DUAL INDUCTION LOG

Company NORSTAR PETROLEUM, INC.
Well BAHM #1-16
Field
County LANE
State KANSAS

Company NORSTAR PETROLEUM, INC.
Well BAHM #1-16
Field
County LANE State KANSAS
Location: API # : 15-101-22620-0000
1573' FNL & 1643' FWL
SEC 16 TWP 19S RGE 27W

Other Services
CDL/CNL
PE/MEL

Permanent Datum	GROUND LEVEL	Elevation	2684.7
Log Measured From	KELLY BUSHING 7' A.G.L		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 2691.7
D.F. 2689.7
G.L. 2684.7

Date	2/18/19		
Run Number	ONE		
Depth Driller	4700		
Depth Logger	4700		
Bottom Logged Interval	4698		
Top Log Interval	00		
Casing Driller	8 5/8" @ 220		
Casing Logger	220		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5300 PPM	
Density / Viscosity	9.4/62		
pH / Fluid Loss	9.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.70 @ 55F		
Rmf @ Meas. Temp	.52 @ 55F		
Rmc @ Meas. Temp	.84 @ 55F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.31 @ 122F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	////		
Maximum Recorded Temperature	122F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	BRAD RINE		

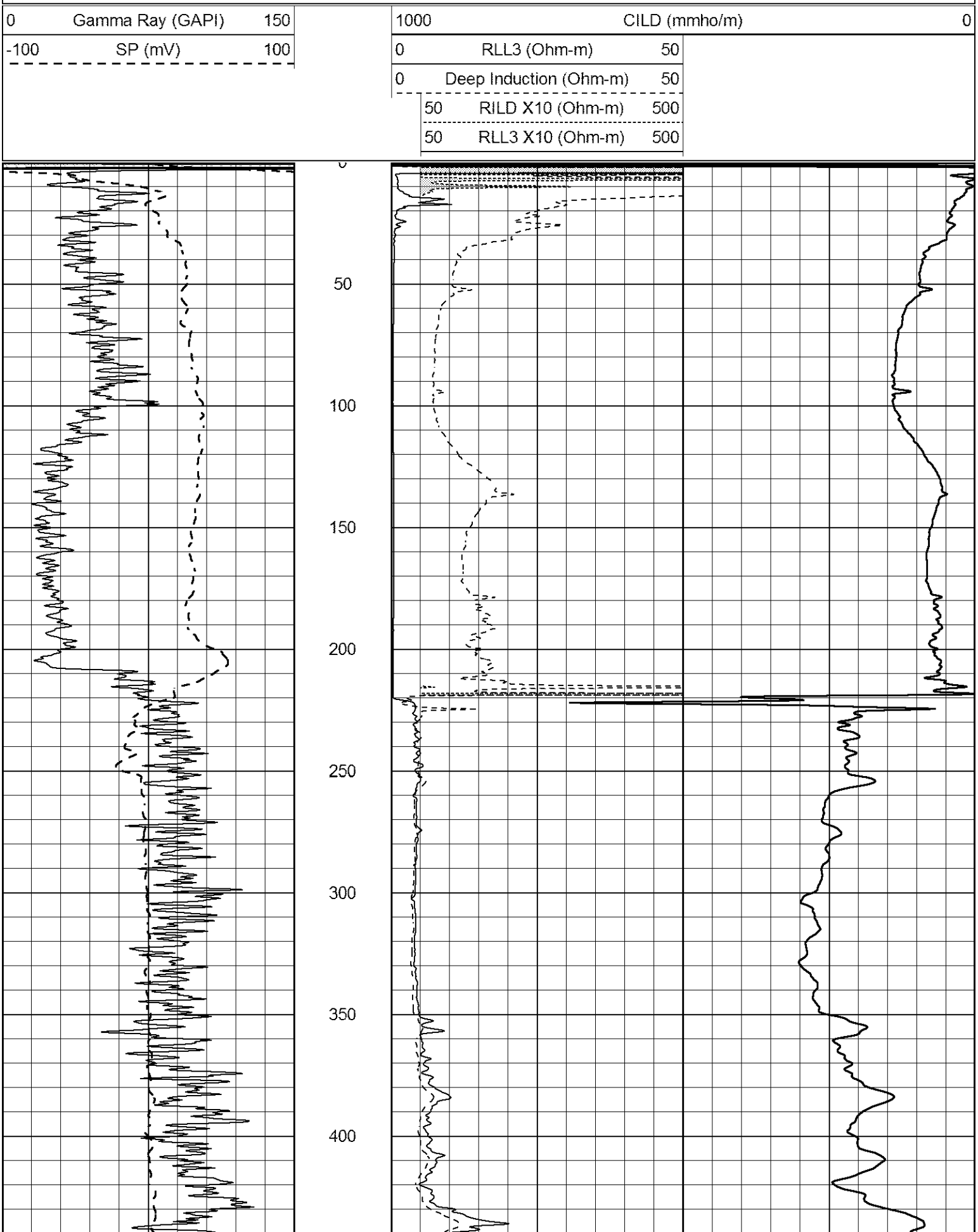
<<< Fold Here >>>

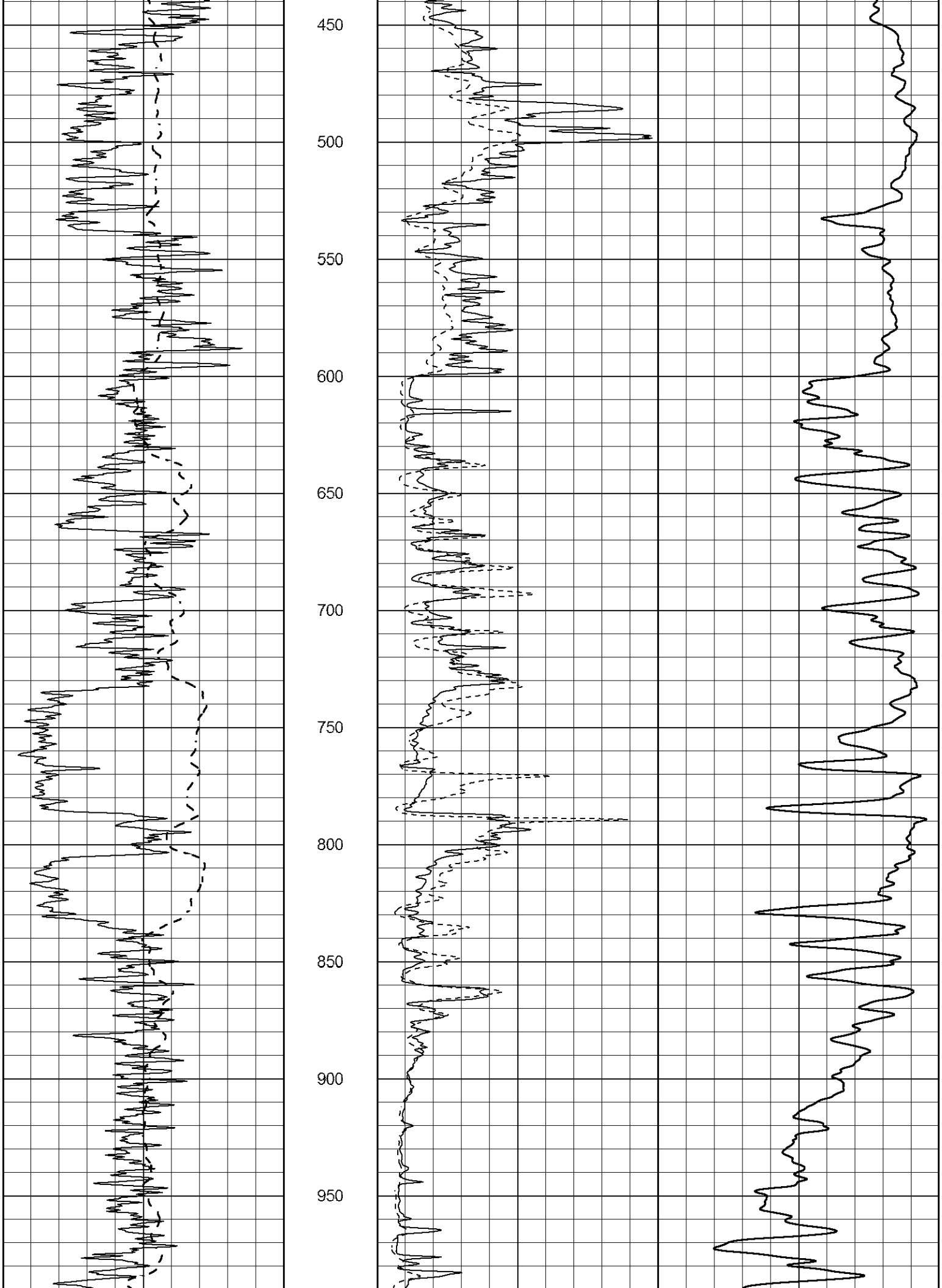
Comments

THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
DIGHTON, KS. - 5 EAST TO QUANTUM RD. - 5 SOUTH TO RD. 100 - 2 EAST
SOUTH INTO

