DUAL INDUCTION LOG

Company VAL ENERGY, INC.

Well KUHLMEIR "V" #1-20

Field

County McPHERSON State KANSAS

Location: API # : 15-113-21388-0000

2100' FNL & 1530' FEL

SEC 20 TWP 20S RGE 1W

Other Services
CDL/CNL
MEL/SON

Elevation

Permanent Datum GROUND LEVEL Elevation 1550

Log Measured From KELLY BUSHING 9' A.G.L

Drilling Measured From KELLY BUSHING

K.B. 1559
D.F. 1557
G.L. 1550

Company VAL ENERGY, INC.
Well KUHLMEIR "V" #1-20
Field
County McPHERSON
State KANSAS

Date	10/11/17		
Run Number	ONE		
Depth Driller	3557		
Depth Logger	3559		
Bottom Logged Interval	3557		
Top Log Interval	00		
Casing Driller	8 5/8" @ 221		
Casing Logger	220		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 1700 PPM	
Density / Viscosity	9.3/52		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.5 @ 75F		
Rmf @ Meas. Temp	1.1 @ 75F		
Rmc @ Meas. Temp	1.8 @ 75		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	1.0 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	DOUG DAVIS		

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Comments

THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395

DIRECTIONS

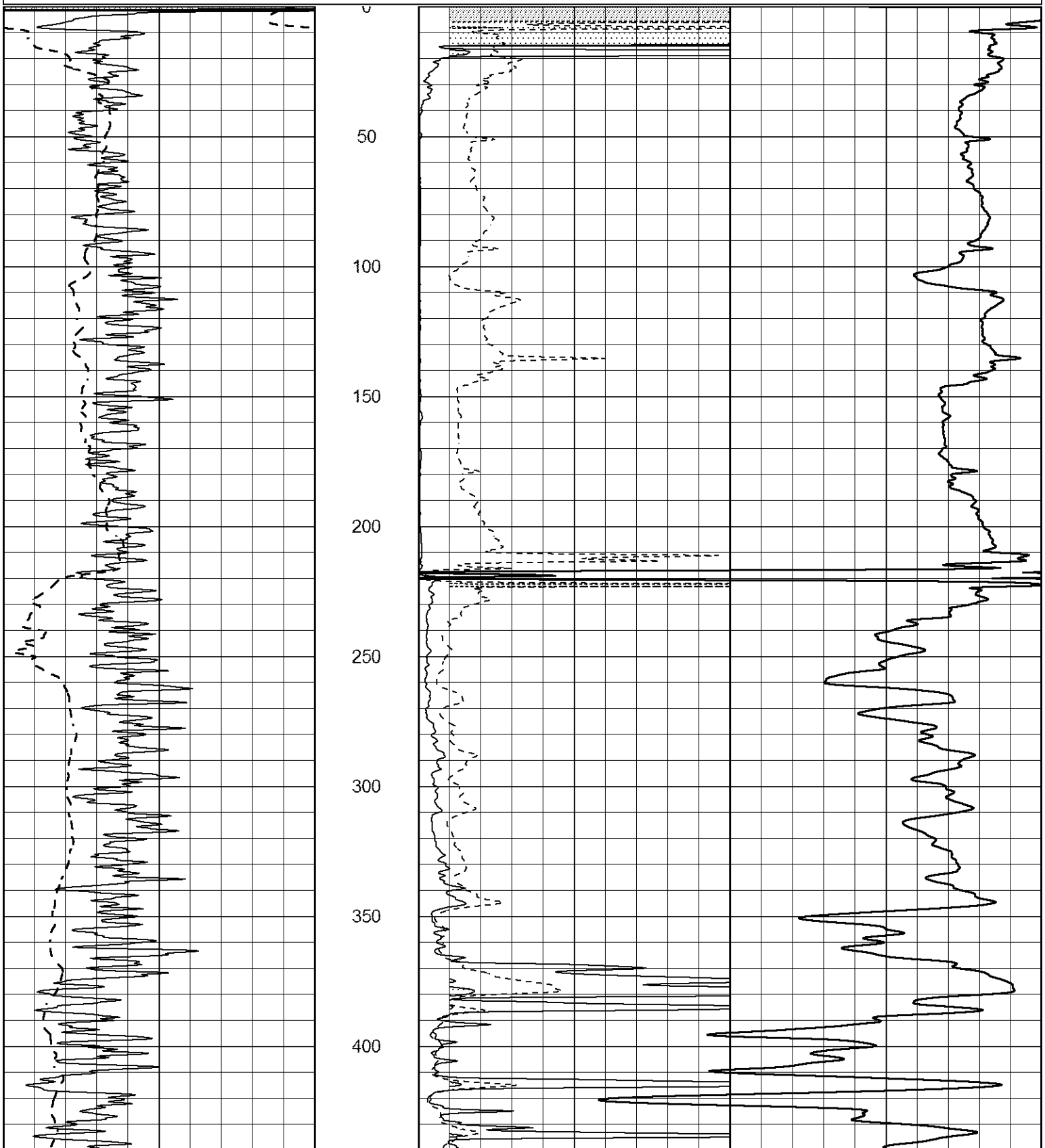
McPHERSON, KS. - 9 1/2 EAST TO 26TH RD. - 5 1/2 SOUTH - WEST INTO

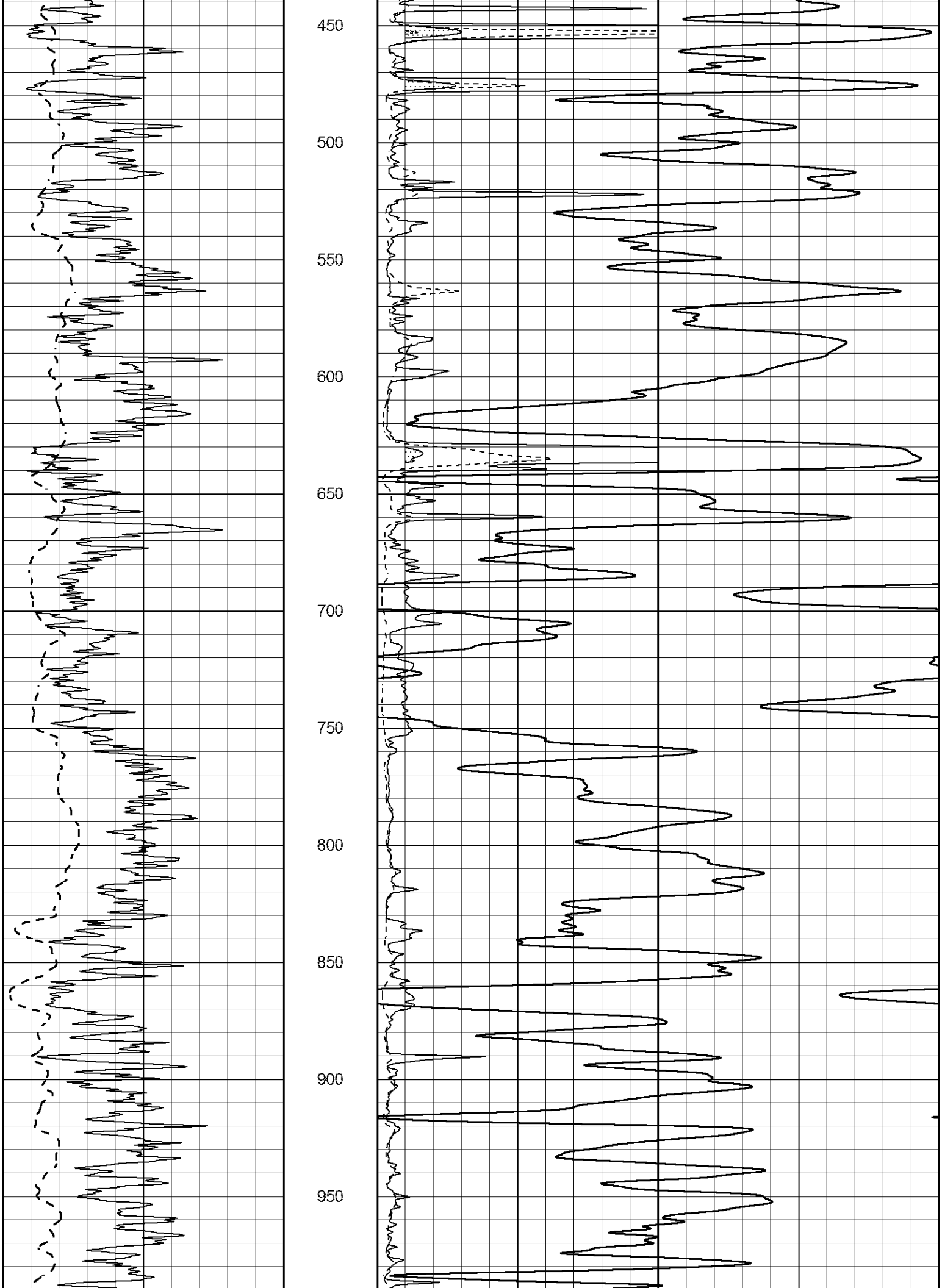
MAIN SECTION

Database File	1788ddn8.db
Dataset Pathname	pass3.1
Presentation Format	_dil2
Dataset Creation	Wed Oct 11 20:45:51 2017
Charted by	Depth in Feet scaled 1:600

