

**NABORS****COMPLETION
& PRODUCTION
SERVICES CO.****DUAL
INDUCTION
LOG**

Company	RITCHIE EXPLORATION, INC.		
Well	BRINEY-KRAMER		
Field	LITTLE BEAVER CREEK		
County	CHEYENNE	State	KANSAS
Location:	AP1 # : 15-023-21407-00-00 2430' FNL & 1250' FWL S2 - S2 - NW		Other Services CNL/CDL
Permanent Datum	SEC 36 TWP 4S RGE 37W	Elevation	
Log Measured From	GROUND LEVEL	Elevation	3376
Drilling Measured From	KELLY BUSHING 5' A.G.L. KELLY BUSHING	D.F.	3379
		G.L.	3376
Date	8/31/14		
Run Number	ONE		
Depth Driller	4972		
Depth Logger	4974		
Bottom Logged Interval	4972		
Top Log Interval	00		
Casing Driller	8 5/8" @ 338		
Casing Logger	334		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	3,200 PPM
Density / Viscosity	9.6/58		
pH / Fluid Loss	10.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.95 @ 80F		
Rmt @ Meas. Temp	0.71 @ 80F		
Rmc @ Meas. Temp	1.14 @ 80F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.60 @ 125F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	125F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	IAN MABB		
Witnessed By	MAX LOVELY		

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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.

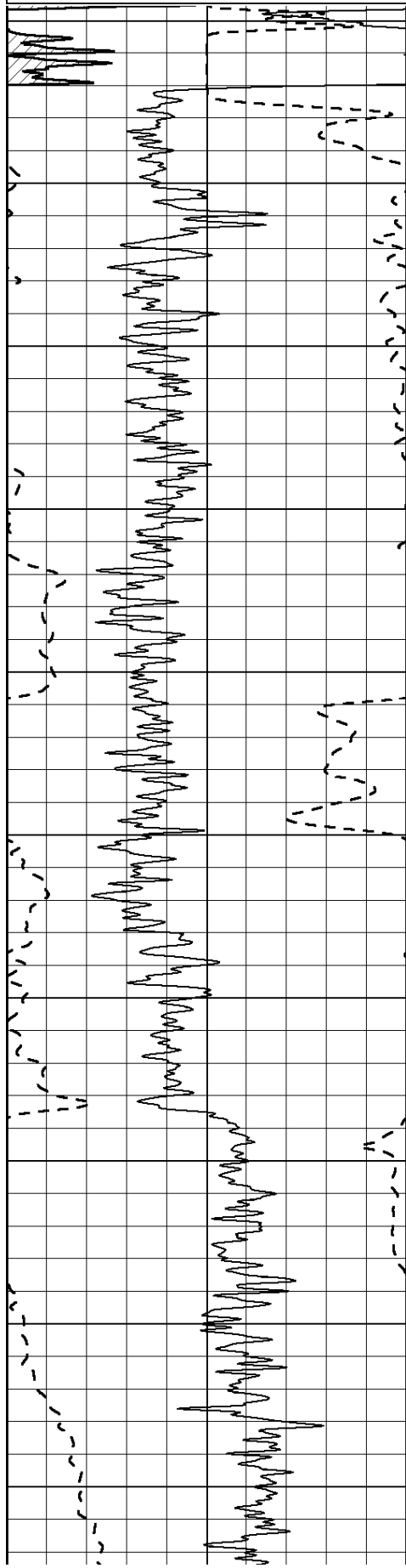
Comments

THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:

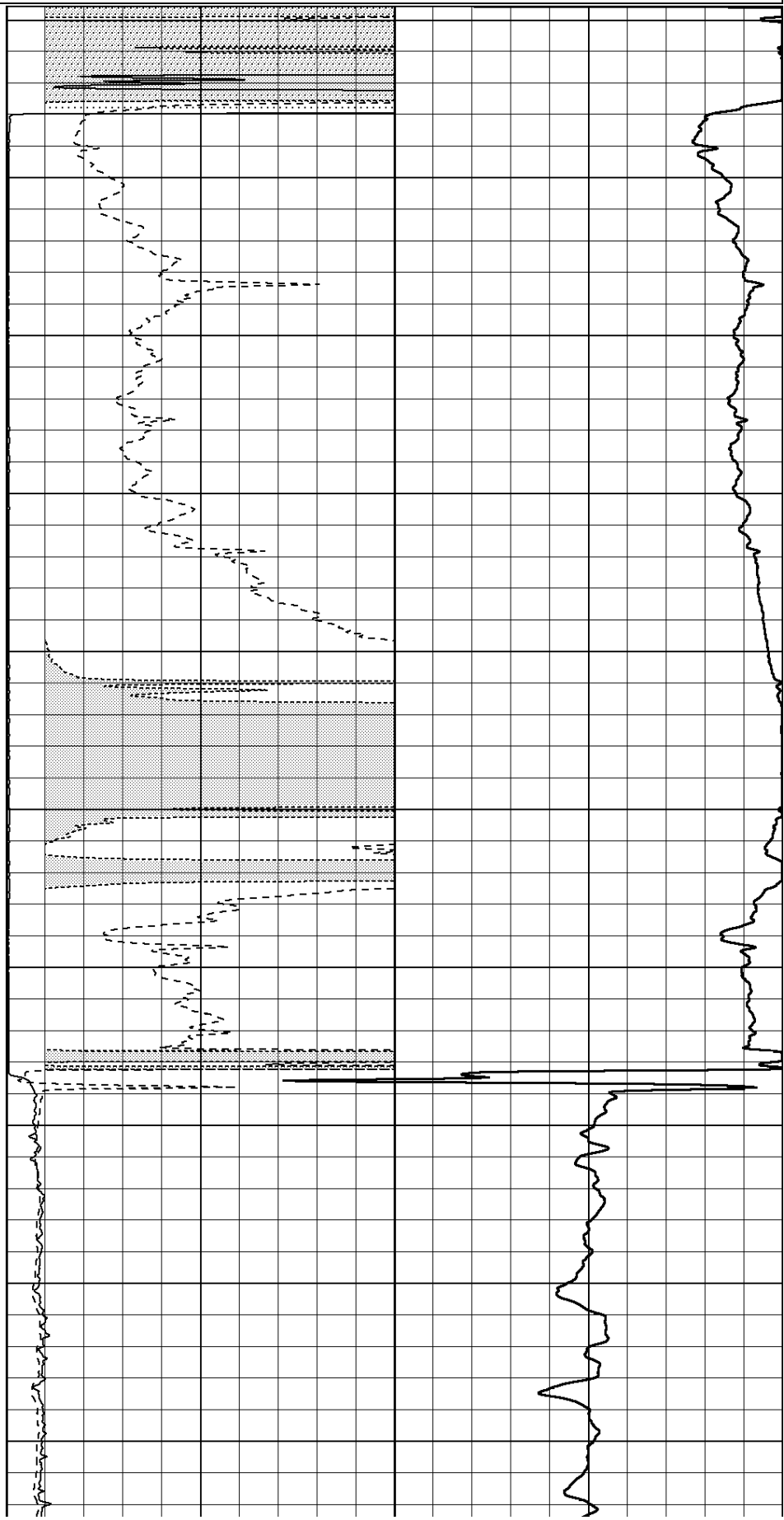
BREWSTER, KS. - NORTH TO THE CURVE IN THE RD. NORTH TO RD G - WEST 2 MILES TO RD. 34 -
NORTH 1/2 MILES - EAST INTO

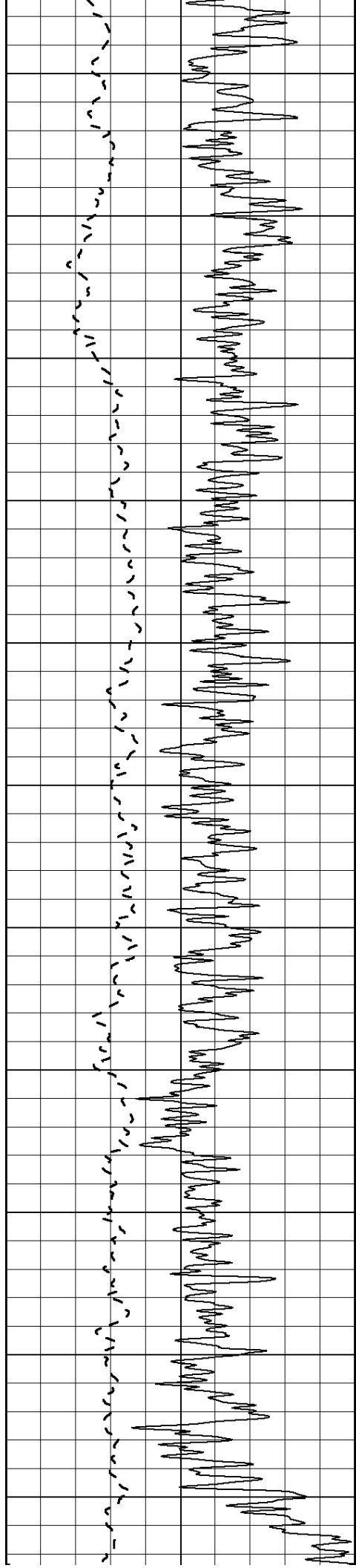
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Dataset Pathname: pass3.7
Presentation Format: _dil2
Dataset Creation: Sun Aug 31 11:09:01 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

Charted by: Depth in Feet scaled 1:500		
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

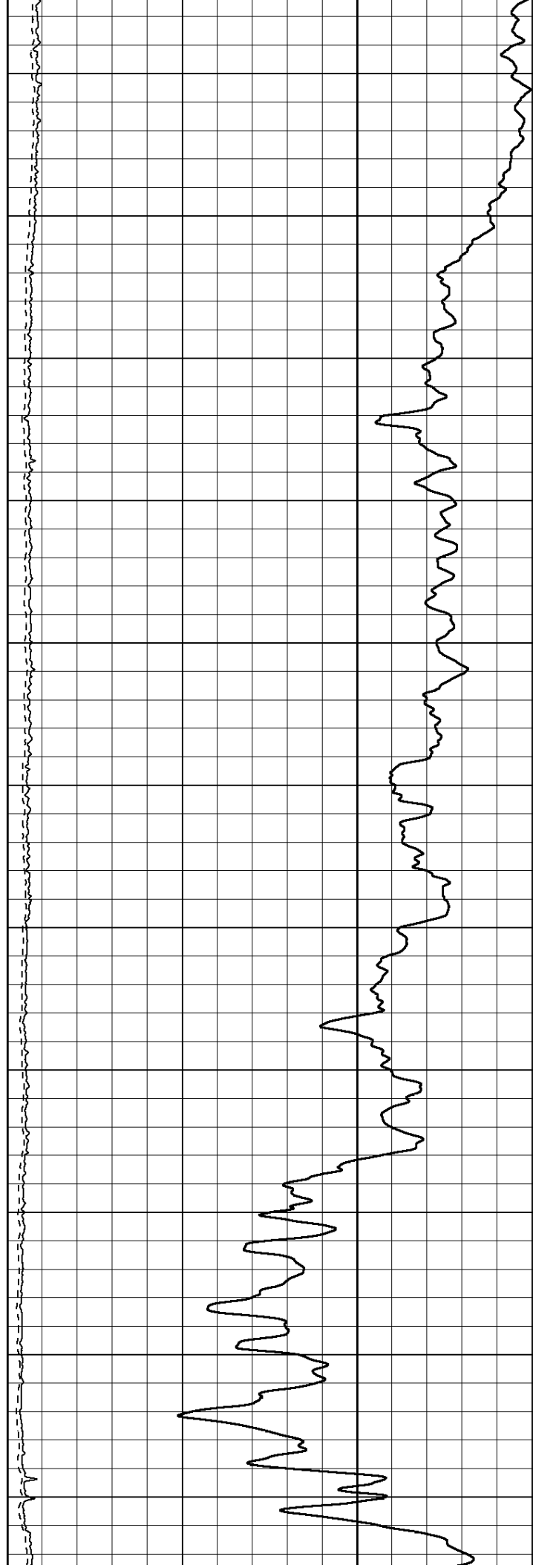
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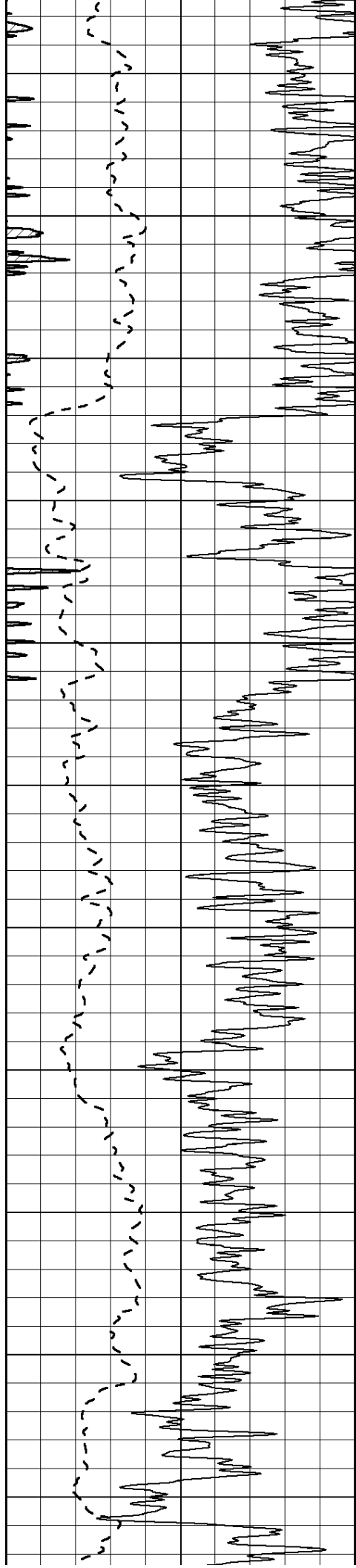
850

