



# DUAL INDUCTION LOG

**Company** BLAKE EXPLORATION, LLC.  
**Well** THE BETSY #1  
**Field** OAKLEY  
**County** LOGAN      **State** KANSAS

**Location:**      **API # :** 15-109-21651-0000  
 400' FSL & 2640' FEL  
 N2 - S2 - S2 - S2  
 SEC 10 TWP 11S RGE 32W  
**Permanent Datum** GROUND LEVEL Elevation 3057  
**Log Measured From** KELLY BUSHING 7' A.G.L  
**Drilling Measured From** KELLY BUSHING  
**Other Services** CDL/CNL  
**Elevation** MEL  
 K.B. 3064  
 D.F. 3062  
 G.L. 3057

<b>Date</b>	8/22/22		
<b>Run Number</b>	ONE		
<b>Depth Driller</b>	4640		
<b>Depth Logger</b>	4642		
<b>Bottom Logged Interval</b>	4640		
<b>Top Log Interval</b>	00		
<b>Casing Driller</b>	8 5/8" @ 262		
<b>Casing Logger</b>	262		
<b>Bit Size</b>	7 7/8		
<b>Type Fluid in Hole</b>	CHEMICAL MUD	CHLORIDES 4000 PPM	
<b>Density / Viscosity</b>	9.2/76		
<b>pH / Fluid Loss</b>	10.0/8.4		
<b>Source of Sample</b>	FLOWLINE		
<b>Rm @ Meas. Temp</b>	.900 @ 80F		
<b>Rmt @ Meas. Temp</b>	.675 @ 80F		
<b>Rmc @ Meas. Temp</b>	1.08 @ 80F		
<b>Source of Rmf / Rmc</b>	MEASUREMENT		
<b>Rm @ BHT</b>	.590 @ 122F		
<b>Time Circulation Stopped</b>	2 HOURS		
<b>Time Logger on Bottom</b>	11:00 A.M.		
<b>Maximum Recorded Temperature</b>	122F		
<b>Equipment Number</b>	3802		
<b>Location</b>	HAYS, KANSAS		
<b>Recorded By</b>	COLE ROBBEN		
<b>Witnessed By</b>	MIKE DAVIGNON		

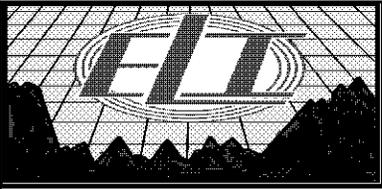
<<< Fold Here >>>

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 ELI WIRELINE SERVICES, HAYS, KS. ( 785 ) 628-6395

**DIRECTIONS:**  
 OAKLEY, KANSAS SOUTH ON HIGHWAY 83 1 MILE, 1/2 MILE WEST,  
 NORTH INTO

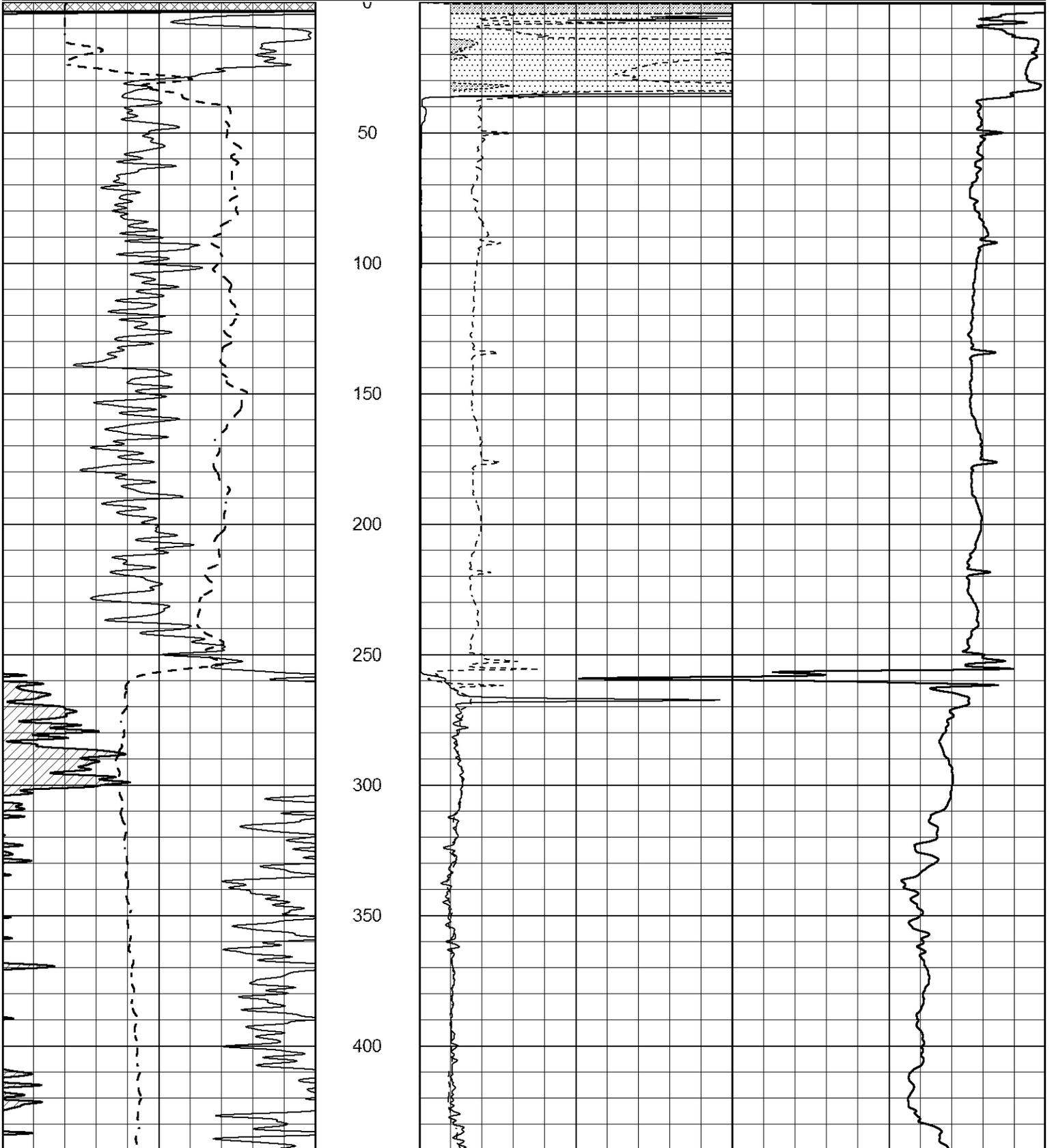


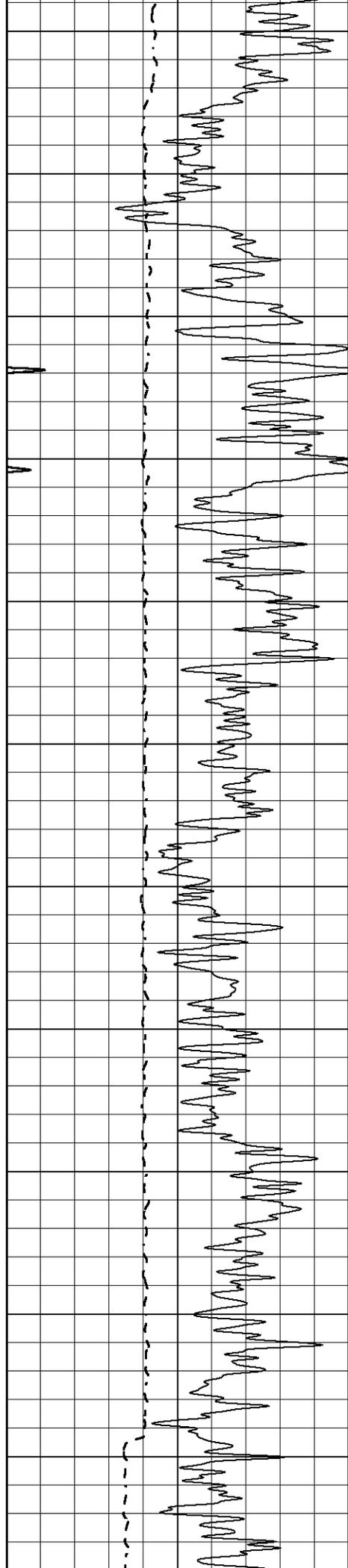
# MAIN SECTION

Database File 6775ddn.db  
 Dataset Pathname pass3M  
 Presentation Format \_dil2  
 Dataset Creation Mon Aug 22 12:38:17 2022  
 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





