



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	CAERUS KANSAS, LLC.		
Well	MORTIMER #31-41		
Field	SETTE		
County	BARTON	State	KANSAS
Location:	AP1 # : 15-009-25726-0000		Other Services CDL/CNL MEL/SONIC
Permanent Datum	GROUND LEVEL	Elevation	1870
Log Measured From	KELLY BUSHING 10' A.G.L.	Elevation	K.B. 1880 D.F. 1878 G.L. 1870
Drilling Measured From	KELLY BUSHING		
SEC 31 TWP 17S RGE 13W			
Date	7/31/12		
Run Number	ONE		
Depth Driller	3472		
Depth Logger	3474		
Bottom Logged Interval	3472		
Top Log Interval	00		
Casing Driller	8 5/8"@852'		
Casing Logger	854		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,000 PPM	
Density / Viscosity	9.3/52		
pH / Fluid Loss	10.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.20@98F		
Rmt @ Meas. Temp	.900@98F		
Rmc @ Meas. Temp	1.44@98F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	1.06@111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	8:00 P.M.		
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JUSTIN CARTER	BRIAN KARLIN	

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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

RUSSELL, KS. & I-70, S. ON HWY 281 TO HWY 4, E. TO CURVE, AFTER CURVING S., W. INTO THEN
FOLLOW TRAIL PARALLEL TO HIGHWAY N. & W.



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MAIN SECTION

Database File: 409443ddn.db
 Dataset Pathname: pass3.4
 Presentation Format: dil2
 Dataset Creation: Mon Jul 30 21:52:38 2012
 Charted by: Depth in Feet scaled 1:600

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

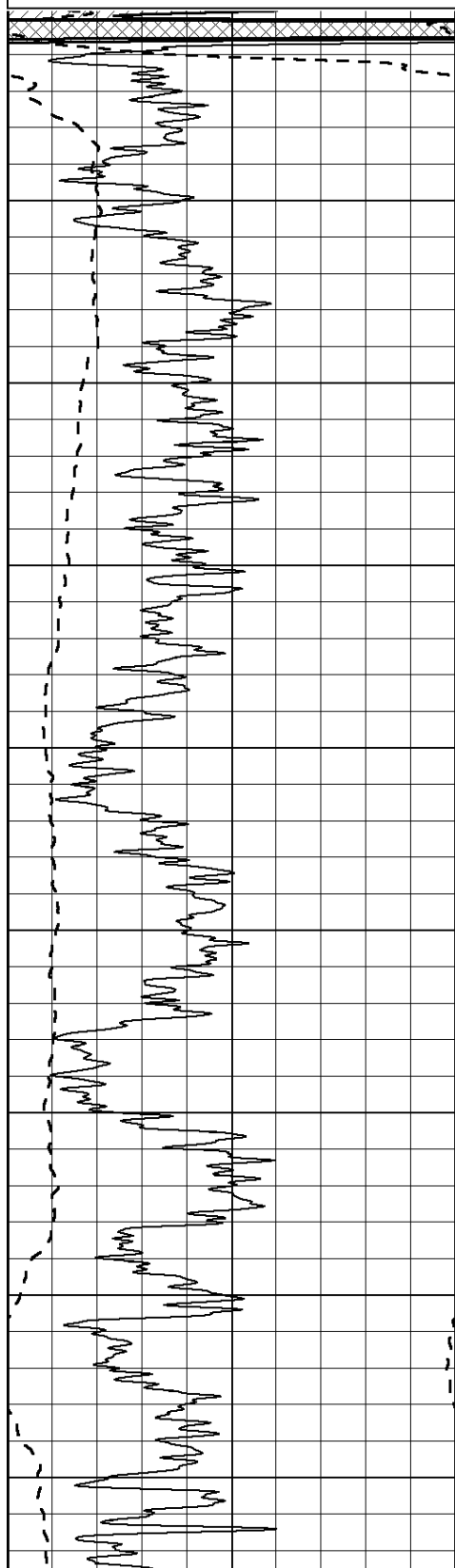
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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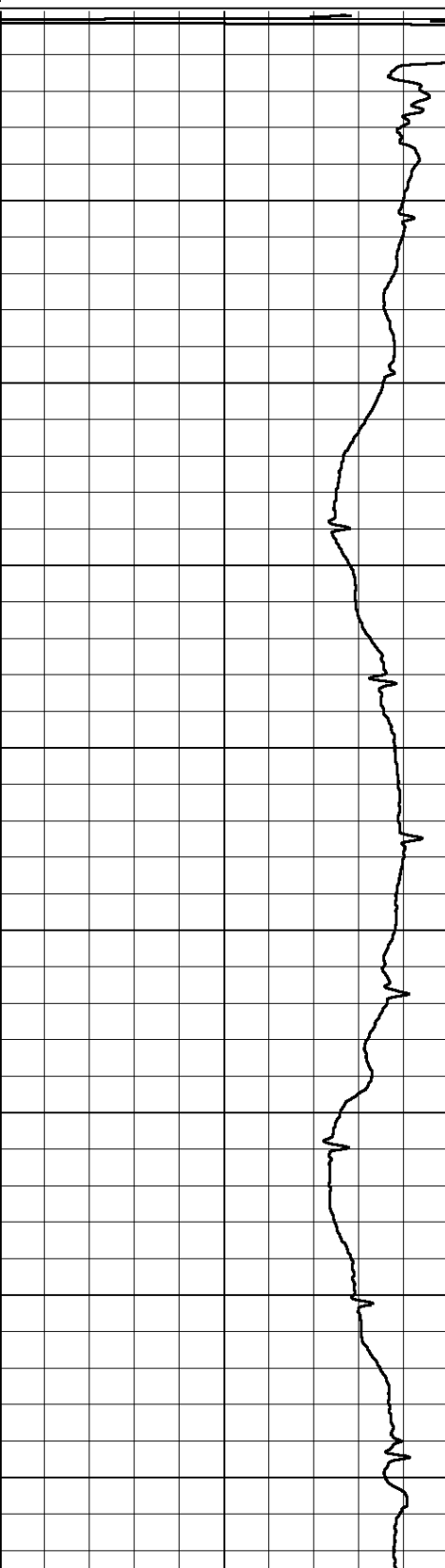
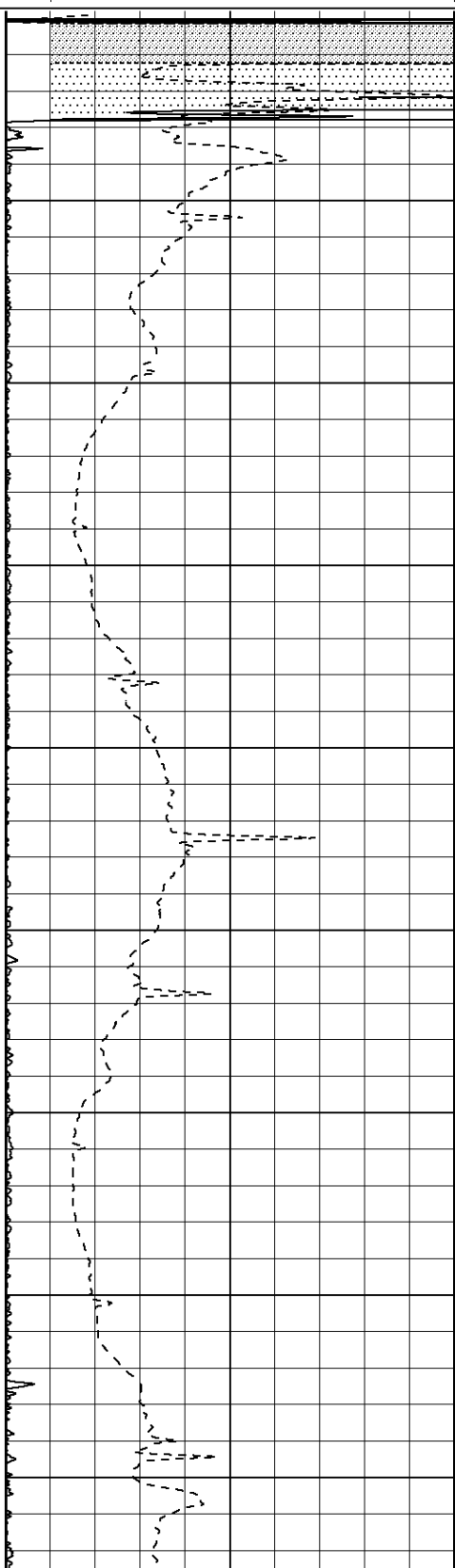
1000	CILD (mmho/m)	0
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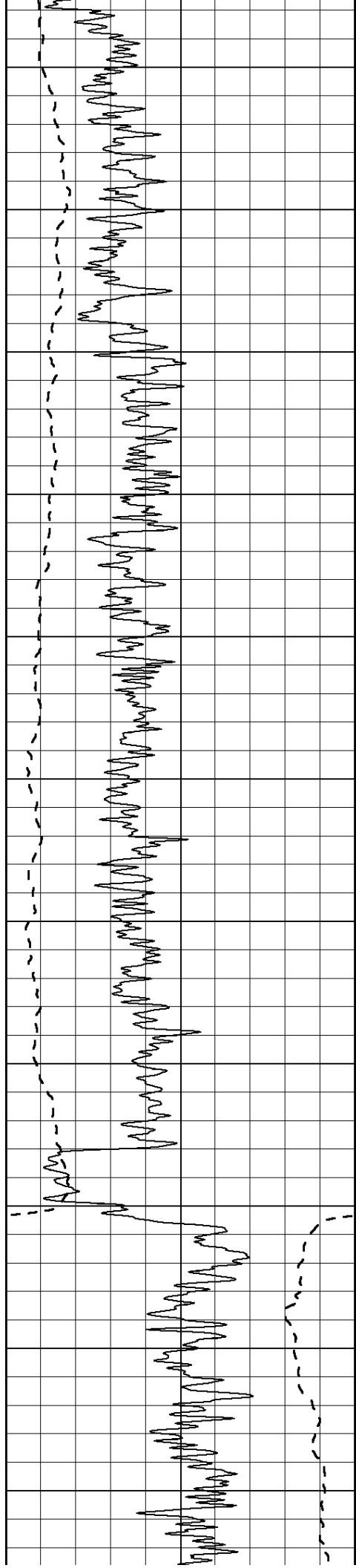
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