MAIN SECTION

Database File	3444pe8.db
Dataset Pathname	pass3.3
Presentation Format	_dil2
Dataset Creation	Mon Feb 18 17:31:54 2019
Charted by	Depth in Feet scaled 1:600

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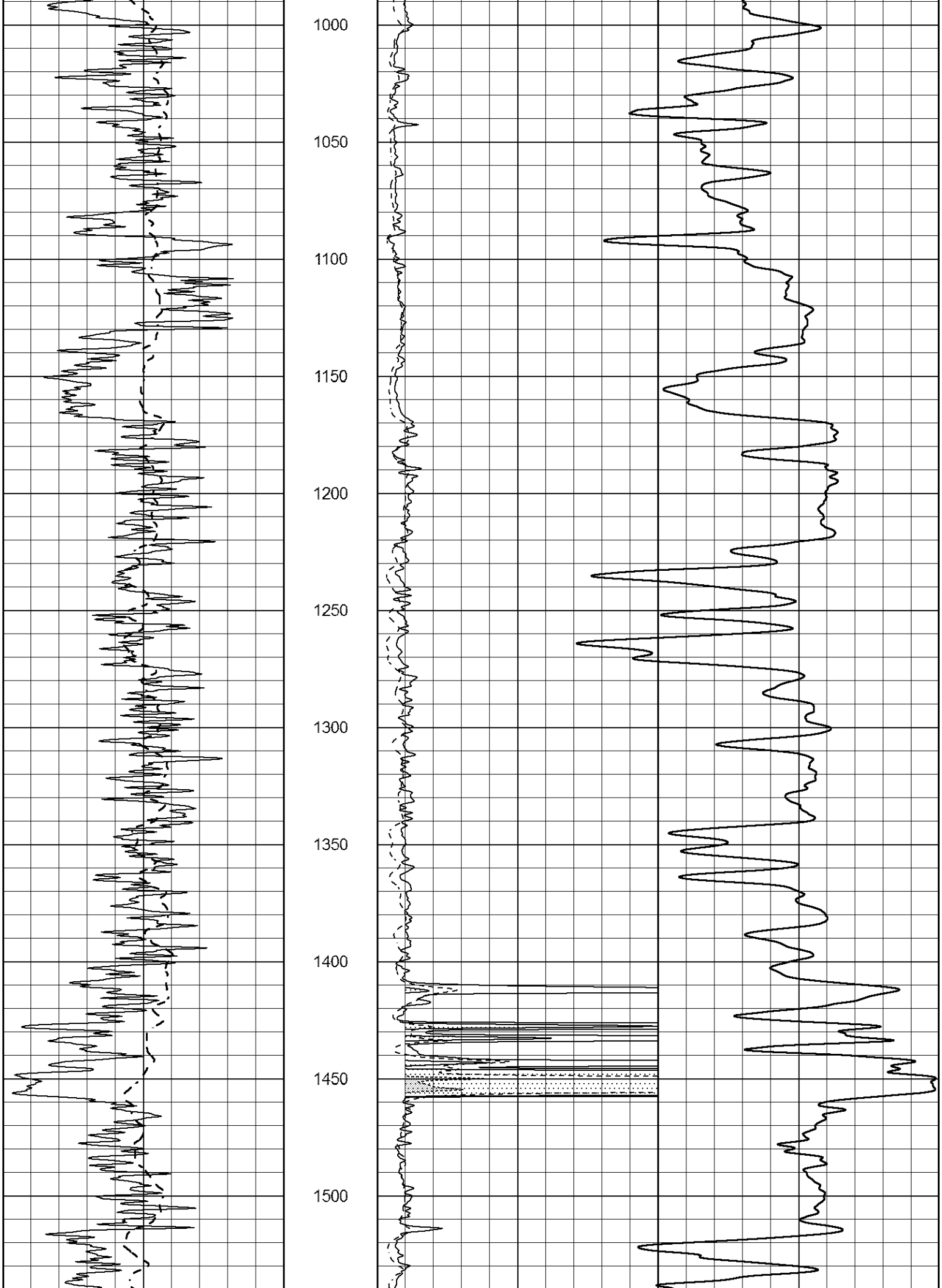
500
550
600
650
700
750
800
850
900
950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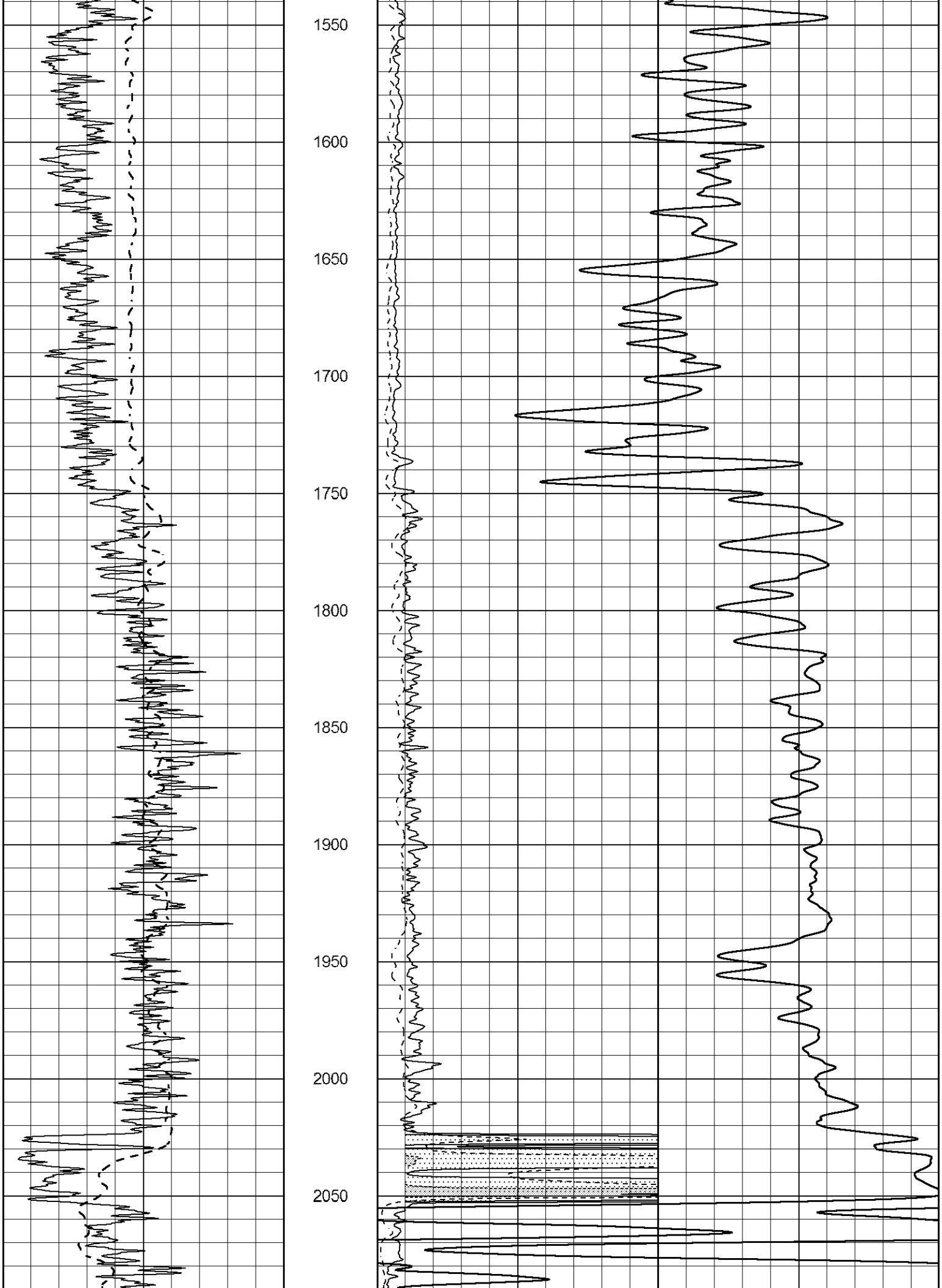
