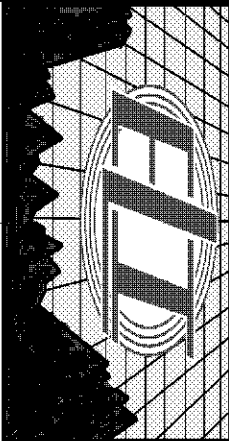


DUAL INDUCTION LOG



Company NORSTAR PETROLEUM, INC.

Well CBCF #6-31

Field MATTIE

County TREGO State KANSAS

Location: API #: 15-195-23075-0000

1642' FNL & 802' FEL

SEC 31 TWP 14S RGE 21W

Permanent Datum GROUND LEVEL Elevation 2066
Log Measured From KELLY BUSHING 7' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL/PE
MEL
Elevation
K.B. 2073
D.F. 2071
G.L. 2066

Date 11/27/18

Run Number ONE

Depth Driller 4050

Depth Logger 4051

Bottom Logged Interval 4049

Top Log Interval 00

Casing Driller 8 5/8" @ 225

Casing Logger 225

Bit Size 7 7/8

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.5/50

PH / Fluid Loss 10.0/11.2

Source of Sample FLOWLINE

Rm @ Meas. Temp .25 @ 65F

Rmf @ Meas. Temp .18 @ 65F

Rmc @ Meas. Temp .30 @ 65F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .14 @ 116F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 1111

Maximum Recorded Temperature 116F

Equipment Number 3802

Location HAYS, KANSAS

Recorded By JASON CAPPELLUCCI

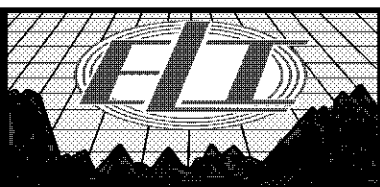
Witnessed By LARRY FRIEND

<<< 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.

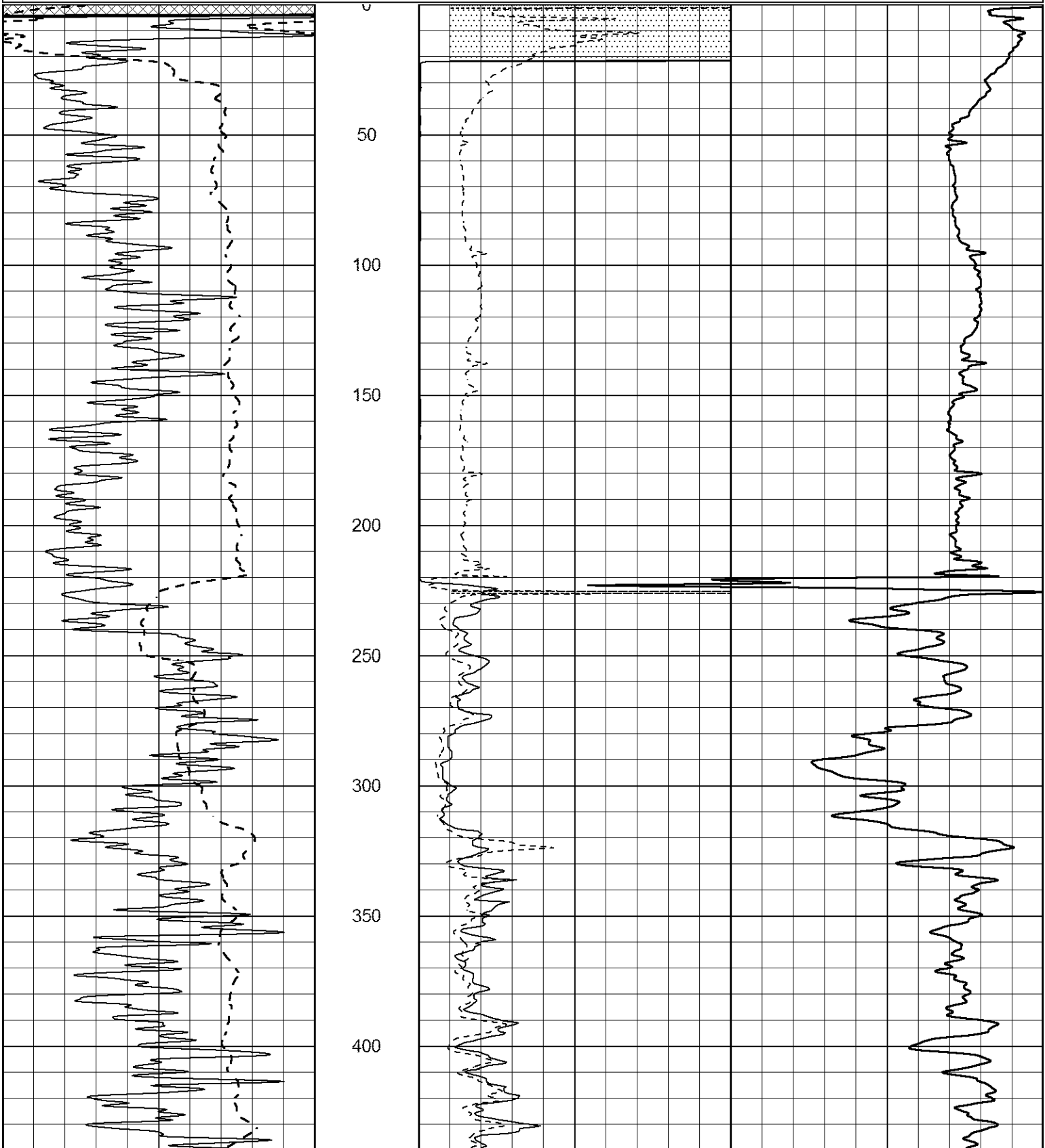
Comments

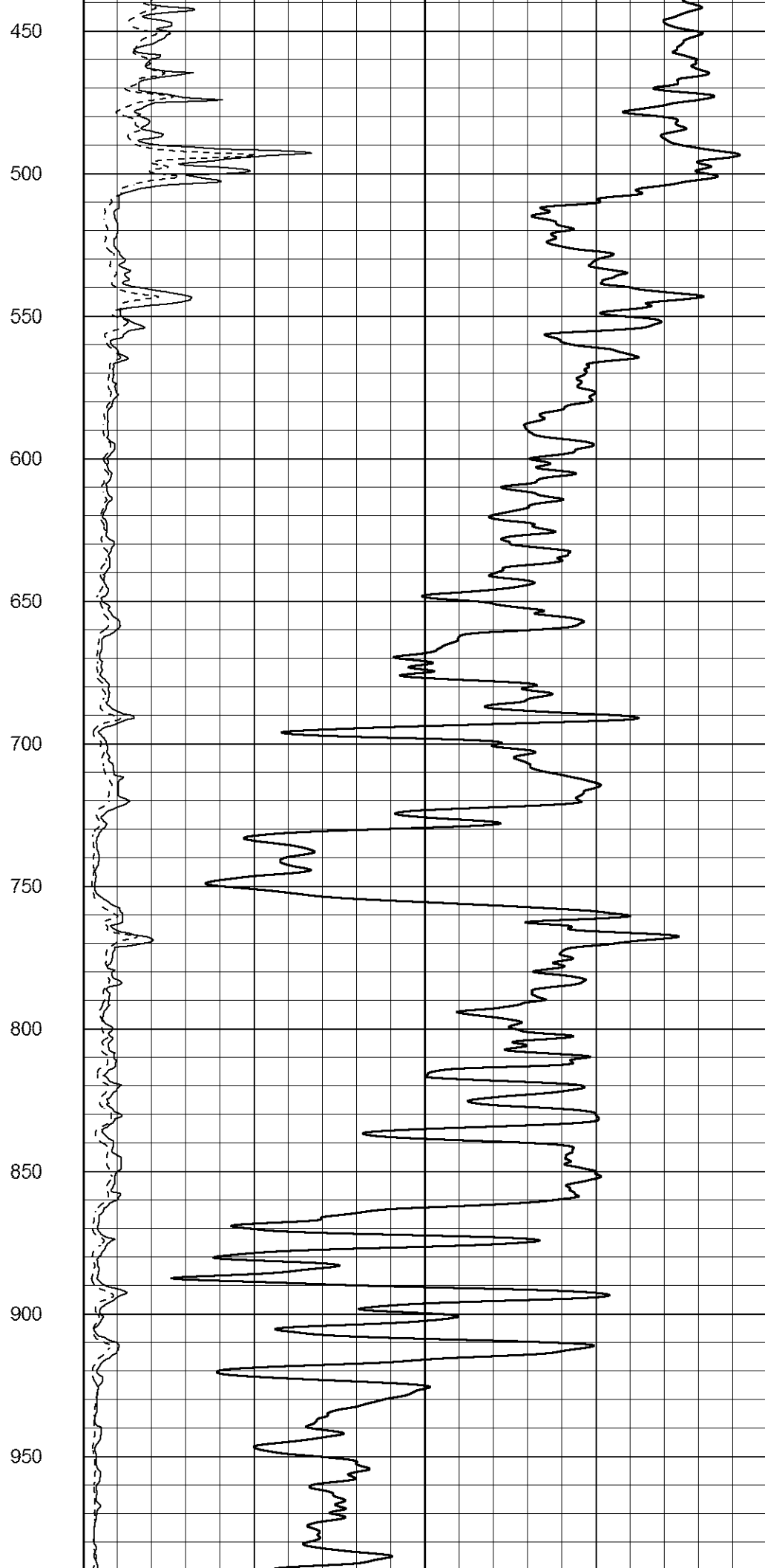
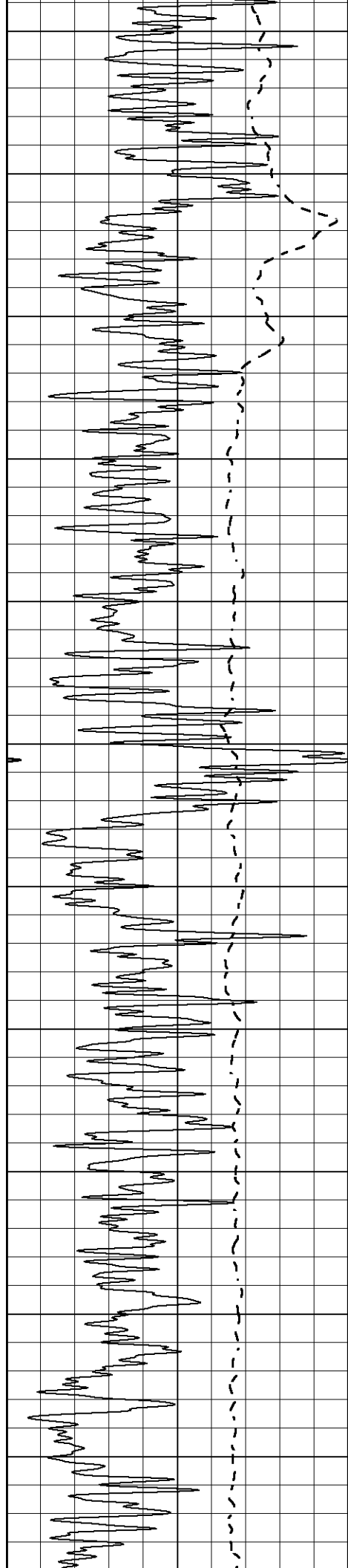
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
CEDAR BLUFF RESERVOIR - TO THE SOUTH SIDE OF DAM
1 1/4 EAST ON Y RD. TO CBCF TANK BATTERY - 1 MILE NORTH & EAST TO
METAL PENS - NORTH 1/4 MILE ACROSS CATTLE GUARD
FOLLOW TRAIL EAST INTO