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

1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

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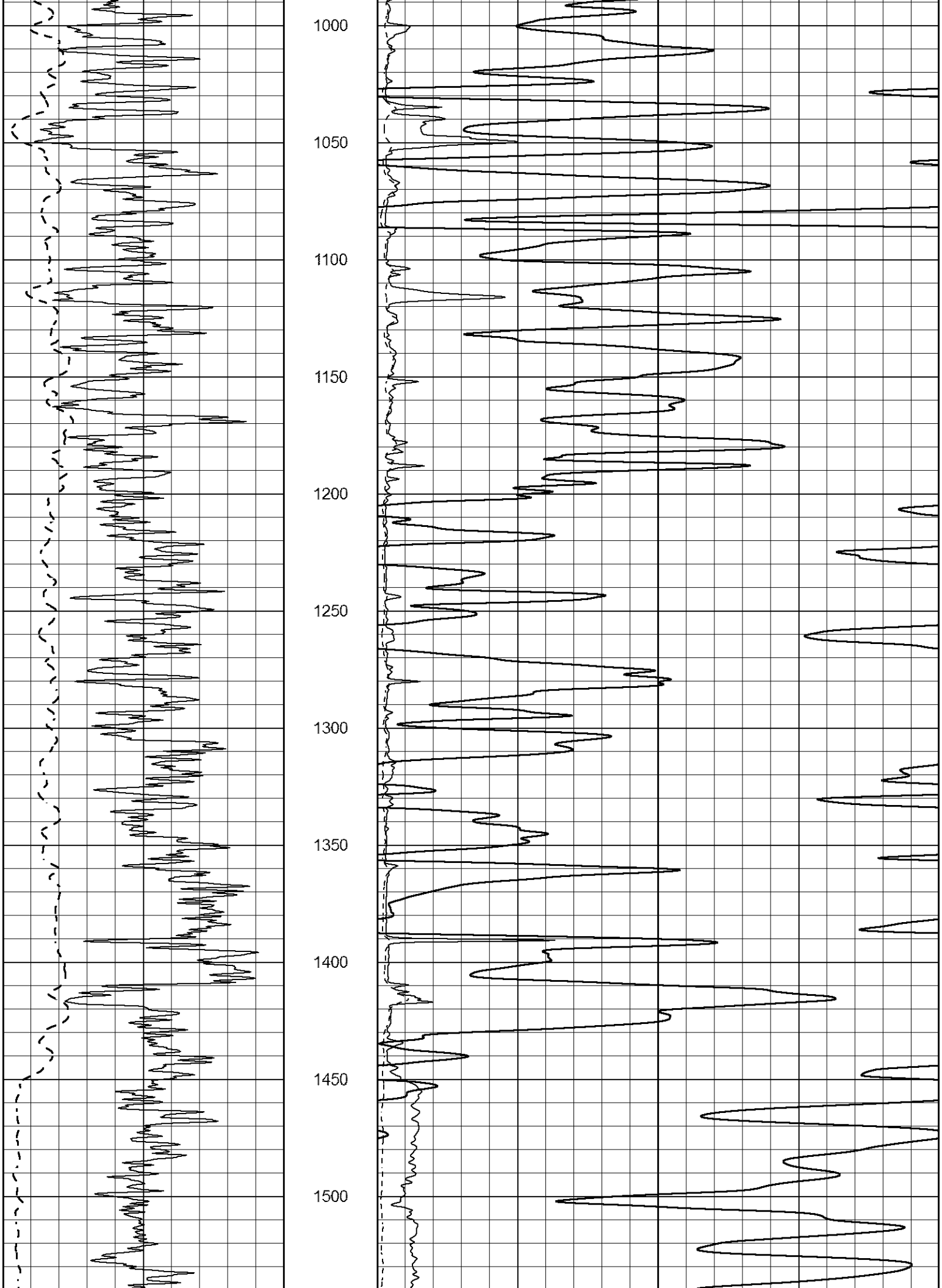
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1100
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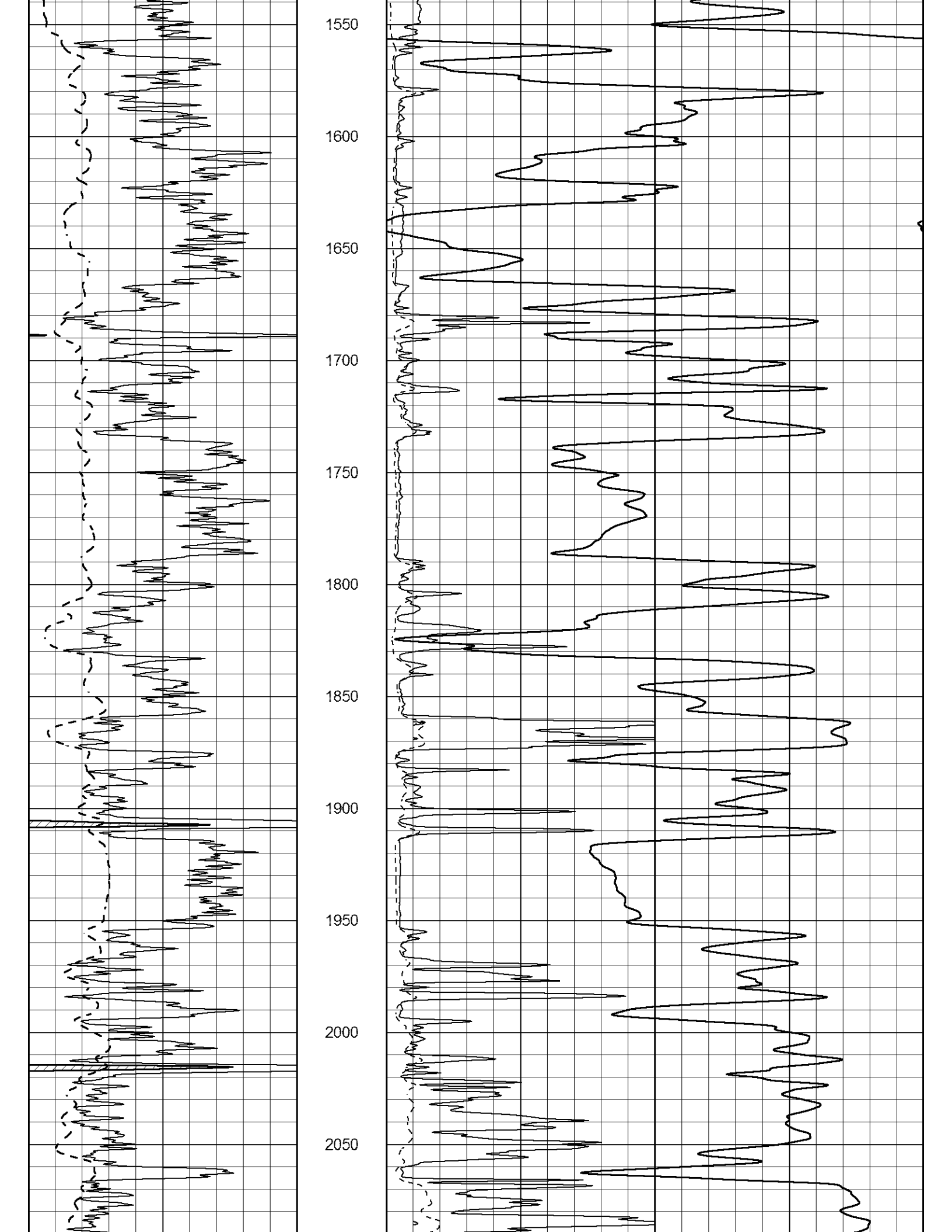
1200
1250
1300
1350
1400
1450
