



SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	MAI OIL OPERATIONS, INC.	Company	MAI OIL OPERATIONS, INC.
Well	SCHMIDT - FLEGGER UNIT #2	Well	SCHMIDT - FLEGGER UNIT #2
Field	KENNEBEC	Field	KENNEBEC
County	RUSSELL	County	RUSSELL
State	KANSAS	State	KANSAS
Location:	API # : 15-167-23785-0000	Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	1763
Log Measured From	KELLY BUSHING 8' A.G.L.		
Drilling Measured From	KELLY BUSHING		
	SEC 4 TWP 15S RGE 14W		
Date	4/3/12		
Run Number	ONE		
Depth Driller	3298		
Depth Logger	3298		
Bottom Logged Interval	3296		
Top Log Interval	00		
Casing Driller	8 5/8"@336'		
Casing Logger	334		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7,700 PPM	
Density / Viscosity	9.3/48		
pH / Fluid Loss	10.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600@70F		
Rmt @ Meas. Temp	.450@70F		
Rmc @ Meas. Temp	.720@70F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.362@110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:00 A.M.		
Maximum Recorded Temperature	110F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE	ALLEN BANGERT	

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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, 6S. ON HWY 281 TO "WALTERS RD." (JUST PAST RIVER BRIDGE) 1W., 1/2S., W. IN



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 408618ddn.db
Dataset Pathname: pass3.10
Presentation Format: dil2
Dataset Creation: Tue Apr 03 11:34:17 2012
Charted by: Depth in Feet scaled 1:600

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

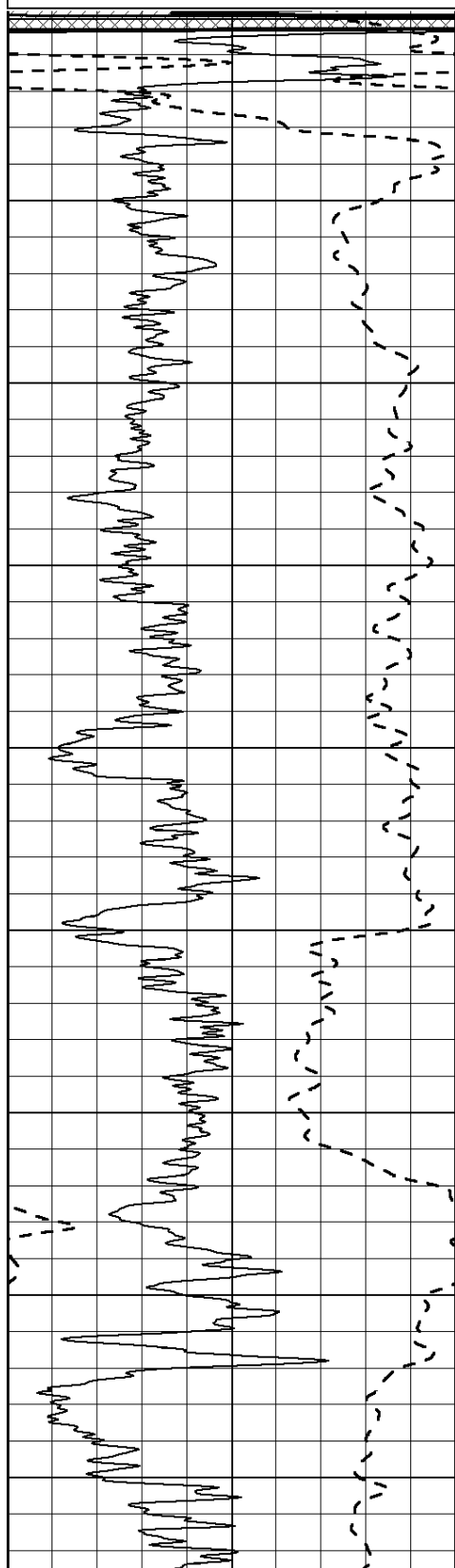
0	RLL3 (Ohm-m)	50
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0	RILD (Ohm-m)	50
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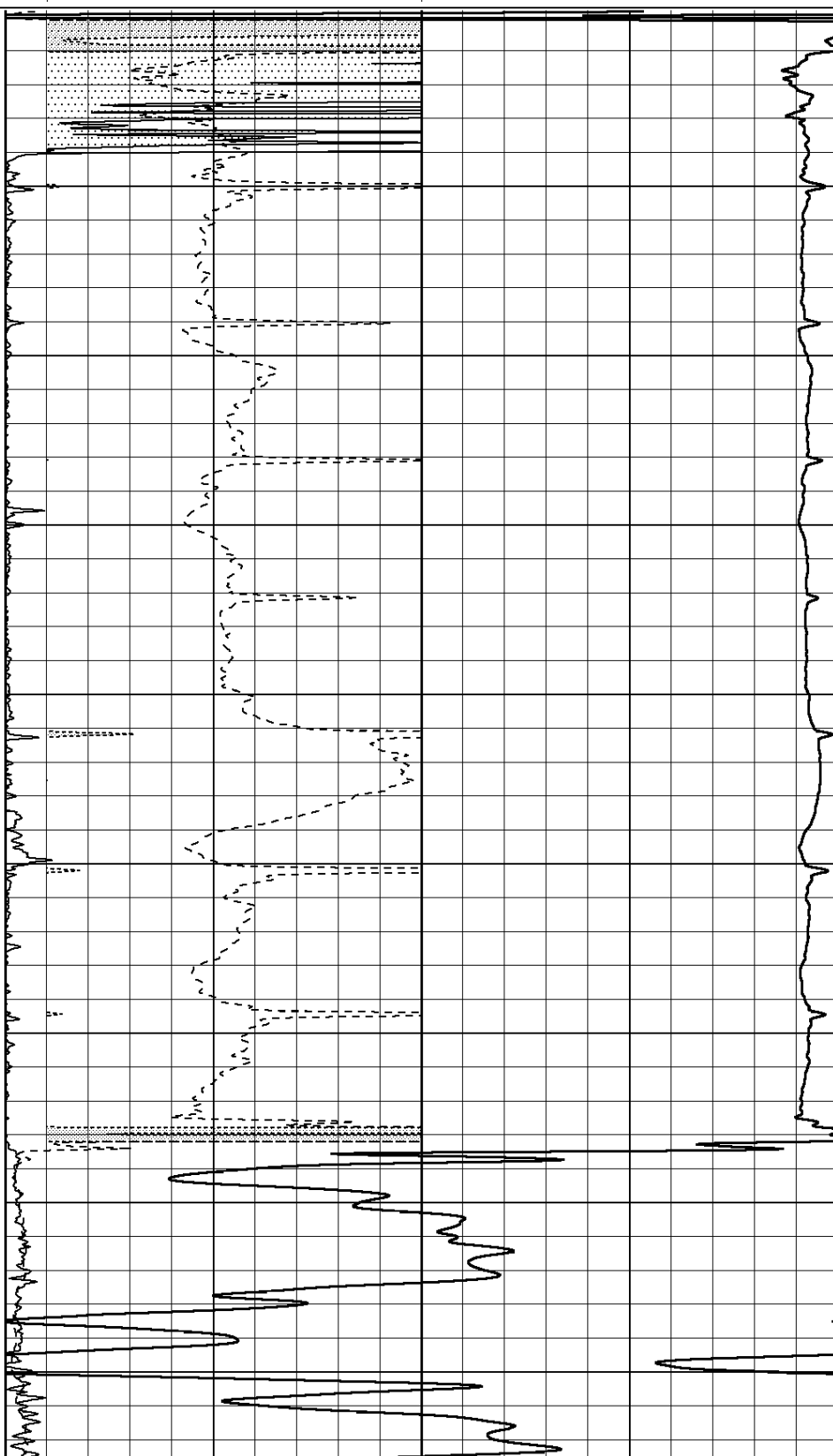
1000	CILD (mmho/m)	0
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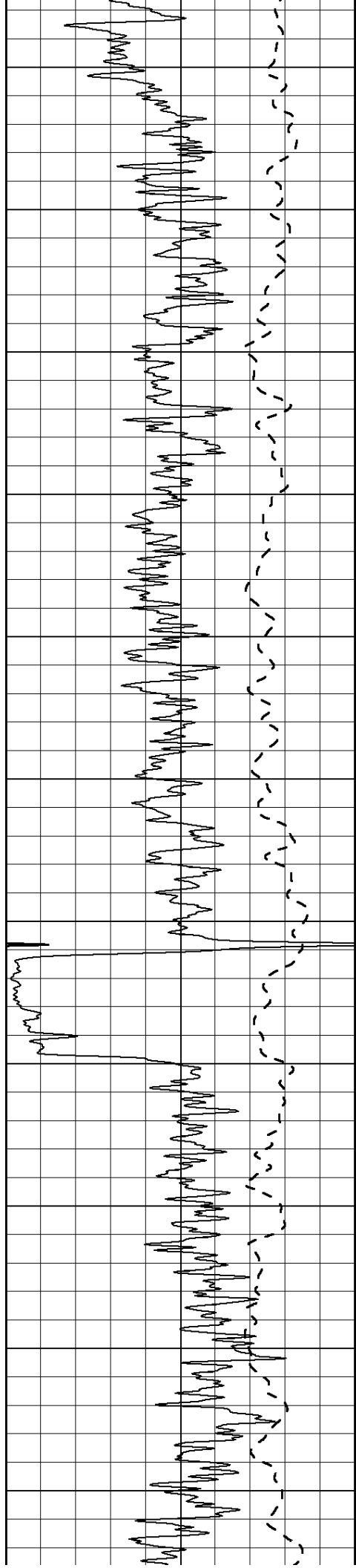
50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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0
50
100
150
200
250
300
350
400