450

500

550

600

650

700

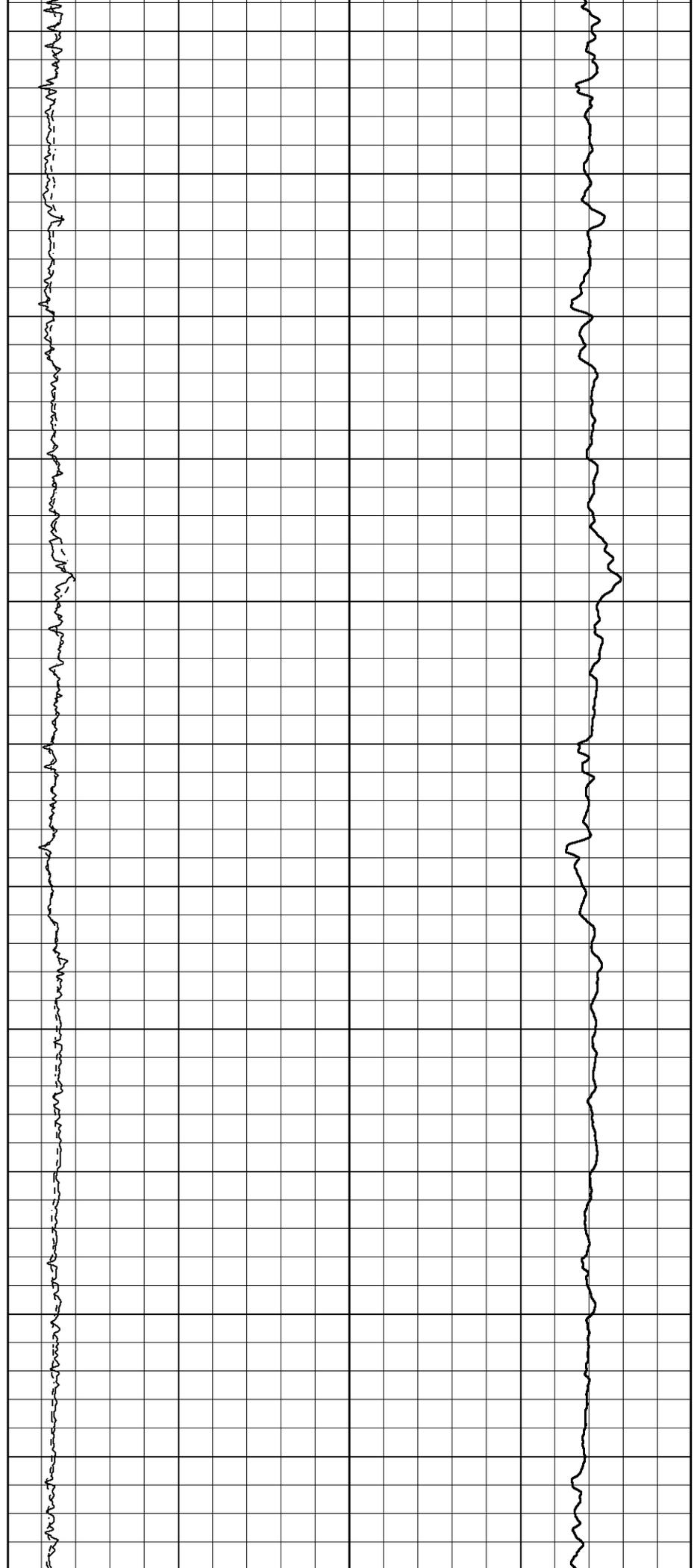
750

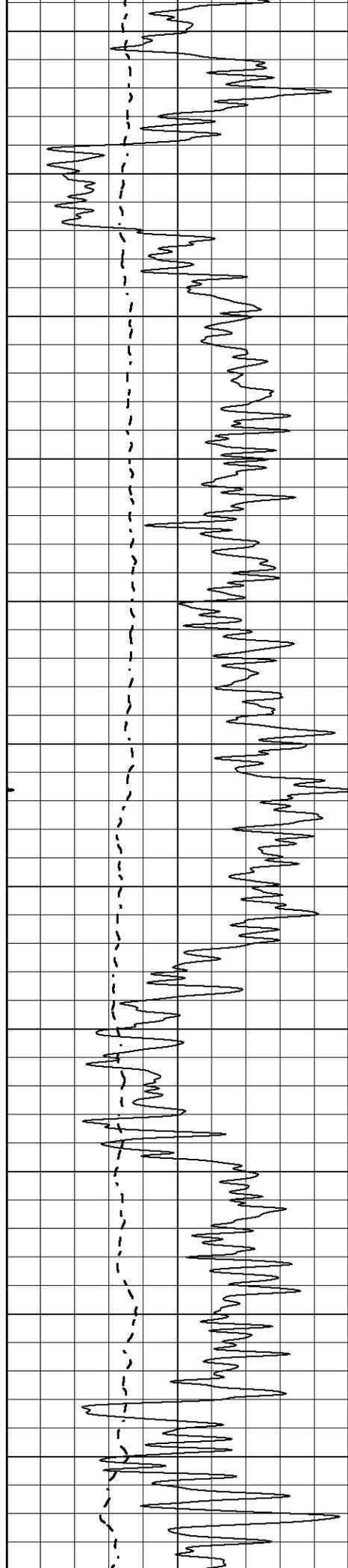
800

850

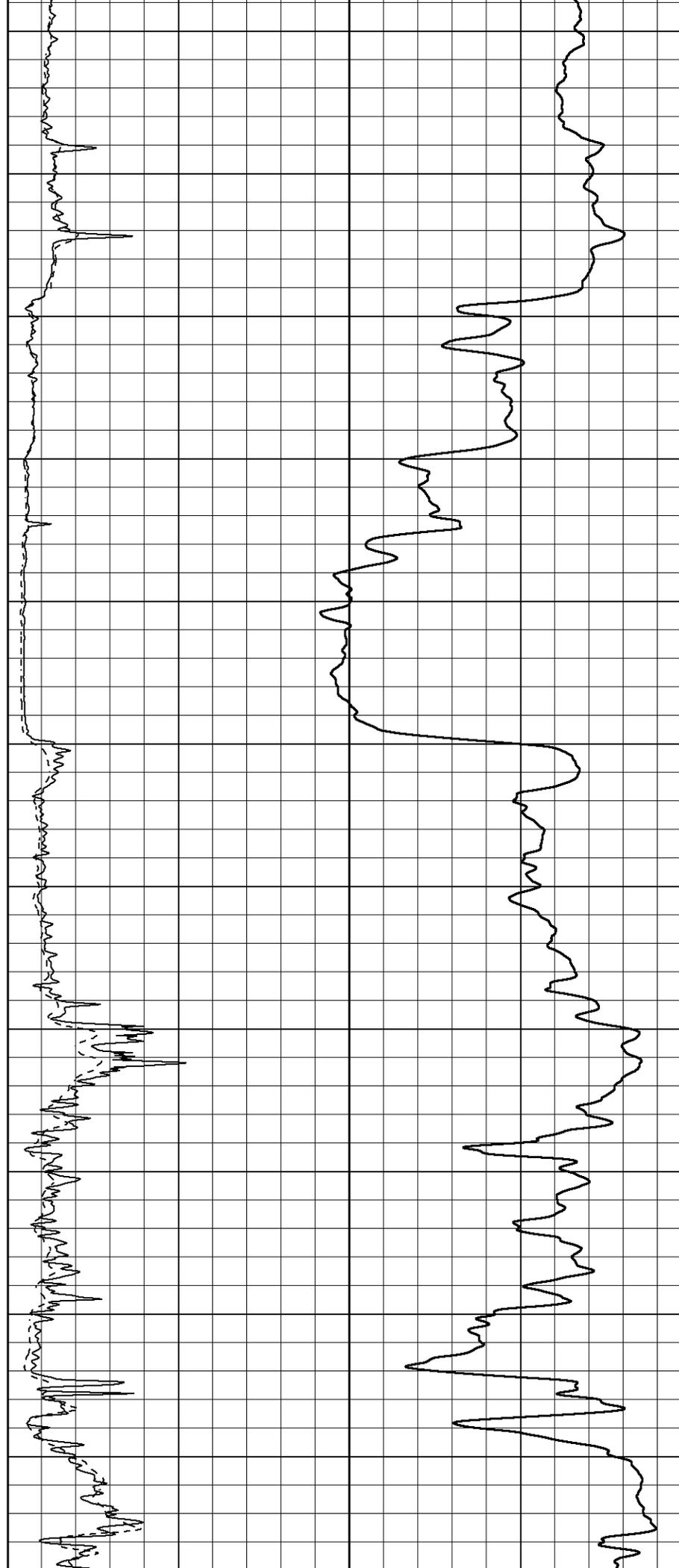
900

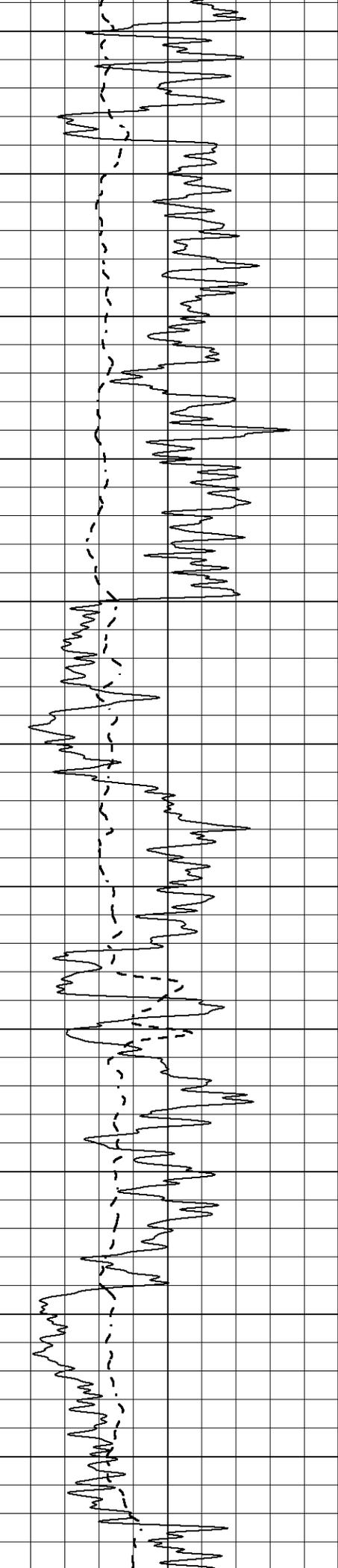
950



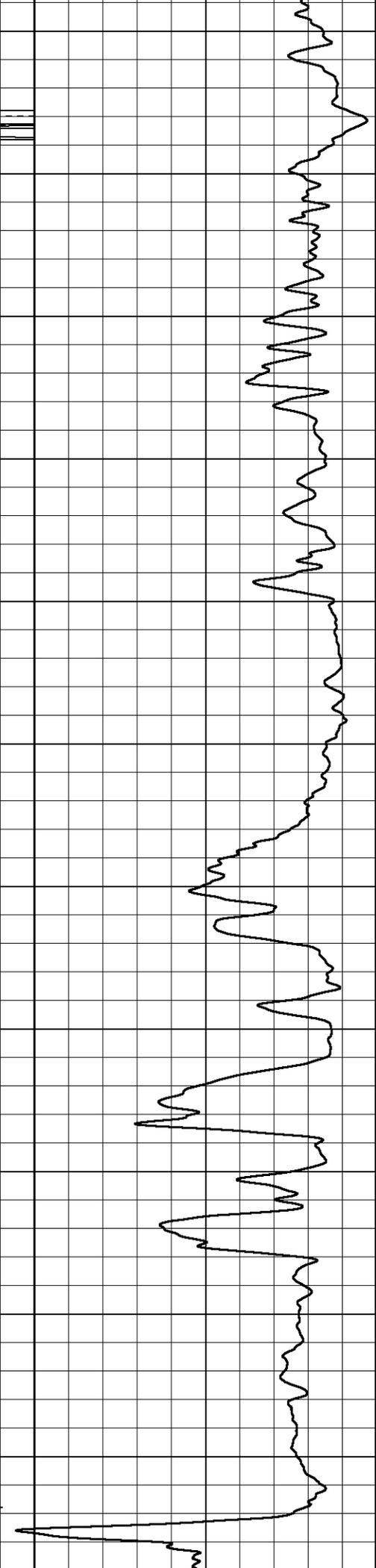
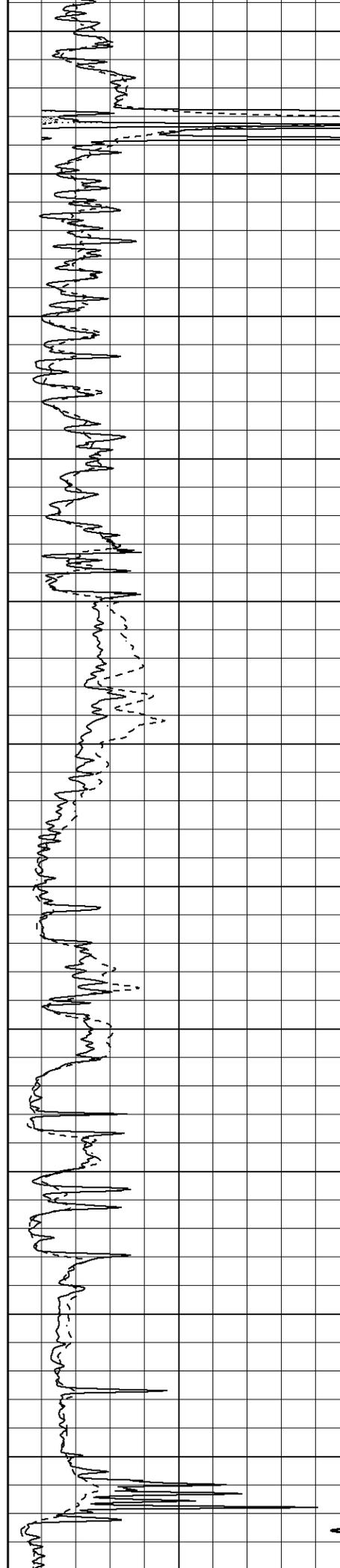


