



SUPERIOR
Hays,
Kansas

**DUAL INDUCTION
LOG**

Company CHARTER ENERGY, INC.
Well DIRKS #1
Field PAWNEE ROCK
County PAWNEE
State KANSAS

Company CHARTER ENERGY, INC.
Well DIRKS #1
Field PAWNEE ROCK
County PAWNEE State KANSAS

Location: API # : 15-145-21671-0000
SEC 23 TWP 20S RGE 16W
Permanent Datum GROUND LEVEL Elevation 2024
Log Measured From KELLY BUSHING 7' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services CDL/CNL MEL
Elevation

Date	5/29/12		
Run Number	ONE		
Depth Driller	3900		
Depth Logger	3898		
Bottom Logged Interval	3896		
Top Log Interval	00		
Casing Driller	8 5/8"@1038'		
Casing Logger	1038		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,400 PPM	
Density / Viscosity	9.160		
pH / Fluid Loss	8.5/11.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600@80F		
Rmt @ Meas. Temp	.450@80F		
Rmc @ Meas. Temp	.720@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.417@115F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	5:00 P.M.		
Maximum Recorded Temperature	115F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE		

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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 HAYS, KANSAS (785) 628-6395
DIRECTIONS
PAWNEE ROCK, KS. 4N. ON BLKTOP "RD. SW 110" TO MENNONITE CHURCH, 5W., 2S., E. INTO



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MAIN SECTION

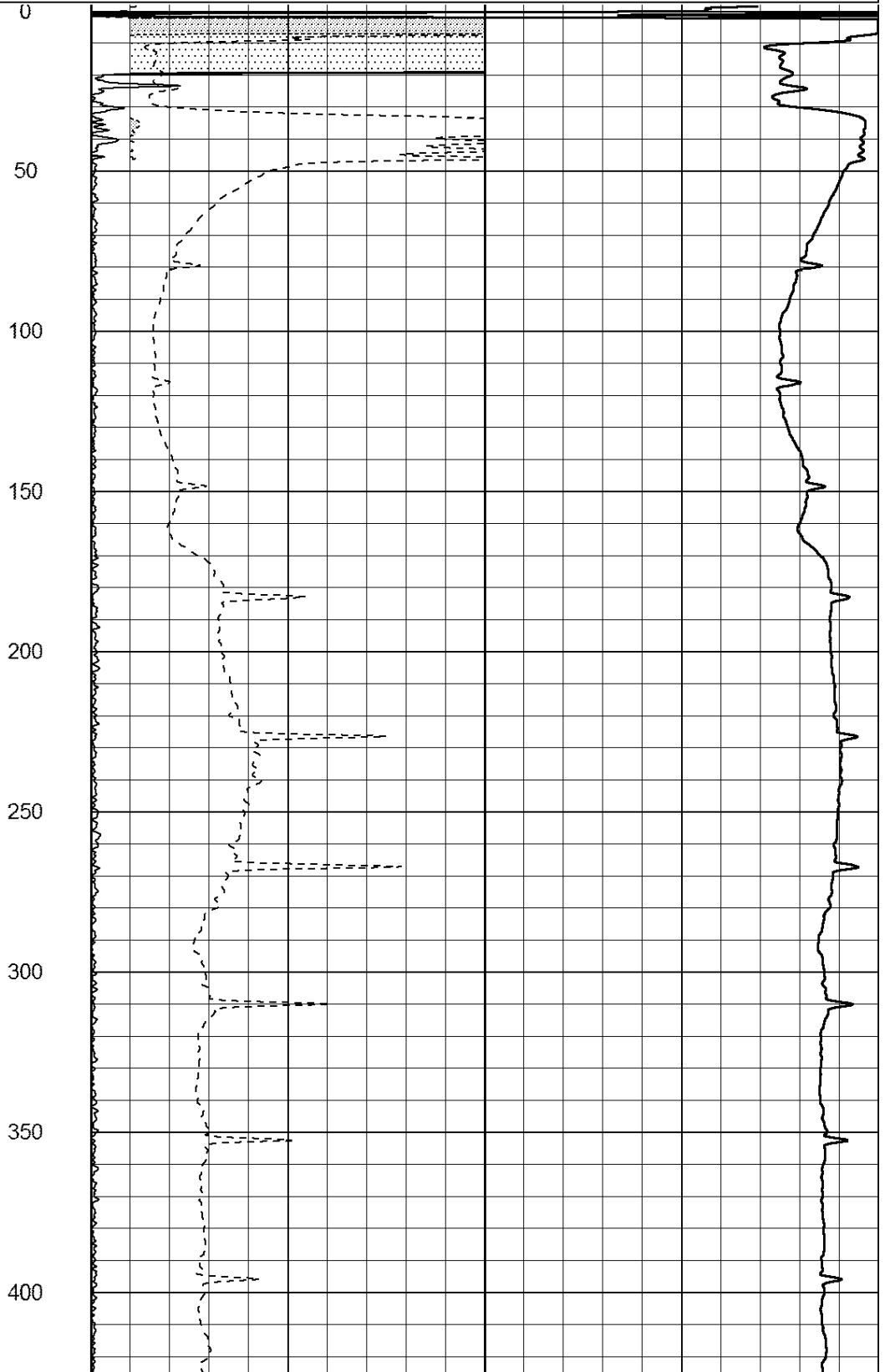
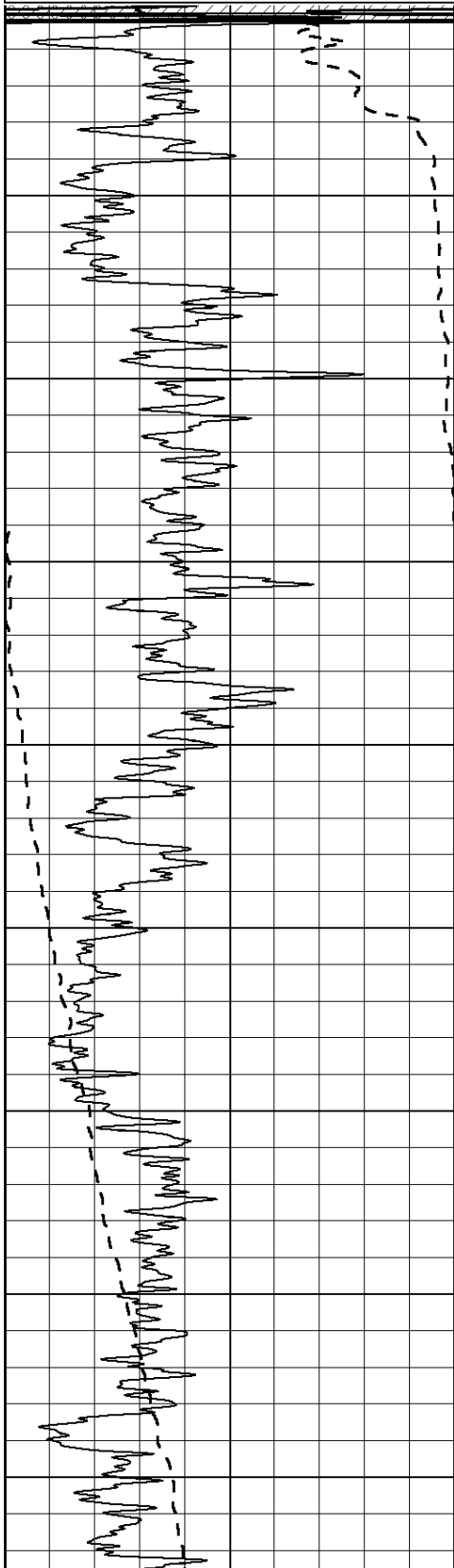
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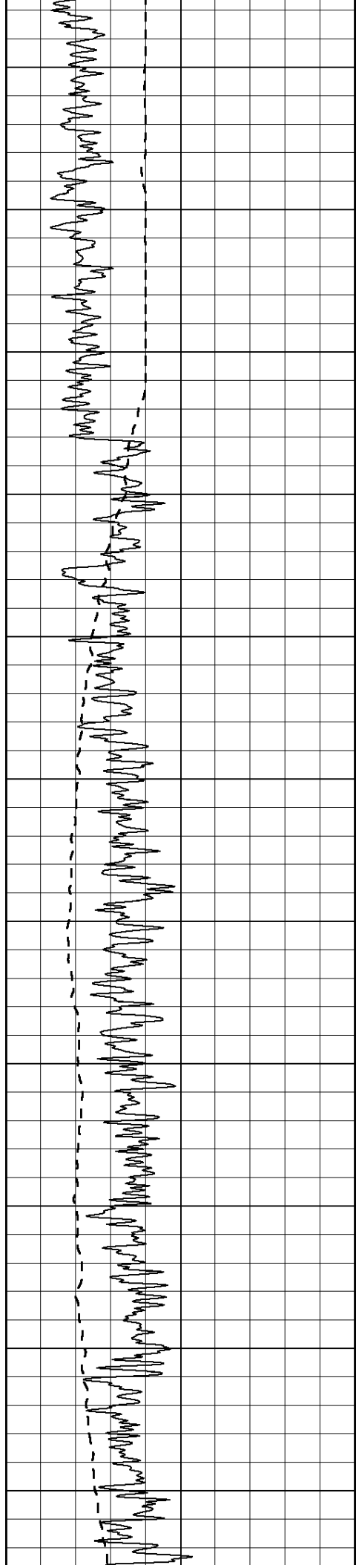
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	RILD (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

