SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company PIONEER RESOURCES

Well FOUNDATION #1

Field LAZY OK SOUTH

County PHILLIPS State KANSAS

Location: API # : 15-147-20672

990' FNL & 440' FEL

SEC 3 TWP 5S RGE 18W

Other Services
CDL/CNL
SONIC/MEL

Elevation
K.B. 1913
D.F.
G.L. 1905

Permanent Datum GROUND LEVEL Elevation 1905
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Company PIONEER RESOURCES
Well FOUNDATION #1
Field LAZY OK SOUTH
County PHILLIPS
State KANSAS

Date	4-30-12		
Run Number	ONE		
Depth Driller	3400		
Depth Logger	3400		
Bottom Logged Interval	3398		
Top Log Interval	00		
Casing Driller	221		
Casing Logger	221		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	8.9 / 47		
pH / Fluid Loss	10.5 / 6.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.95 @ 81F		
Rmf @ Meas. Temp	0.71 @ 81F		
Rmc @ Meas. Temp	1.14 @ 81F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.710 @ 109F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	12:30 A.M.		
Maximum Recorded Temperature	109F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	CLIFF OTTAWAY		

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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

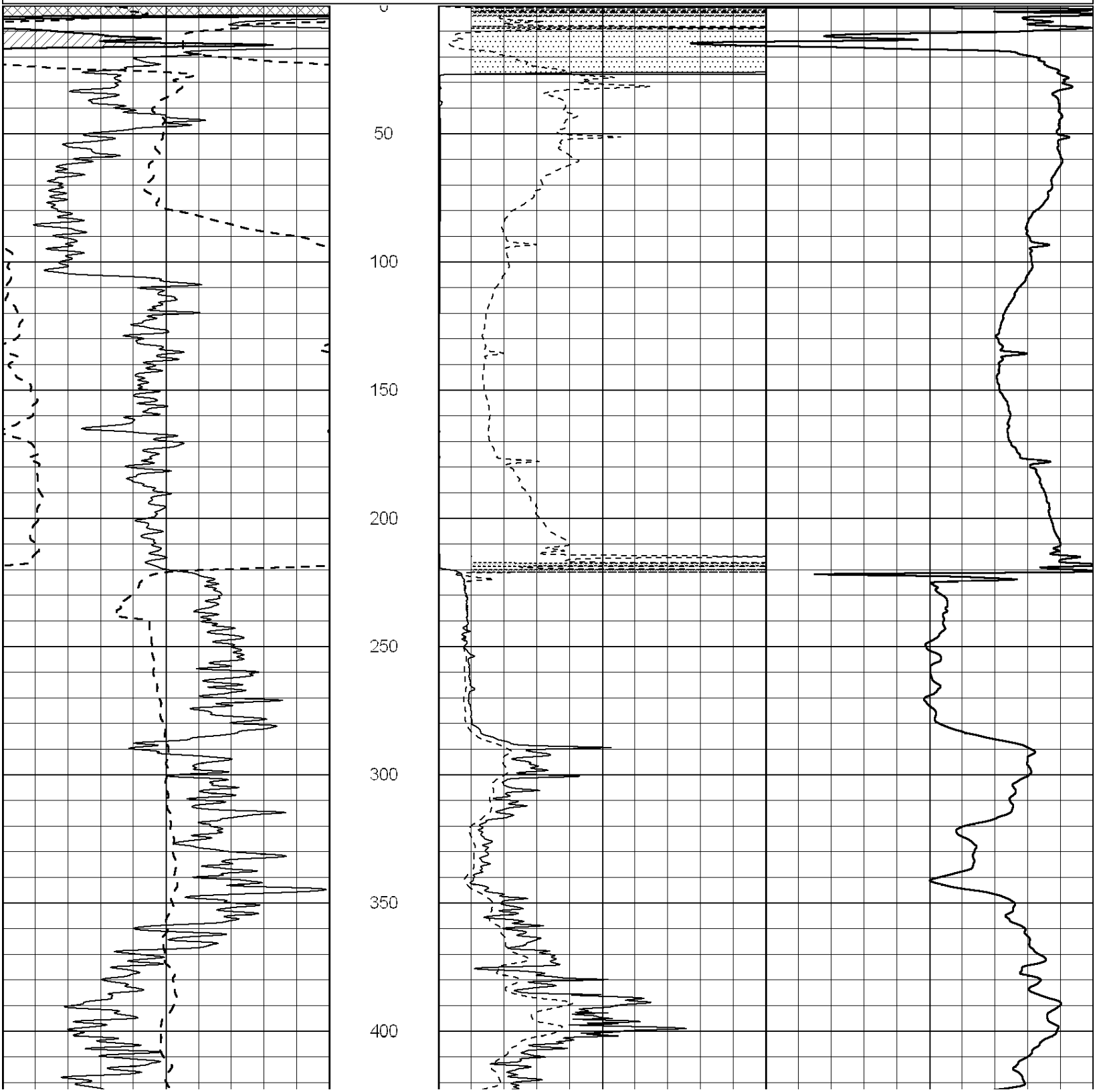
SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: GLADE, 1W, 2S, W INTO.

