



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company LIBERTY OPERATIONS & COMPLETIONS
Well GREEN #1
Field LYND POOL
County ROOKS
State KANSAS

Company LIBERTY OPERATIONS & COMPLETIONS
Well GREEN #1
Field LYND POOL
County ROOKS State KANSAS

Location: API # : 15-163-24078-0000
1365' FNL & 1380' FWL
SEC 33 TWP 9S RGE 19W
Permanent Datum GROUND LEVEL Elevation 2225
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Elevation
K.B. 2230
D.F. 2228
G.L. 2225

Date	10/8/12
Run Number	ONE
Depth Driller	3780
Depth Logger	3790
Bottom Logged Interval	3788
Top Log Interval	00
Casing Driller	8 5/8" @ 210
Casing Logger	210
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	8.6/84
pH / Fluid Loss	8.0/16.0
Source of Sample	FLOWLINE
Rin @ Meas. Temp	.44 @ 67F
Rmf @ Meas. Temp	.33 @ 67F
Rmc @ Meas. Temp	.52 @ 67F
Source of Rmf / Rmc	MEASURED
Rin @ BHT	.25 @ 114F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	114F
Equipment Number	680
Location	HAYS, KS.
Recorded By	JASON CAPPELLUCCI
Witnessed By	TONY RICHARDSON

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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
ZURICH, KS. - 1 W. - 1/4 S. - E. INTO



MAIN SECTION

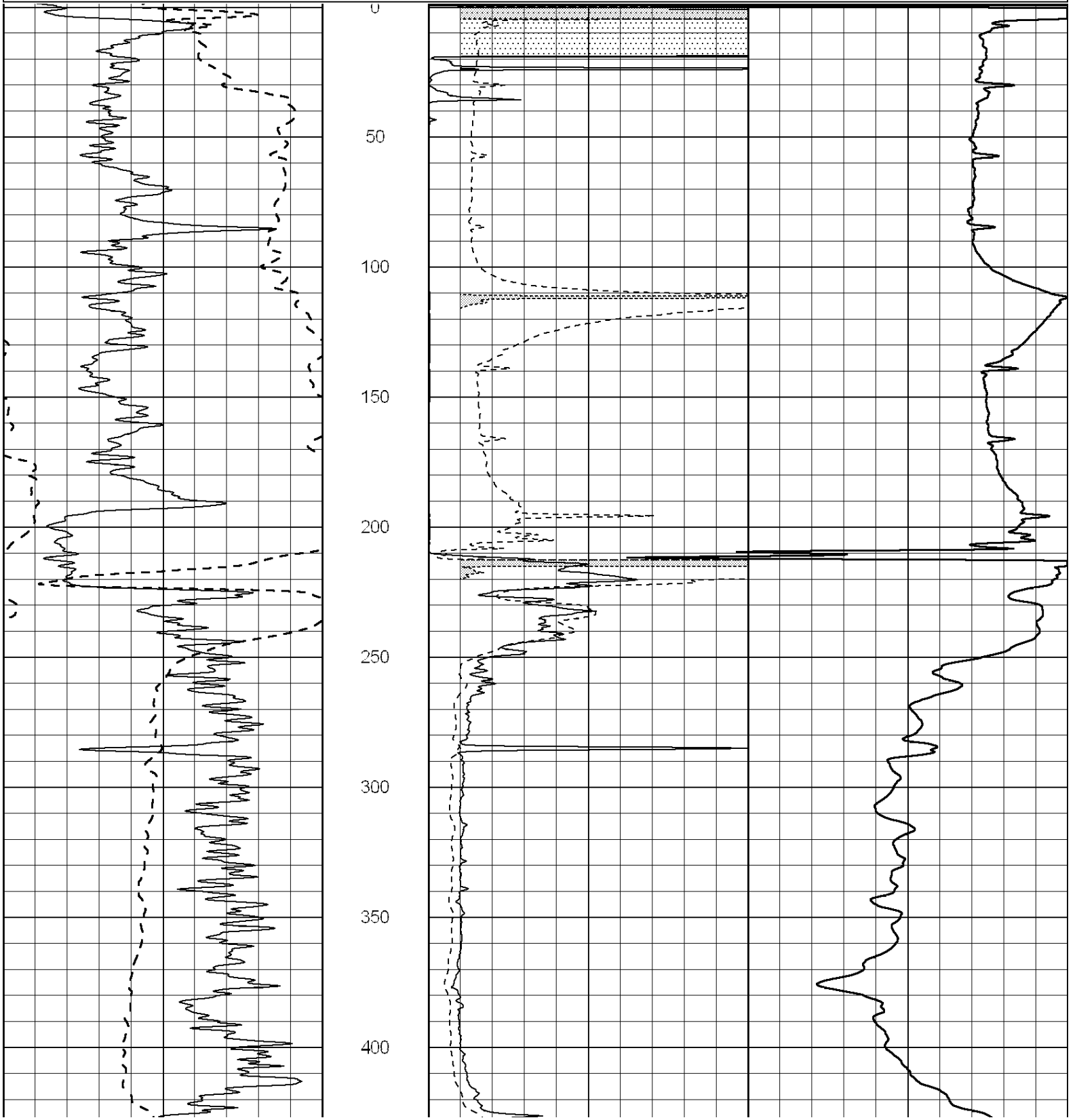
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 Dataset Pathname: pass3.2
 Presentation Format: _dil2
 Dataset Creation: Mon Oct 08 07:08:50 2012 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

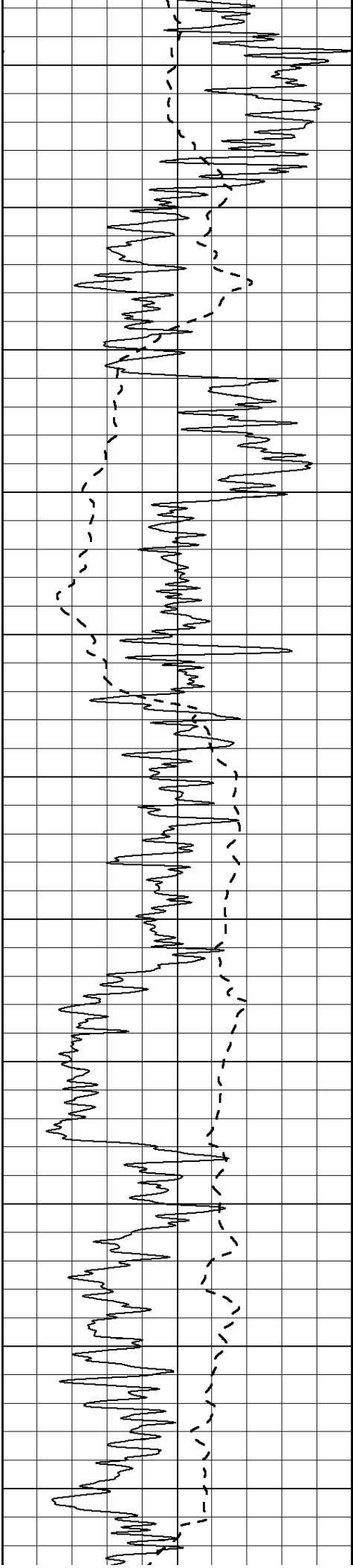
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-100	SP (mV)	100