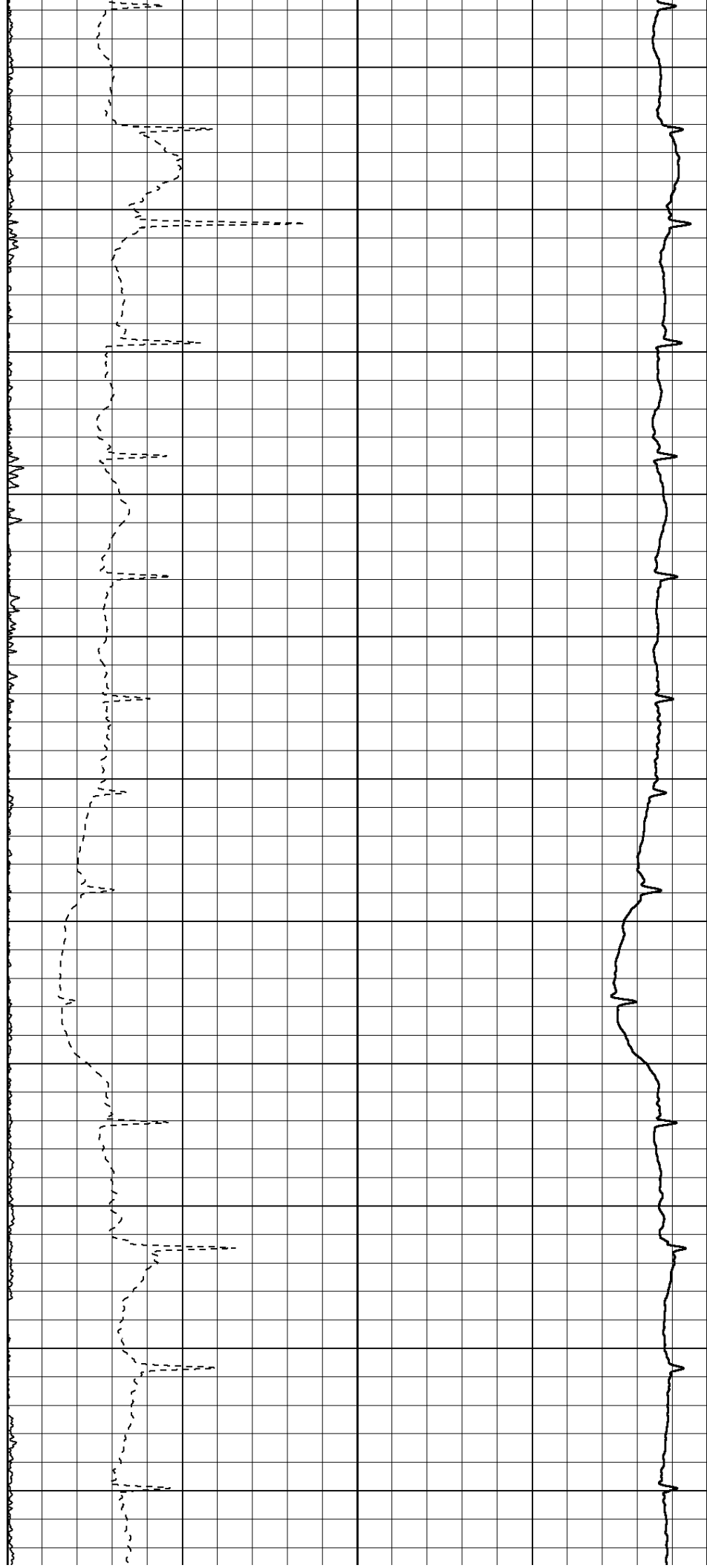
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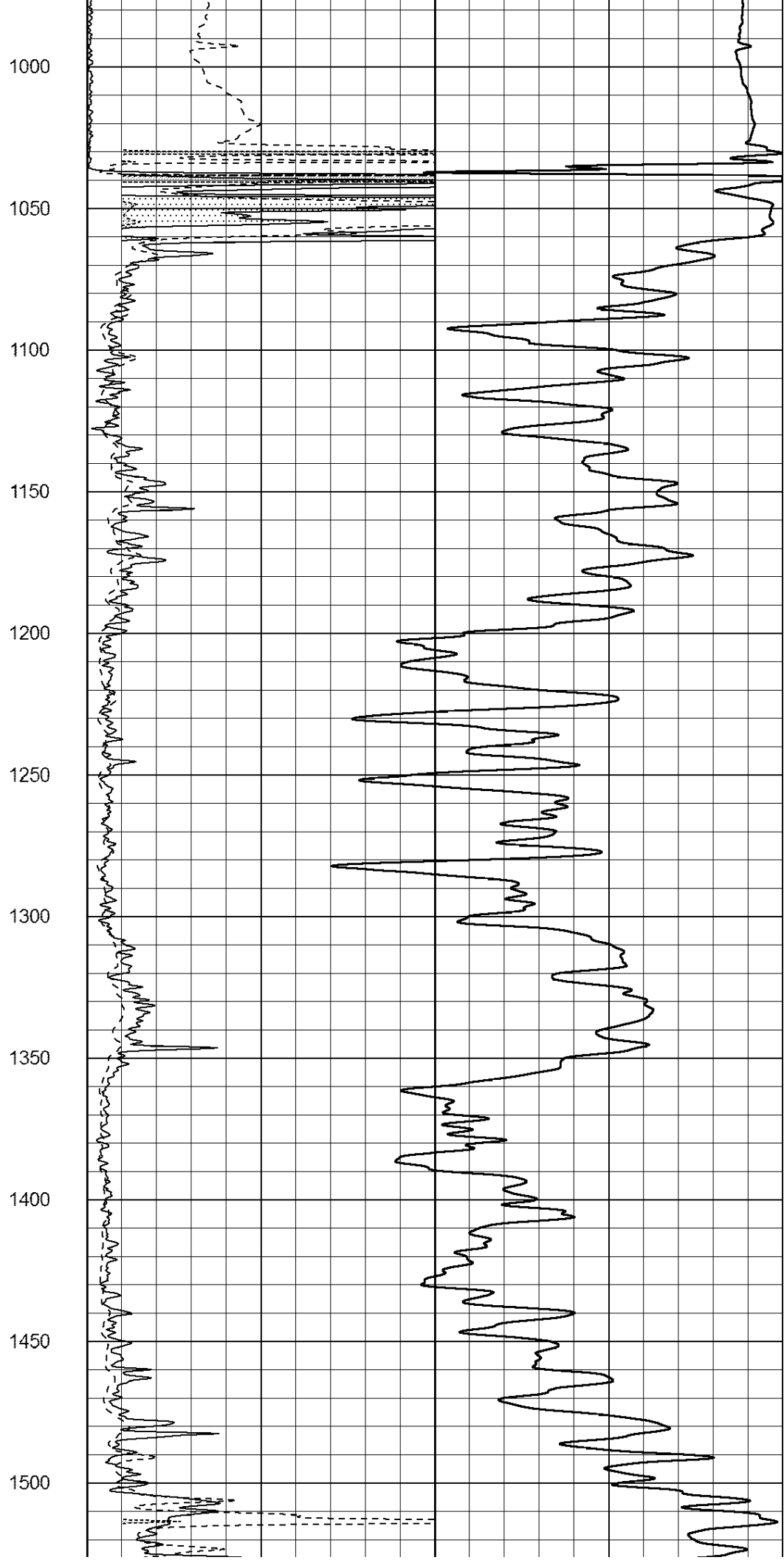
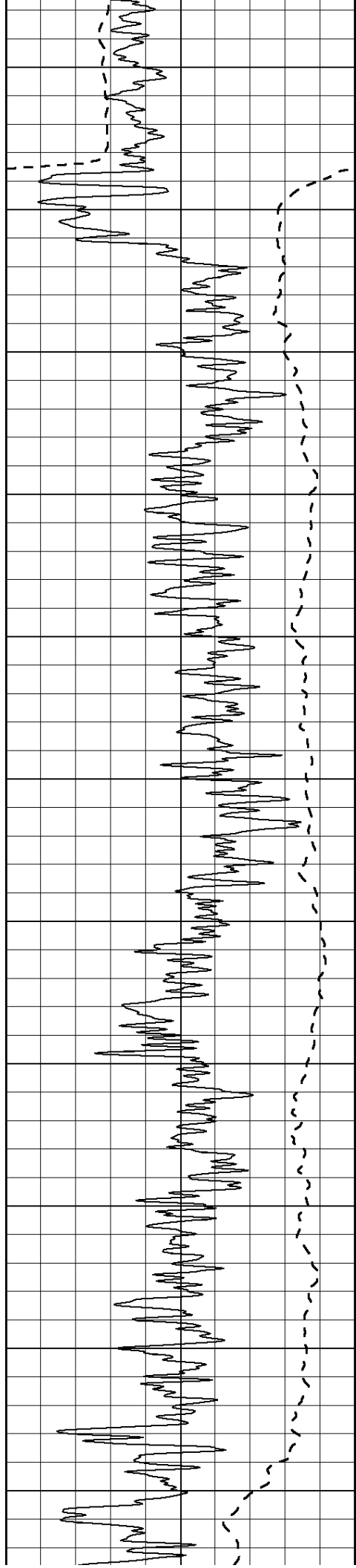
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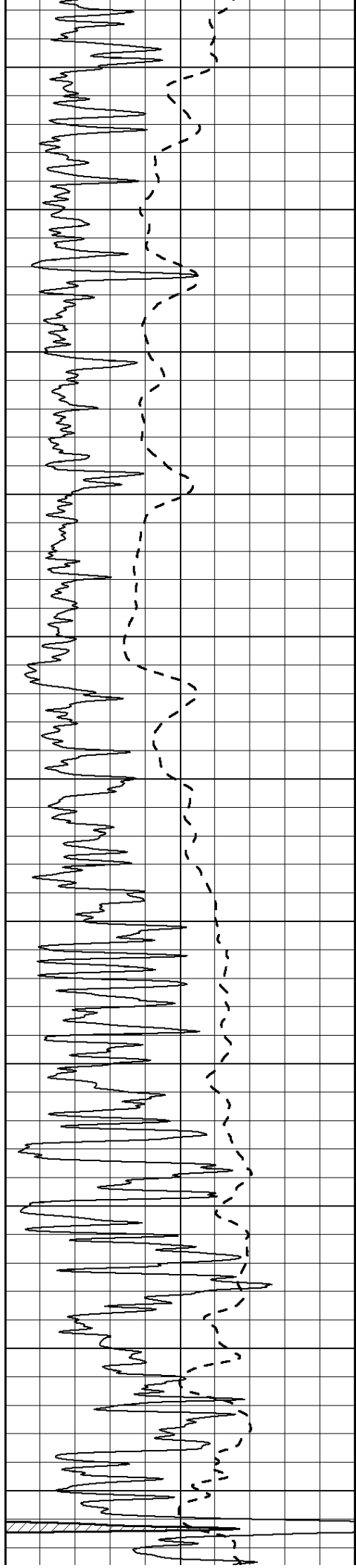
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900

