

DUAL INDUCTION LOG

Company	K&N PETROLEUM, INC.		
Well	NORMAN KLIEPPEL #A2		
Field	HEYEN		
County	STAFFORD	State	KANSAS
Location:	APL # : 15-185-24061-0000 SW-NE-SE-SW 962' FSL & 2259' FWL		Other Services CDL/CNL/MEL
Permanent Datum	SEC 17 TWP 22S RGE 11W	Elevation	
Log Measured From	GROUND LEVEL	Elevation	1826
Drilling Measured From	KELLY BUSHING 10' A.G.L.	K.B. 1836 D.F. 1834 G.L. 1826	
Date	10/17/19		
Run Number	ONE		
Depth Driller	3700		
Depth Logger	3701		
Bottom Logged Interval	3700		
Top Log Interval	00		
Casing Driller	8 5/8" @ 433		
Casing Logger	433		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.0/49		
pH / Fluid Loss	10.0/10.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.30 @ 72F		
Rmt @ Meas. Temp	.23 @ 72F		
Rmc @ Meas. Temp	.36 @ 72F		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.19 @ 113F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	113F		
Equipment Number	1523		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	WYATT URBAN		

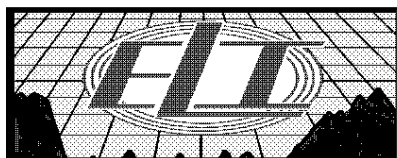
<<< Fold Here >>>

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, HAYS, KS. (785) 628-6395

DIRECTIONS
IKE & JOES CORNER 1 SOUTH,
2 3/4 EAST, SOUTH INTO.



MAIN PASS

Database File: 4099pe.db
Dataset Pathname: pass4DIL
Presentation Format: _dil2
Dataset Creation: Thu Oct 17 11:13:48 2019 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

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

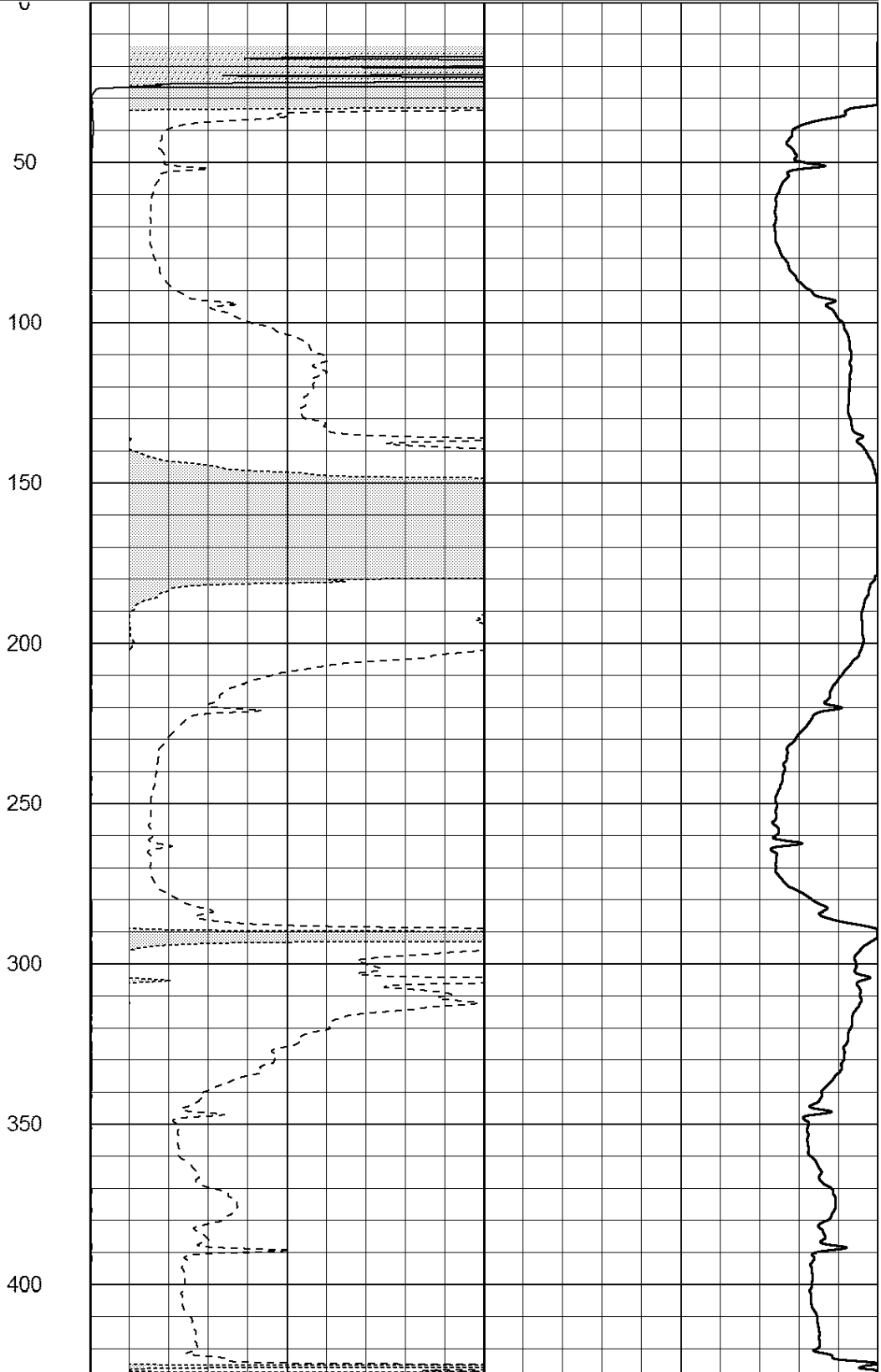
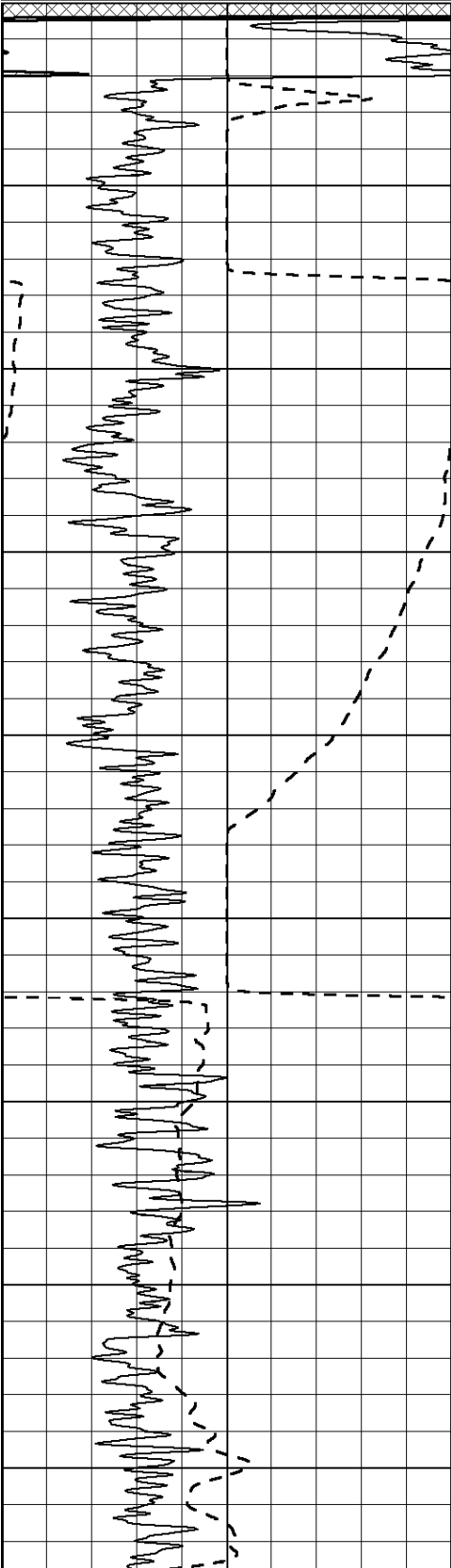
0 RLL3 (Ohm-m) 50