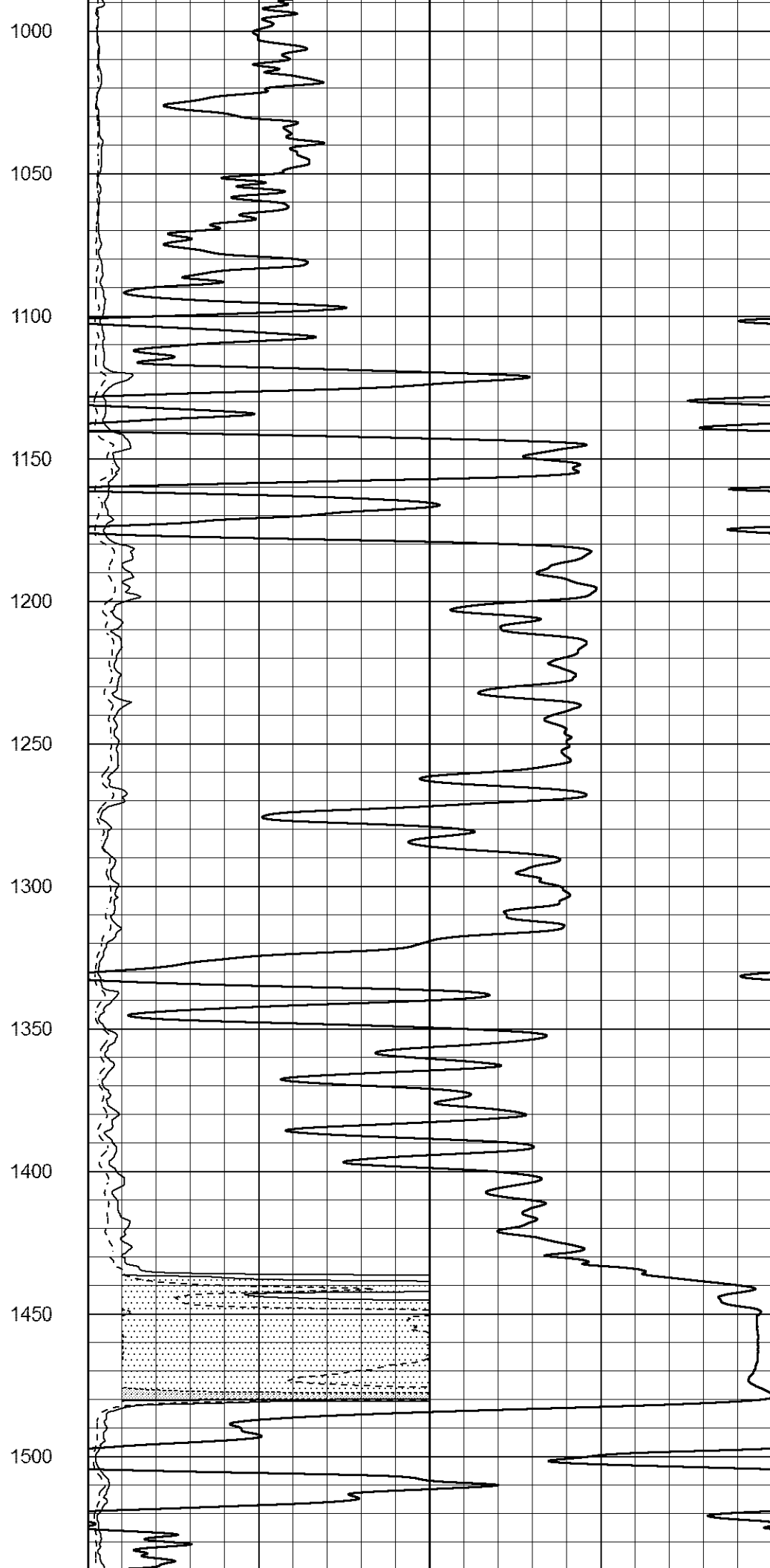
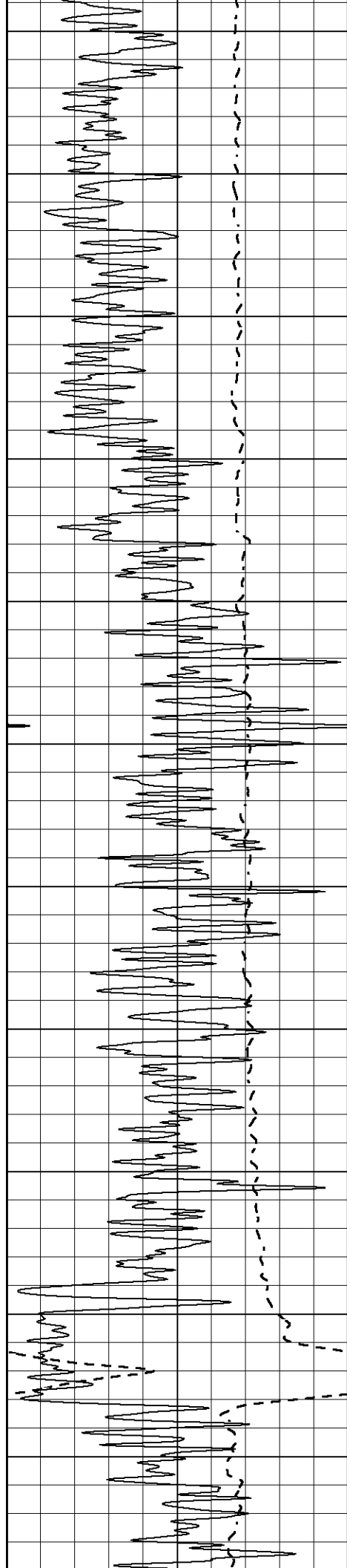