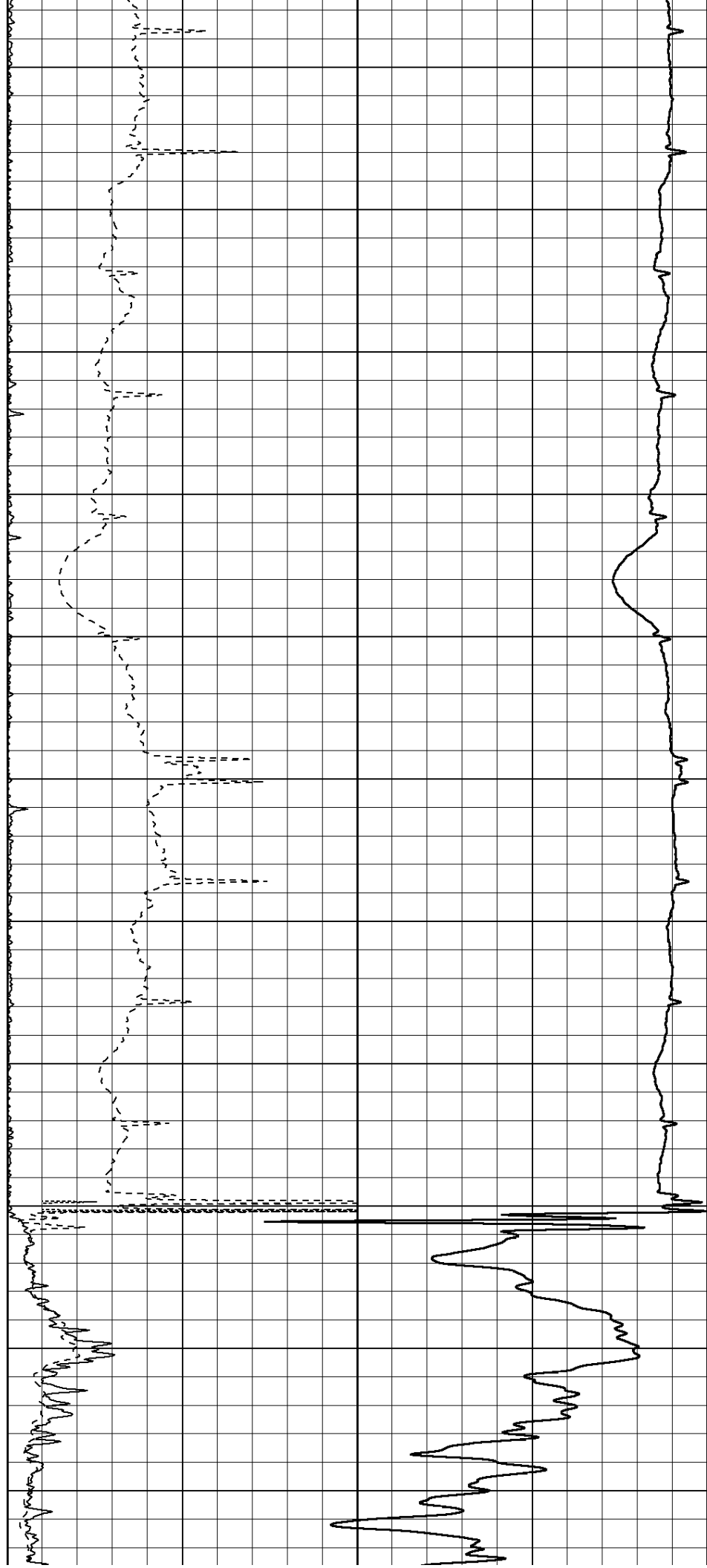
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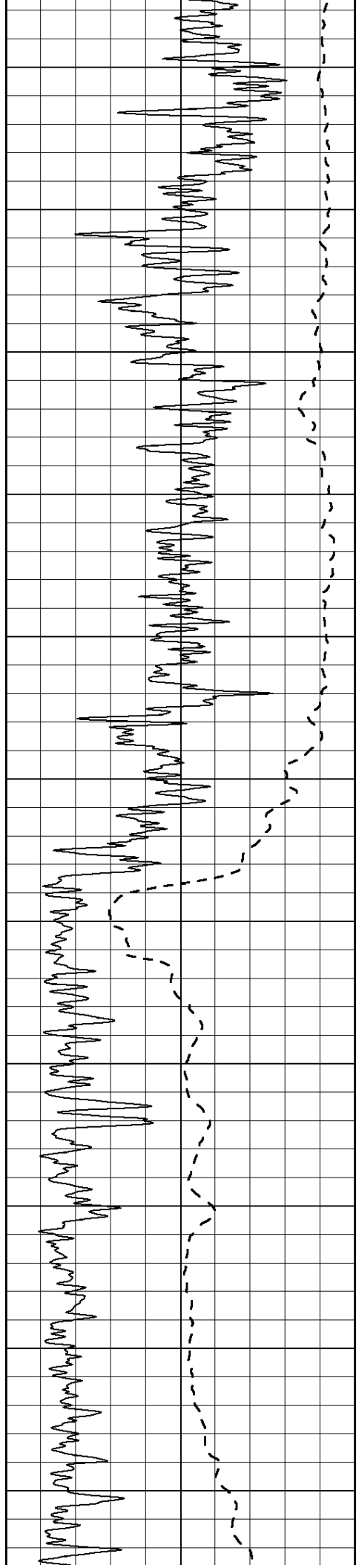
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850

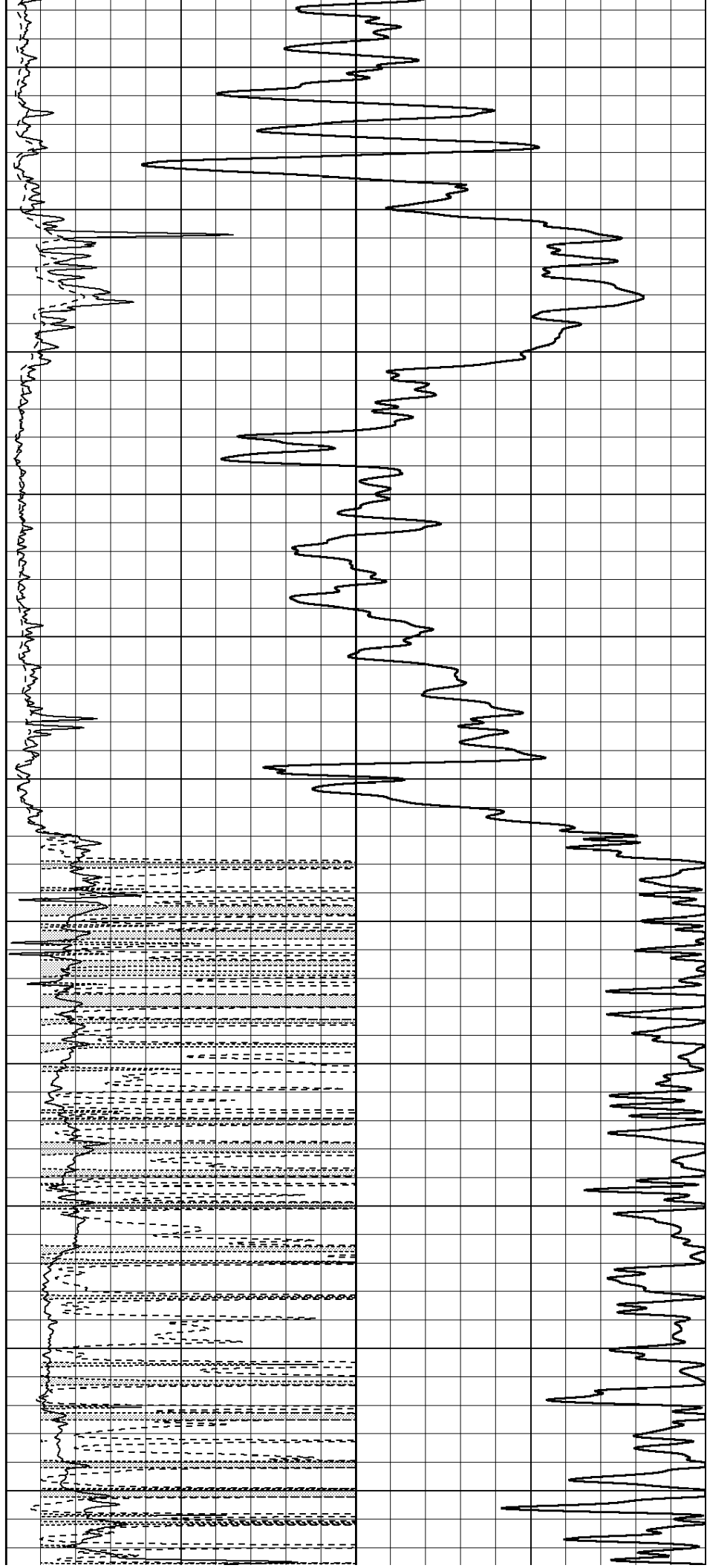
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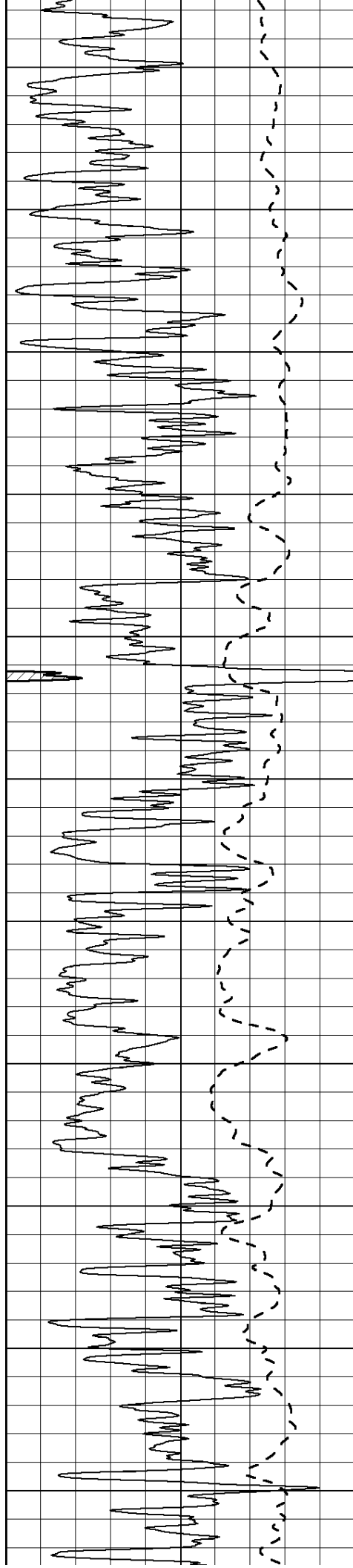
950