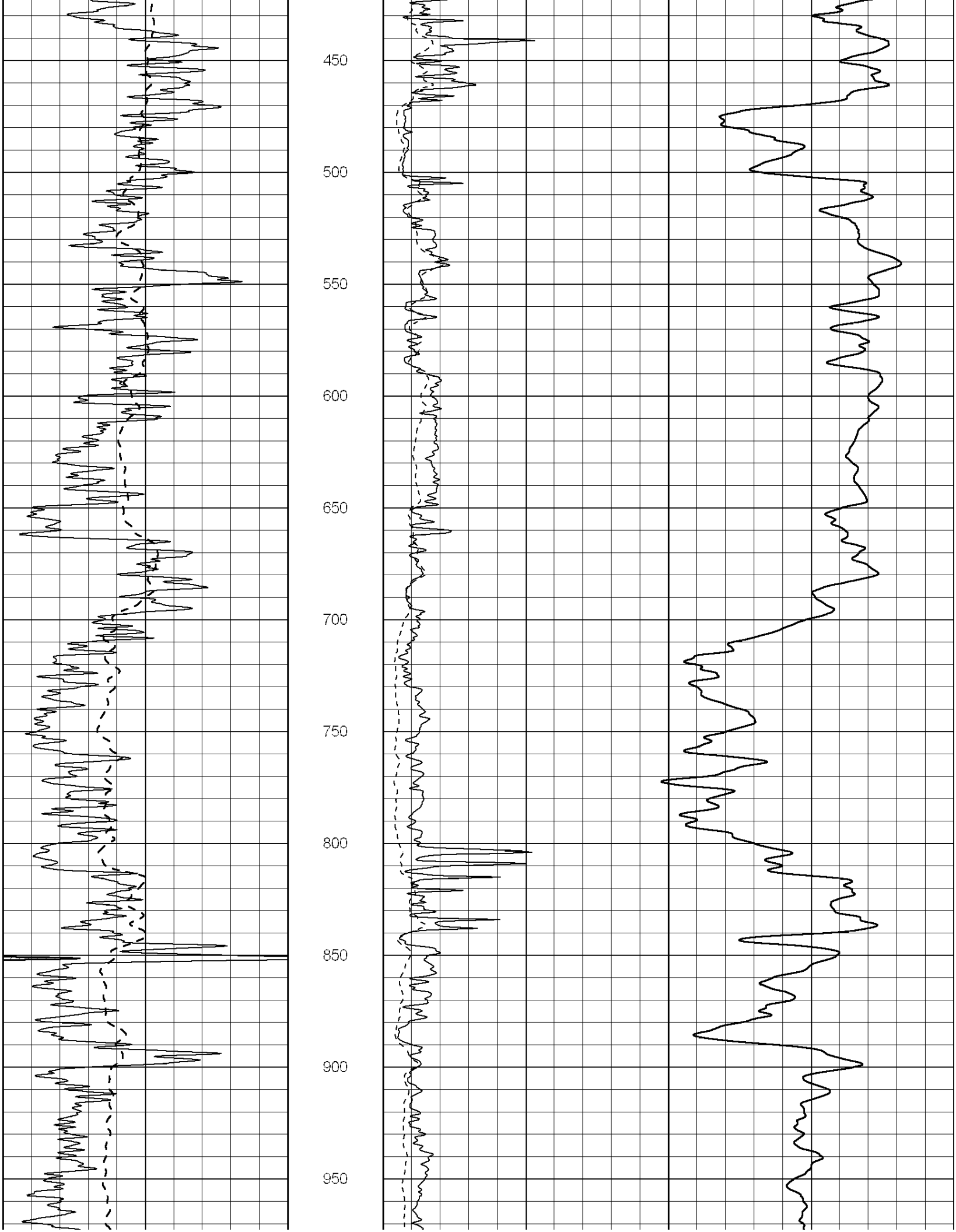
MAIN SECTION

SUPERIOR
Hays,

Kansas

Database File:	009109ddn.db
Dataset Pathname:	pass3.1A
Presentation Format:	dil2
Dataset Creation:	Tue May 01 01:45:01 2012
Charted by:	Depth in Feet scaled 1:600