950







1550

1600

1650

1700

1750

1800

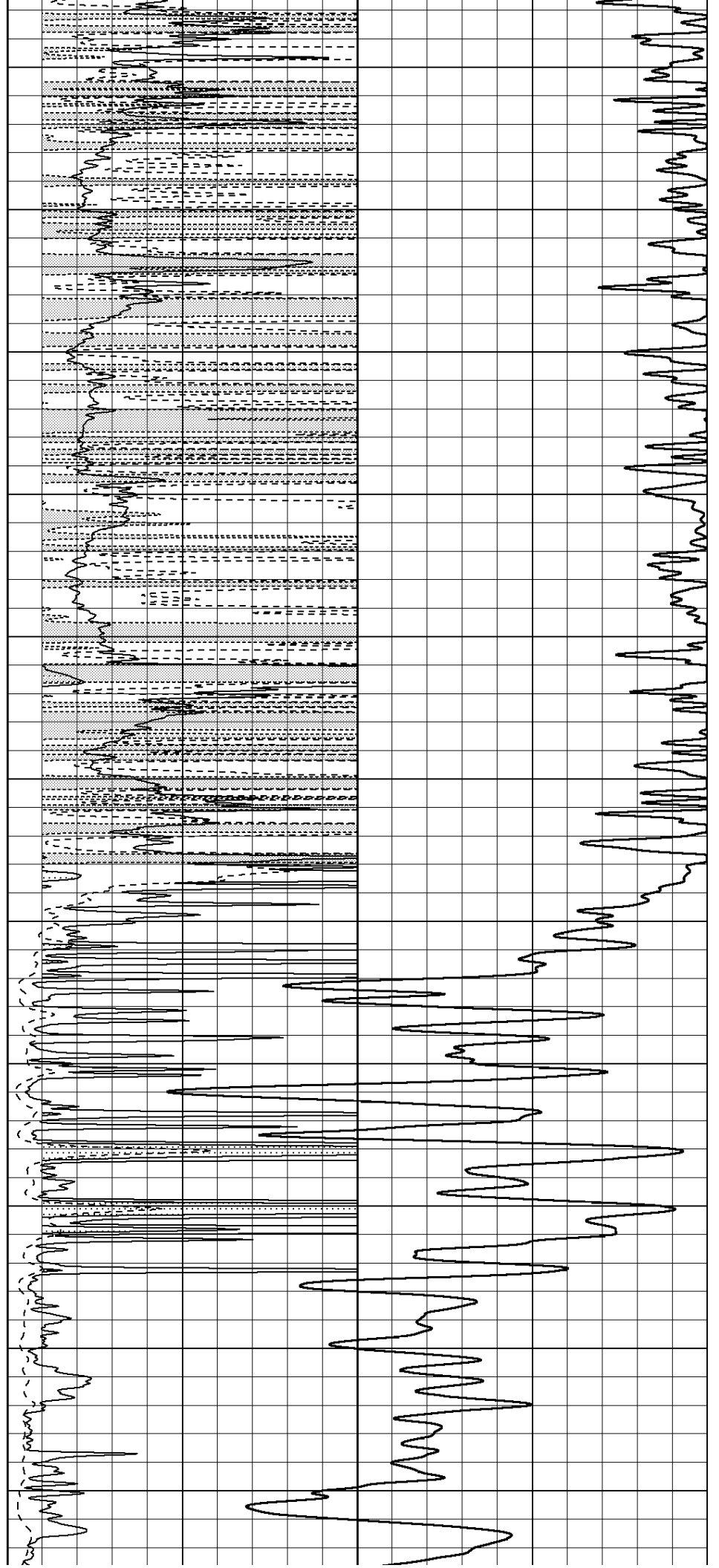
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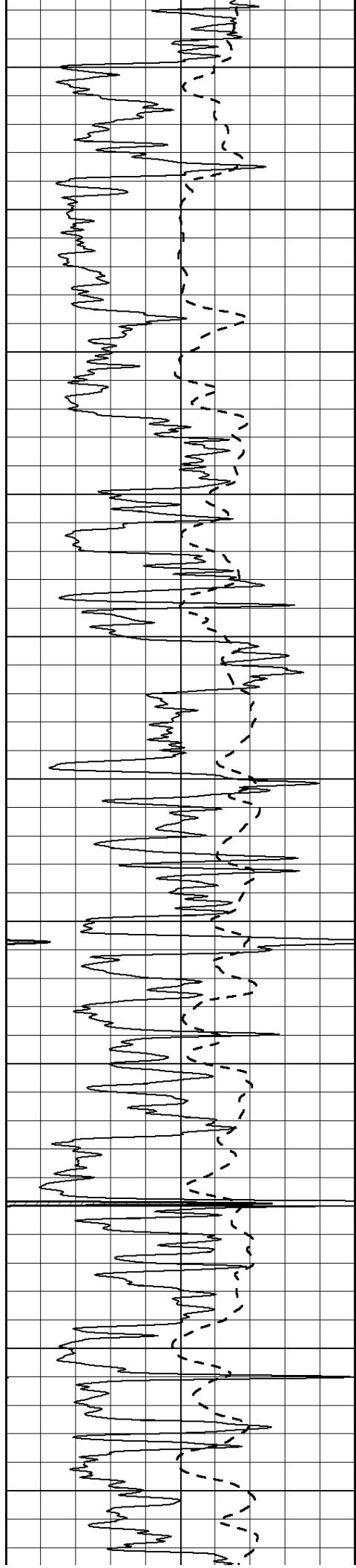
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1950

2000

2050





2100

2150

2200

2250

2300

2350

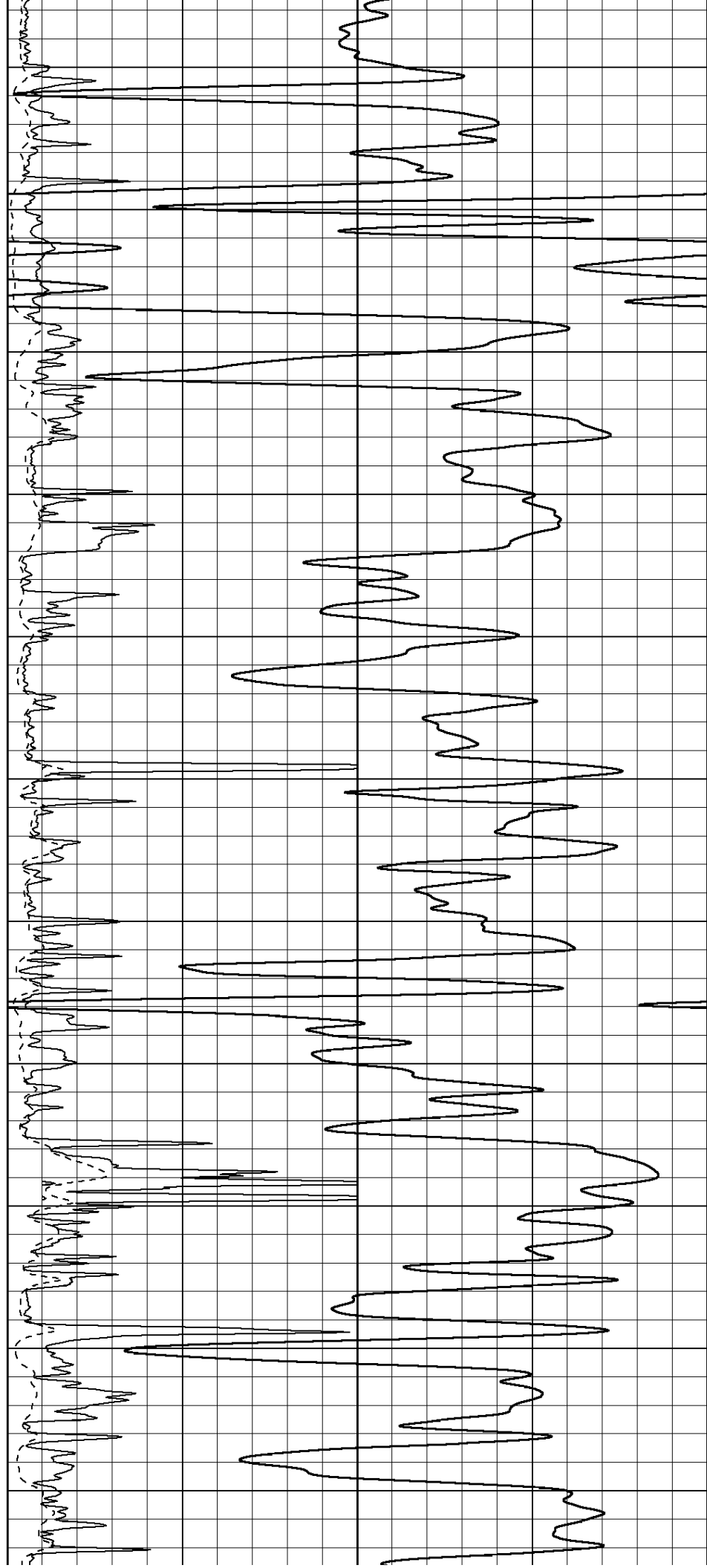
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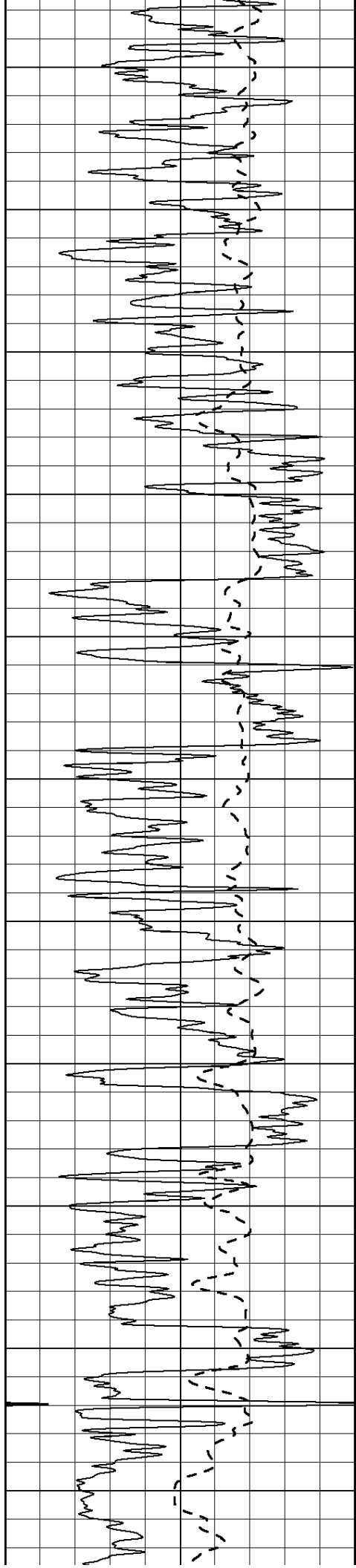
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2500