1000  
1050  
1100  
1150  
1200  
1250  
1300  
1350  
1400  
1450  
1500

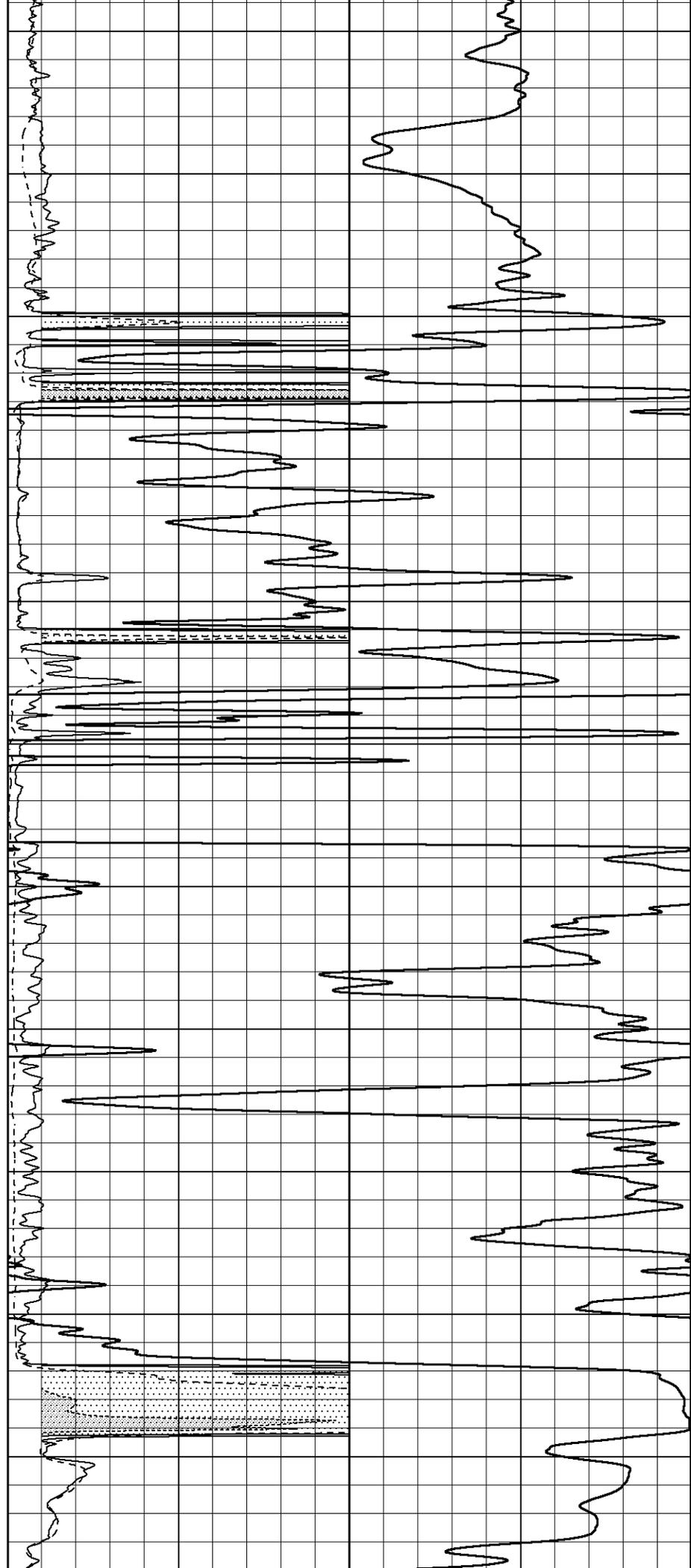
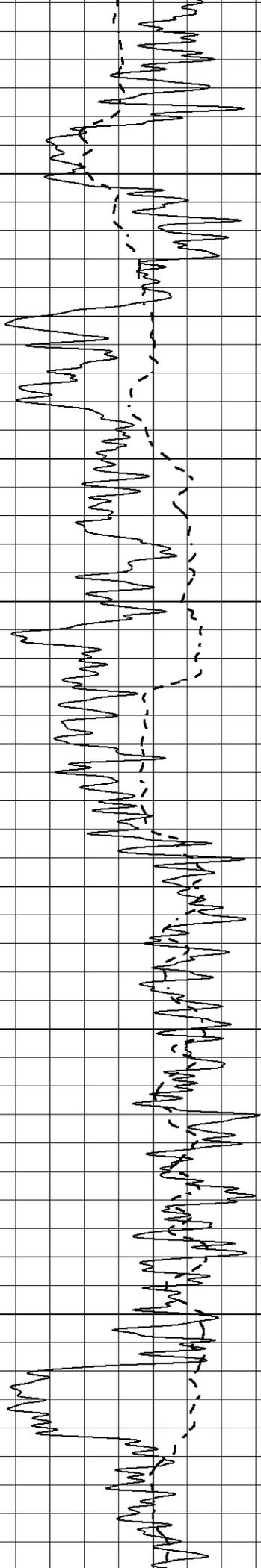