1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500





1550

1600

1650

1700

1750

1800

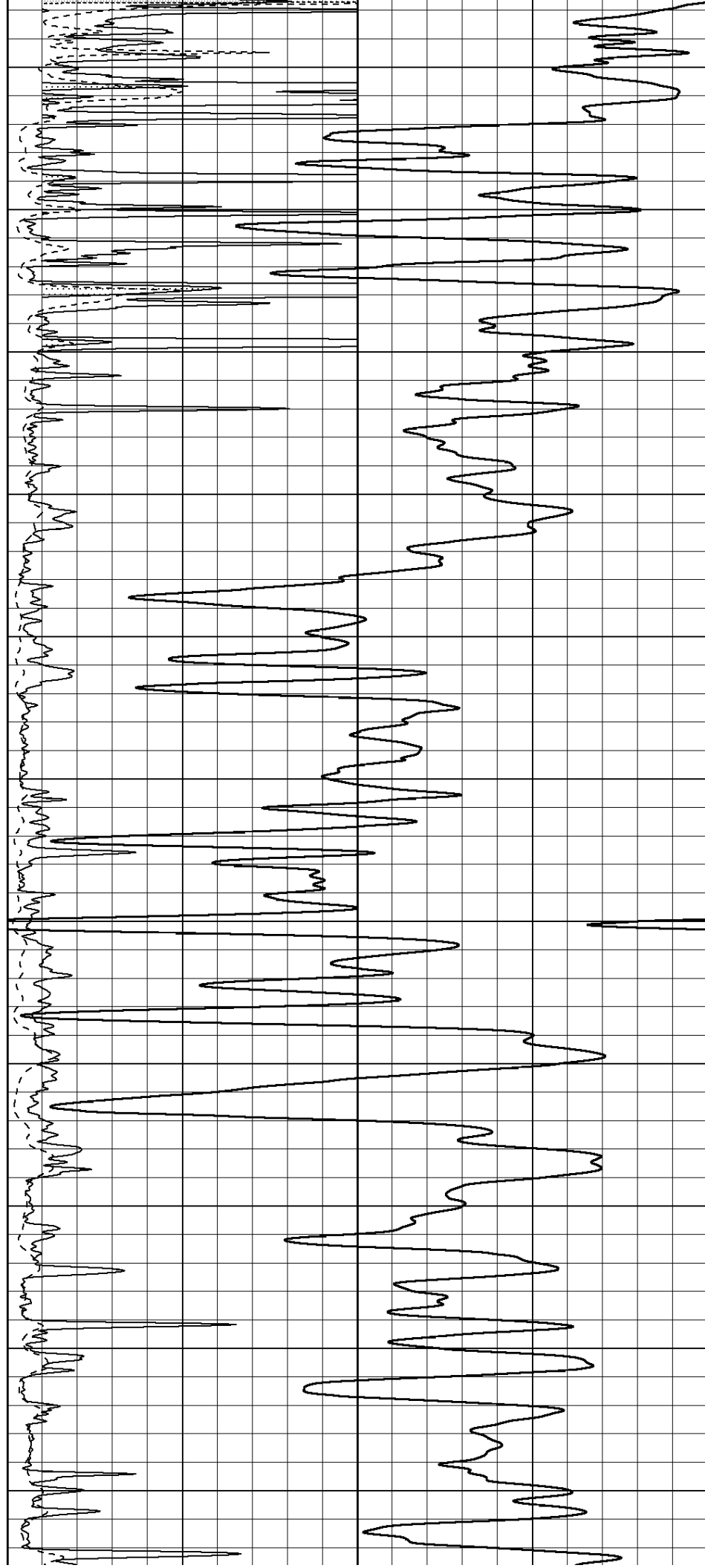
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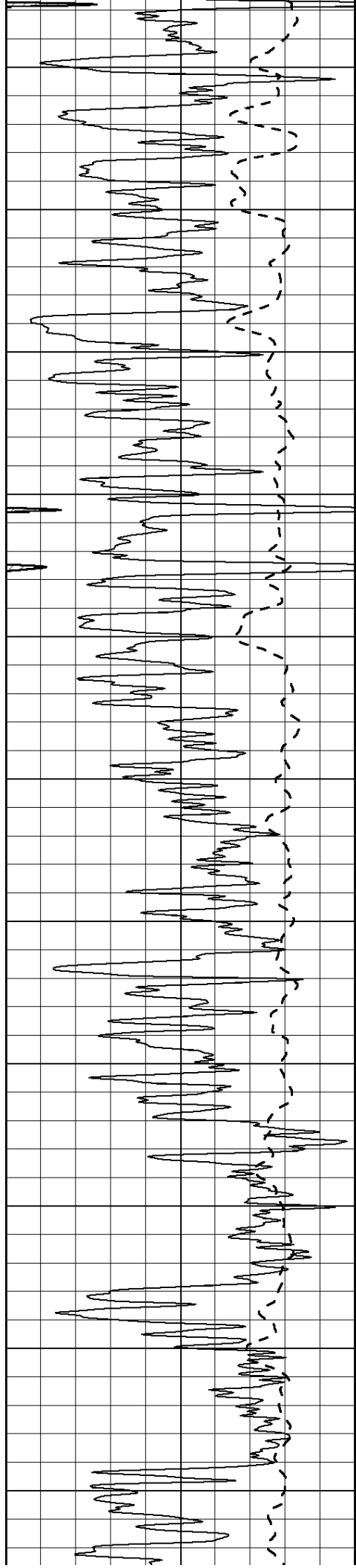
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1950

2000

2050





2100

2150

2200

2250

2300

2350

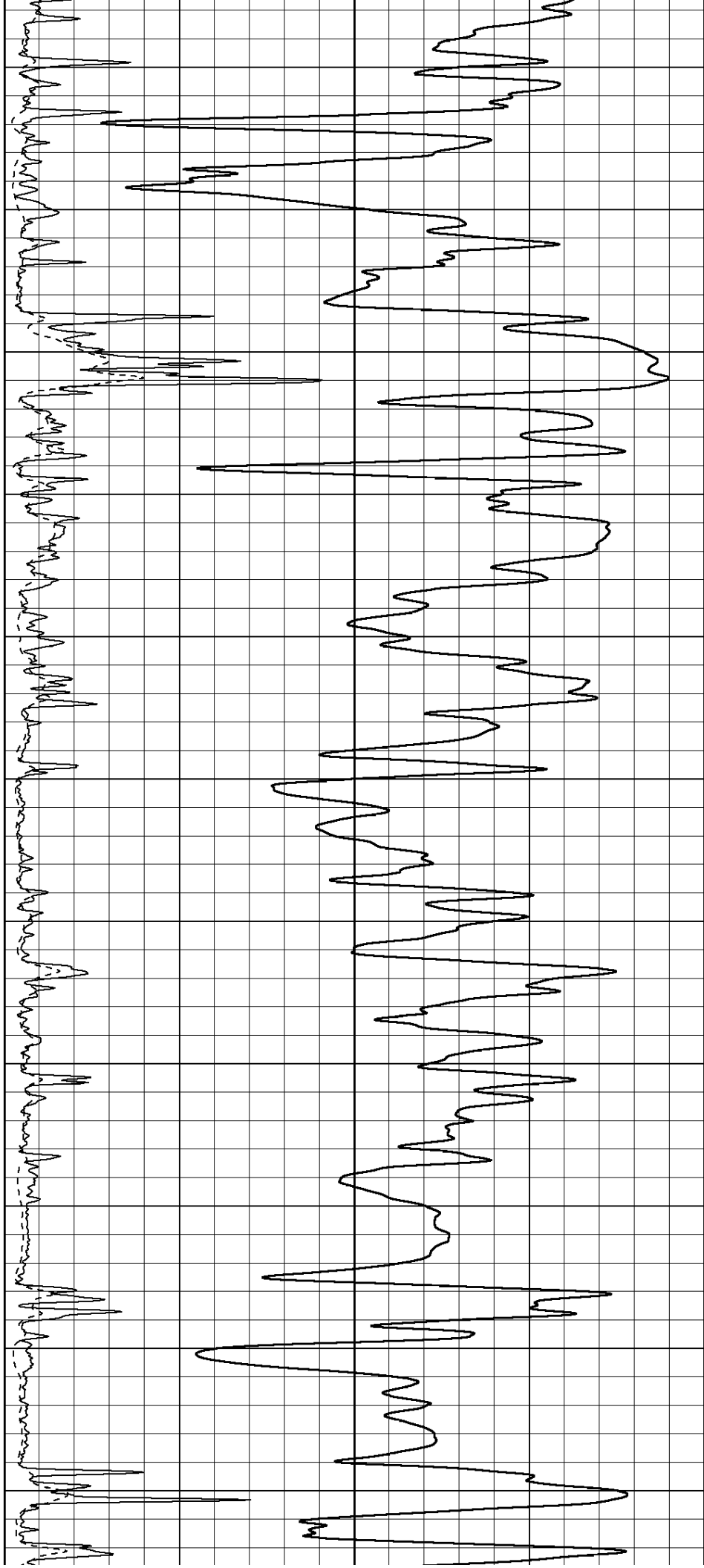
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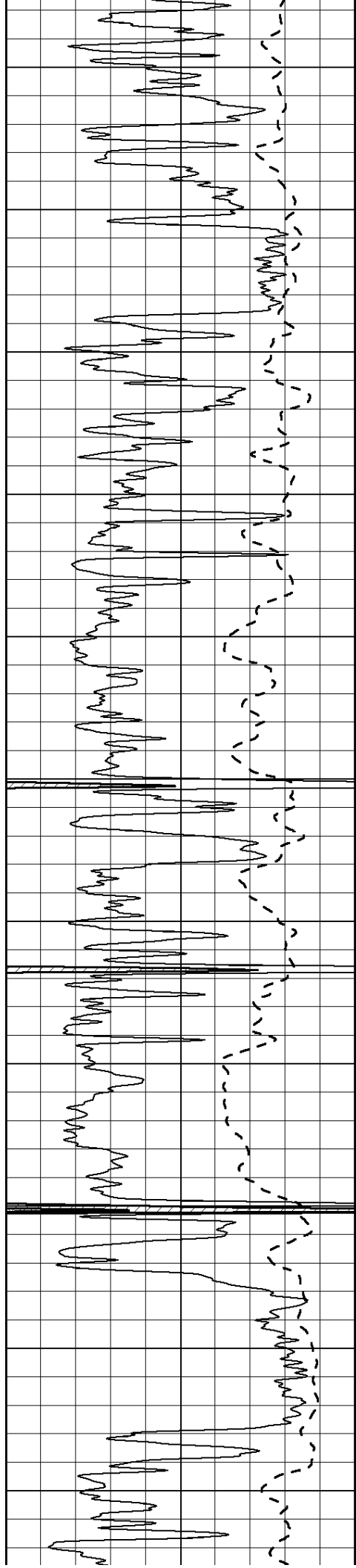
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2500