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

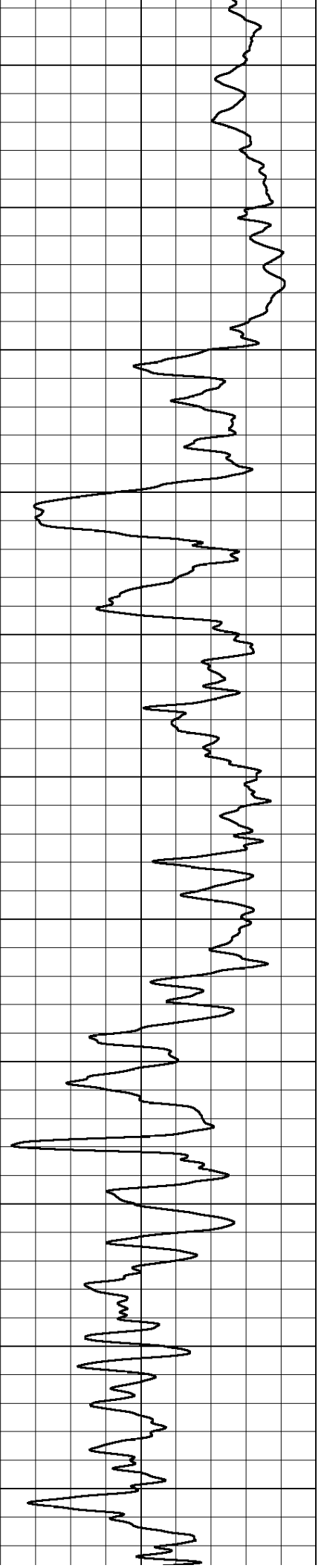
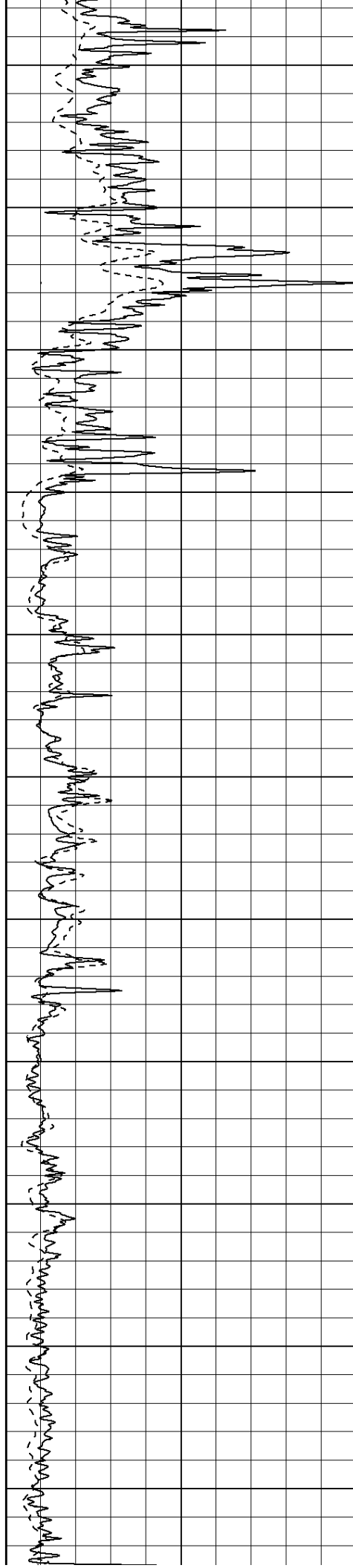
1000	CILD (mmho/m)	0
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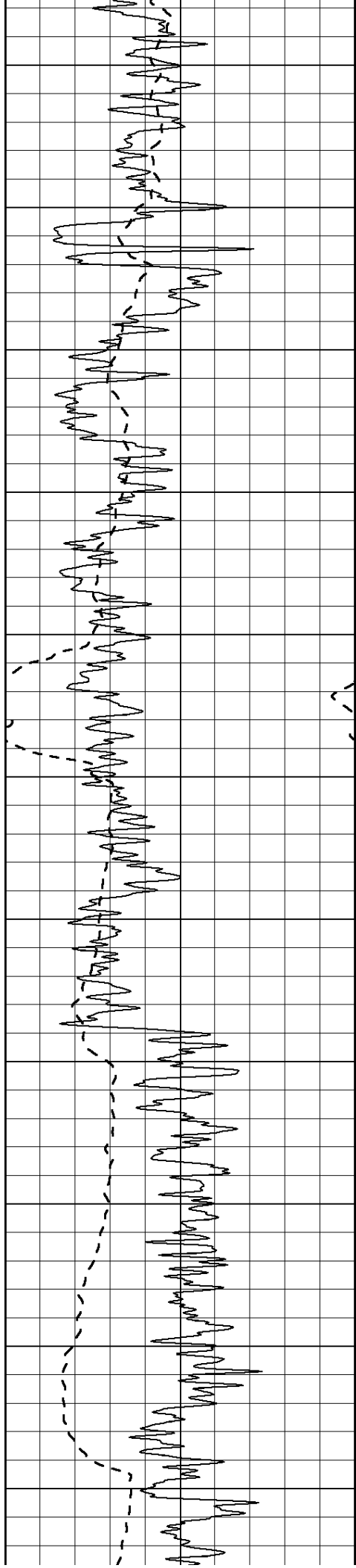
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500



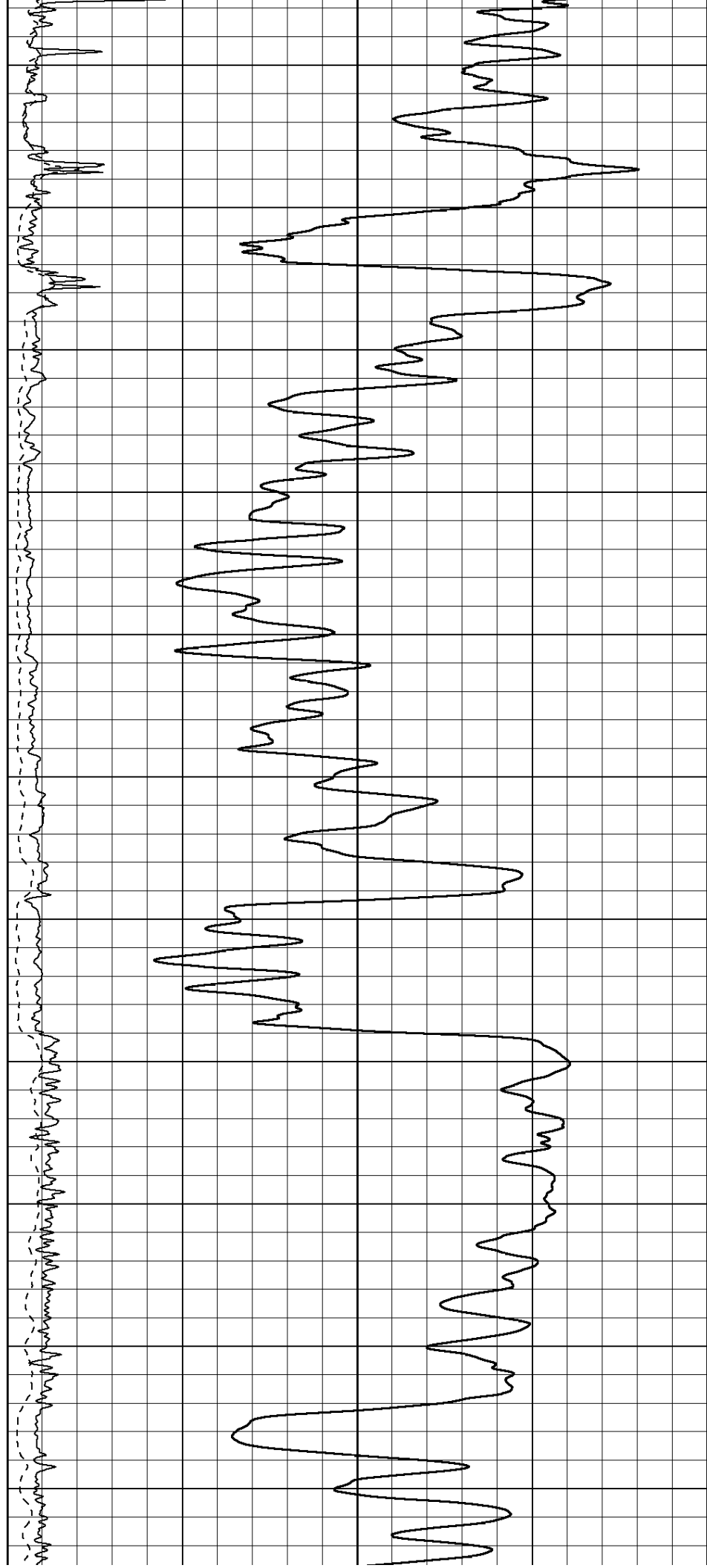


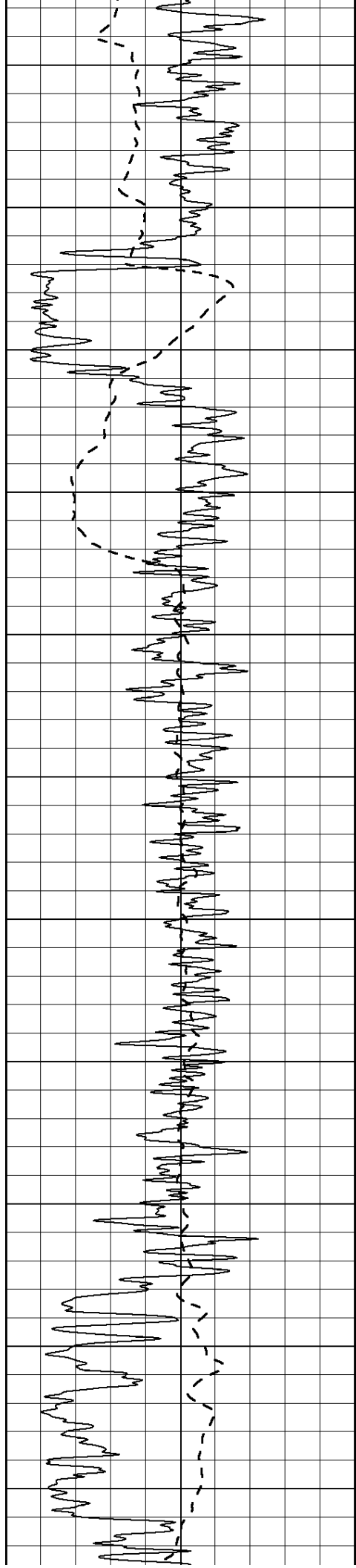
450
500
550
600
650
700
750
800
850
900
950