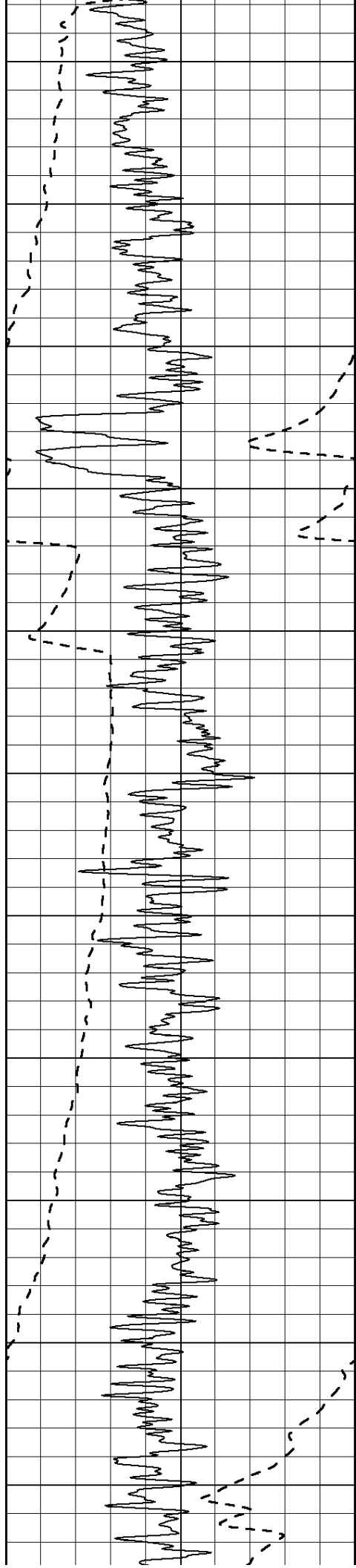
0 RILD (Ohm-m) 50

1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500





450

500

550

600