2550

2600





2650

2700

2750

2800

2850

2900

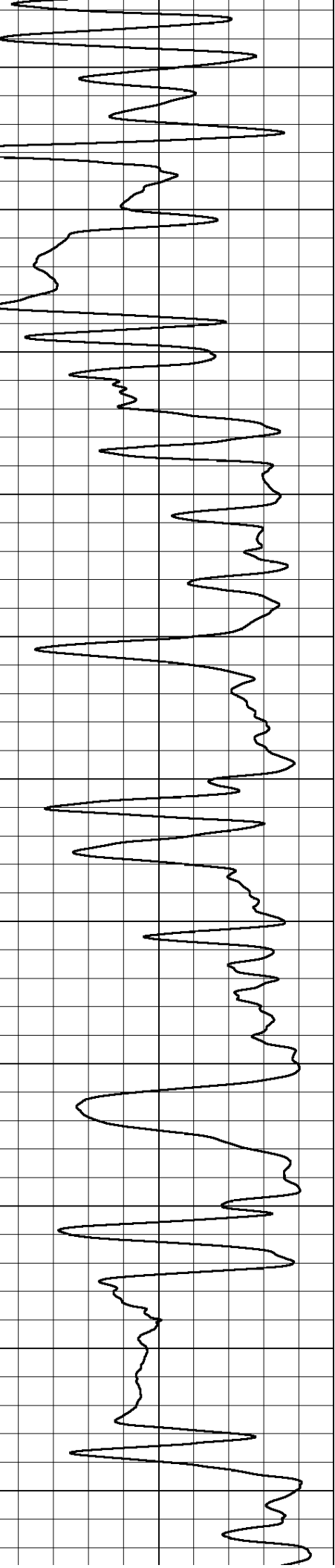
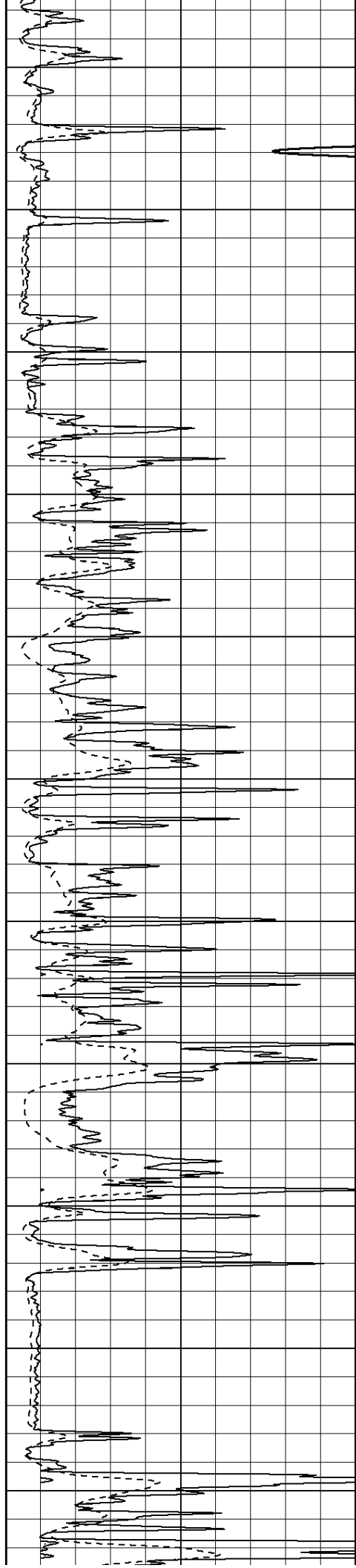
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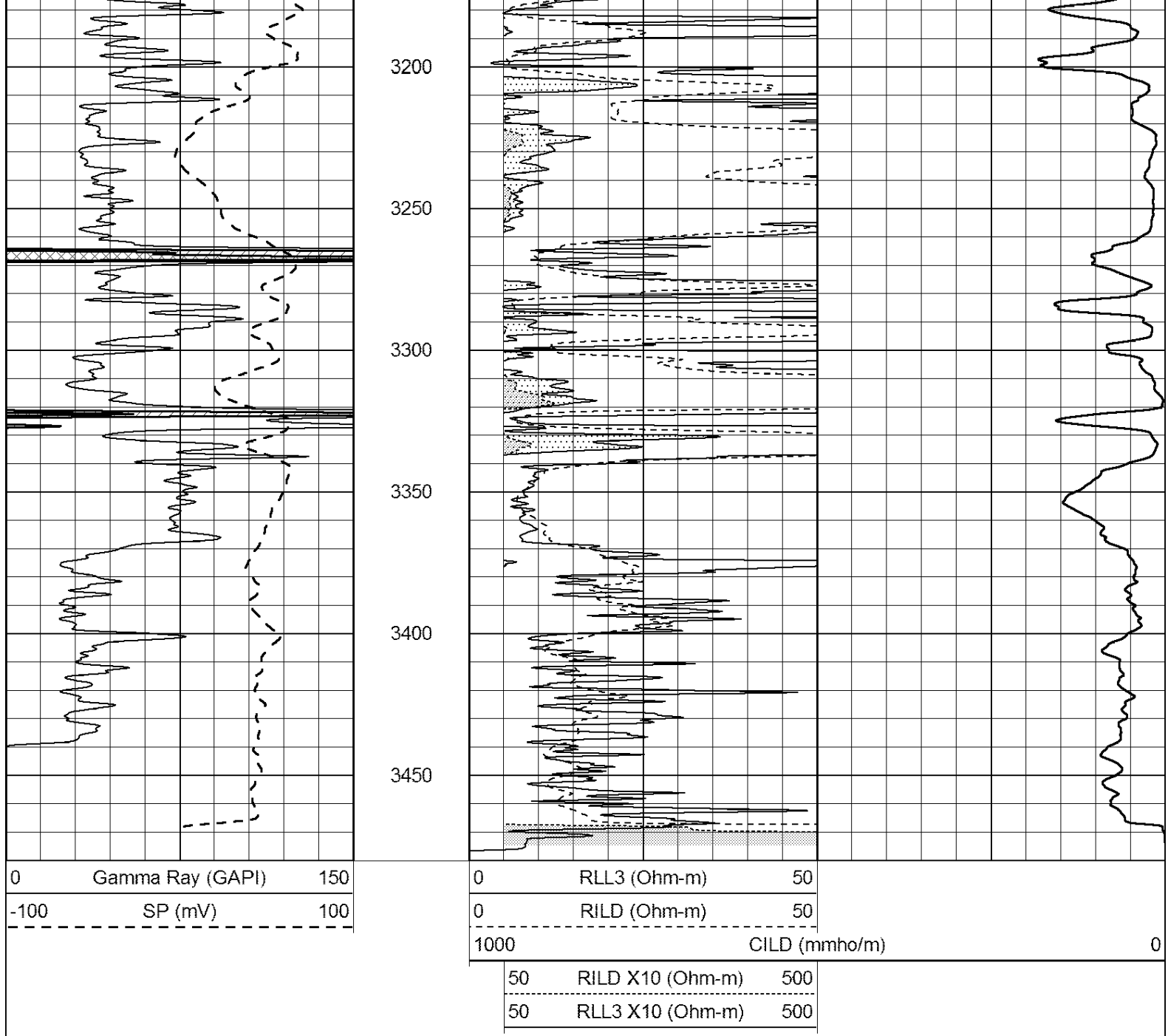
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3050