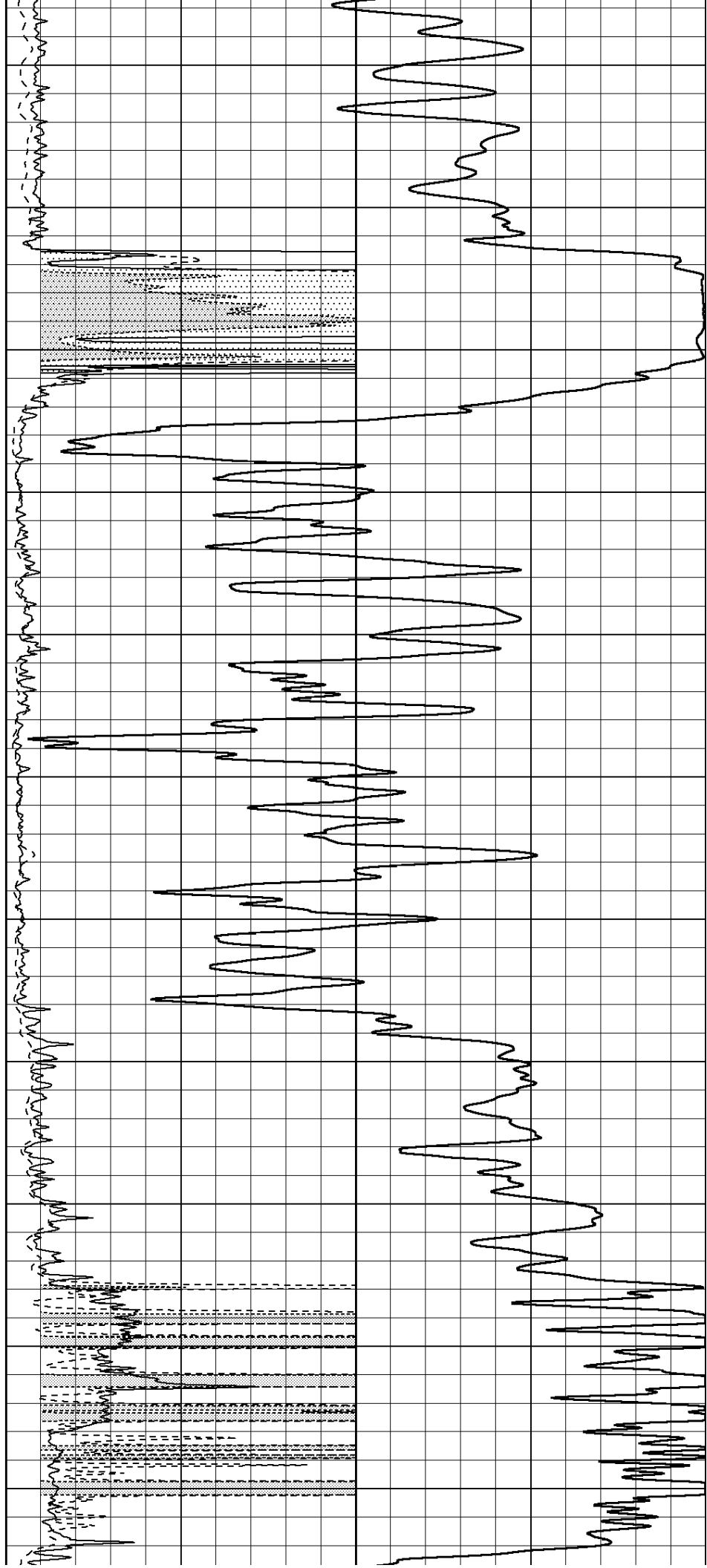


1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050



2100

2150

2200

2250

2300

2350

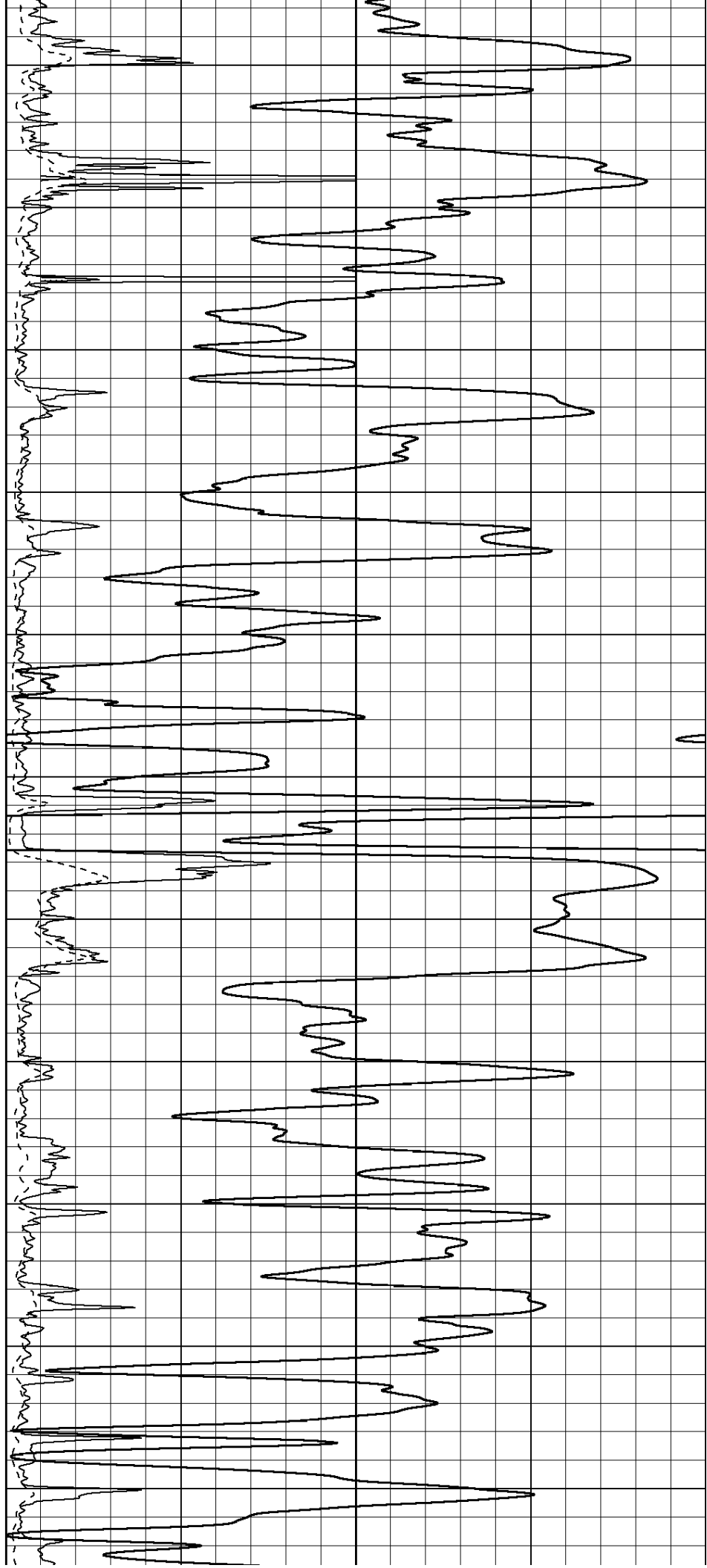
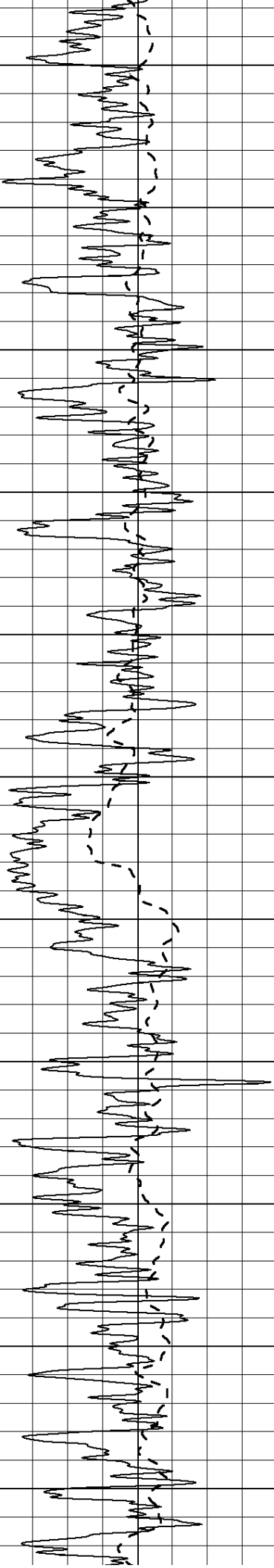
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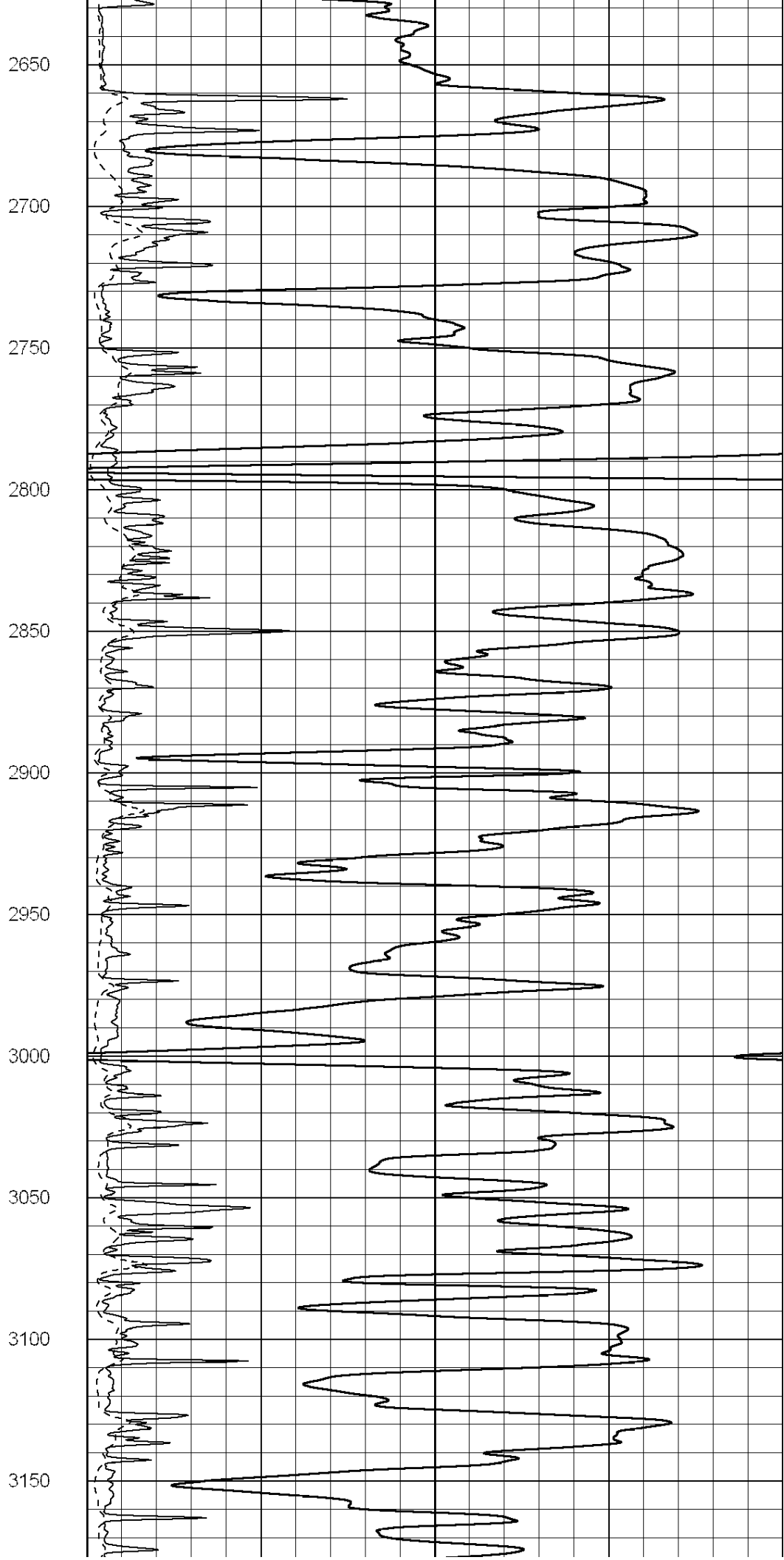
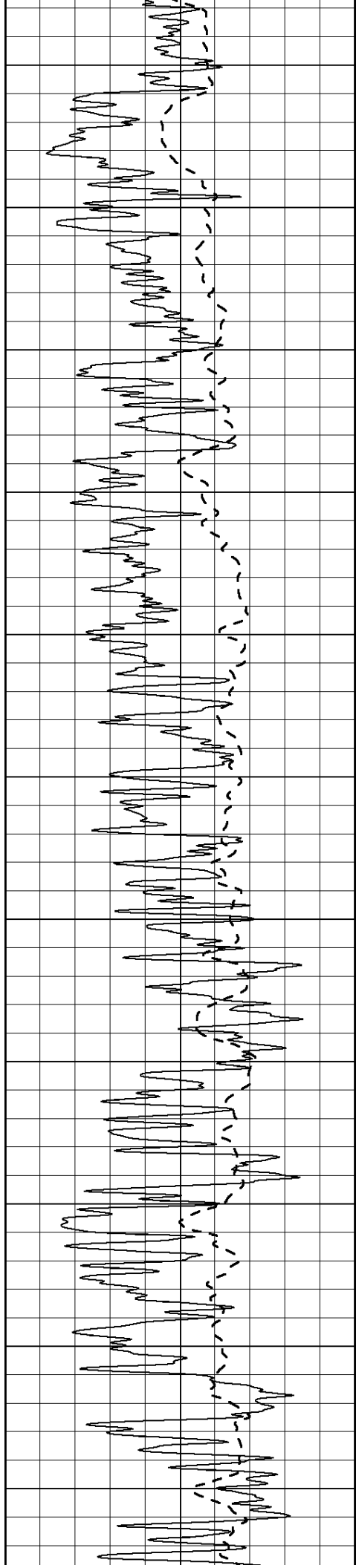