650

700

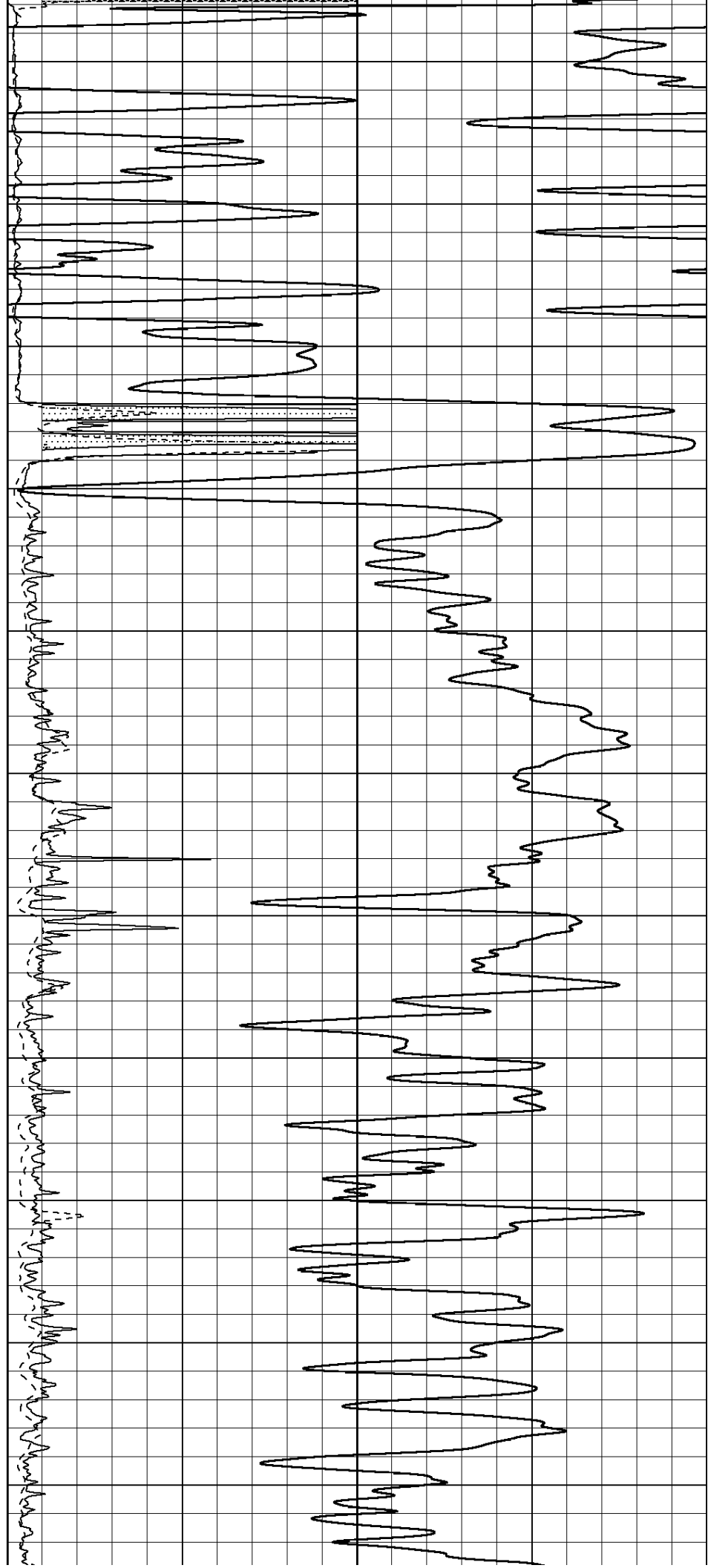
750

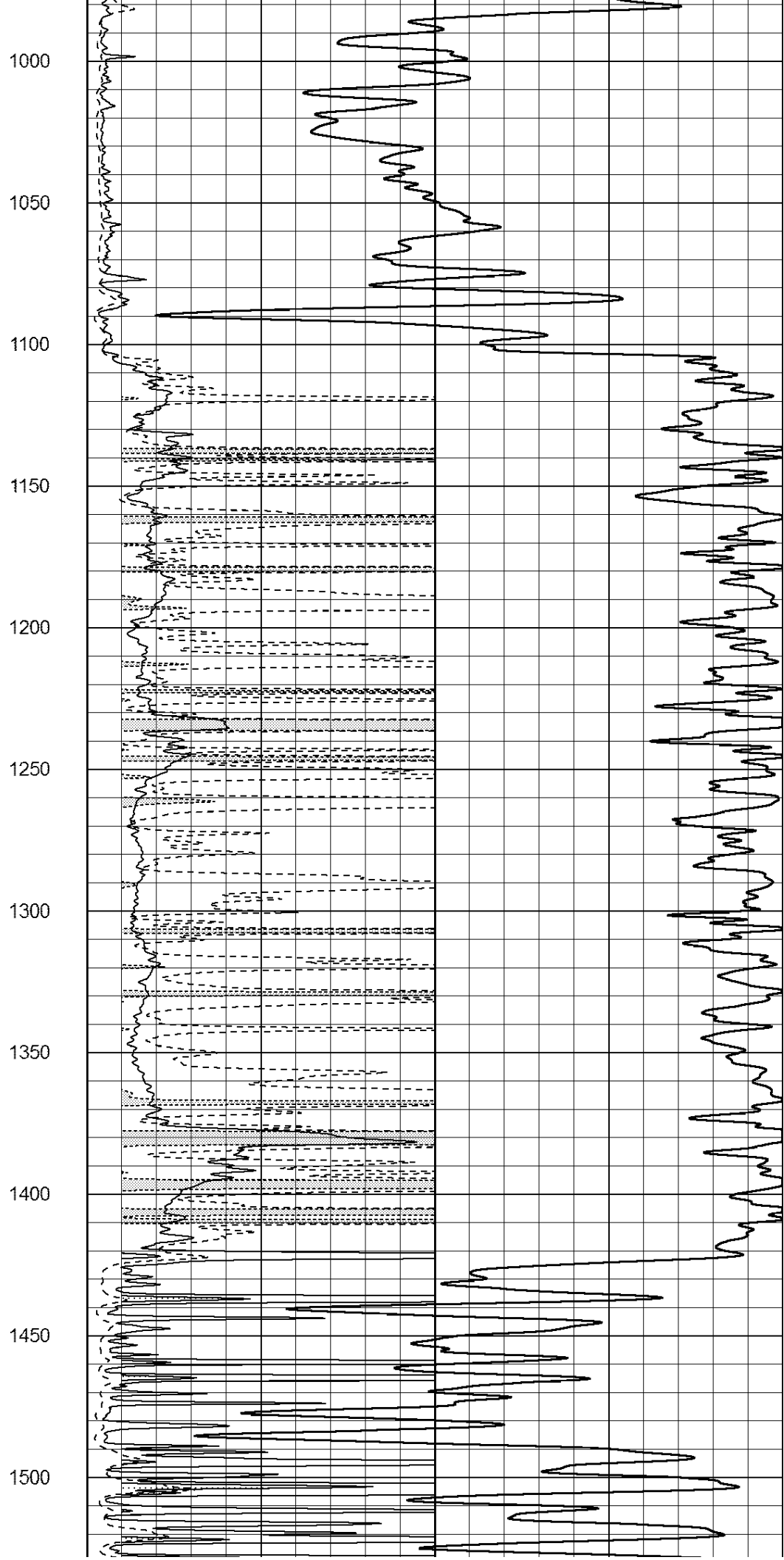
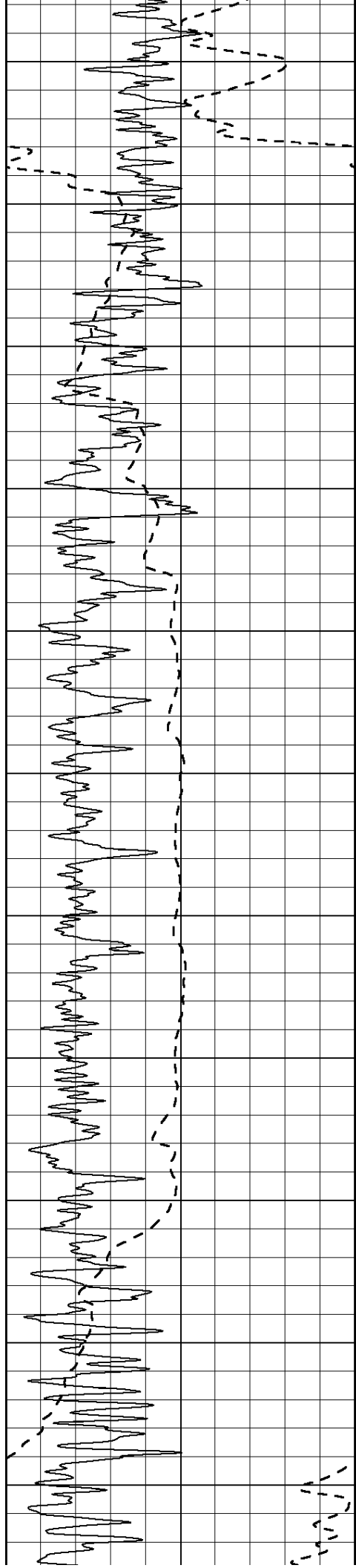
800