1100
1150
1200
1250
1300
1350
1400
1450
1500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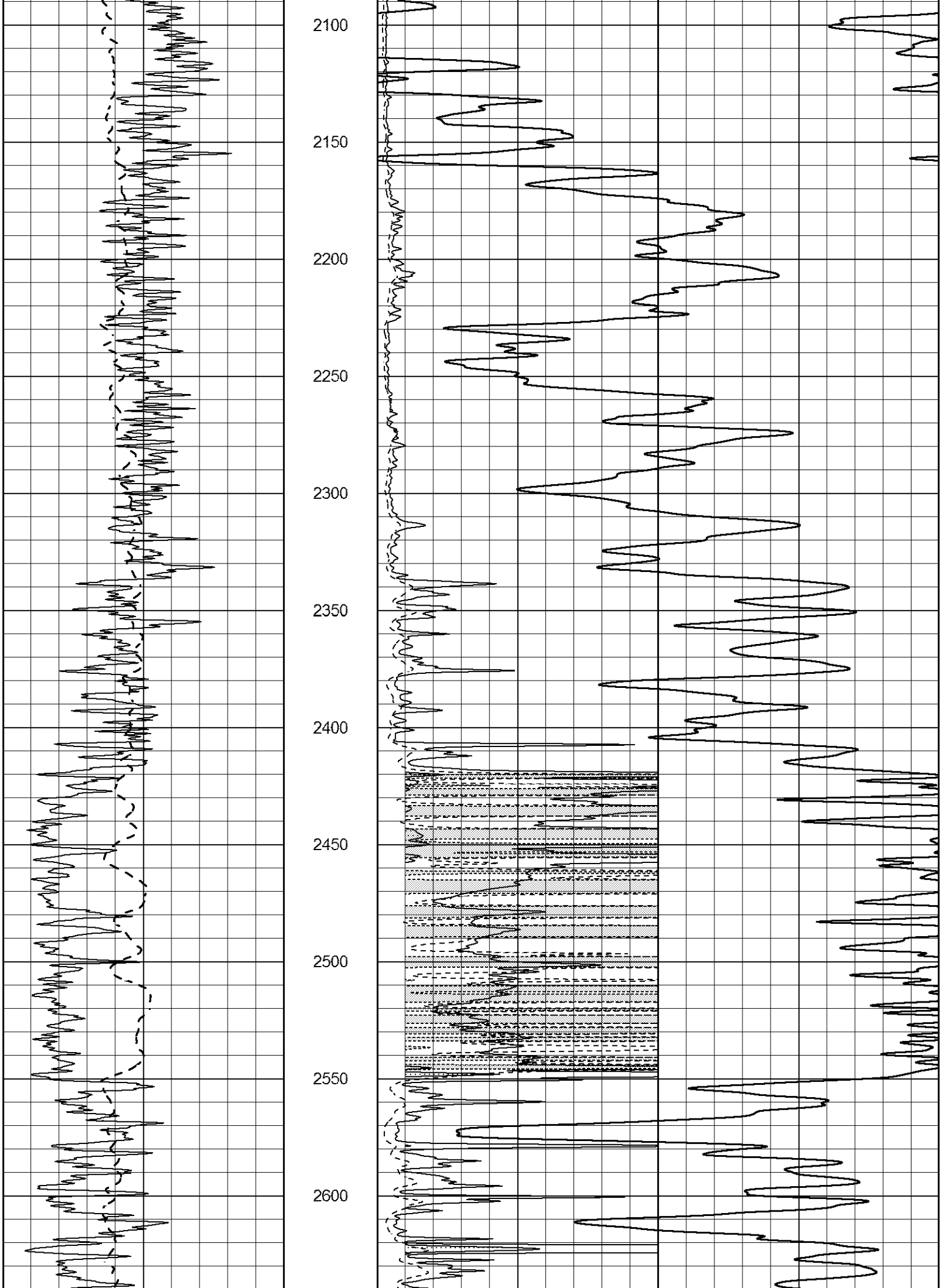
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050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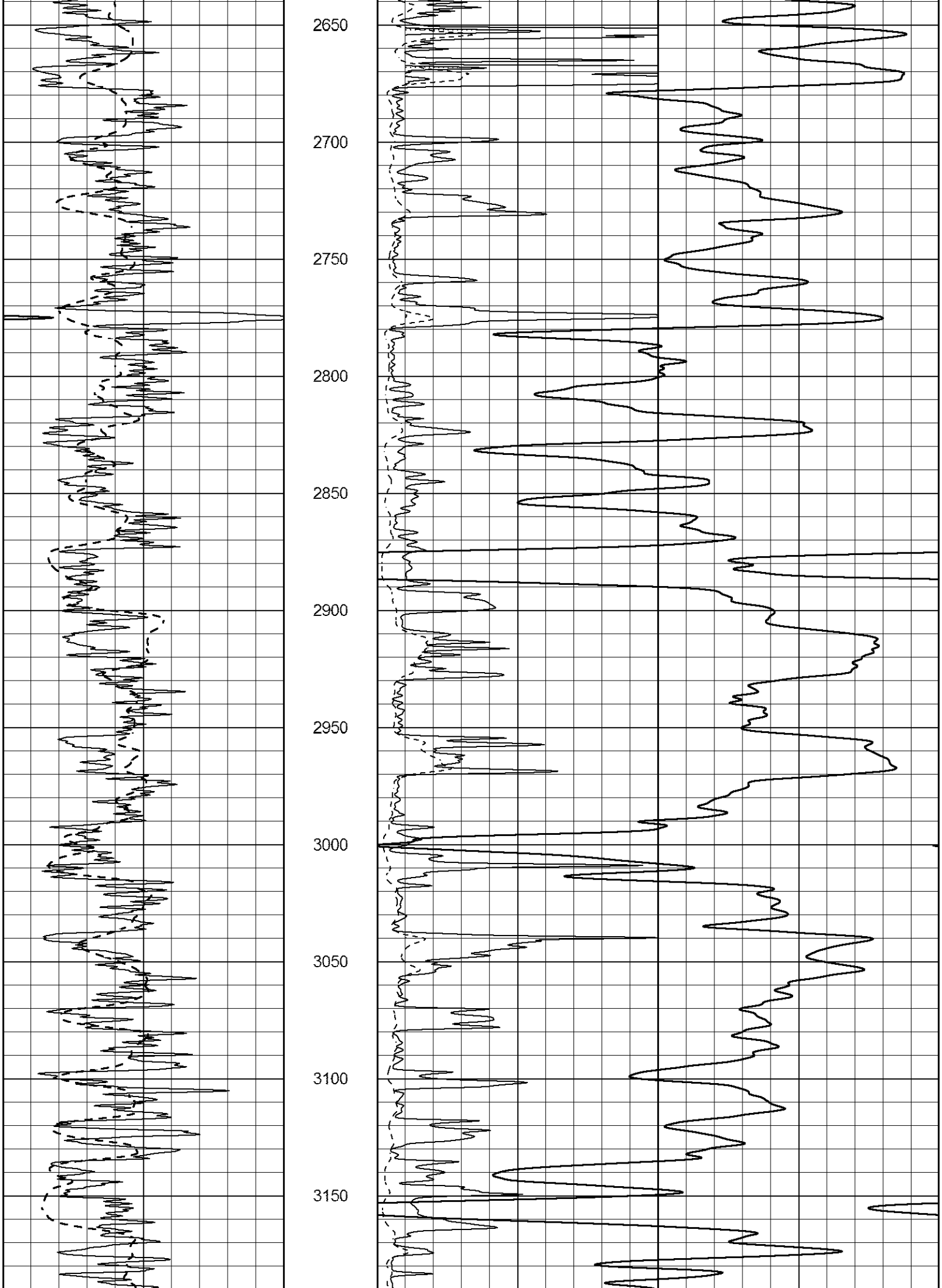
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600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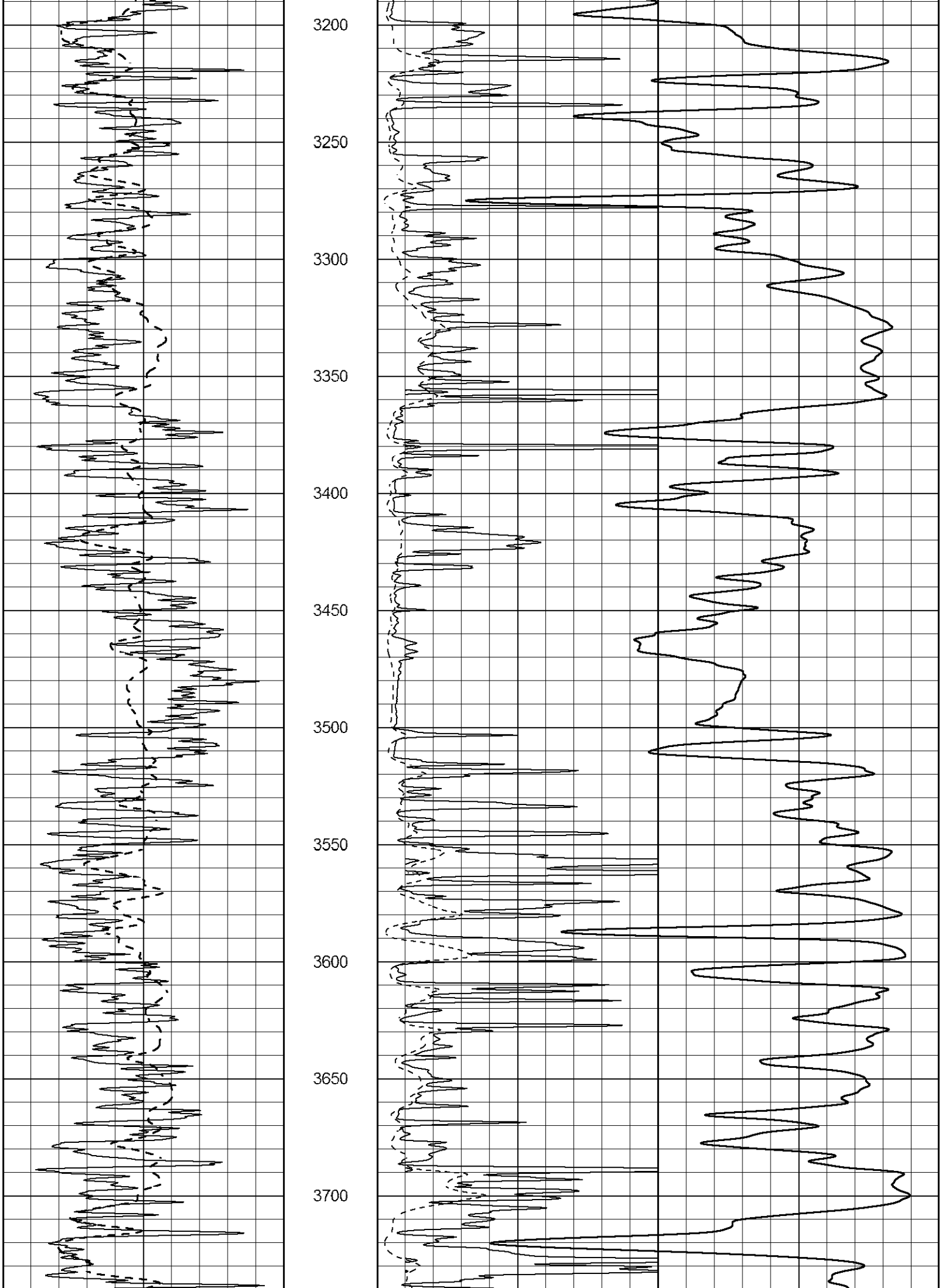