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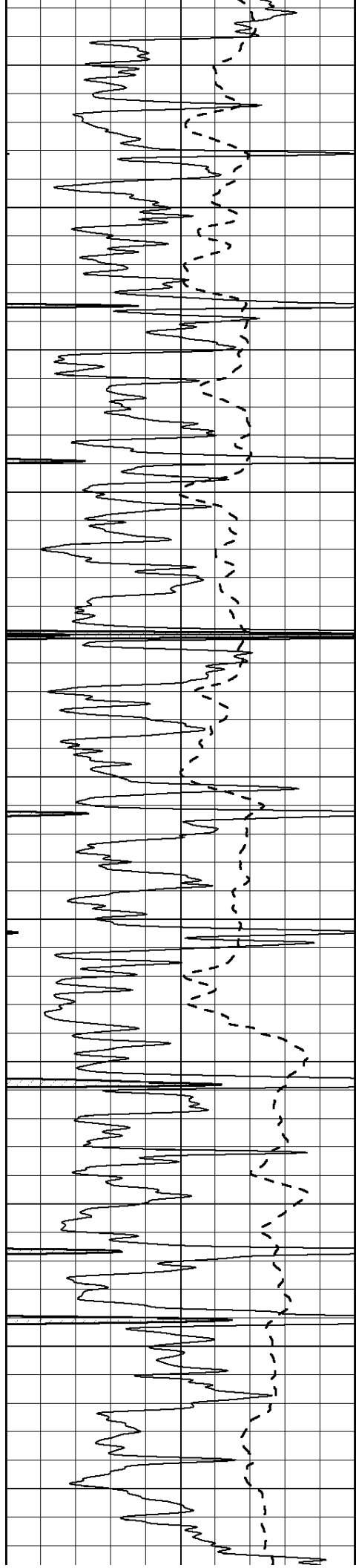
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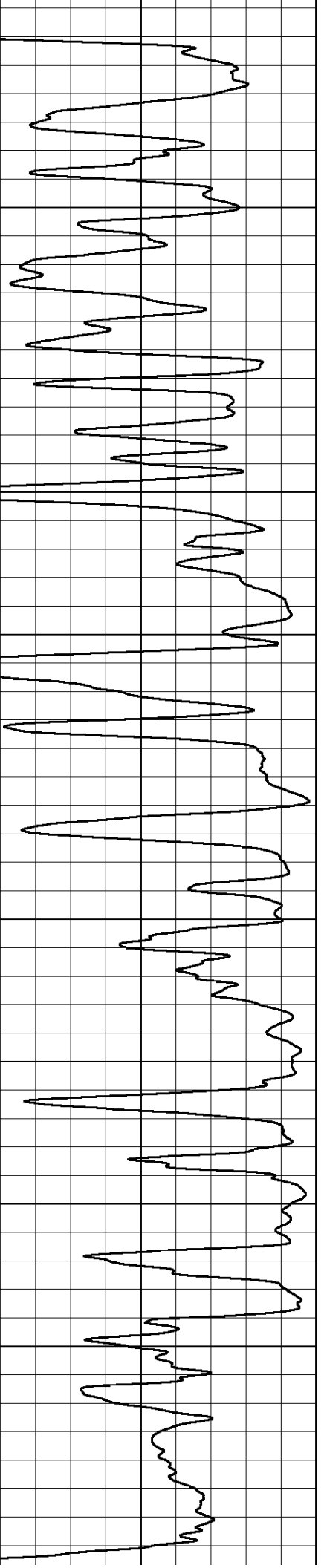
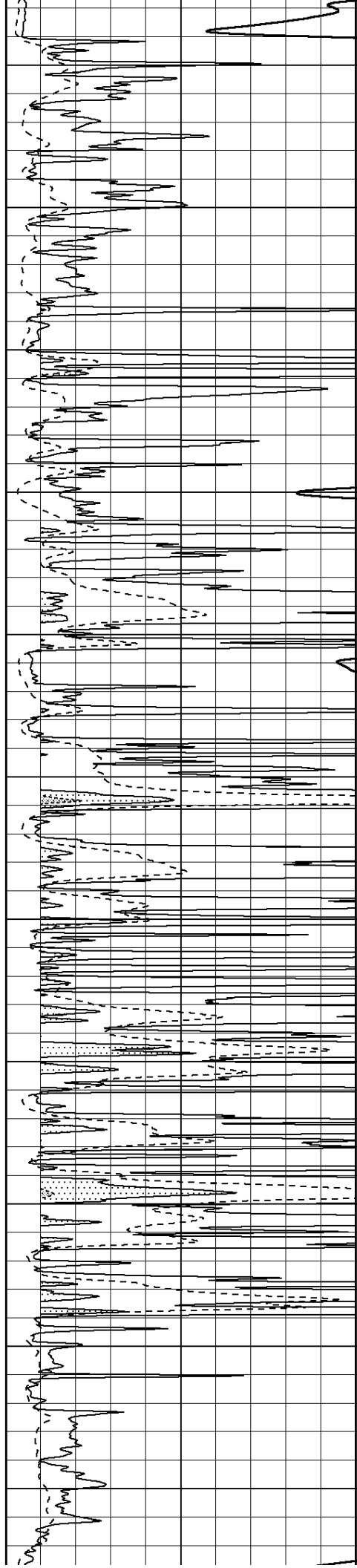
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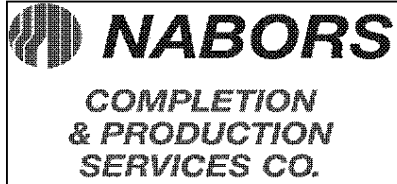
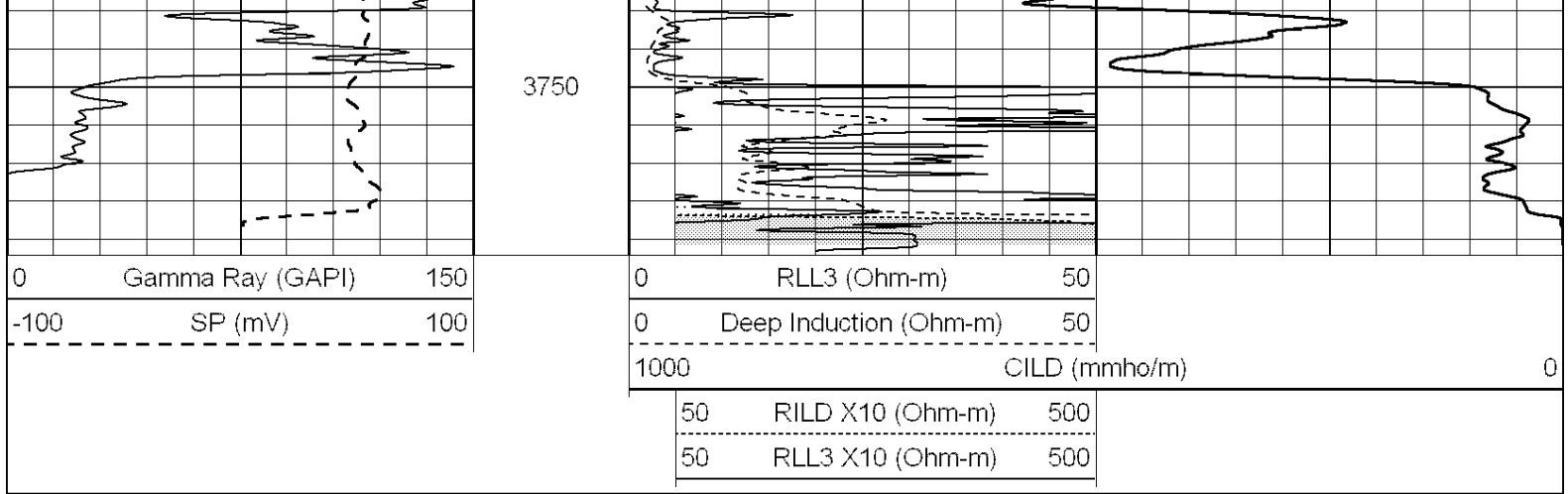