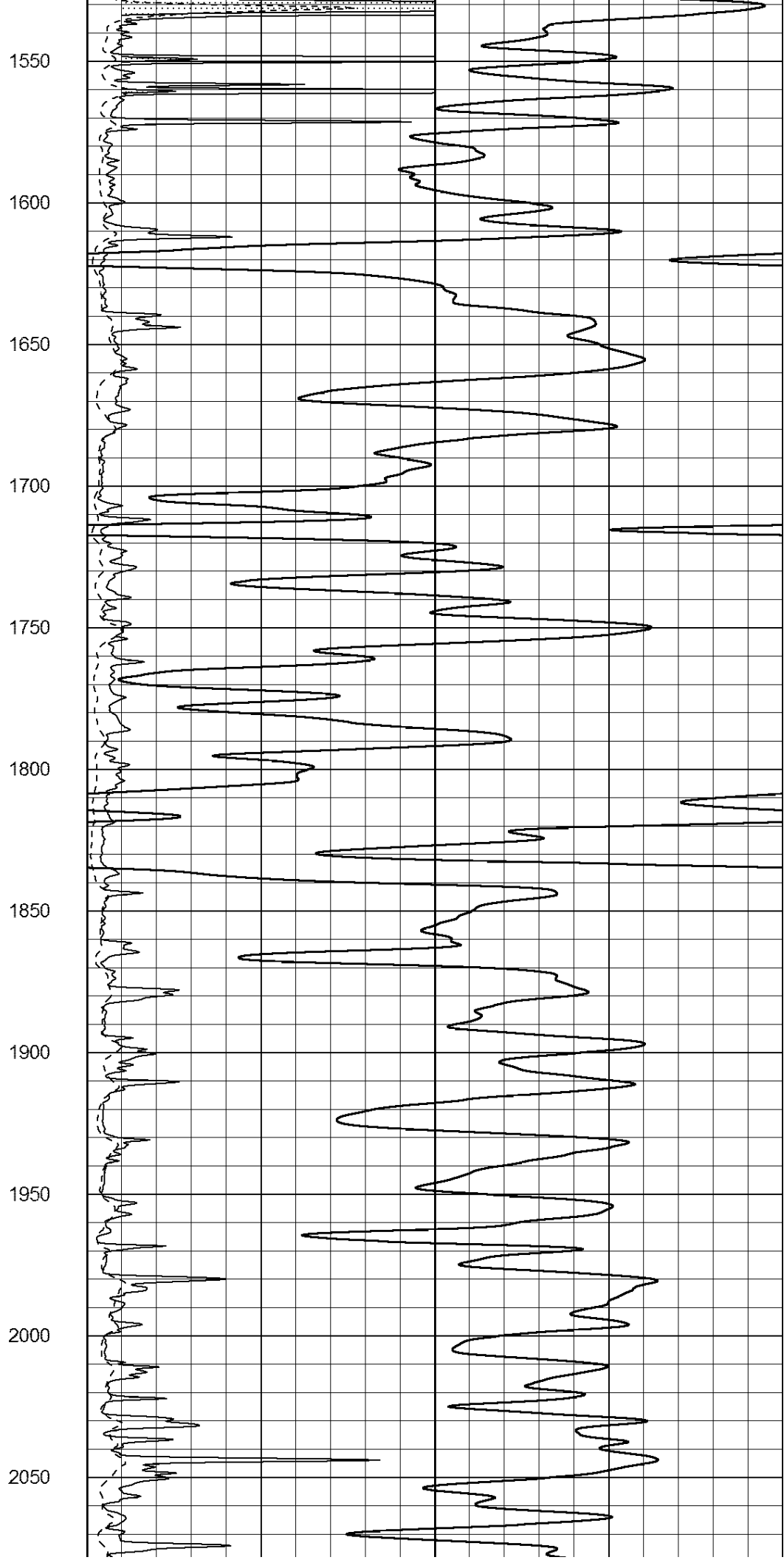
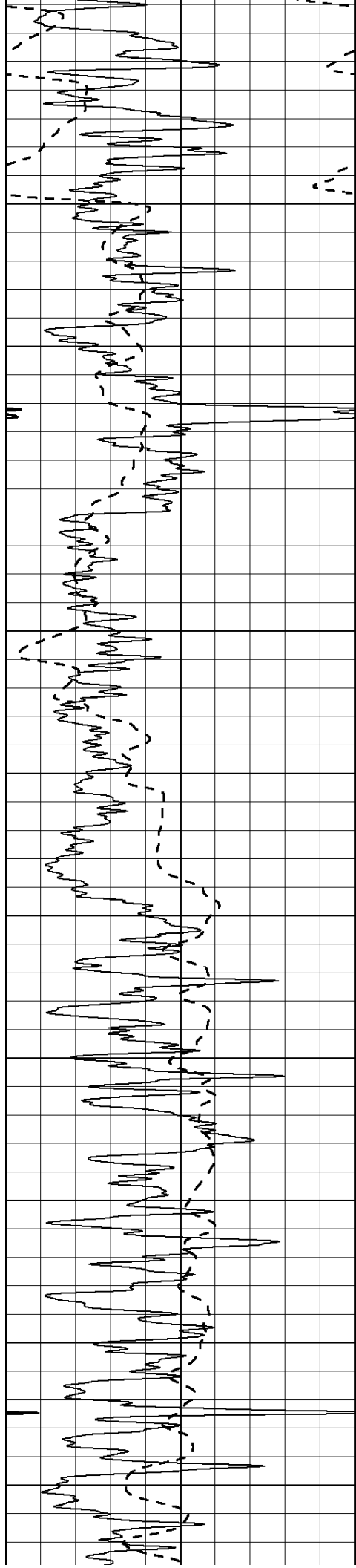
850