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150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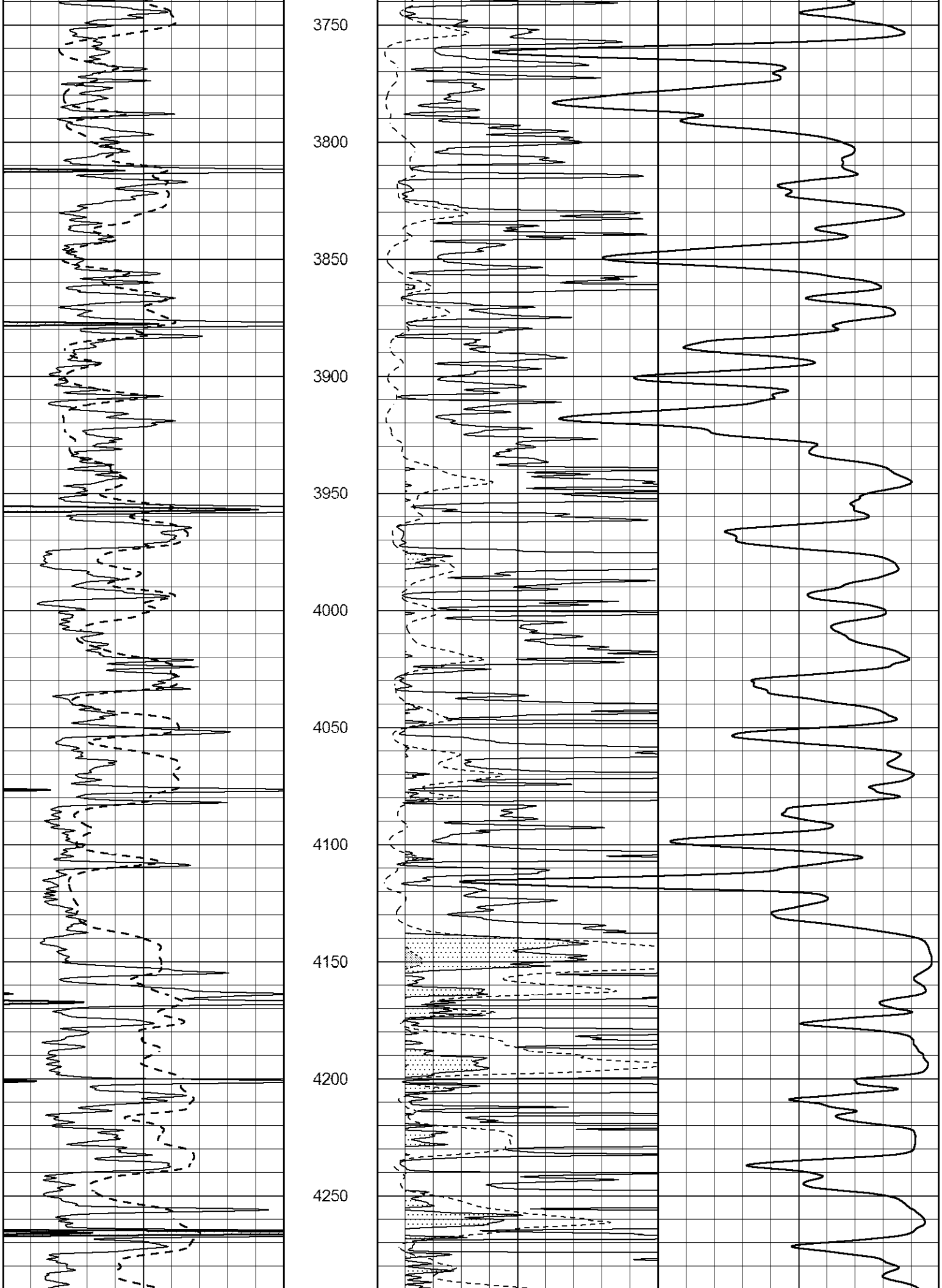
3300
3350
3400
3450
3500
3550
3600
3650
3700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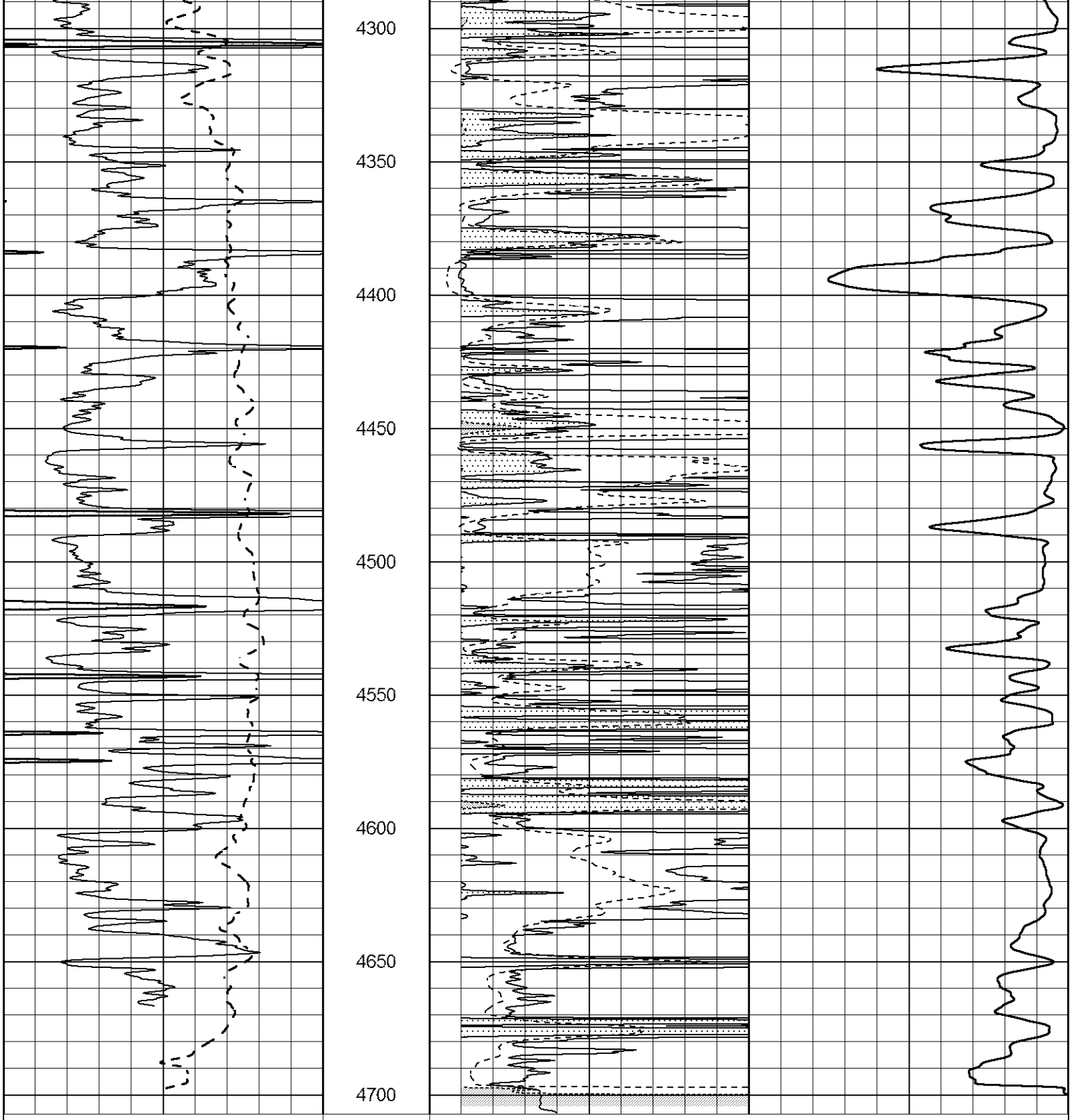
3850
3900
3950
4000
4050
4100
4150
4200
4250