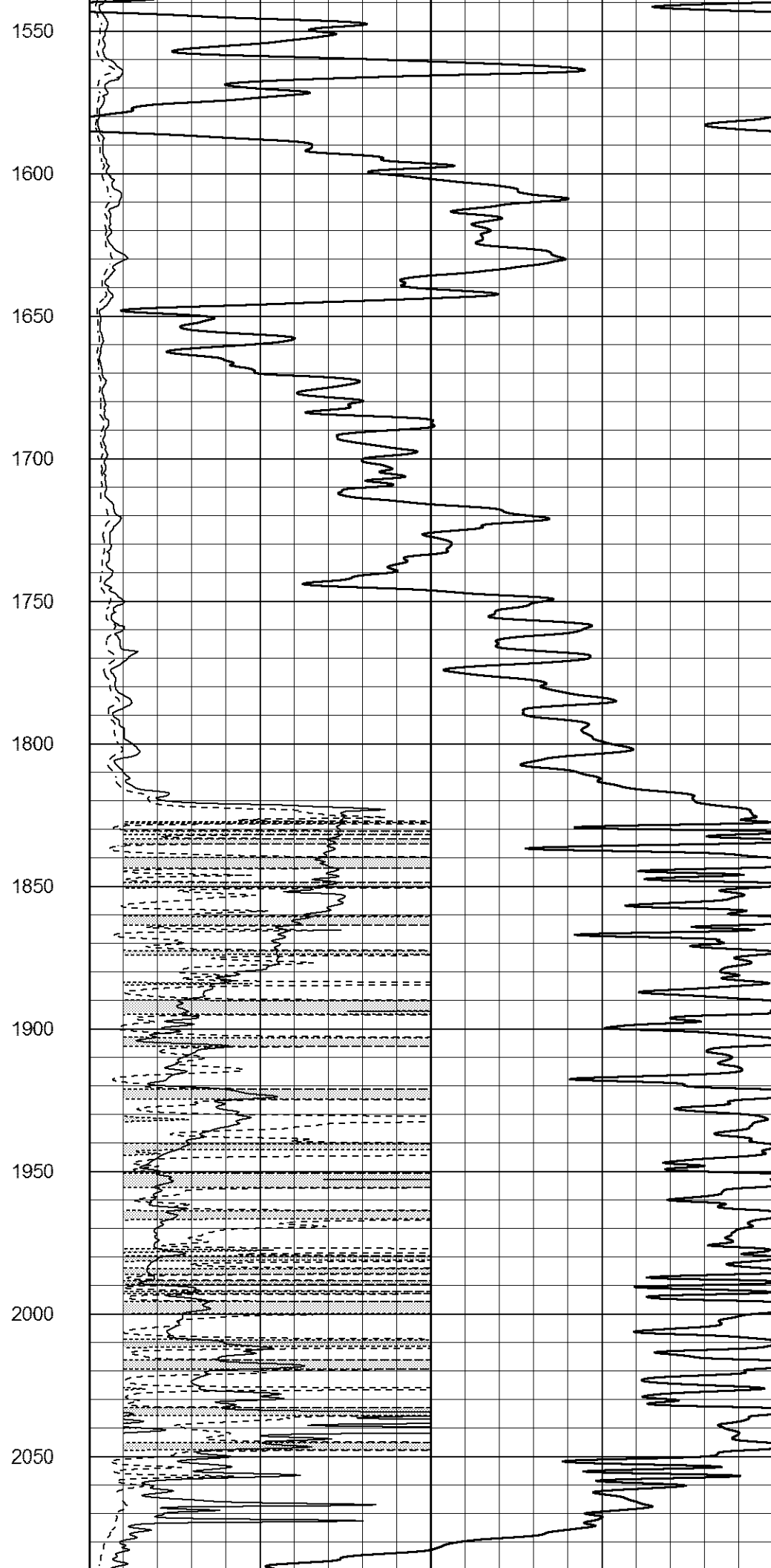
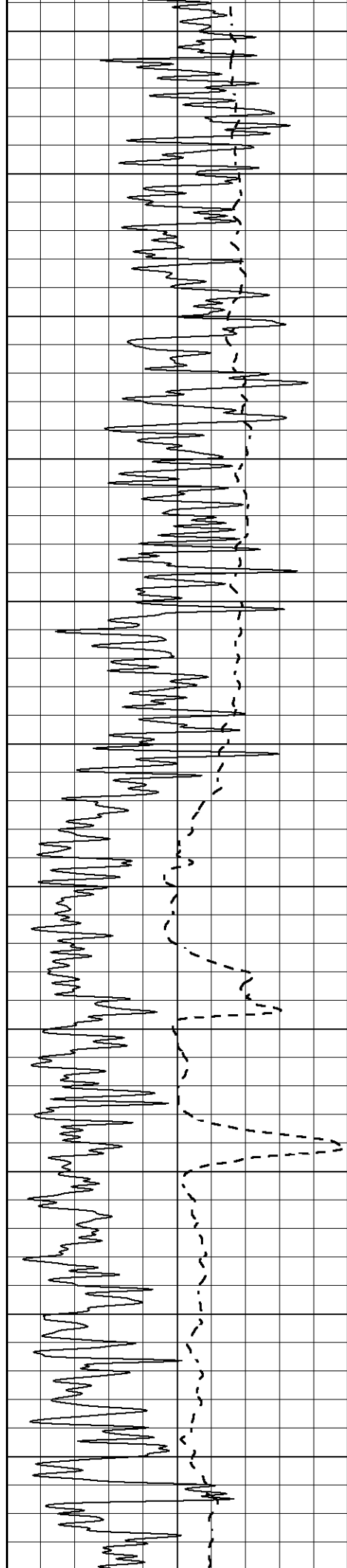
MAIN SECTION

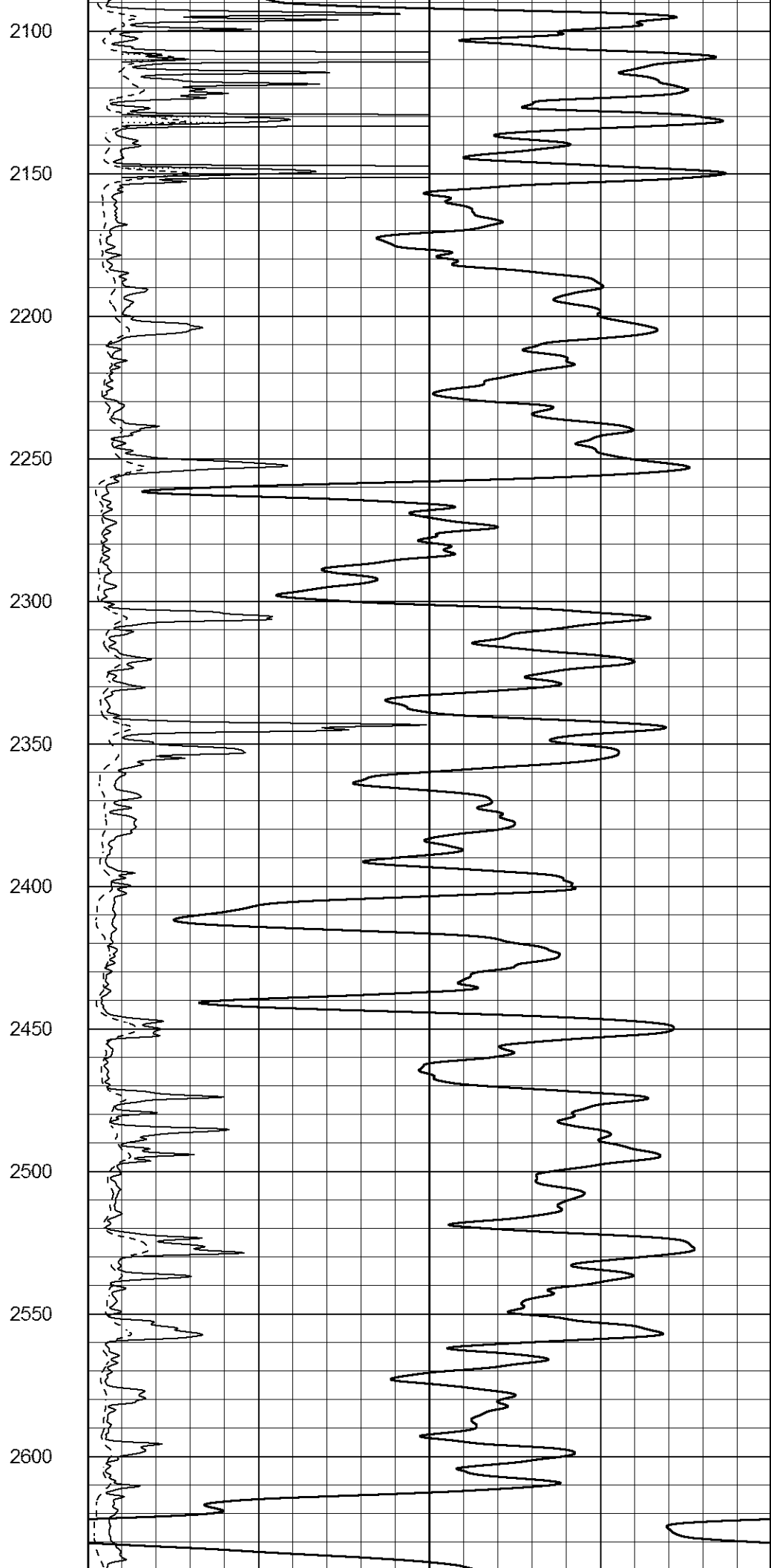
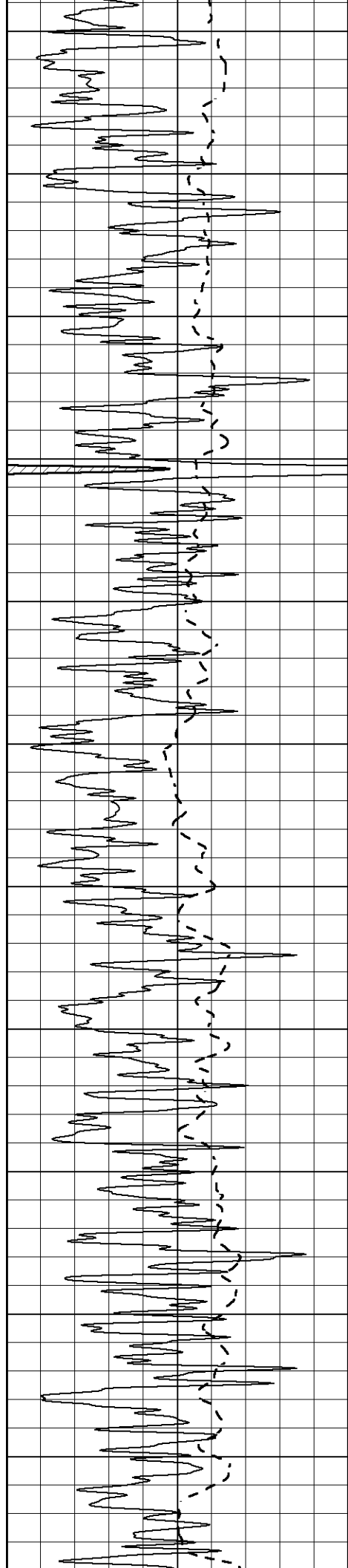
0	Gamma Ray (GAPI)	150	1000	CILD (mmho/m)	0
-100	SP (mV)	100	0	RLL3 (Ohm-m)	50
-----			0	Deep Induction (Ohm-m)	50
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500