450

500

550

600

650

700

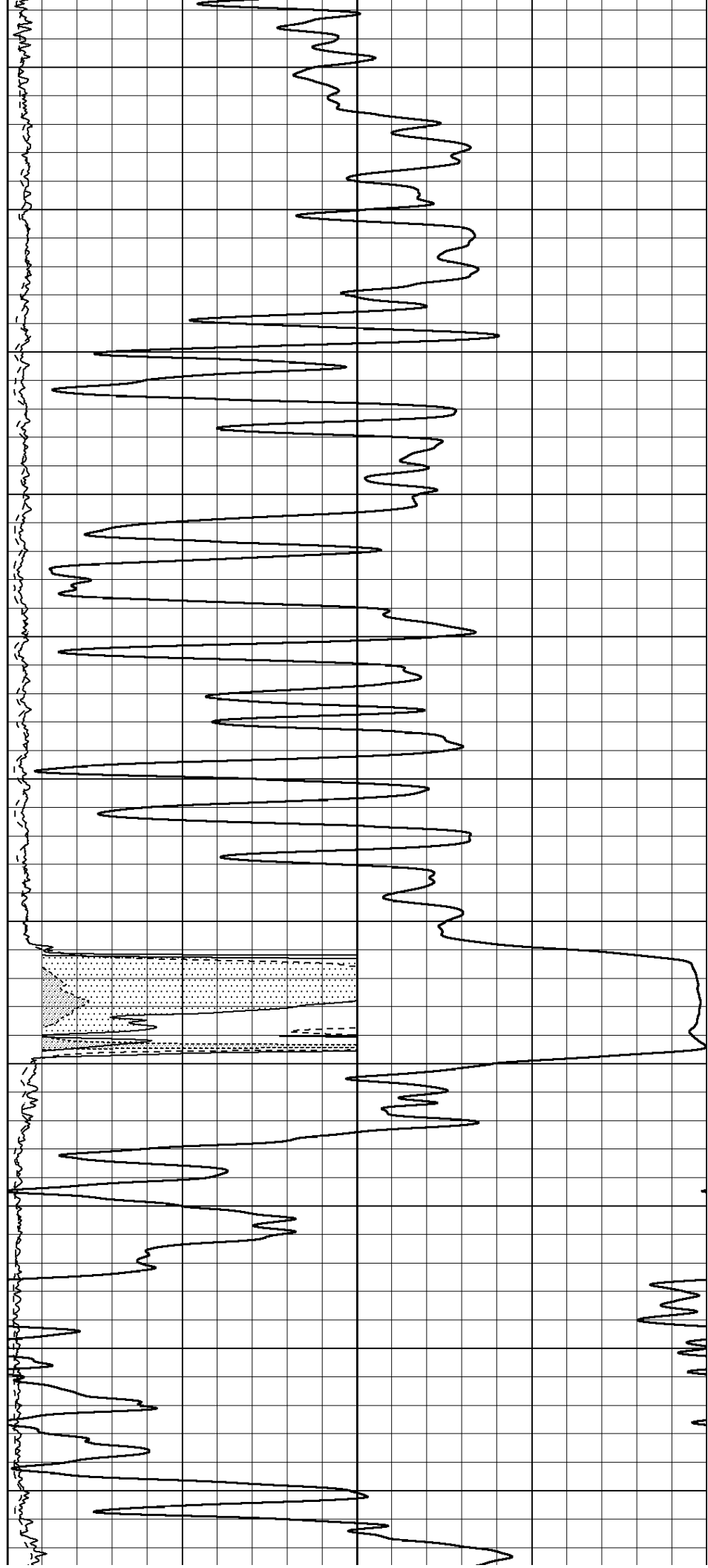
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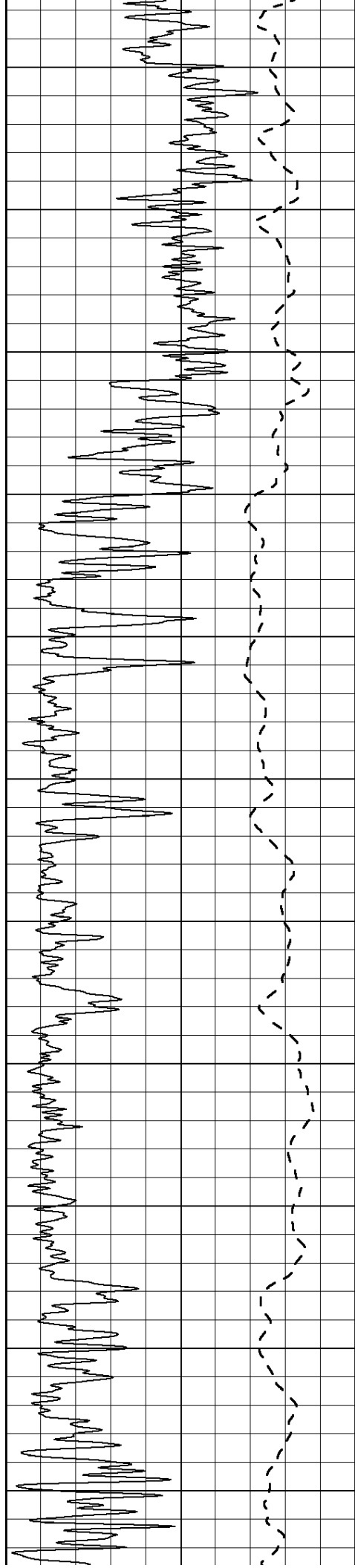
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850

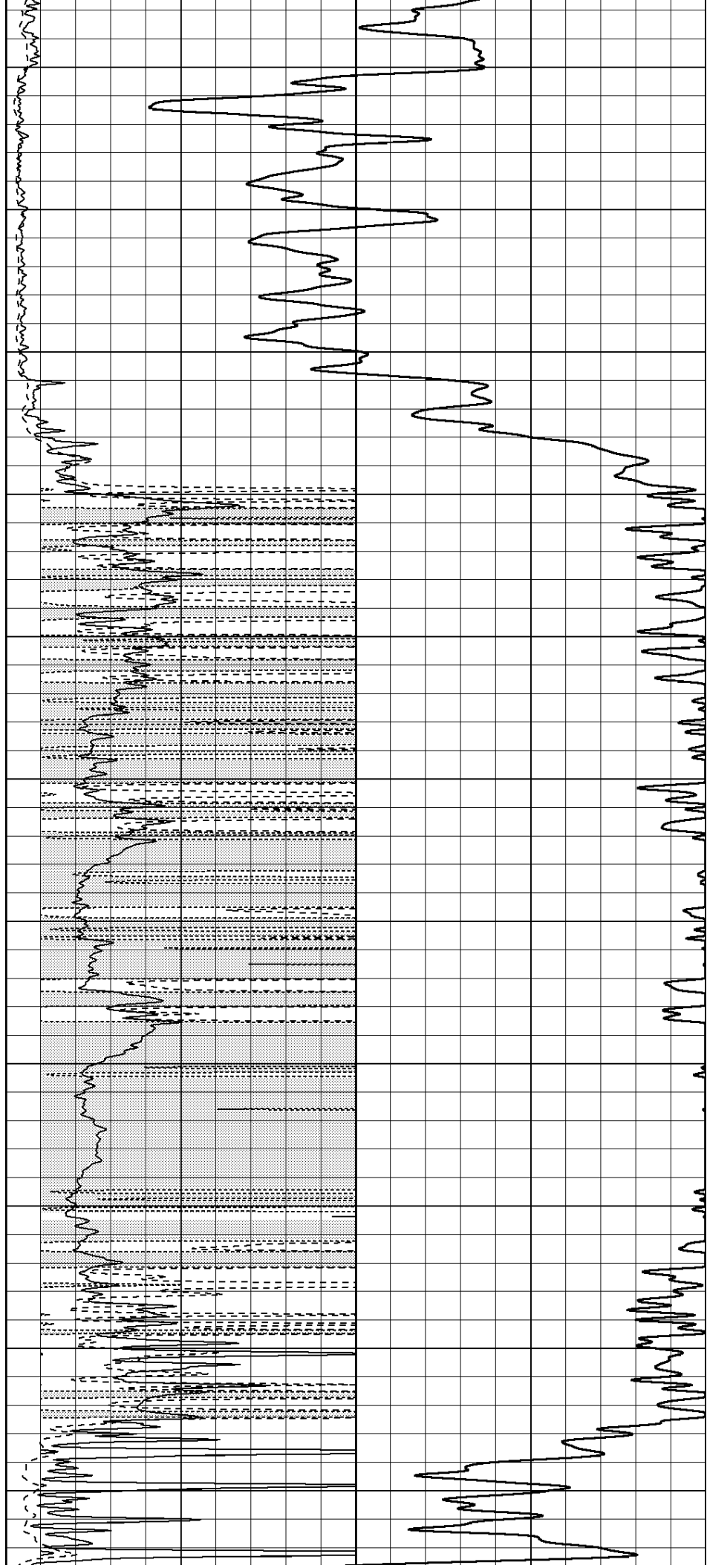
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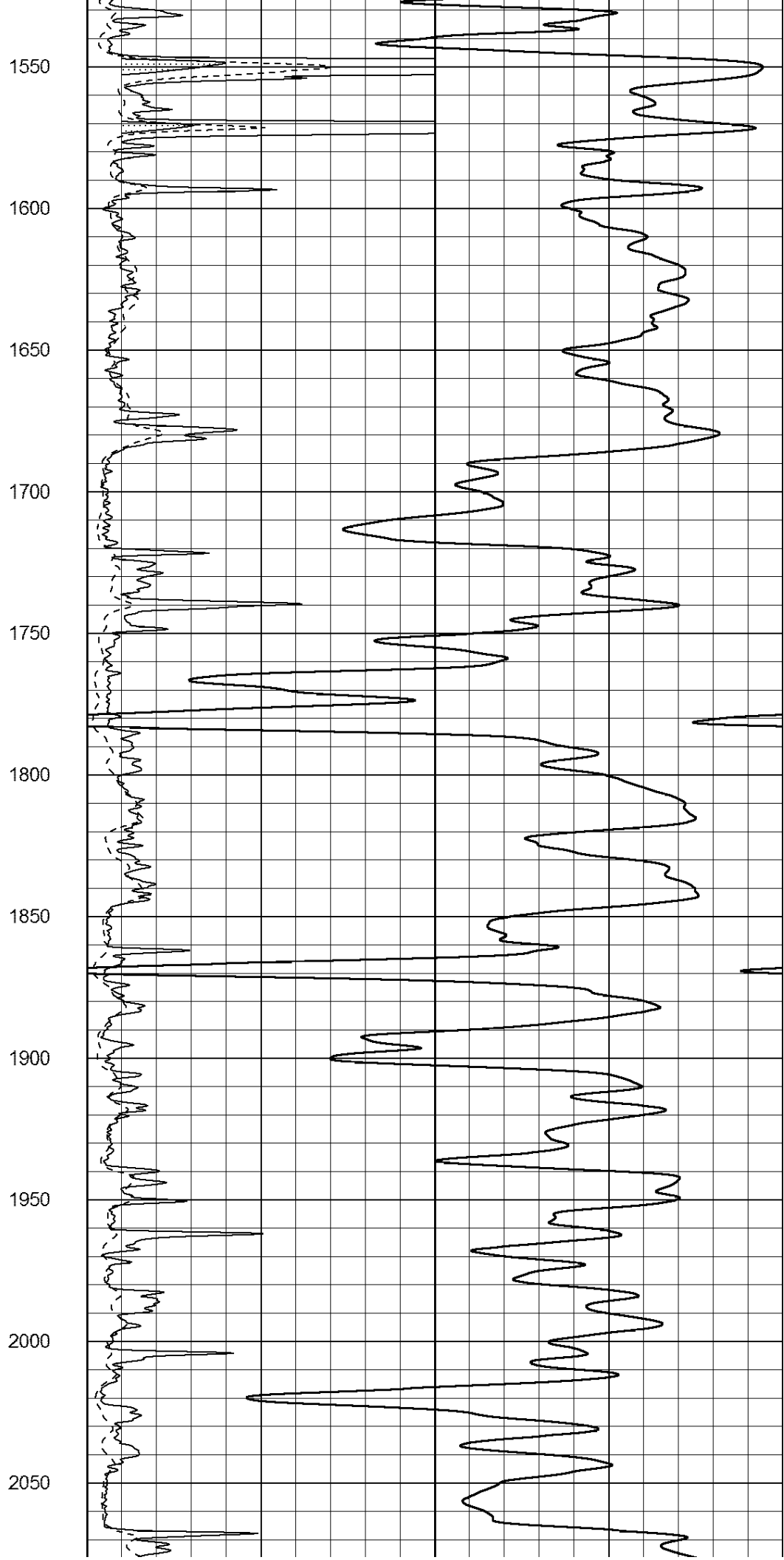
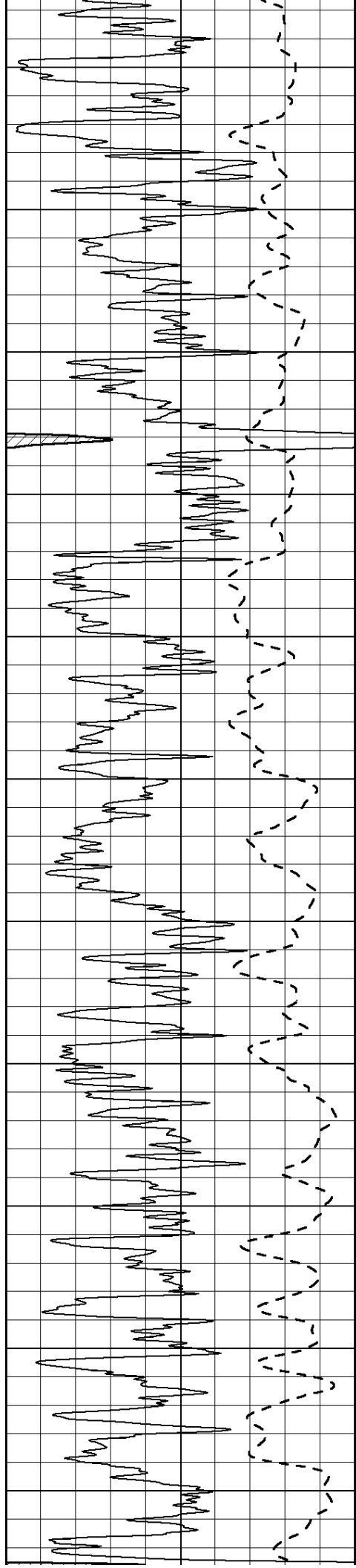
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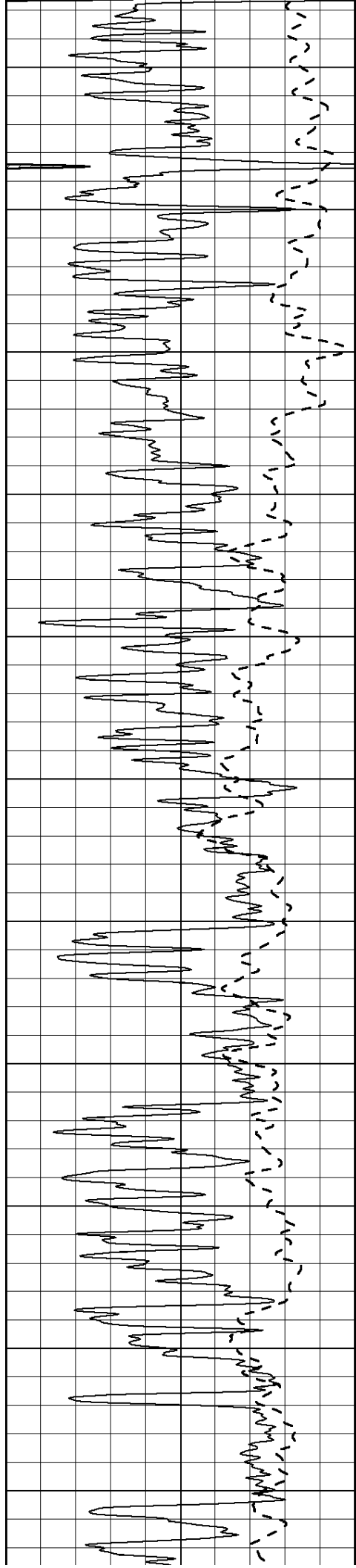