1500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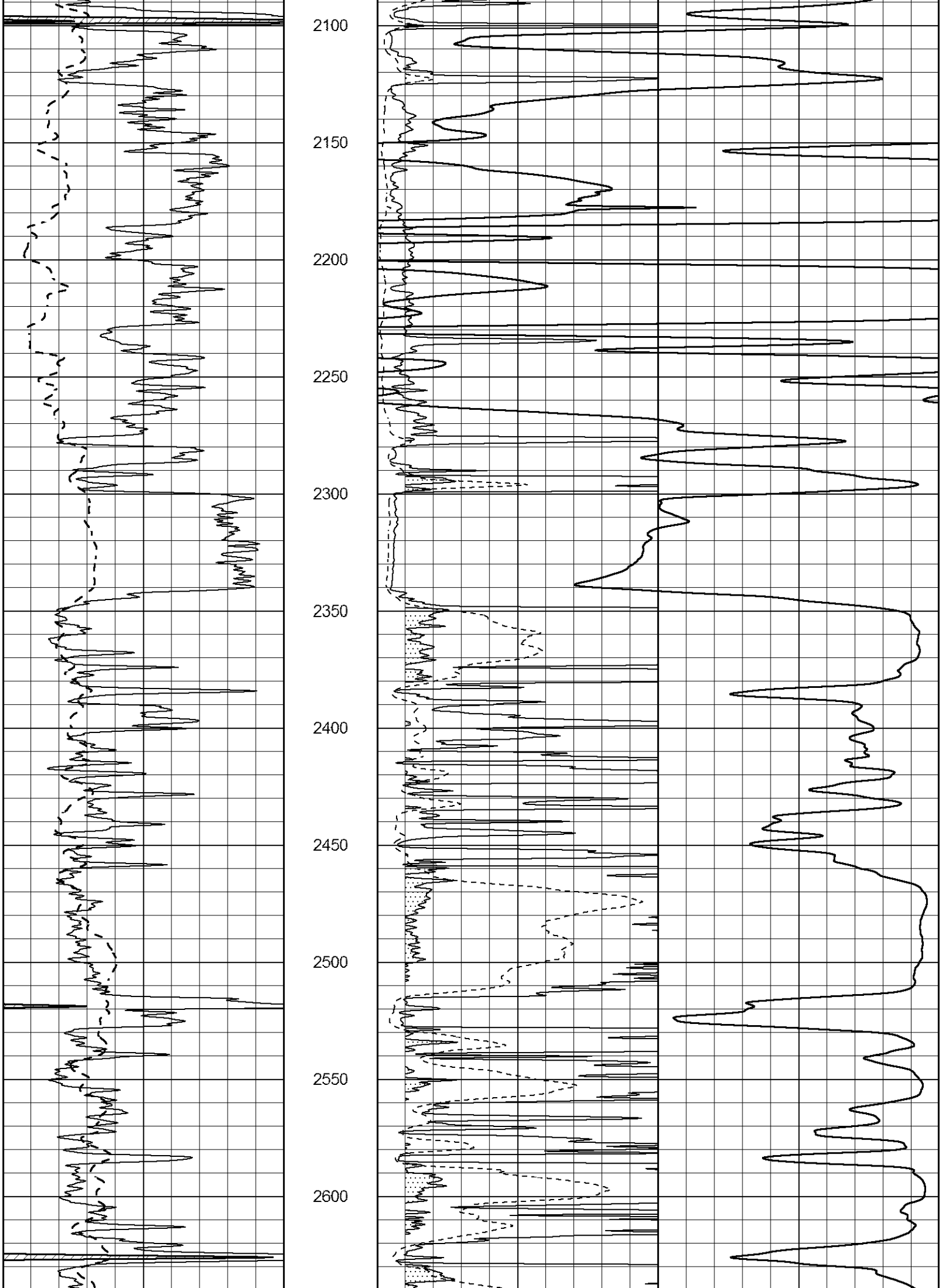
1650
1700
1750
1800
1850
1900
1950
2000
2050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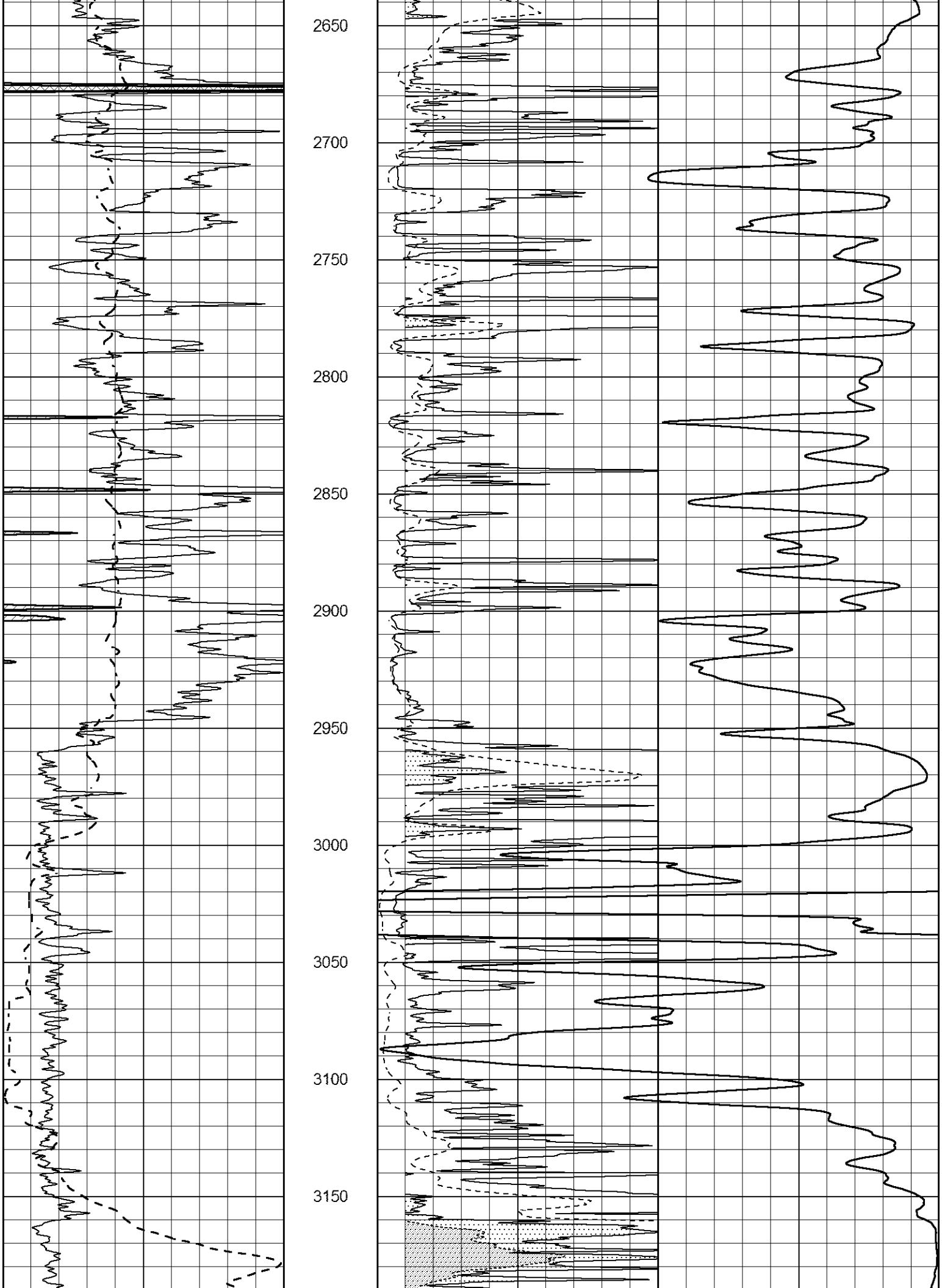
2200
2250
2300
2350
2400
2450
2500
2550
2600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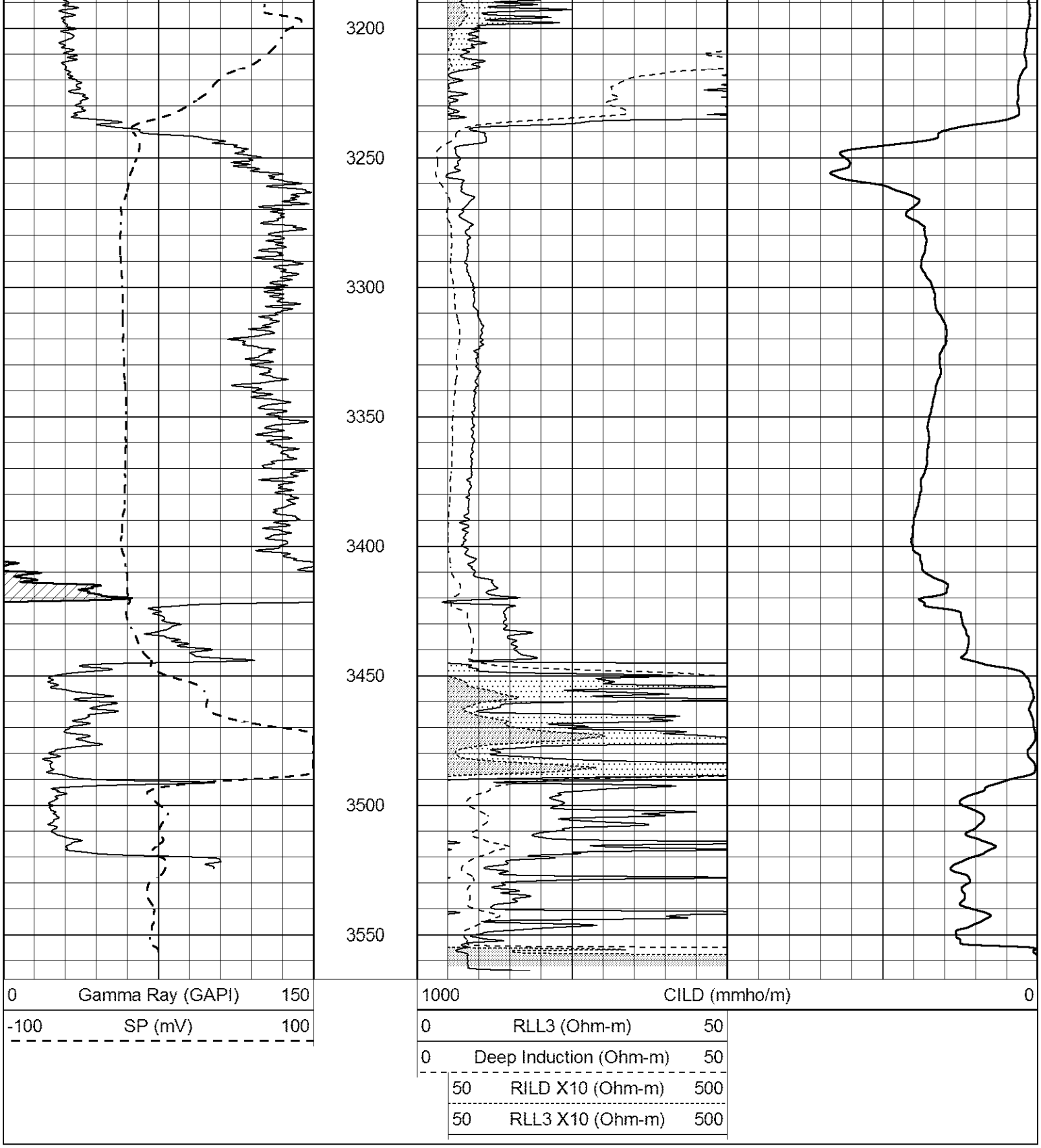
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150