2550

2600





2650

2700

2750

2800

2850

2900

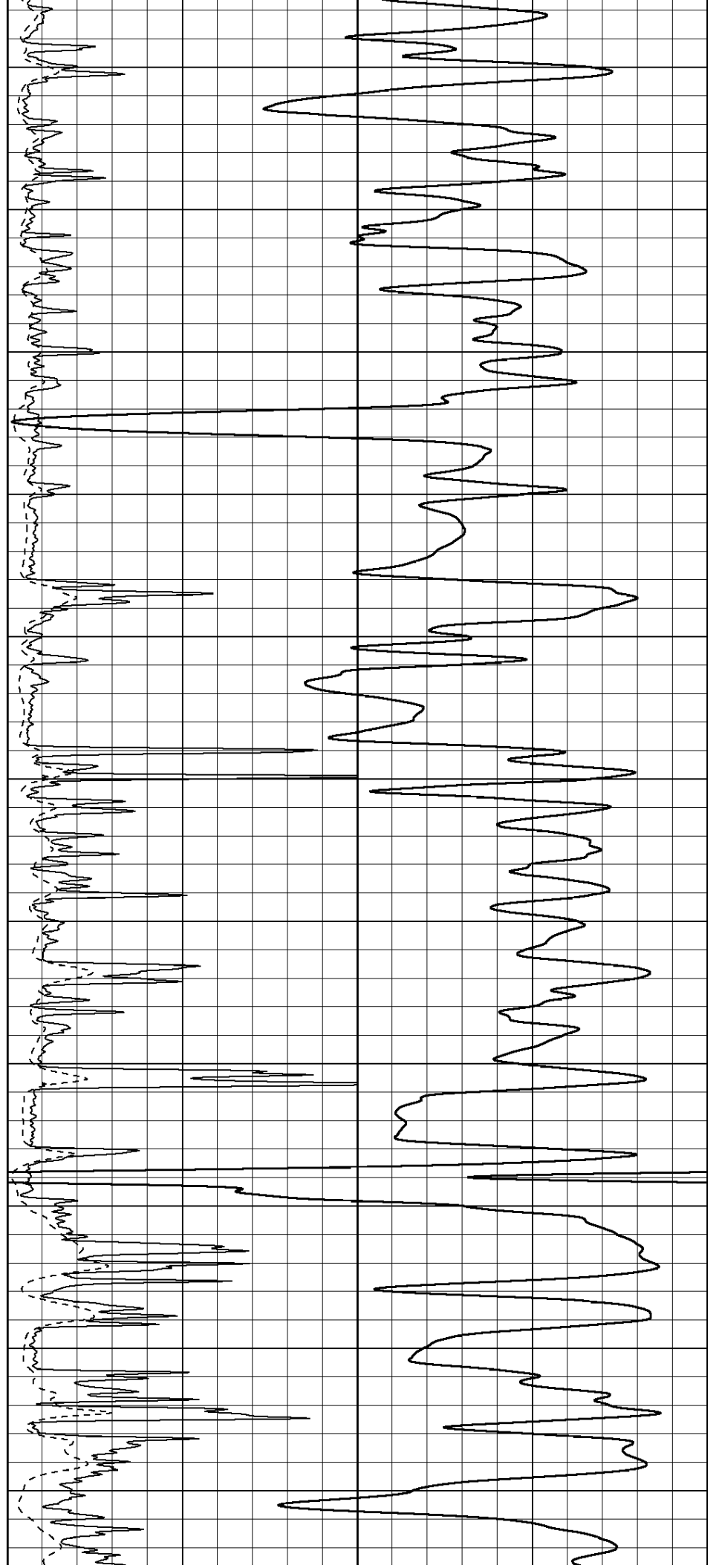
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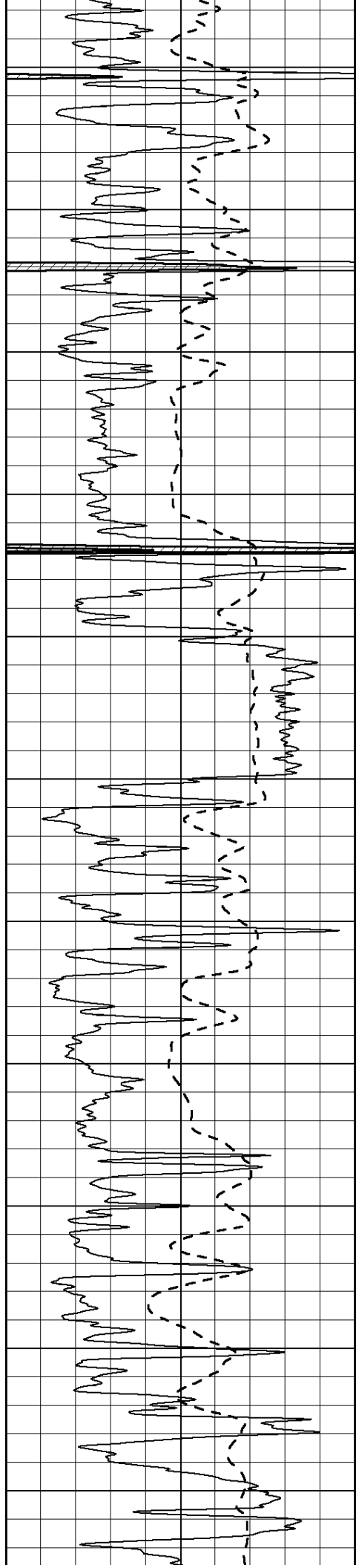
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3050