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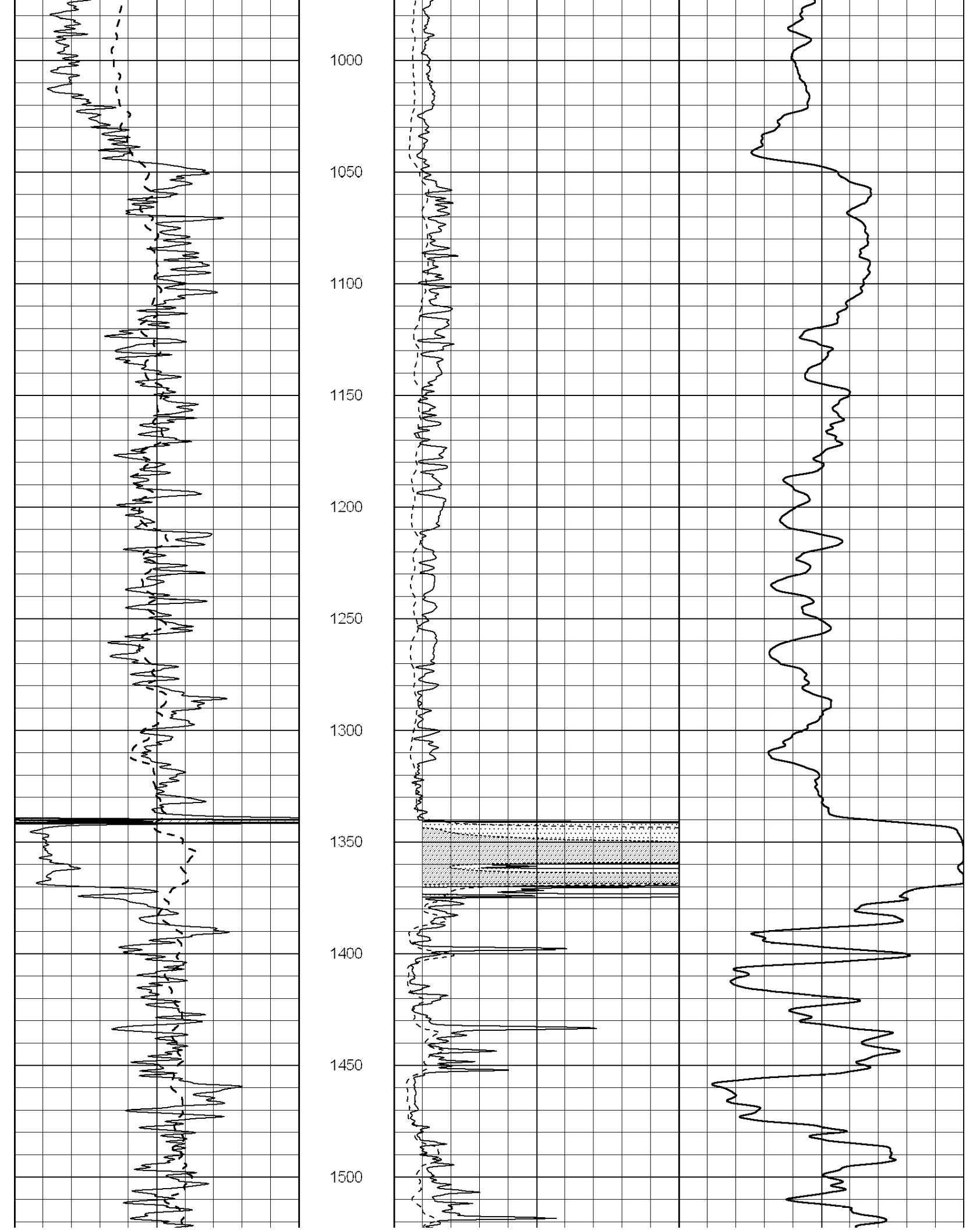
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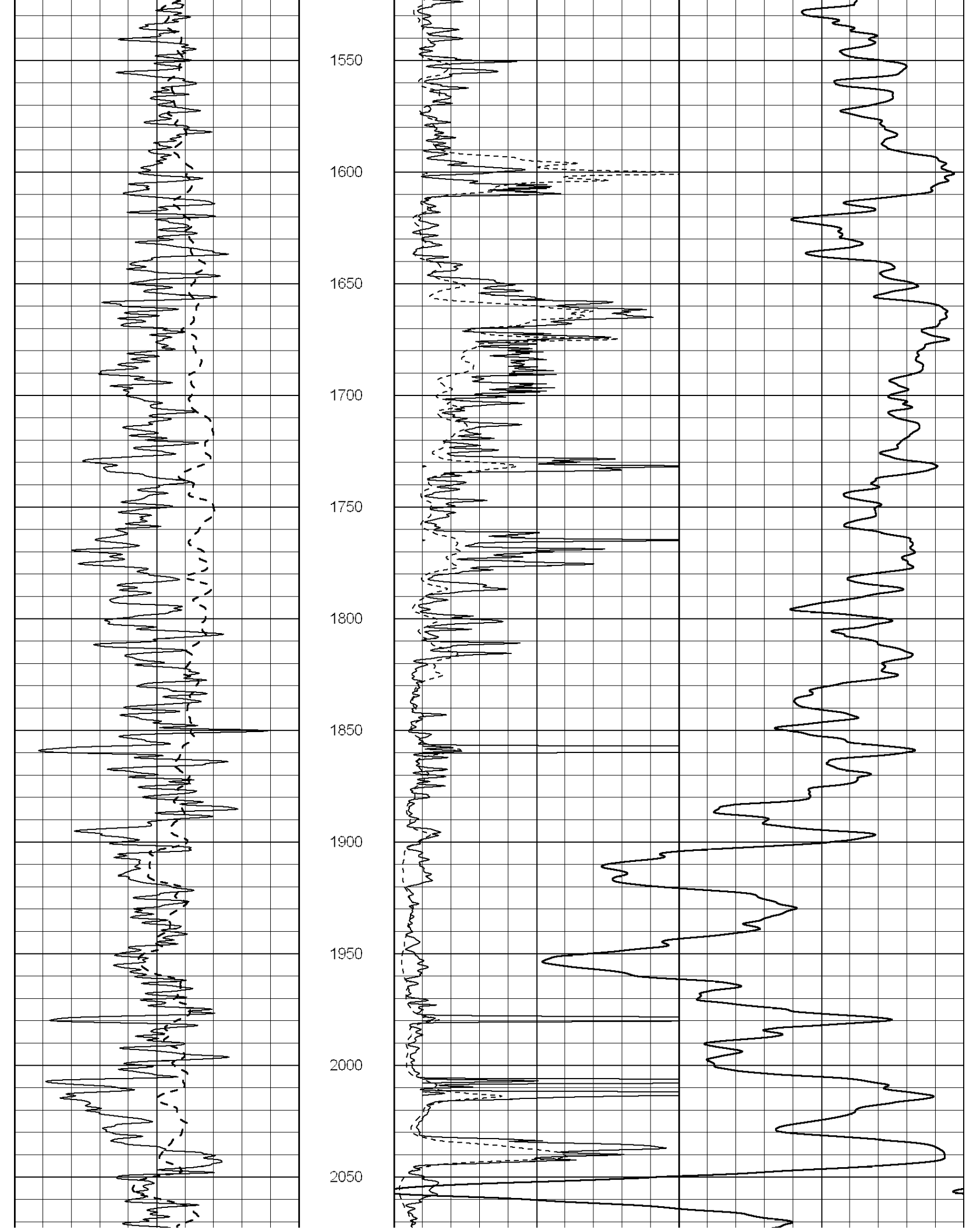