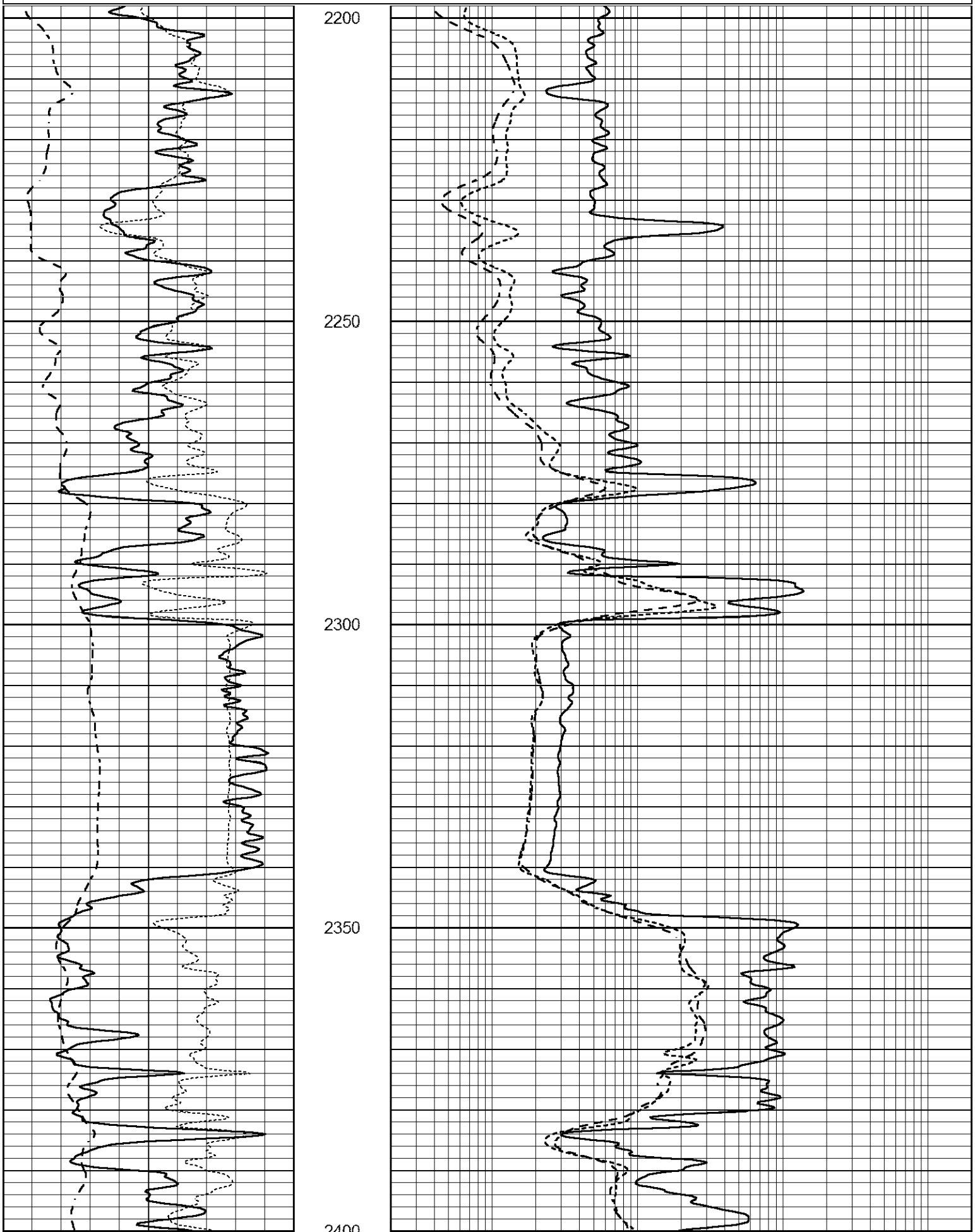


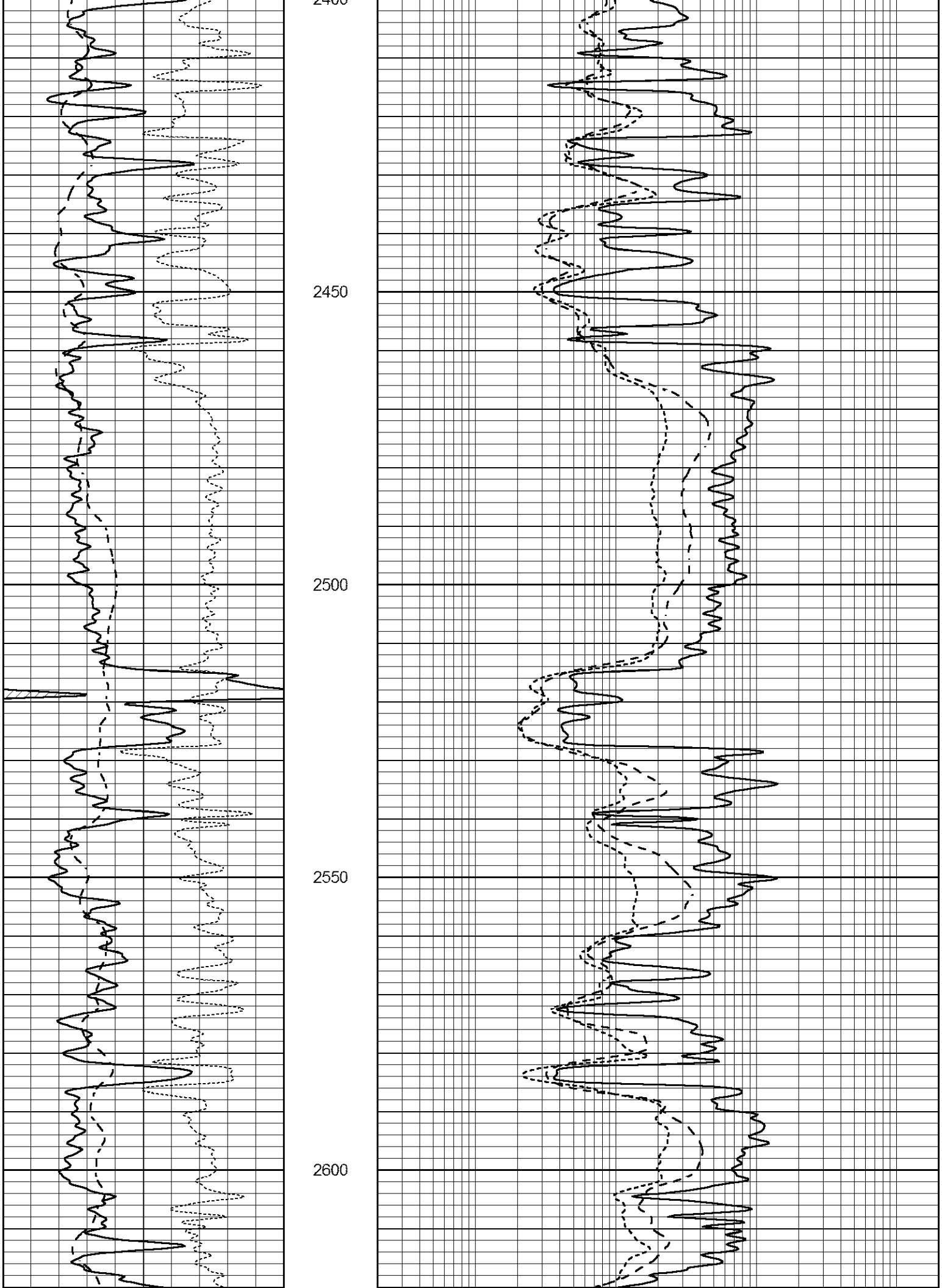
MAIN SECTION

Database File	1788ddn8.db
Dataset Pathname	pass3.1
Presentation Format	_dil
Dataset Creation	Wed Oct 11 20:45:51 2017
Charted by	Depth in Feet scaled 1:240