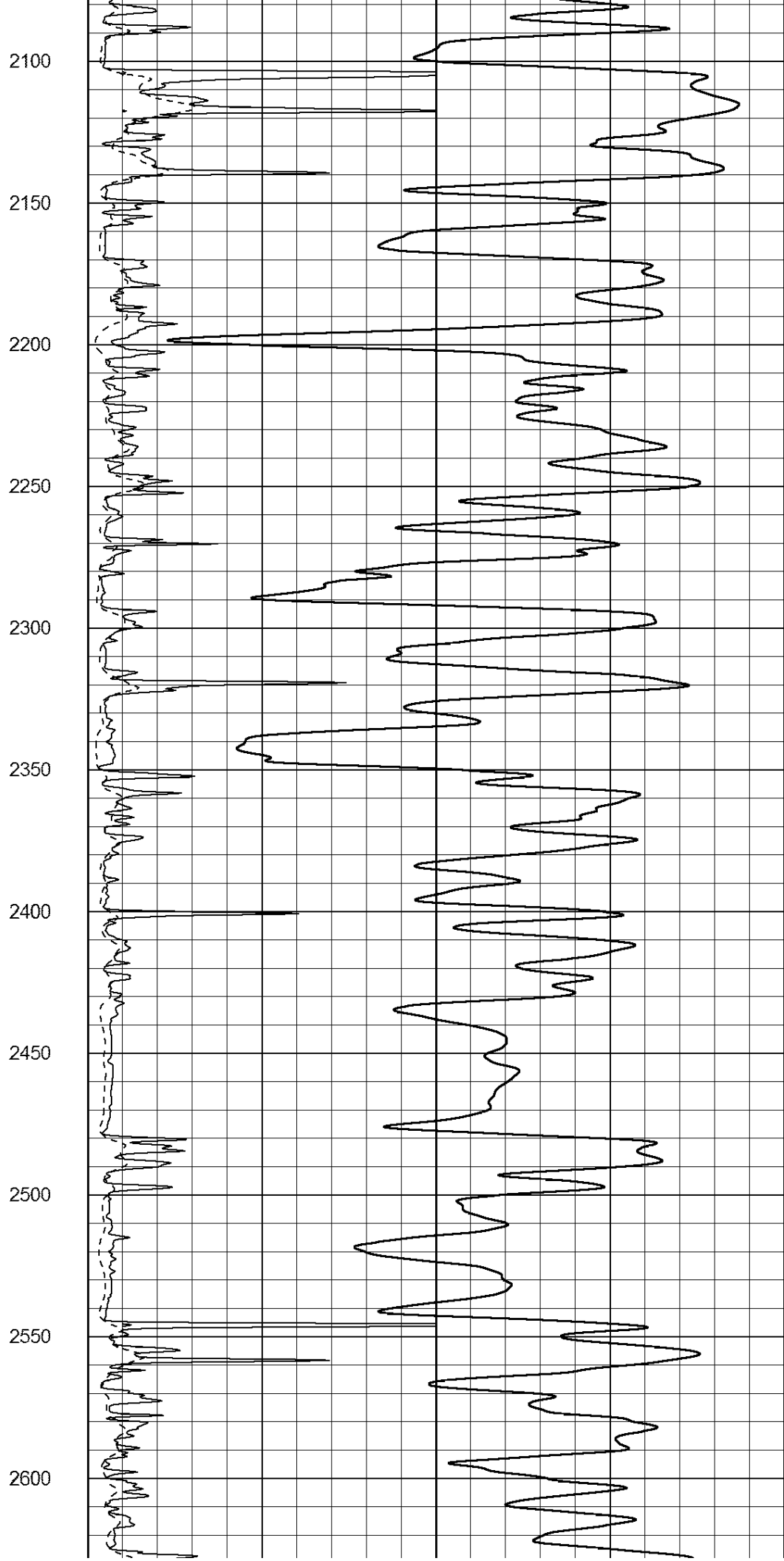
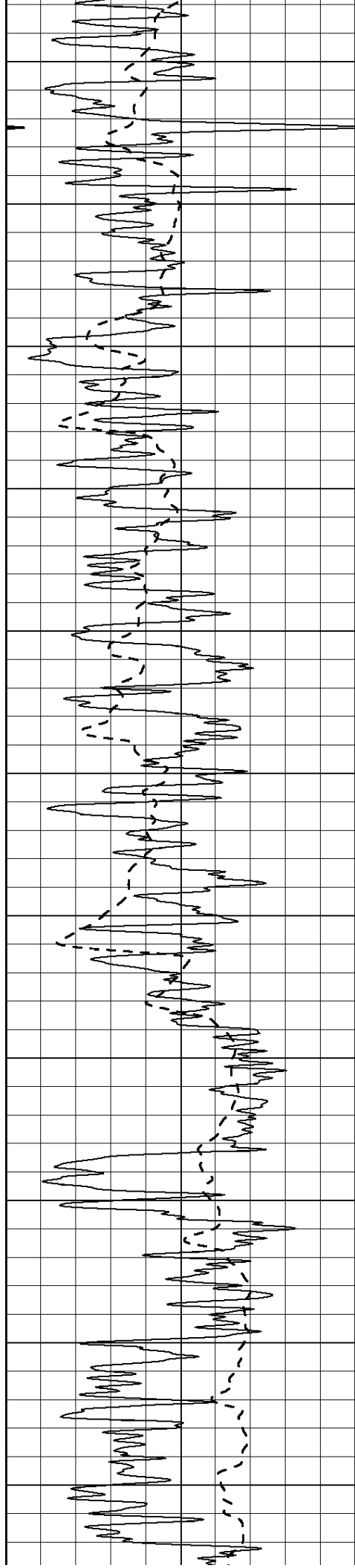
900