3100

3150





3200

3250

3300

3350

3400

3450

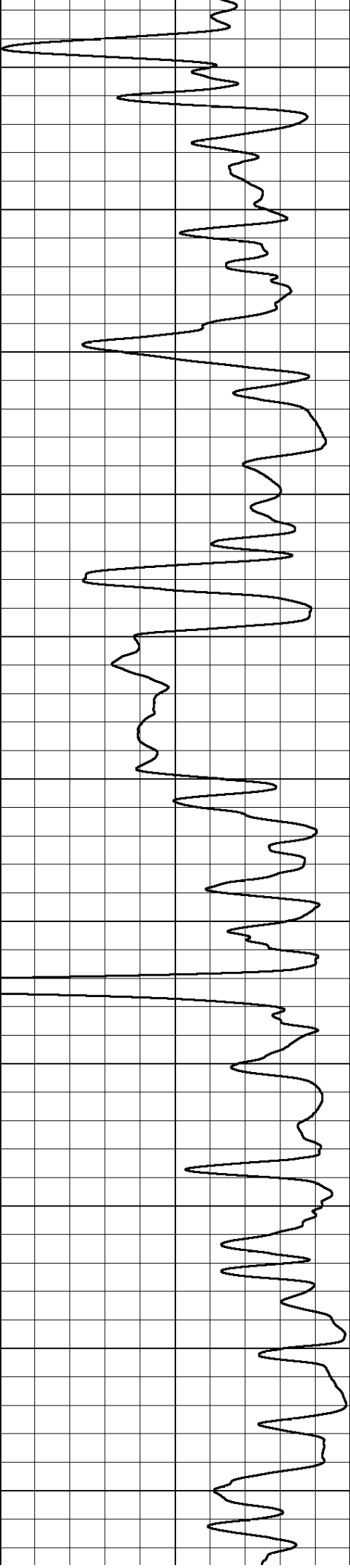
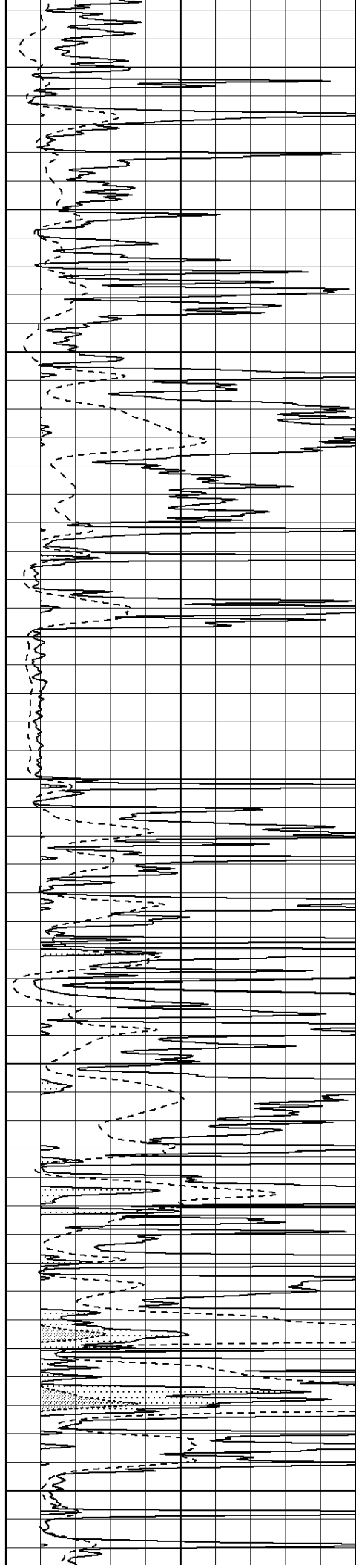
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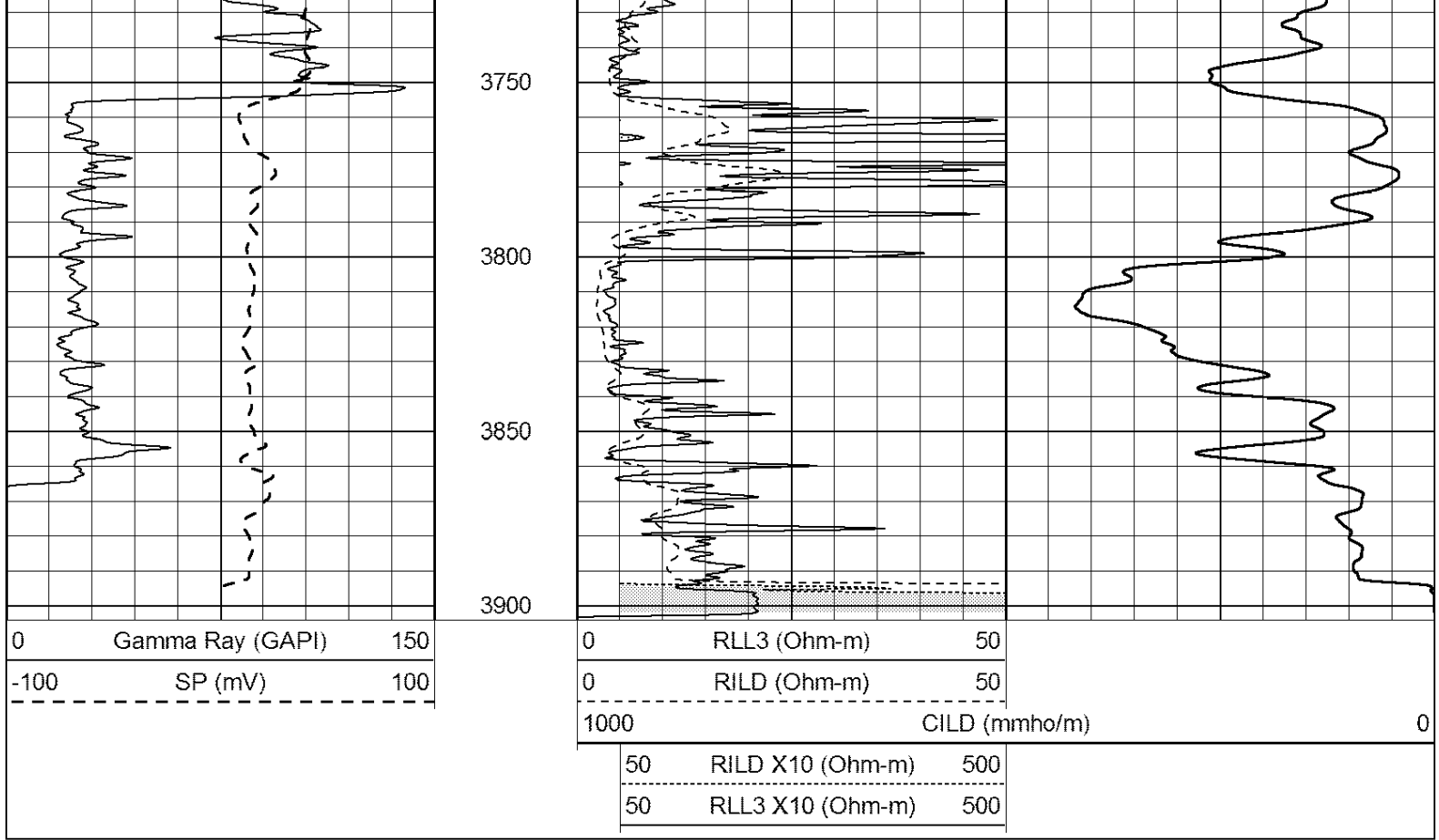
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3600

3650

3700





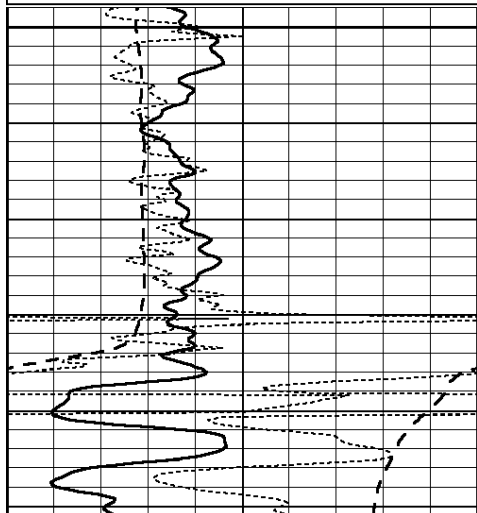
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ANHYDRITE

Database File: 409128ddn.db
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 Charted by: Depth in Feet scaled 1:240

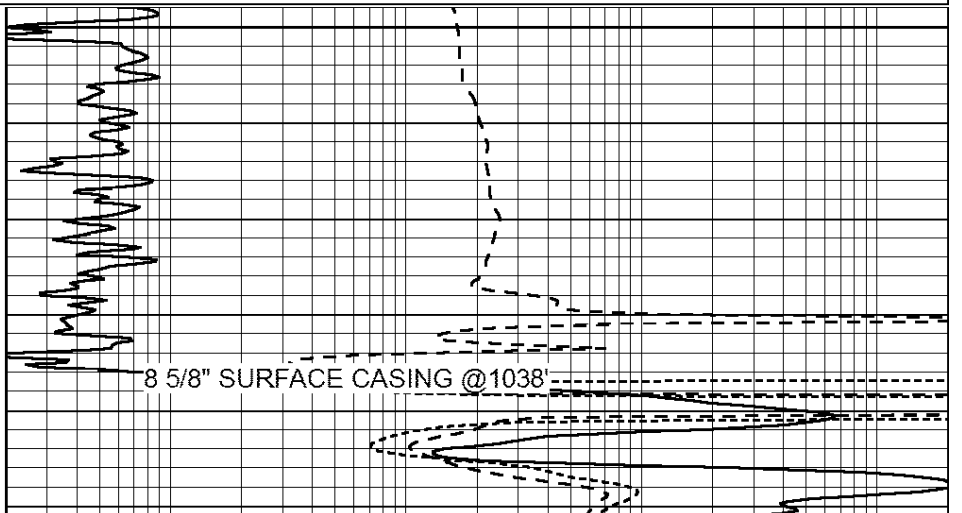
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

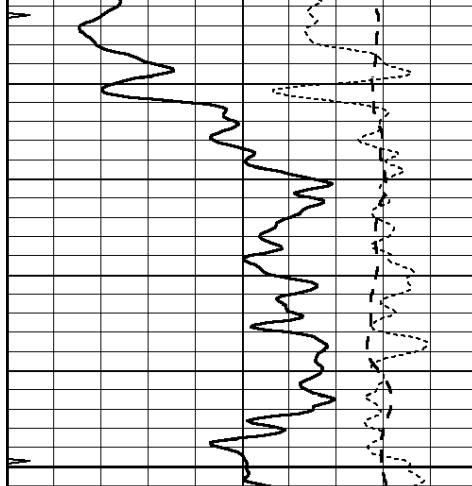
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



1000

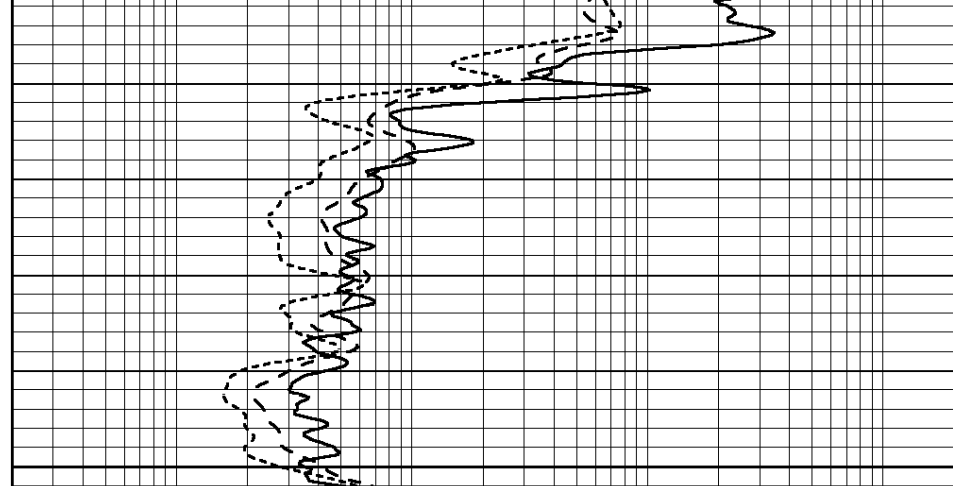
1050





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

1100



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



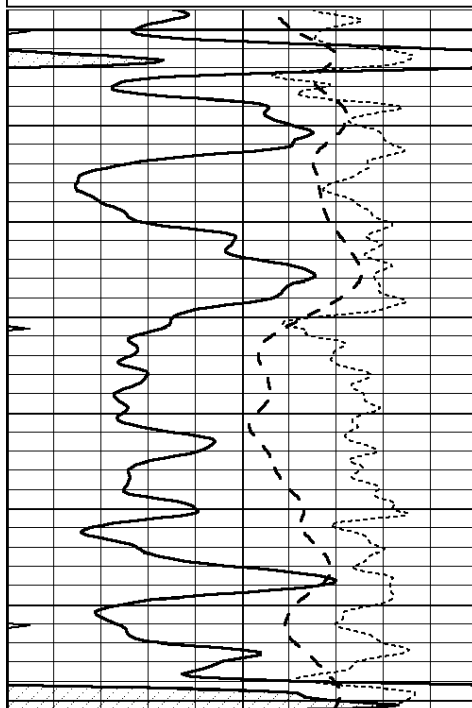
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MAIN SECTION