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

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

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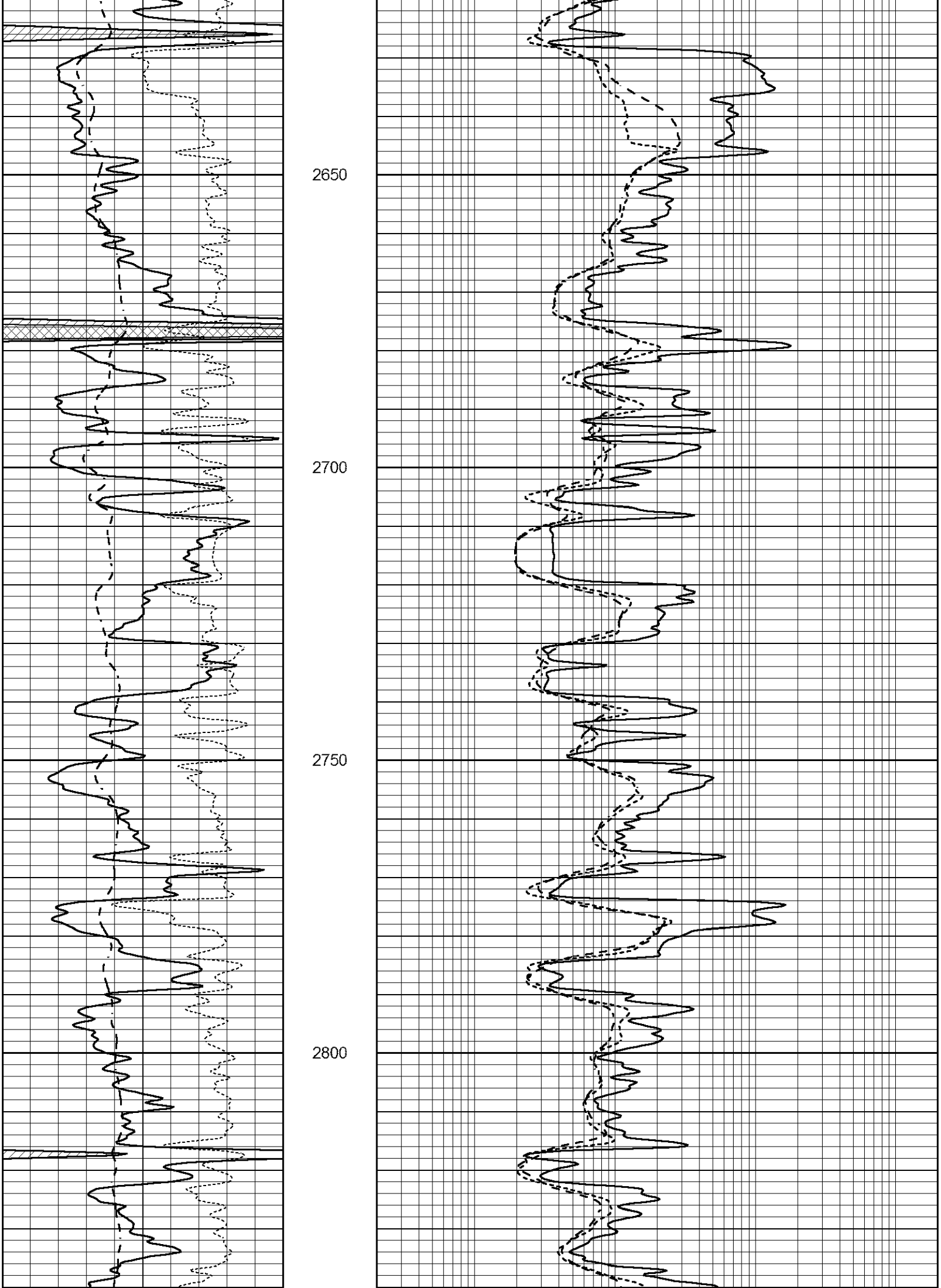
2450
2500
2550
2600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2700
2750
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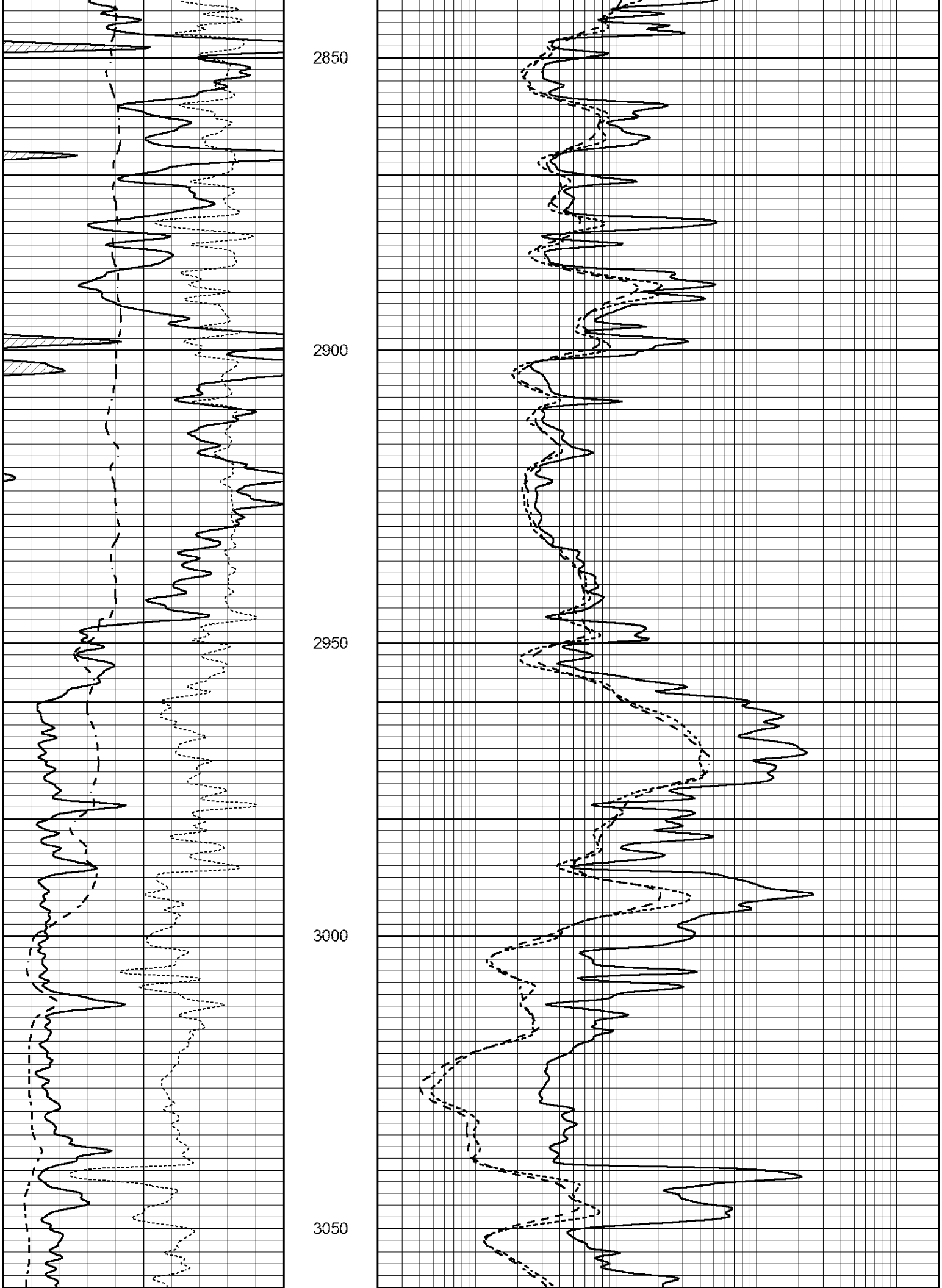