900

950

1000





1050

1100

1150

1200

1250

1300

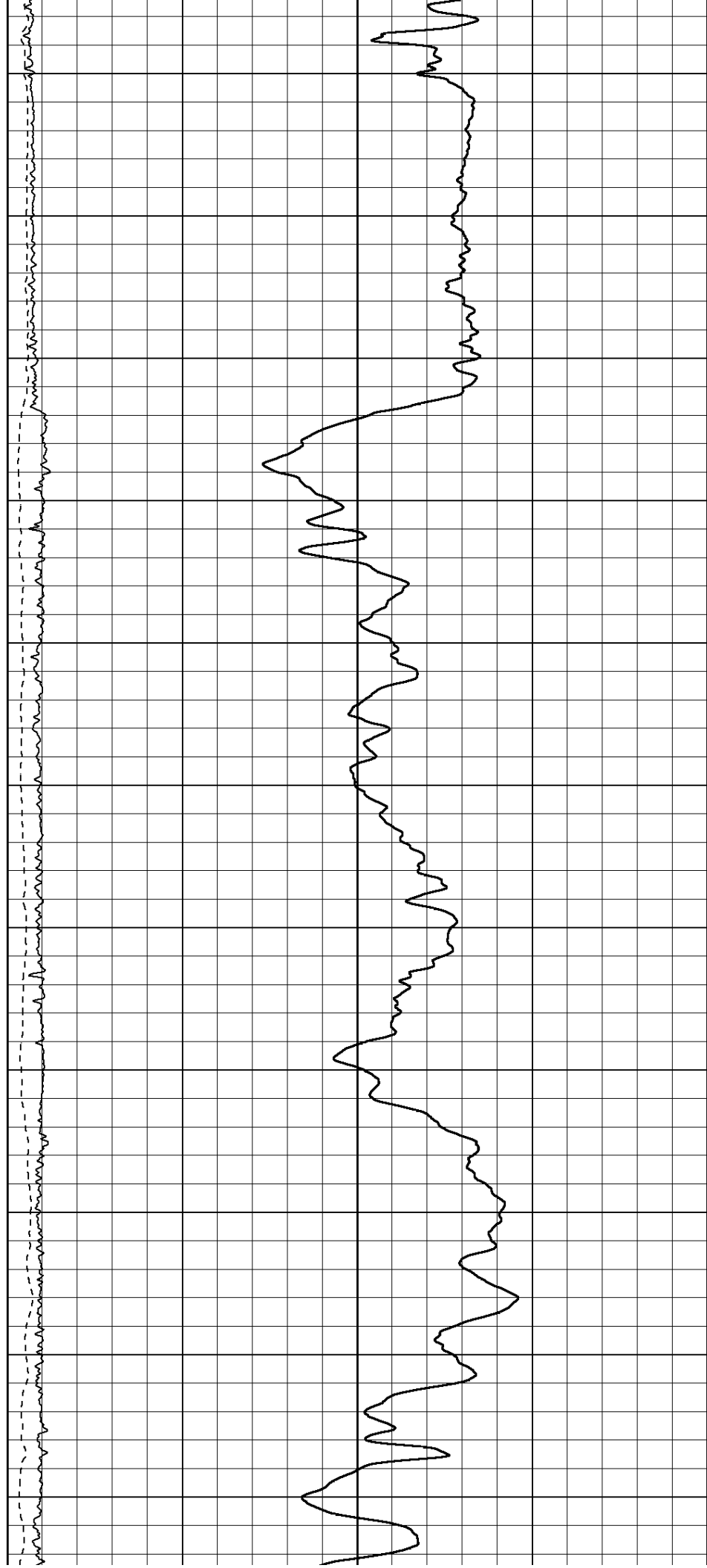
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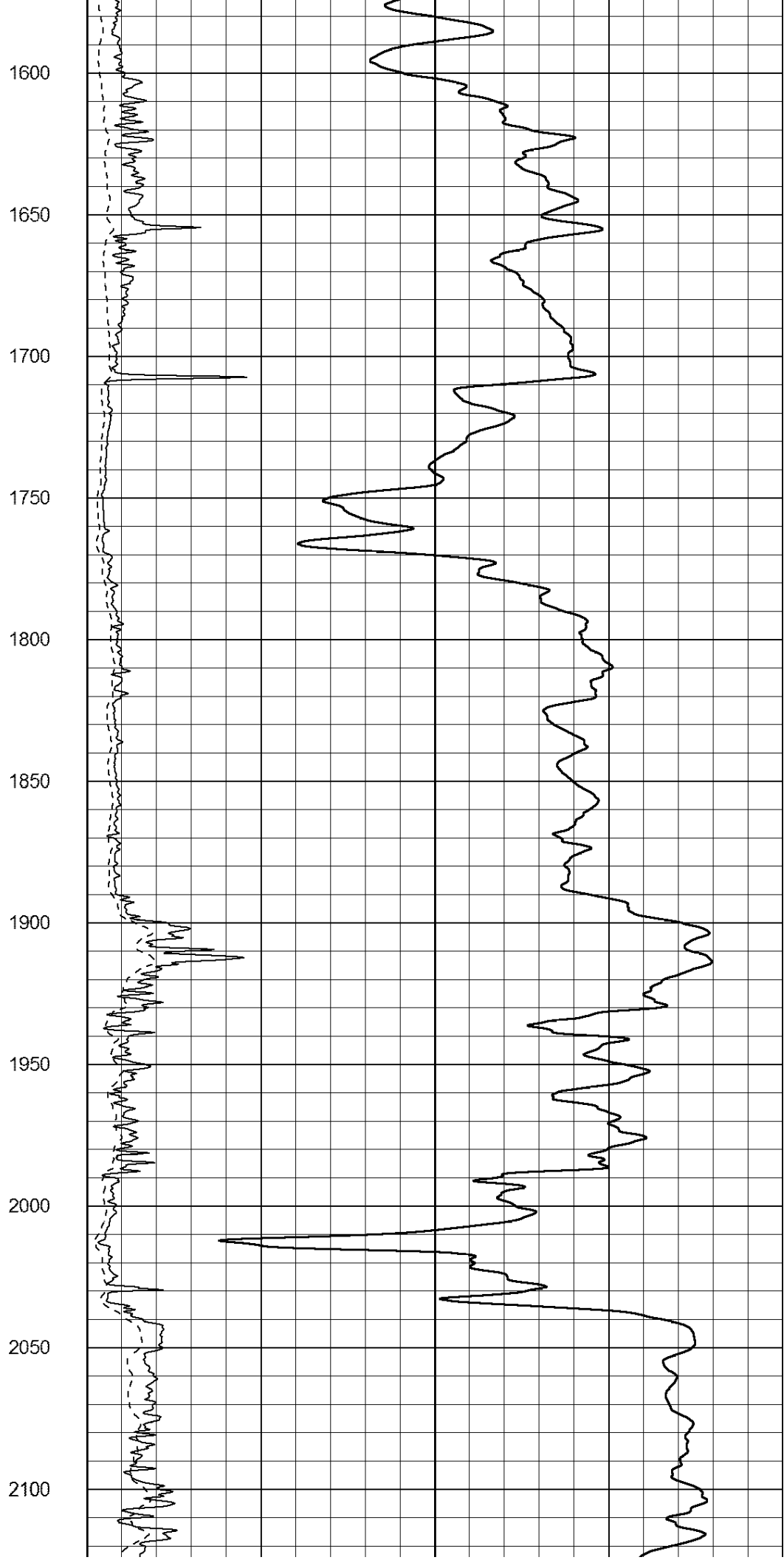
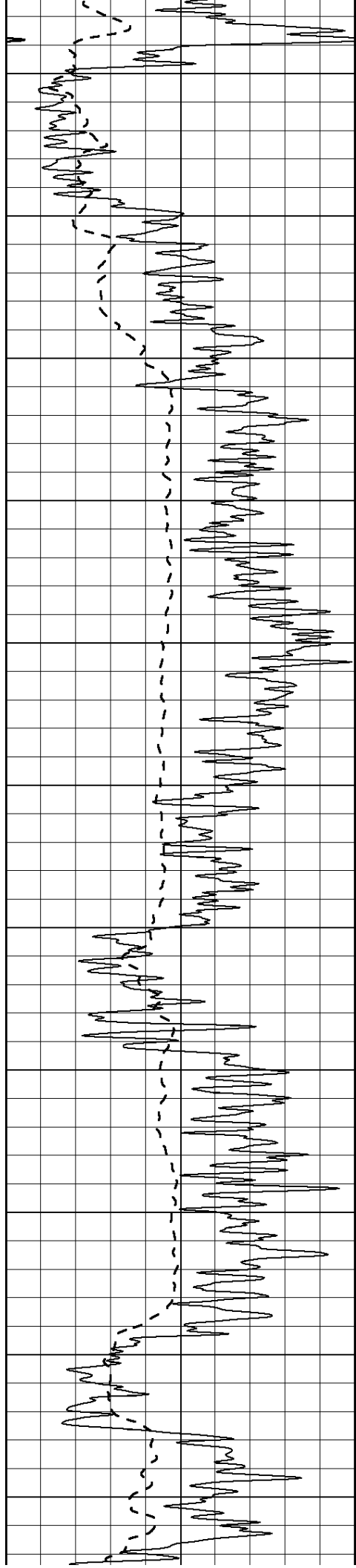
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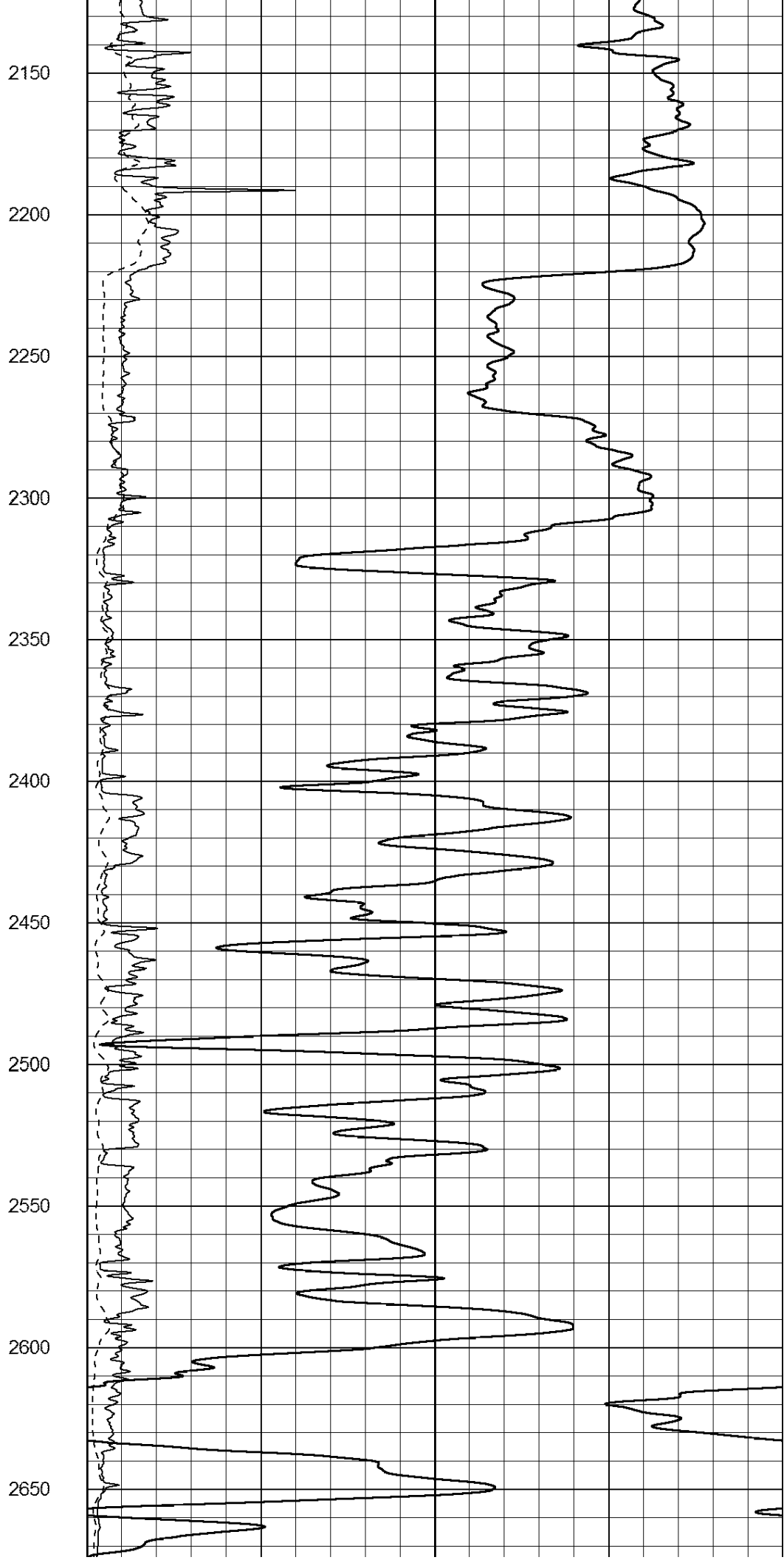
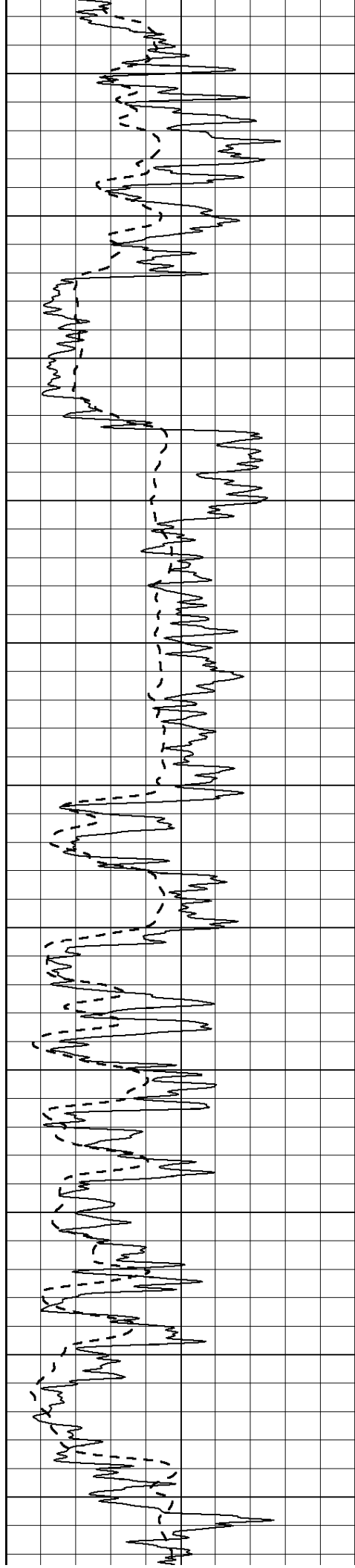