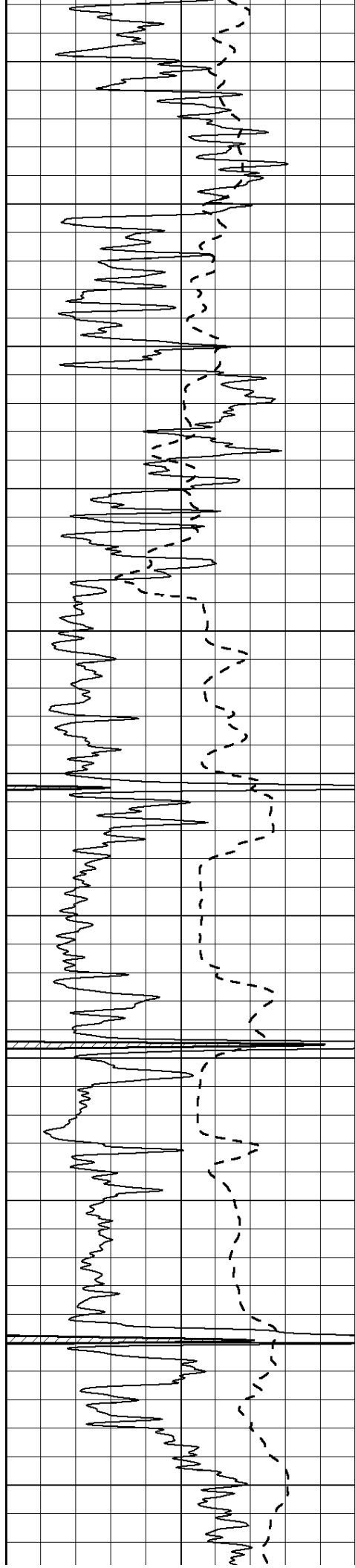
950











2650

2700

2750

2800

2850

2900

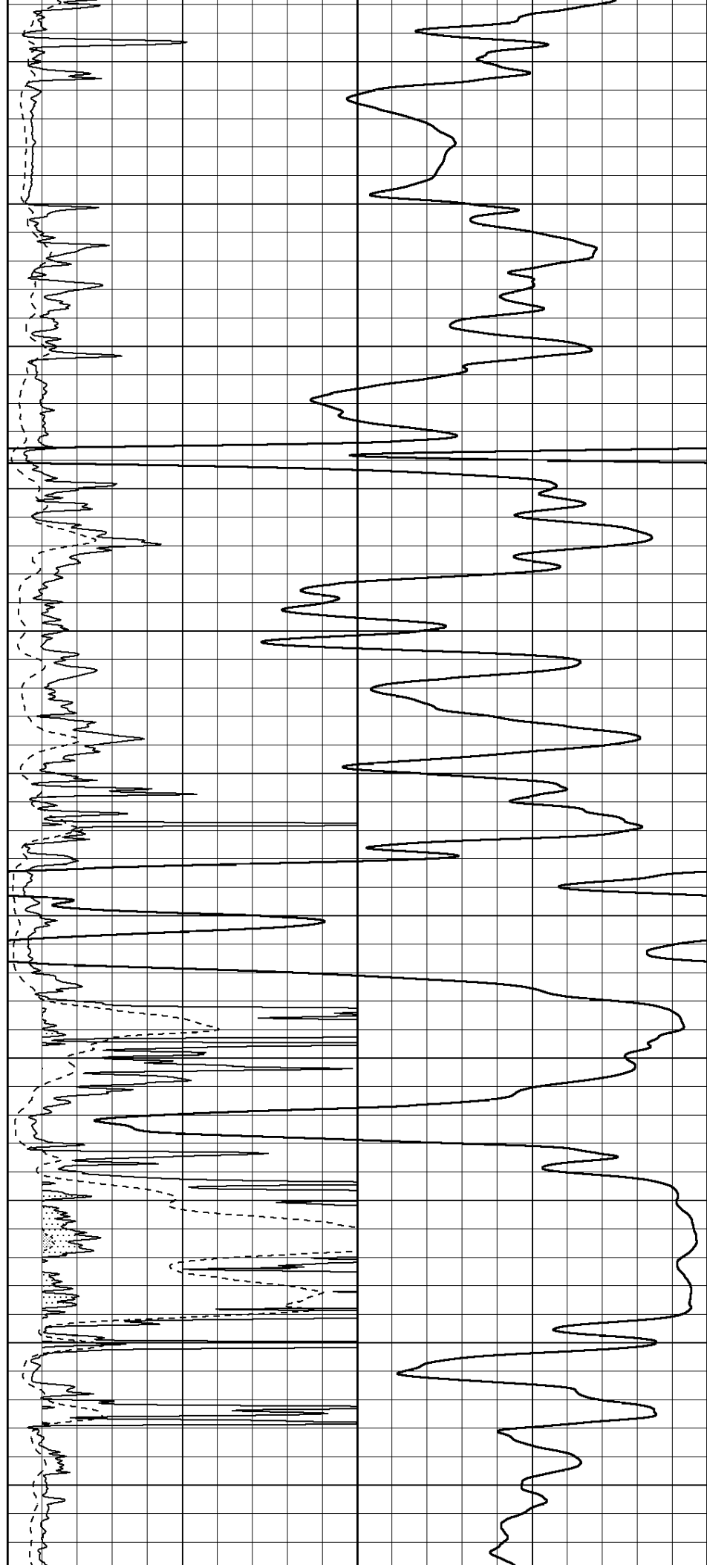
2950

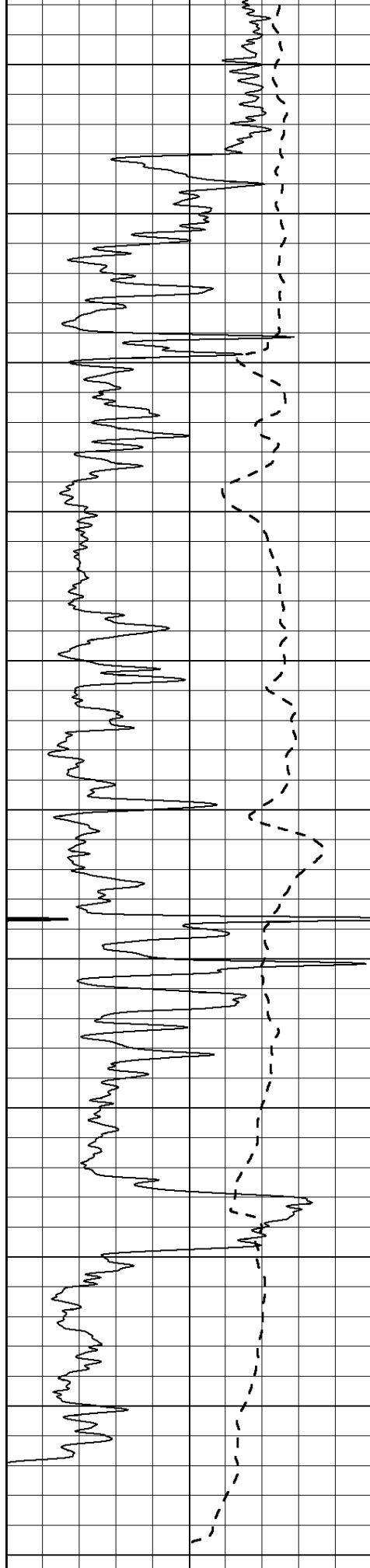
3000

3050

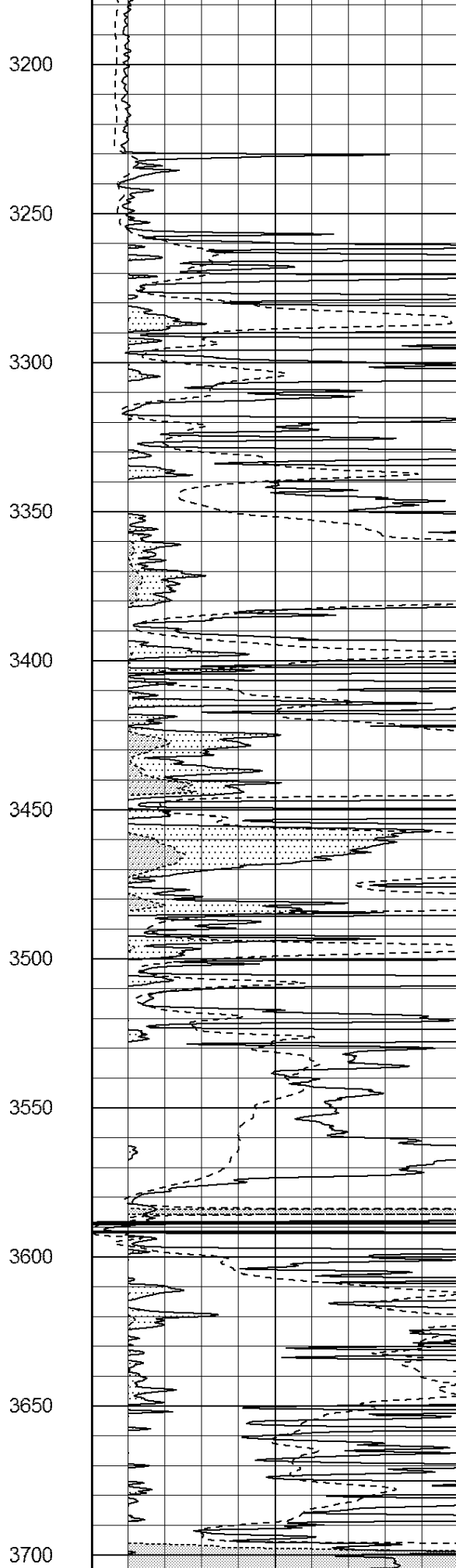
3100

3150

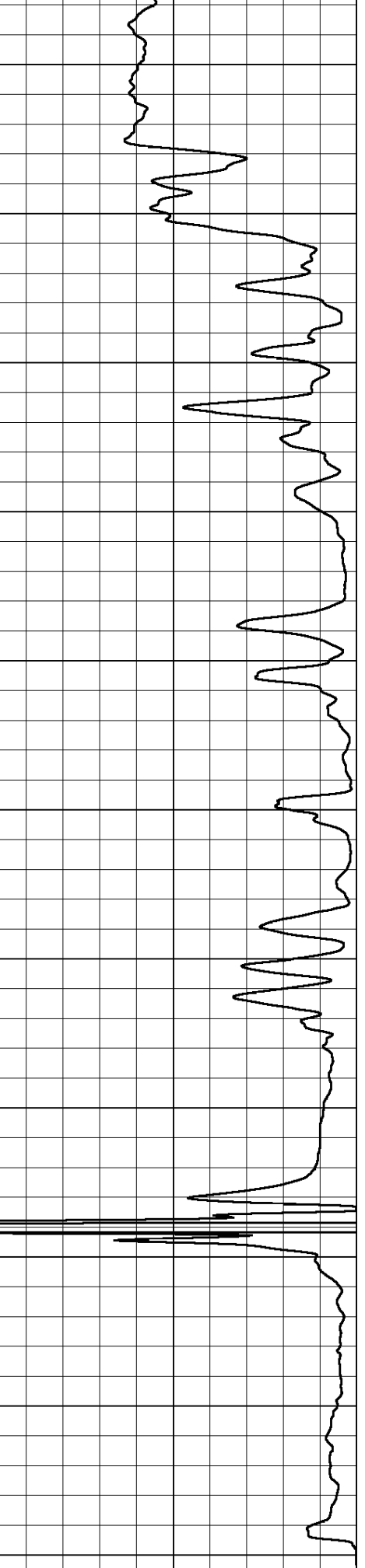




0 Gamma Ray (GAPI) 150
-100 SP (mV) 100

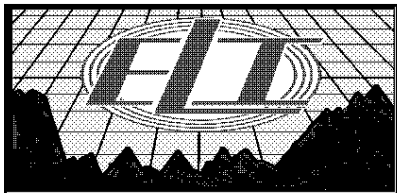


0 RLL3 (Ohm-m) 50
0 RILD (Ohm-m) 50