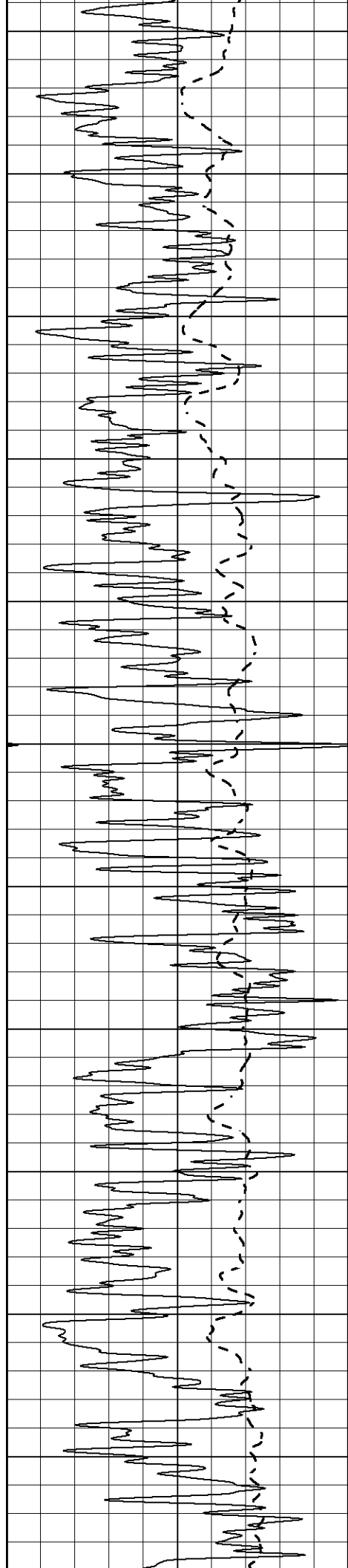












2650

2700

2750

2800

2850

2900

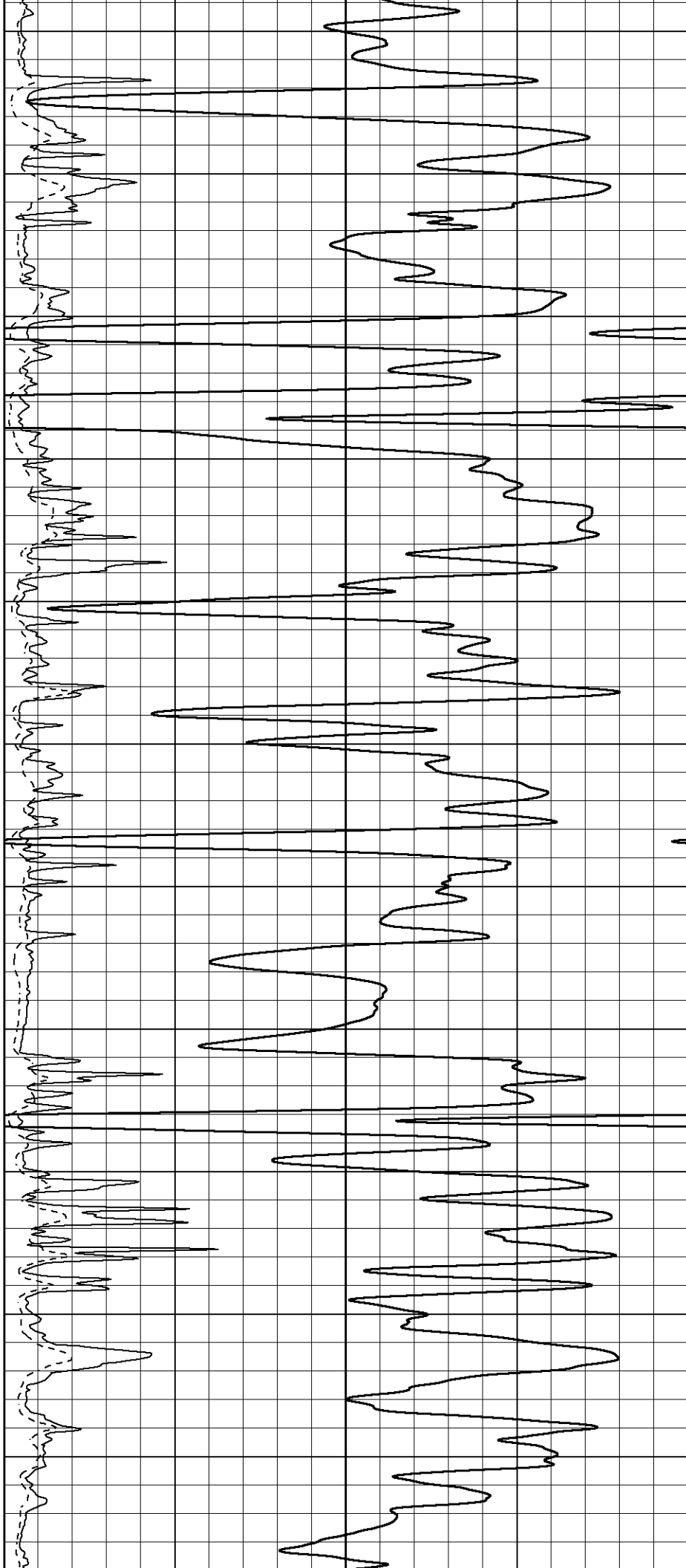
2950

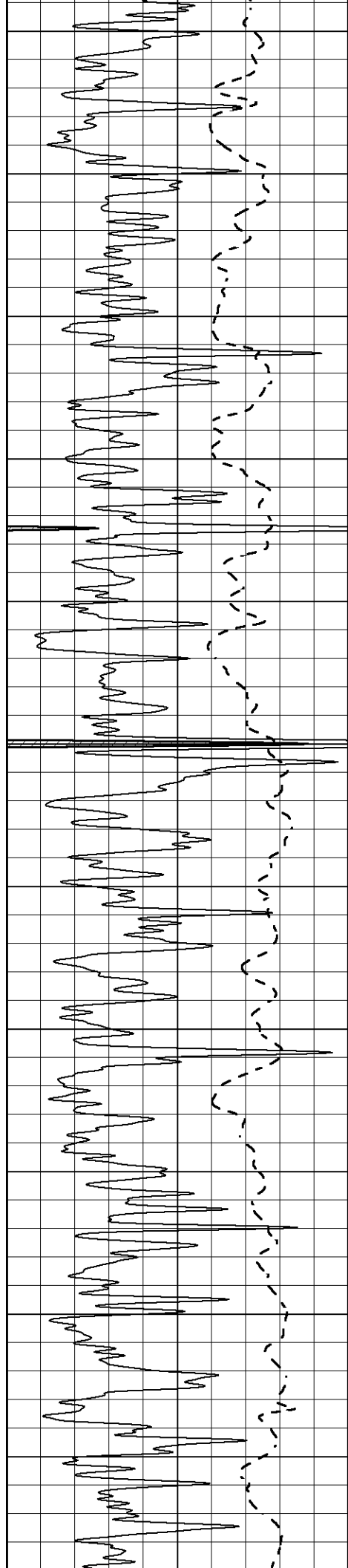
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

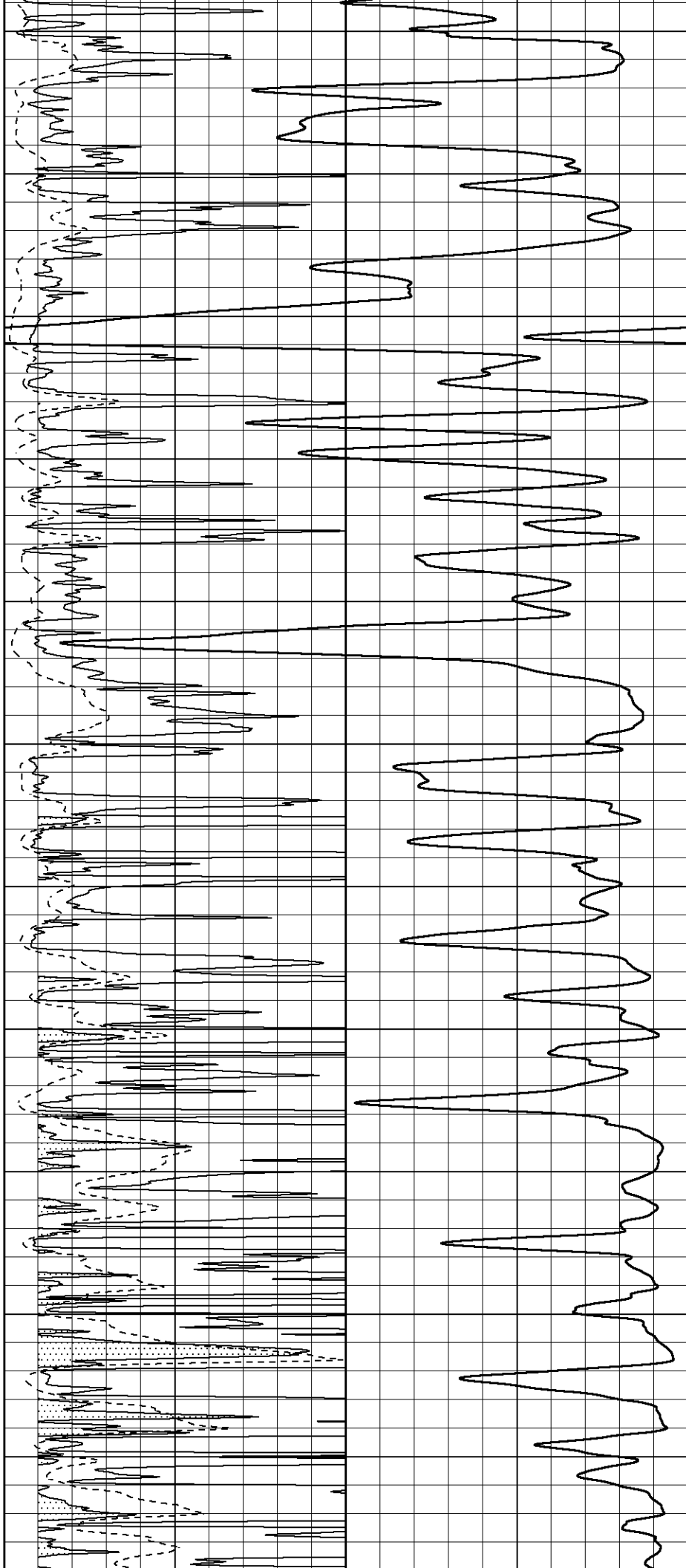
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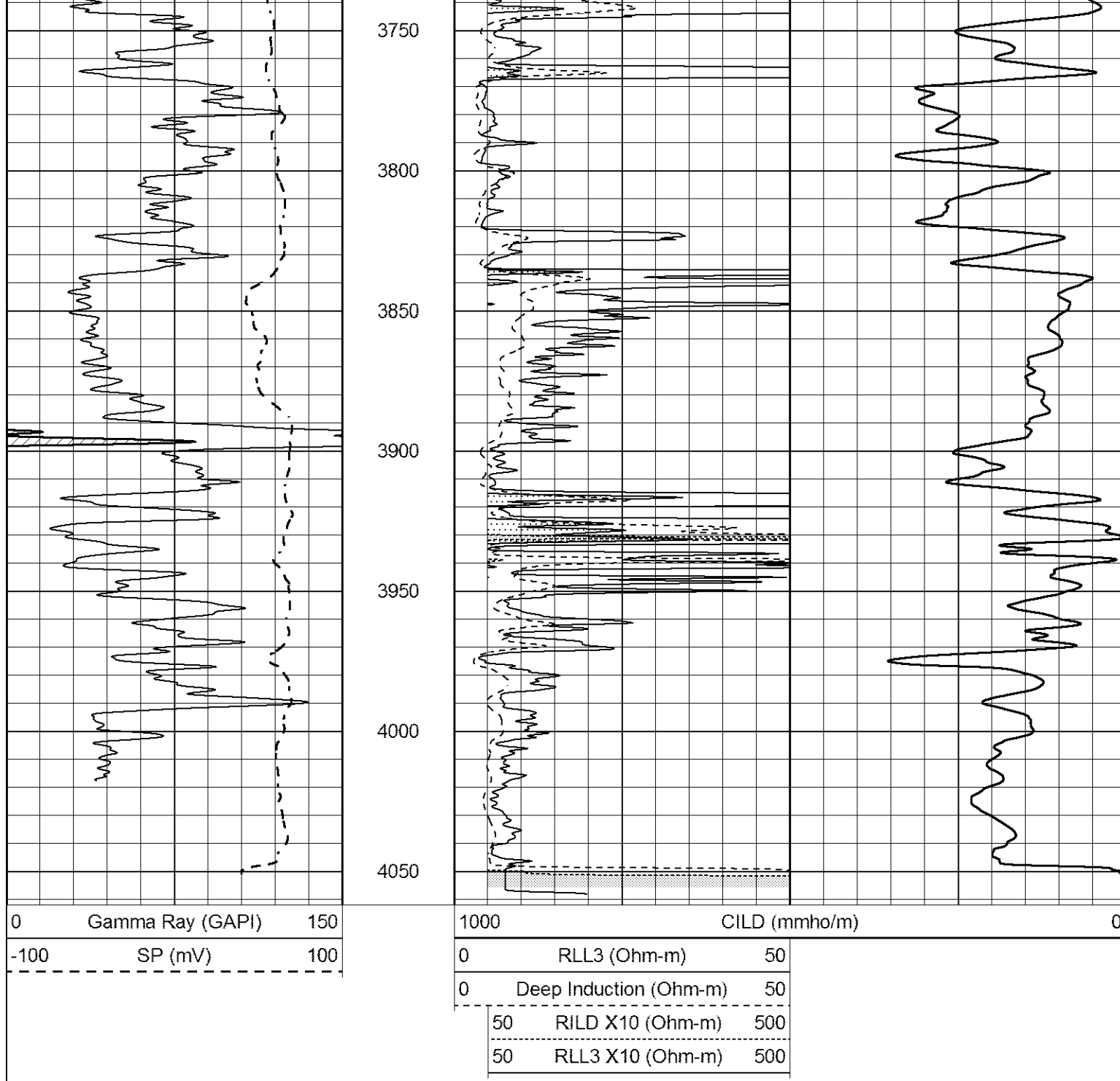
3550