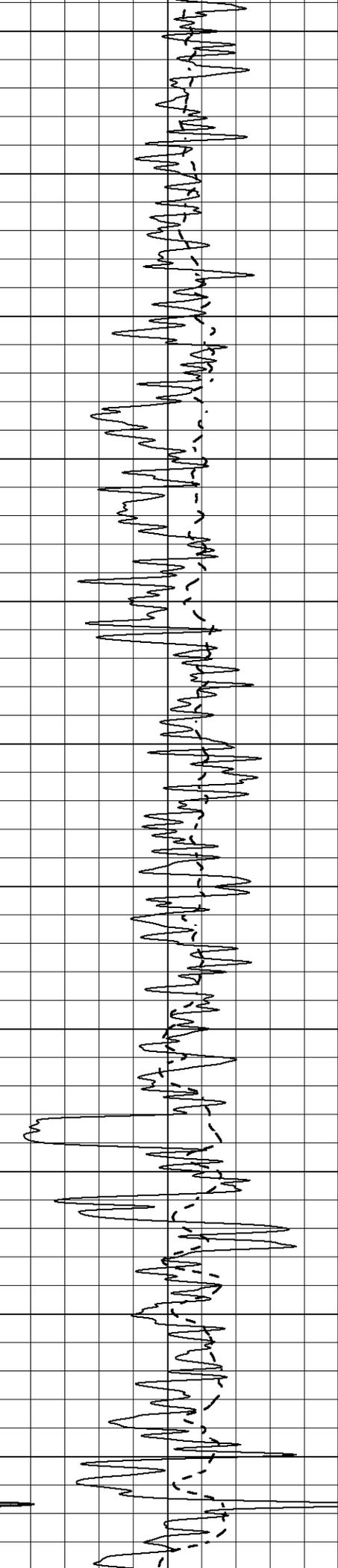


1550  
1600  
1650  
1700  
1750  
1800  
1850  
1900  
1950  
2000  
2050



2100  
2150  
2200  
2250  
2300  
2350  
2400  
2450  
2500  
2550  
2600





2650

2700

2750

2800

2850

2900

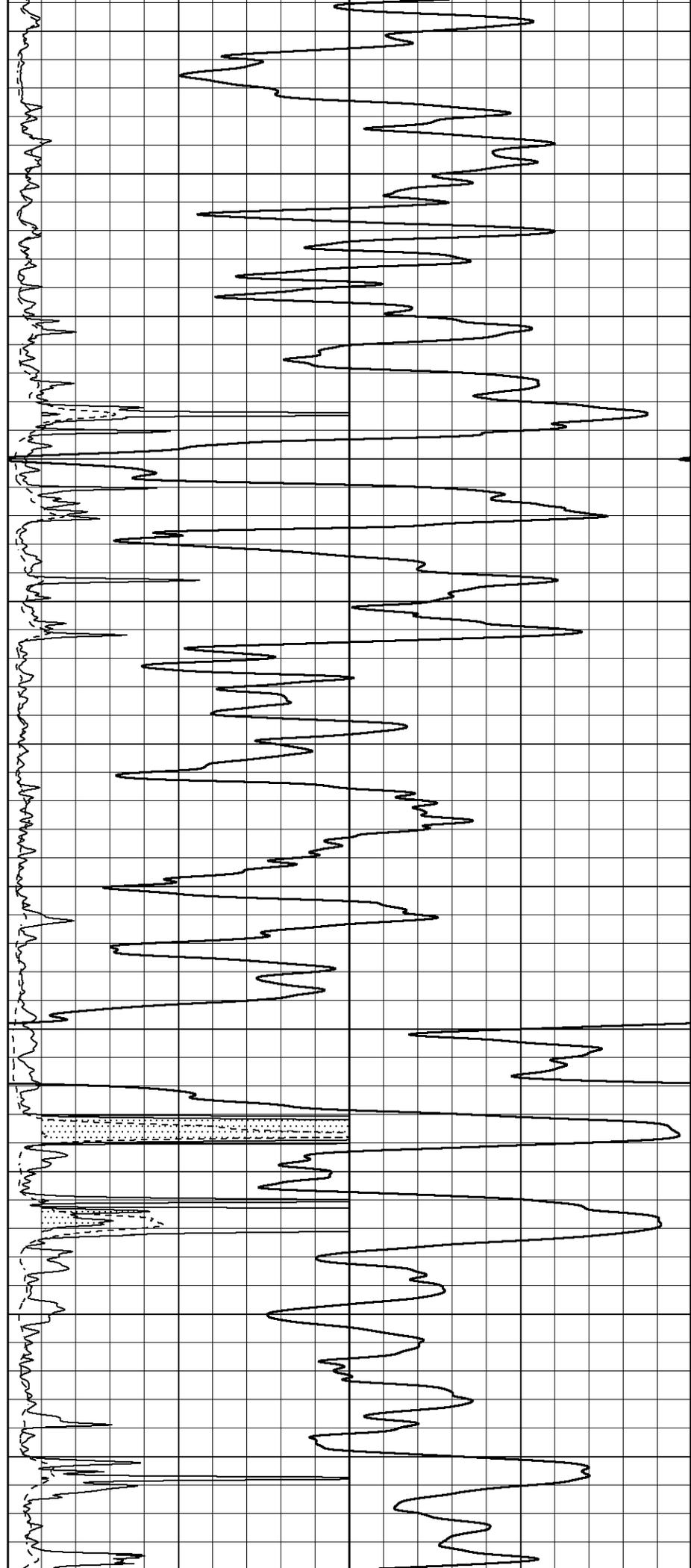
2950

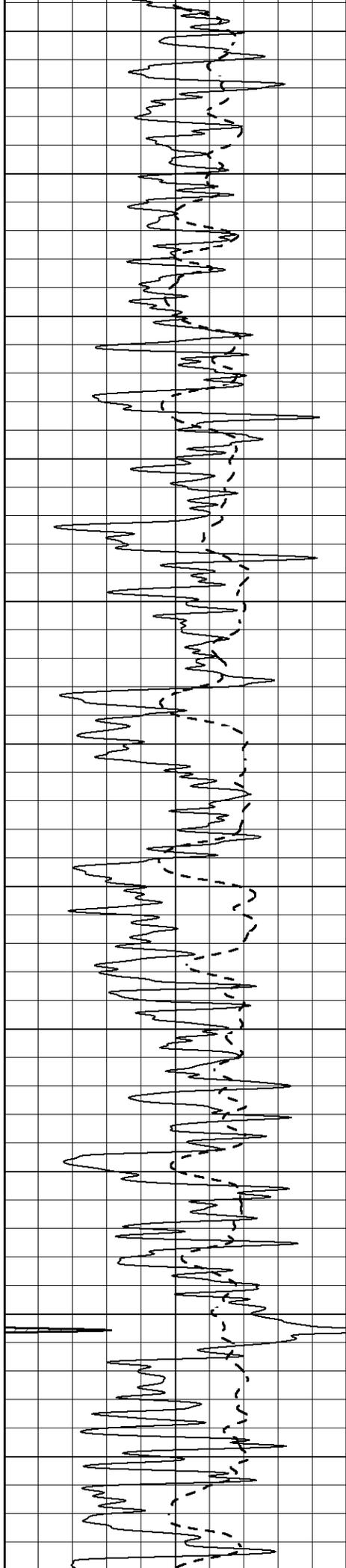
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

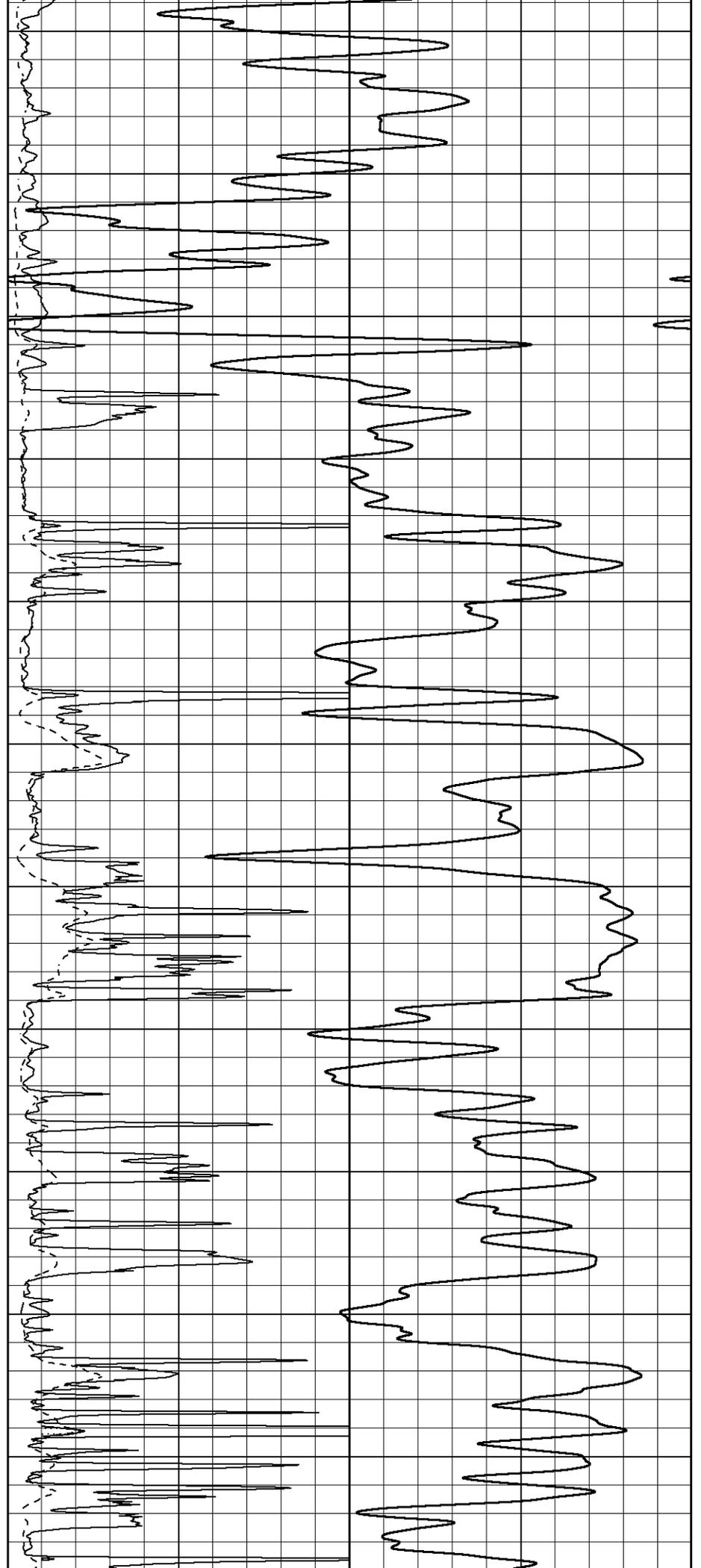
3500

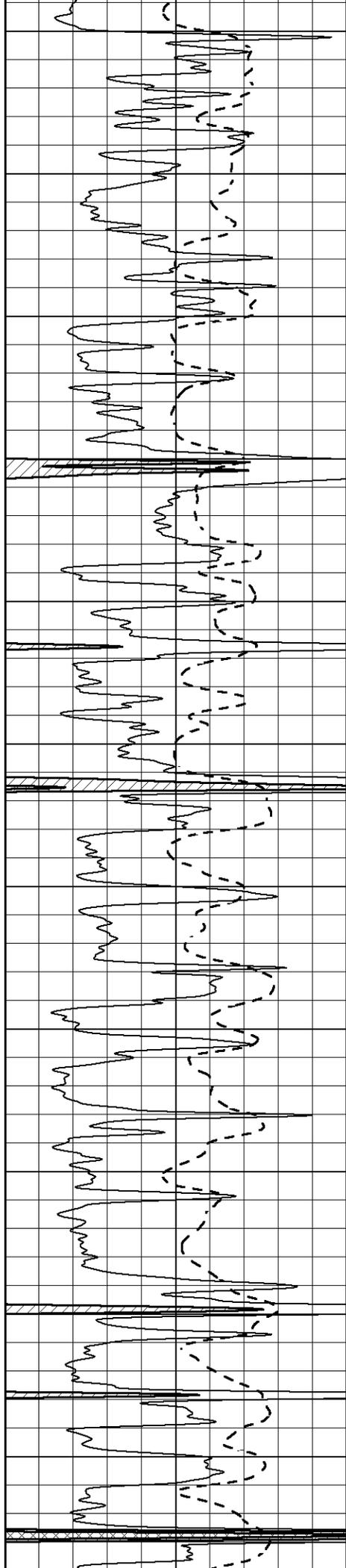
3550

3600

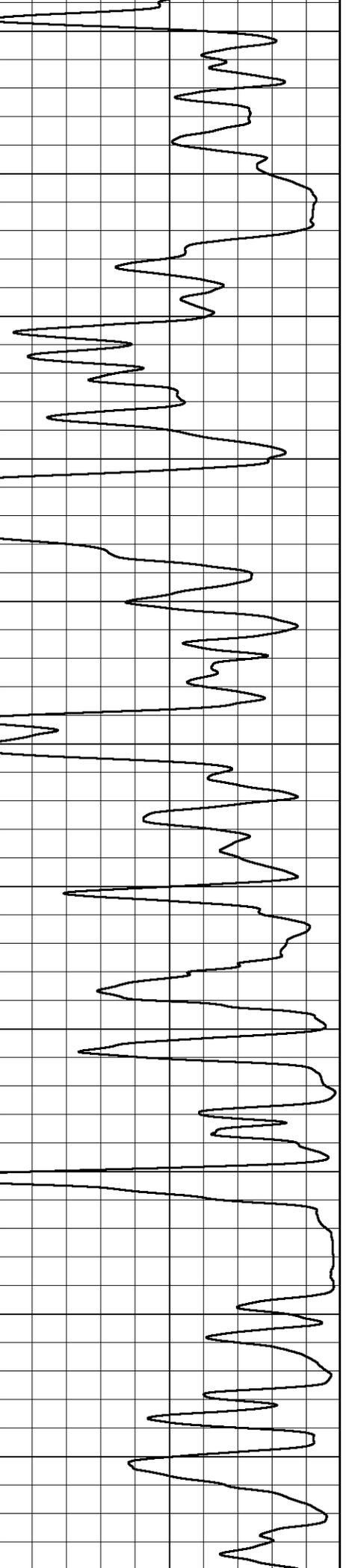
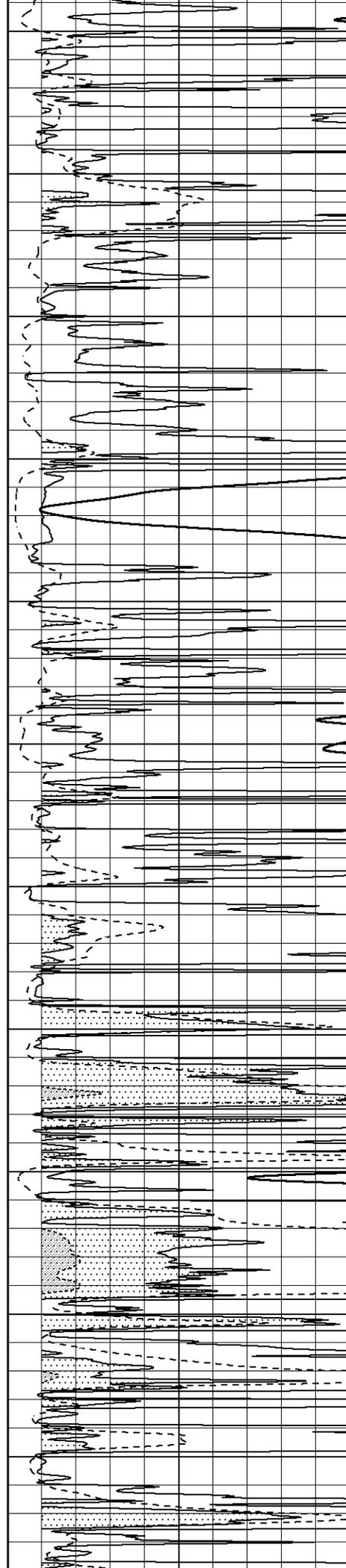
3650