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2900
2950
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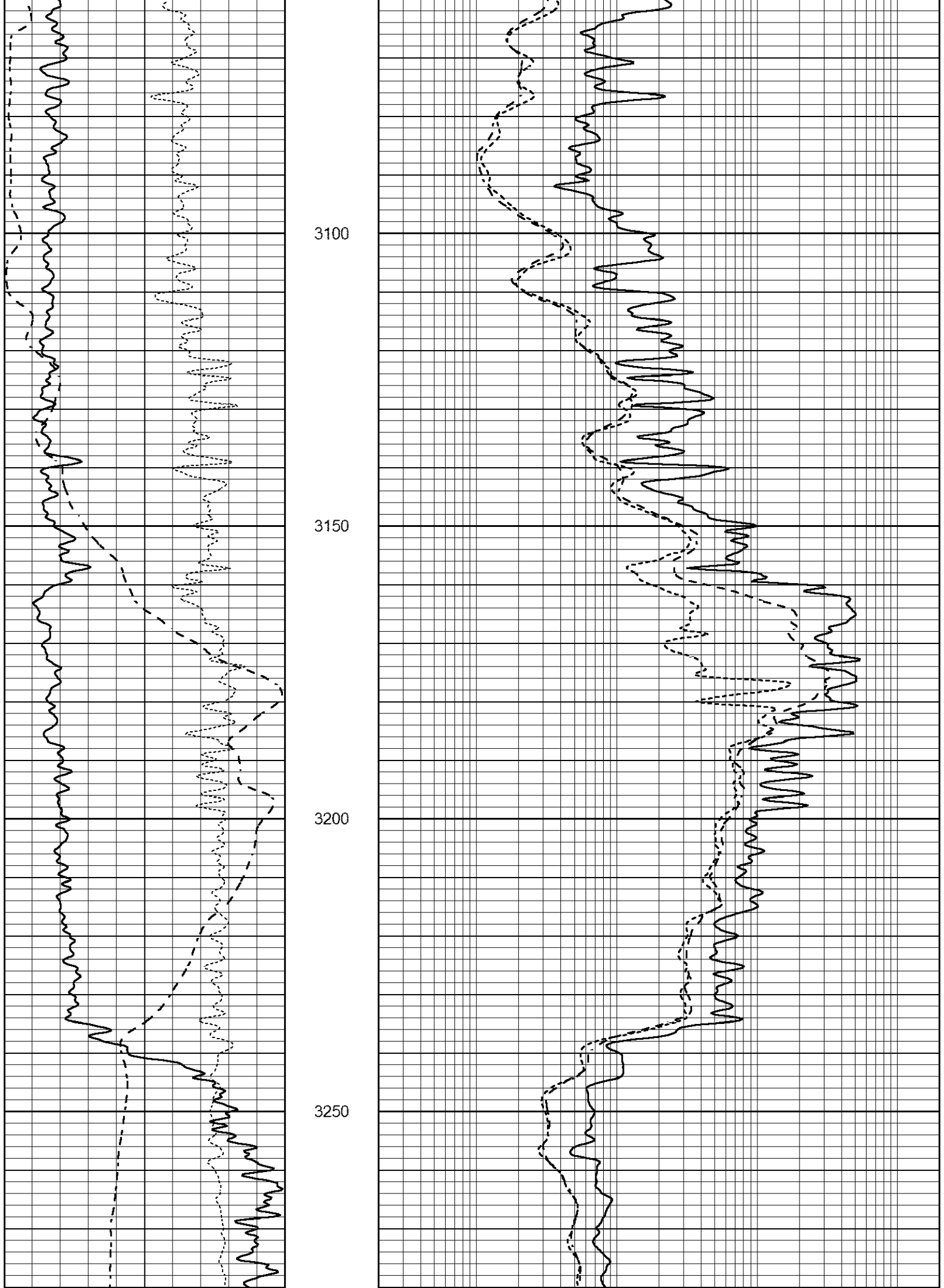
3050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3150
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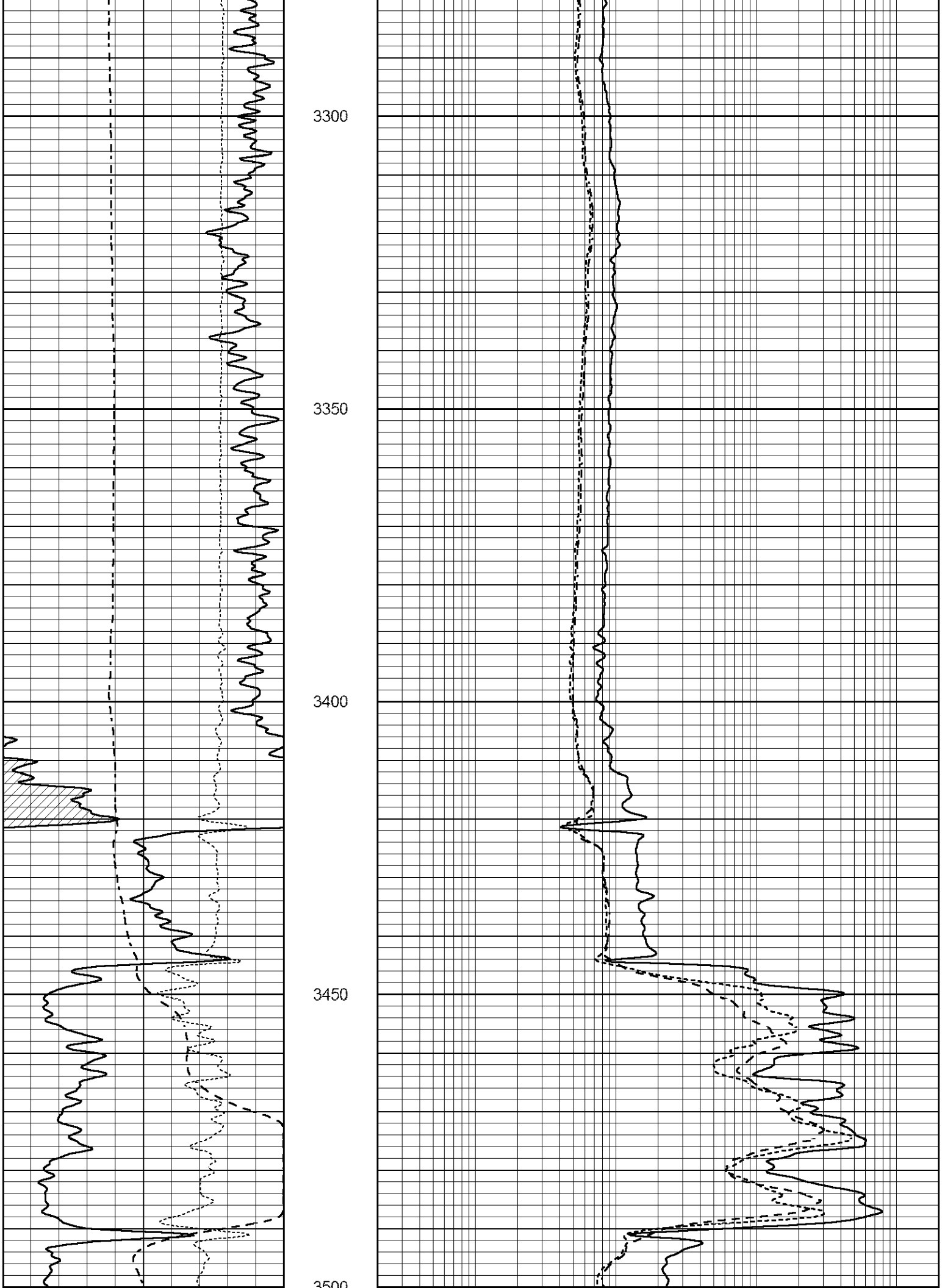
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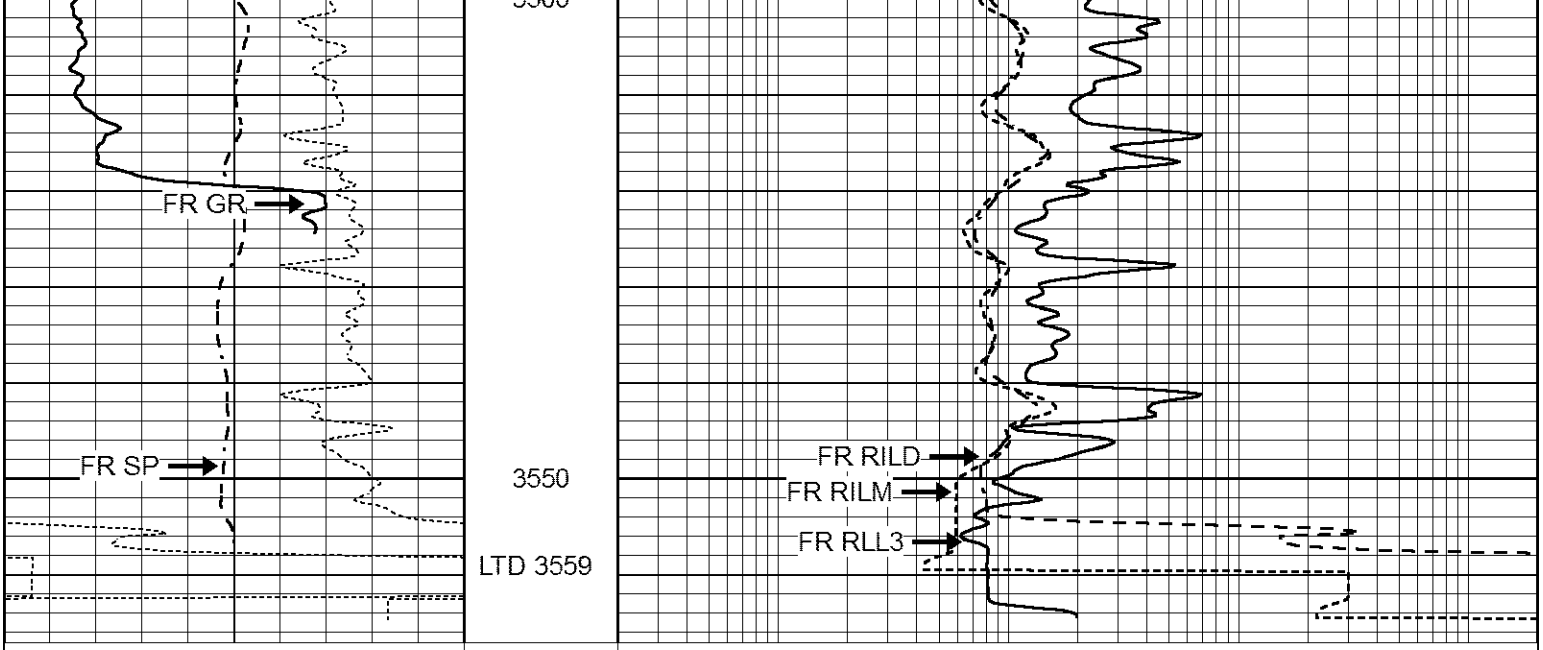
3350
3400
3450
3500