3600

3650

3700

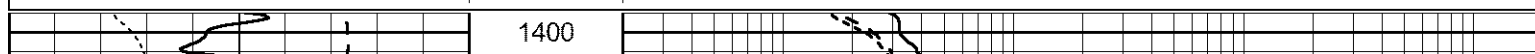


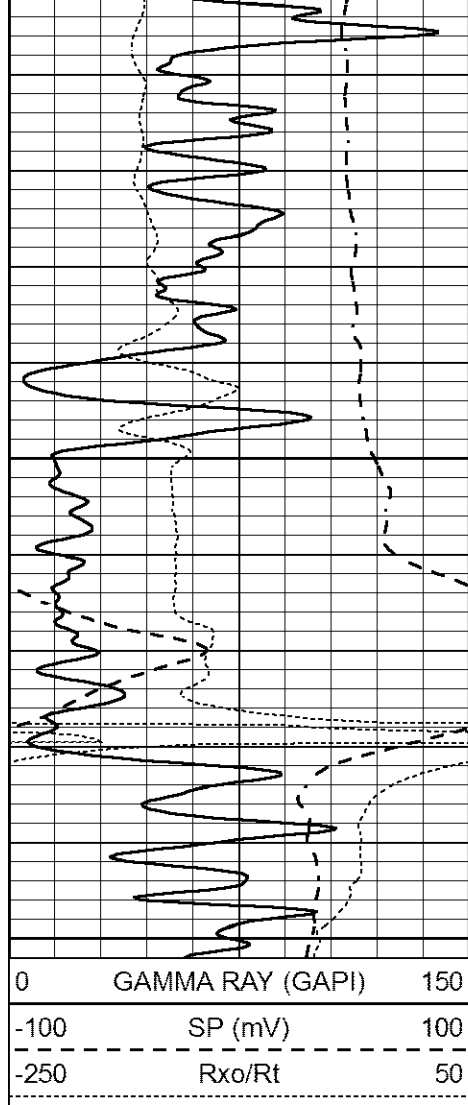


ANHYDRITE

Database File 3021pe8.db
Dataset Pathname pass3.2A
Presentation Format _dil
Dataset Creation Tue Nov 27 21:11:14 2018
Charted by Depth in Feet scaled 1:240

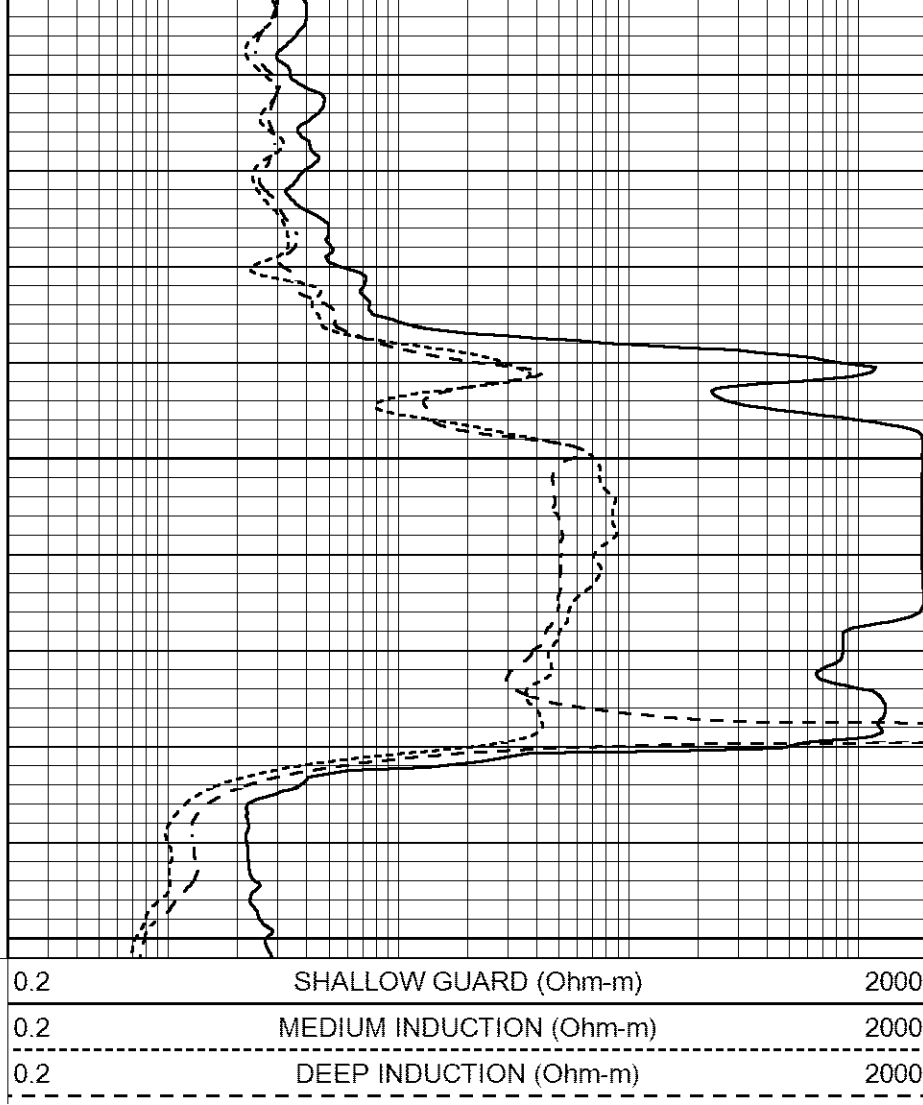
0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000