3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700

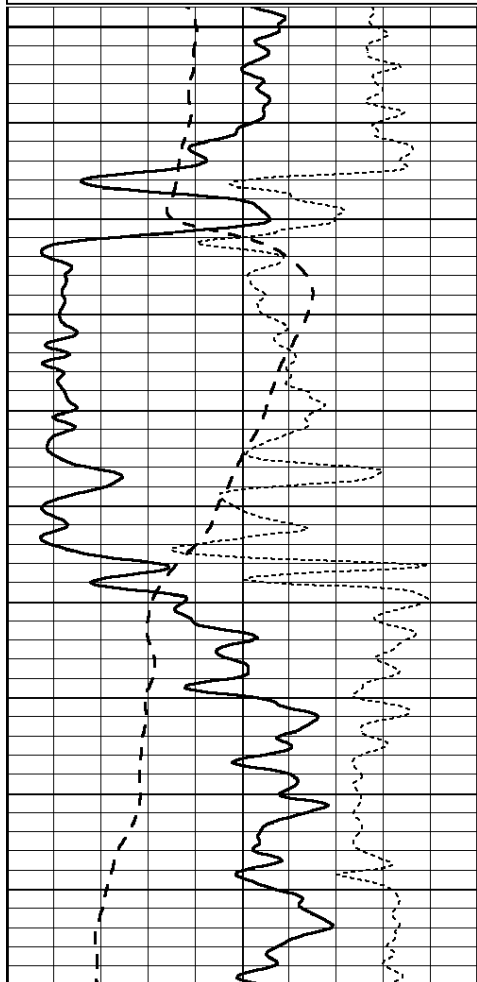




ANHYDRITE

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 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240

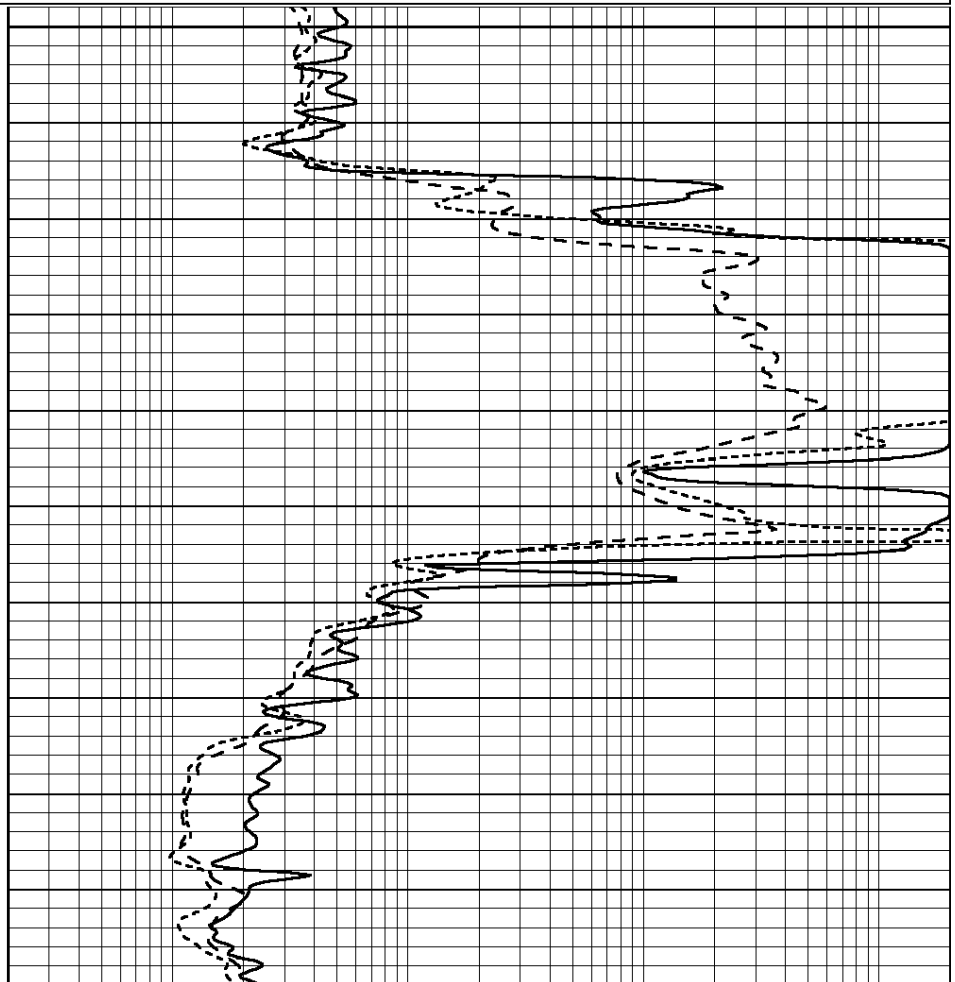
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



1600

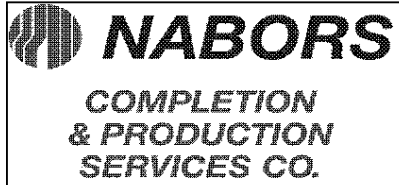
1650

1700



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

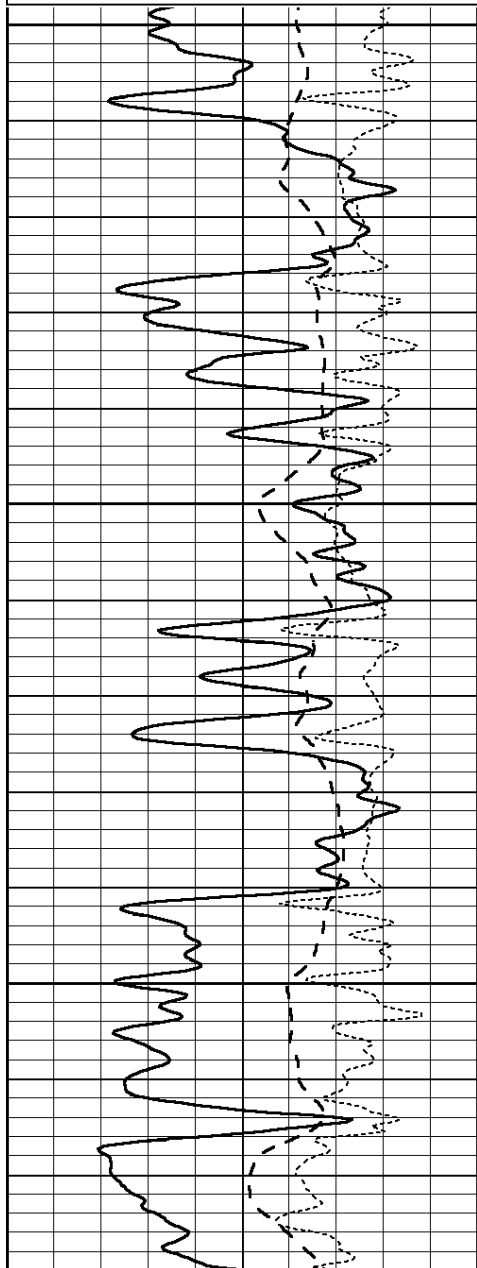


MAIN SECTION

Database File: 009745pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Mon Oct 08 06:26:24 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