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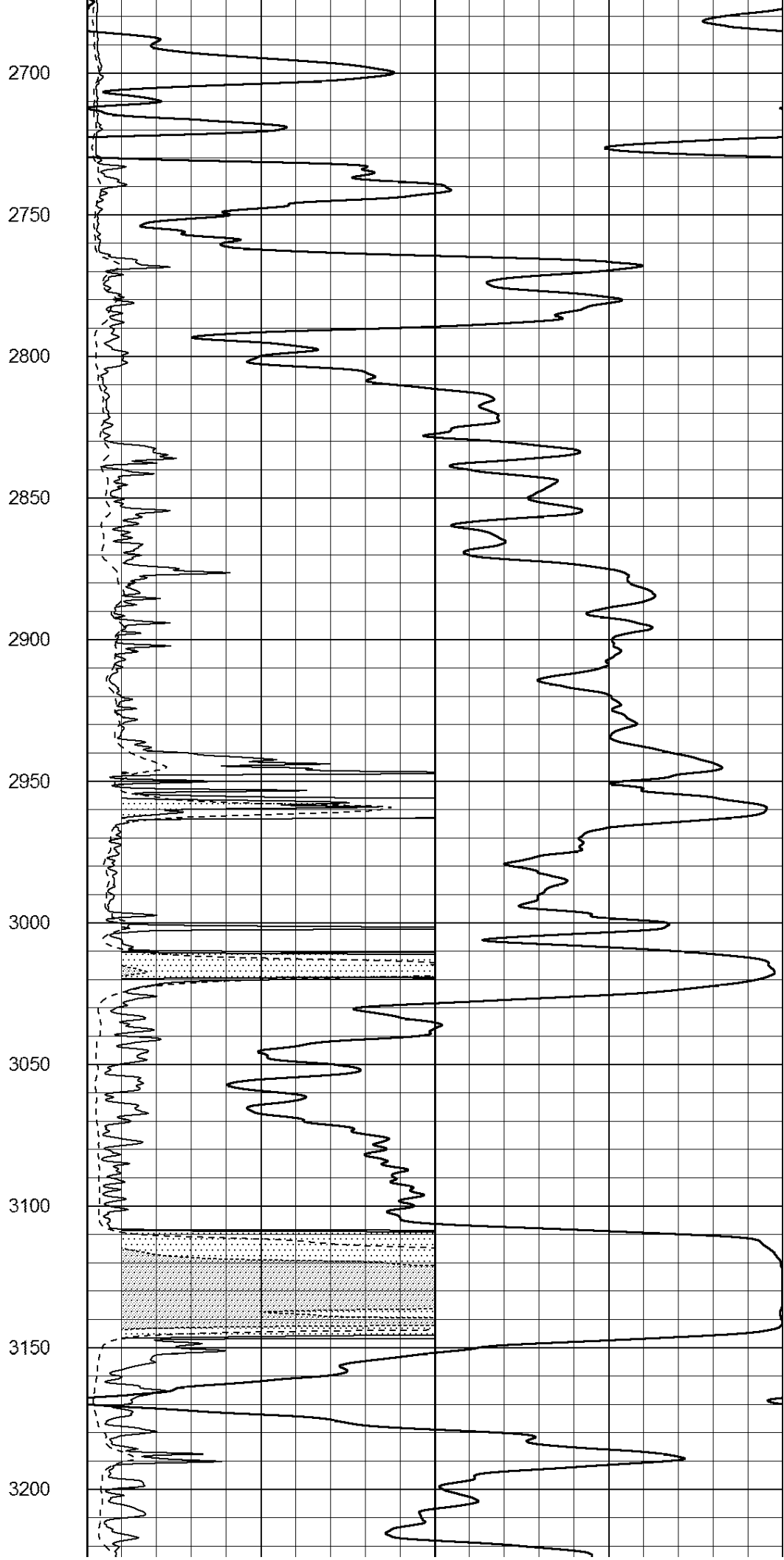
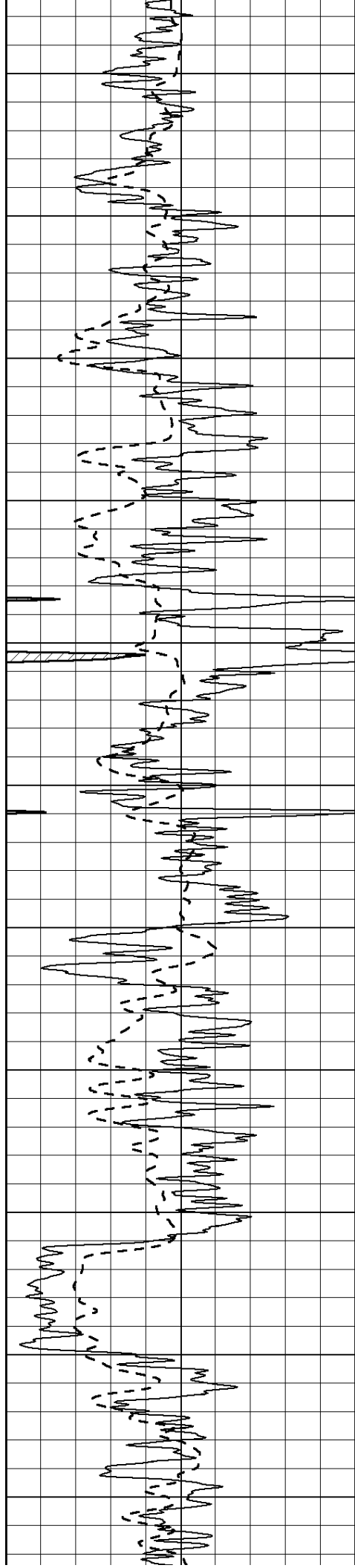
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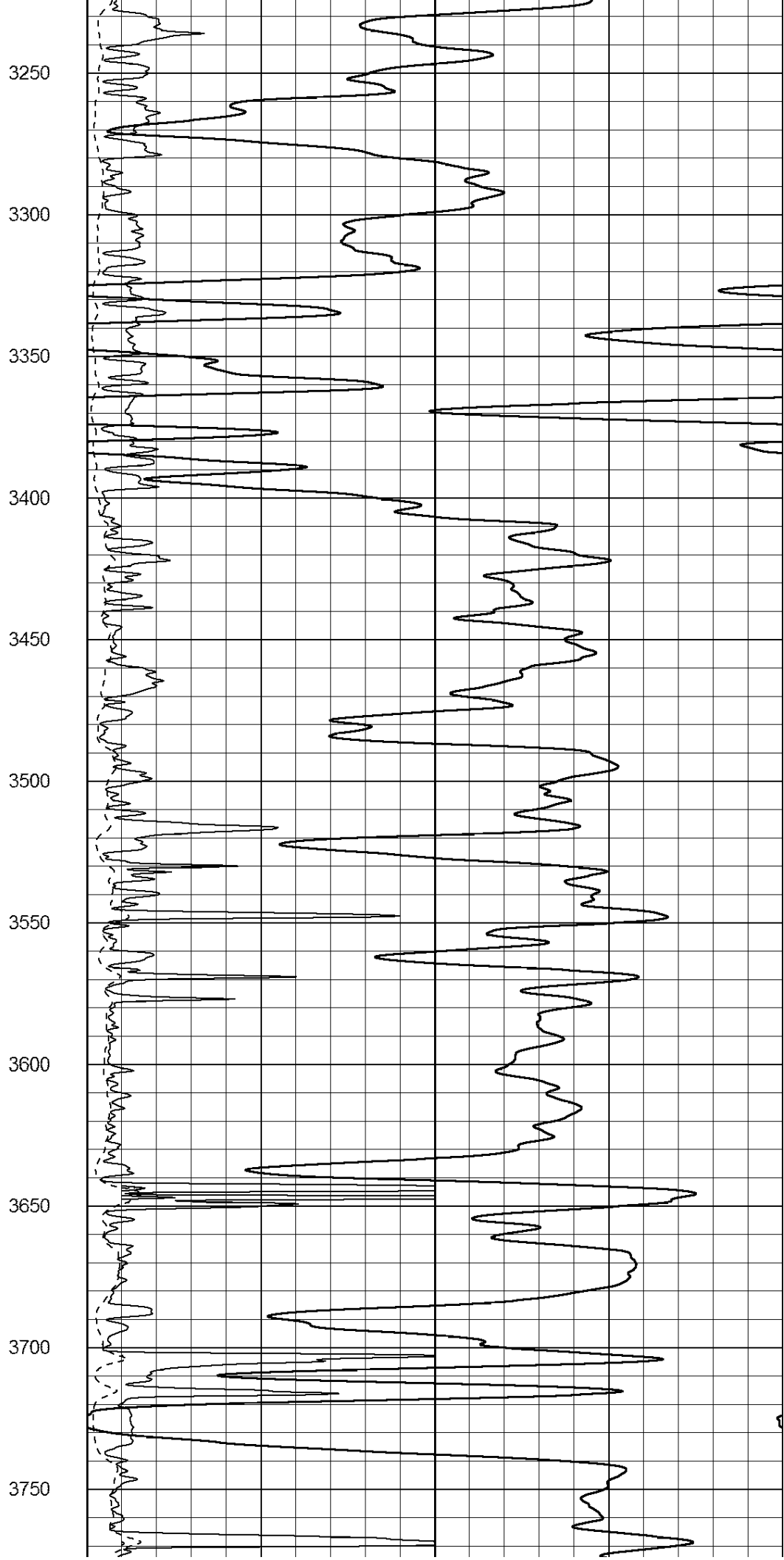
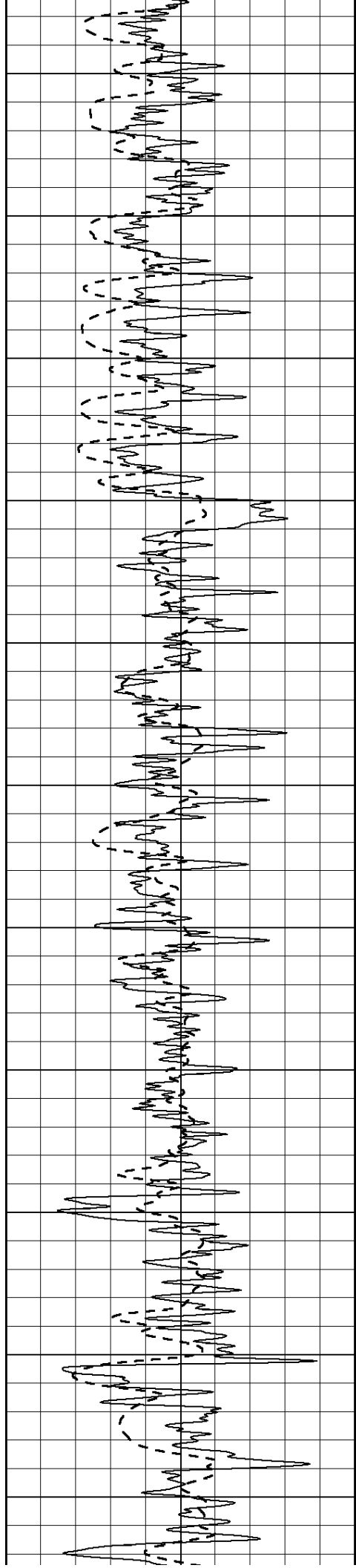
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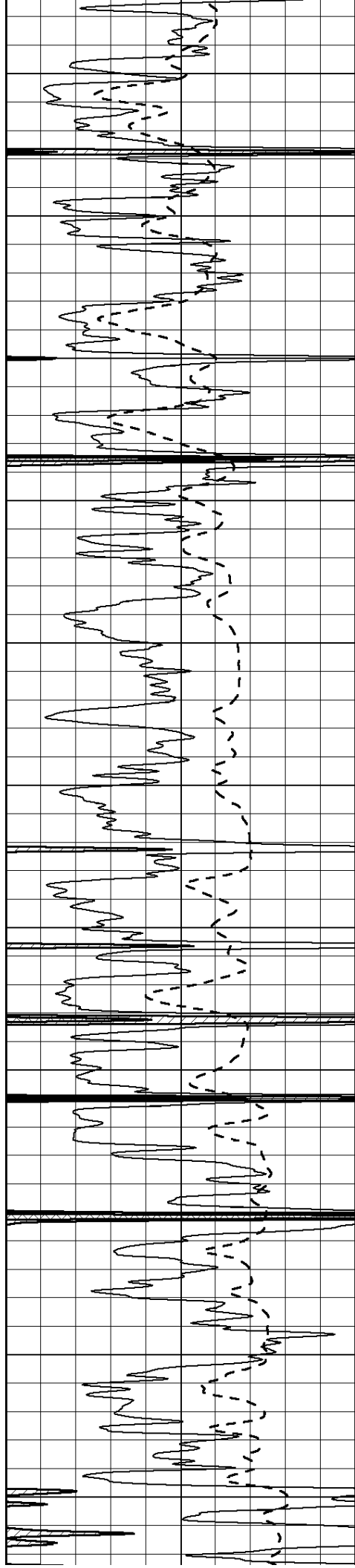