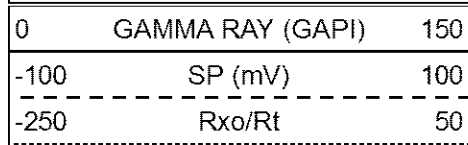
1450

1500

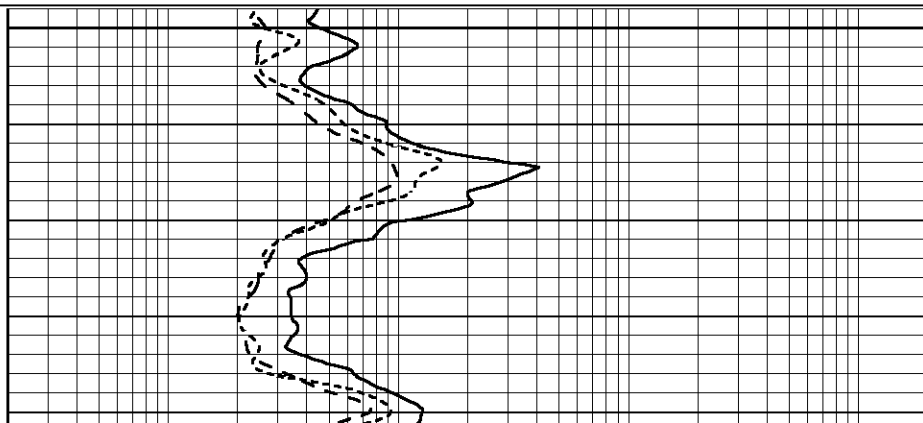
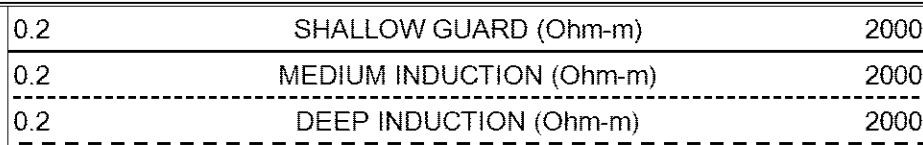
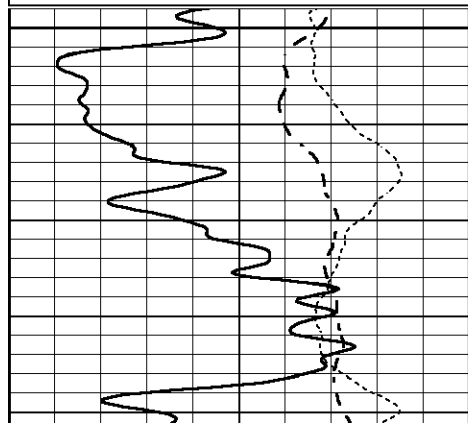


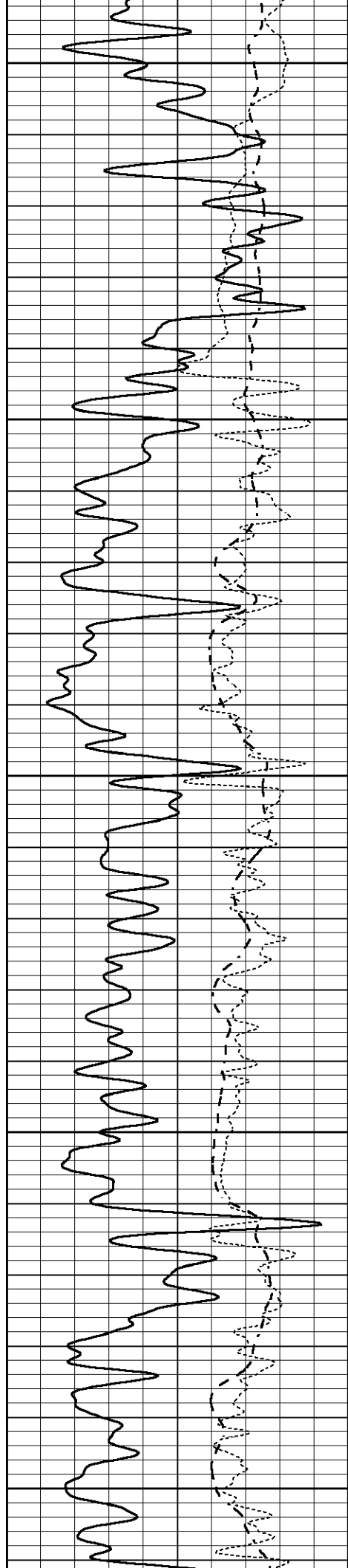
MAIN SECTION

Database File 3021pe8.db
 Dataset Pathname pass3.1
 Presentation Format _dil
 Dataset Creation Tue Nov 27 20:49:51 2018
 Charted by Depth in Feet scaled 1:240