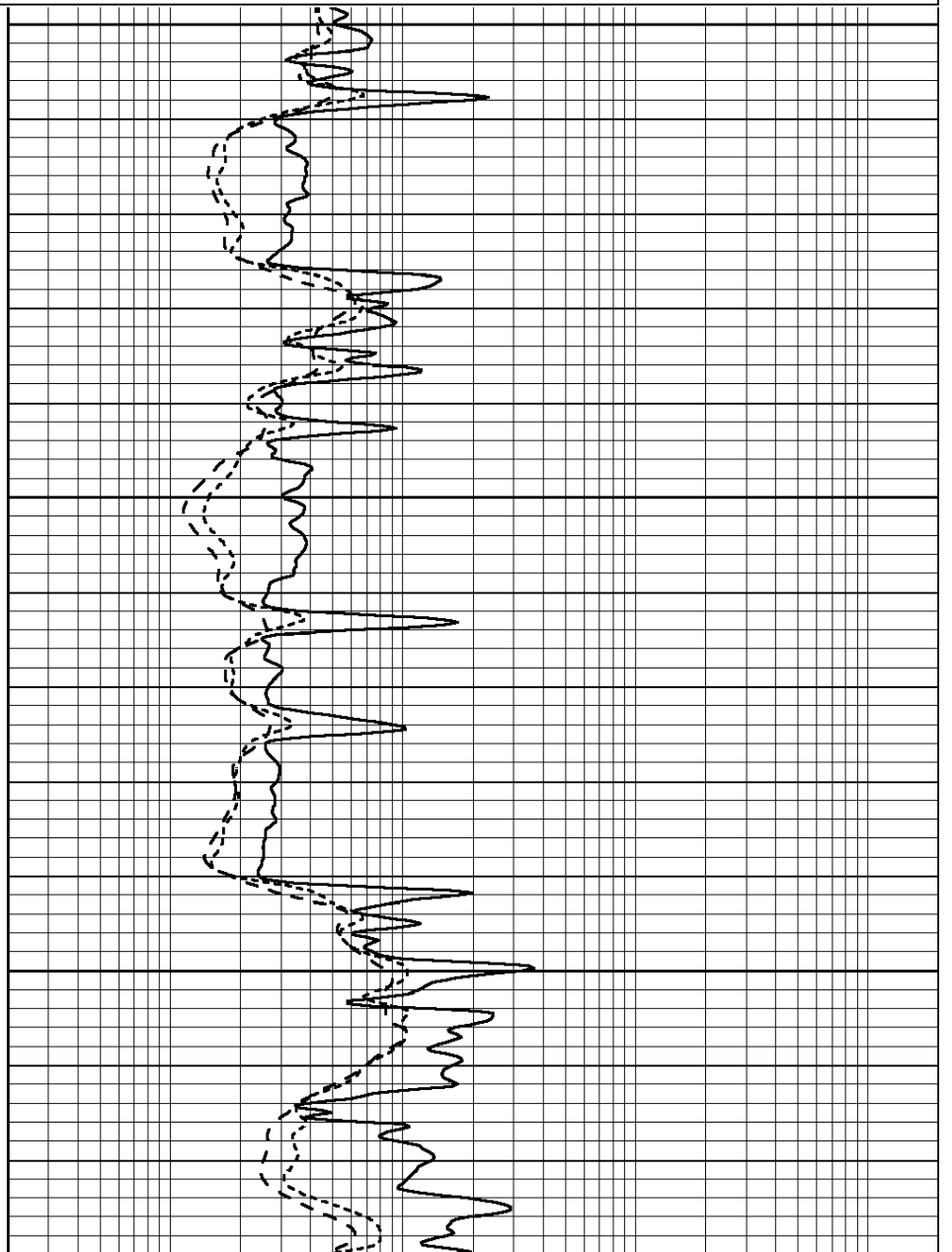
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