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

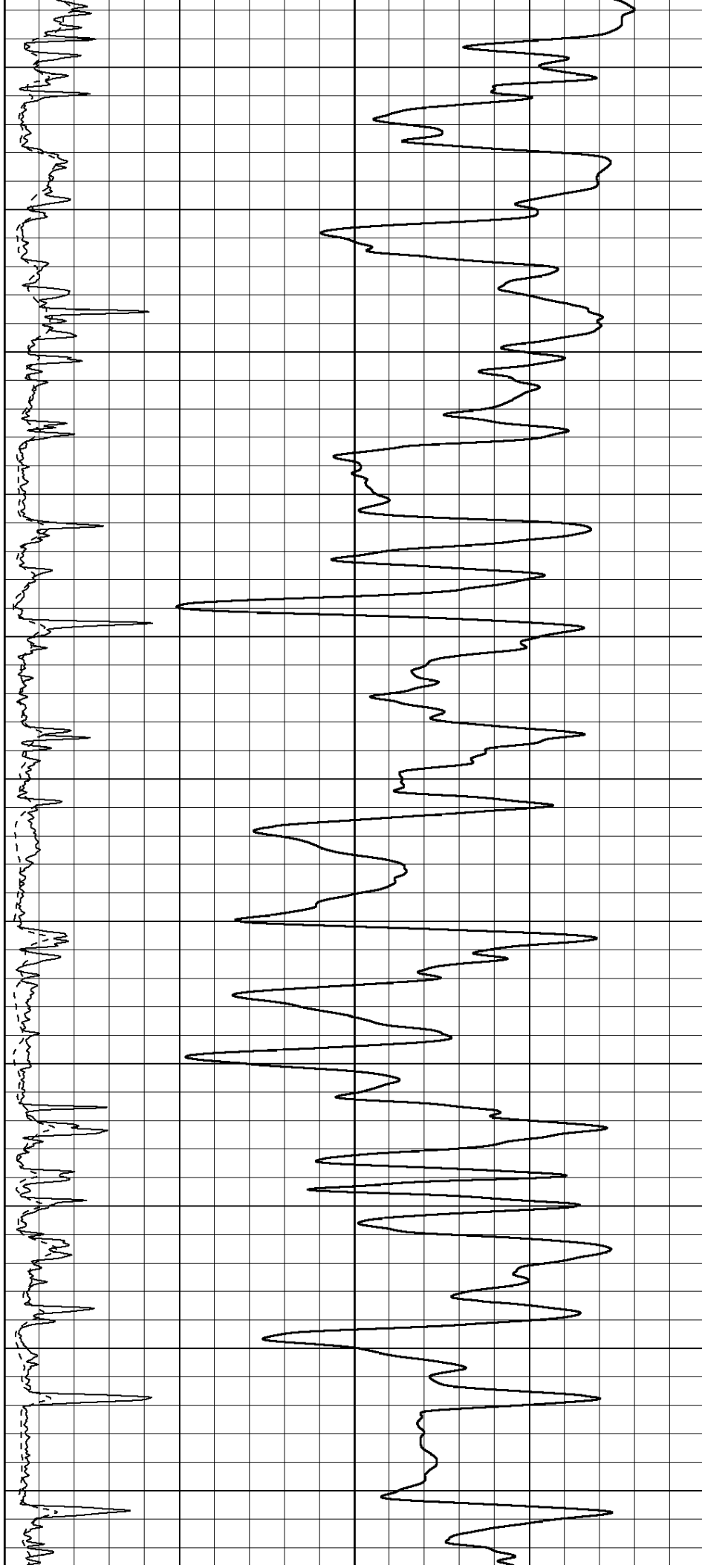
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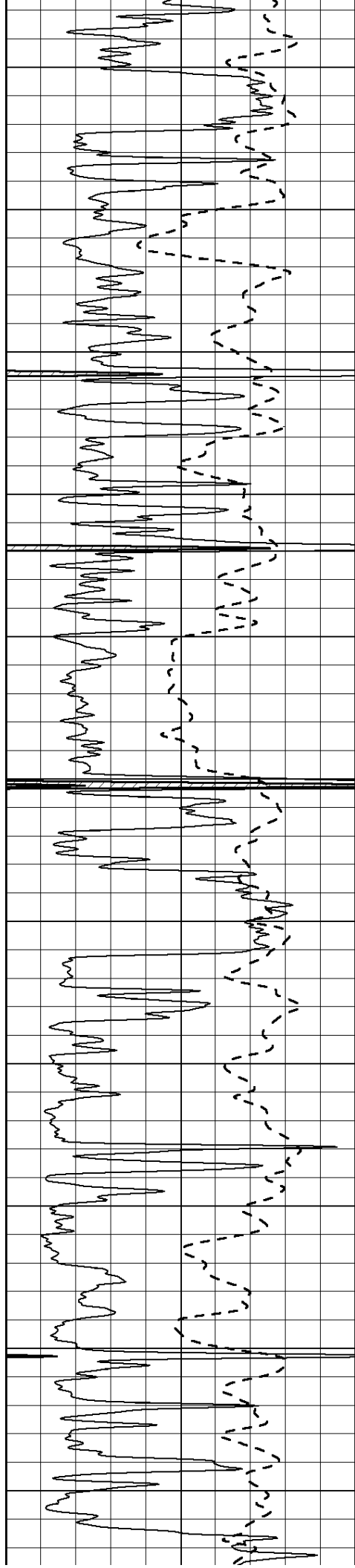
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2500