4350

4400

4450

4500

4550

4600

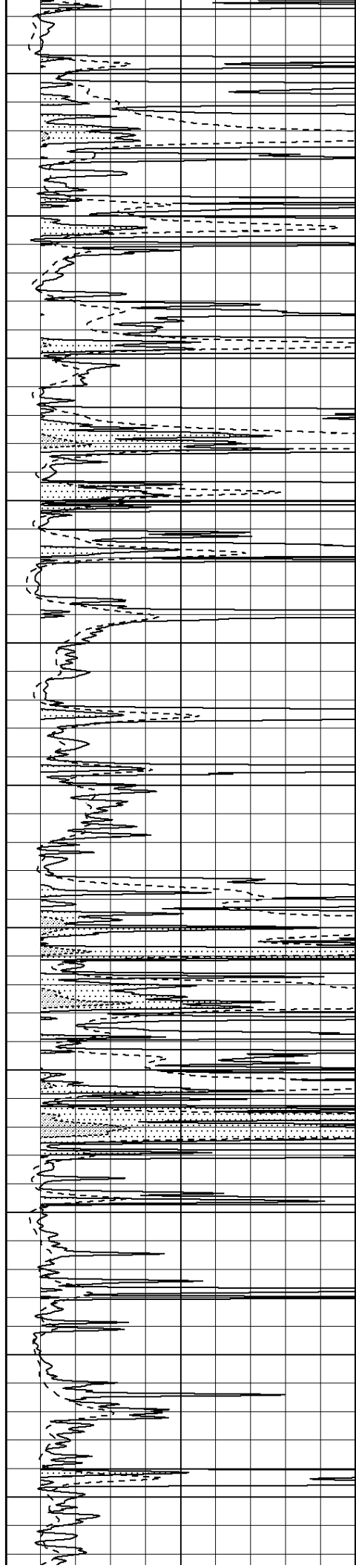
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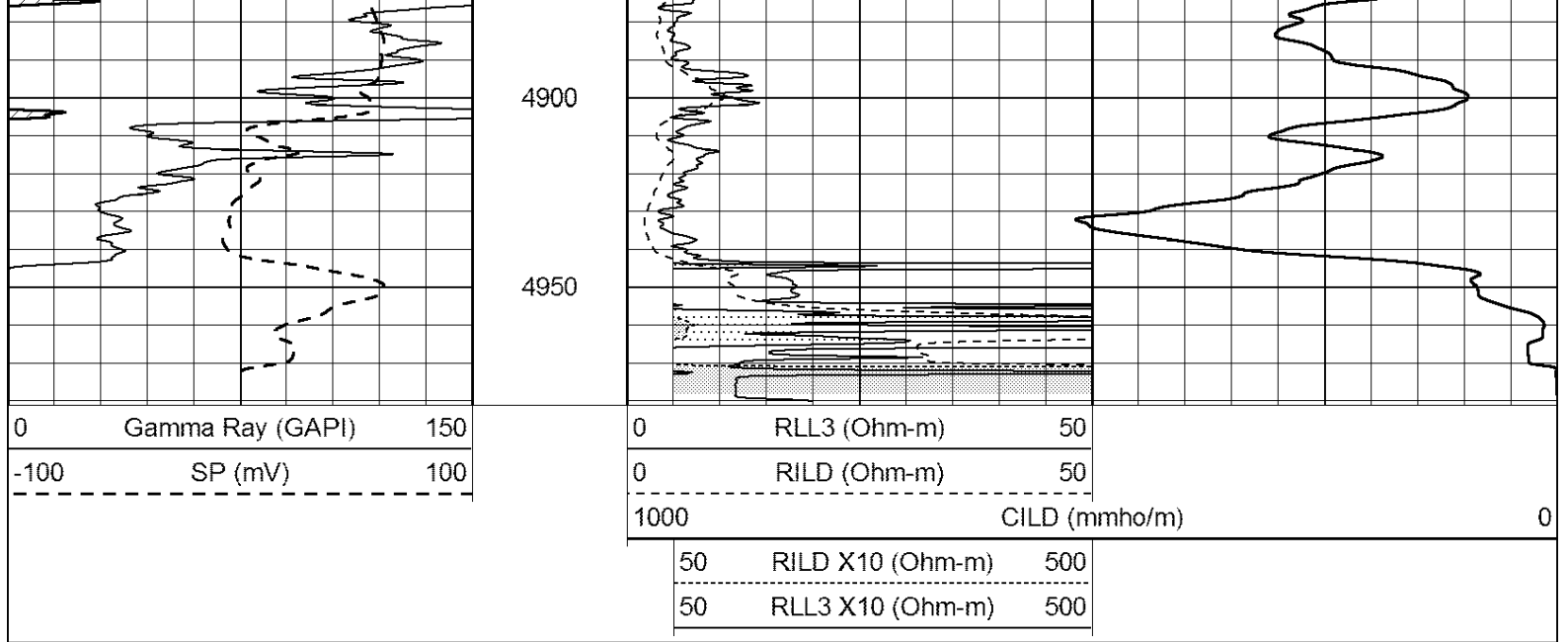
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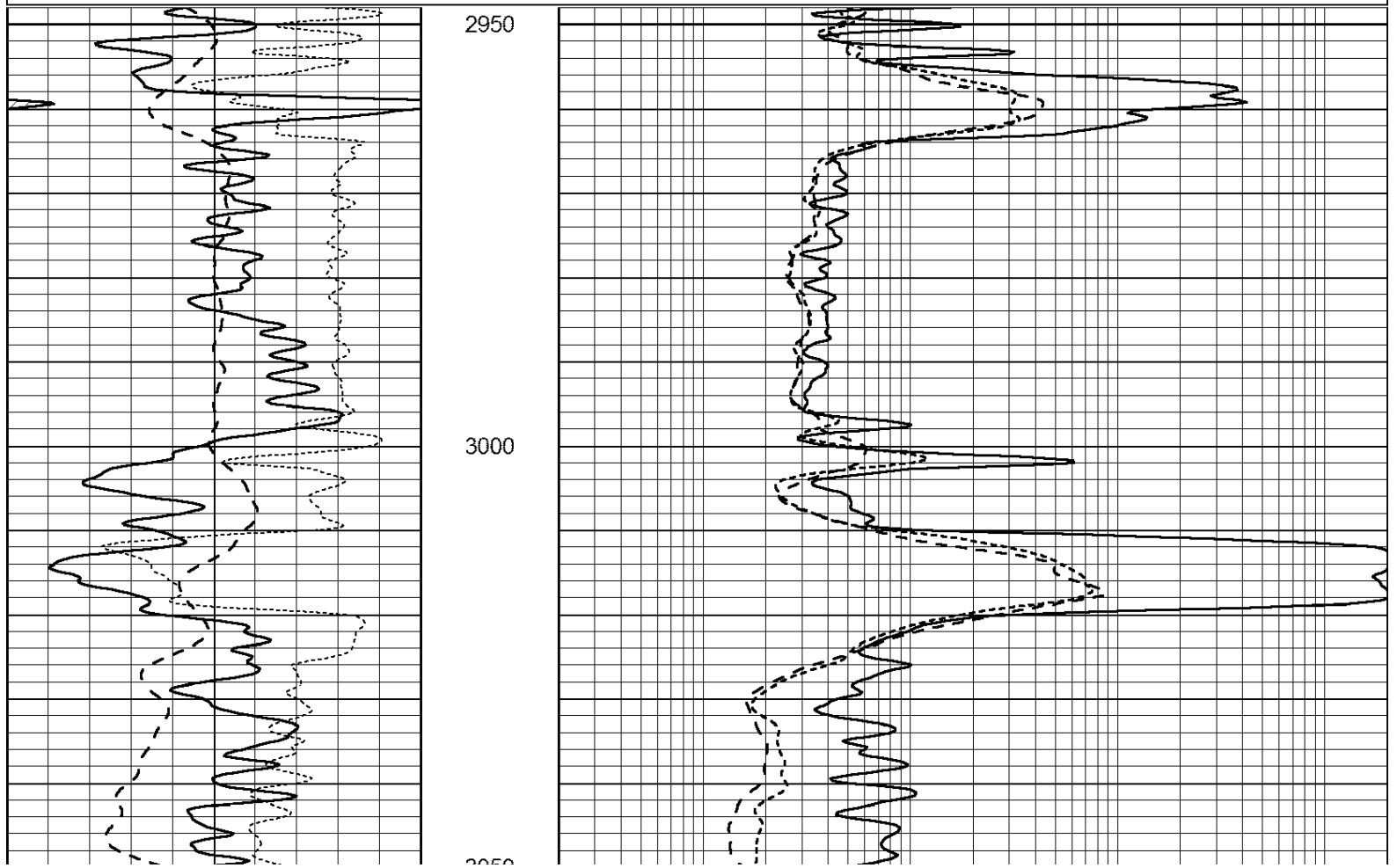
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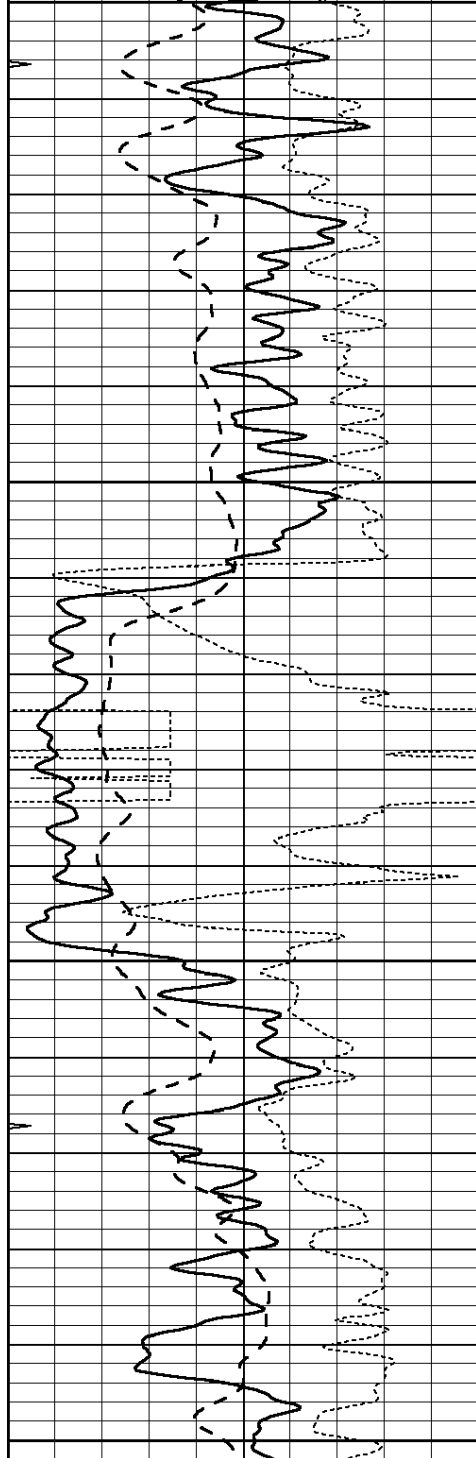