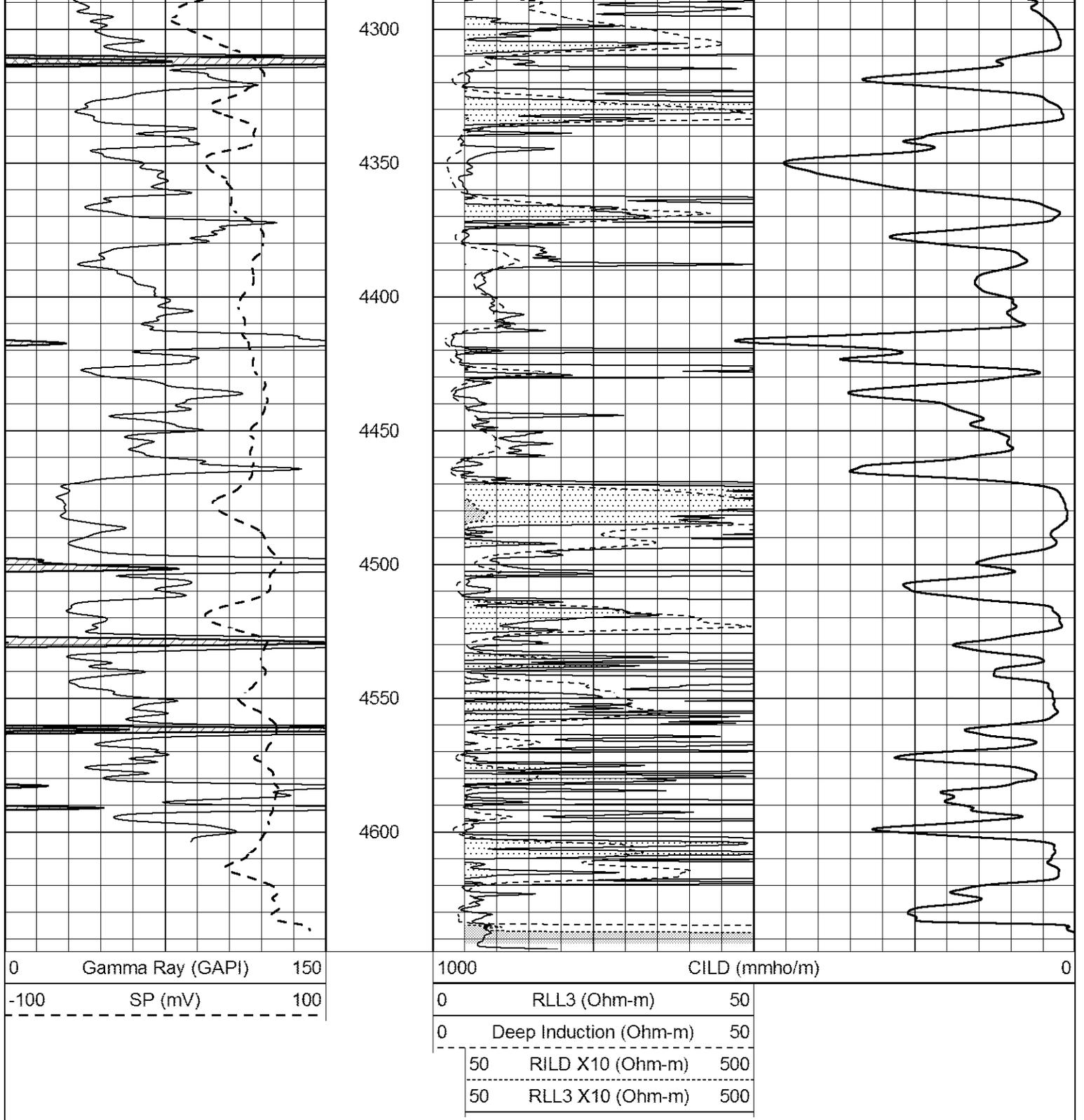
3700





3750  
3800  
3850  
3900  
3950  
4000  
4050  
4100  
4150  
4200  
4250



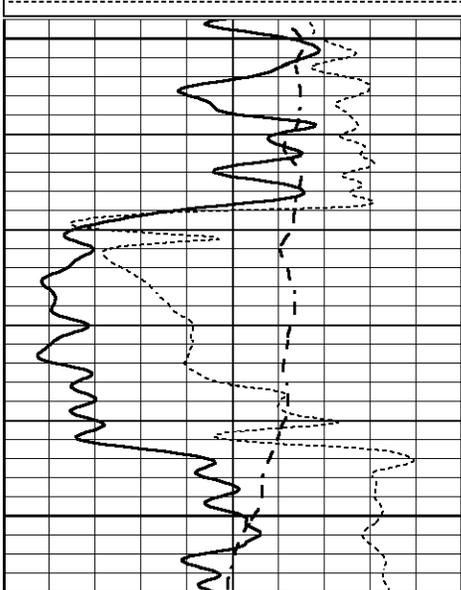


# ANHYDRITE

Database File 6775ddn.db  
 Dataset Pathname pass3A  
 Presentation Format \_dil  
 Dataset Creation Mon Aug 22 12:29:31 2022  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000

-100	SP (mV)	100
-250	Rxo/Rt	50

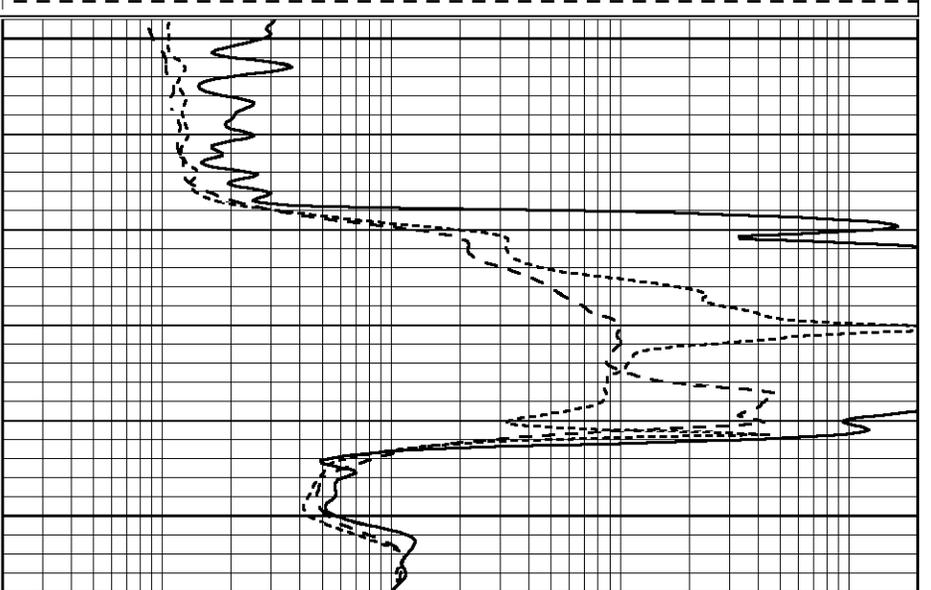


2550

2600

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

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



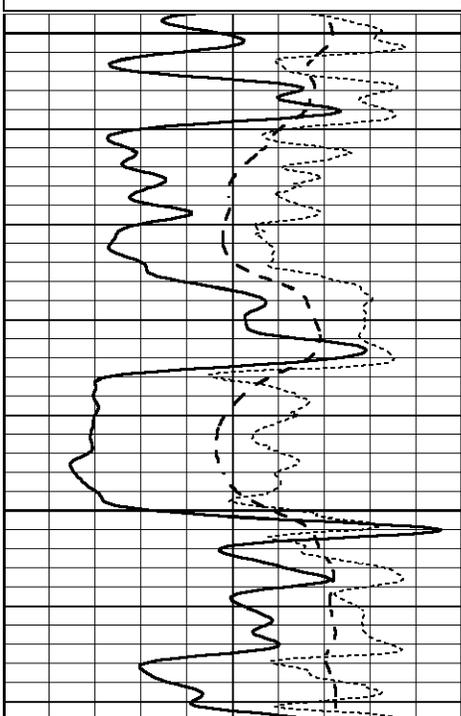
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



# MAIN SECTION

Database File 6775ddn.db  
 Dataset Pathname pass3DT  
 Presentation Format \_dil  
 Dataset Creation Mon Aug 22 12:08:13 2022  
 Charted by Depth in Feet scaled 1:240

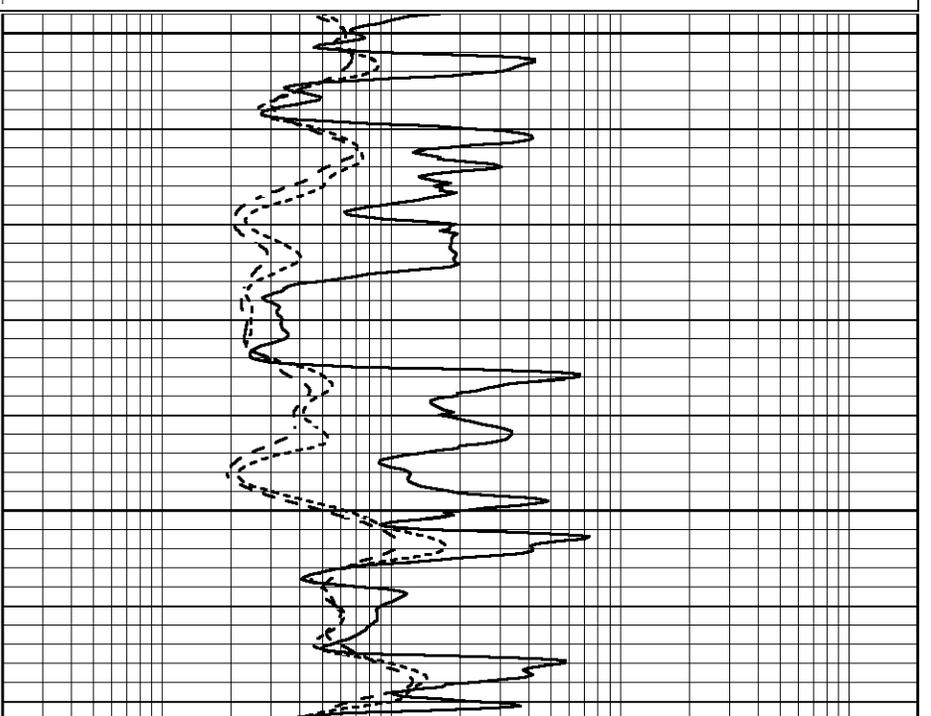
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