Database File: 409128ddn.db
 Dataset Pathname: pass3.3
 Presentation Format: dil
 Dataset Creation: Tue May 29 18:27:01 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240

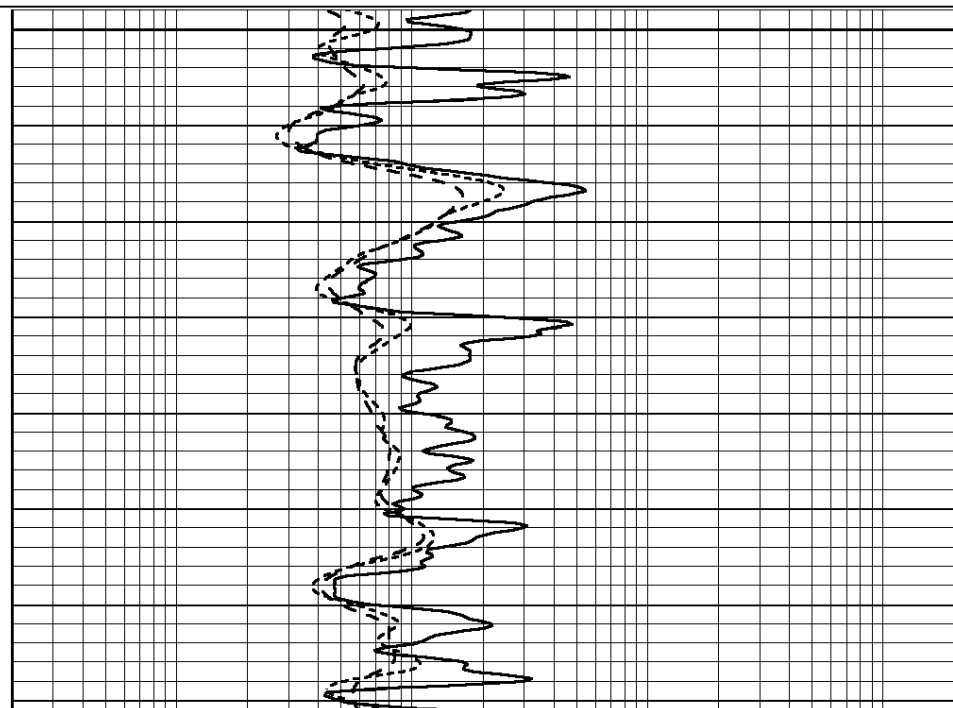
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

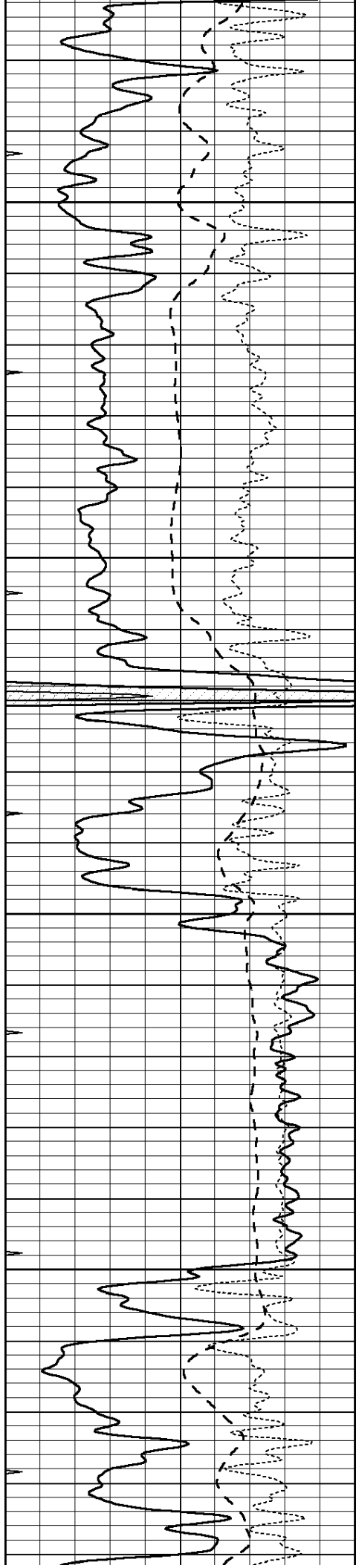
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3200

3250



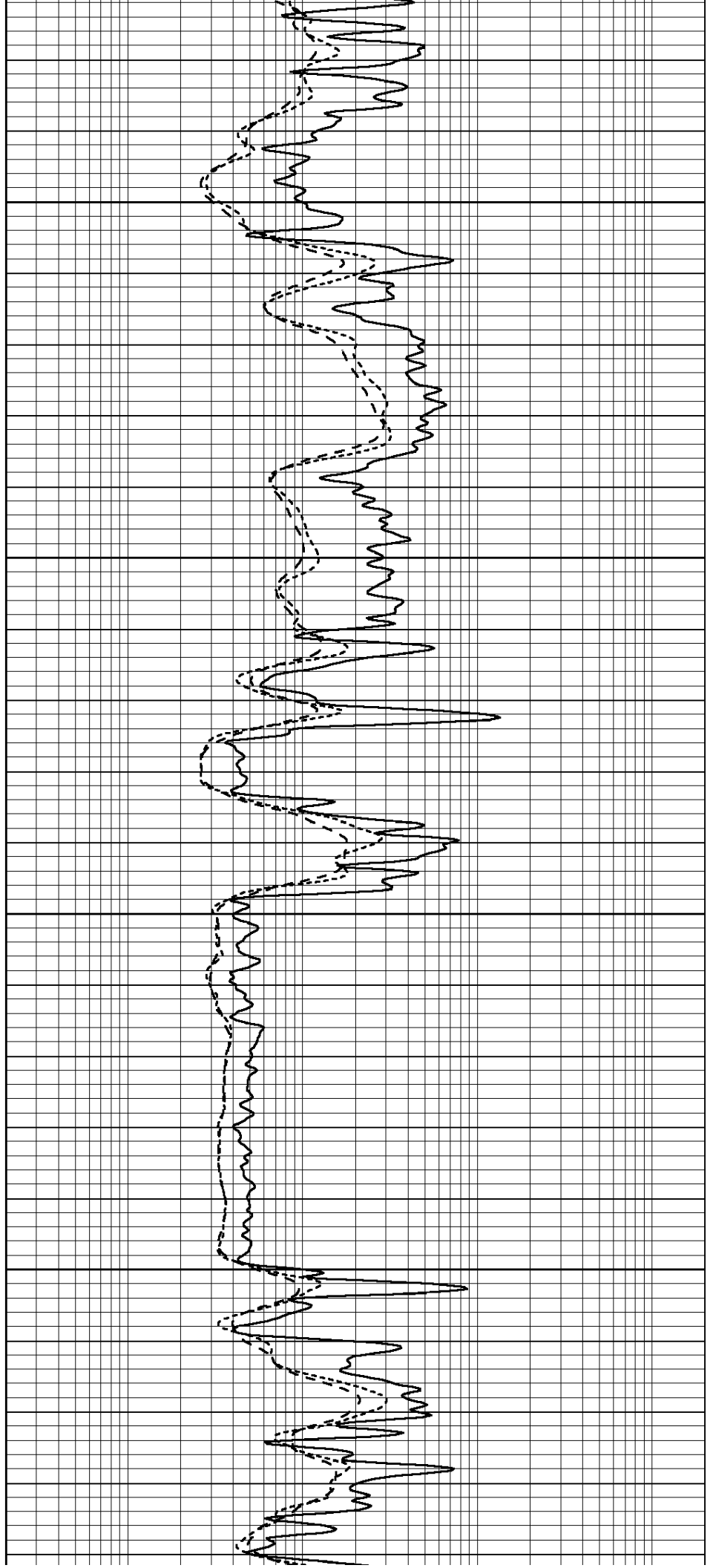


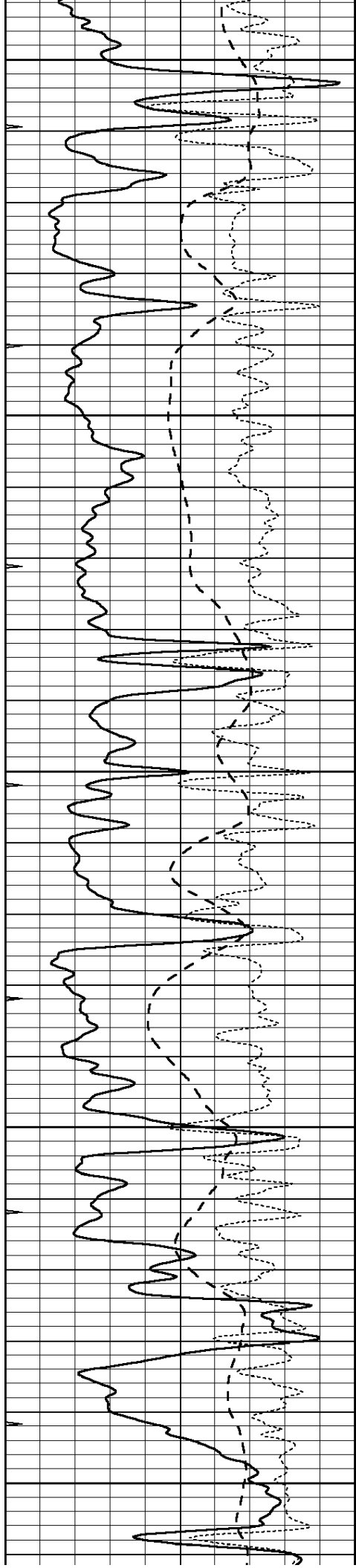
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3350