3100

3150



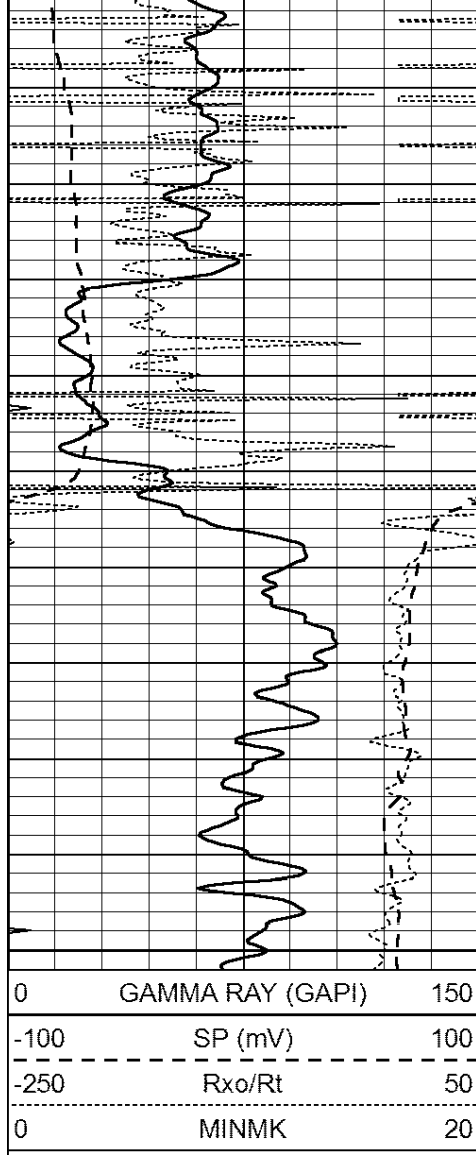


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ANHYDRITE

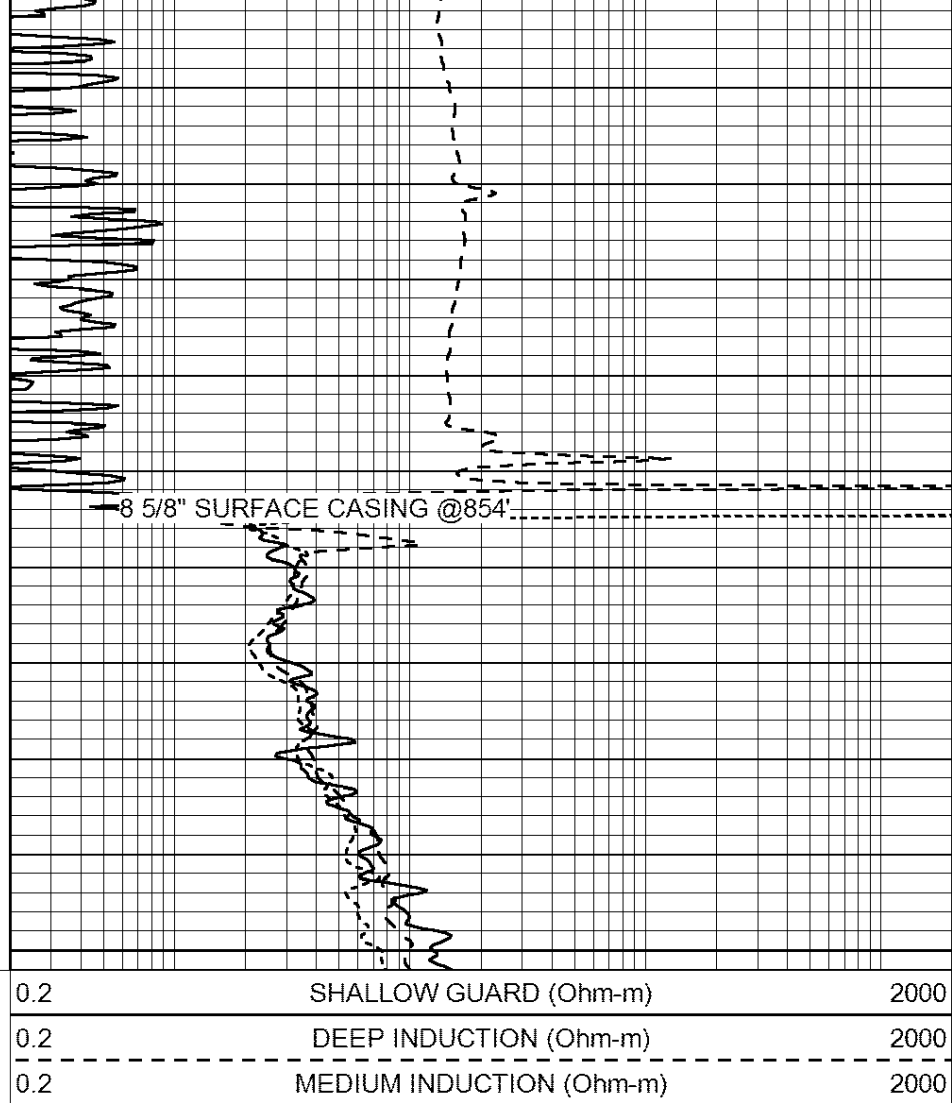
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Dataset Pathname: pass3.5
Presentation Format: dil
Dataset Creation: Mon Jul 30 21:52:50 2012
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



850

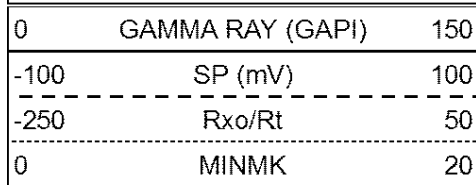
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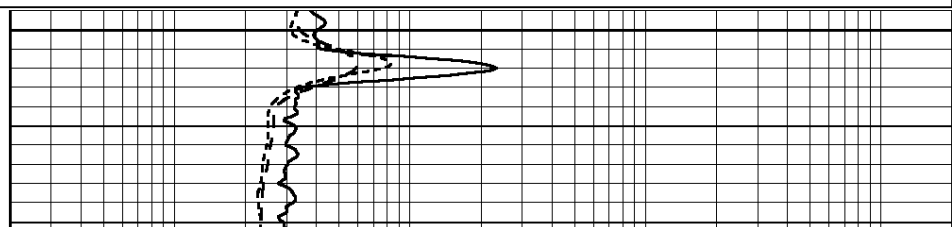
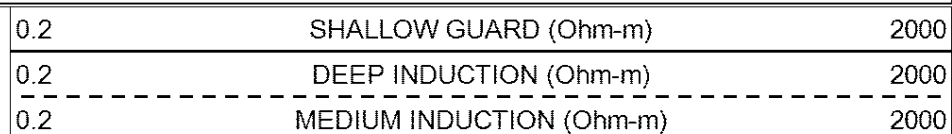
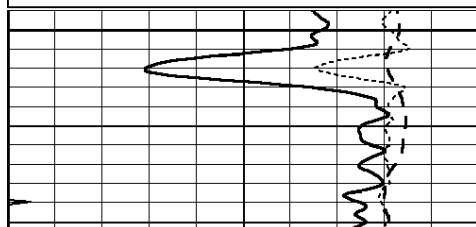
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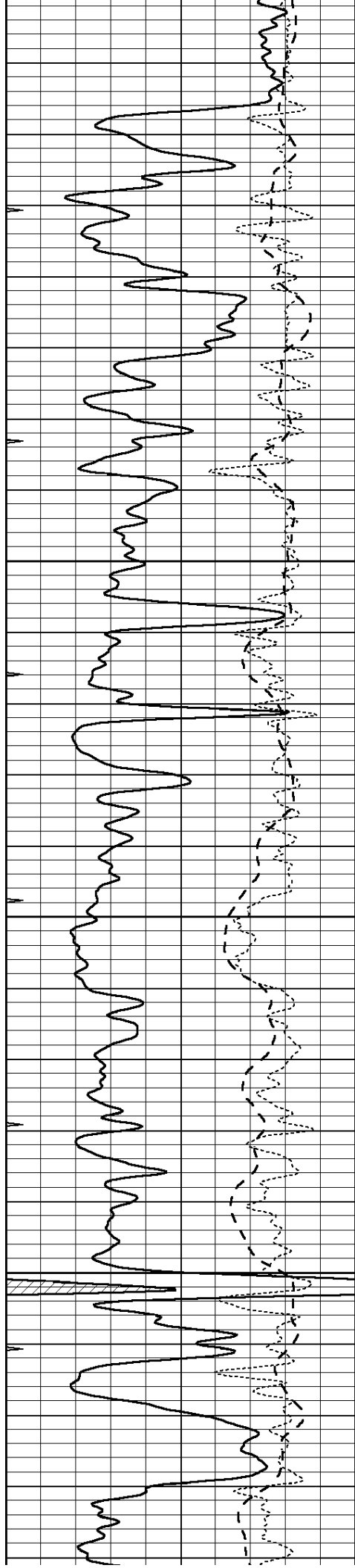
MAIN SECTION

Database File: 409443ddn.db
 Dataset Pathname: pass3.4
 Presentation Format: dil
 Dataset Creation: Mon Jul 30 21:52:38 2012
 Charted by: Depth in Feet scaled 1:240