1400
1450
1500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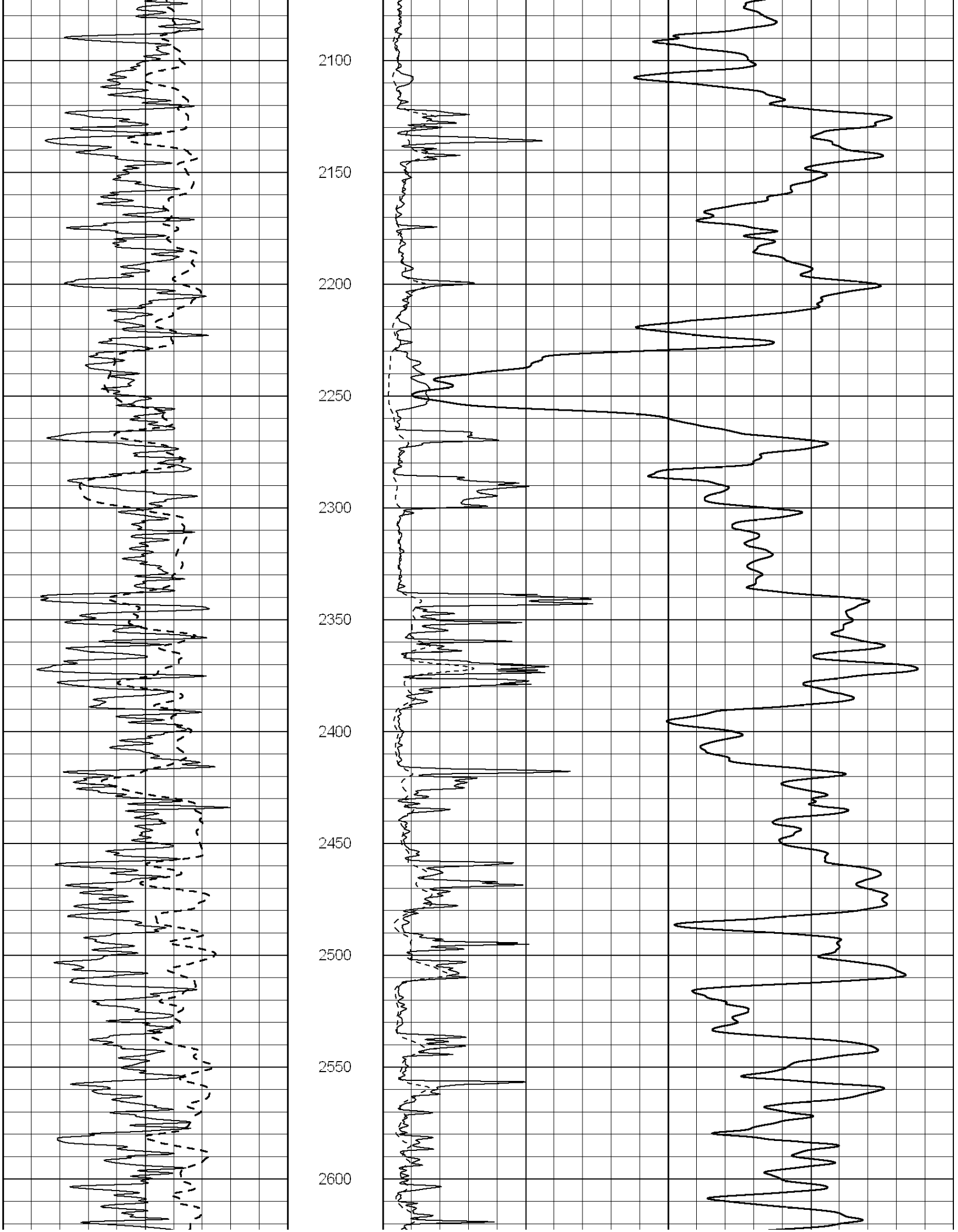
1850
1900
1950
2000
2050