2550

2600





2650

2700

2750

2800

2850

2900

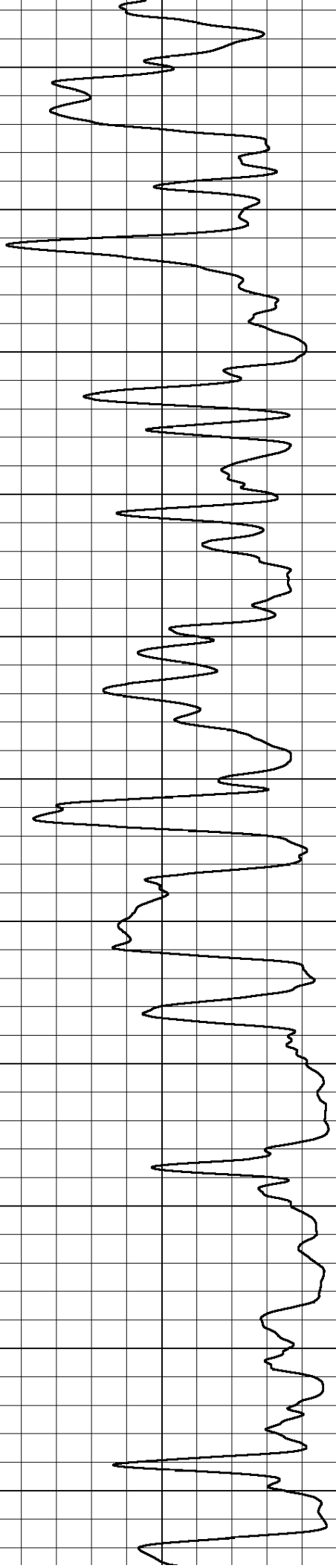
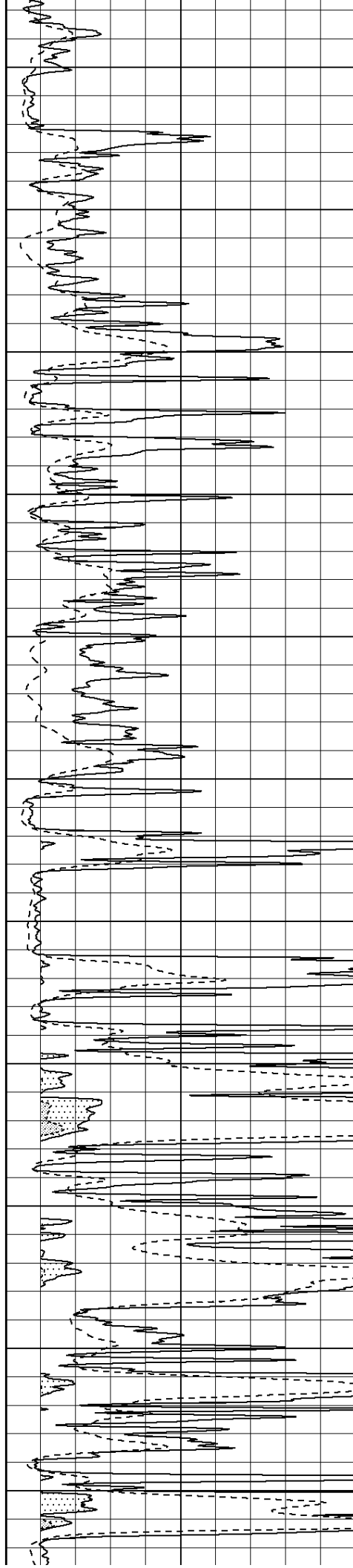
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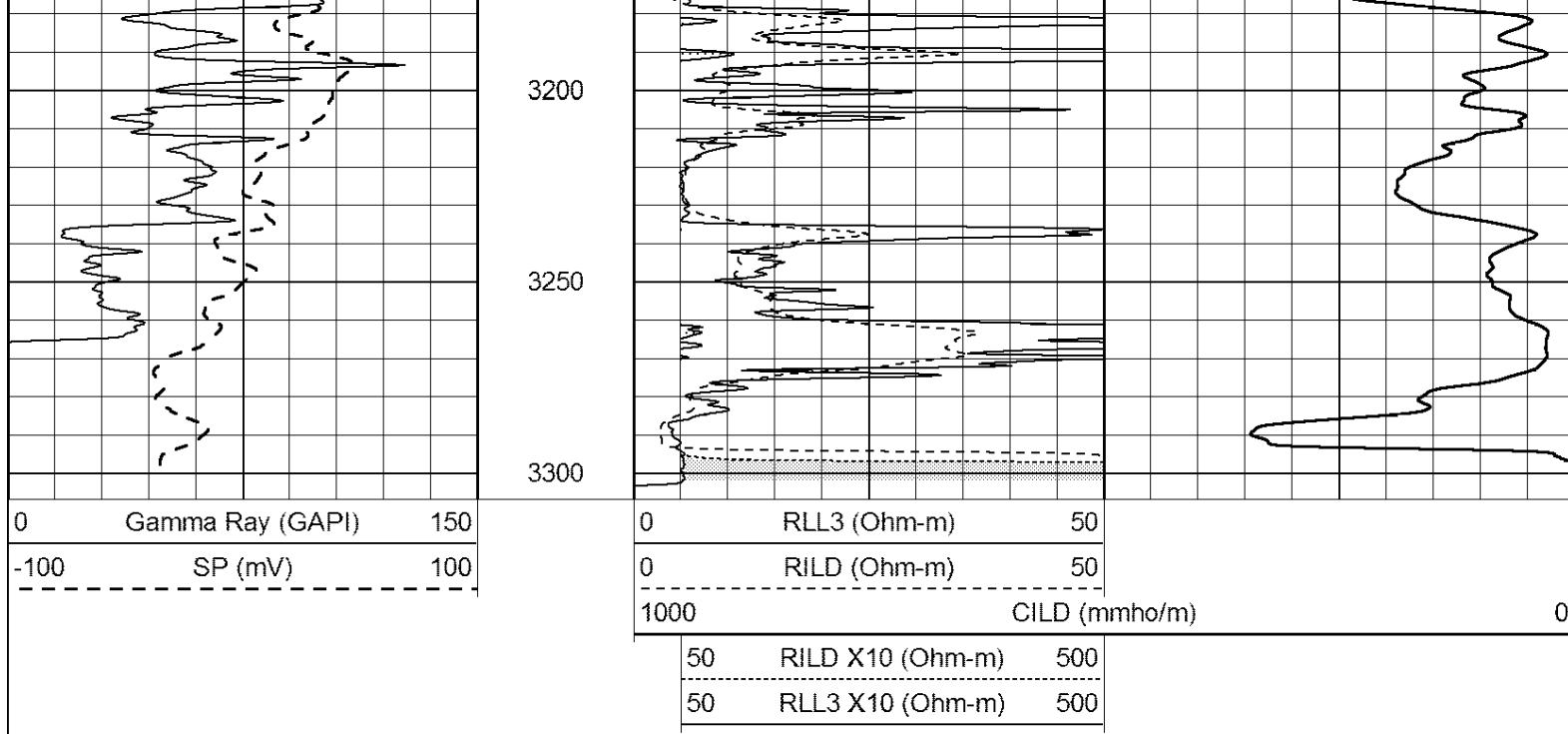
3000

3050

3100

3150





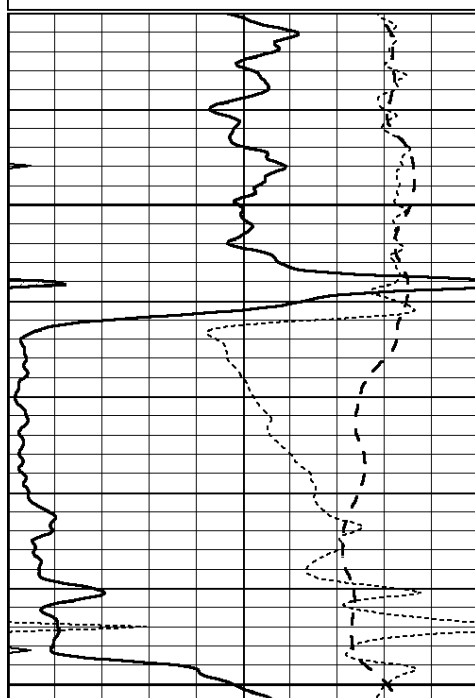
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ANHYDRITE

Database File: 408618ddn.db
Dataset Pathname: pass3.11
Presentation Format: dil
Dataset Creation: Tue Apr 03 11:34:29 2012
Charted by: Depth in Feet scaled 1:240

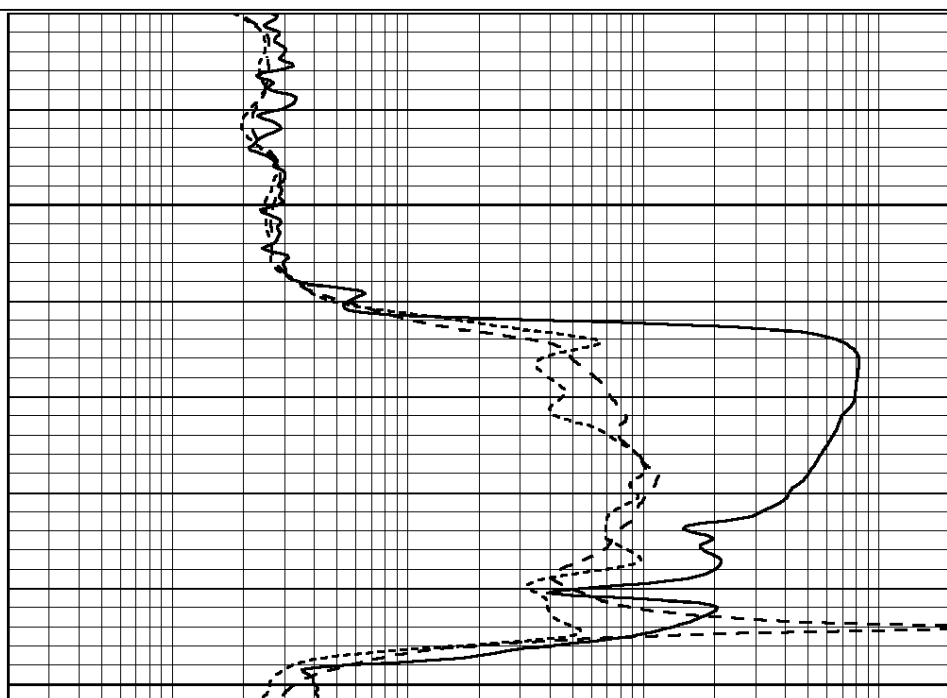
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-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