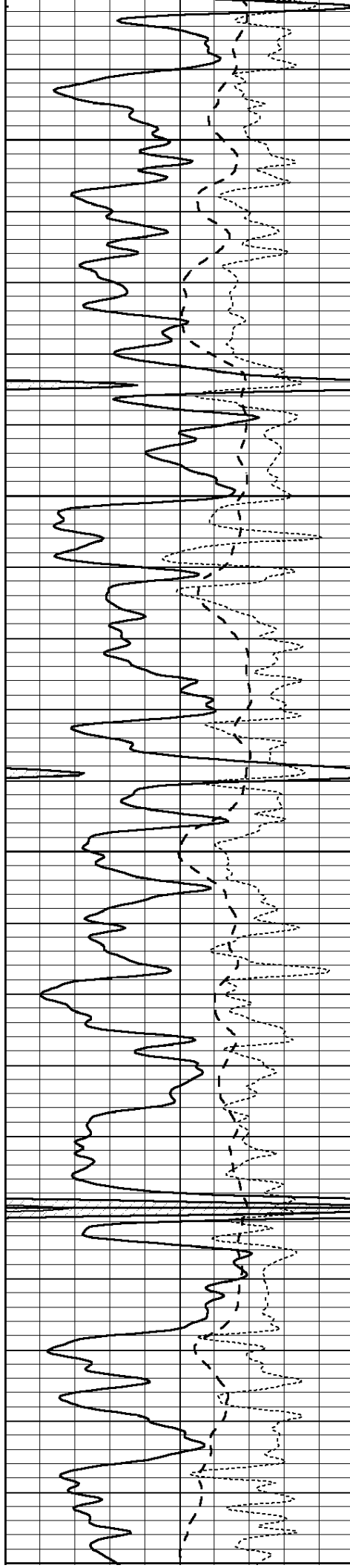


3100

3150

3200





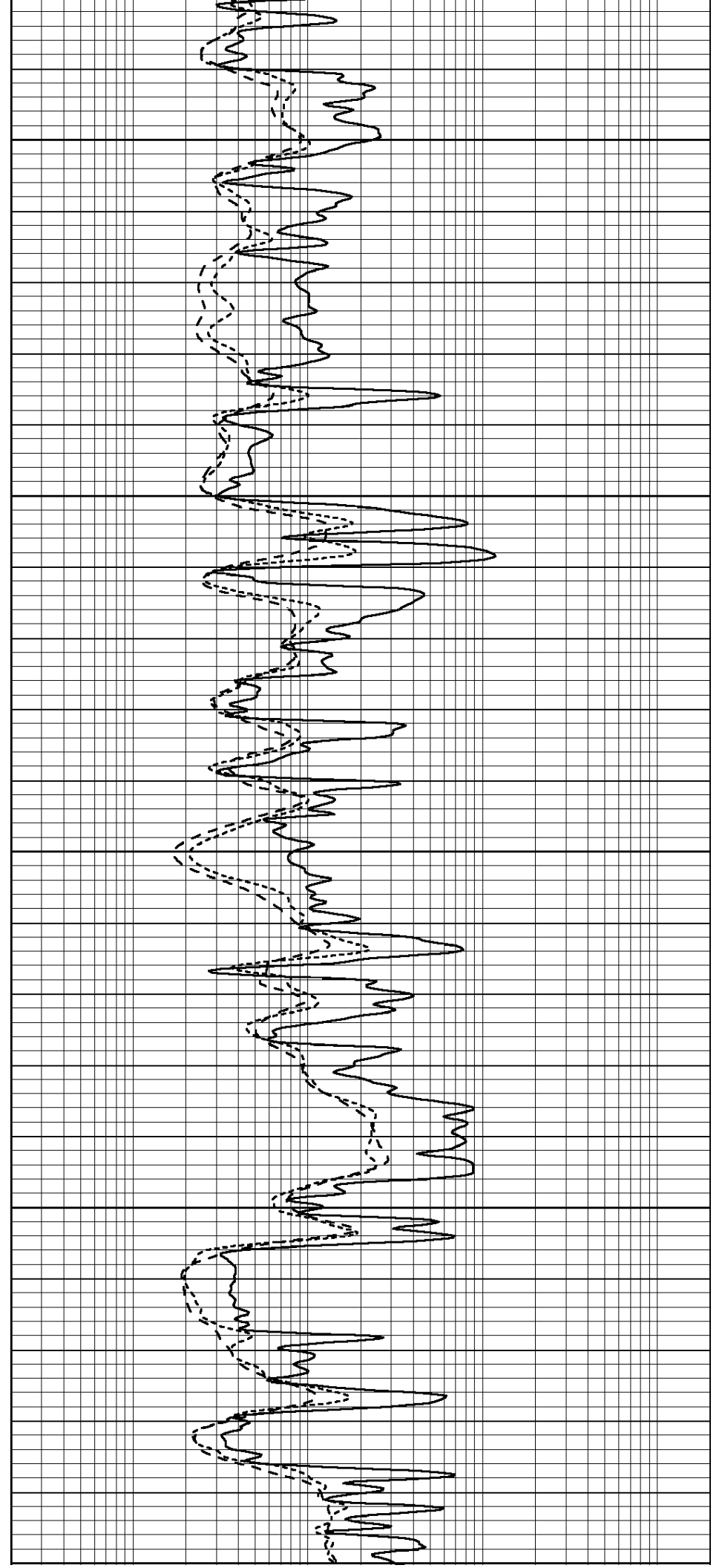
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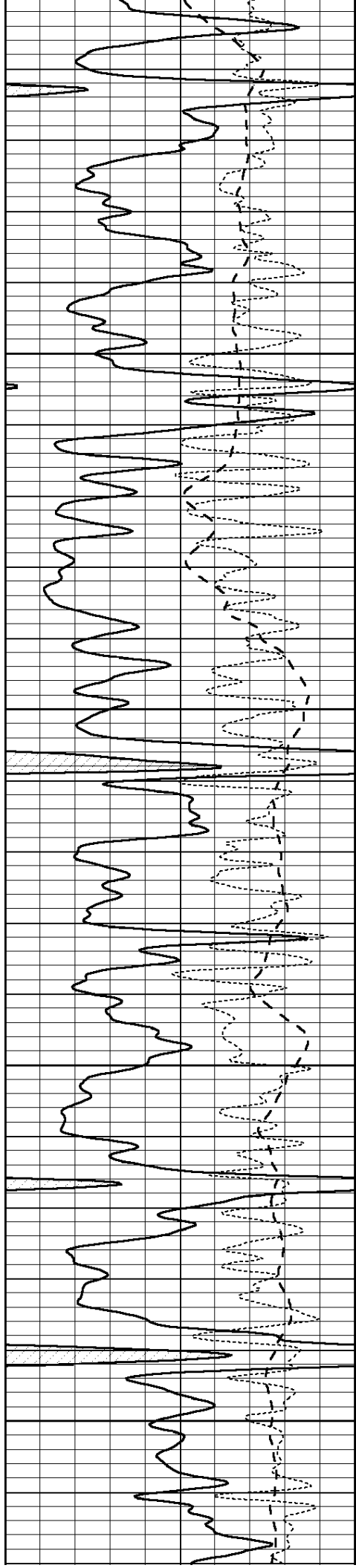
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3350

3400

3450





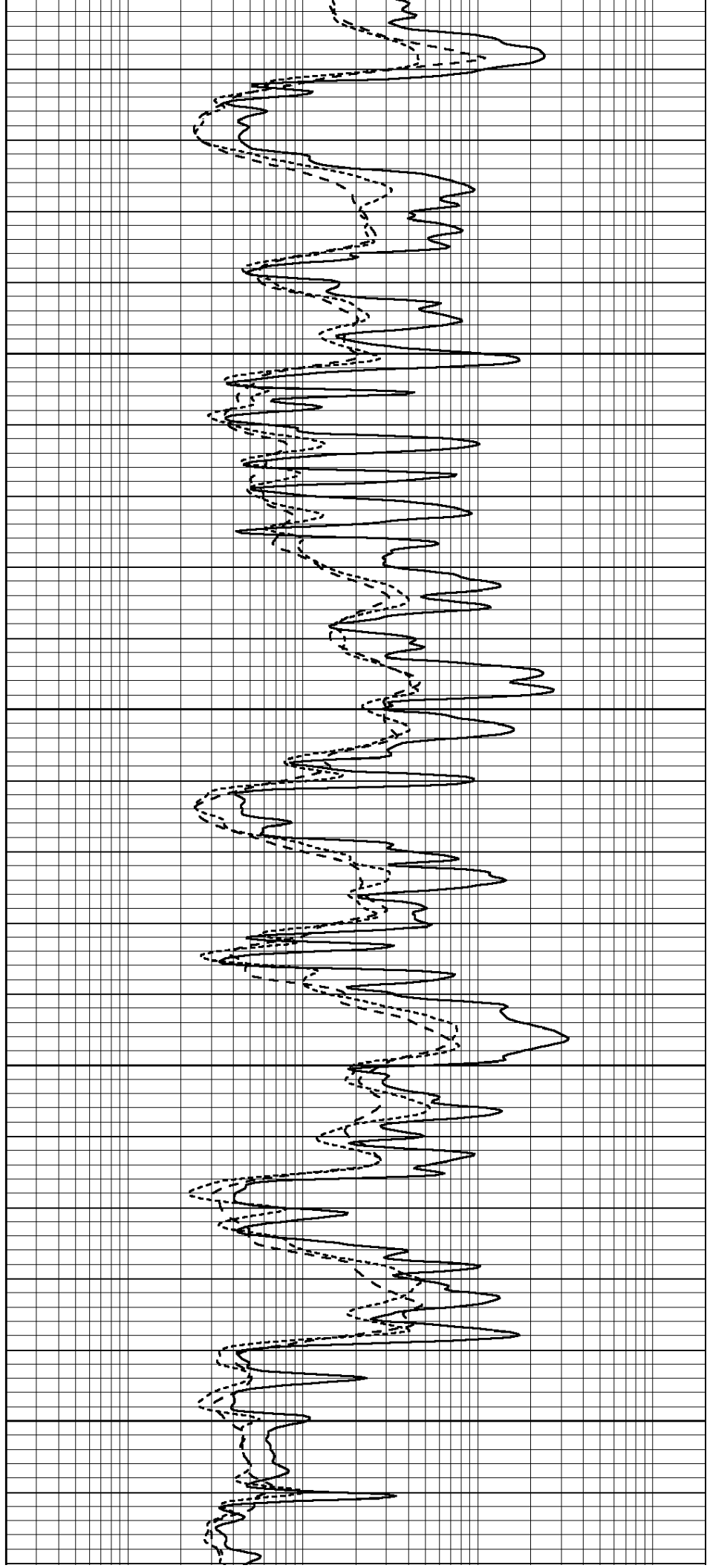
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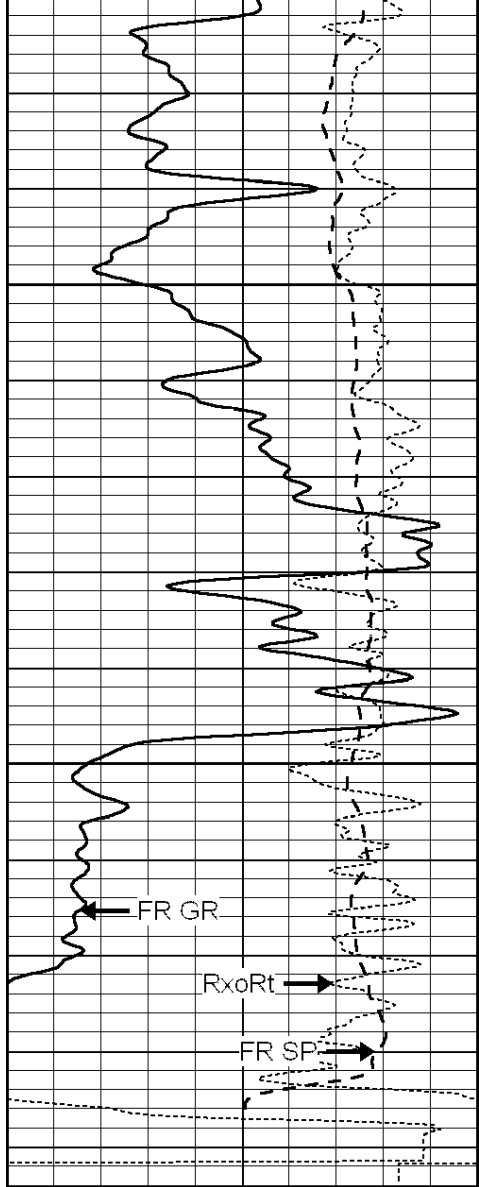
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3550