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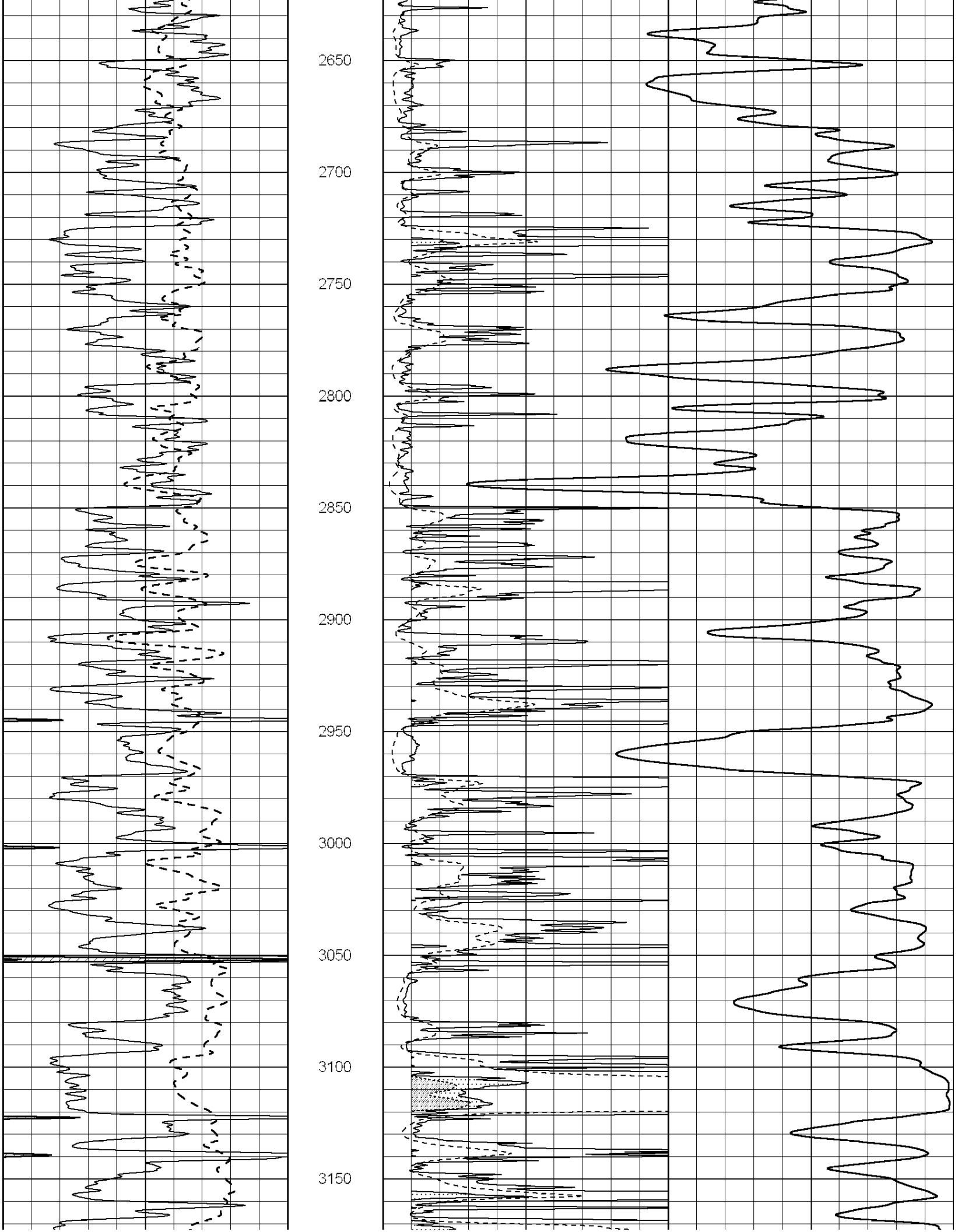
2600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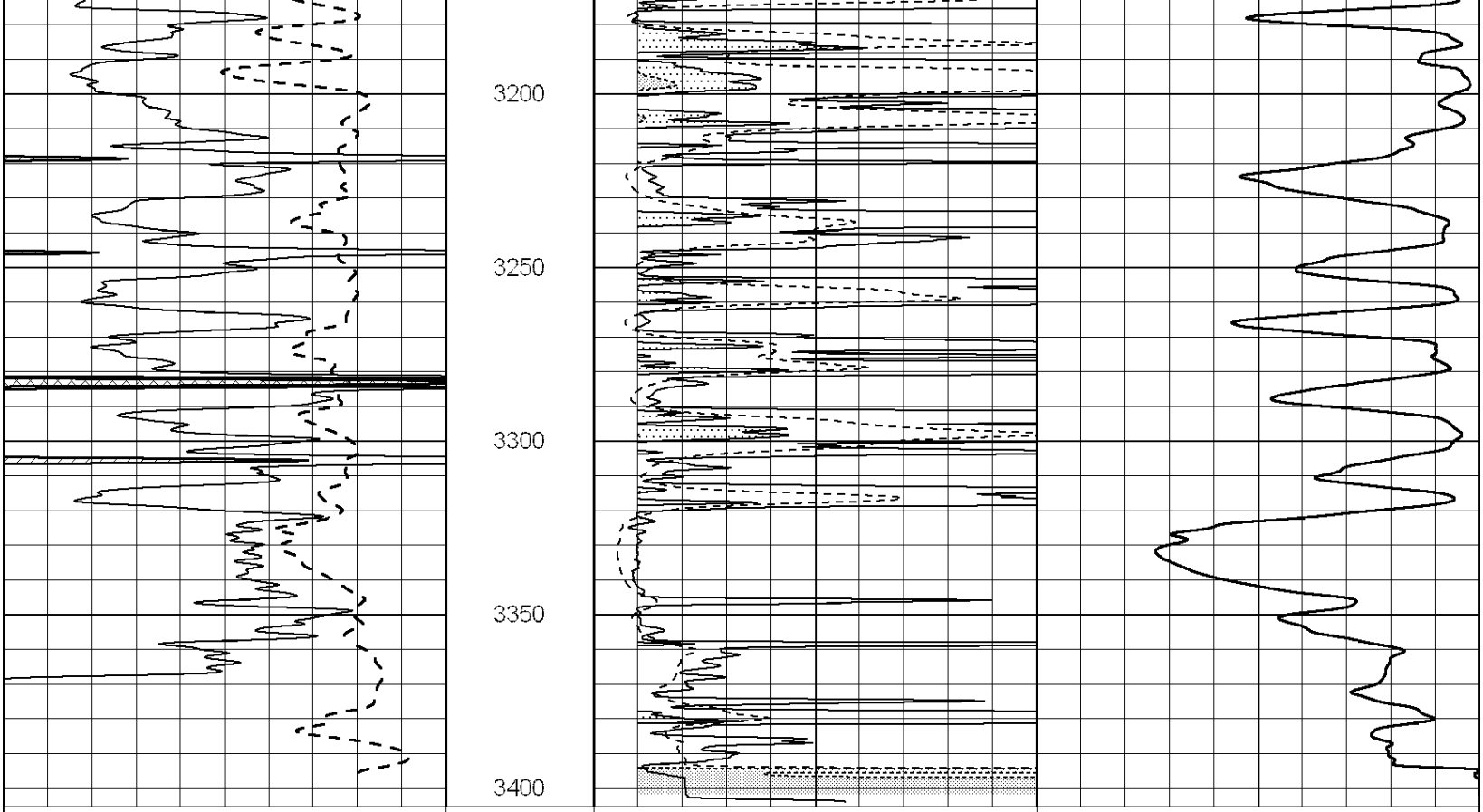