-100 SP (mV) 100

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

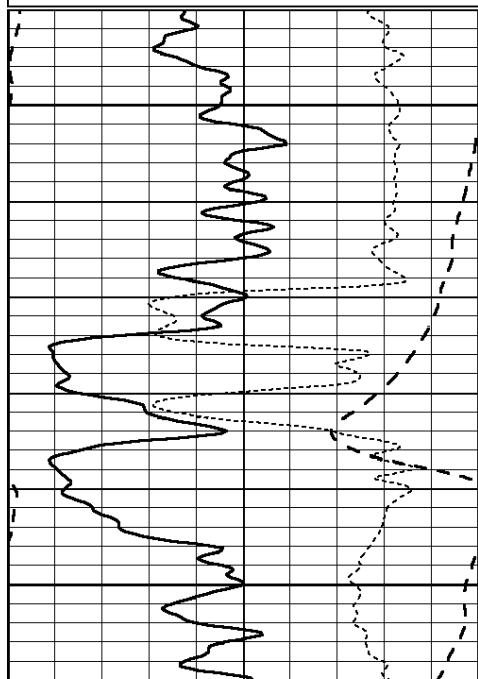


MAIN PASS

Database File: 4099pe.db
 Dataset Pathname: pass4ANH
 Presentation Format: _dil
 Dataset Creation: Thu Oct 17 11:16:30 2019 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

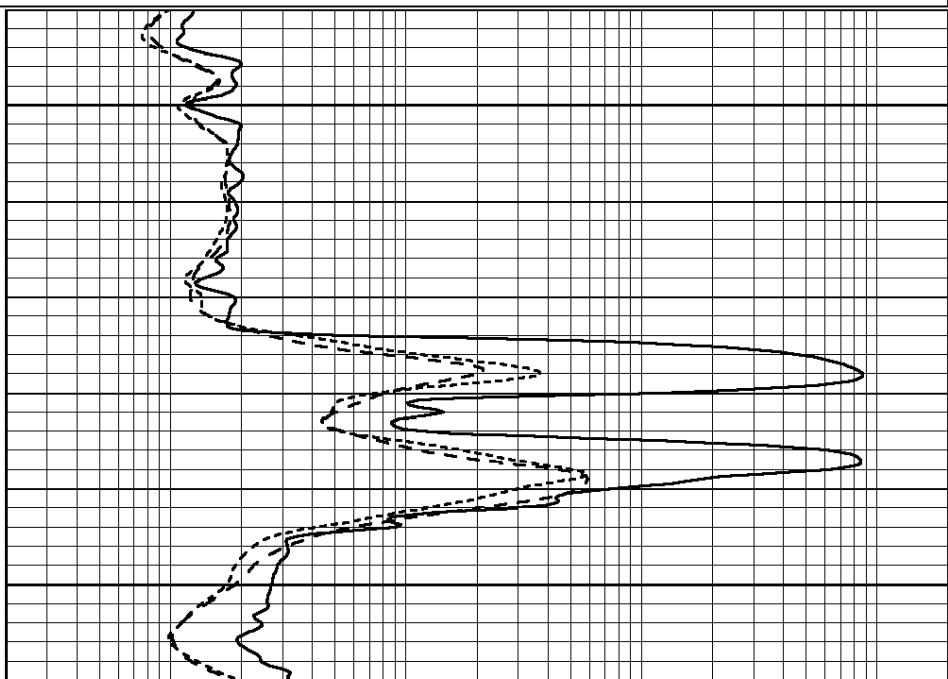
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