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

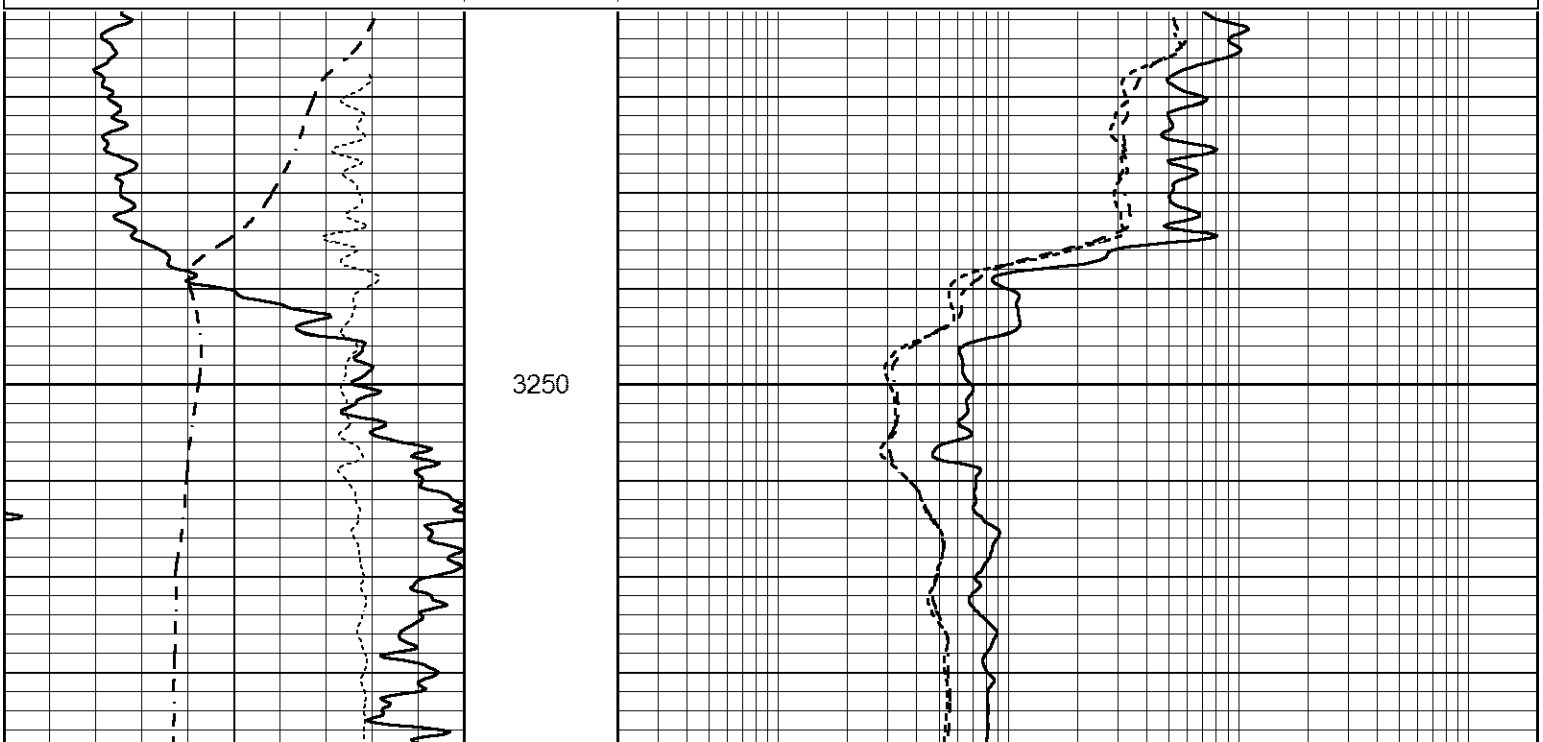
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