2700



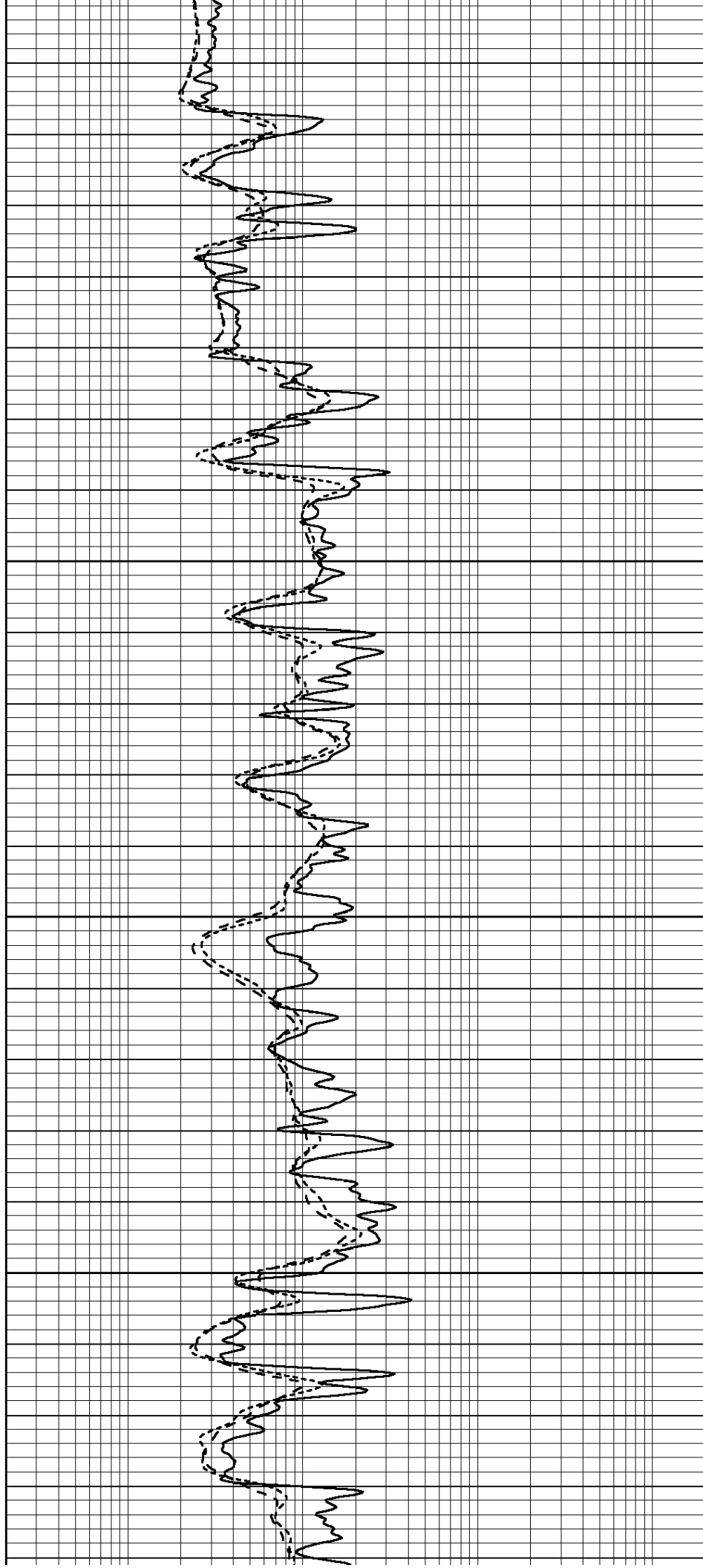


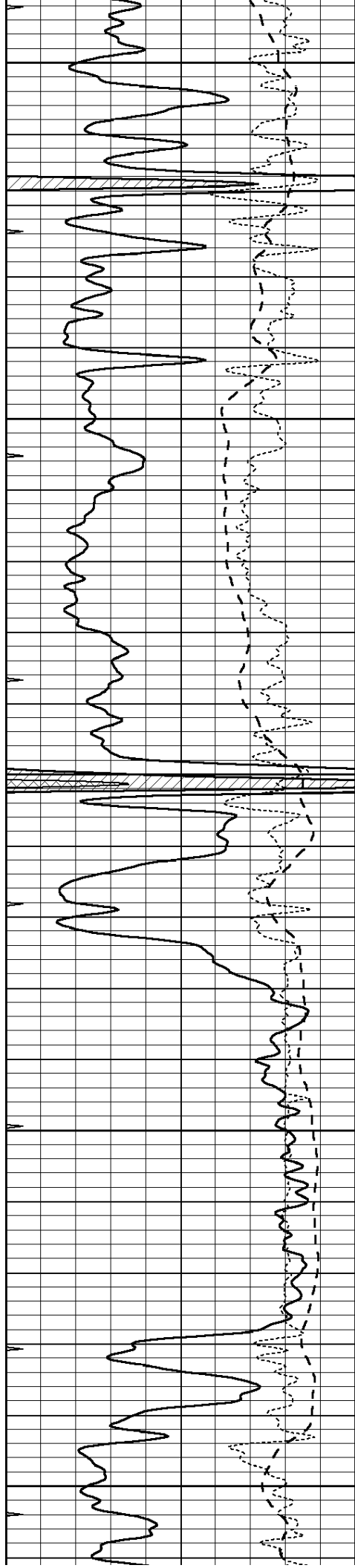
2750

2800

2850

2900





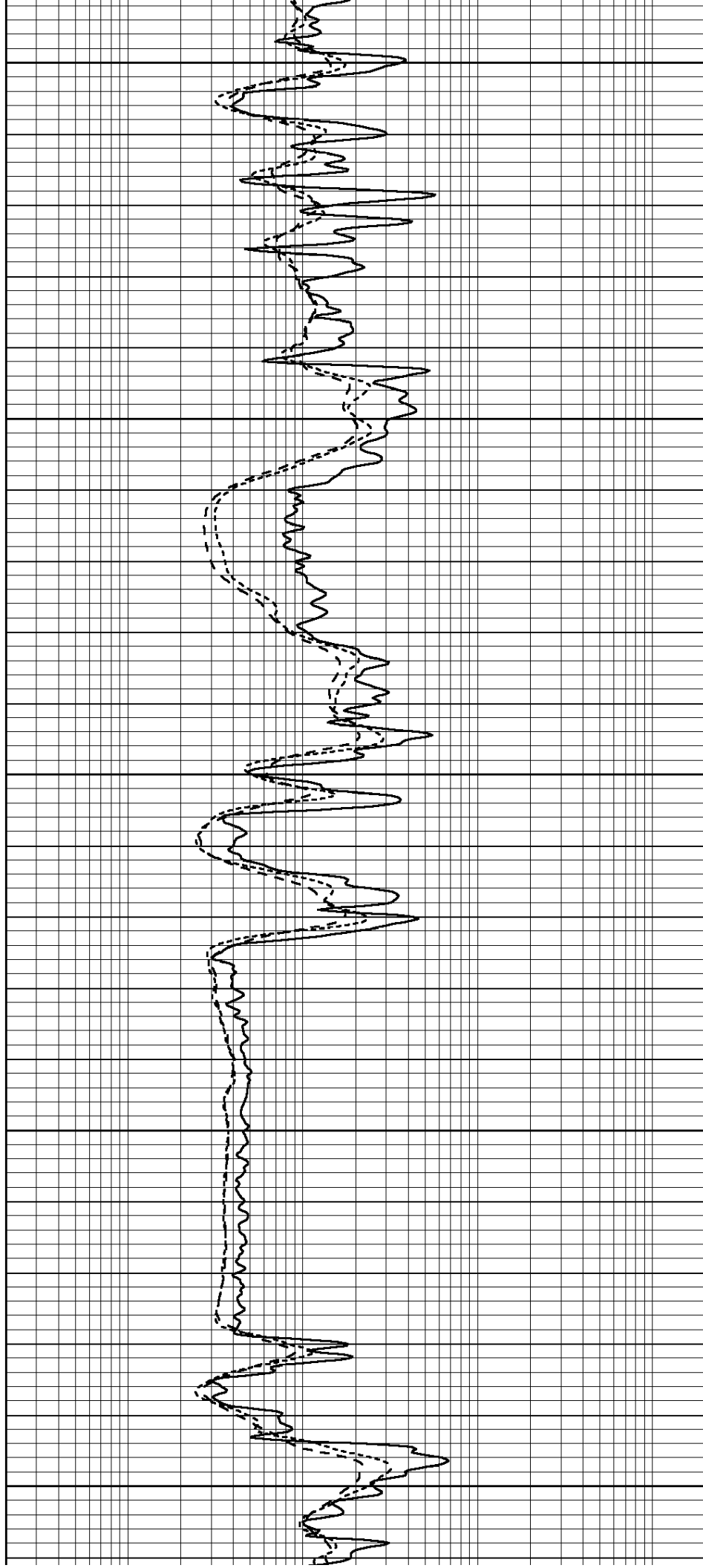
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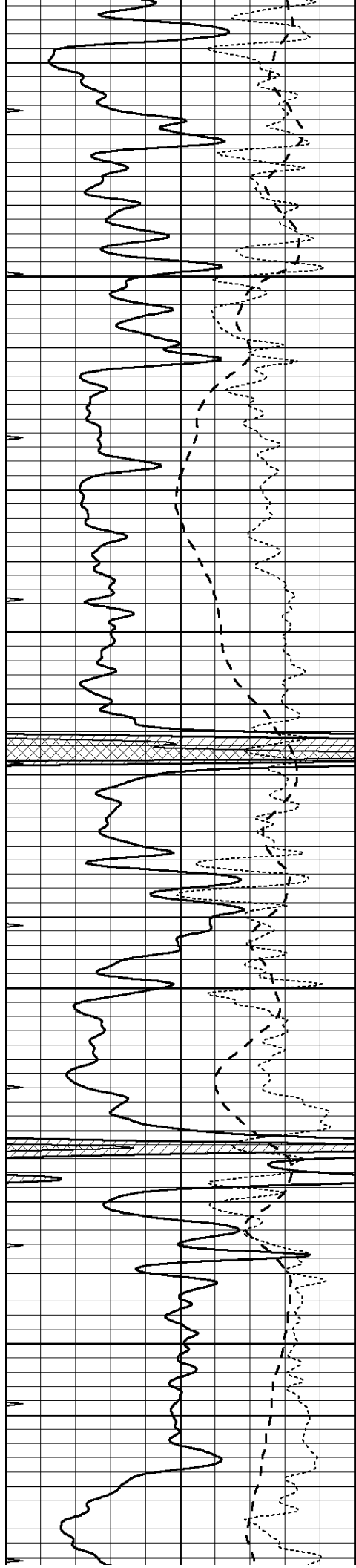
3000