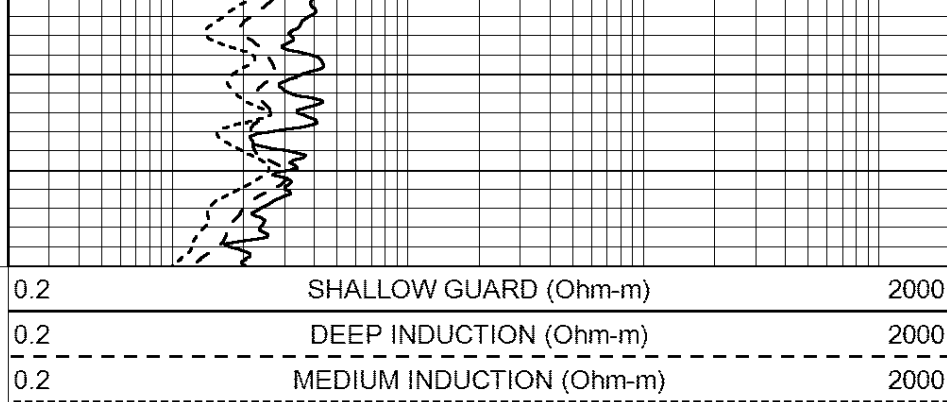
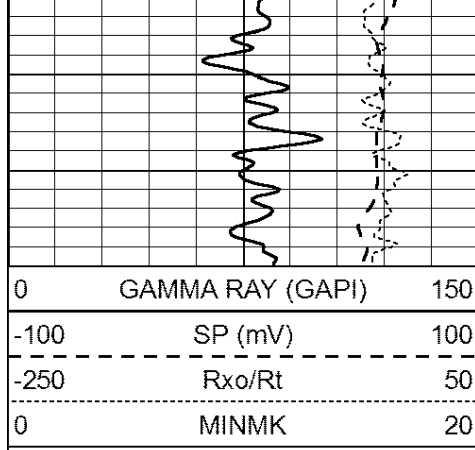
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



750

800

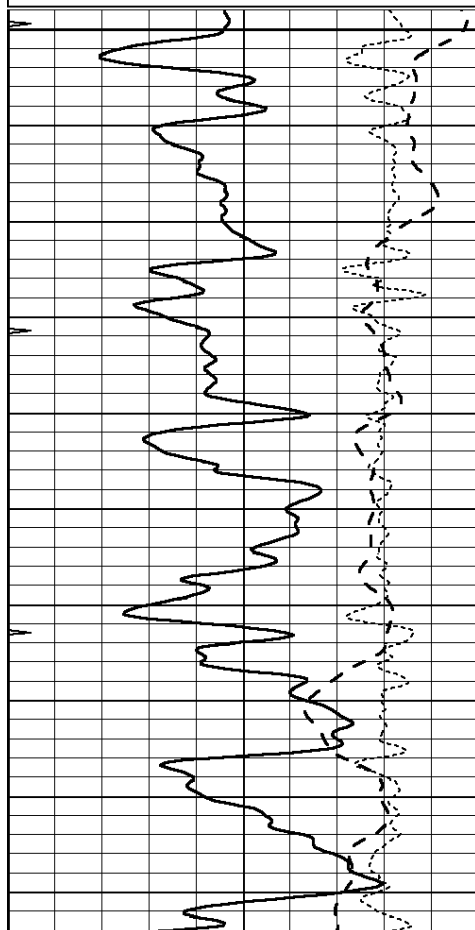
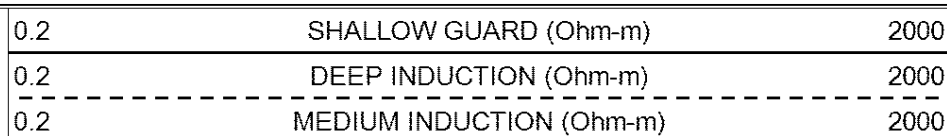
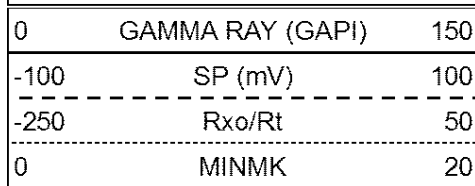




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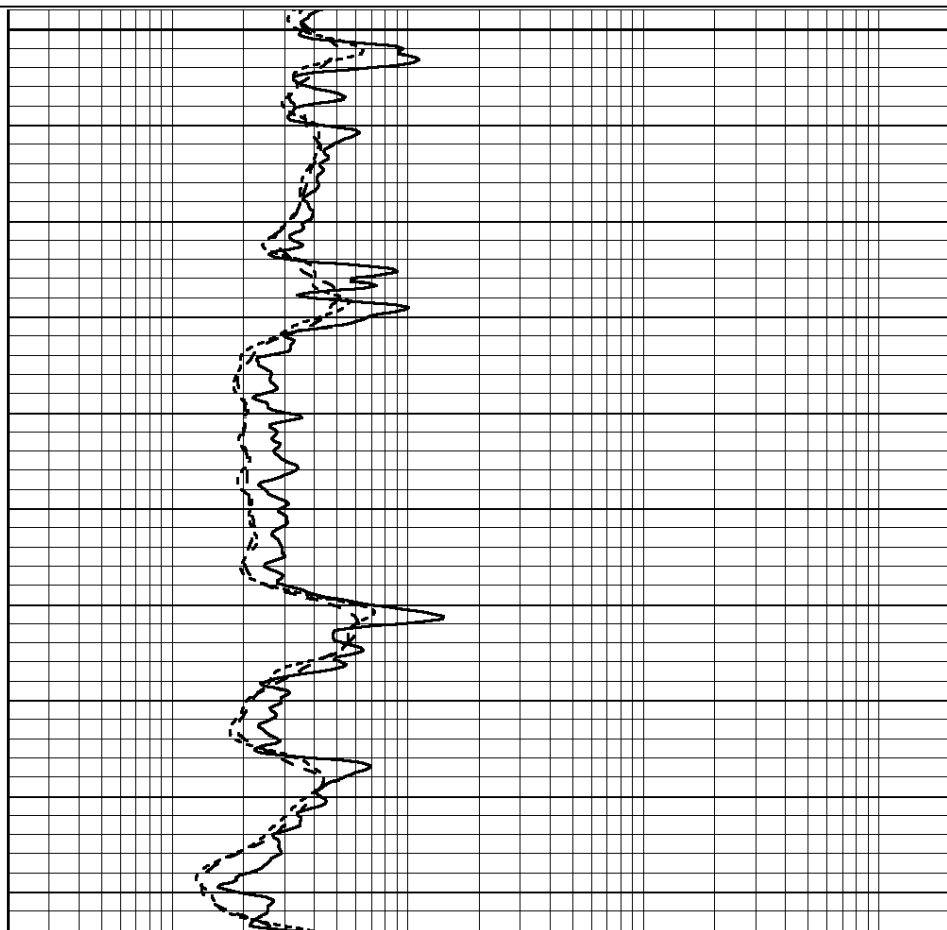
MAIN SECTION

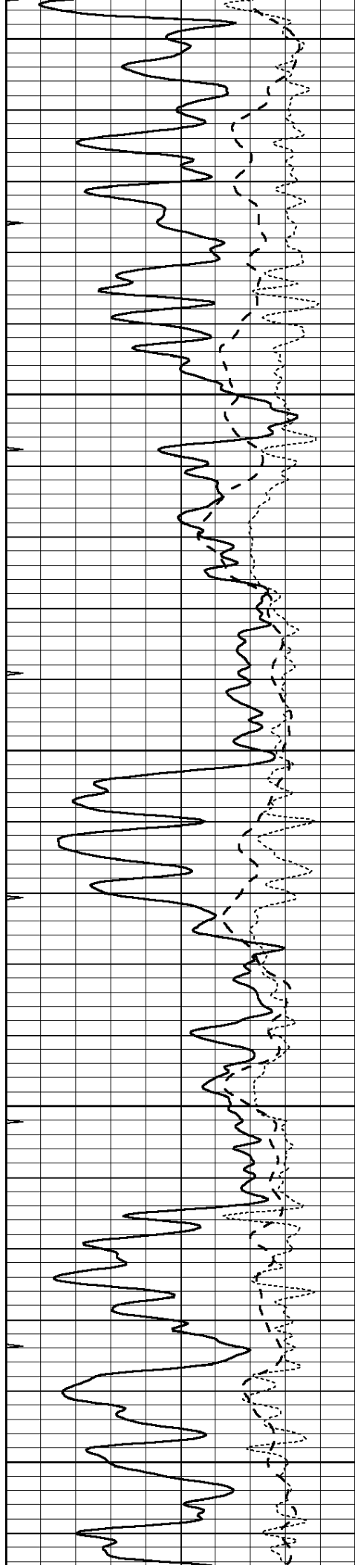
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Dataset Pathname: pass3.10
Presentation Format: dil
Dataset Creation: Tue Apr 03 11:34:17 2012
Charted by: Depth in Feet scaled 1:240