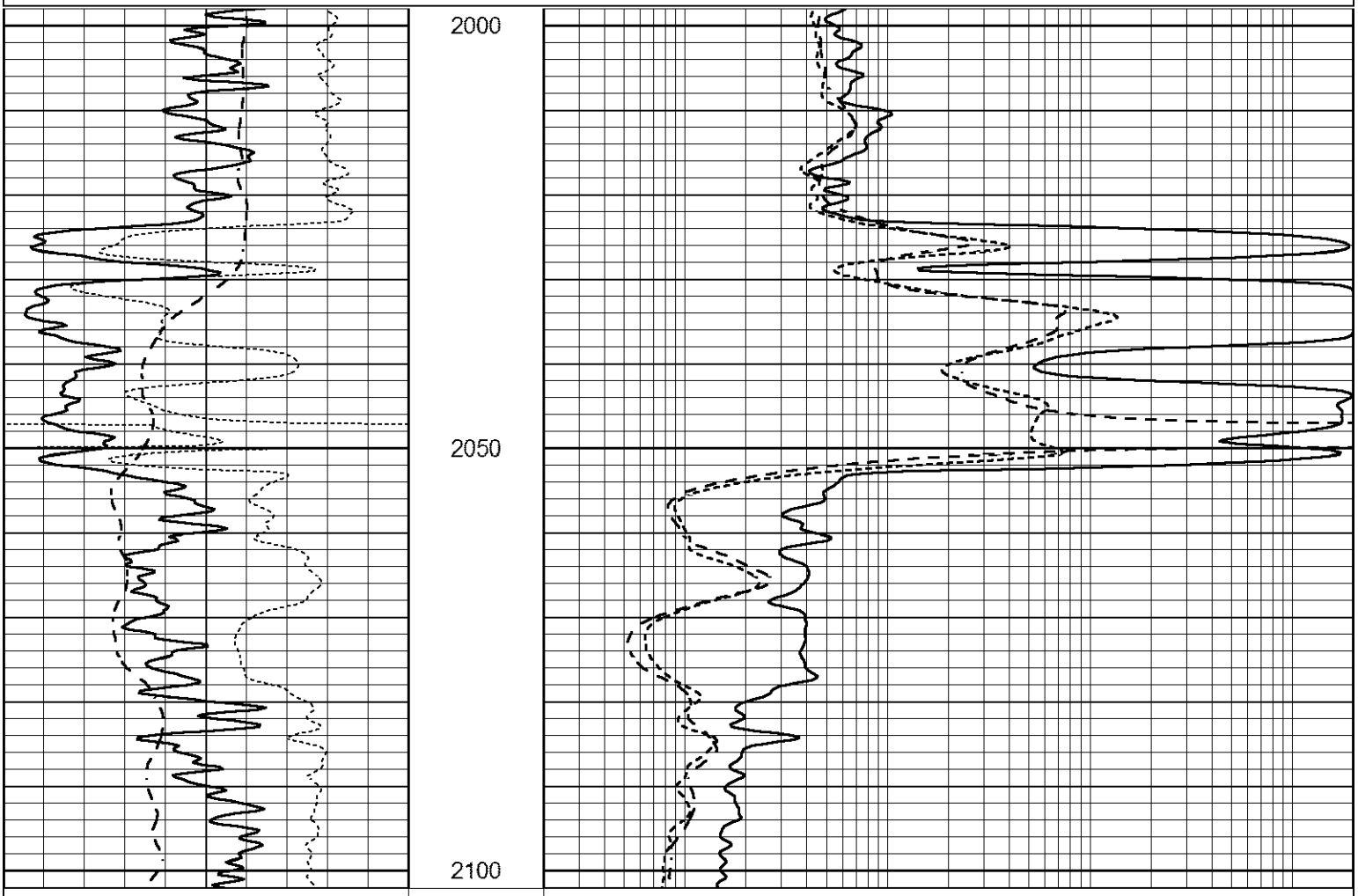

4300
4350
4400
4450
4500
4550
4600
4650
4700
0 Gamma Ray (GAPI) 150
-100 SP (mV) 100
1000 CILD (mmho/m) 0
0 RLL3 (Ohm-m) 50
0 Deep Induction (Ohm-m) 50
50 RILD X10 (Ohm-m) 500
50 RLL3 X10 (Ohm-m) 500

ANHYDRITE

Database File	3444pe8.db
Dataset Pathname	pass3.2
Presentation Format	_dil
Dataset Creation	Mon Feb 18 16:53:35 2019
Charted by	Depth in Feet scaled 1:240

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

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



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

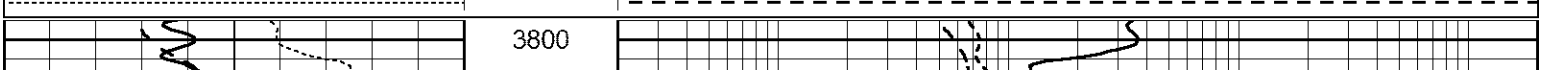
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