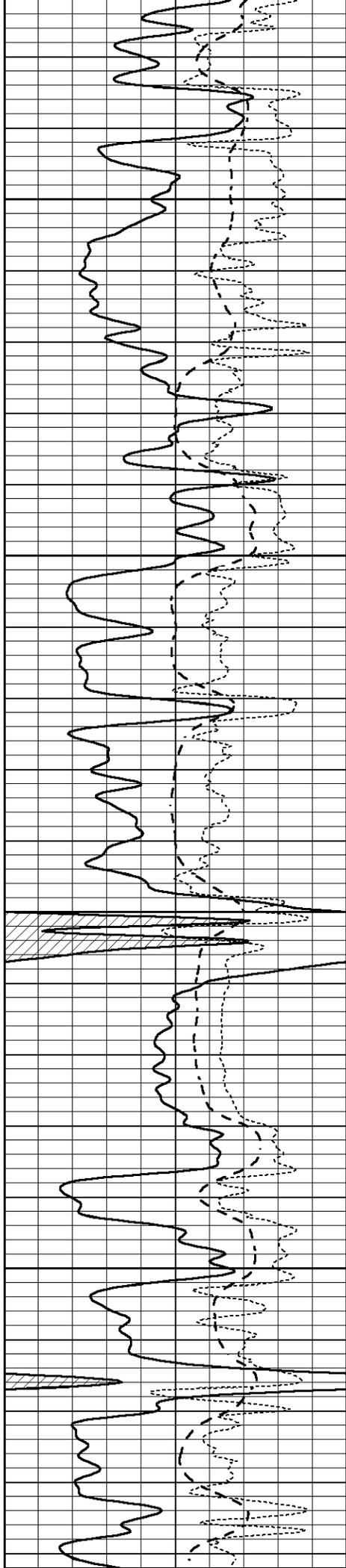


3700

3750

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



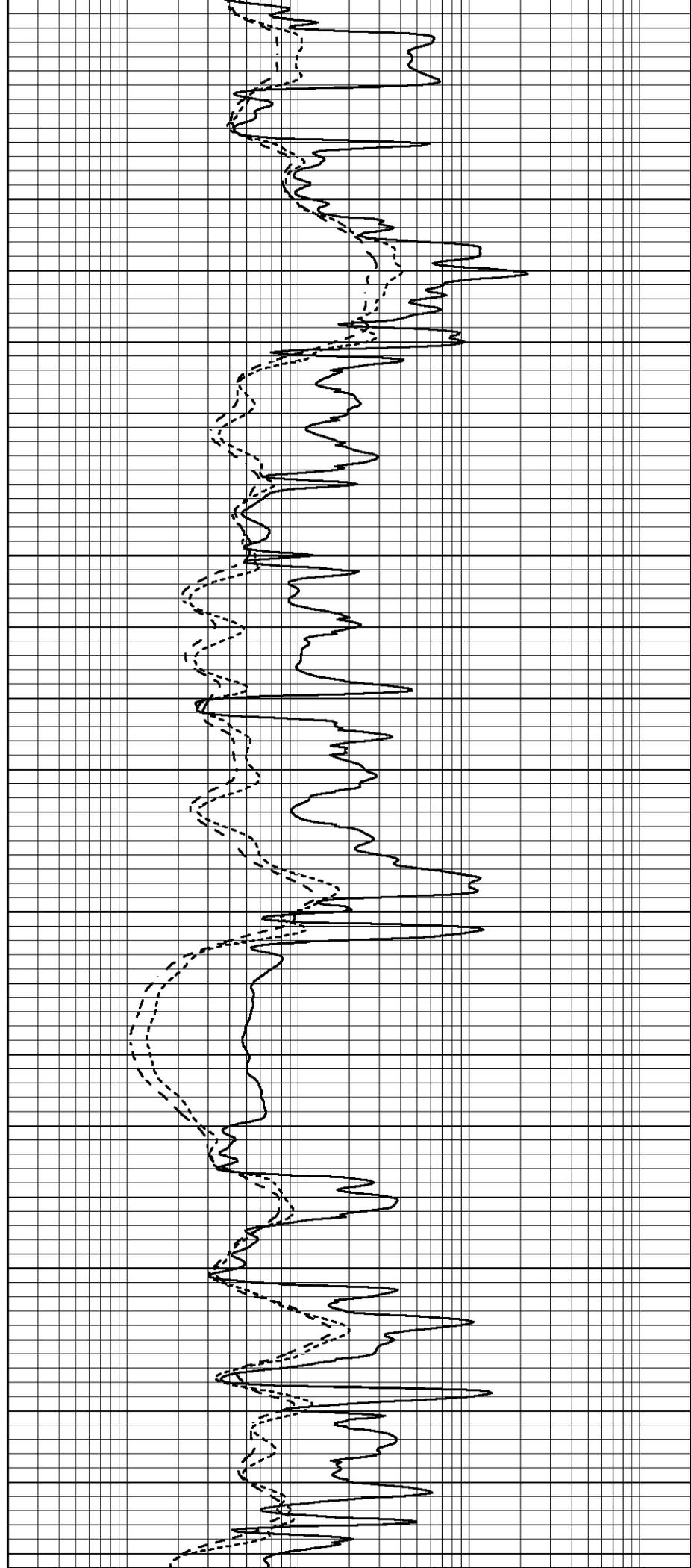


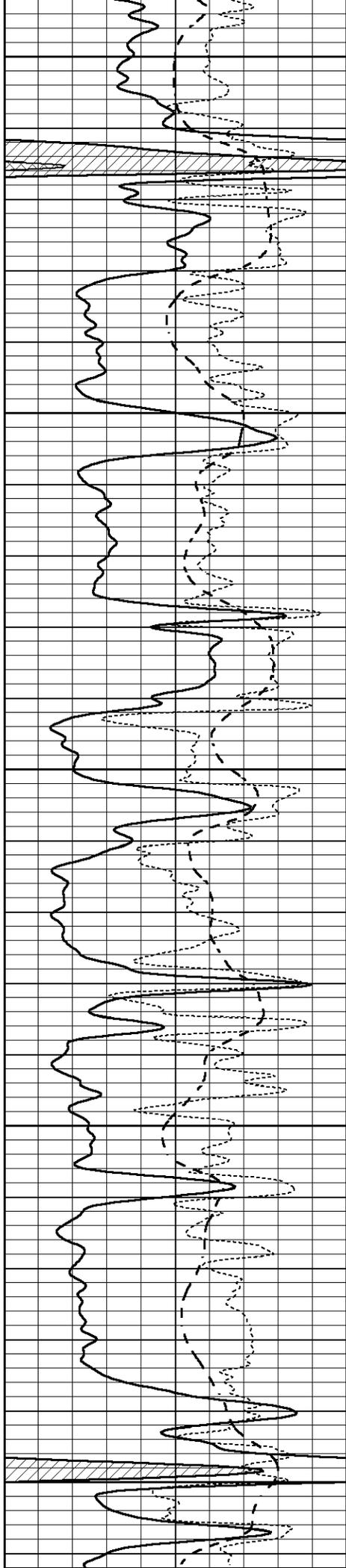
3800

3850

3900

3950





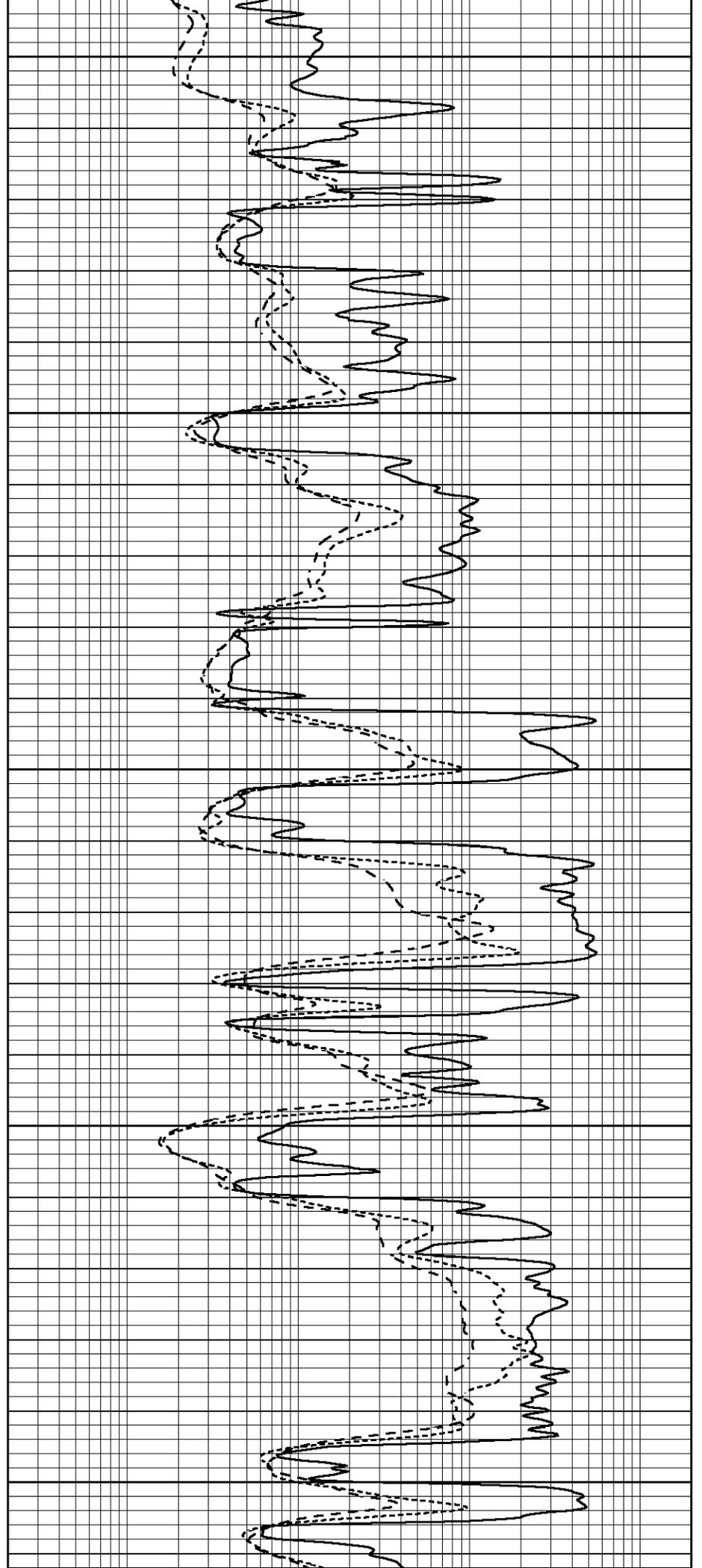
4000

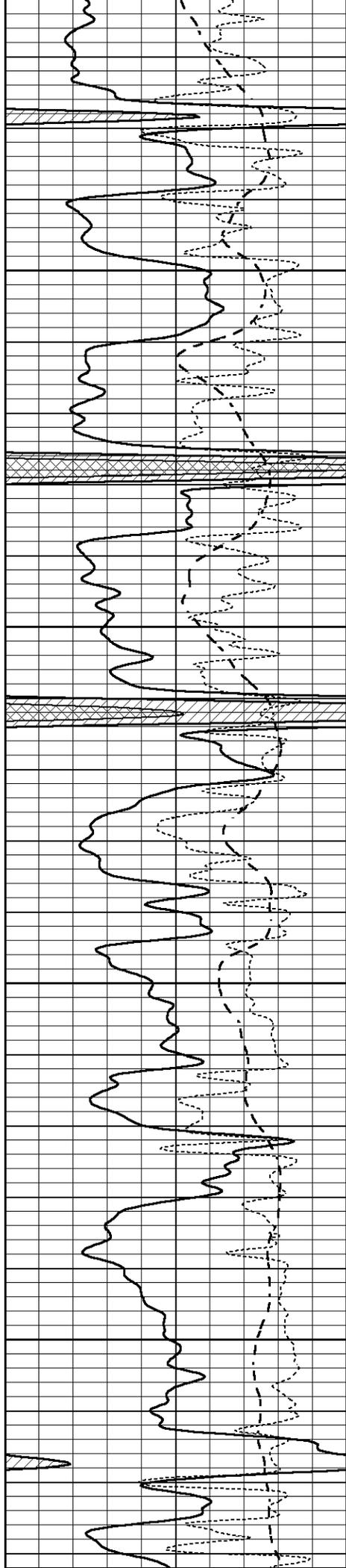
4050

4100

4150

4200



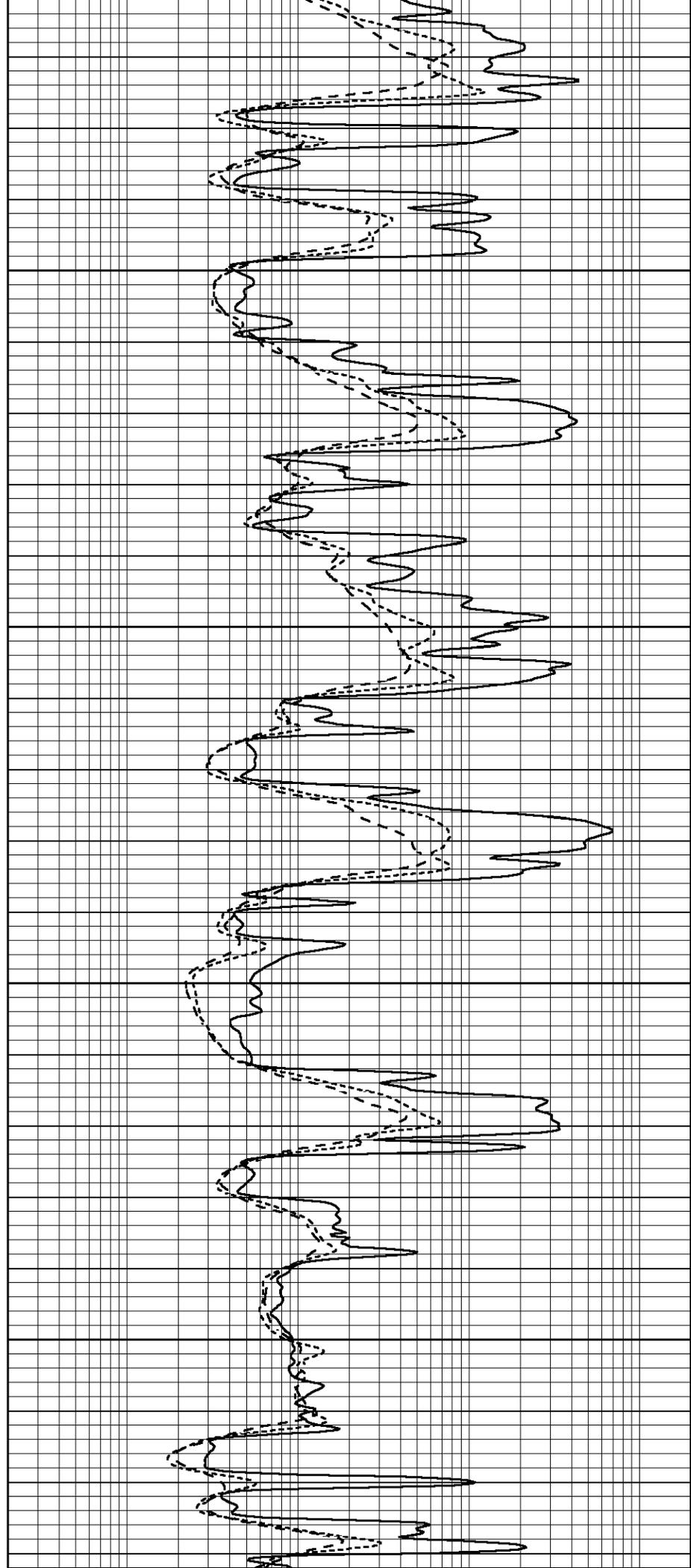


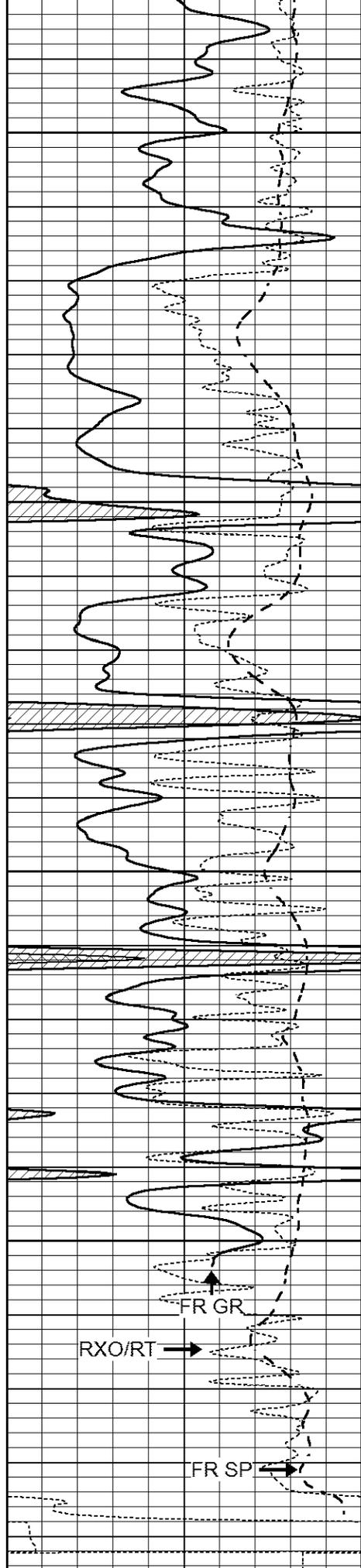
4250

4300

4350

4400





4450

4500

4550

4600

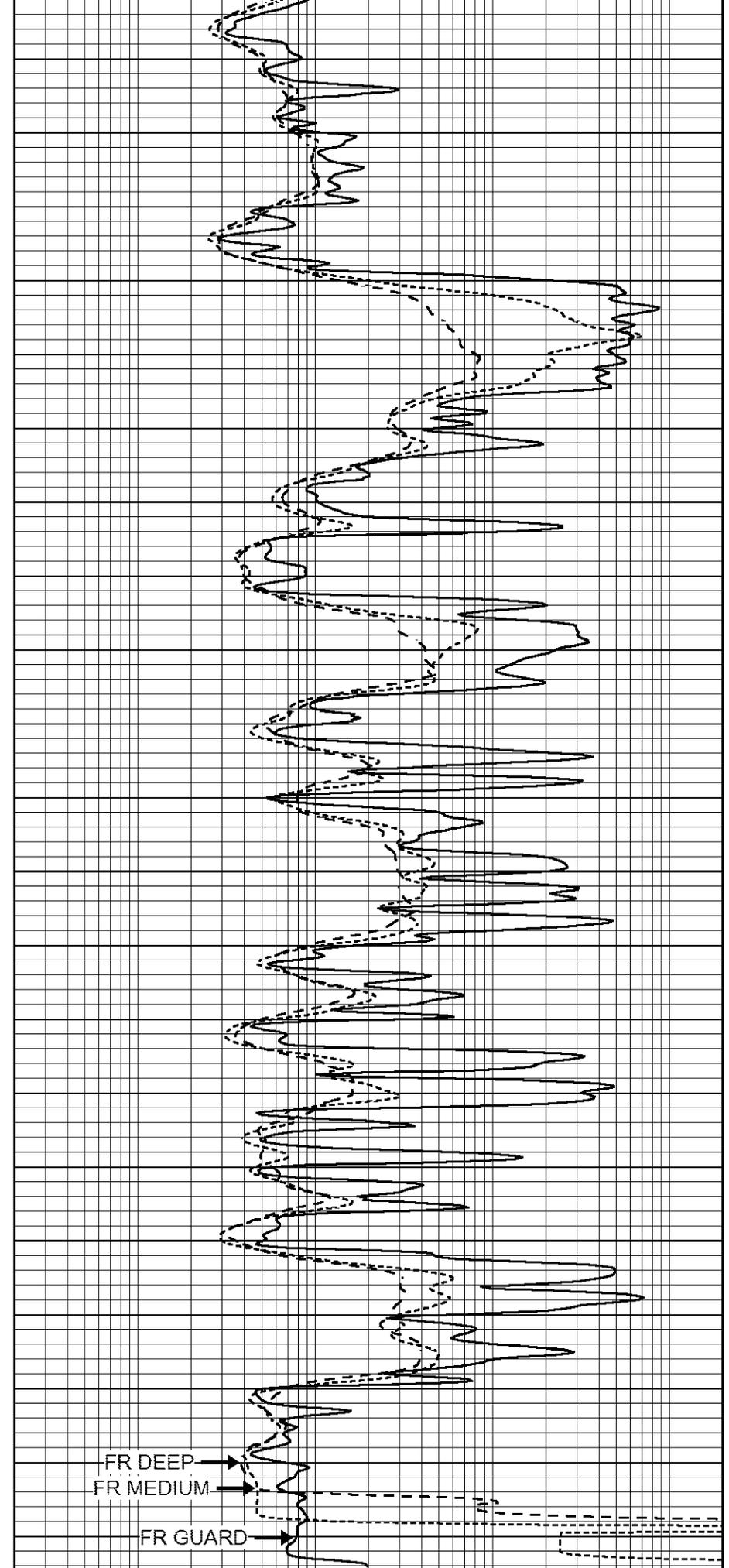
RXO/RT →

FR GR →

FR SP →

LTD 4642

0 GAMMA RAY (GAPI) 150  
 -100 SP (mV) 100



FR DEEP →

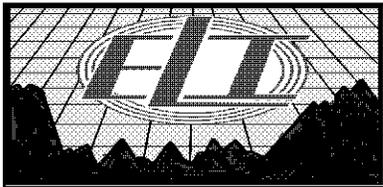
FR MEDIUM →

FR GUARD →

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

-100	SP (mV)	100
-250	Rxo/Rt	50

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

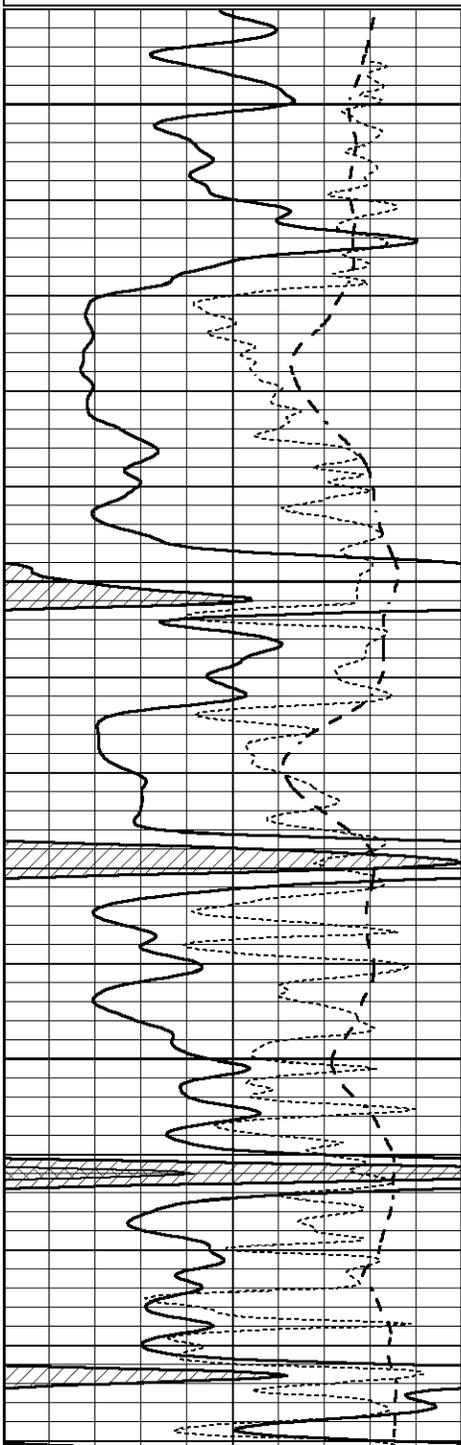


# REPEAT SECTION

Database File 6775ddn.db  
 Dataset Pathname pass2RT  