2200

2250





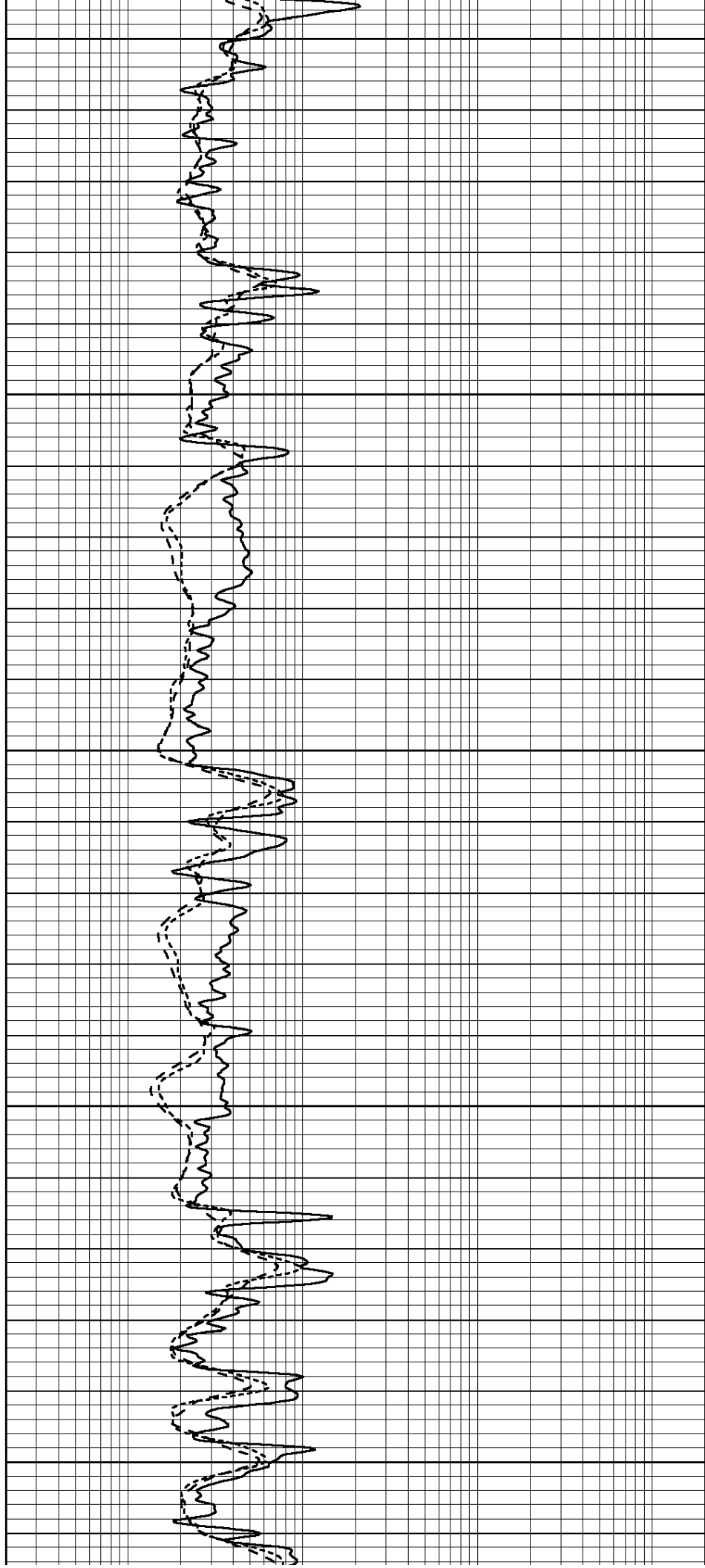
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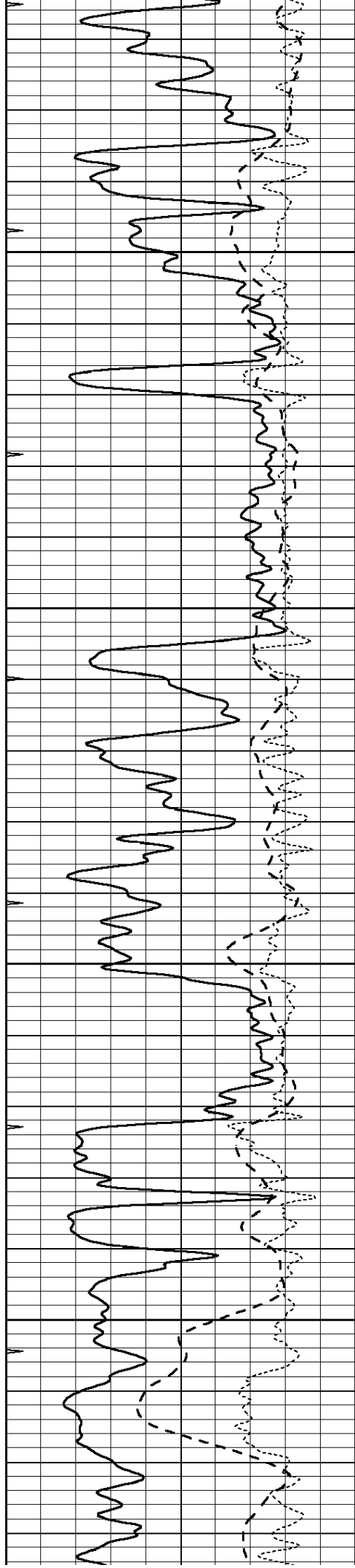
2350