3100





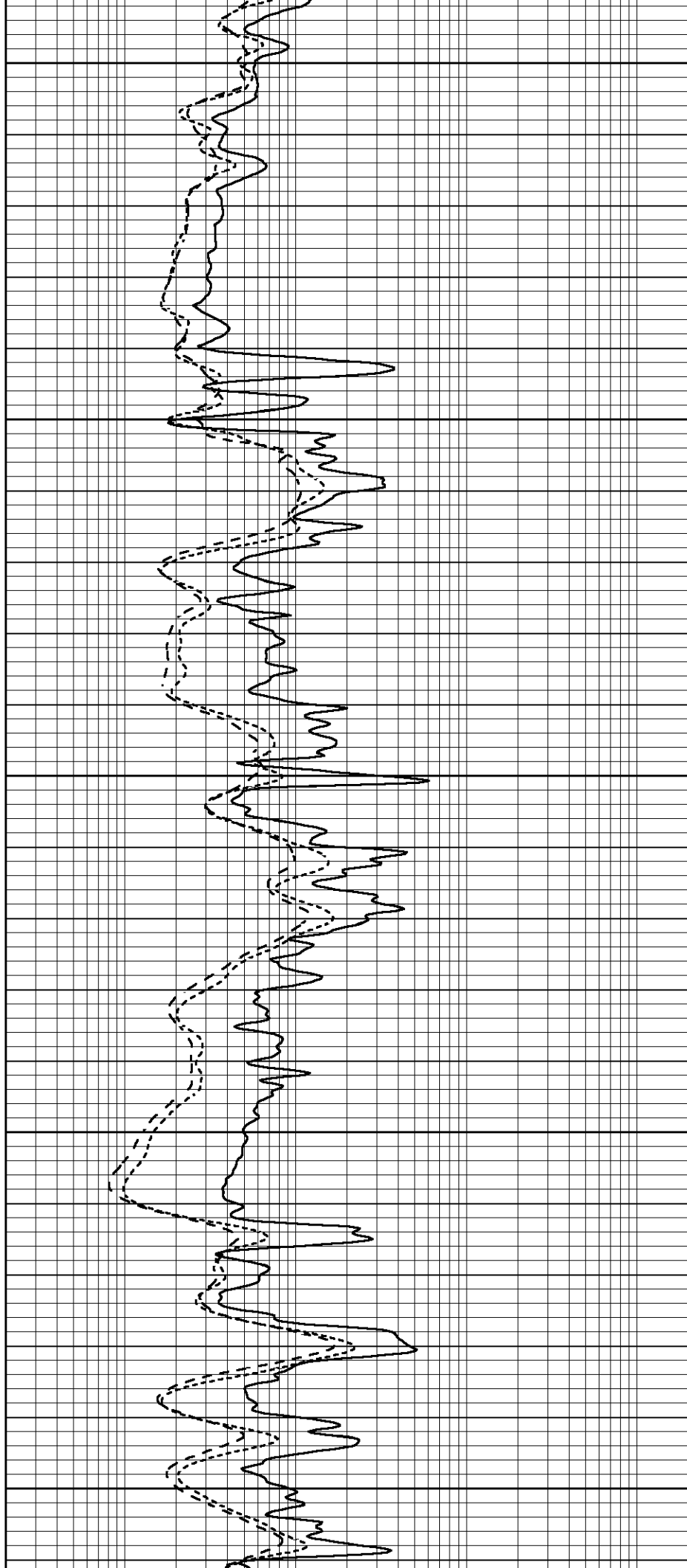
3150

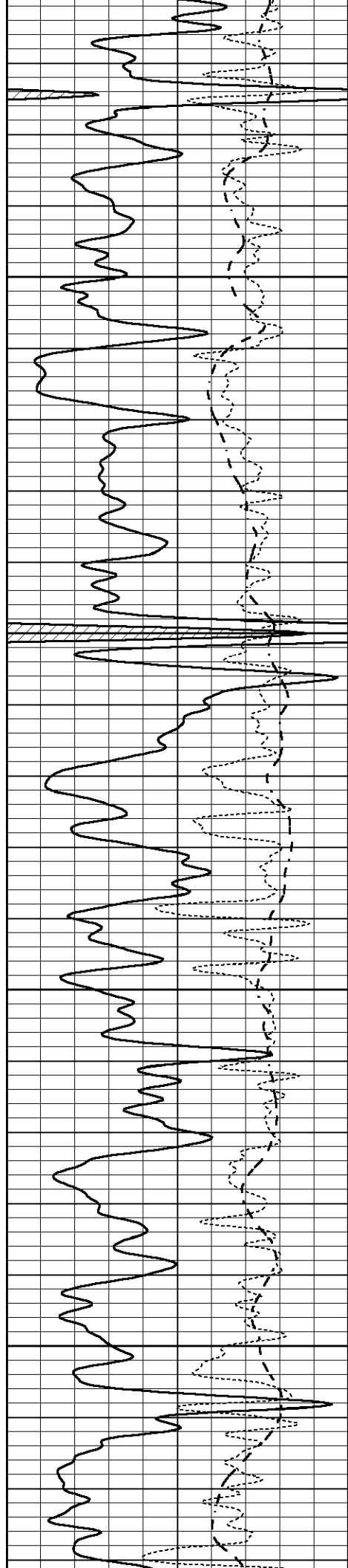
3200

3250

3300

3350



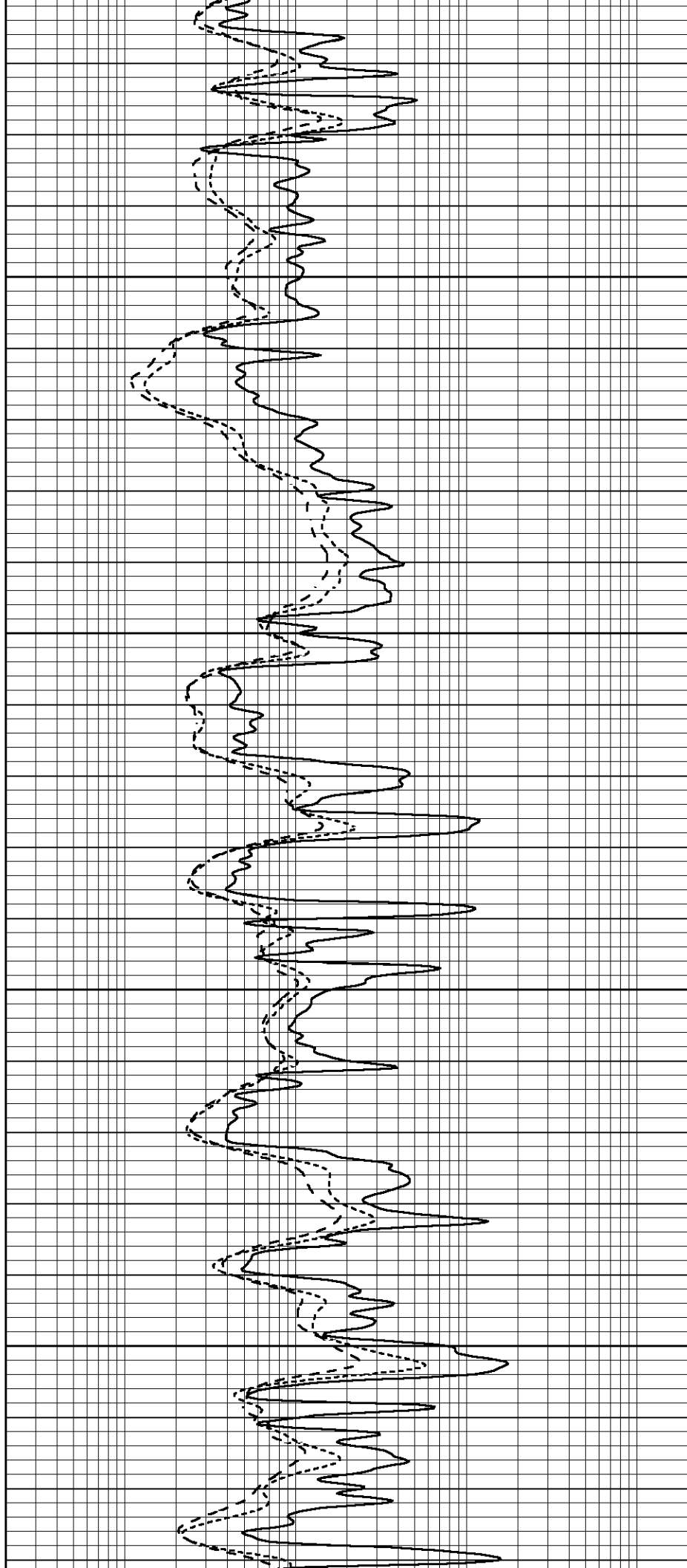


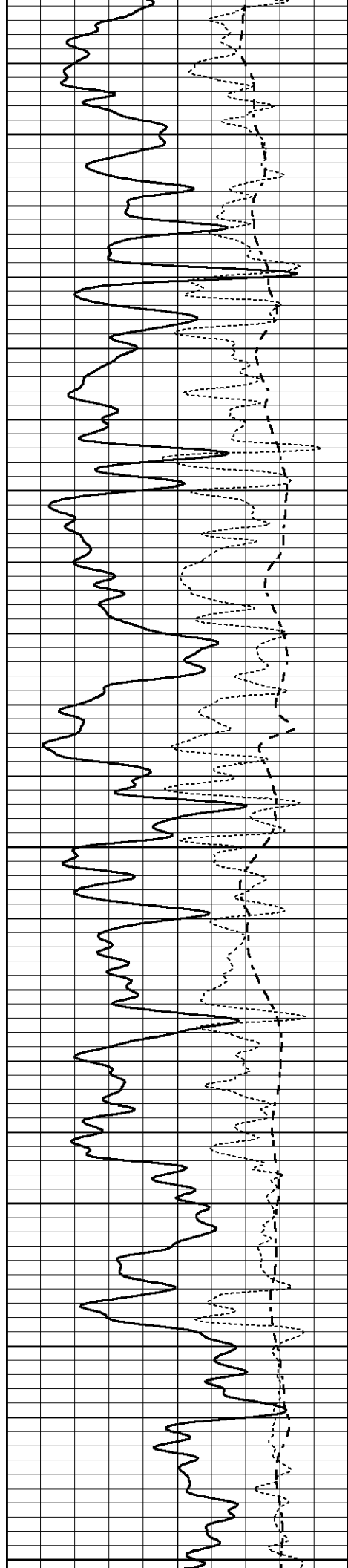
3400

3450

3500

3550





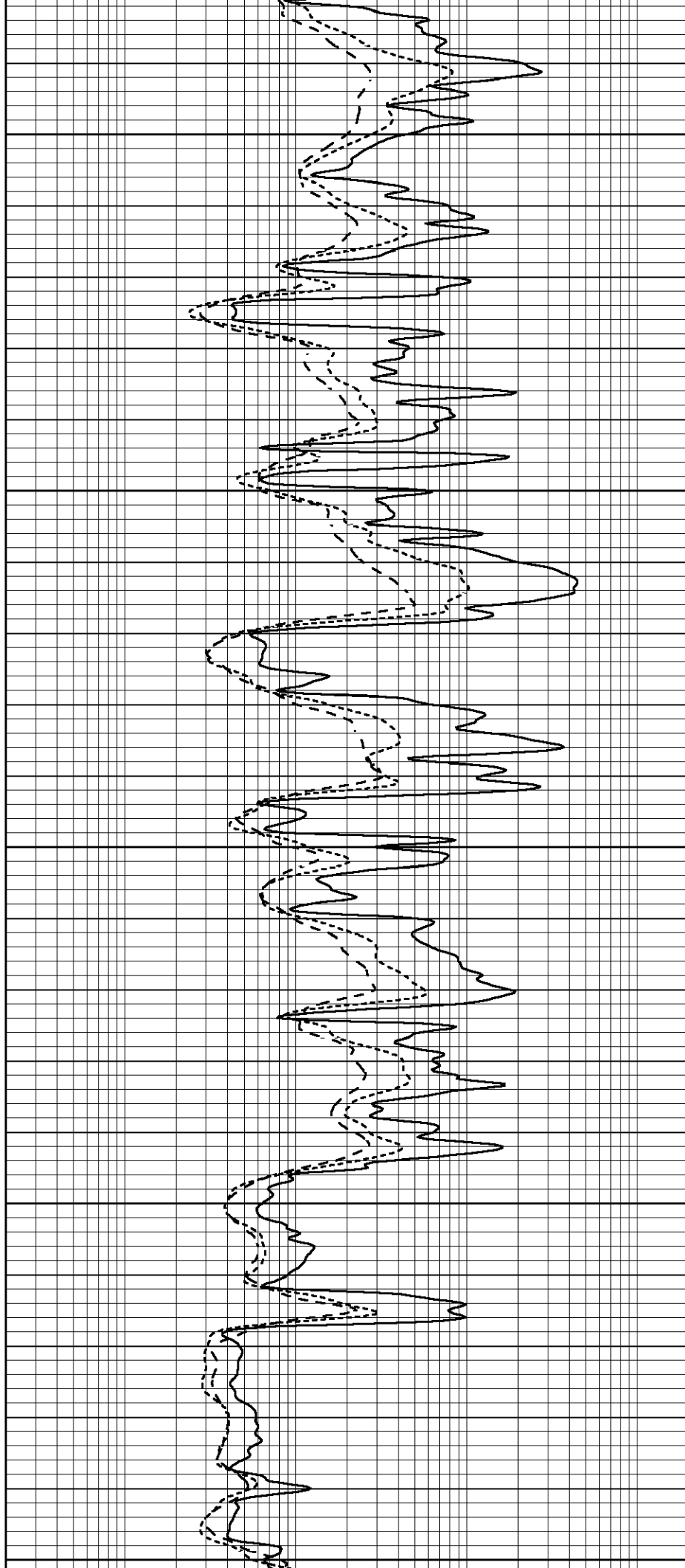
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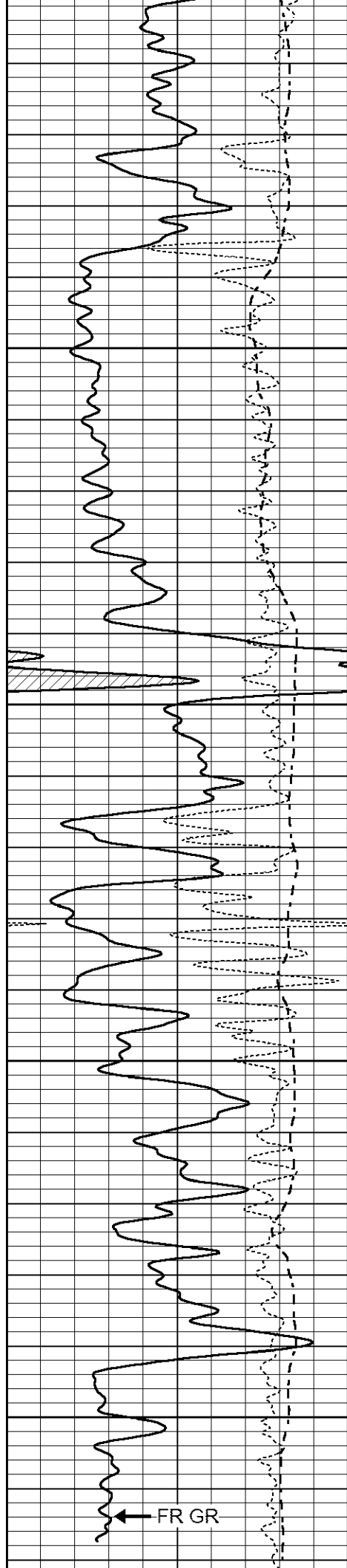
3650