3050

3100

3150



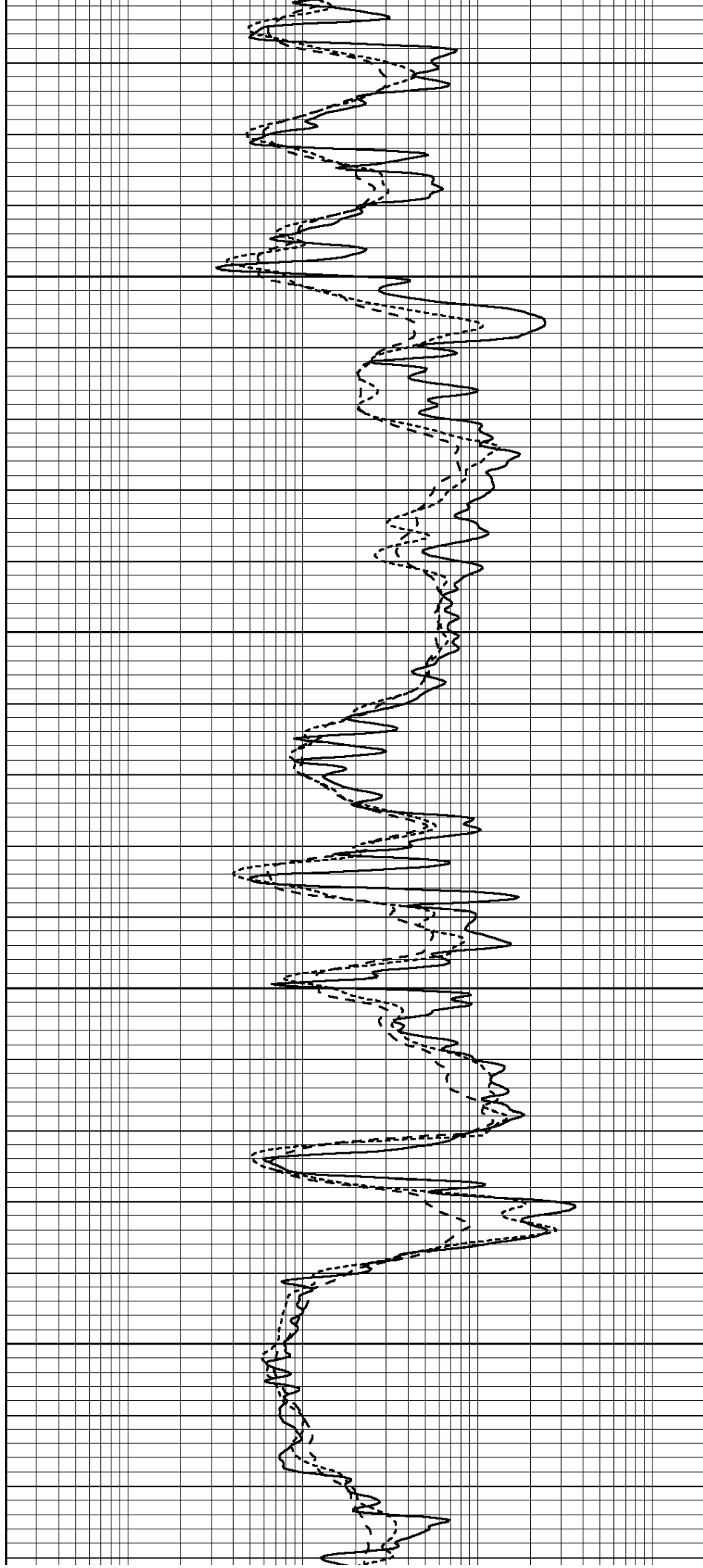


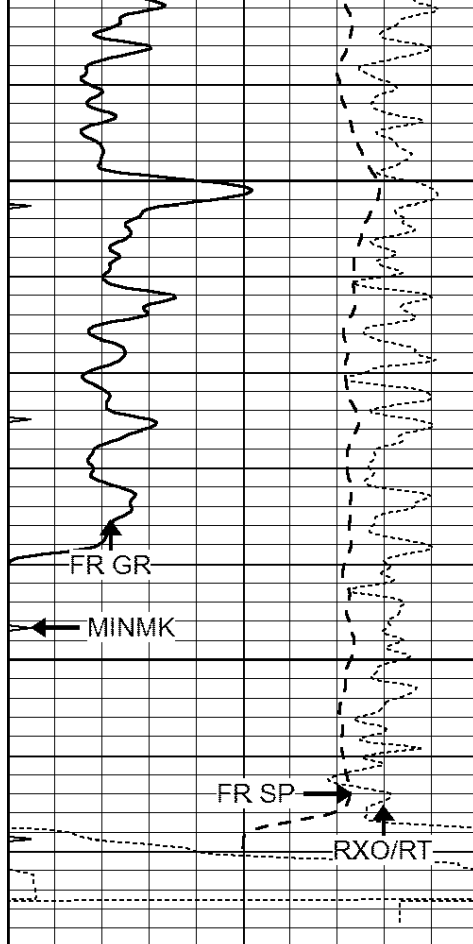
3200

3250

3300

3350



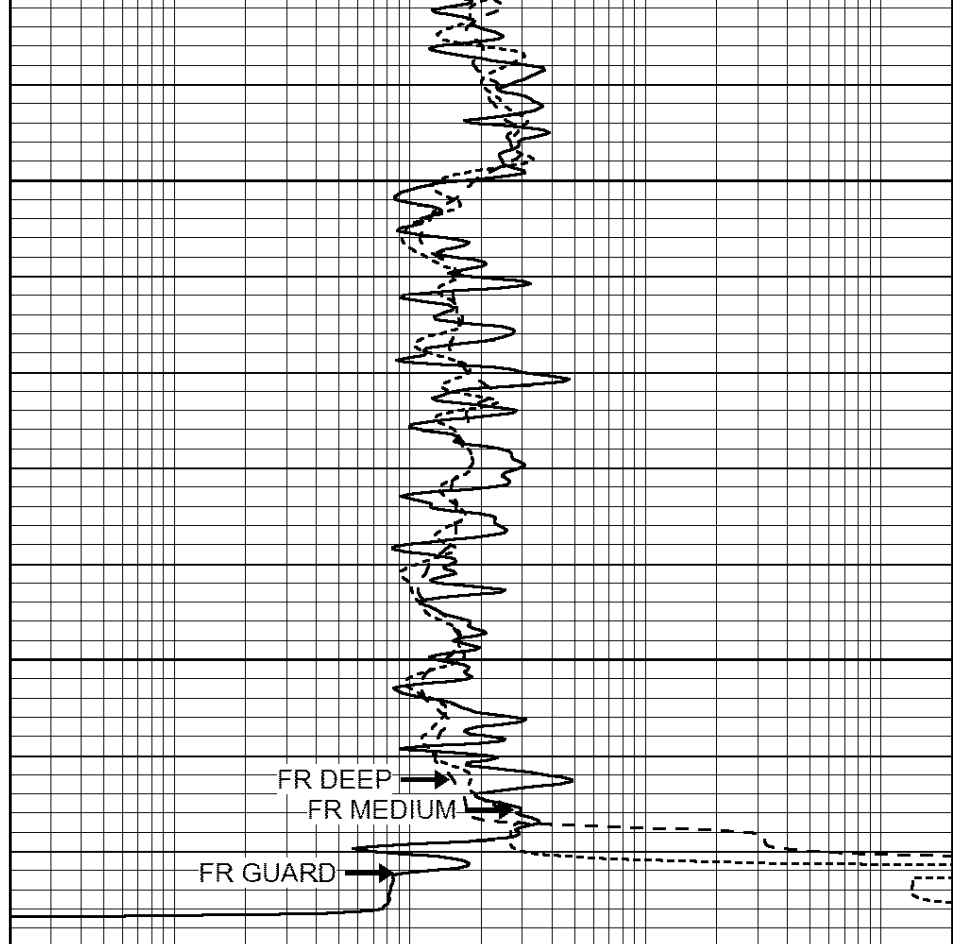


3400

3450

LTD 3474

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



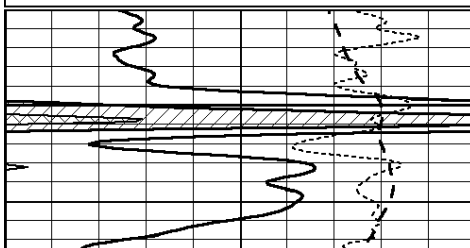
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REPEAT SECTION

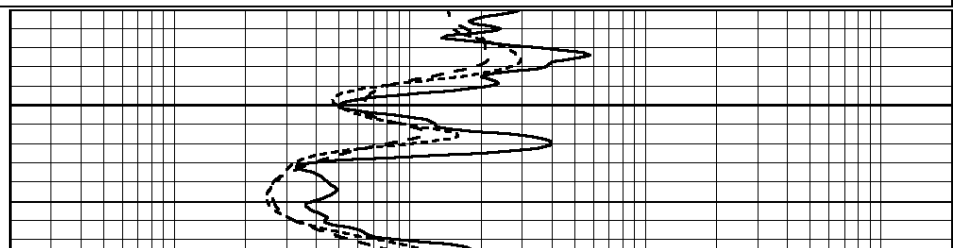
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 Presentation Format: dil
 Dataset Creation: Mon Jul 30 20:38:30 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240

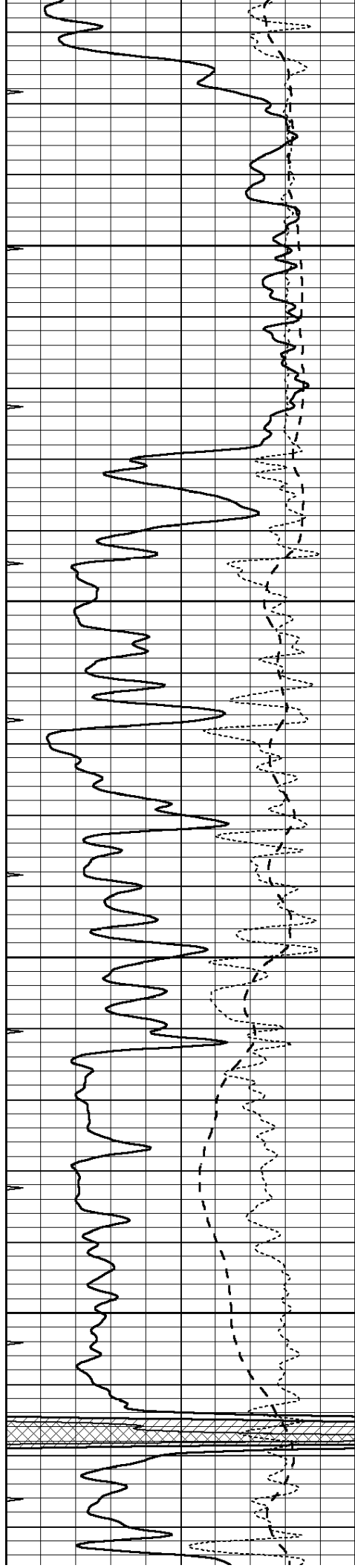
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3050



