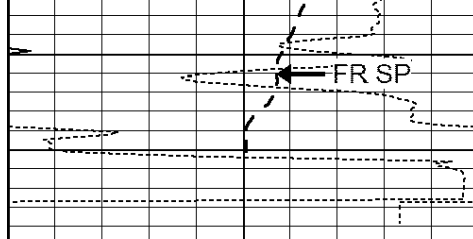
3350

3400

3450

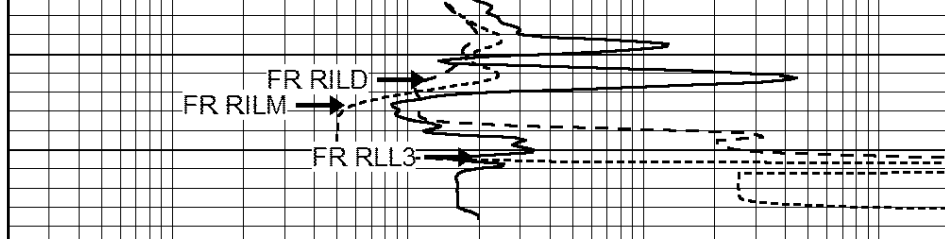






LTD 3693

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

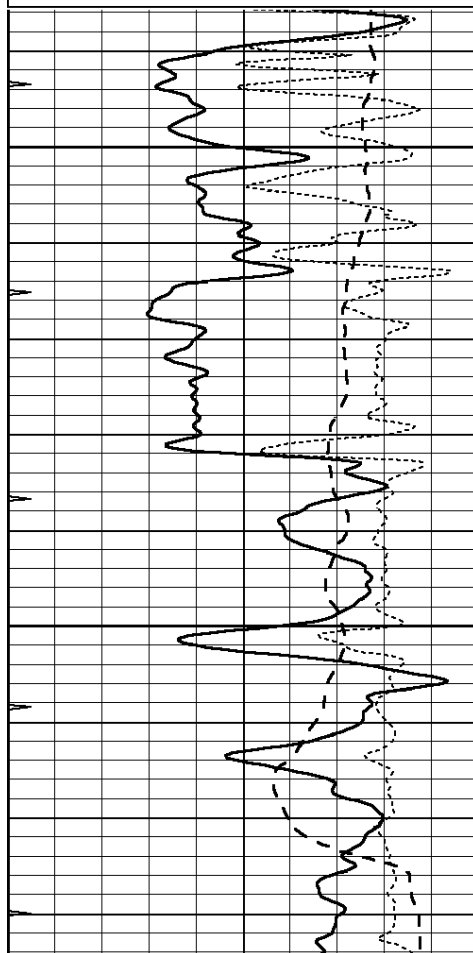


REPEAT SECTION

Database File: 010777ddn.db
 Dataset Pathname: pass2.2
 Presentation Format: _dil
 Dataset Creation: Tue Apr 23 05:52:40 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

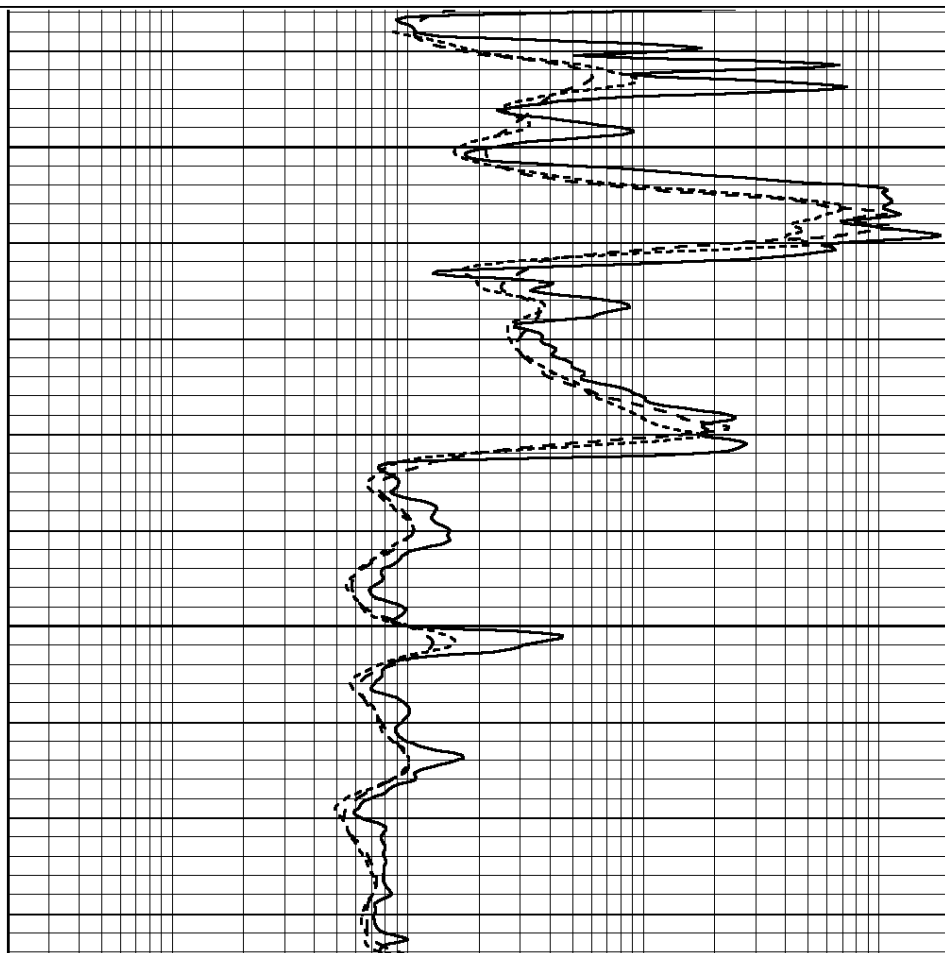
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