3400

3450





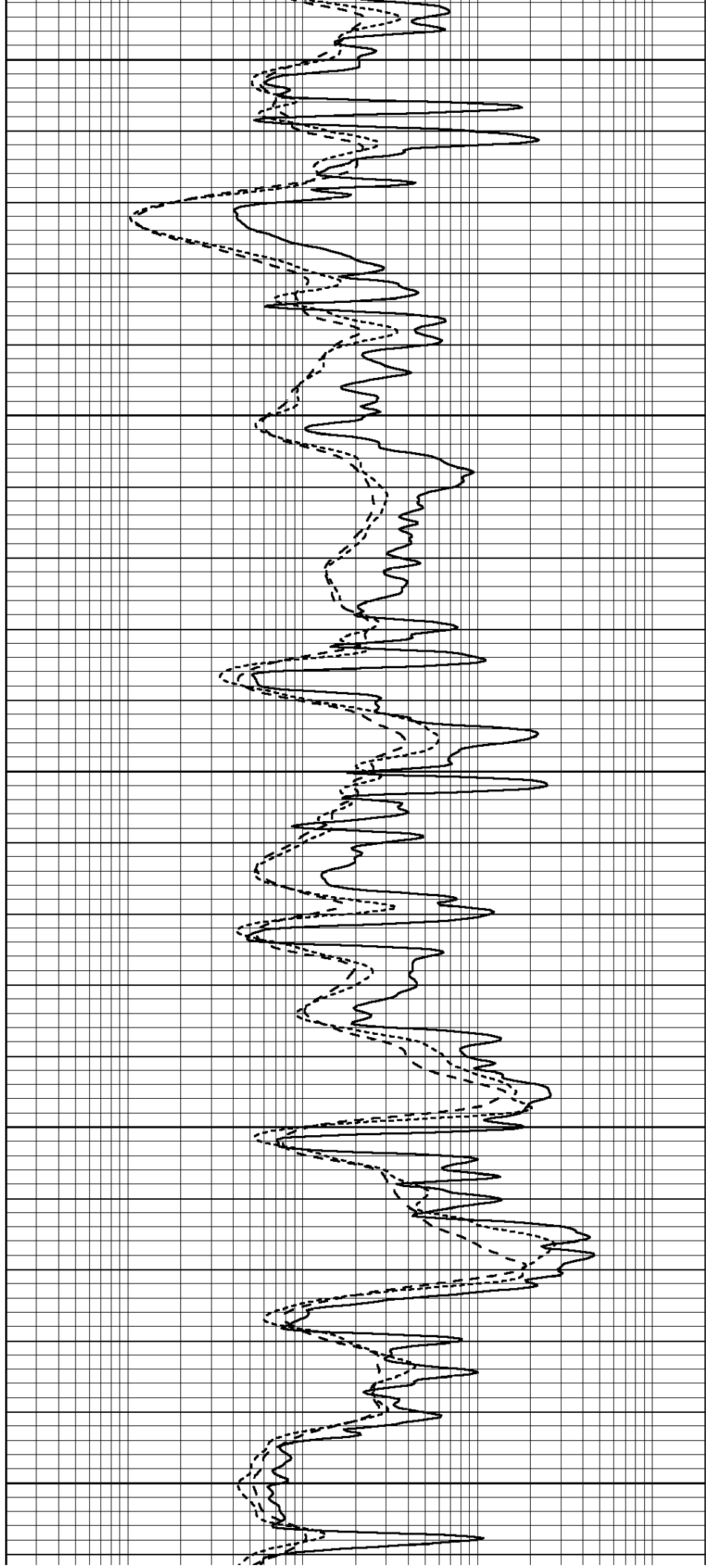
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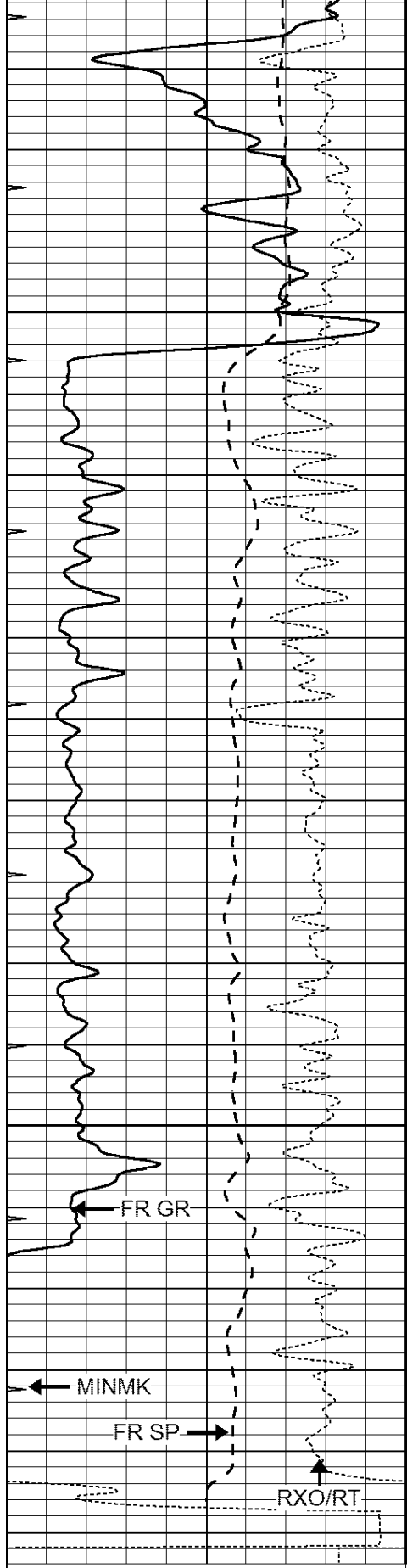
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3600