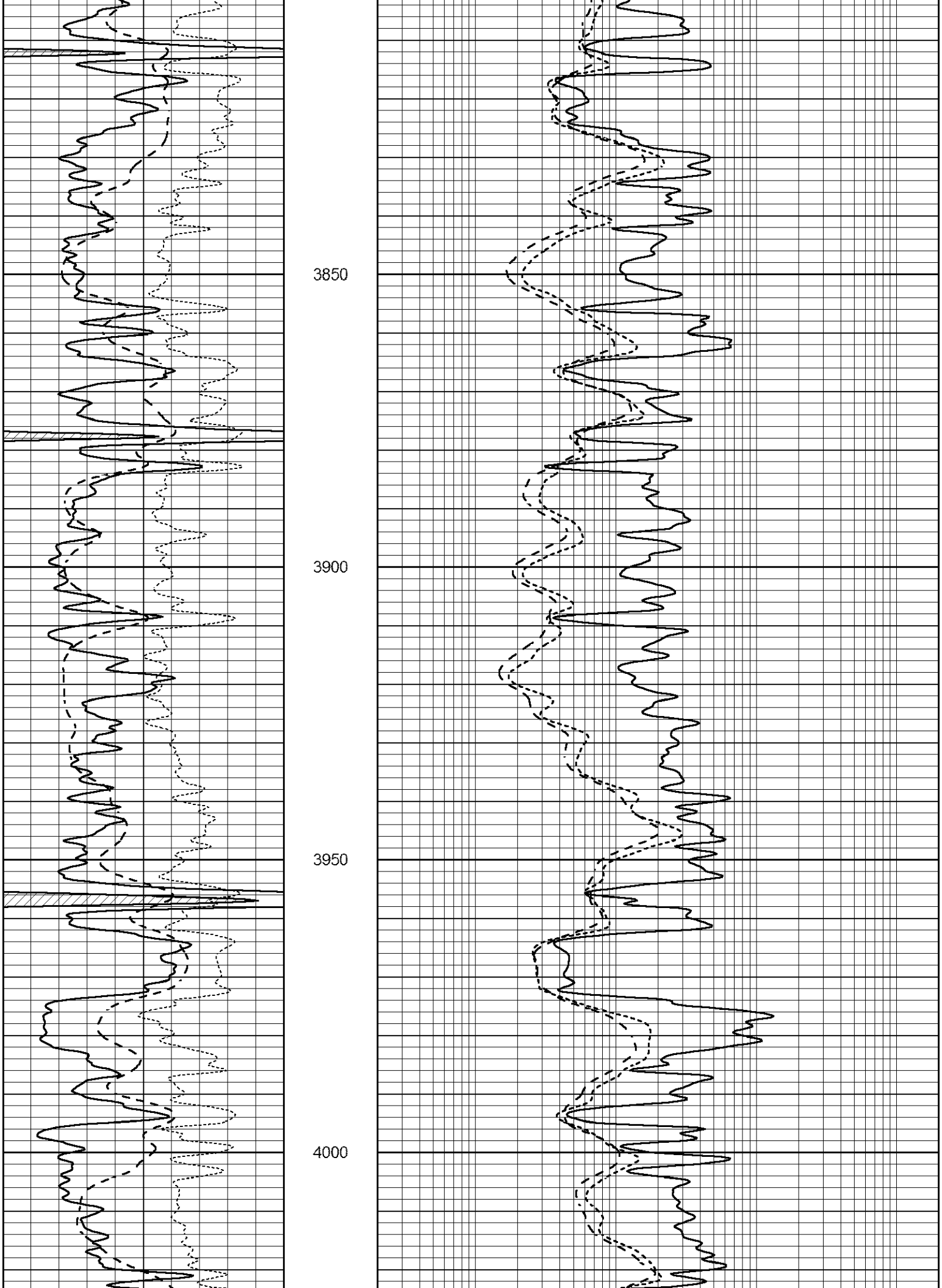
MAIN SECTION

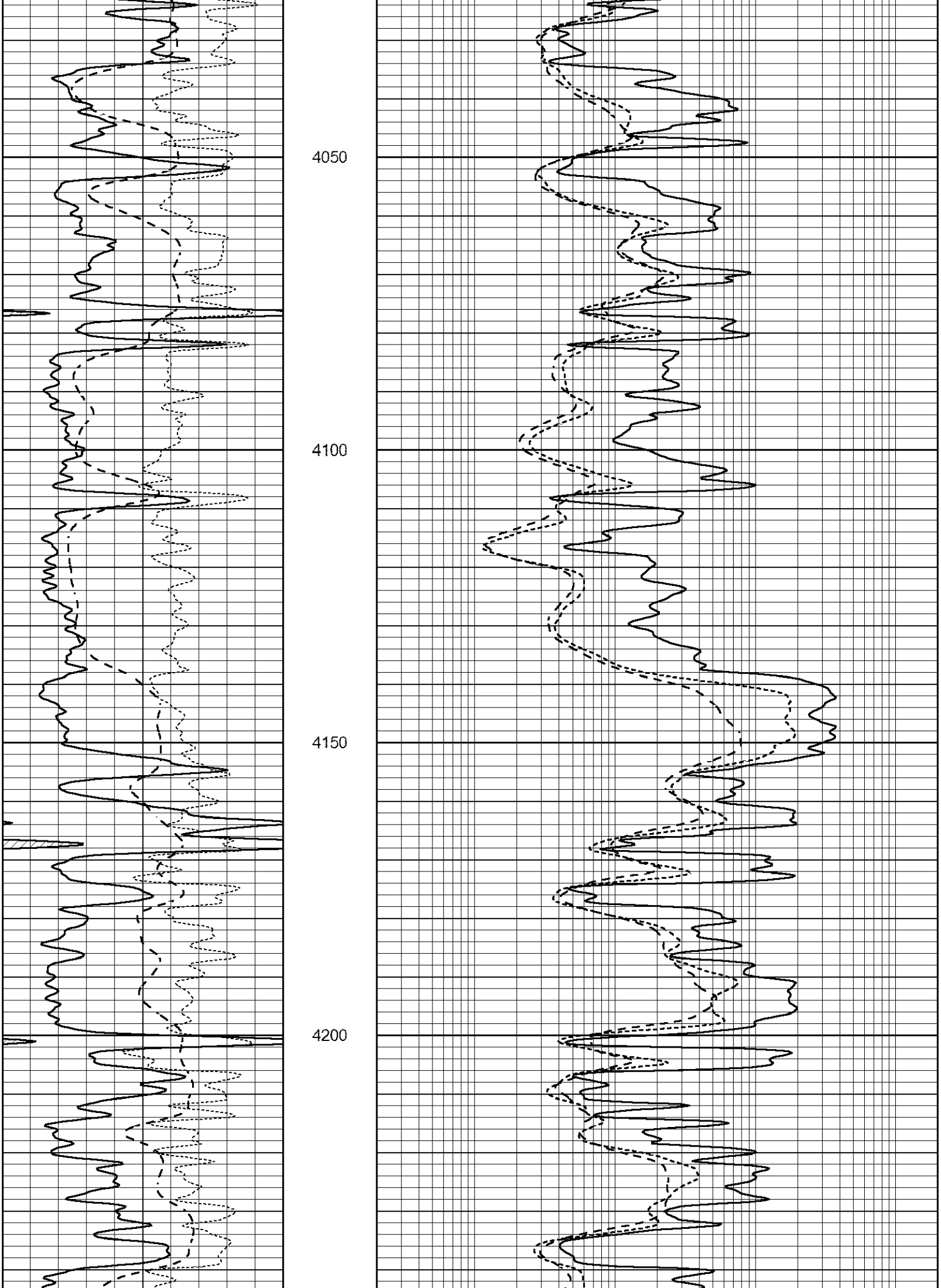
Database File	3444pe8.db
Dataset Pathname	pass3.1
Presentation Format	_dil
Dataset Creation	Mon Feb 18 16:37:56 2019
Charted by	Depth in Feet scaled 1:240

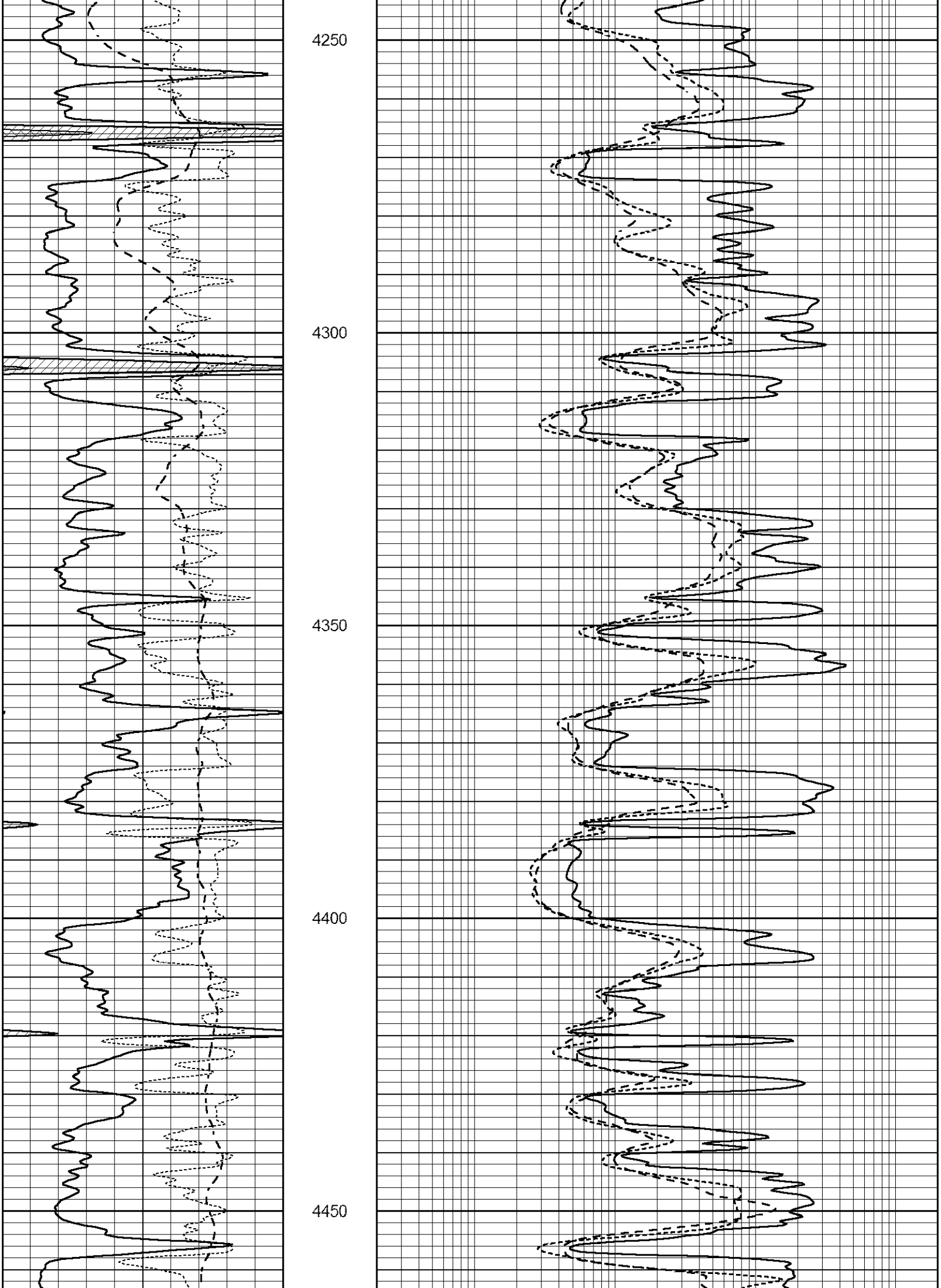
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