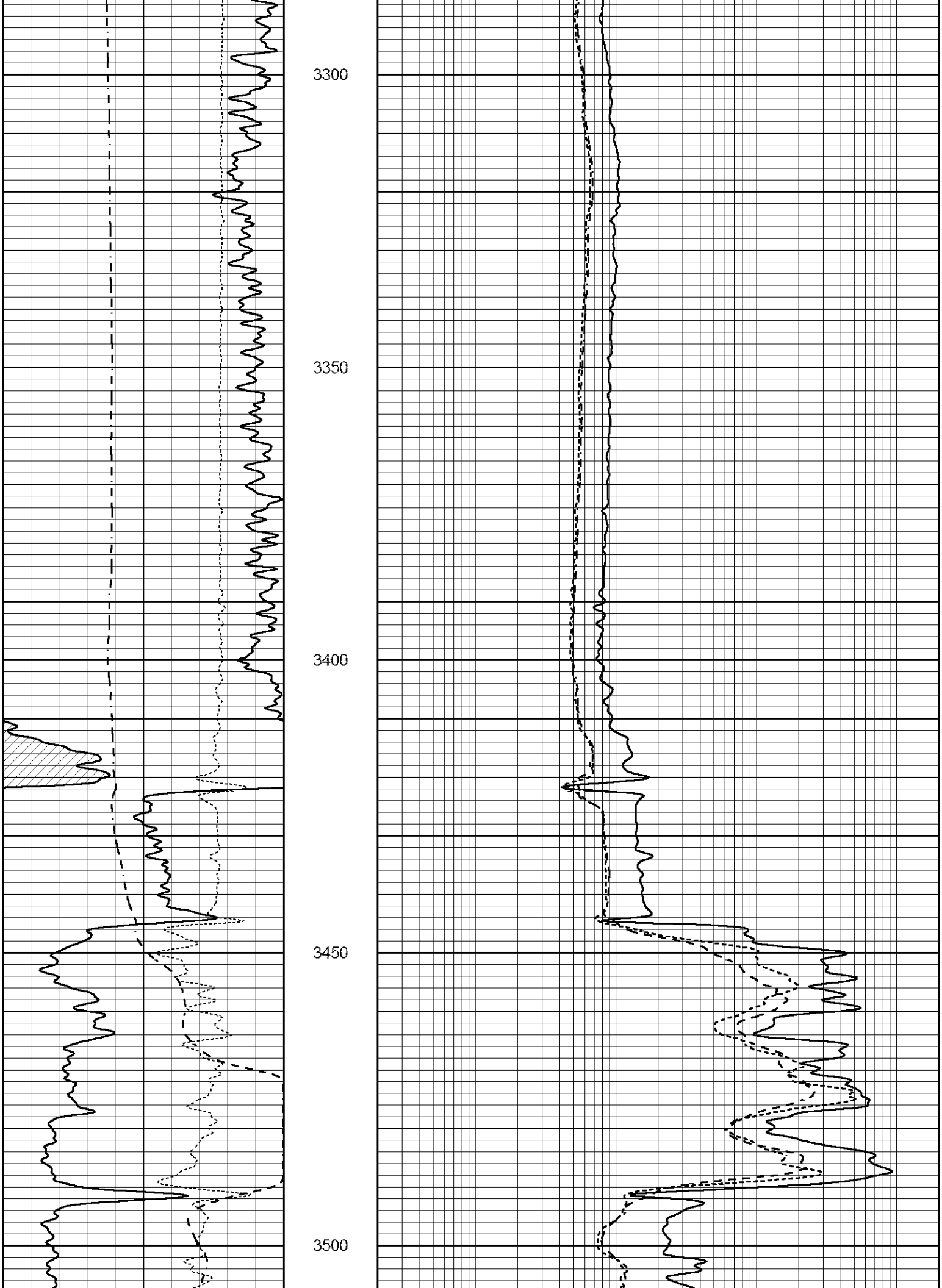
REPEAT SECTION

Database File	1788ddn8.db
Dataset Pathname	pass2.1
Presentation Format	_dil
Dataset Creation	Wed Oct 11 19:50:10 2017
Charted by	Depth in Feet scaled 1:240

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

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

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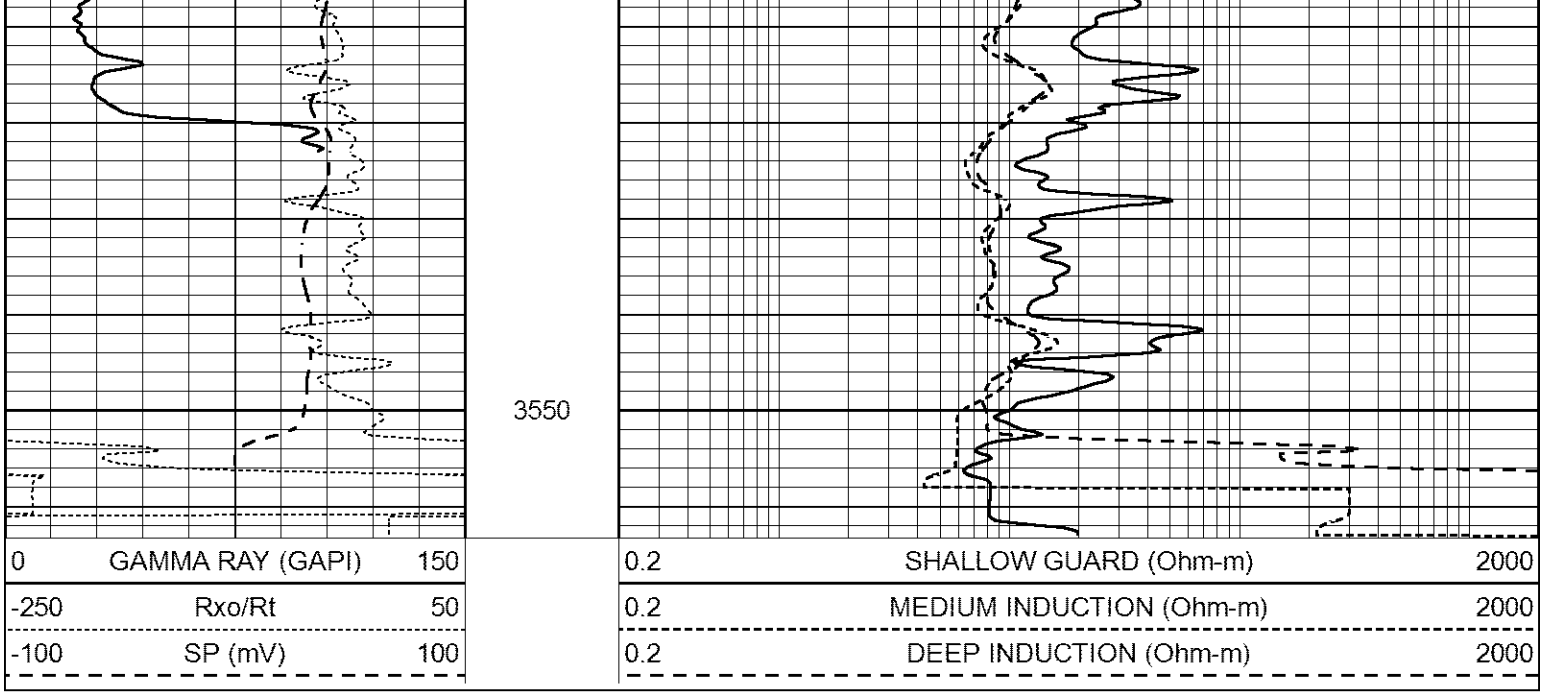
3450
3500



Calibration Report

Database File 1788ddn8.db
Dataset Pathname pass2.1
Dataset Creation Wed Oct 11 19:50:10 2017

Dual Induction Calibration Report

Serial-Model:	FW1410-56-Probe
Surface Cal Performed:	Tue Jul 25 12:15:33 2017
Downhole Cal Performed:	Tue Jul 25 12:15:37 2017
After Survey Verification Performed:	Tue Jul 25 12:15:38 2017

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.765	V	1.000	400.000	mmho/m	527.061	-3.201
Medium	-0.056	0.761	V	1.000	464.000	mmho/m	567.187	32.510
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.005	0.624	V	0.000	400.000	mmho/m	645.611	-3.034
Medium	0.012	0.721	V	0.000	464.000	mmho/m	653.591	-7.532

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.647	301.329	mmho/m	-0.780	336.378	mmho/m	1.117	-0.058
Medium	38.256	411.013	mmho/m	39.046	441.706	mmho/m	1.080	-2.280
LL3		7.471	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.085	V		6000.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.647	301.329	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	38.256	411.013	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		

0.000	Ohm-m	20.000	Ohm-m
0.000	mmho-m	3745.000	mmho-m

Litho Density Calibration Report
Serial: 140704
Model: V4_10P
Source Number: 74GBq-19

Master Calibration — Performed: Wed Feb 11 18:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	613.01	6027.40	27508.60	cps
Window 2	48.21	1424.77	7132.66	cps
Window 4	266.48	1373.19	5767.15	cps
Window 5	622.07	10090.30	18937.90	cps
Window 6	49.07	1682.84	3271.18	cps
Window 8	298.04	3248.38	5980.58	cps
Bulk Density	-	2.6020	1.6830	g/cc
Pe	-	3.0000	2.5070	b/e

LS Alpha: : -1.8451 SS Alpha: : -0.7542 LS CPE: : 1.0882
LS Beta: : 138648.8473 SS Beta: : 21960.9250 SS CPE: : 1.5181

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

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

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

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

Lithodensity Caliper Calibration — Performed: Wed Feb 11 18:53:41 2015

Results Readings		References (in)			
Low	High	Low	High	Gain	Offset
1107.5	7124.1	8.0	15.0	0.0	6.3

Before Survey Caliper Verification — Performed:

	Reference	Reading
Caliper (in)		

After Survey Caliper Verification — Performed:

	Reference	Reading

Caliper (in)

Compensated Neutron Calibration Report

Serial Number: 080621PMC
Tool Model: NABORS

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:	070558	
Tool Model:	Probe1	
Performed:	Tue Jul 25 12:16:33 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4000	GAPI/cps