3700

3750

3800





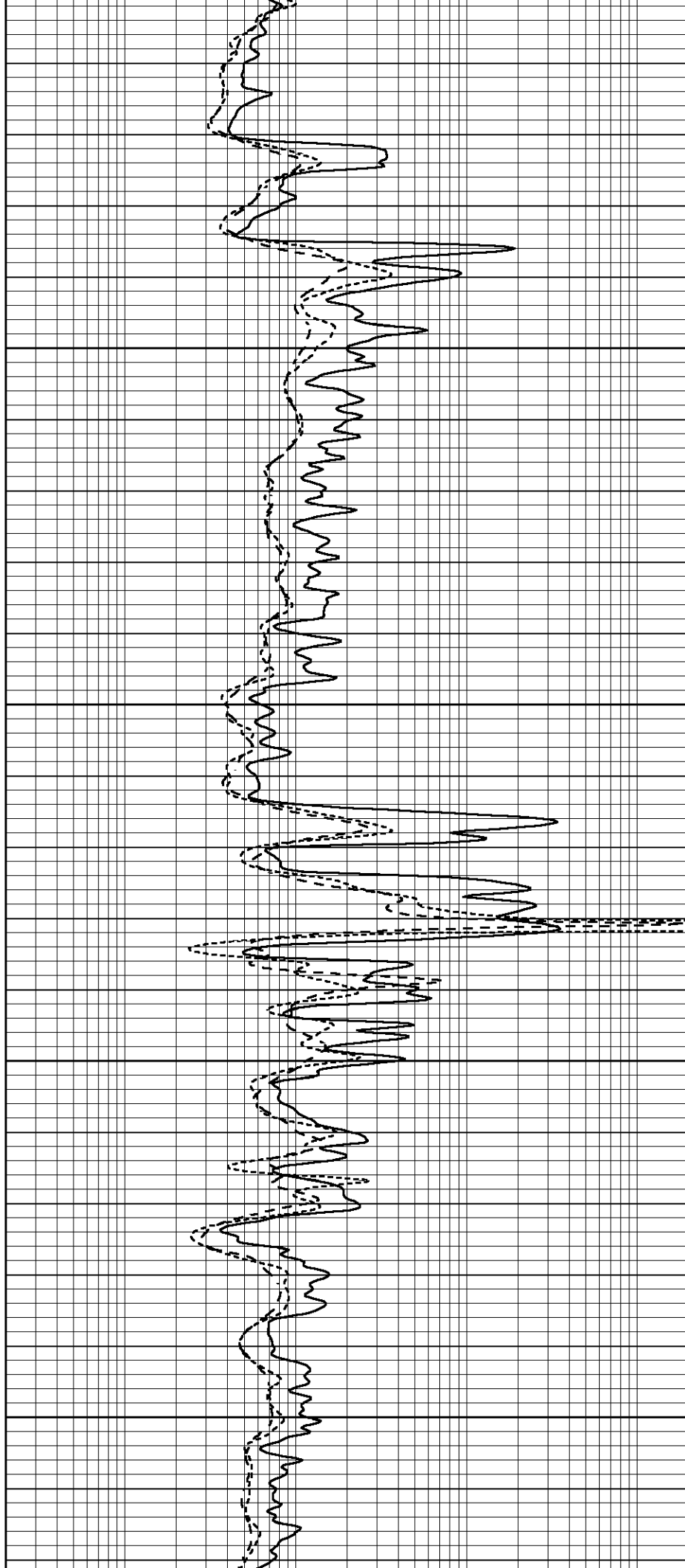
3850

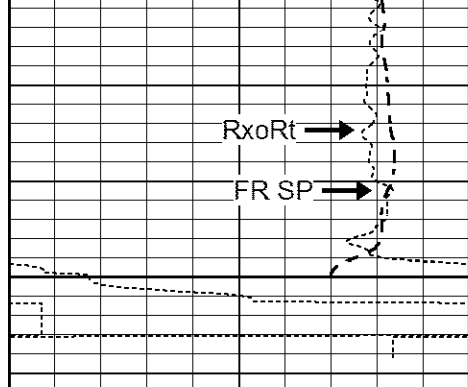
3900

3950

4000

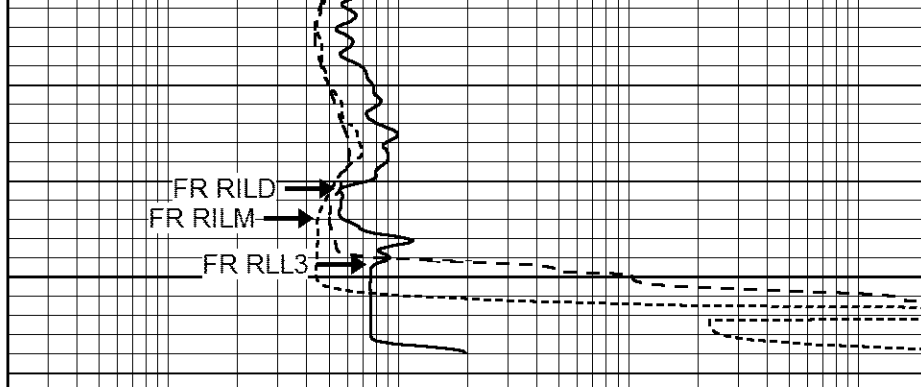
FR GR



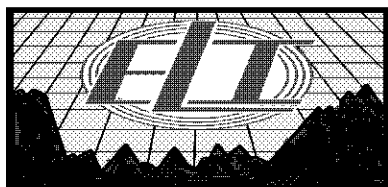


4050
LTD 4051

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



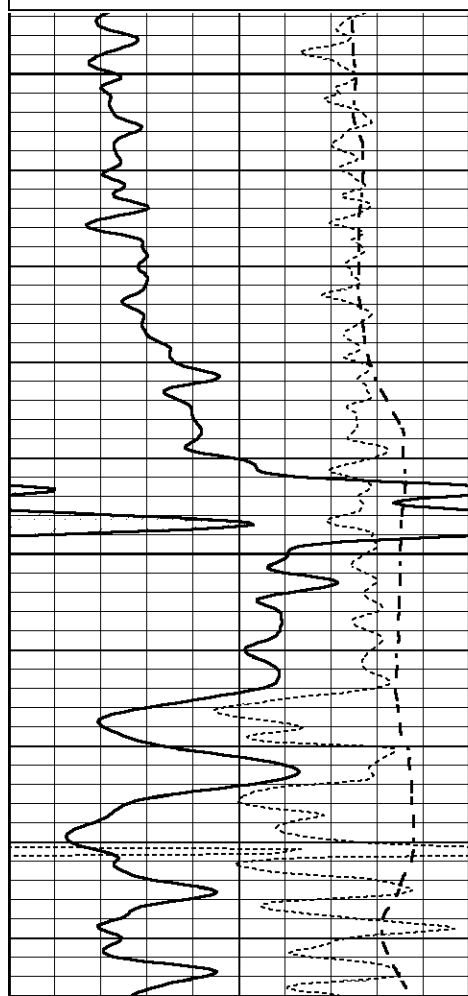
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



REPEAT SECTION

Database File 3021pe8.db
Dataset Pathname pass2.1
Presentation Format _dil
Dataset Creation Tue Nov 27 20:34:42 2018
Charted by Depth in Feet scaled 1:240

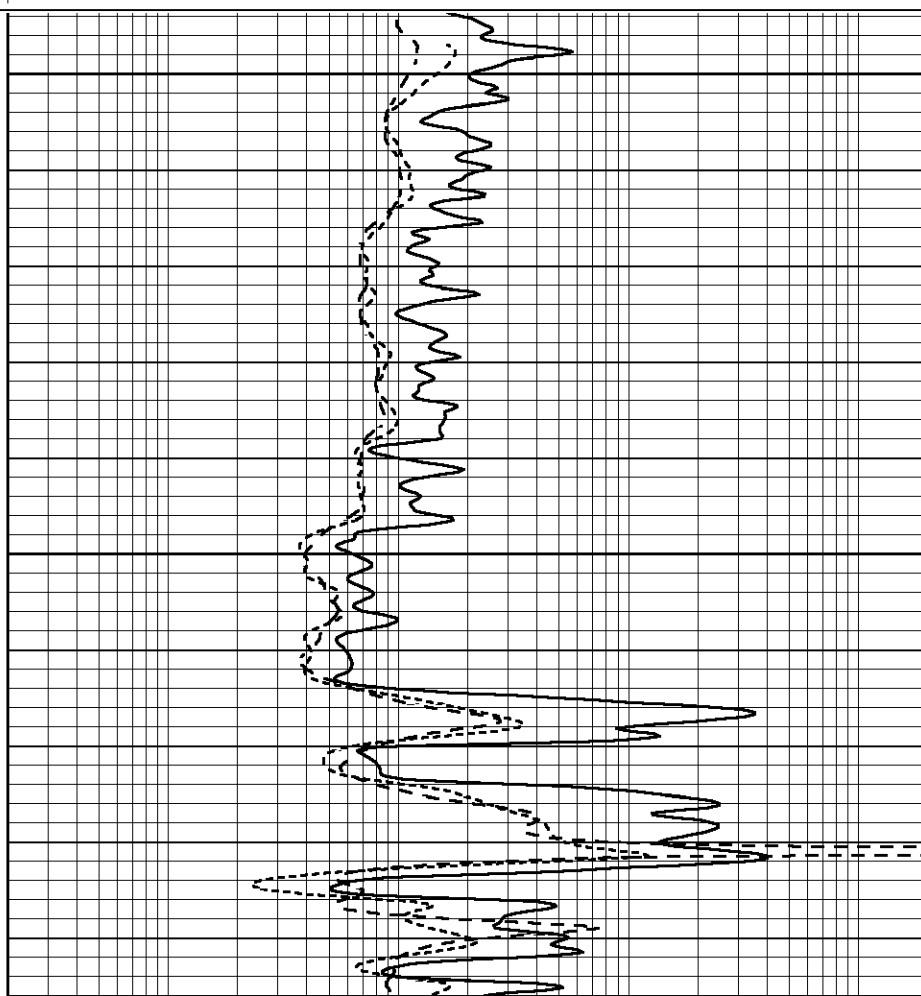
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50



3850

3900

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



	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		

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 Jun 29 11:10:58 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4300	GAPI/cps