SUPERIOR WELL SERVICES

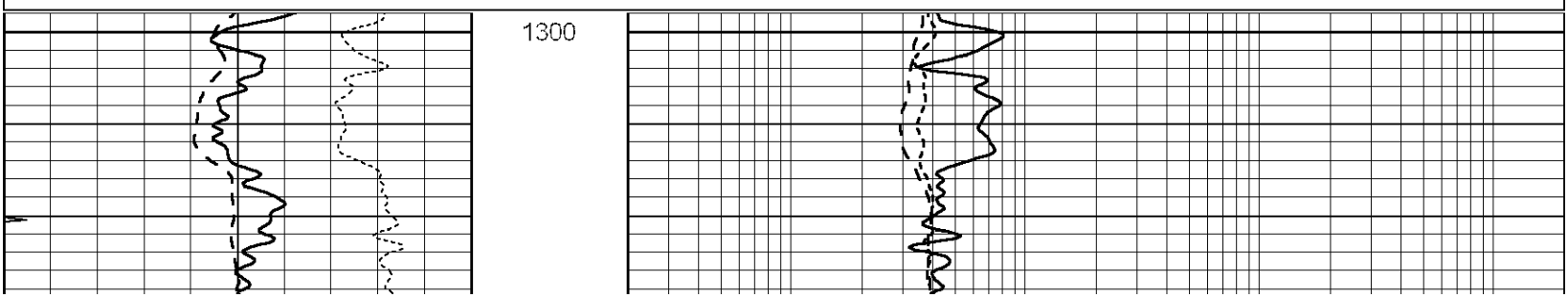
SUPERIOR
Hays,
Kansas

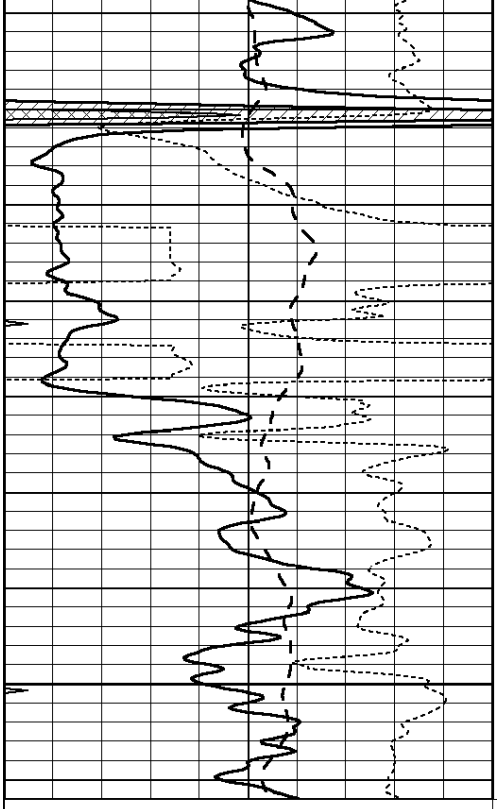
MAIN SECTION

Database File:	009109ddn.db
Dataset Pathname:	pass3.1A
Presentation Format:	dil
Dataset Creation:	Tue May 01 01:45:01 2012
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





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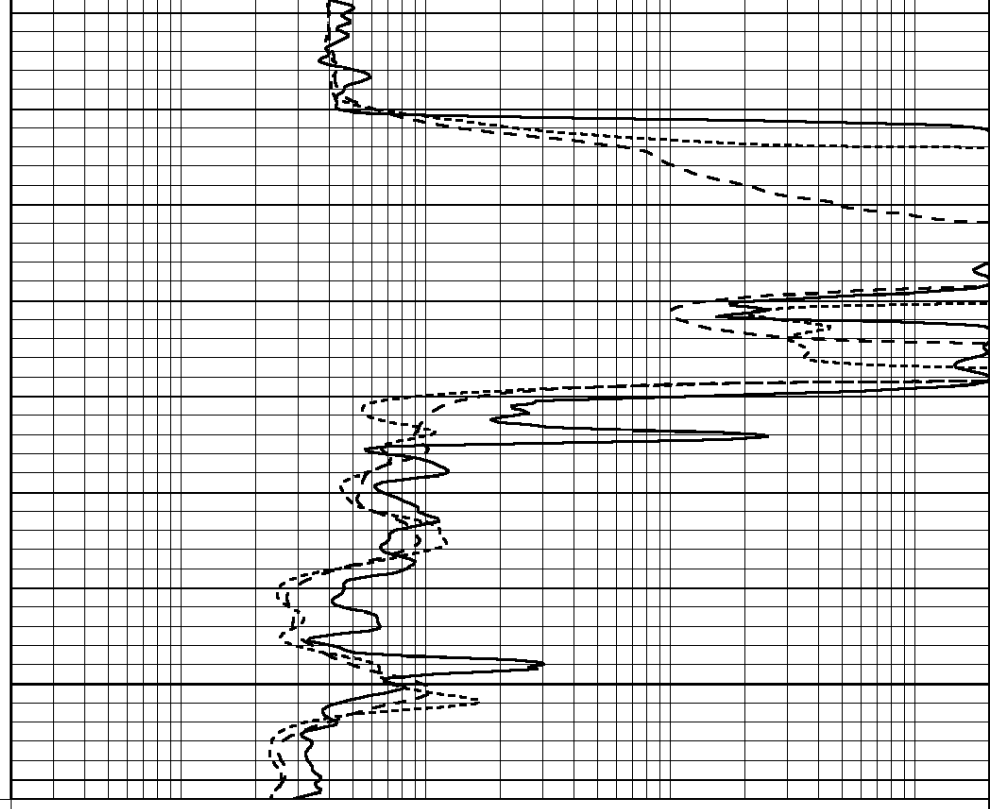
1400



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

SUPERIOR

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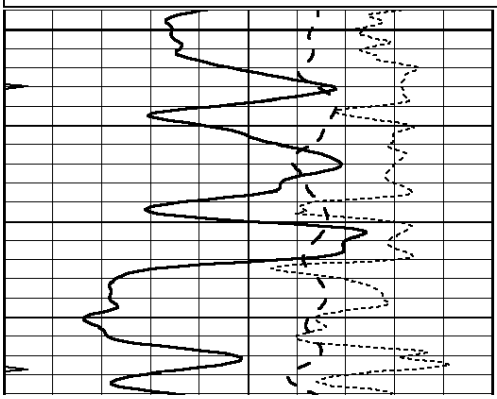
MAIN SECTION

Database File:	009109ddn.db
Dataset Pathname:	pass3.1A
Presentation Format:	dil
Dataset Creation:	Tue May 01 01:45:01 2012
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



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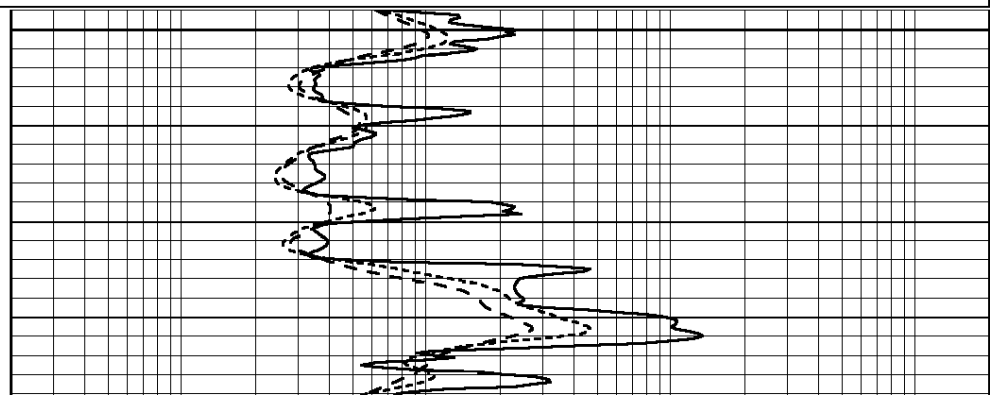