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 Presentation Format: _dil
 Dataset Creation: Sun Aug 31 11:09:01 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

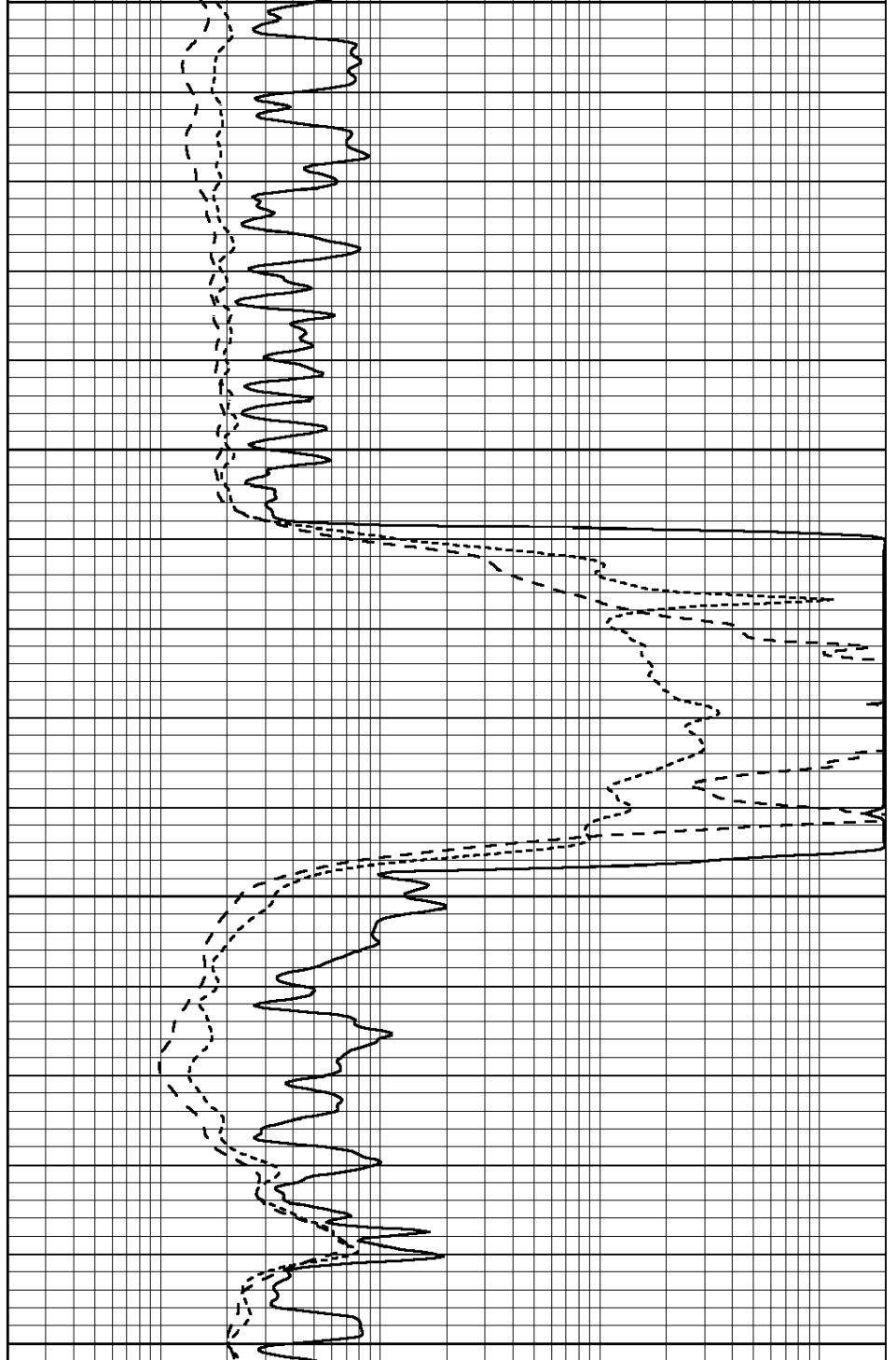
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-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			





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

3050
3100
3150
3200

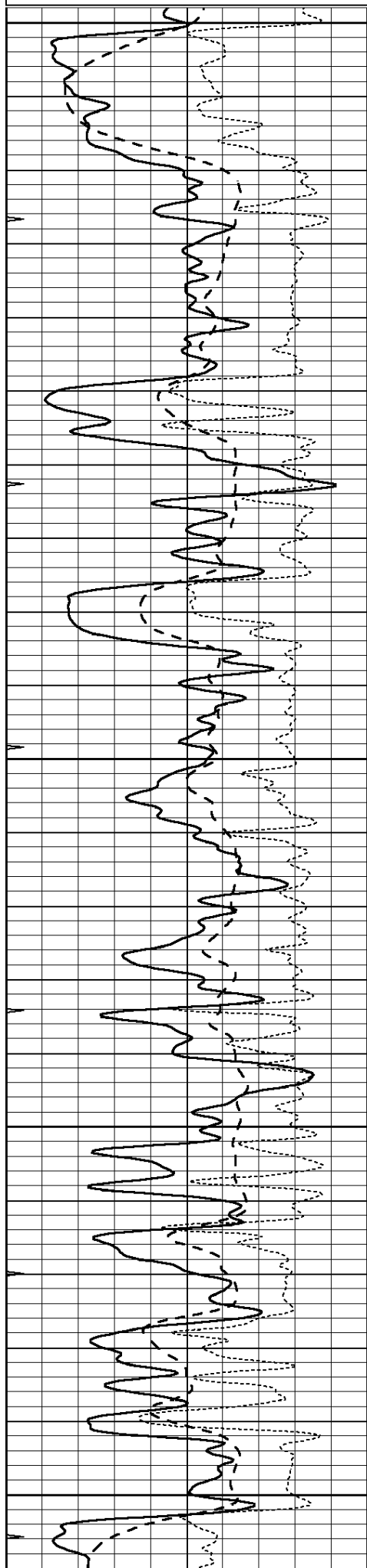


0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Database File: 25862ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Sun Aug 31 10:22:00 2014 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