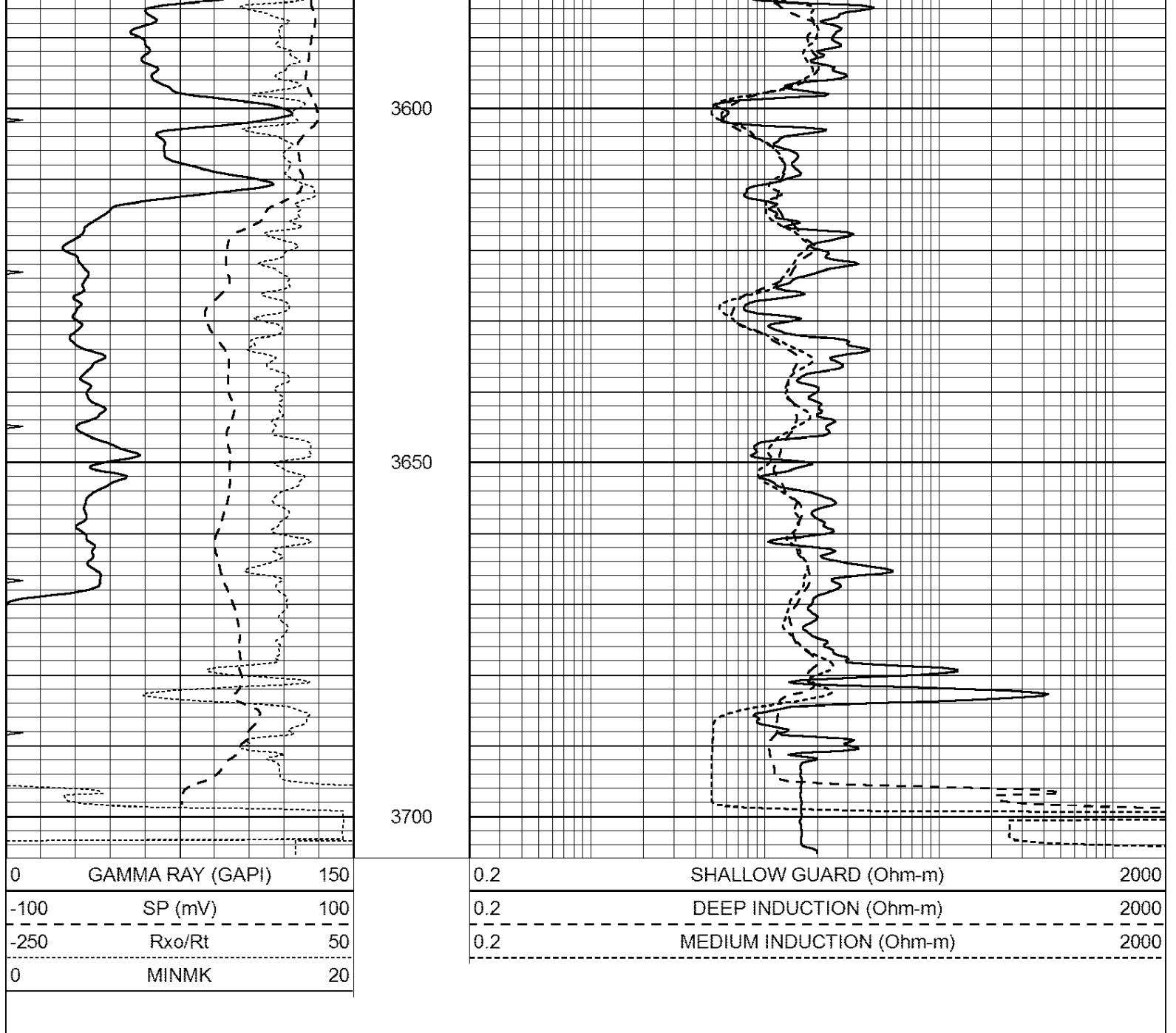
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3500

3550





Calibration Report

Database File: 010777ddn.db
 Dataset Pathname: pass3.5
 Dataset Creation: Tue Apr 23 07:33:06 2013

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

Loop:	Readings			References			Results	
	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		

Compensated Density Calibration Report

Serial-Model:	GEAR3-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 04 15:48:16 2013
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration						
	Density			Far Detector		Near Detector
Magnesium	1.710	g/cc		935.36	501.55	cps
Aluminum	2.580	g/cc		209.32	357.01	cps
Spine Angle = 77.21			Density/Spine Ratio = 0.567			
	Size			Reading		
Small Ring	8.00	in		4.29	V	
Large Ring	14.00	in		6.24	V	

Before Survey Verification						
	Target			Measured		
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

After Survey Verification						
	Target			Measured		
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

Compensated Neutron Calibration Report

Serial Number:	6I
Tool Model:	G

CR-200-01001

Detector		Readings		Target		Normalization
Short Space		1.00	cps	1.00	cps	1.0000
Long Space		1.00	cps	1.00	cps	1.0000
PRE-SURVEY VERIFICATION						
Detector		Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		
POST-SURVEY VERIFICATION						
Detector		Readings		Measured	Target	
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu
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		