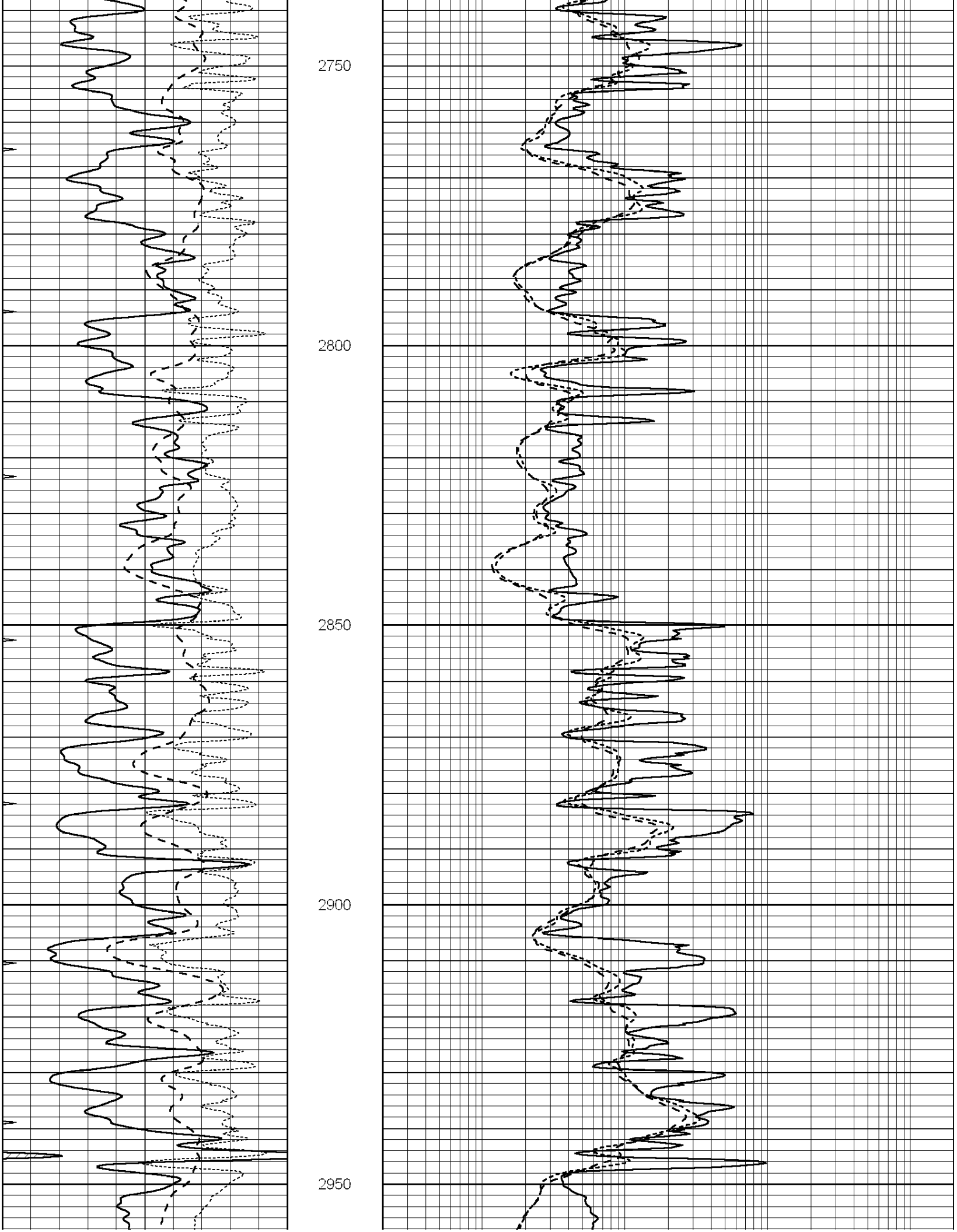
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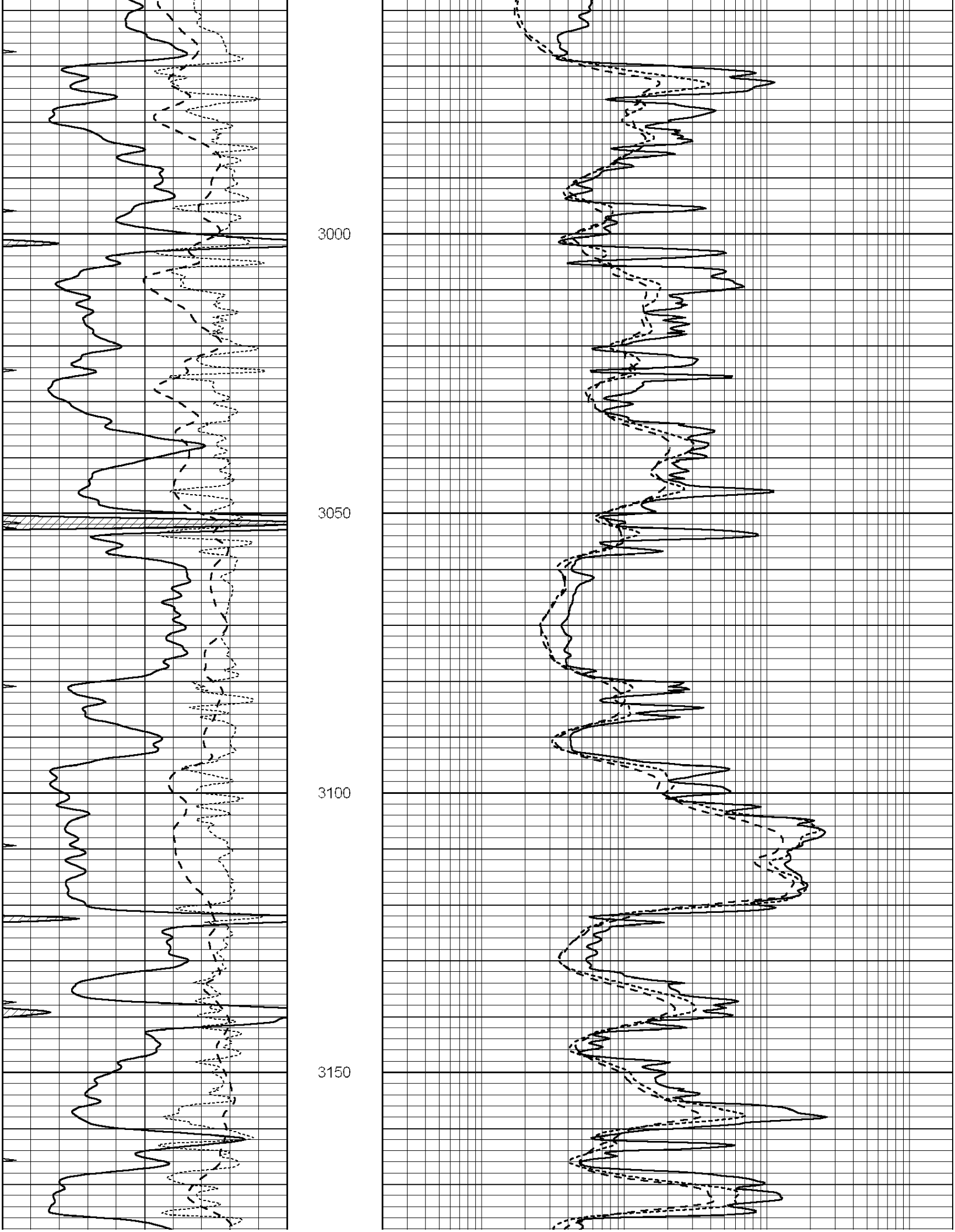
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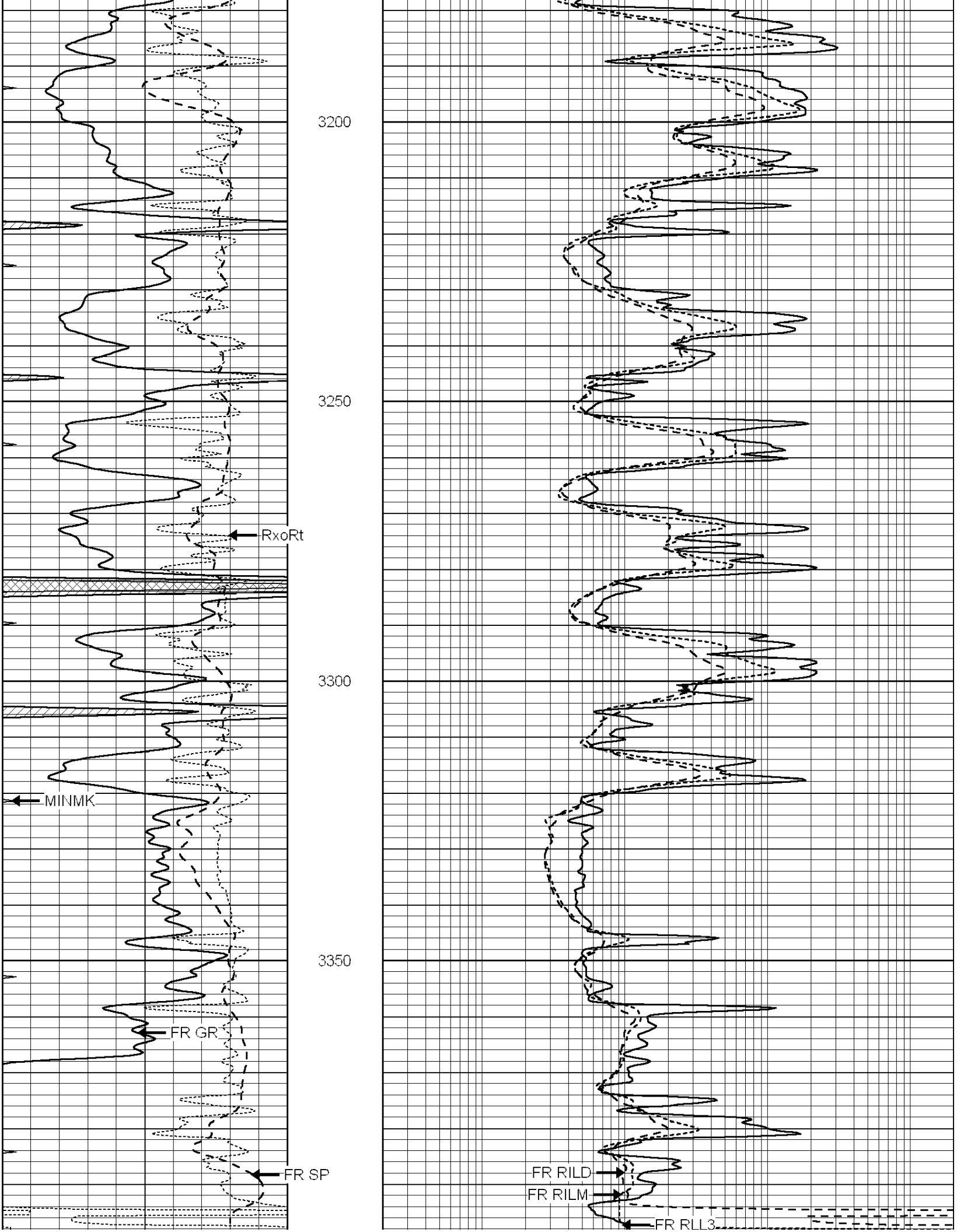
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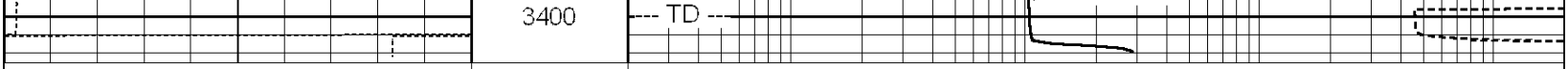
3250
RxoRt
3300
MINMK
3350
FR GR
FR SP
FR RILD
FR RILM
FR RLL3