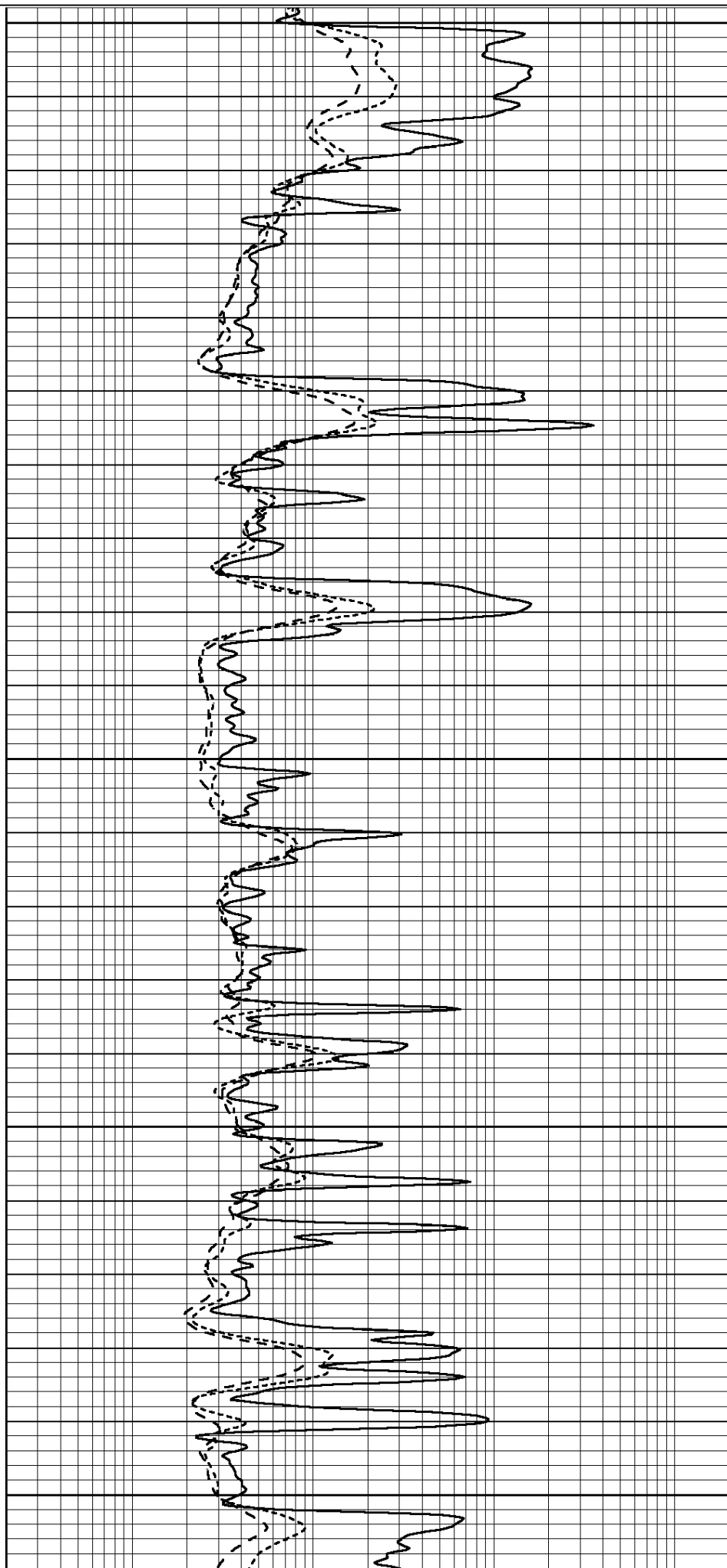
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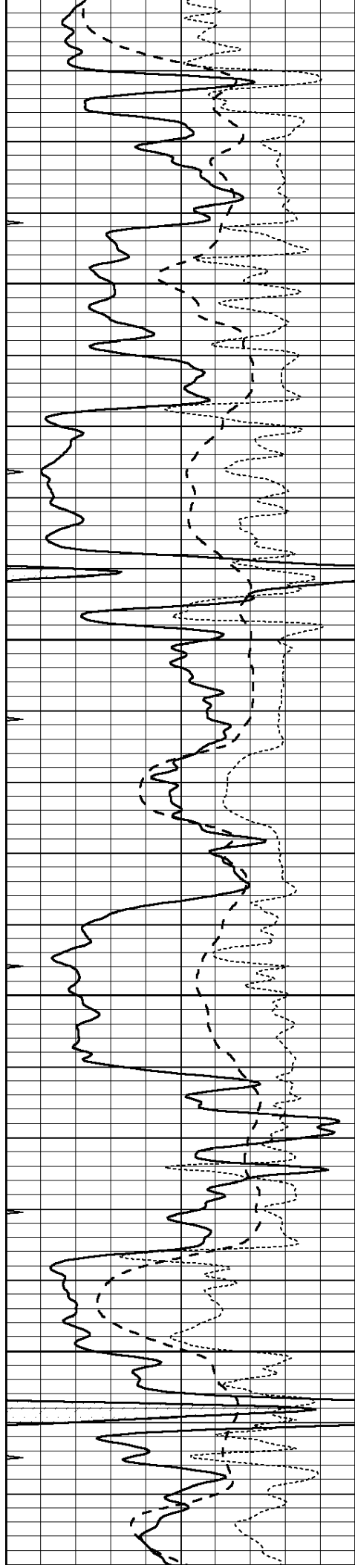
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3900

3950

4000



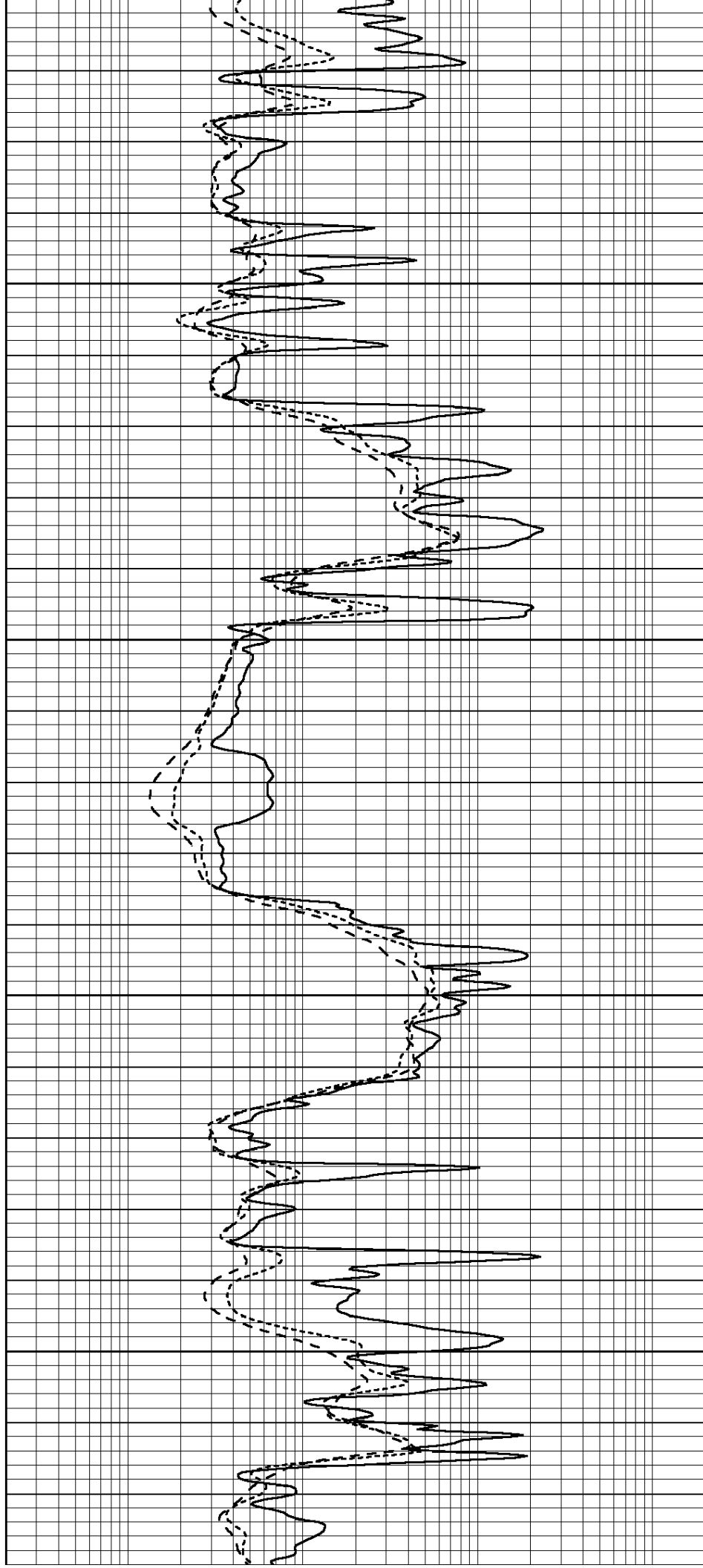


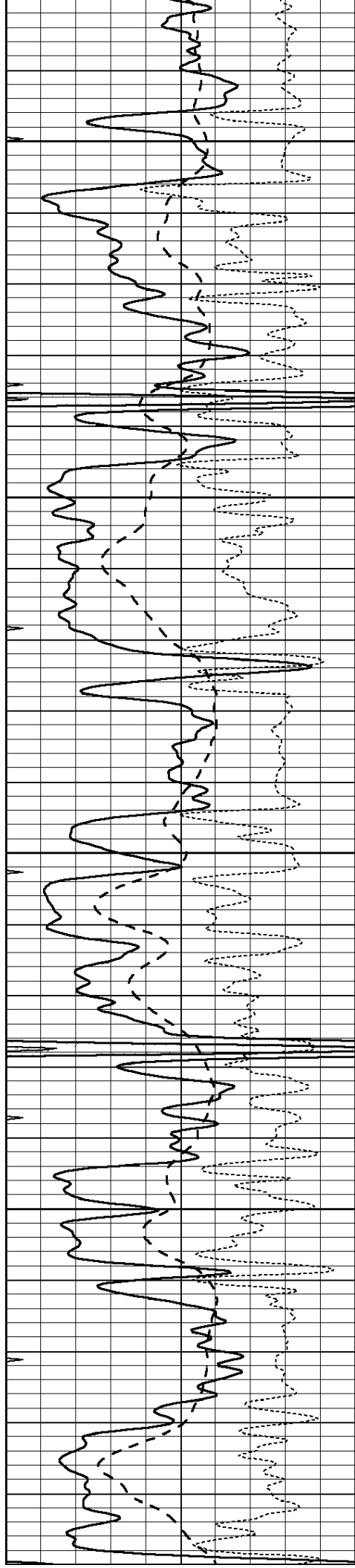
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4100