 Presentation Format \_dil  
 Dataset Creation Mon Aug 22 12:13:44 2022  
 Charted by Depth in Feet scaled 1:240

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

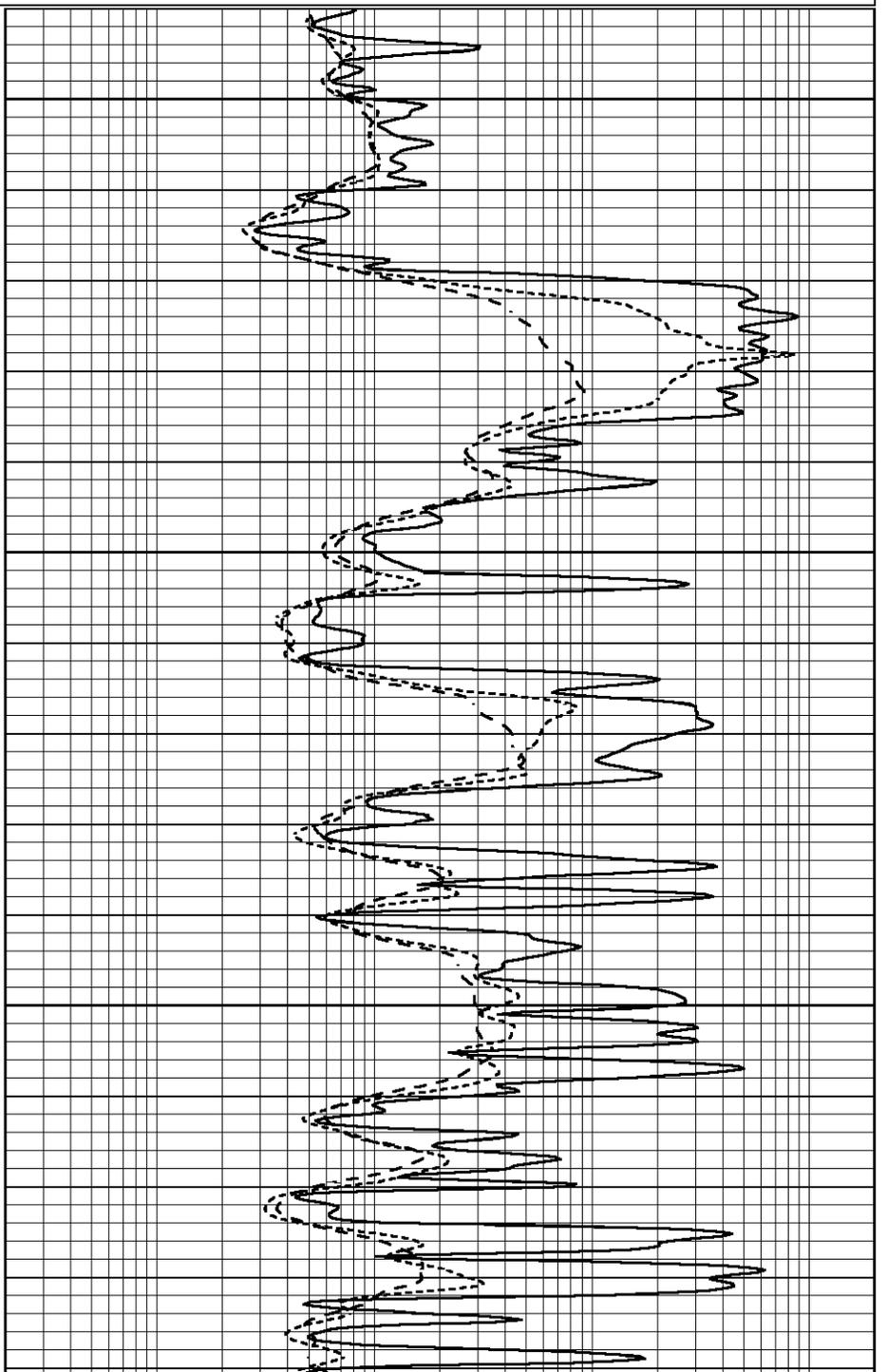
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

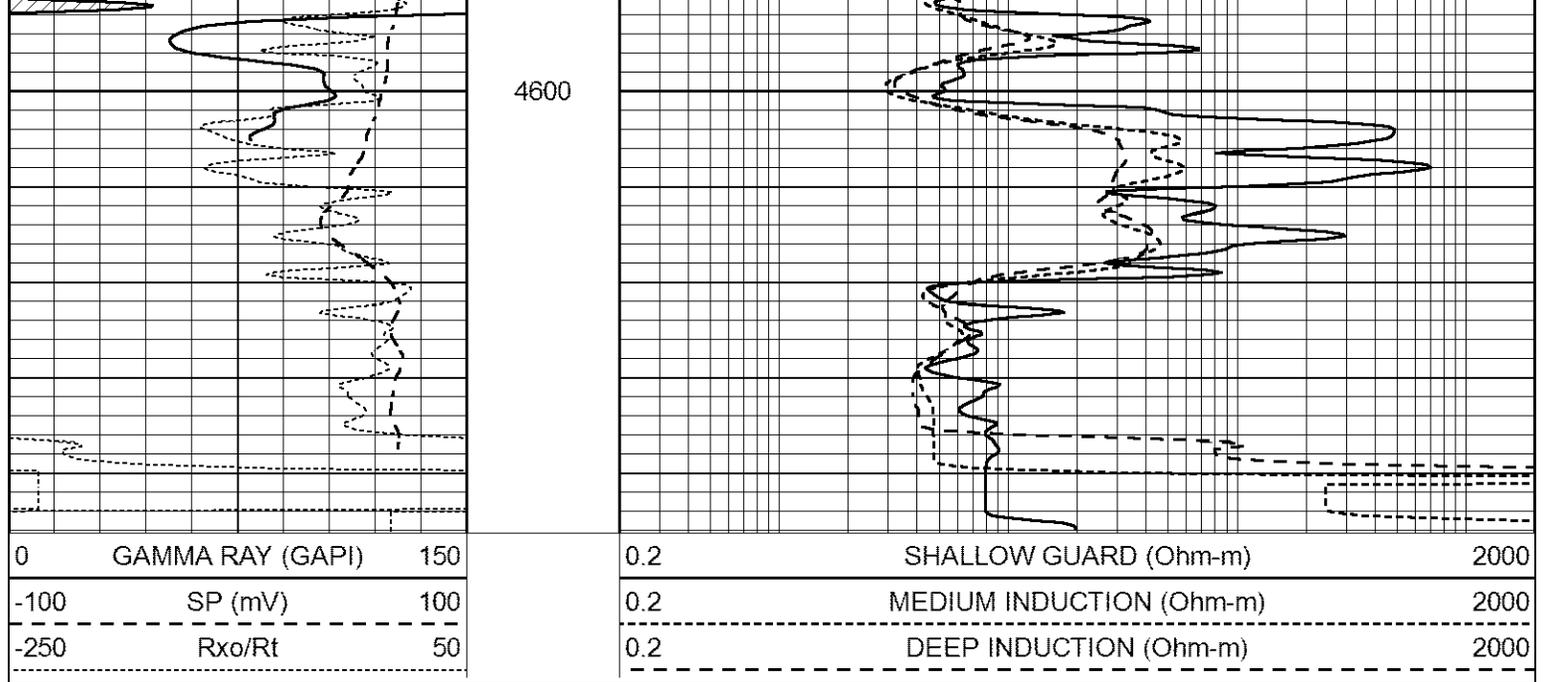


4450

4500

4550





### Calibration Report

Database File 6775ddn.db  
 Dataset Pathname pass3M  
 Dataset Creation Mon Aug 22 12:38:17 2022

### Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe  
 Surface Cal Performed: Thu Jun 30 01:48:00 2022  
 Downhole Cal Performed: Tue Feb 19 11:44:24 2019  
 After Survey Verification Performed: Tue Feb 19 11:44:27 2019

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	650.000	-3.000
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	-9.500
Internal:	Zero	Cal	V	Zero	Cal	mmho/m	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	mmho/m	Zero	Cal	mmho/m	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	mmho/m	Zero	Cal	mmho/m	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: Wed Jul 20 12:36:34 2022

	Background	Aluminum	Magnesium		
Window 1	503.67	5439.20	23645.11	cps	
Window 2	40.11	1218.66	5702.60	cps	
Window 4	221.18	1240.69	5295.43	cps	
Window 5	542.56	7631.48	14305.13	cps	
Window 6	41.67	1209.53	2345.40	cps	
Window 8	256.91	2493.92	4591.85	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8302	SS Alpha:	: -0.7503	LS CPE:	: 1.1699
LS Beta:	: 122464.5983	SS Beta:	: 16307.0478	SS CPE:	: 1.6095

Before 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

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 Jul 20 12:36:34 2022

Results Readings		References (in)		Gain	Offset
Low	High	Low	High		
11331.0	15645.5	8.0	14.0	0.0	-8.1

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:	Thu May 26 08:56:46 2022	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.5500	GAPI/cps