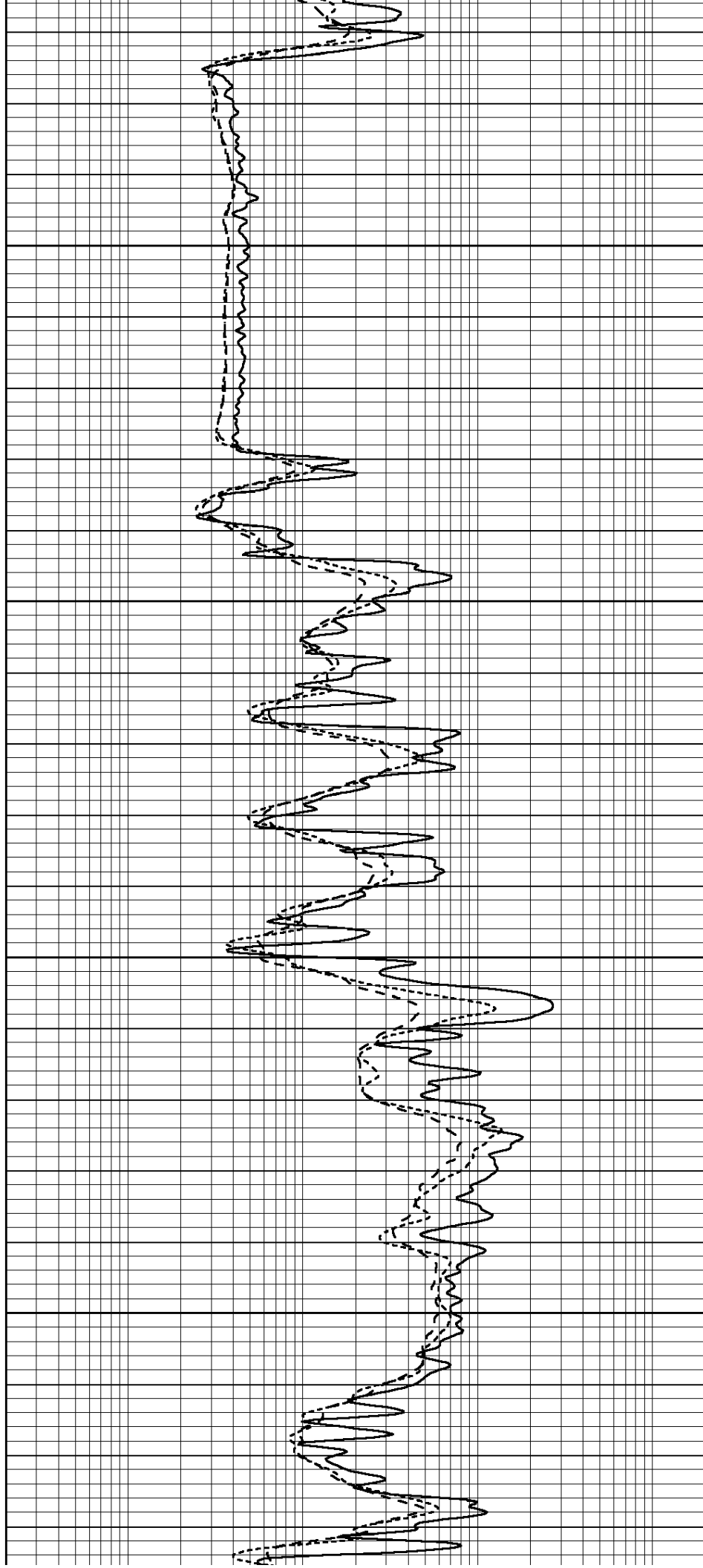


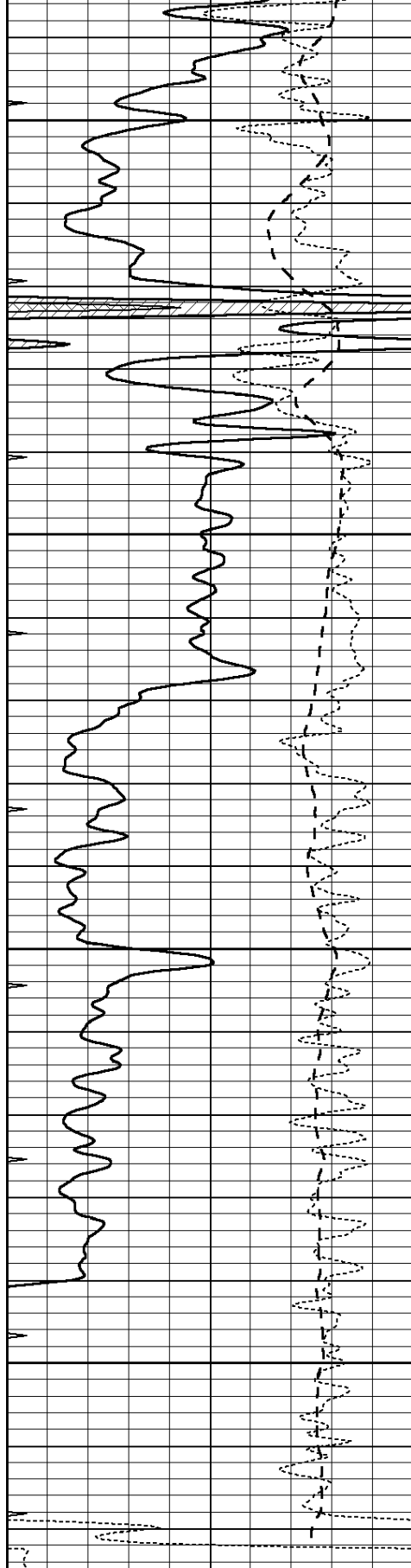
3100

3150

3200

3250





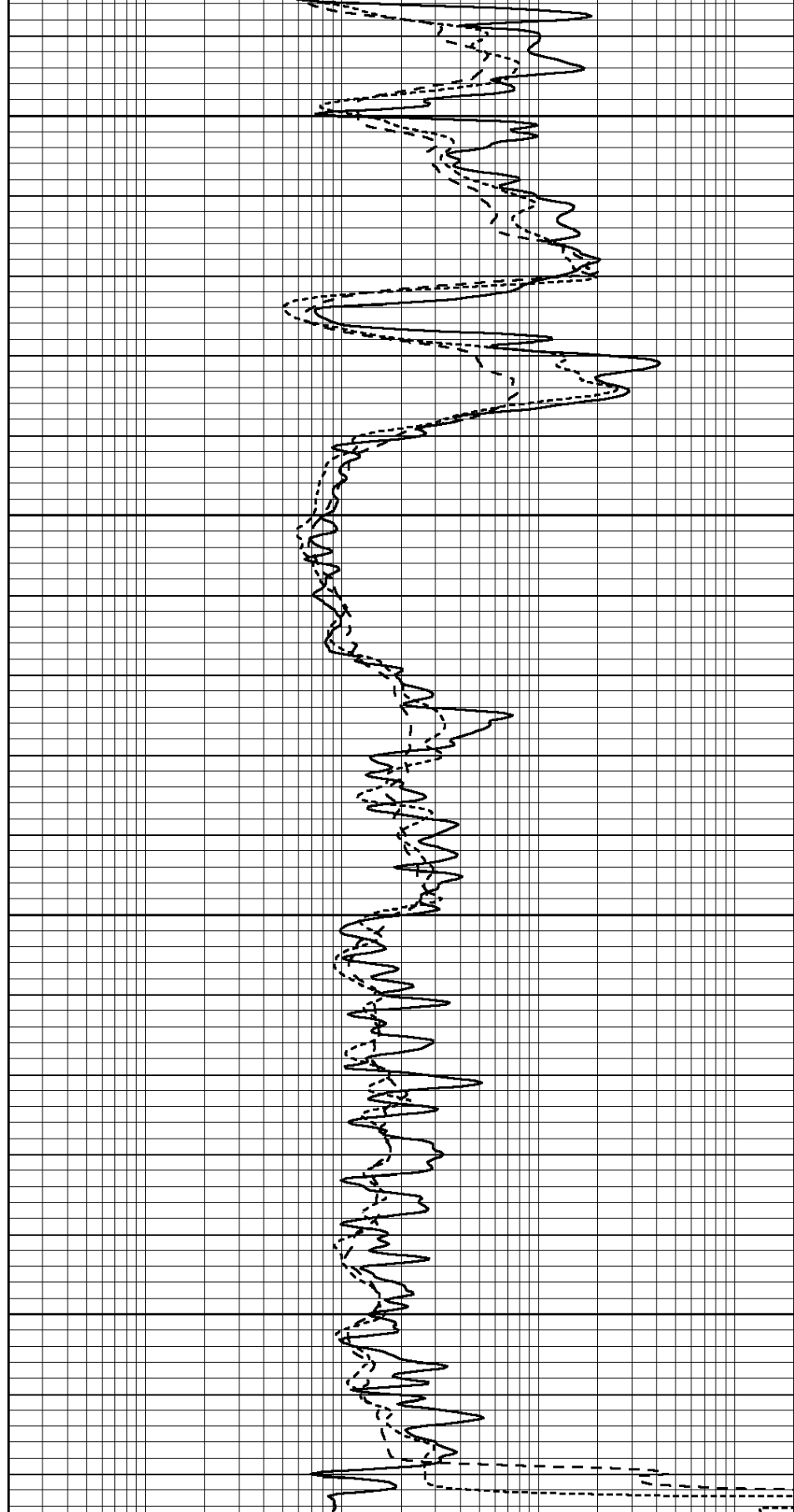
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3300

3350

3400

3450



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: 409443ddn.db
Dataset Pathname: pass3.4
Dataset Creation: Mon Jul 30 21:52:38 2012

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
Performed: Thu Jul 26 17:34:42 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	0.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	-2.000
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
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
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	7.8
High Ref	5.5	15.0
Gain: 3.4		Offset: -3.6

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:	Thu Jul 26 17:34:29 2012

Calibrator Value:	1.0	GAPI
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Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps

Sensitivity:	0.3000	GAPI/cps
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