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

SUPERIOR WELL SERVICES

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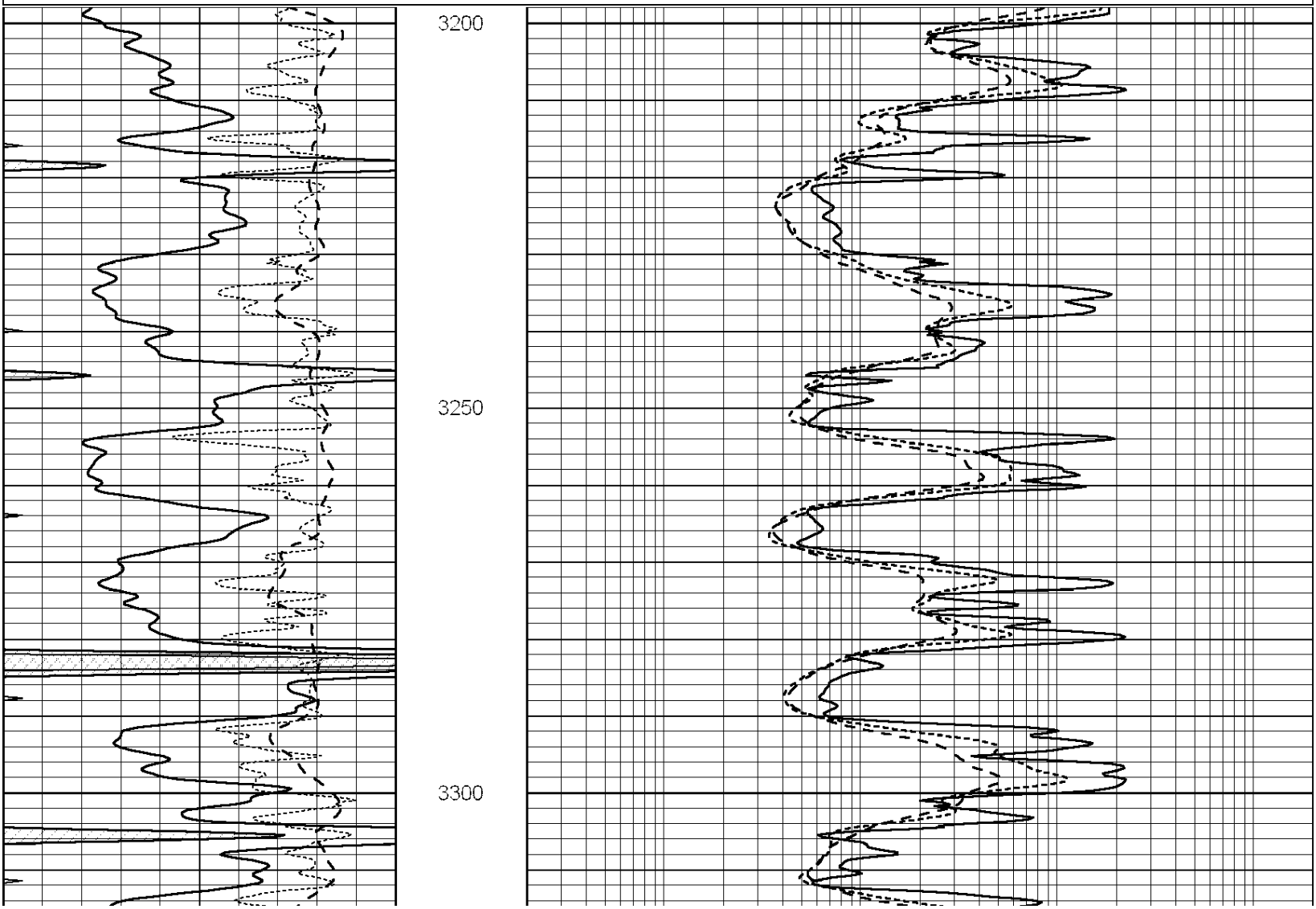
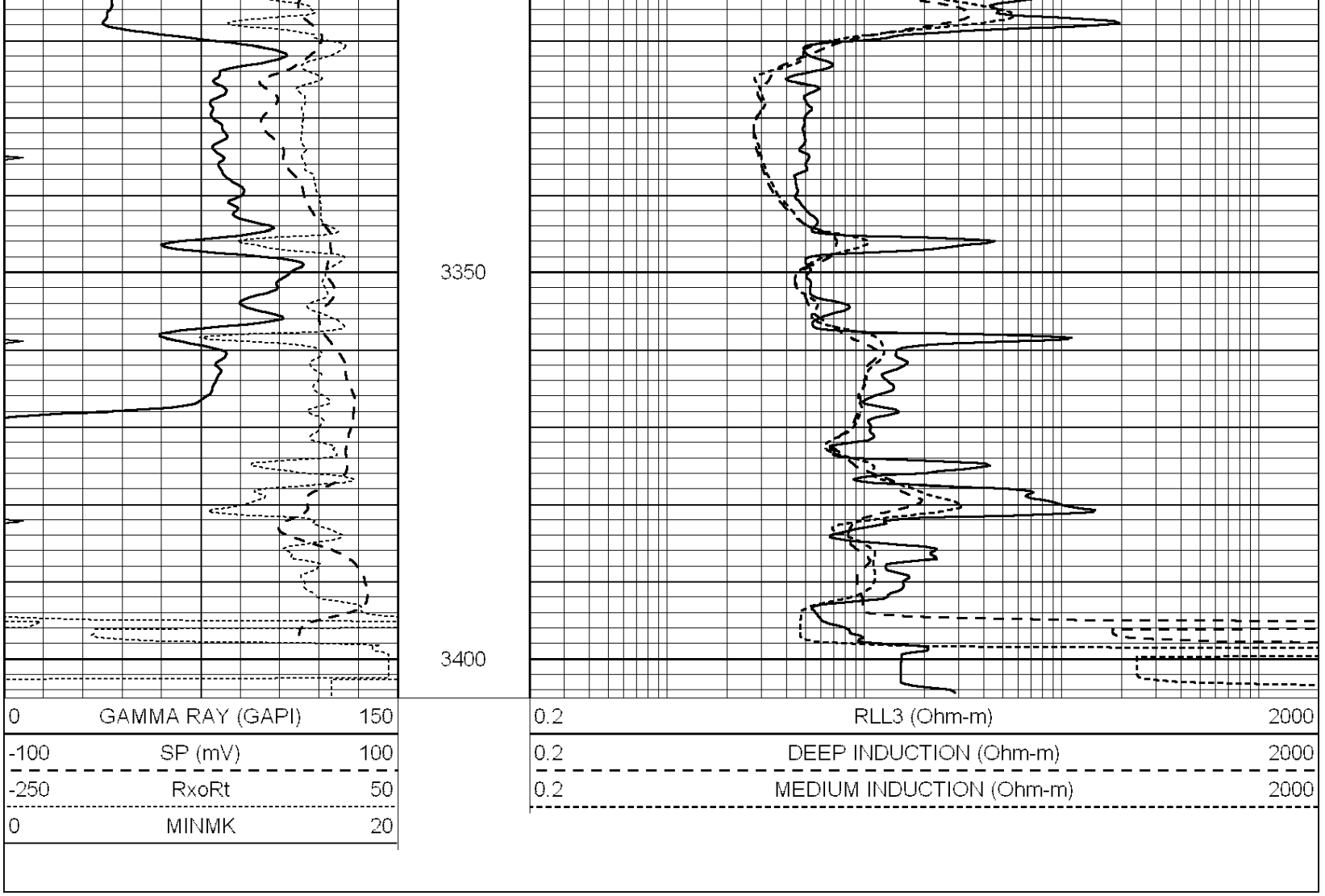
REPEAT SECTION

Database File:	009109ddn.db
Dataset Pathname:	pass2.1
Presentation Format:	dil
Dataset Creation:	Tue May 01 00:40:13 2012 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





Calibration Report

Database File: 009109ddn.db
Dataset Pathname: pass3.1A
Dataset Creation: Tue May 01 01:45:01 2012

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Mon Apr 30 23:18:26 2012
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	550.000	-15.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	540.000	-18.000
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		3970.000	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: GEAR1-GEARHART
Source / Verifier: 147 / 147
Master Calibration Performed: Mon Apr 30 23:17:51 2012

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1243.76	629.14	cps
Aluminum	2.580	g/cc	282.16	435.01	cps

Spine Angle = 76.03 Density/Spine Ratio = 0.569

	Size		Reading	
Small Ring	10.00	in	3.50	V
Large Ring	16.00	in	5.30	V

Compensated Neutron Calibration Report

Serial Number: NUE_2I
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

Gamma Ray Calibration Report

Serial Number: GR5
Tool Model: OPEN
Performed: Tue May 01 00:41:13 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.7000 GAPI/cps