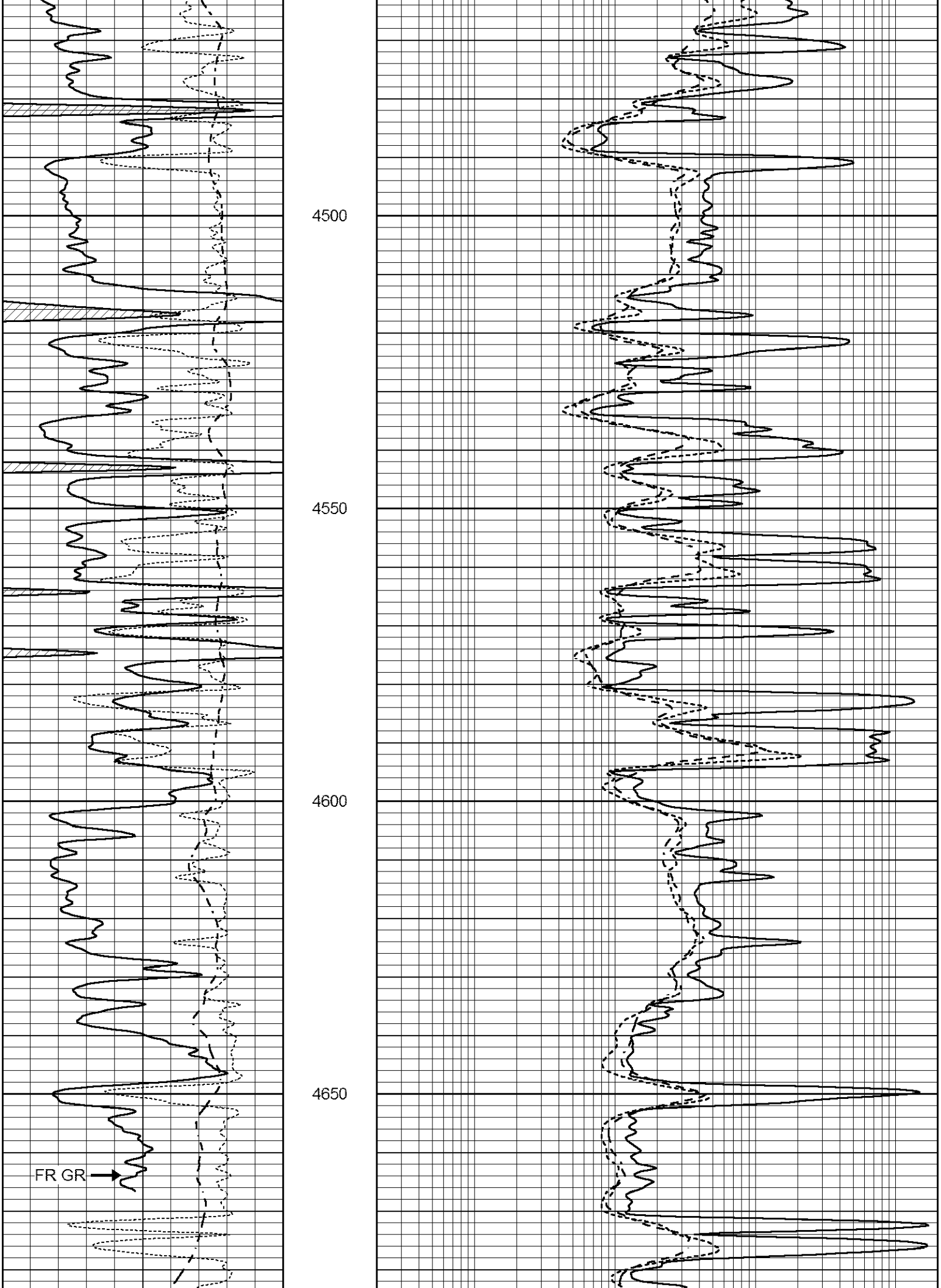
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

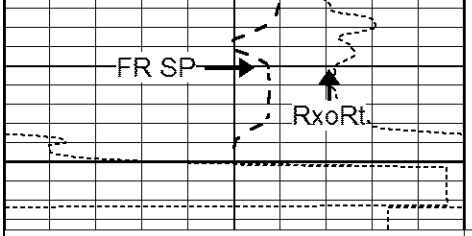



3850
3900
3950
4000

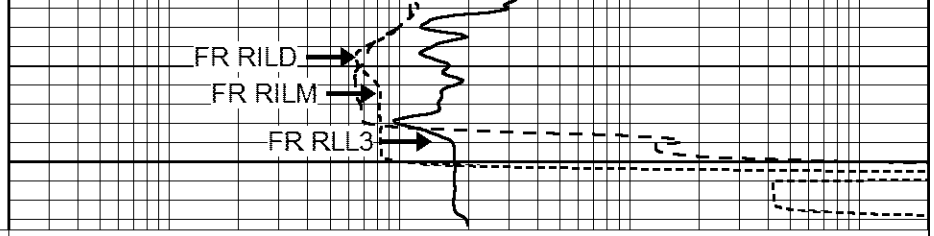

4050
4100
4150
4200


4250
4300
4350
4400
4450


4500
4550
4600
4650
FR GR



LTD 4700



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

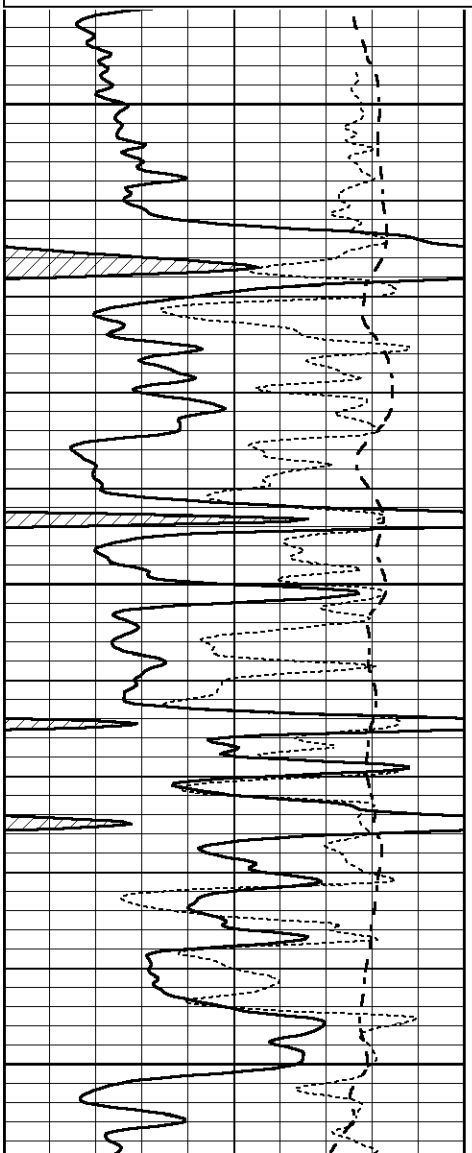
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

REPEAT SECTION

Database File	3444pe8.db
Dataset Pathname	pass2.1
Presentation Format	_dil
Dataset Creation	Mon Feb 18 16:28:32 2019
Charted by	Depth in Feet scaled 1:240