2400

2450

2500



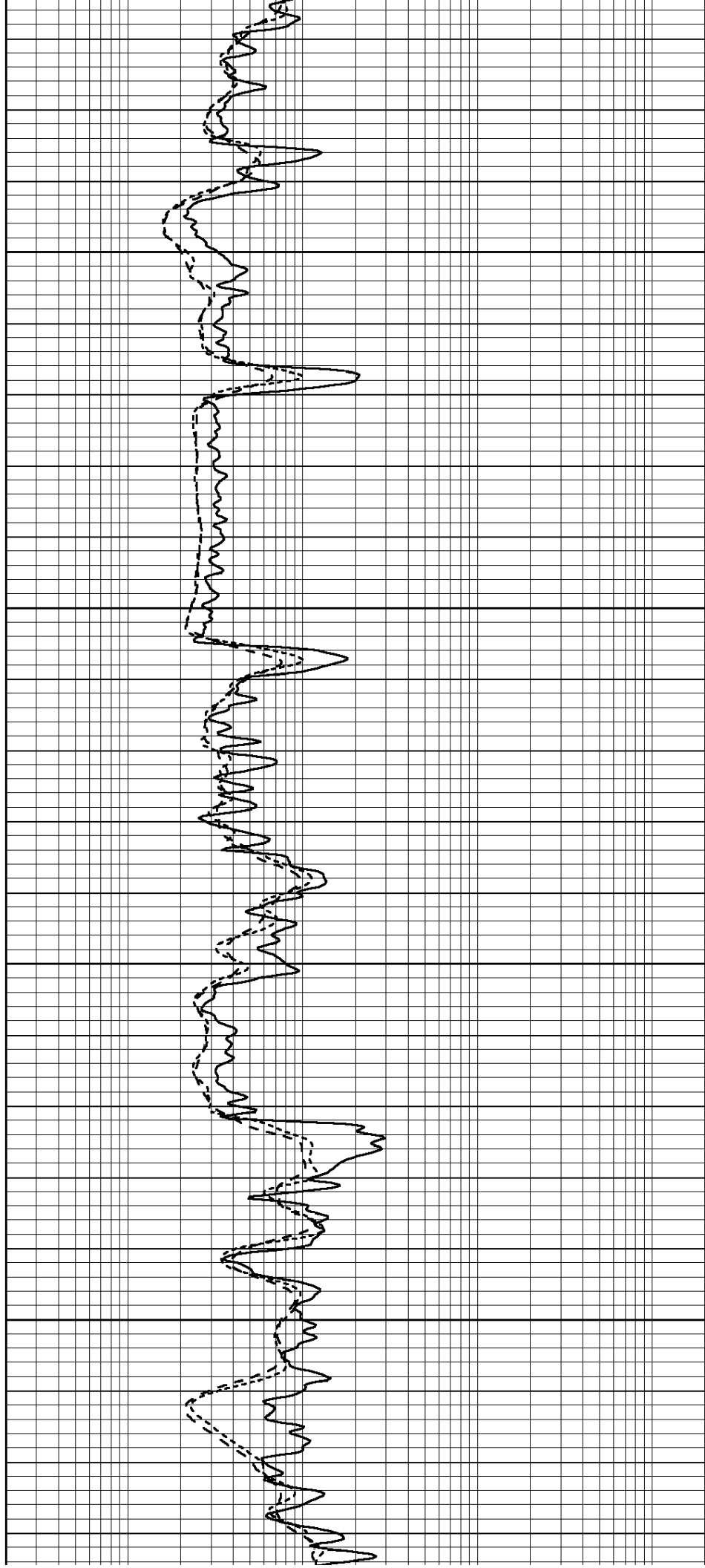


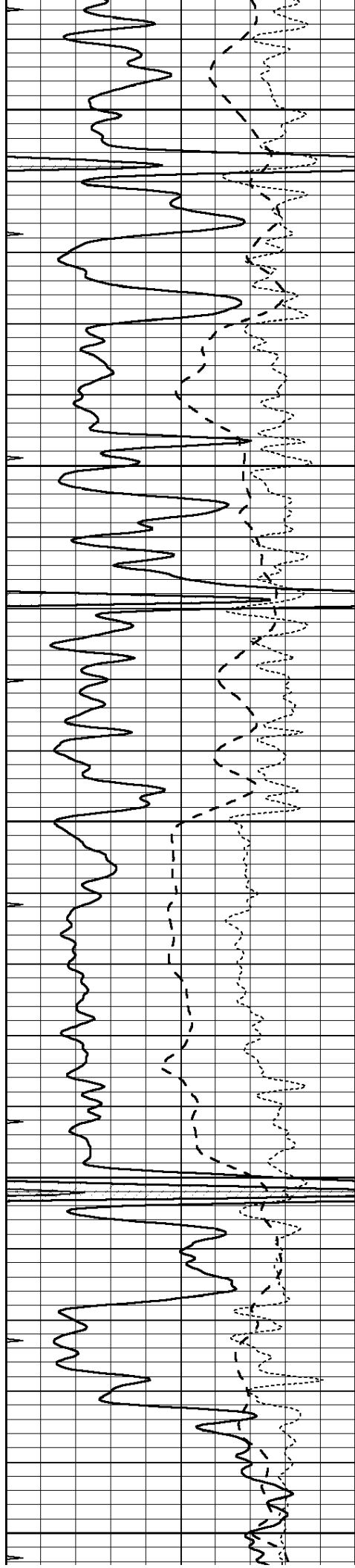
2550

2600

2650

2700





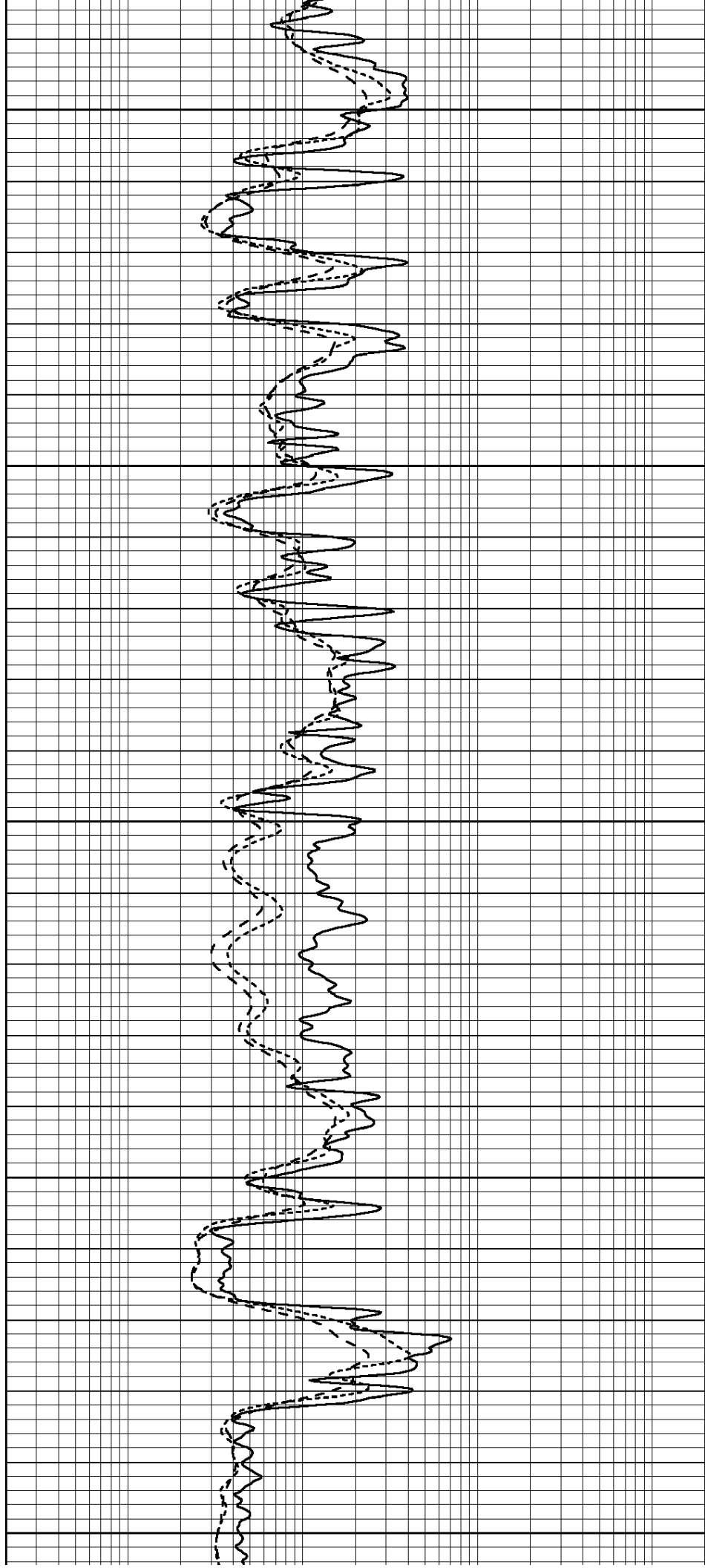
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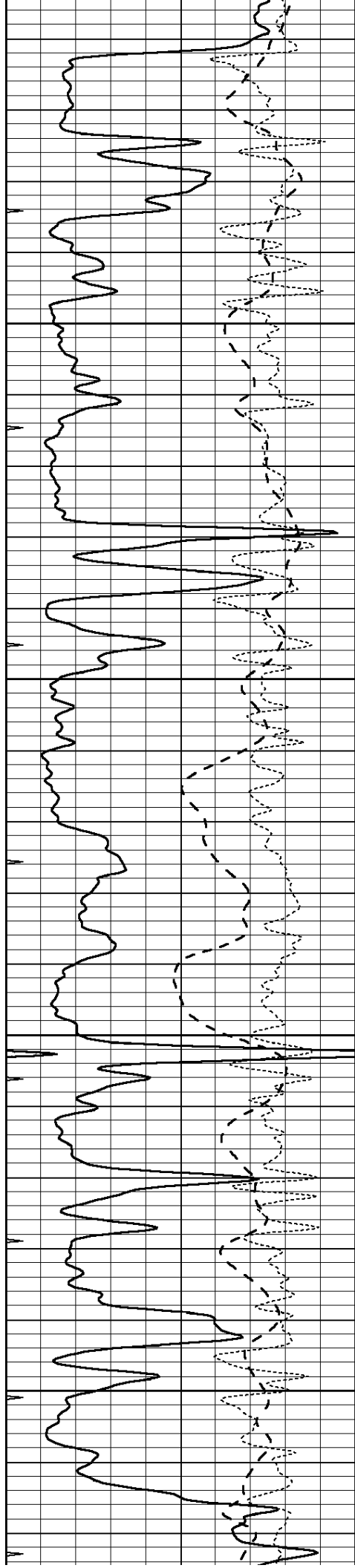
2800