4150

4200





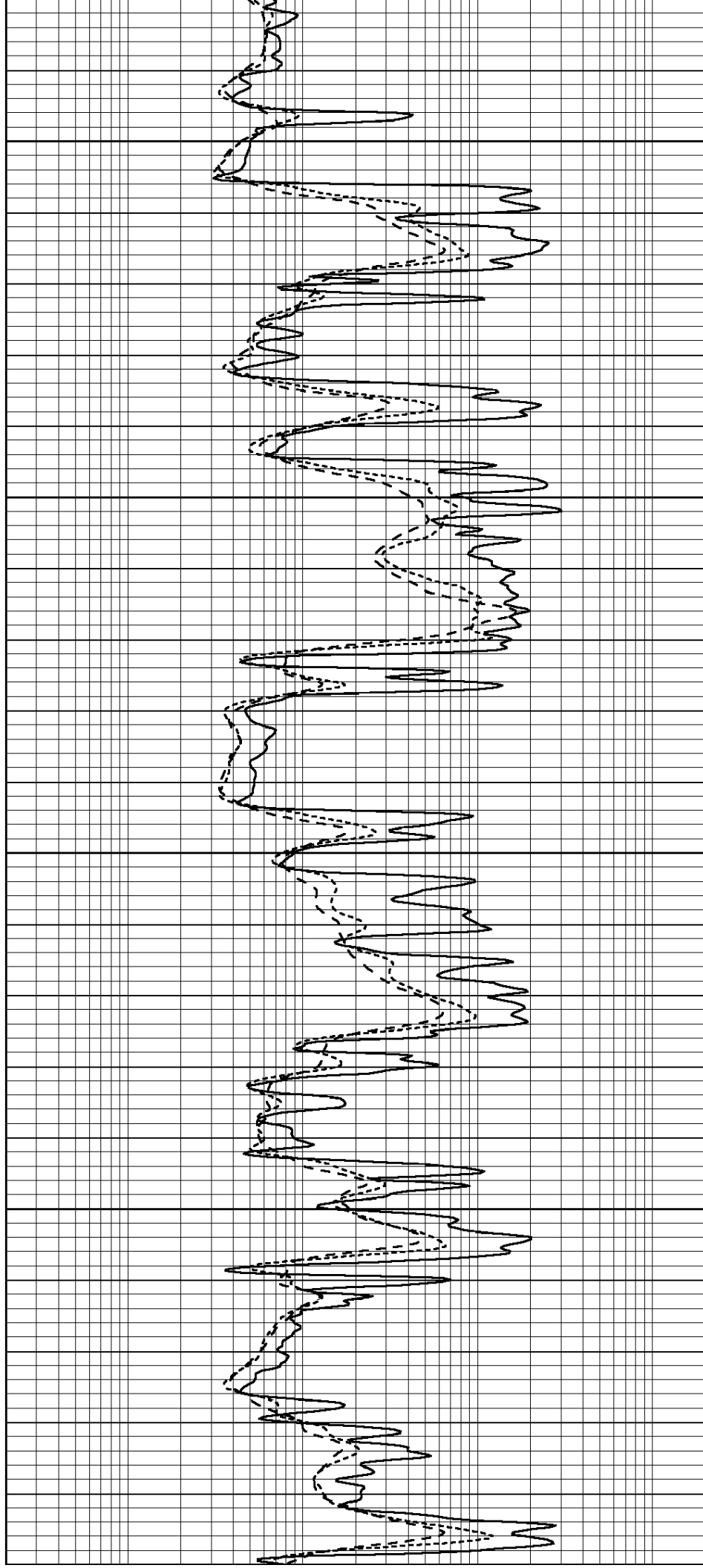
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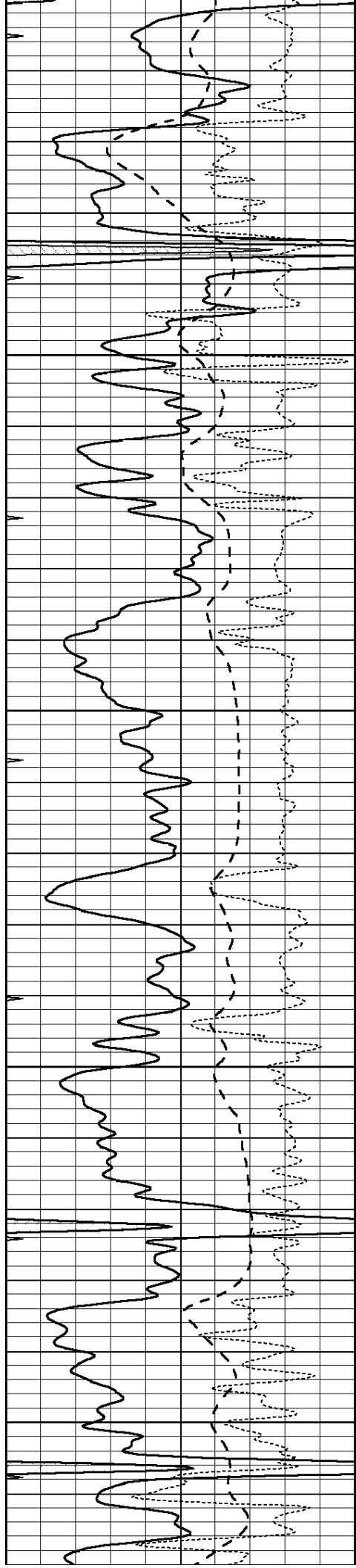
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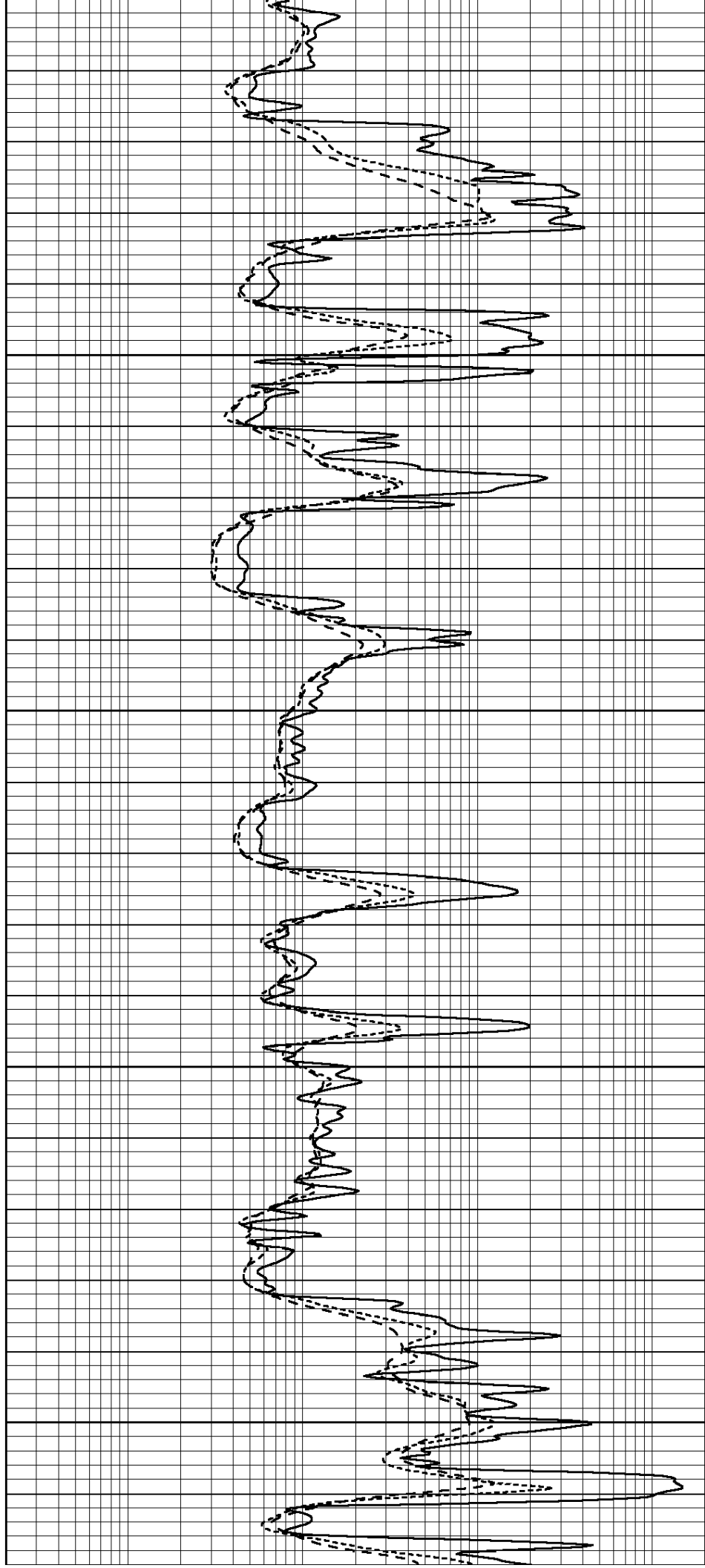
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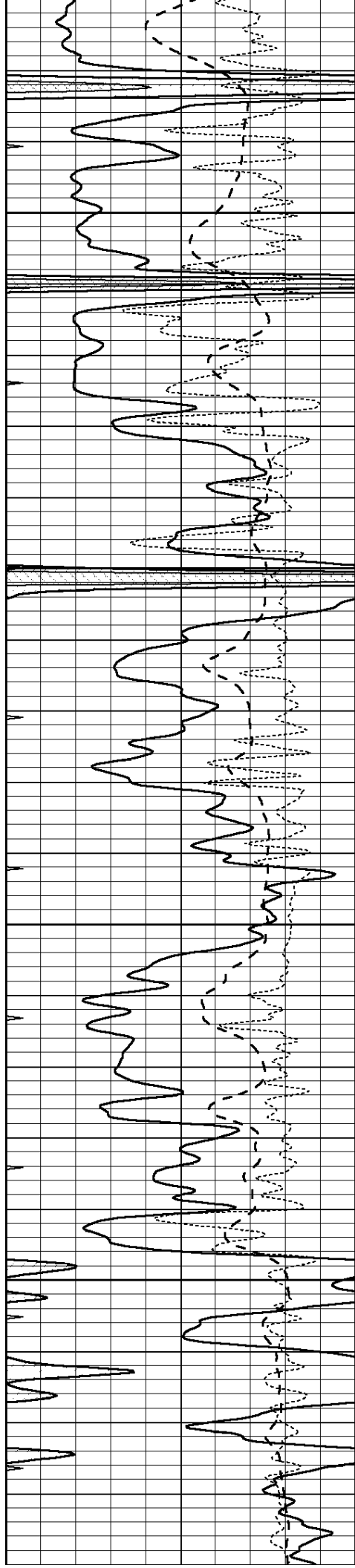
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4450
4500
4550
4600
4650



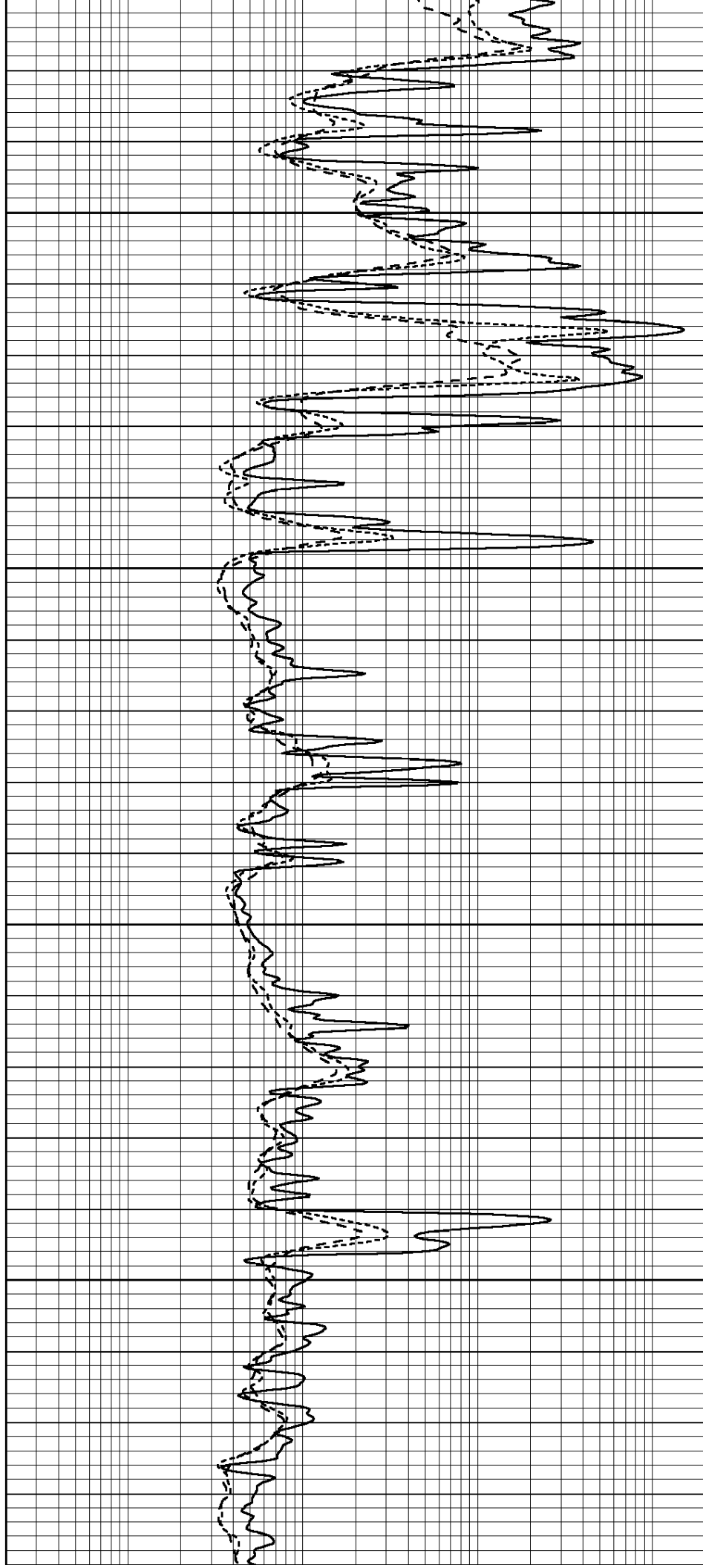


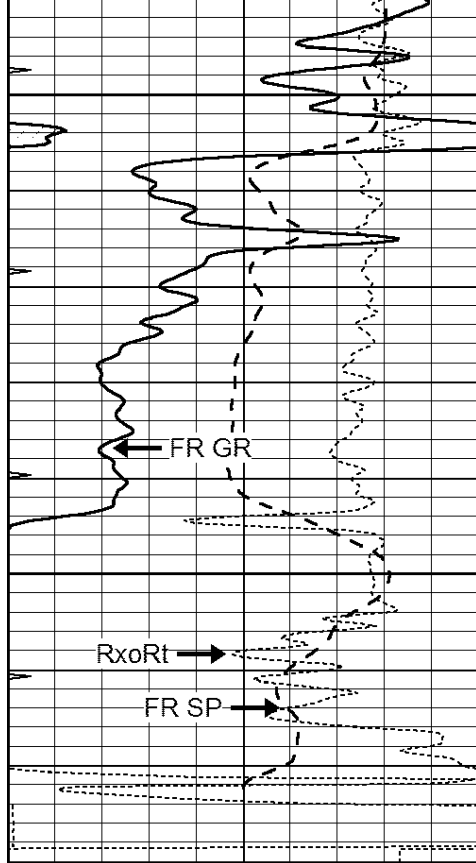
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4800