3600

3650





3700

3750

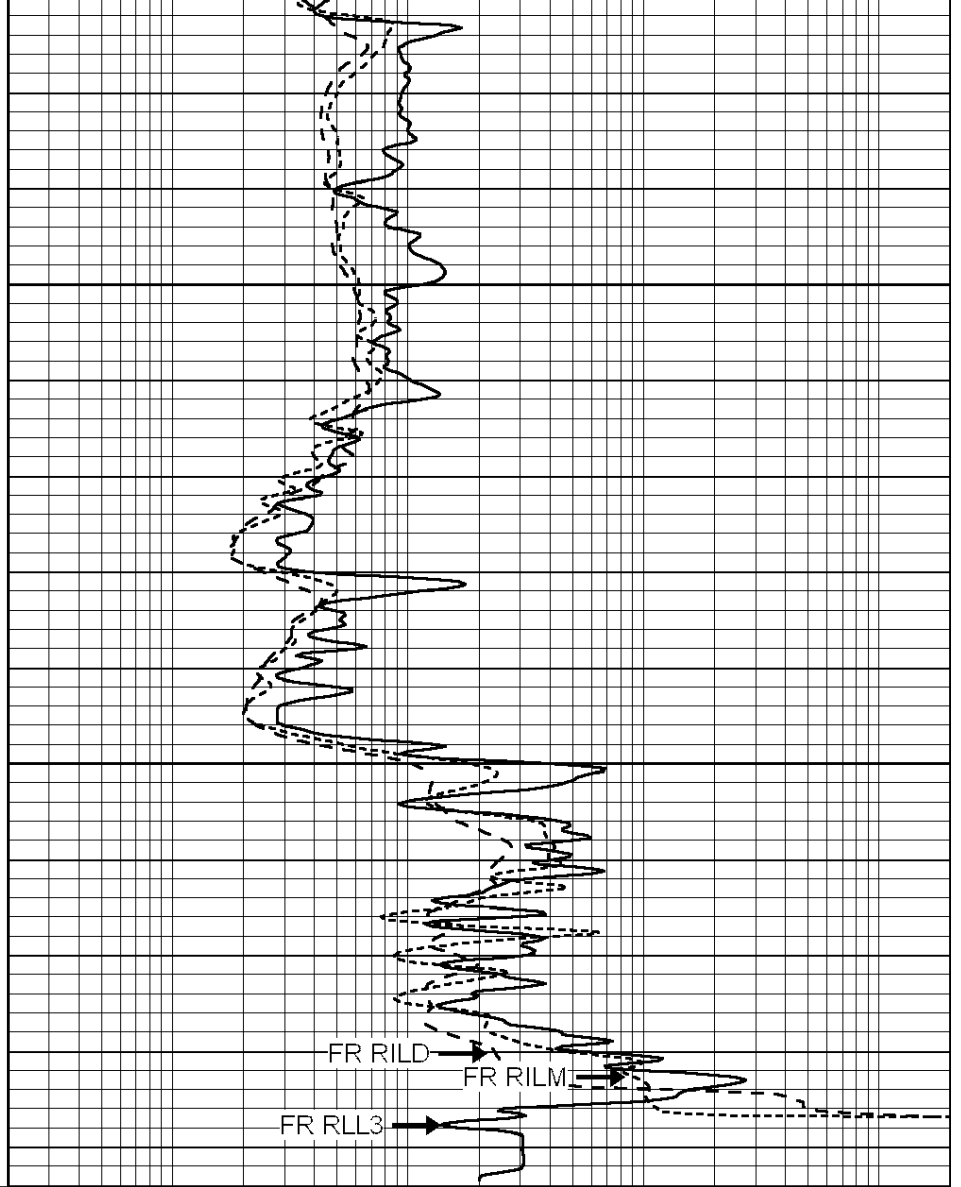
FR GR

RxoRt

FR SP

LTD 3790

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



FR RILD

FR RILM

FR RLL3

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

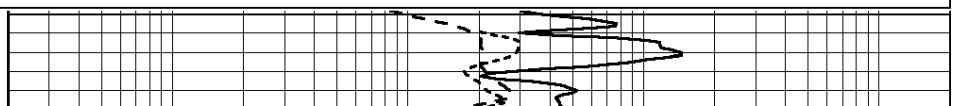
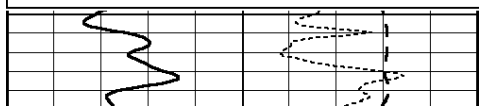


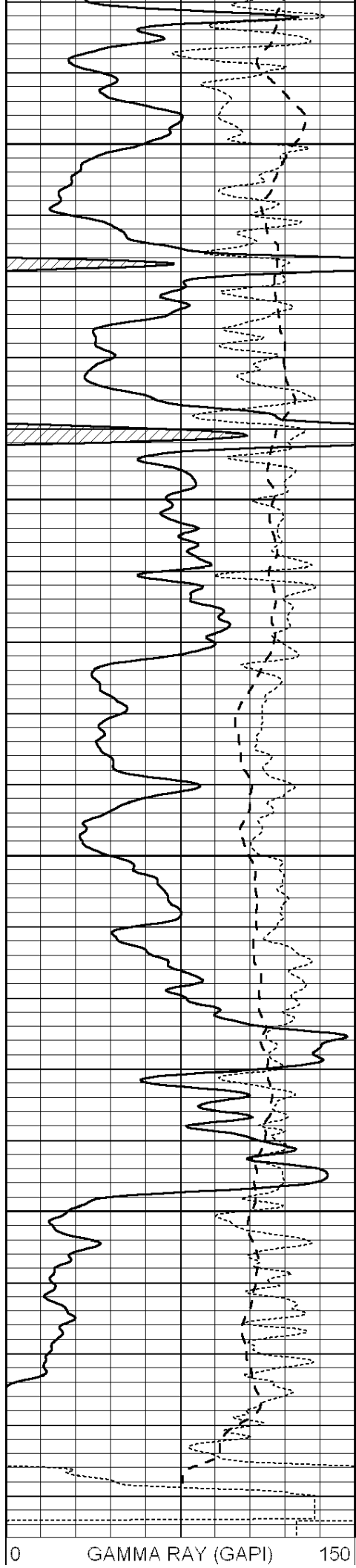
REPEAT SECTION

Database File: 009745pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Mon Oct 08 06:25:54 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





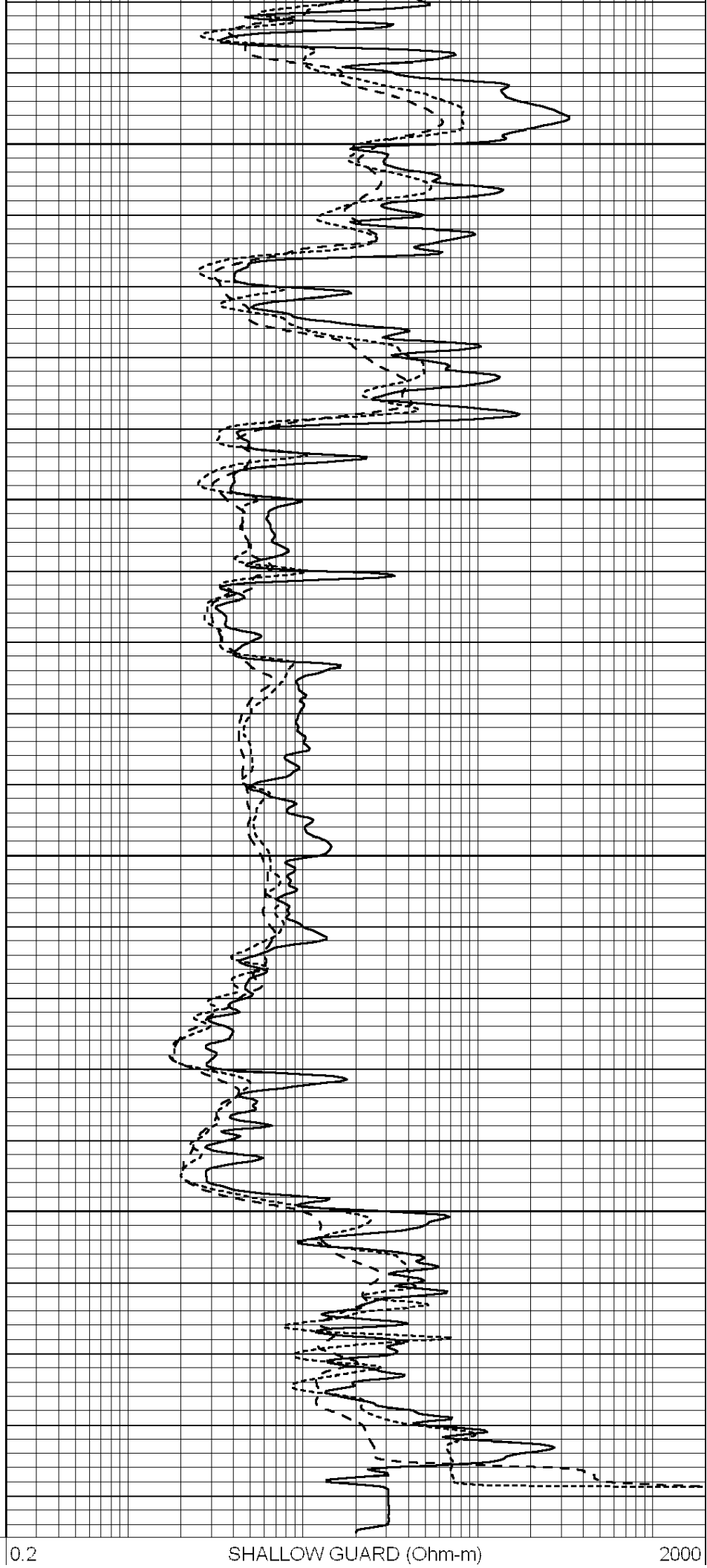
3600

3650

3700

3750

0 GAMMA RAY (GAPI) 150



0.2 SHALLOW GUARD (Ohm-m) 2000

-100	SP (mV)	100
-250	Rxo/Rt	50

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

Calibration Report

Database File: 009745pe.db
Dataset Pathname: pass3.1
Dataset Creation: Mon Oct 08 06:26:24 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

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		

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