3650

3700





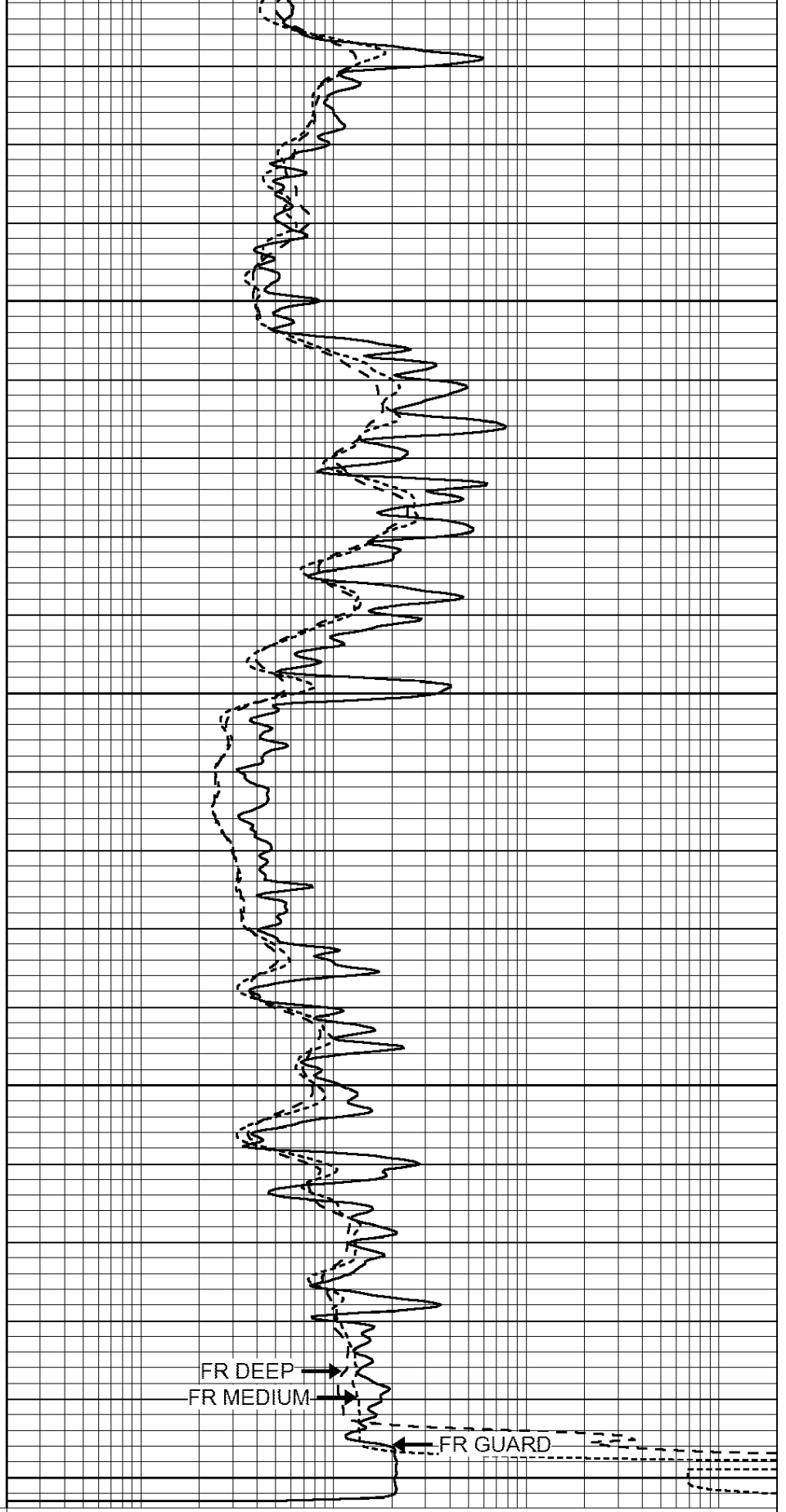
3750

3800

3850

LTD 3898
3900

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



SUPERIOR

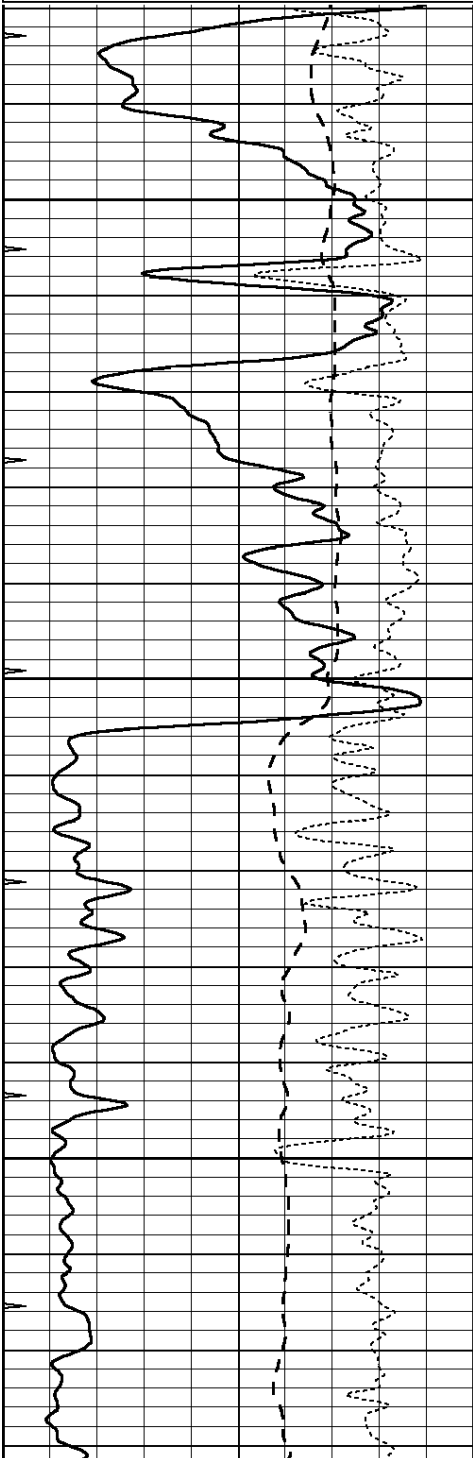
Hays,
Kansas

REPEAT SECTION

Database File: 409128ddn.db
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 Presentation Format: dil
 Dataset Creation: Tue May 29 17:27:10 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
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0	MINMK	20

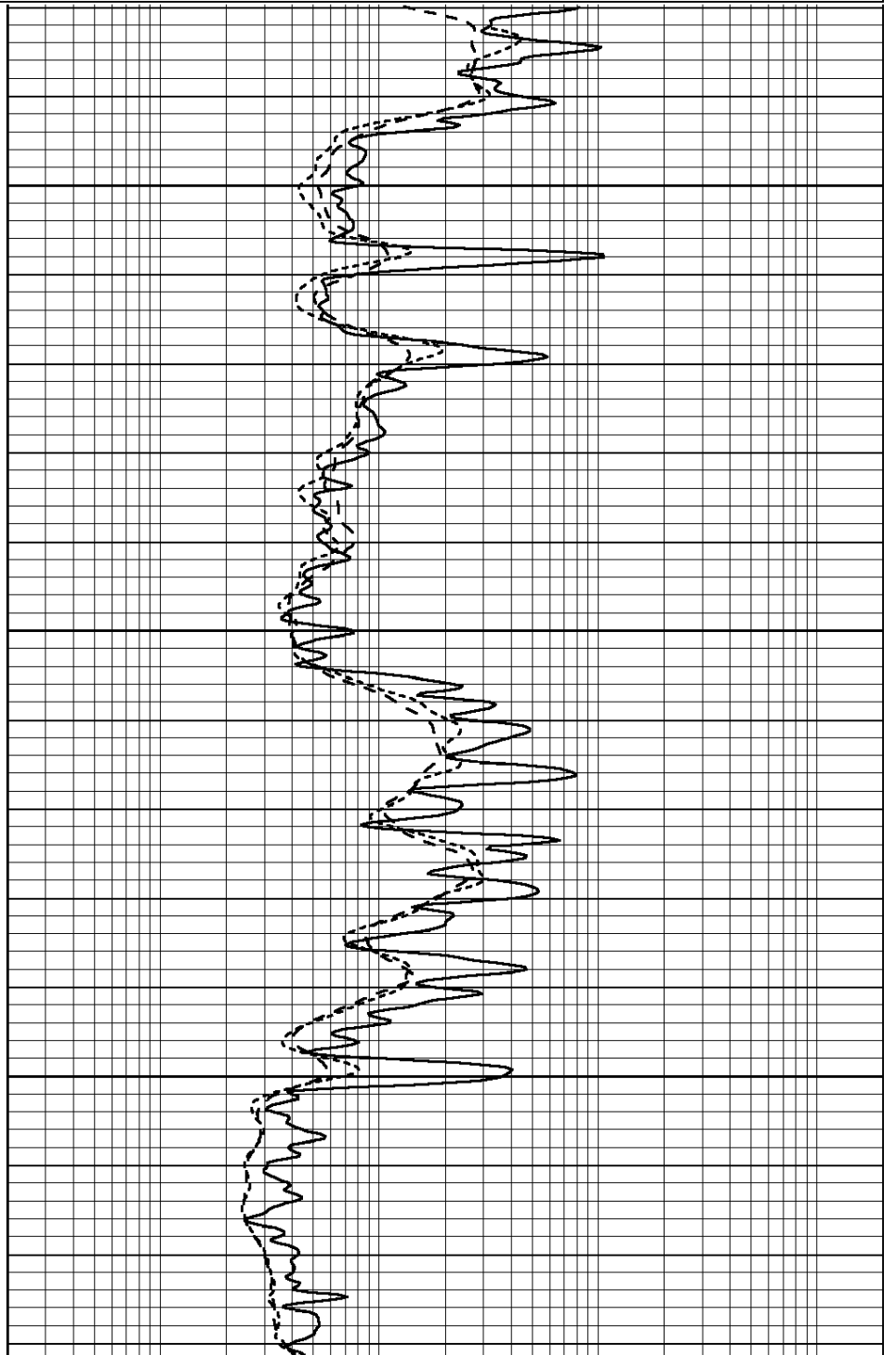
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

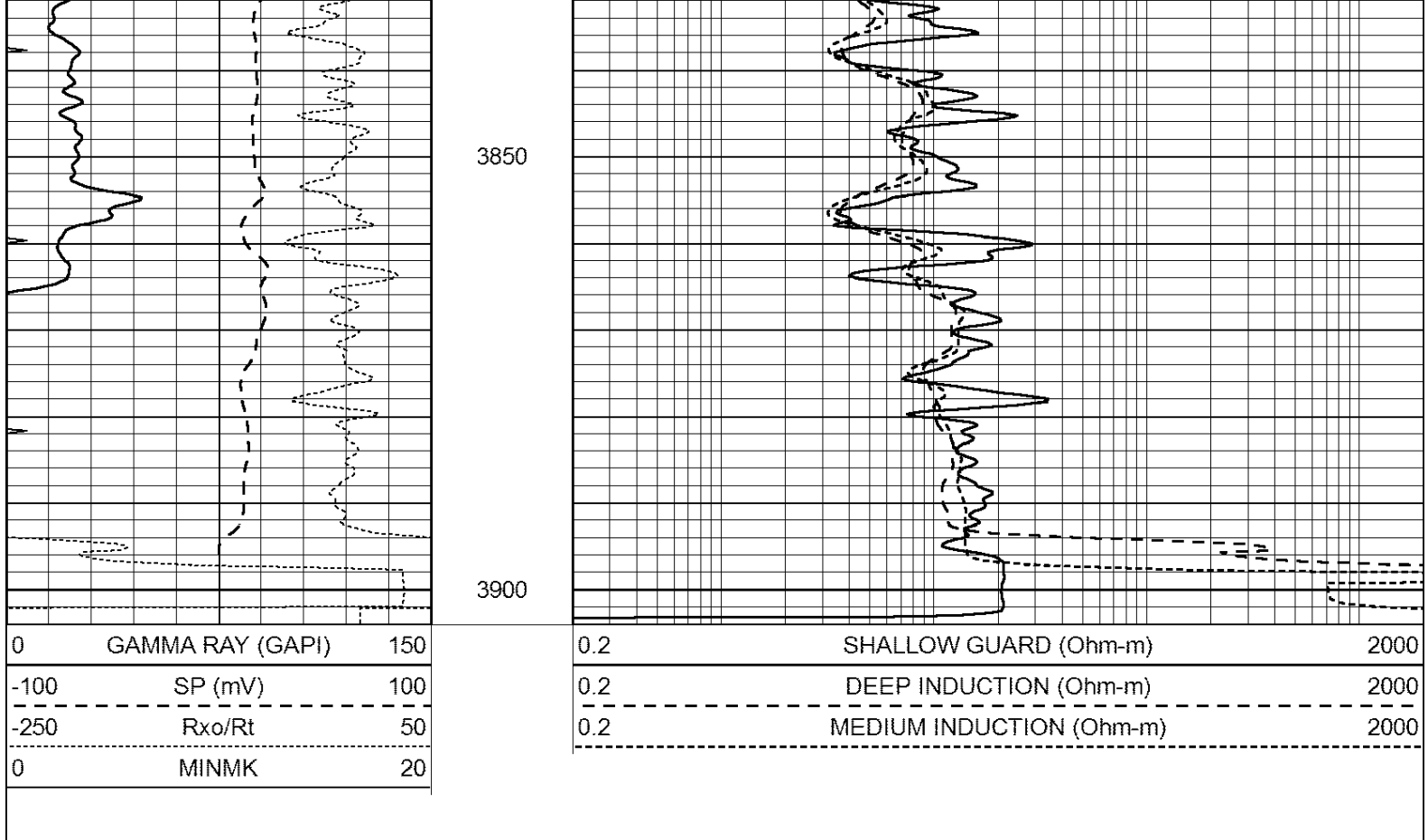


3700

3750

3800





Calibration Report

Database File: 409128ddn.db
 Dataset Pathname: pass3.3
 Dataset Creation: Tue May 29 18:27:01 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
 Performed: Tue May 29 15:11:57 2012

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	-2.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	-3.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.013	0.651	V	0.000	400.000	mmho/m	627.541	-8.365
Medium	0.020	0.754	V	0.000	462.500	mmho/m	630.311	-12.549

Litho Density Calibration Report
 Serial: 003N Model: PRB
 Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Phi		1.7100	2.5000	1.3800	g/cc

Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper		Readings	Reference	
Low Ref		3.4	8.0	
High Ref		5.5	15.0	
		Gain: 3.3		Offset: -3.4

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:	Tue May 22 19:38:45 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps