NABORS COMPLETION & PRODUCTION SERVICES CO.

DUAL INDUCTION LOG

Company	PHILLIPS EXPLORATION CO., L.C.
Well	GAITHER #1-21
Field	WILDCAT
County	TREGO
State	KANSAS

Company PHILLIPS EXPLORATION COMPANY, L.C.

Well GAITHER #1-21

Field WILDCAT

County TREGO State KANSAS

Location: API # : 15-195-22887-0000

1980' FNL & 660' FEL

SEC 21 TWP 14S RGE 24W

Permanent Datum GROUND LEVEL Elevation 2321

Log Measured From KELLY BUSHING 5' A.G.L.

Drilling Measured From KELLY BUSHING

Other Services: CDL/CNL/PE MEL

Elevation: K.B. 2326 D.F. 2324 G.L. 2321

Date	9/24/13		
Run Number	ONE		
Depth Driller	4300		
Depth Logger	4296		
Bottom Logged Interval	4294		
Top Log Interval	00		
Casing Driller	8 5/8"@218'		
Casing Logger	218		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 1,400 PPM	
Density / Viscosity	9.4/53		
pH / Fluid Loss	10.5/6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.950@80F		
Rmf @ Meas. Temp	.713@80F		
Rmc @ Meas. Temp	1.14@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.639@119F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	4:45 P.M.		
Maximum Recorded Temperature	119F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	PAT DEENIHAN		

<<< Fold Here >>>

Comments

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395

DIRECTIONS

WAKEENEY, KS. & I-70, 13S. ON HWY 283 TO "RD. V", 5W. TO "200 AVE.", 1/2S., W. INTO

NABORS COMPLETION & PRODUCTION SERVICES CO.

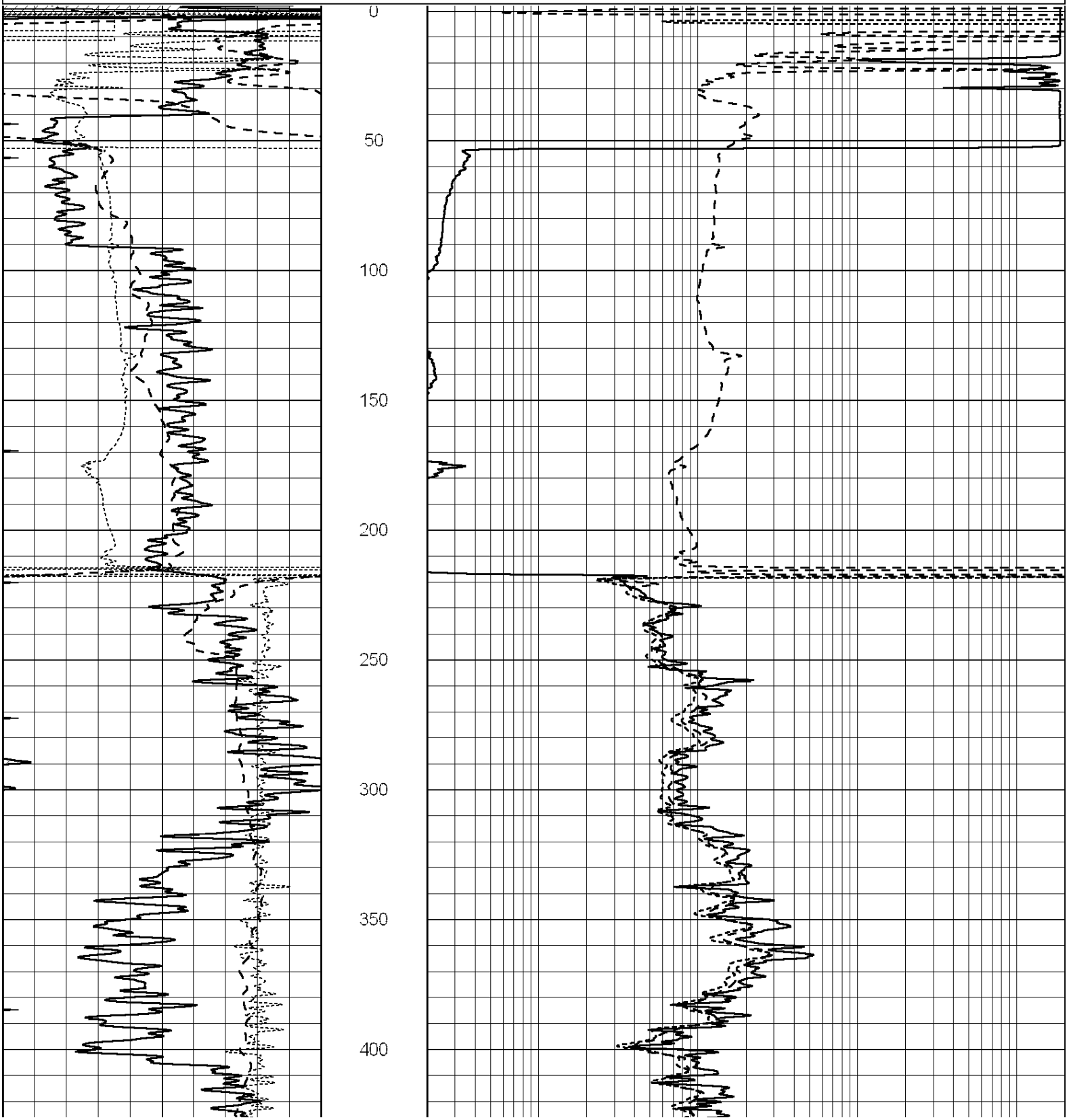
MAIN SECTION

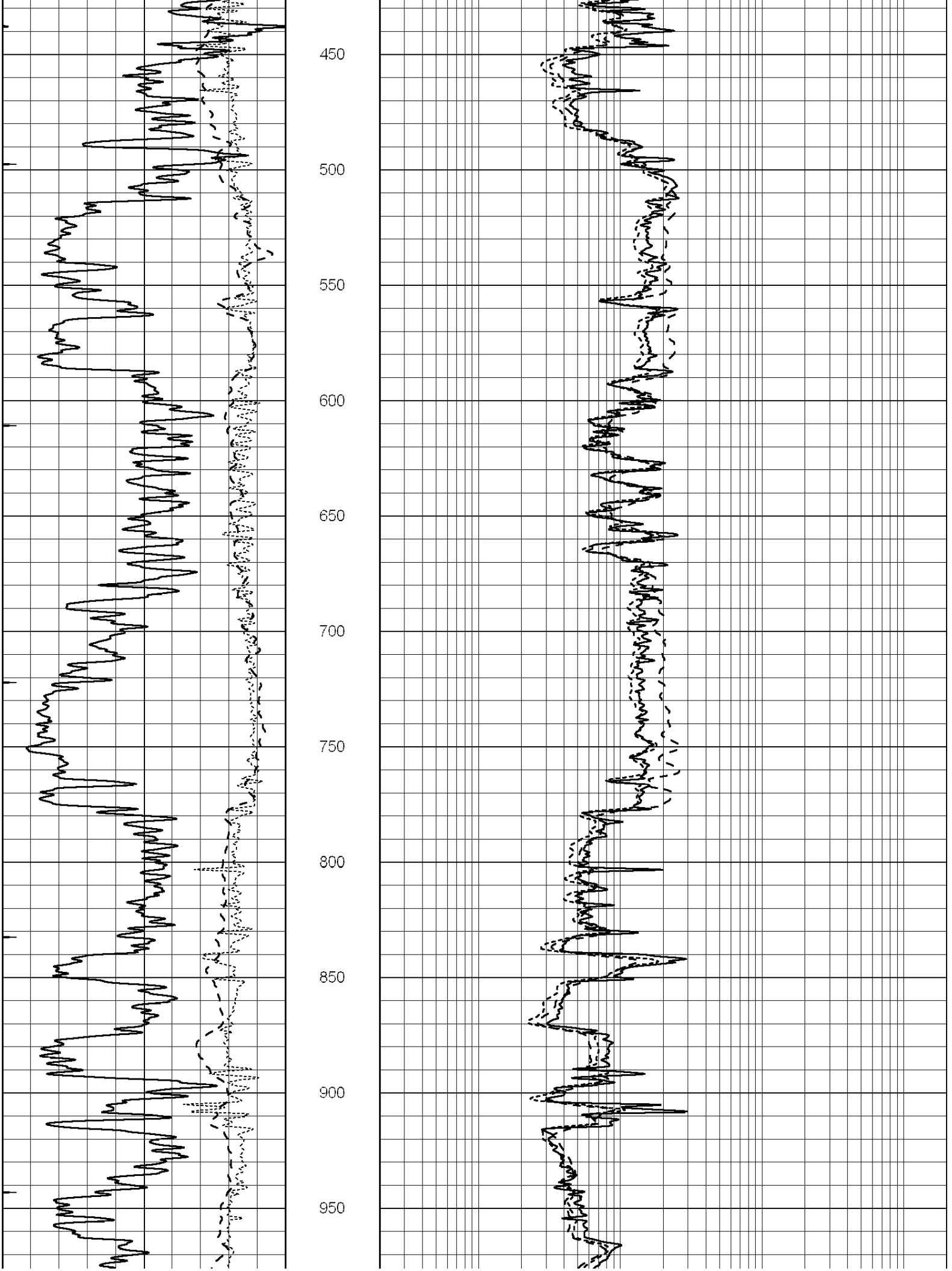
SERVICES CO.

Database File:	011675ddn.db
Dataset Pathname:	pass3.4
Presentation Format:	dil2
Dataset Creation:	Tue Sep 24 18:04:13 2013 by Calc SOC 120430
Charted by:	Depth in Feet scaled 1:600

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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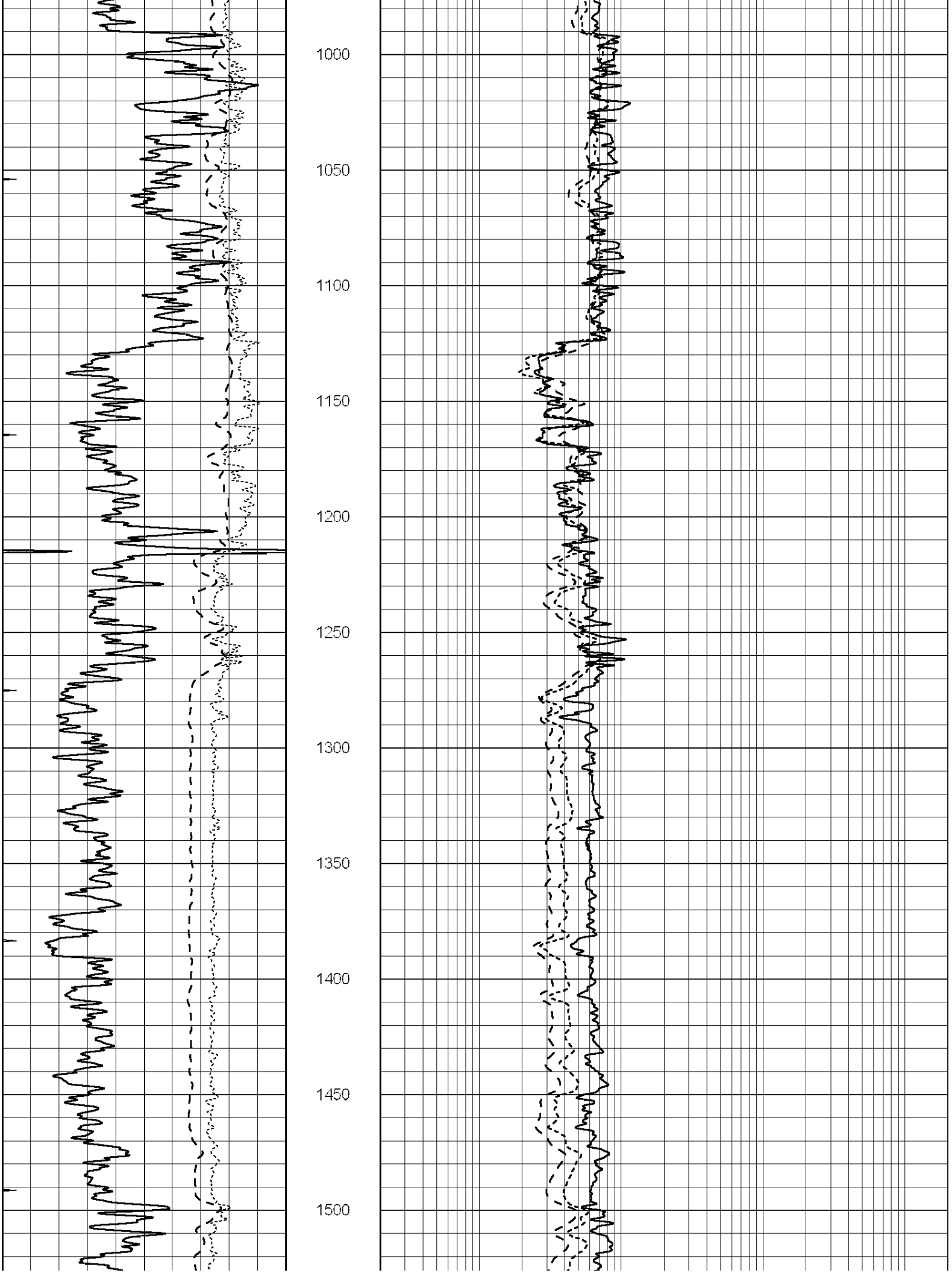
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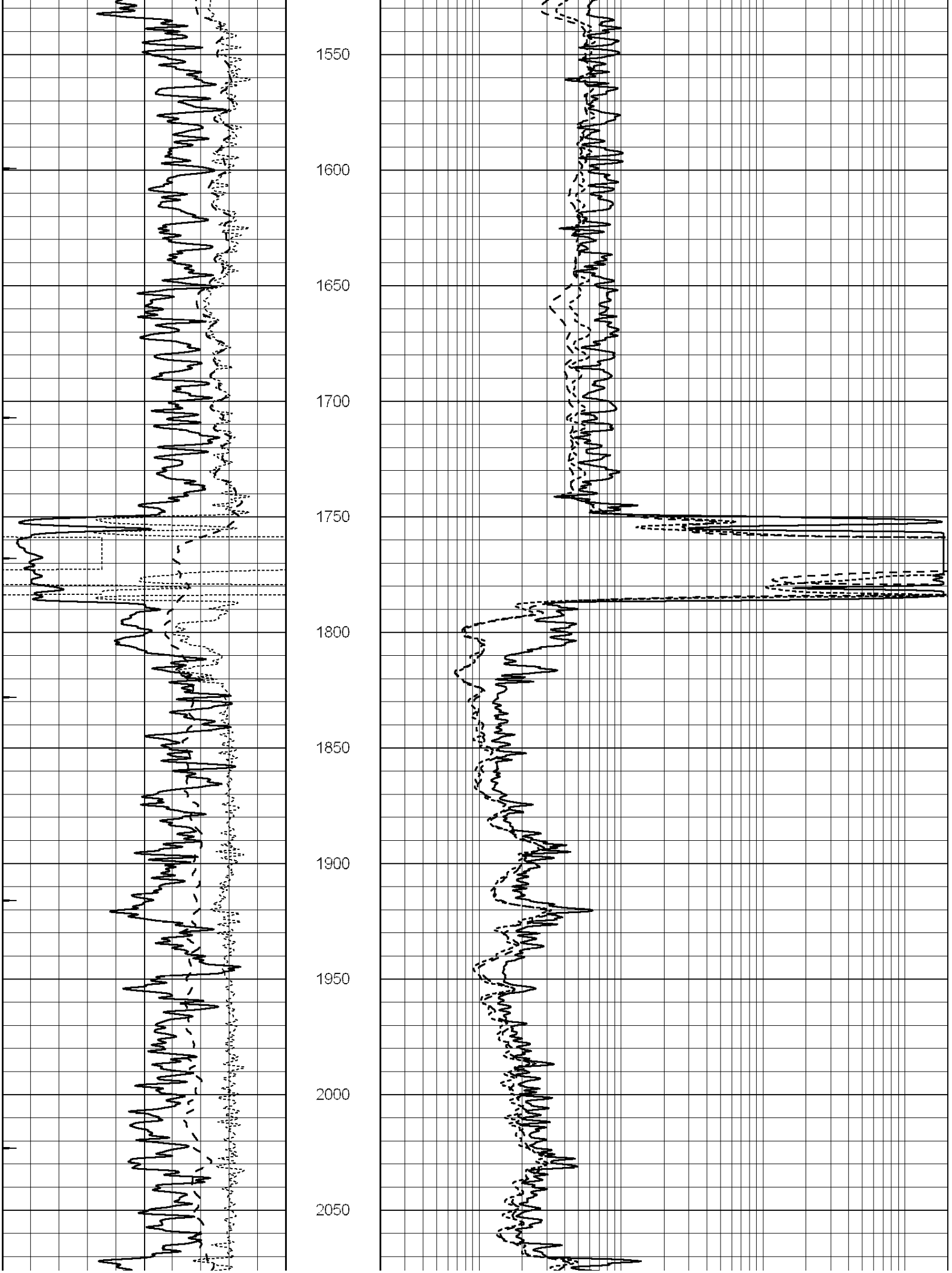
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1850
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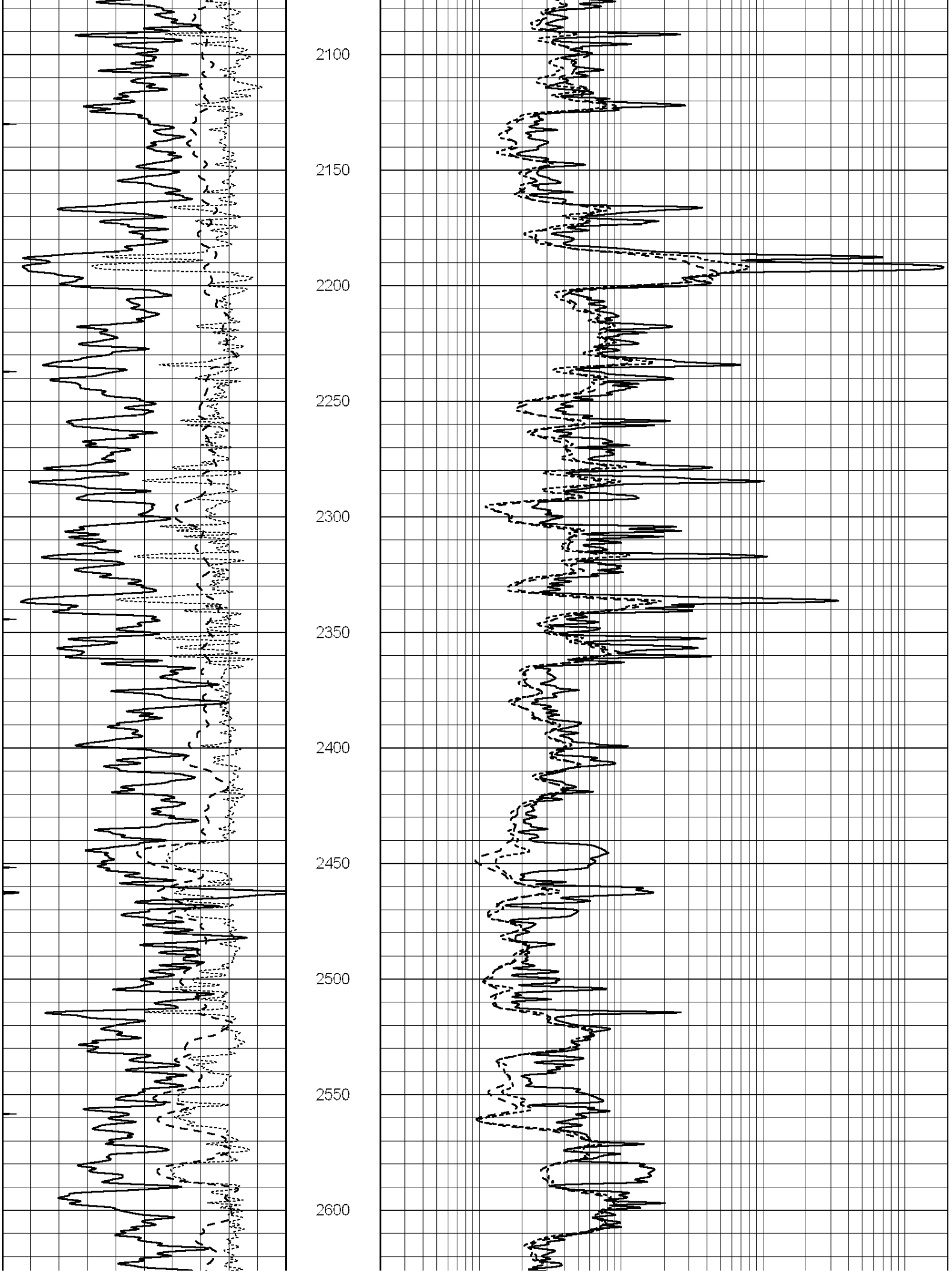
2000
2050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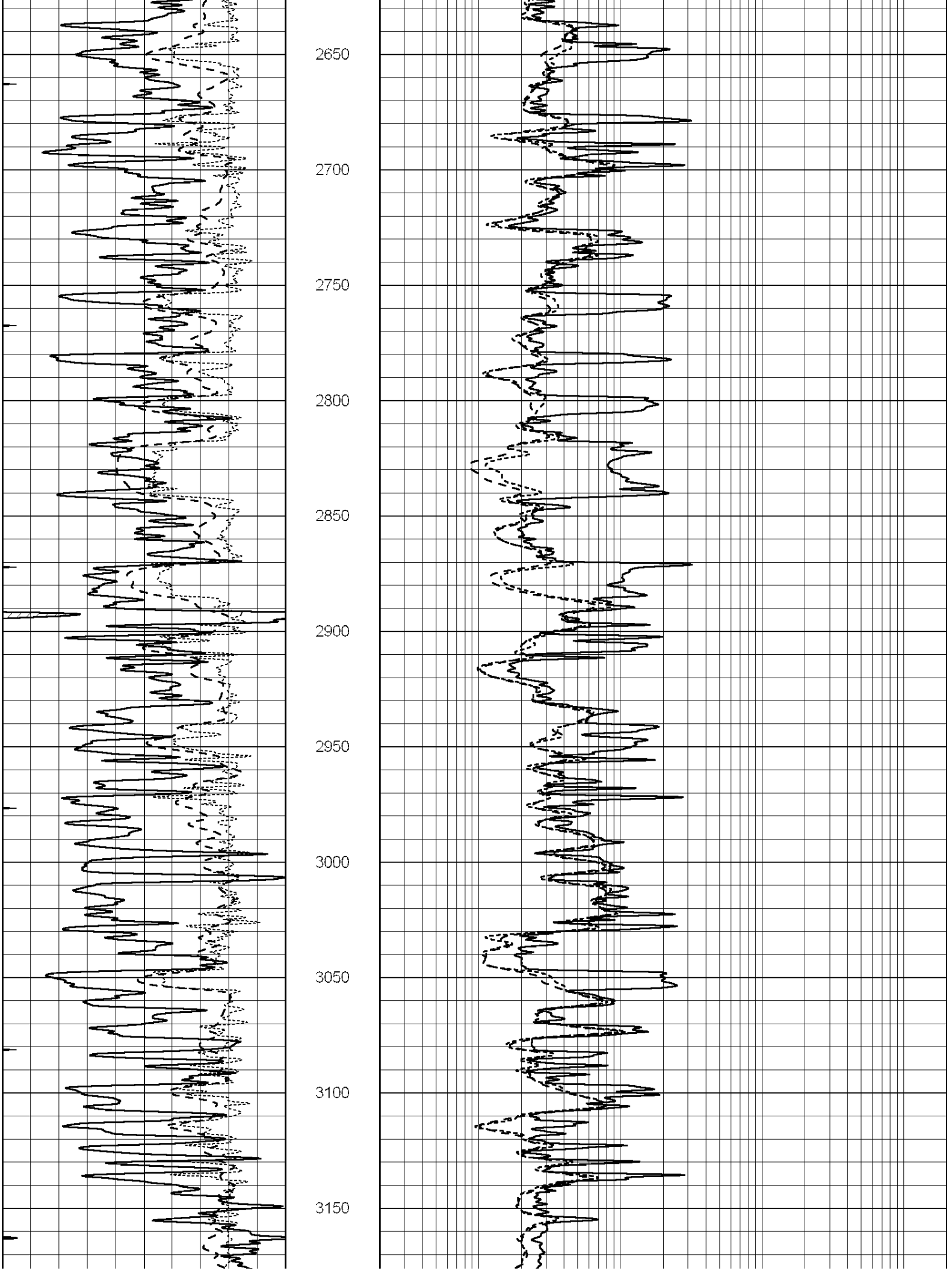
2600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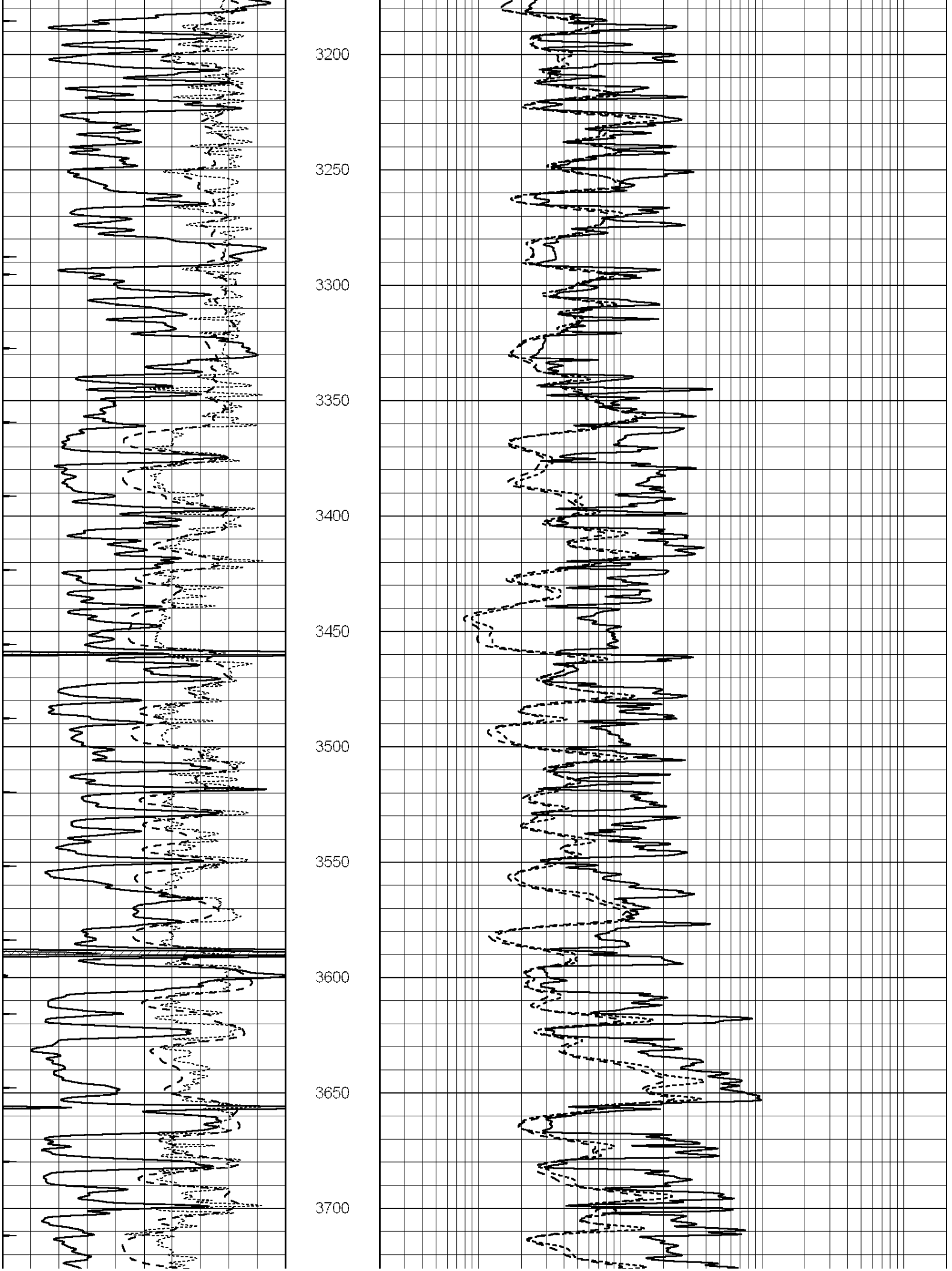
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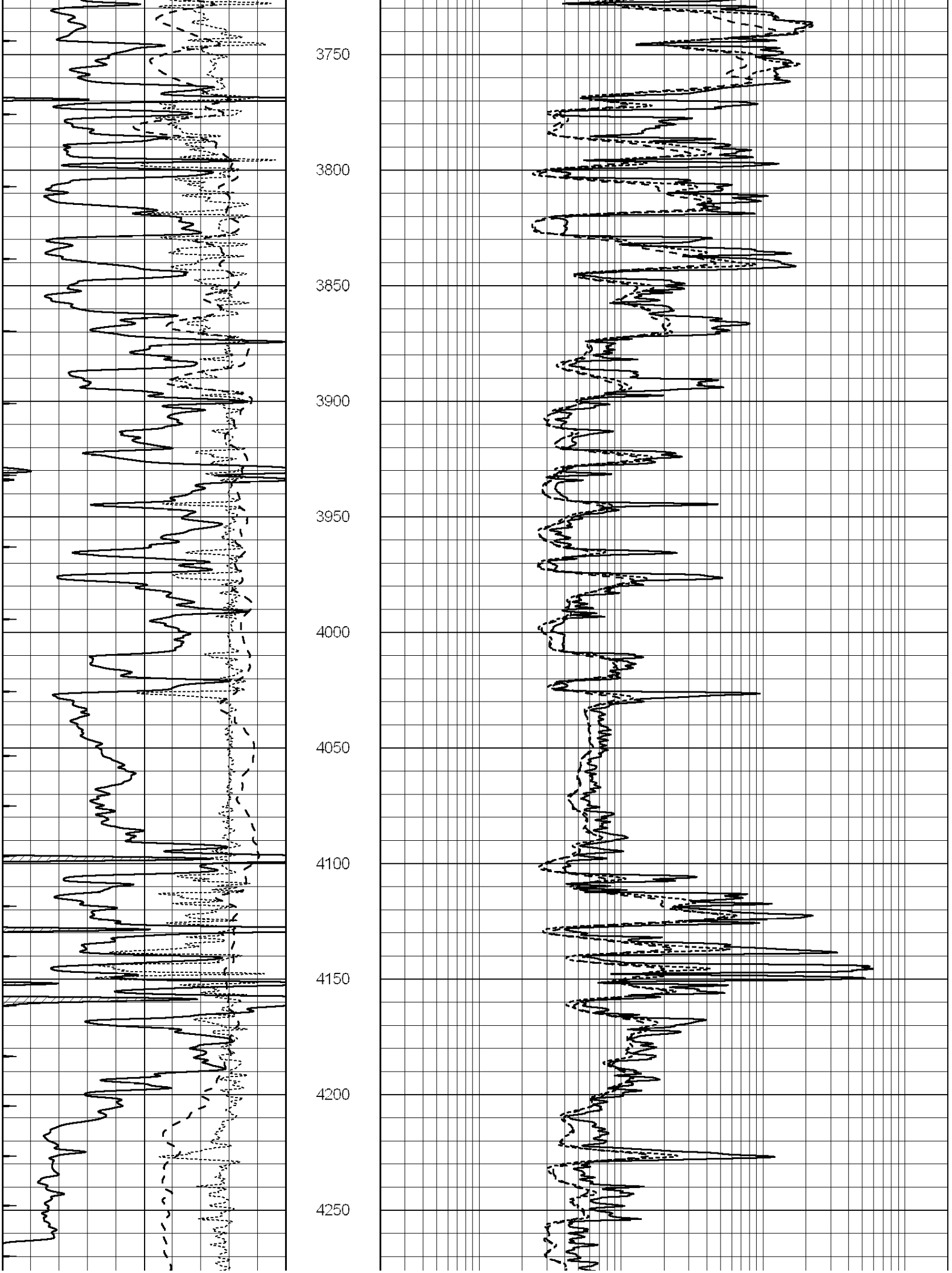
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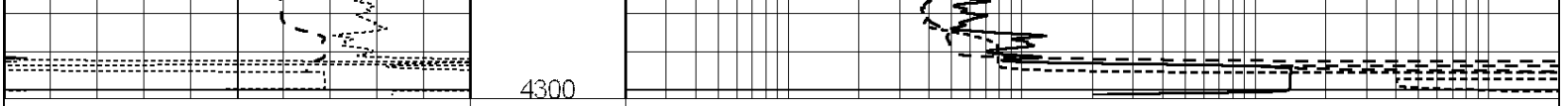


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

4300

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

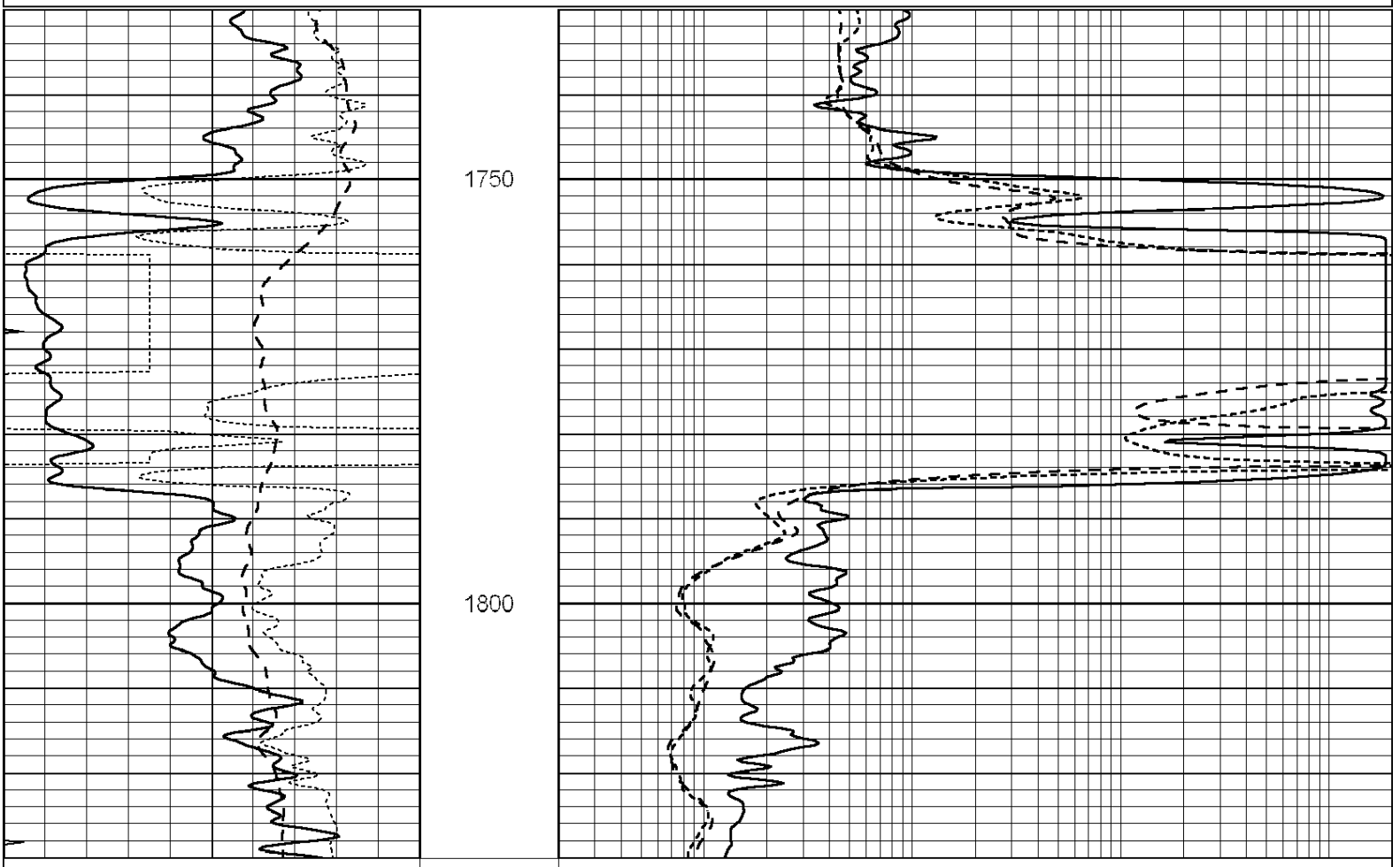
NABORS
COMPLETION & PRODUCTION SERVICES CO.

ANHYDRITE

Database File: 011675ddn.db
Dataset Pathname: pass3.5
Presentation Format: dil
Dataset Creation: Tue Sep 24 18:08:38 2013 by Calc SOC 120430
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



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

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

0	MINMK	20

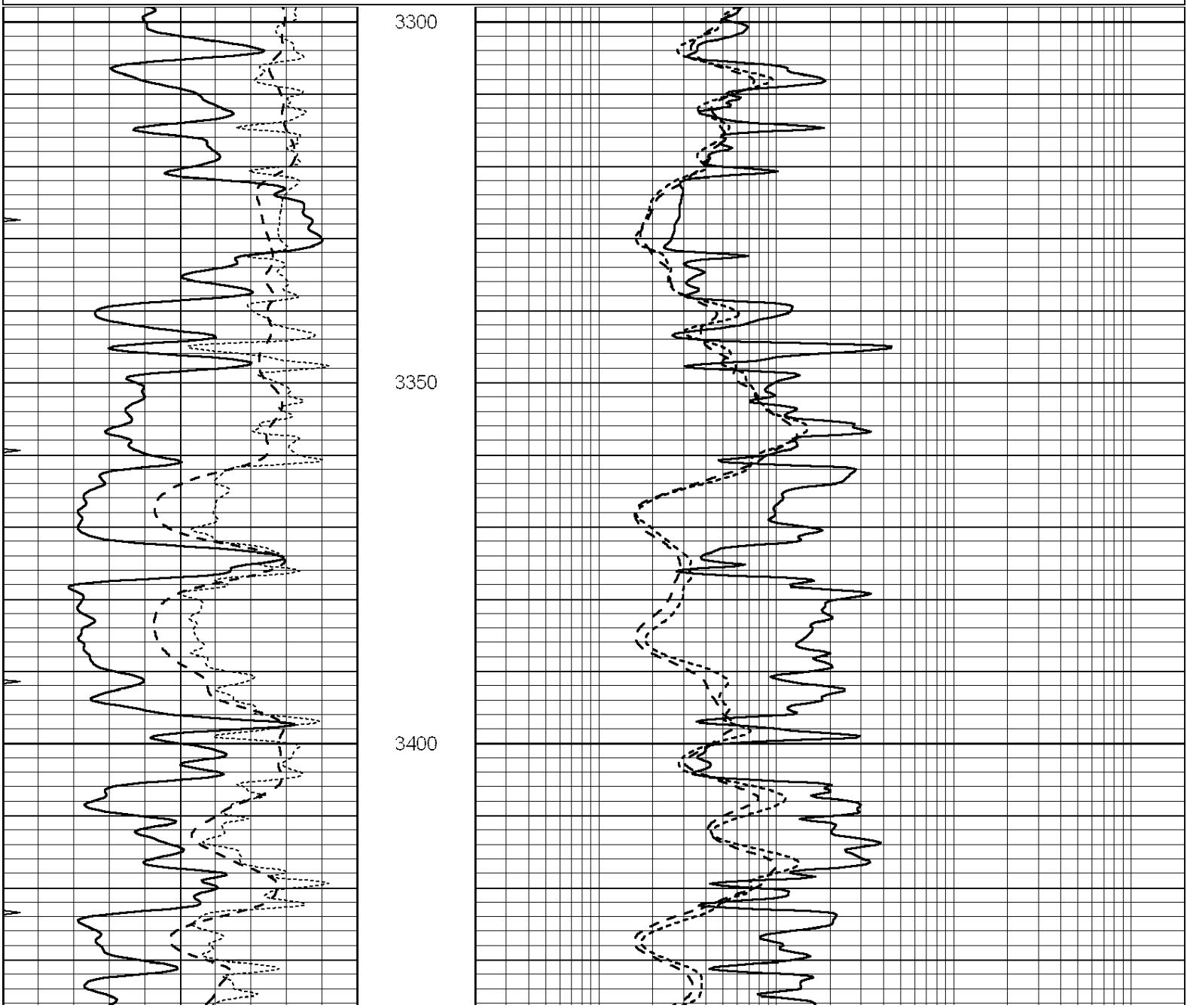
NABORS
COMPLETION & PRODUCTION SERVICES CO.

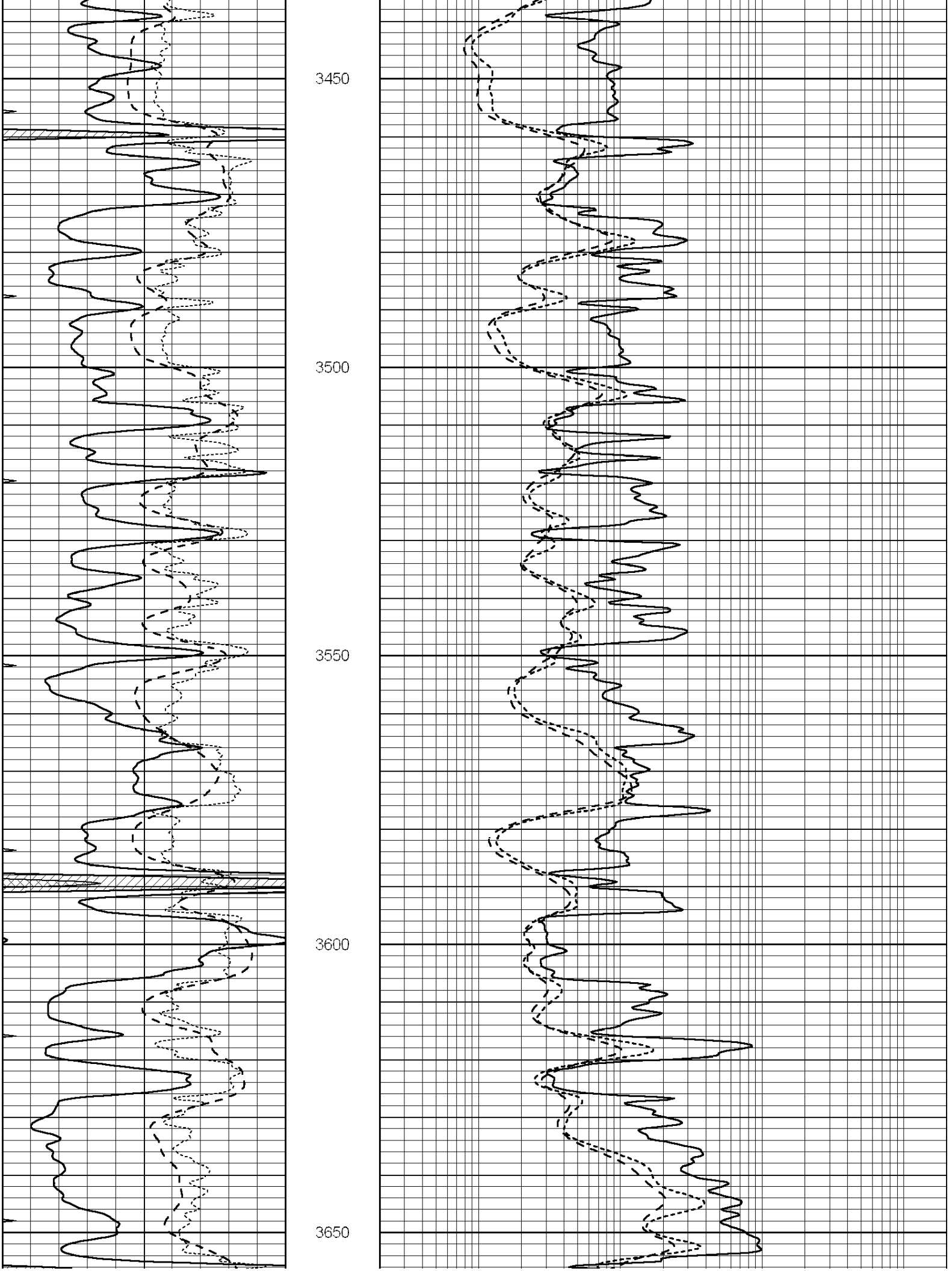
MAIN SECTION

Database File: 011675ddn.db
Dataset Pathname: pass3.4
Presentation Format: dil
Dataset Creation: Tue Sep 24 18:04:13 2013 by Calc SOC 120430
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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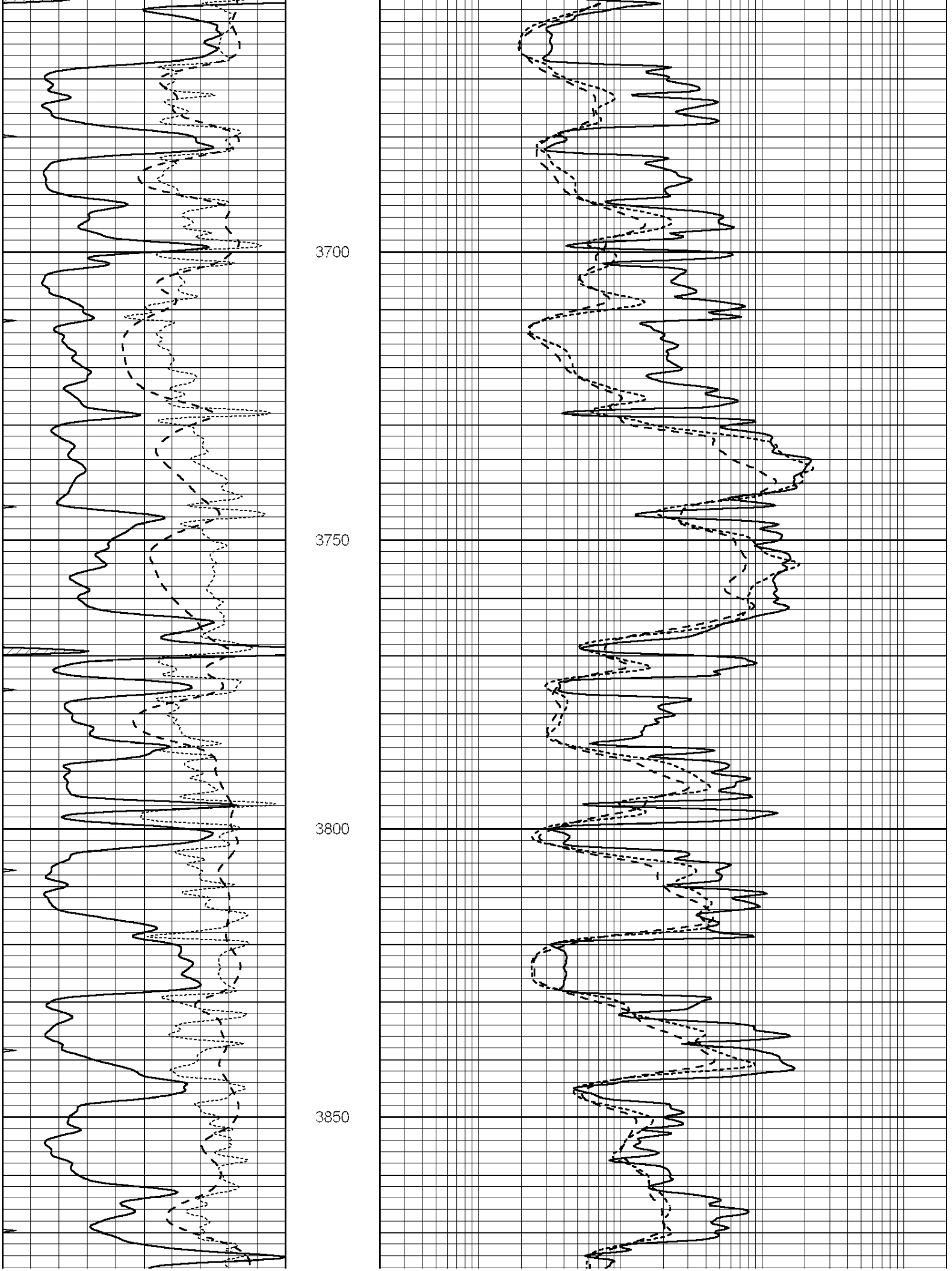
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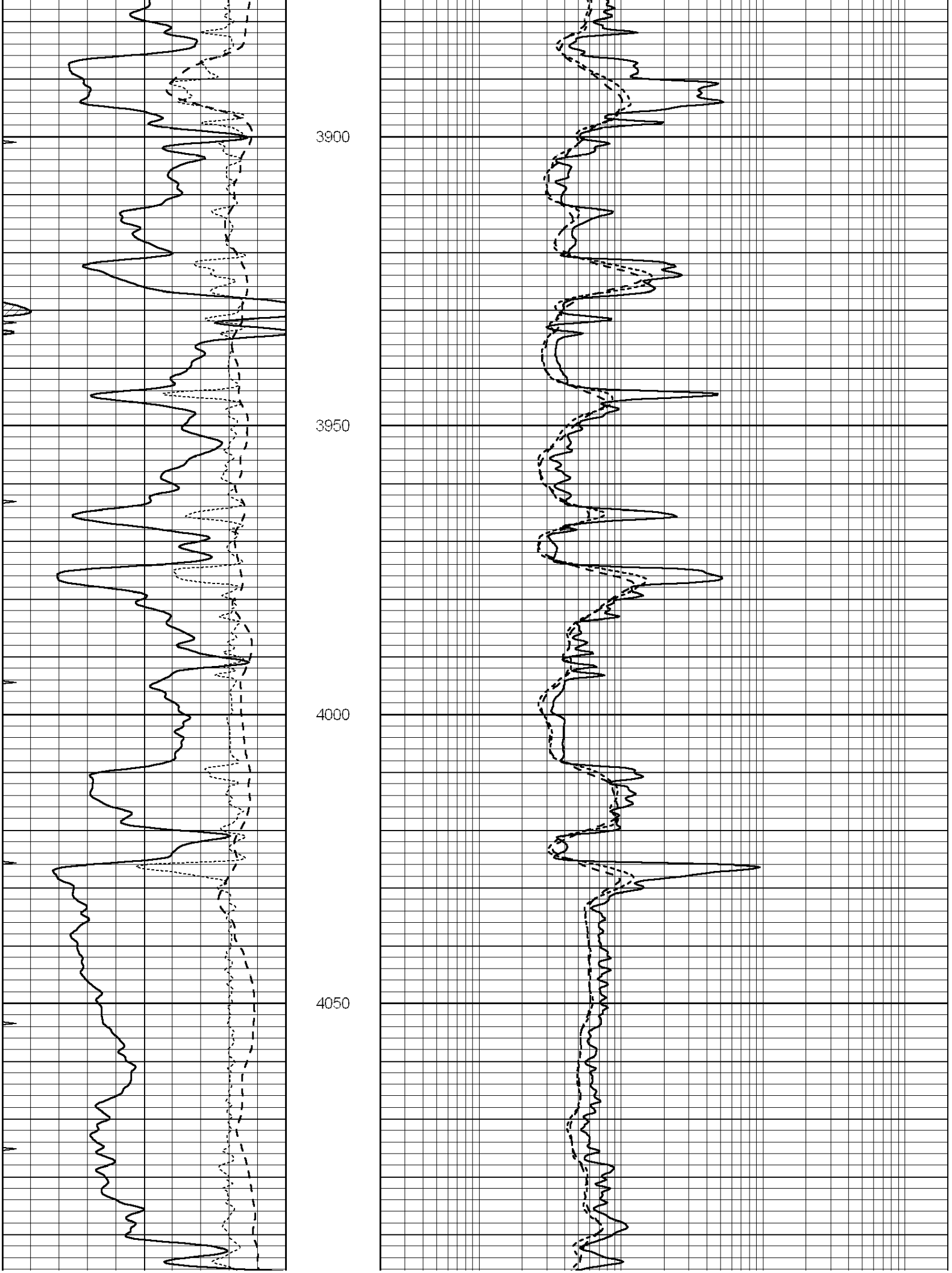
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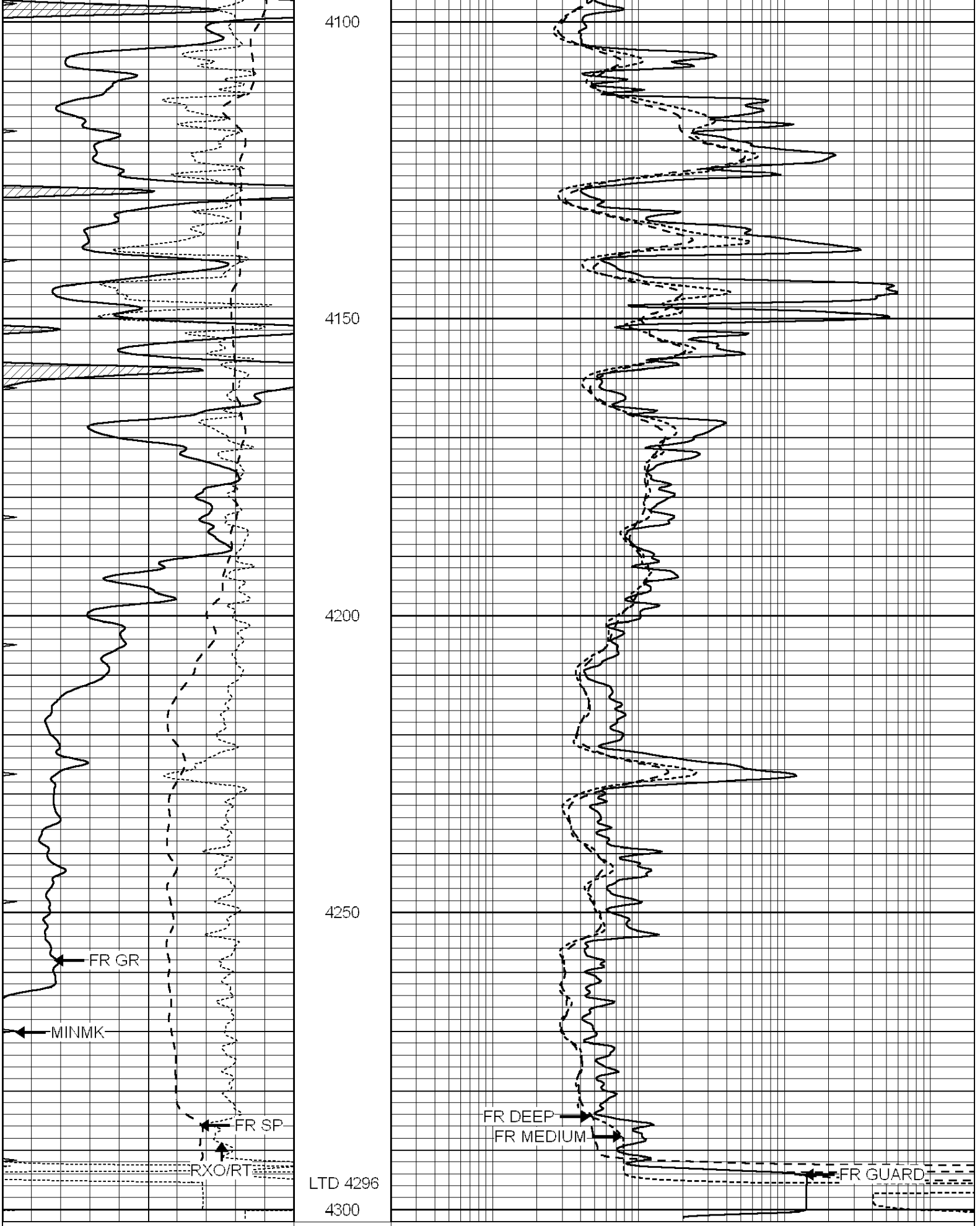

4100
4150
4200
4250
FR GR
MINMK
FR SP
RXO/RT
LTD 4296
4300
FR DEEP
FR MEDIUM
FR GUARD
0 GAMMA RAY (GAPI) 150
-100 SP (mV) 100
-250 Rxo/Rt 50
0.2 SHALLOW GUARD (Ohm-m) 2000
0.2 DEEP INDUCTION (Ohm-m) 2000
0.2 MEDIUM INDUCTION (Ohm-m) 2000

0	MINMK	20

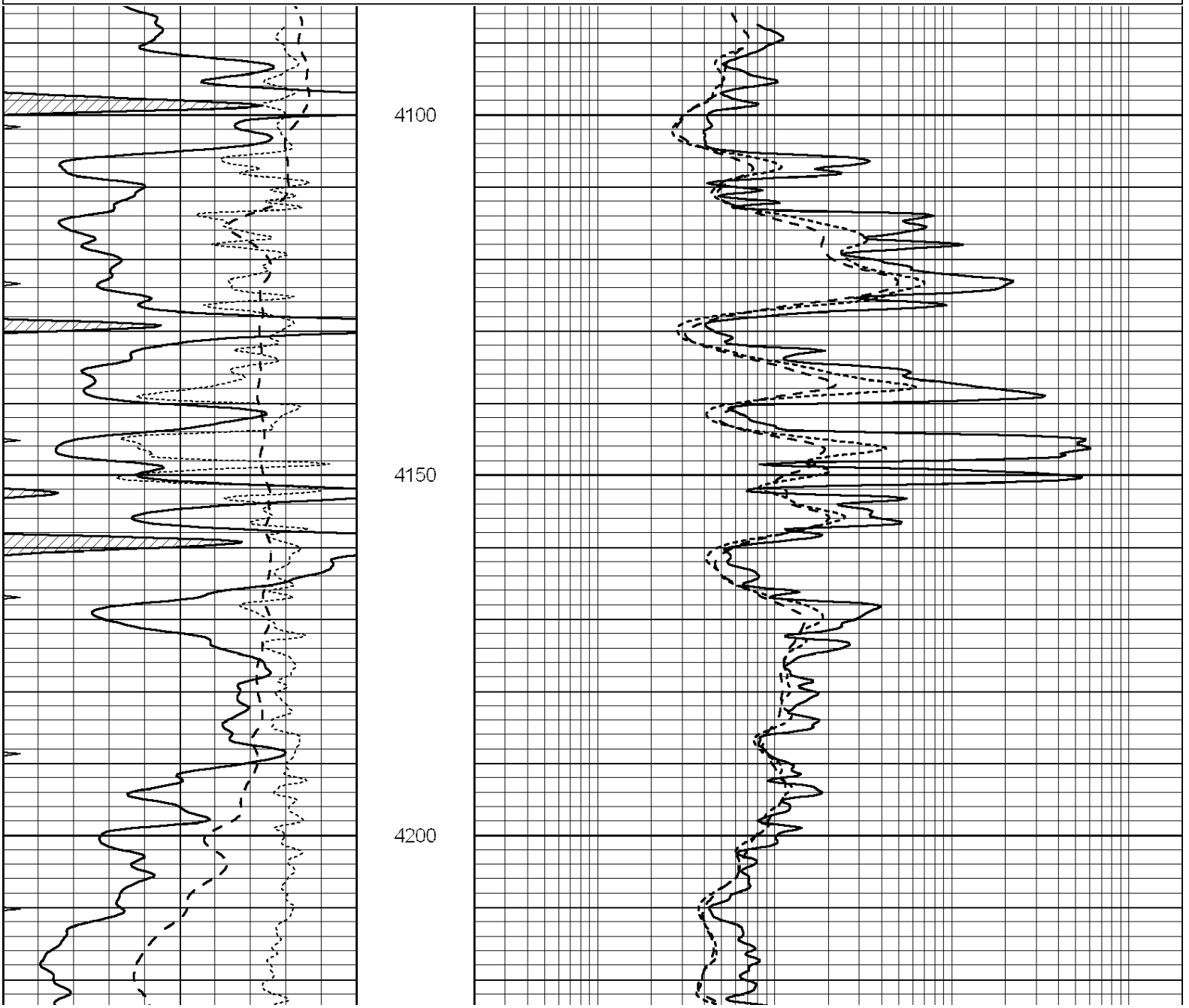
NABORS
COMPLETION & PRODUCTION SERVICES CO.

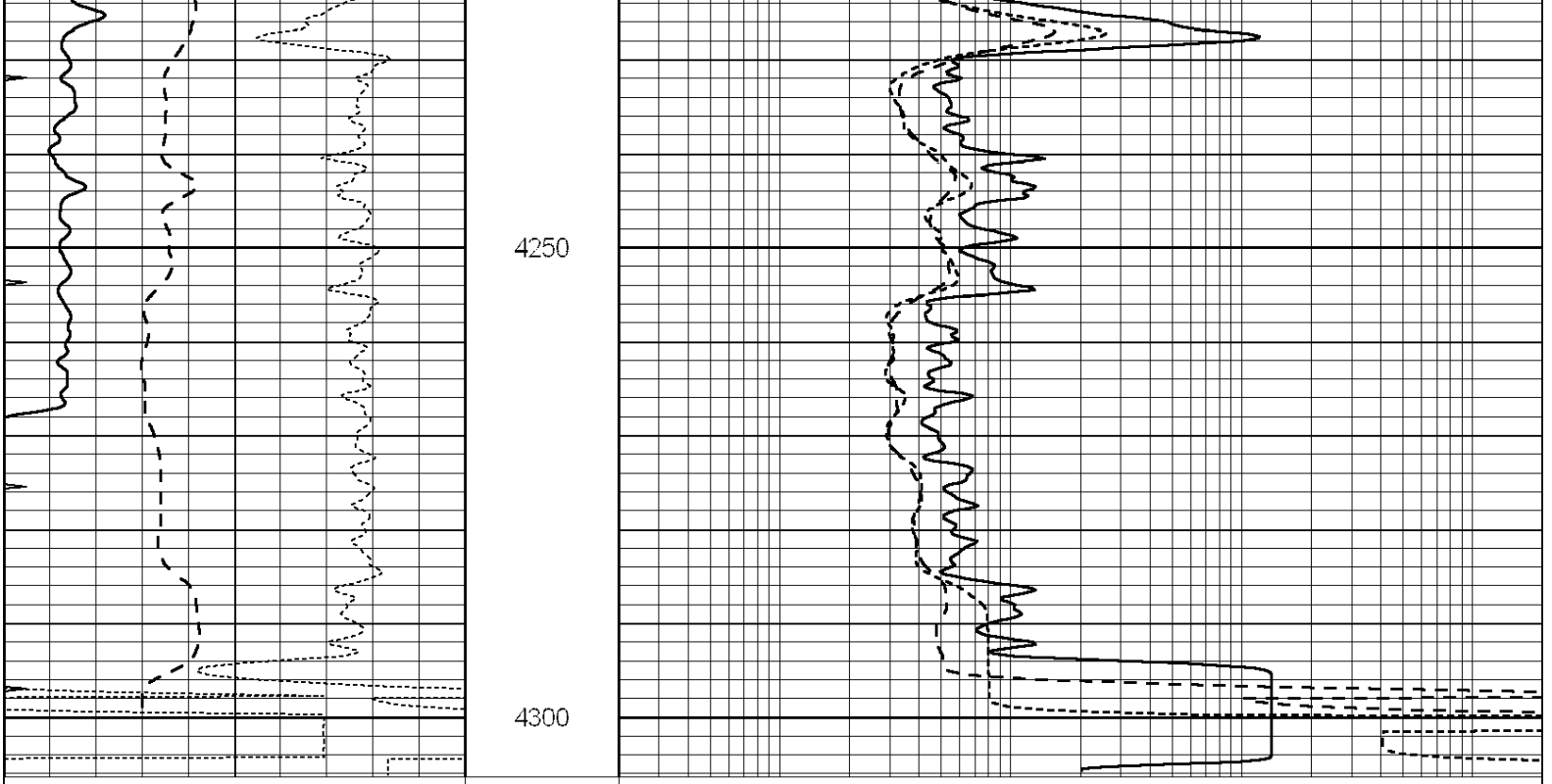
REPEAT SECTION

Database File: 011675ddn.db
Dataset Pathname: pass2.5
Presentation Format: dil
Dataset Creation: Tue Sep 24 17:33:22 2013 by Calc SOC 120430
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





Calibration Report

Database File: 011675ddn.db
Dataset Pathname: pass3.4
Dataset Creation: Tue Sep 24 18:04:13 2013 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Thu Sep 19 14:49:33 2013
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-19.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		

0.000	V	20.000	Ohm-m	
-7.200	V	4000.000	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		

Litho Density Calibration Report

Serial: 001 Model: PRB

Master Calibration — Performed Tue May 28 08:54:22 2013

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1890.3	12786.5	4236.7	13497.2	cps
Window 2	1764.1	11051.7	3765.5	11456.4	cps
Window 3	1442.8	5894.4	2376.2	5911.4	cps
Window 4	428.0	428.9	420.8	426.5	cps
Long Space	0.0	9287.6	2001.3	9692.3	cps
Short Space	3.2	3351.1	2186.8	3398.0	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 44.5	Rib Slope	: 0.981	Density/Spine Ratio	: 0.552
Spine Angle	: 74.5	Spine Slope	: 3.596	Spine Intercept	: -20.1

Before Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

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:	Wed Jun 12 18:25:42 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3500	GAPI/cps