2850

2900

2950



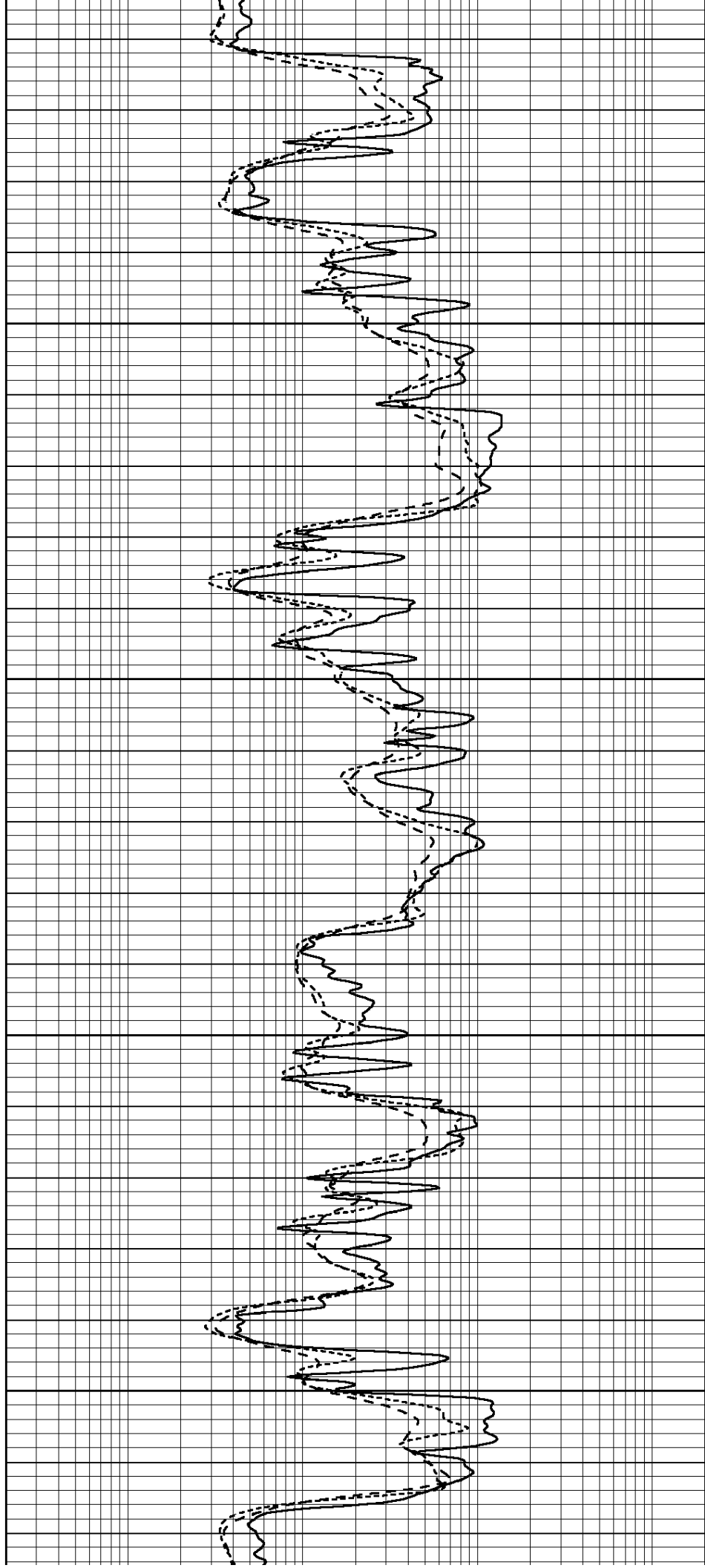


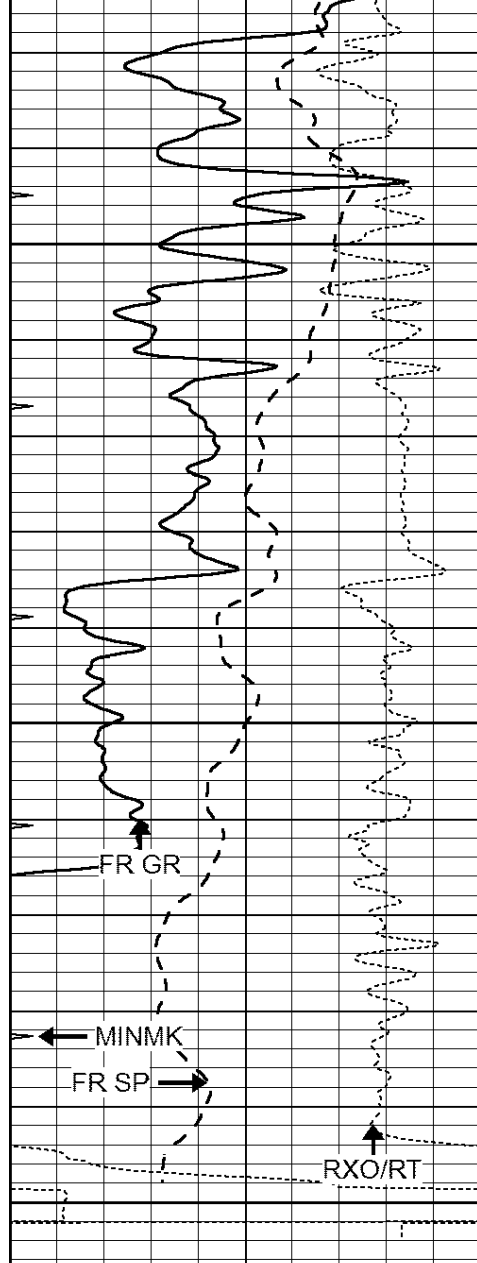
3000

3050

3100

3150



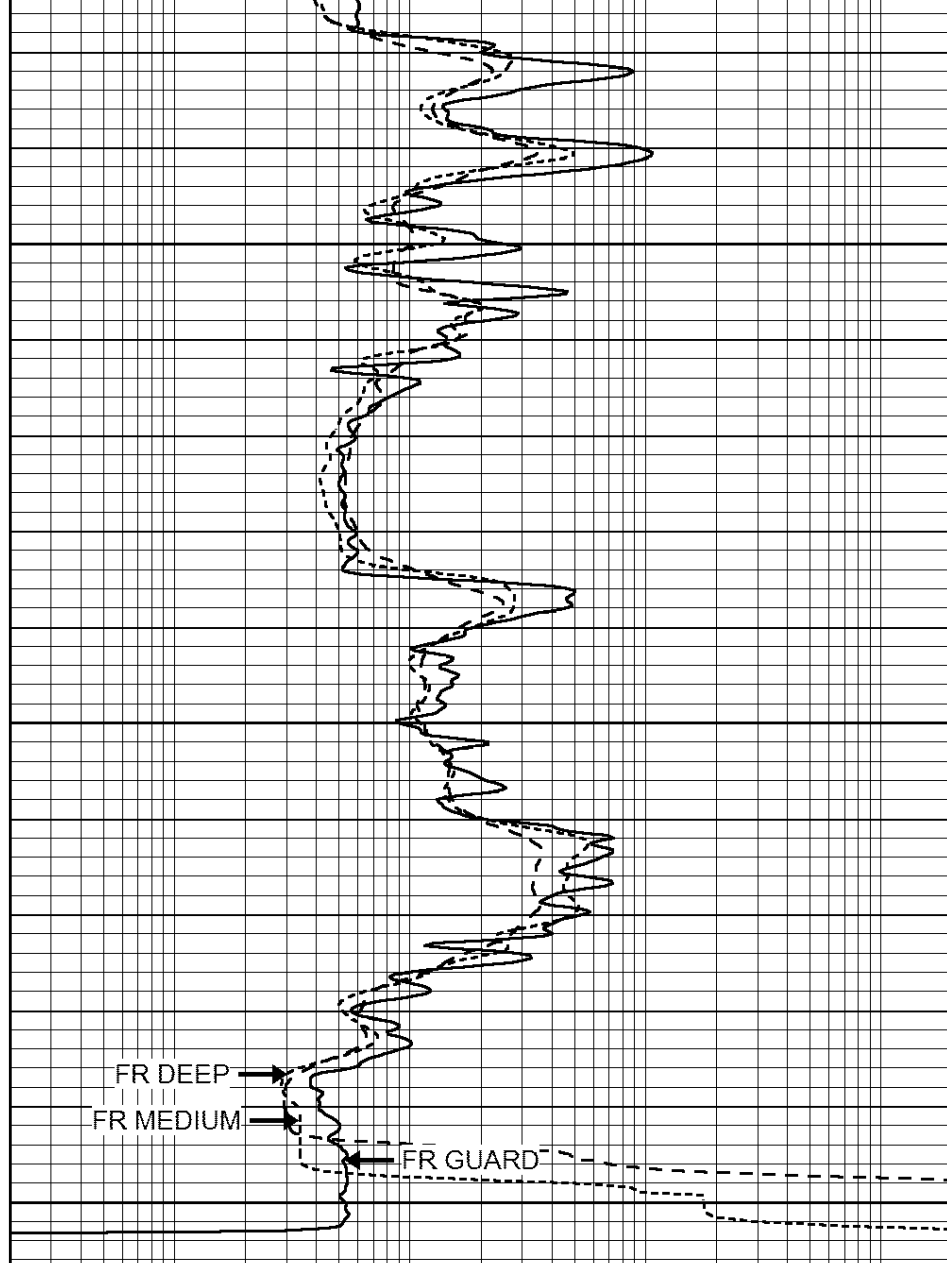


3200

3250

LTD 3298
3300

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



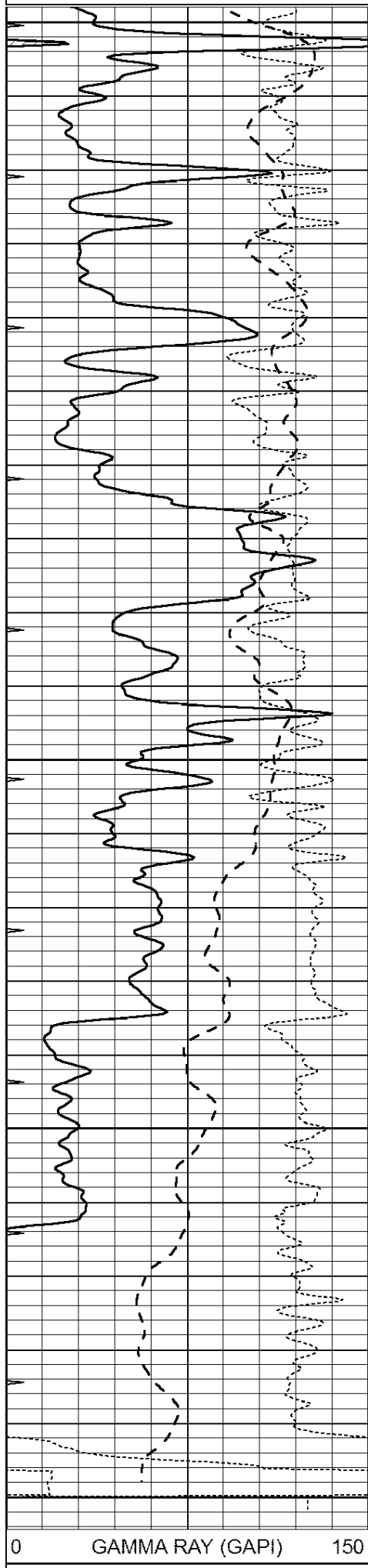
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Kansas

REPEAT SECTION

Database File: 408618ddn.db
Dataset Pathname: pass2.4
Presentation Format: dil
Dataset Creation: Tue Apr 03 11:20:32 2012
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



3100

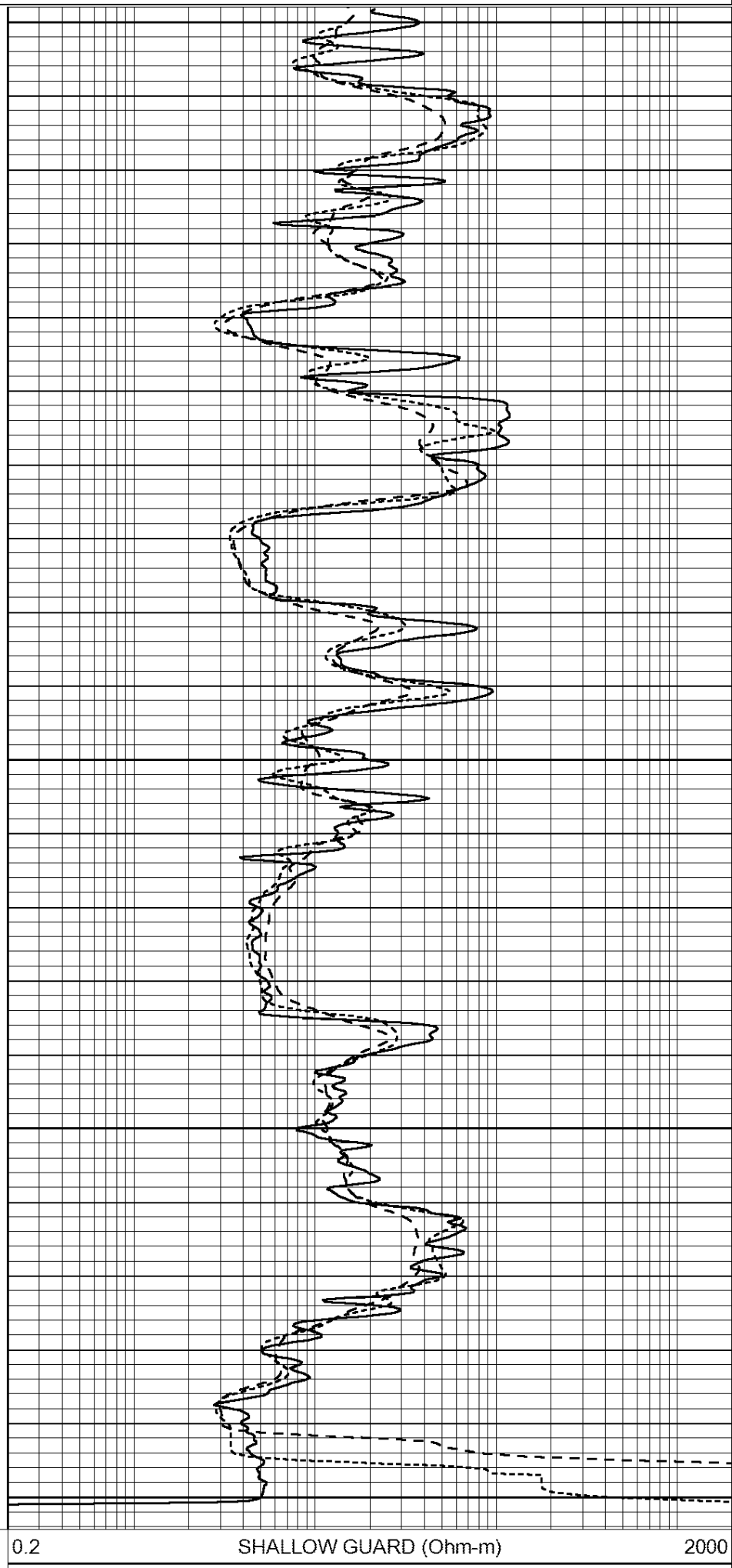
3150

3200

3250

3300

0 GAMMA RAY (GAPI) 150



0.2 SHALLOW GUARD (Ohm-m) 2000

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

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

Calibration Report

Database File: 408618ddn.db
Dataset Pathname: pass3.10
Dataset Creation: Tue Apr 03 11:34:17 2012

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
Performed: Sat Mar 24 18:51:21 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	4.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	5.000
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	2.0	7.3
High Ref	4.0	15.0
Gain: 3.8		Offset: -0.1

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:	Sat Mar 24 18:51:25 2012		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	