4850



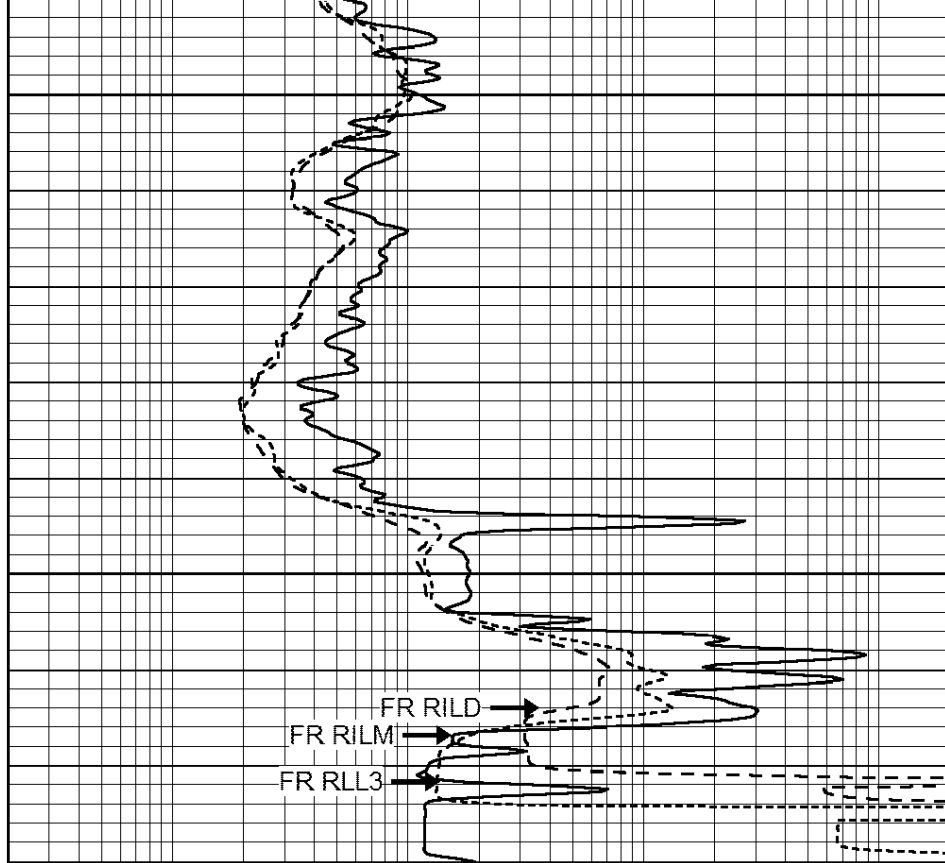


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

4900

4950

LTD 4974



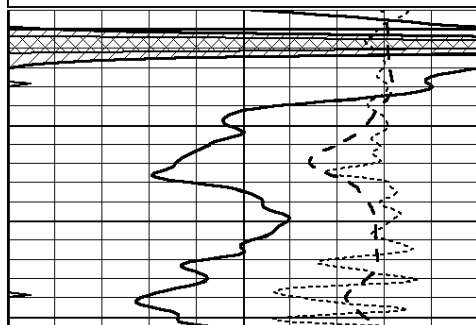
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



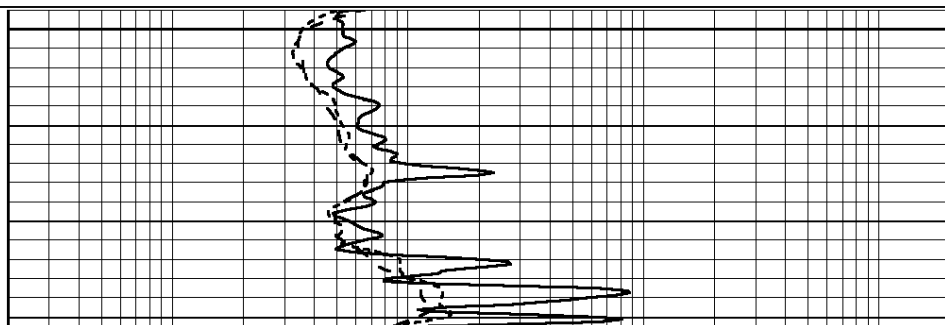
REPEAT SECTION

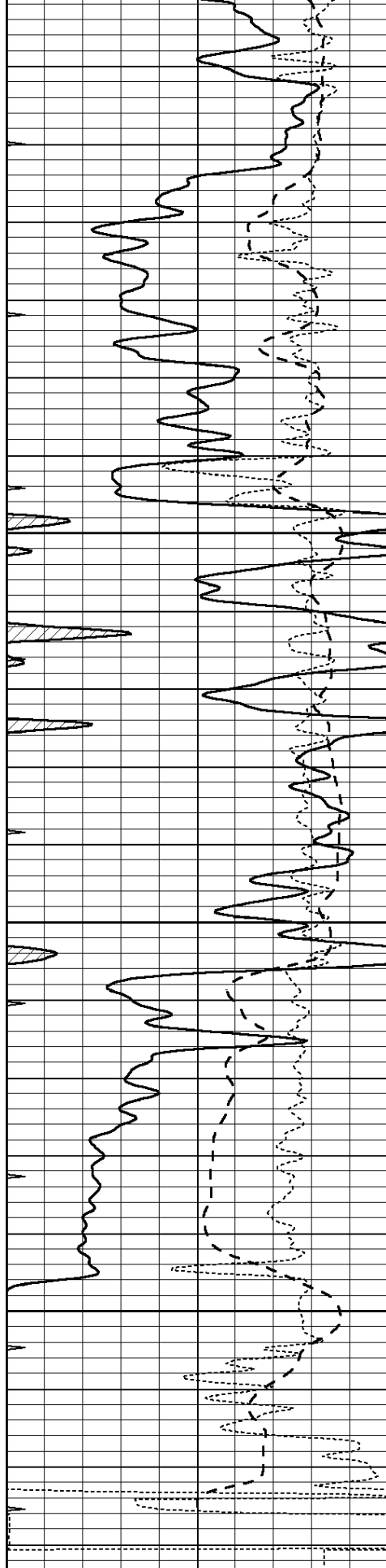
Database File: 25862ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Sun Aug 31 09:39:25 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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



4750





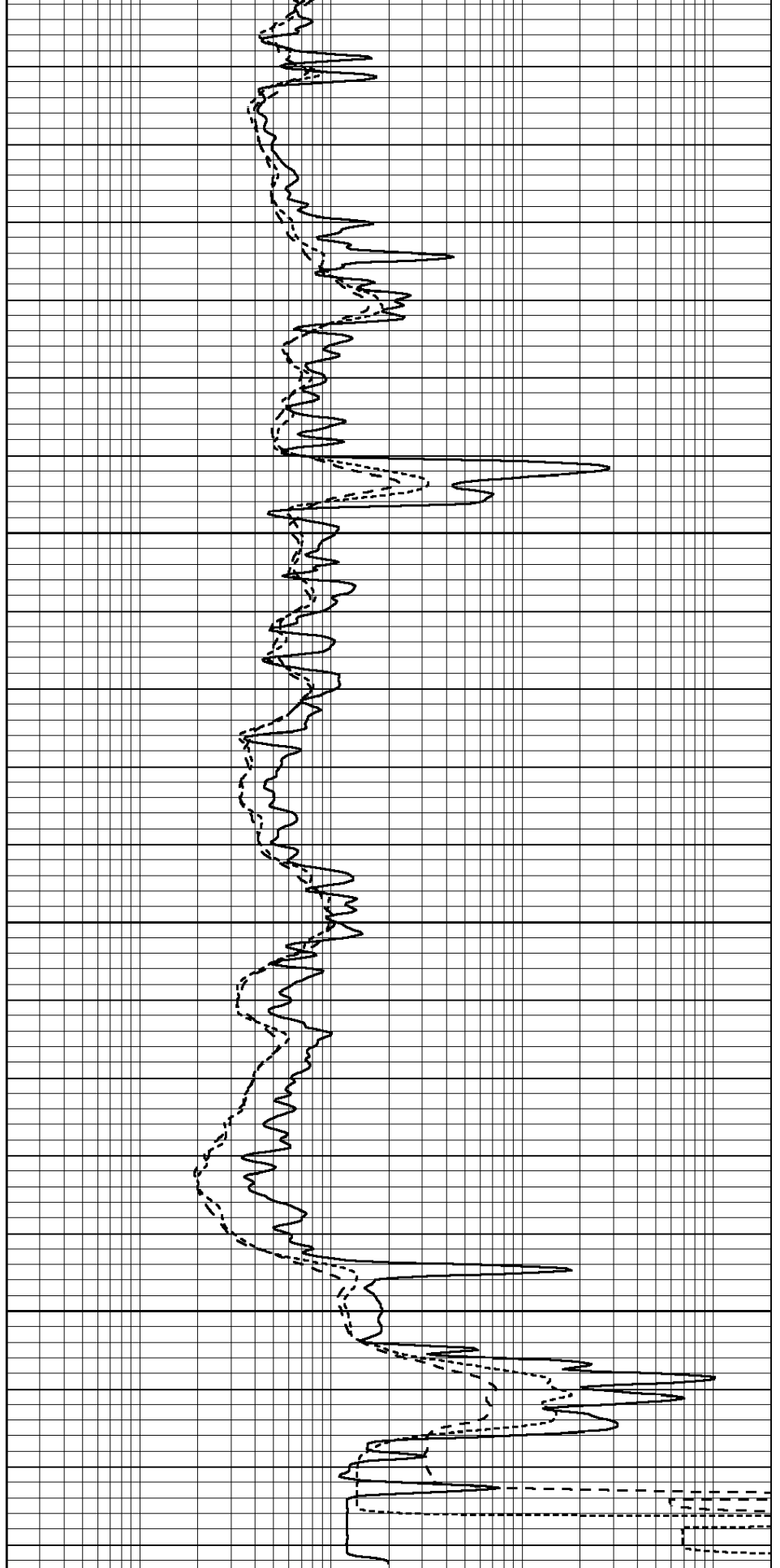
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

4800

4850

4900

4950



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: 25862ddn.db
 Dataset Pathname: pass3.7
 Dataset Creation: Sun Aug 31 11:09:01 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Sun Aug 17 08:09:53 2014
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	-2.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-16.000
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: Sun Aug 17 08:09:42 2014
 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			
CALIBRATION						
	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:		GR6			
	Tool Model:		OPEN			
	Performed:		Sun Aug 17 15:23:09 2014			
	Calibrator Value:		150.0	GAPI		
	Background Reading:		0.0	cps		
	Calibrator Reading:		276.0	cps		
	Sensitivity:		0.7000	GAPI/cps		