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

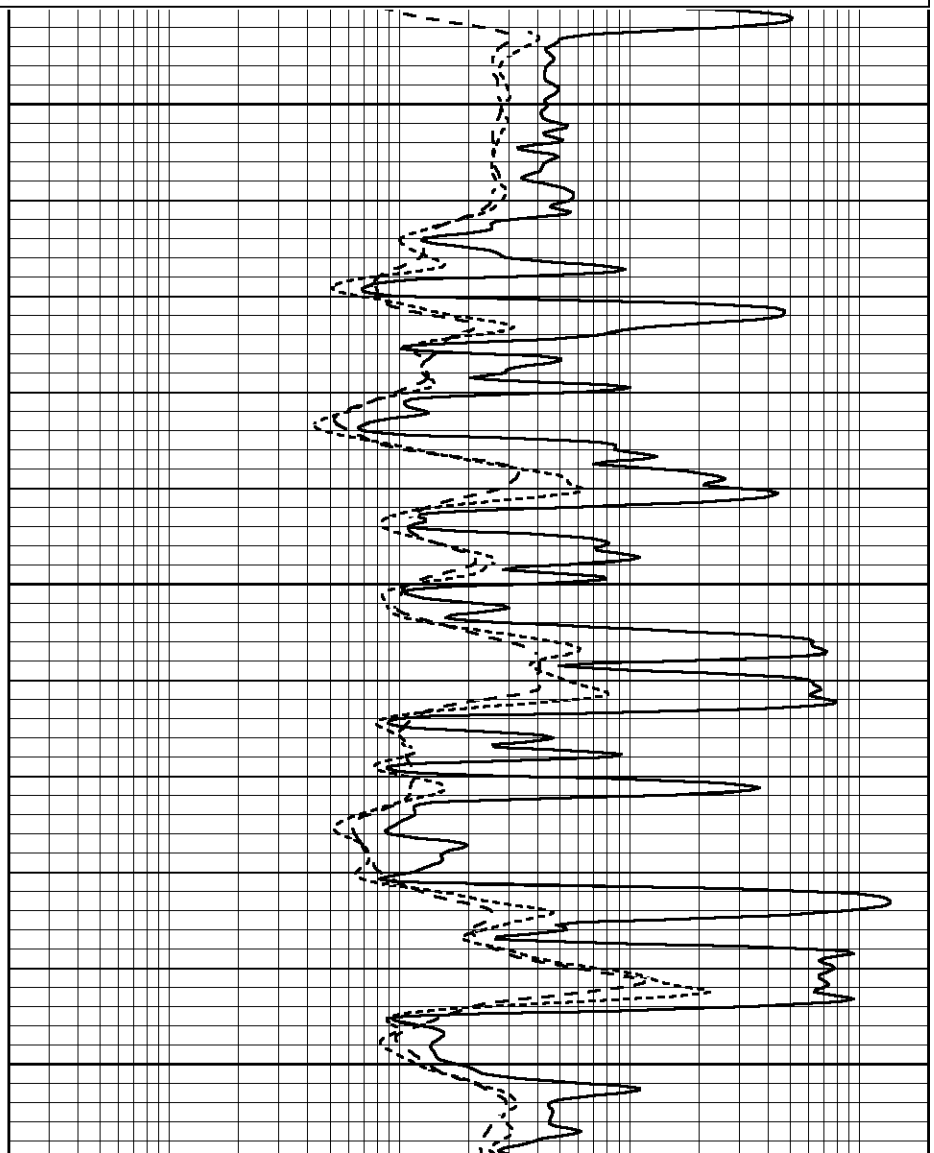
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

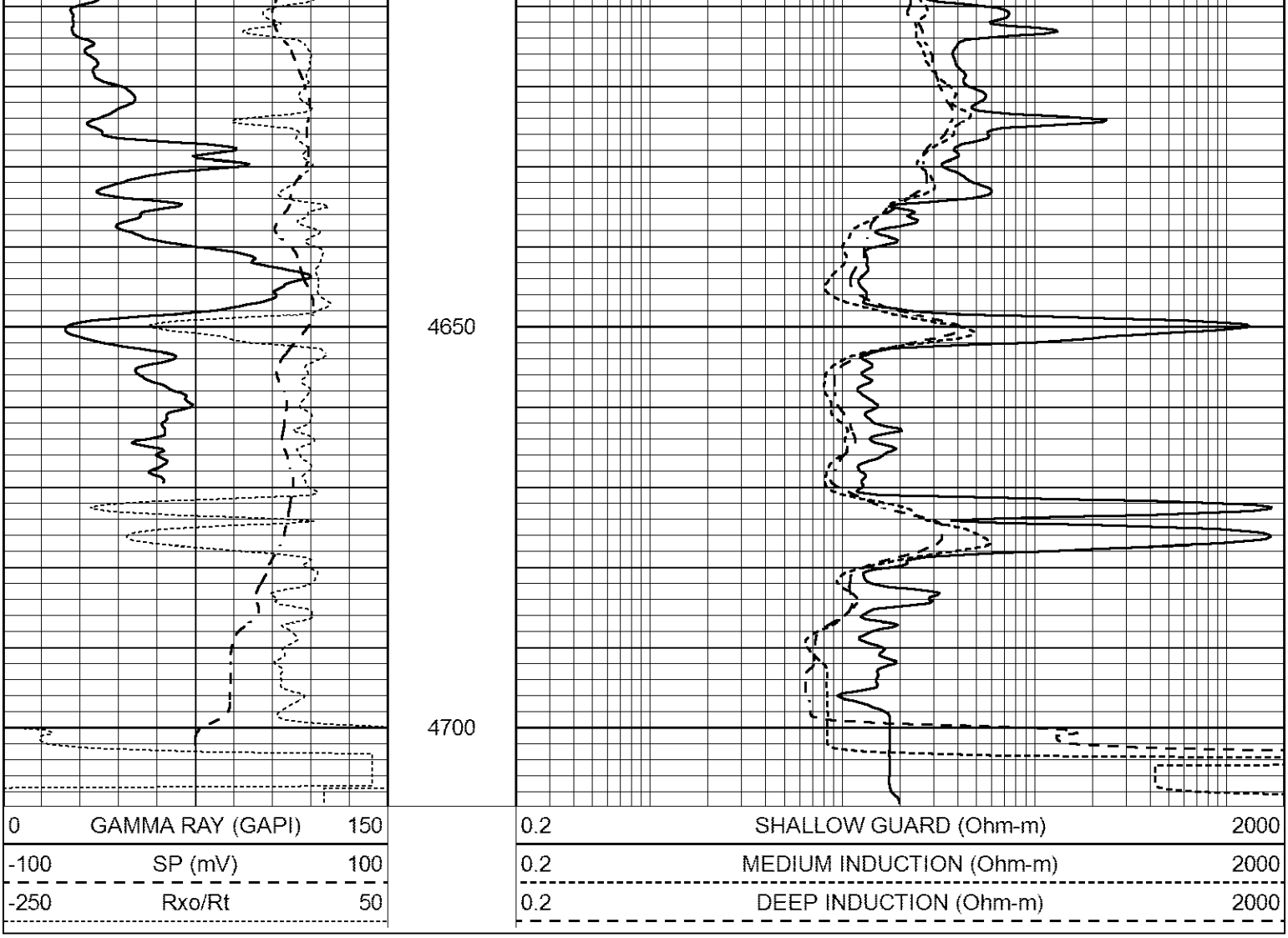


4500

4550

4600





Calibration Report

Database File	3444pe8.db
Dataset Pathname	pass2.1
Dataset Creation	Mon Feb 18 16:28:32 2019

Dual Induction Calibration Report

Serial-Model:	FW1410-55-Probe
Surface Cal Performed:	Mon May 22 14:23:32 2017
Downhole Cal Performed:	Thu Mar 12 09:29:20 2015
After Survey Verification Performed:	Thu Mar 12 09:29:20 2015

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings		References		Results	
	Zero	Cal	Zero	Cal	m'	b'

Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	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: Fri Jan 18 10:53:52 2019

	Background	Aluminum	Magnesium	
Window 1	563.20	5403.39	24190.50	cps
Window 2	44.78	1243.51	6049.93	cps
Window 4	247.62	1222.40	5239.60	cps
Window 5	568.17	8975.27	17094.80	cps
Window 6	44.48	1484.88	2922.28	cps
Window 8	270.82	2877.34	5377.89	cps
Bulk Density	-	2.6020	1.6830	g/cc
Pe	-	3.0000	2.5070	b/e

LS Alpha: : -1.8641 SS Alpha: : -0.7692 LS CPE: : 1.1004
LS Beta: : 127931.7253 SS Beta: : 20075.8142 SS CPE: : 1.5209

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: Fri Jan 18 10:53:52 2019

Results		Readings		References (in)			
Low	High	Low	High	Low	High	Gain	Offset
90.2	3611.6			8.0	14.0	0.0	7.8

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:	7	
Tool Model:	Probe1	
Performed:	Wed Dec 05 01:26:33 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4300	GAPI/cps