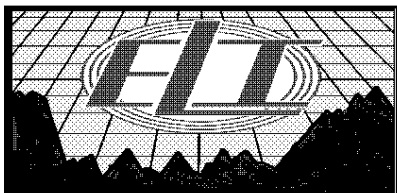
550

600



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

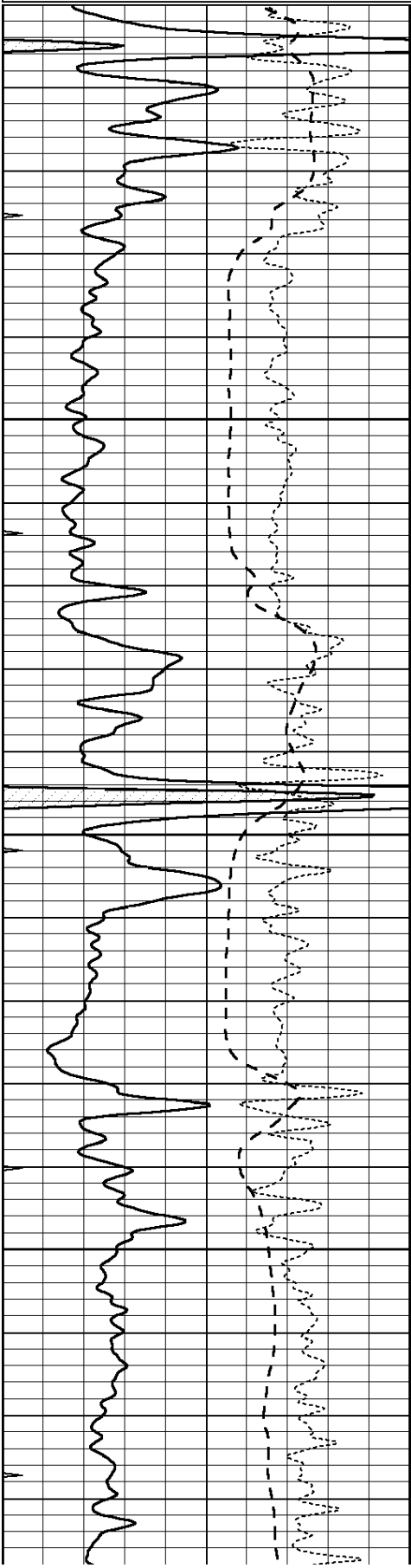


MAIN PASS

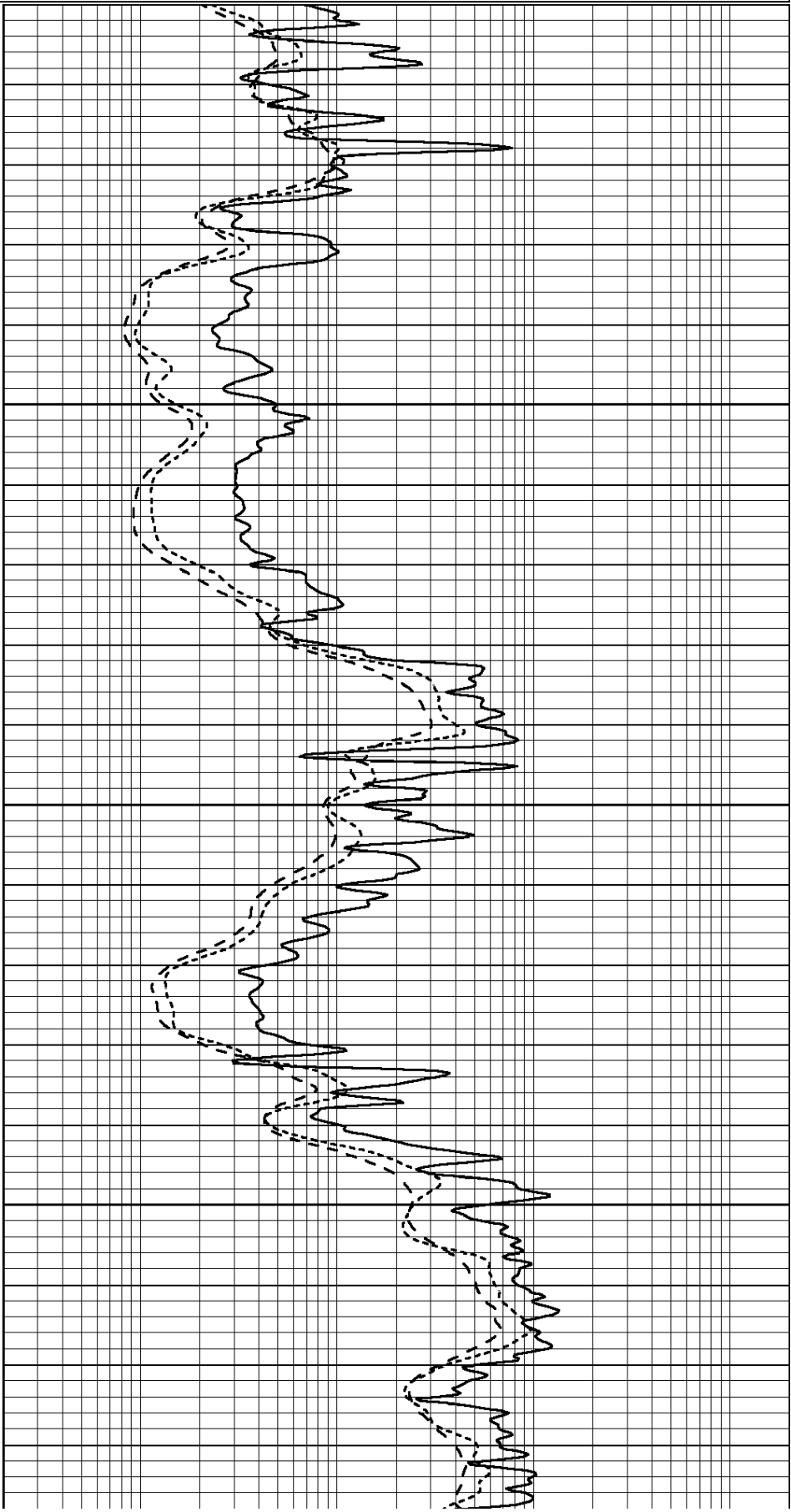
Database File: 4099pe.db
 Dataset Pathname: pass4DIL
 Presentation Format: _dil
 Dataset Creation: Thu Oct 17 11:13:48 2019 by Calc Open-Cased 090629

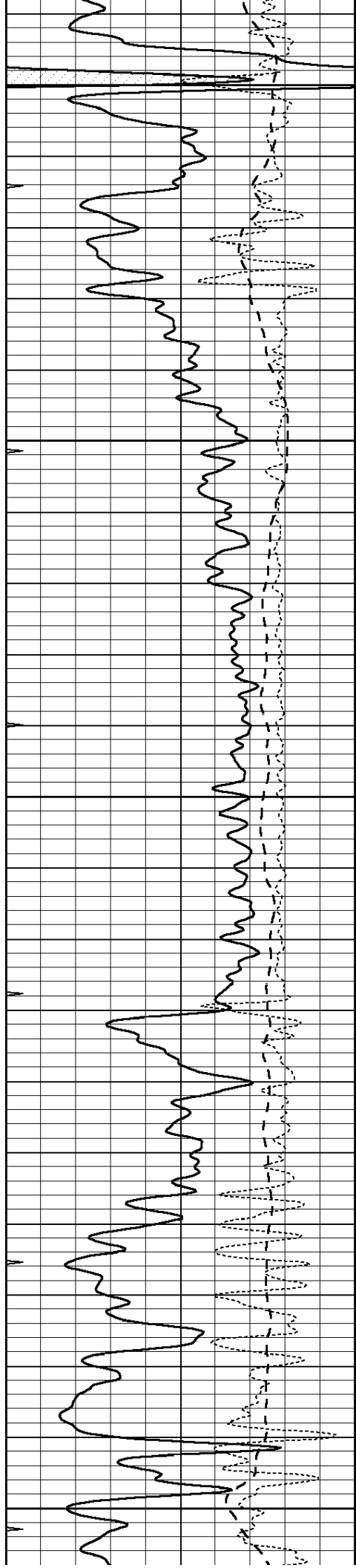
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



2900
2950
3000
3050





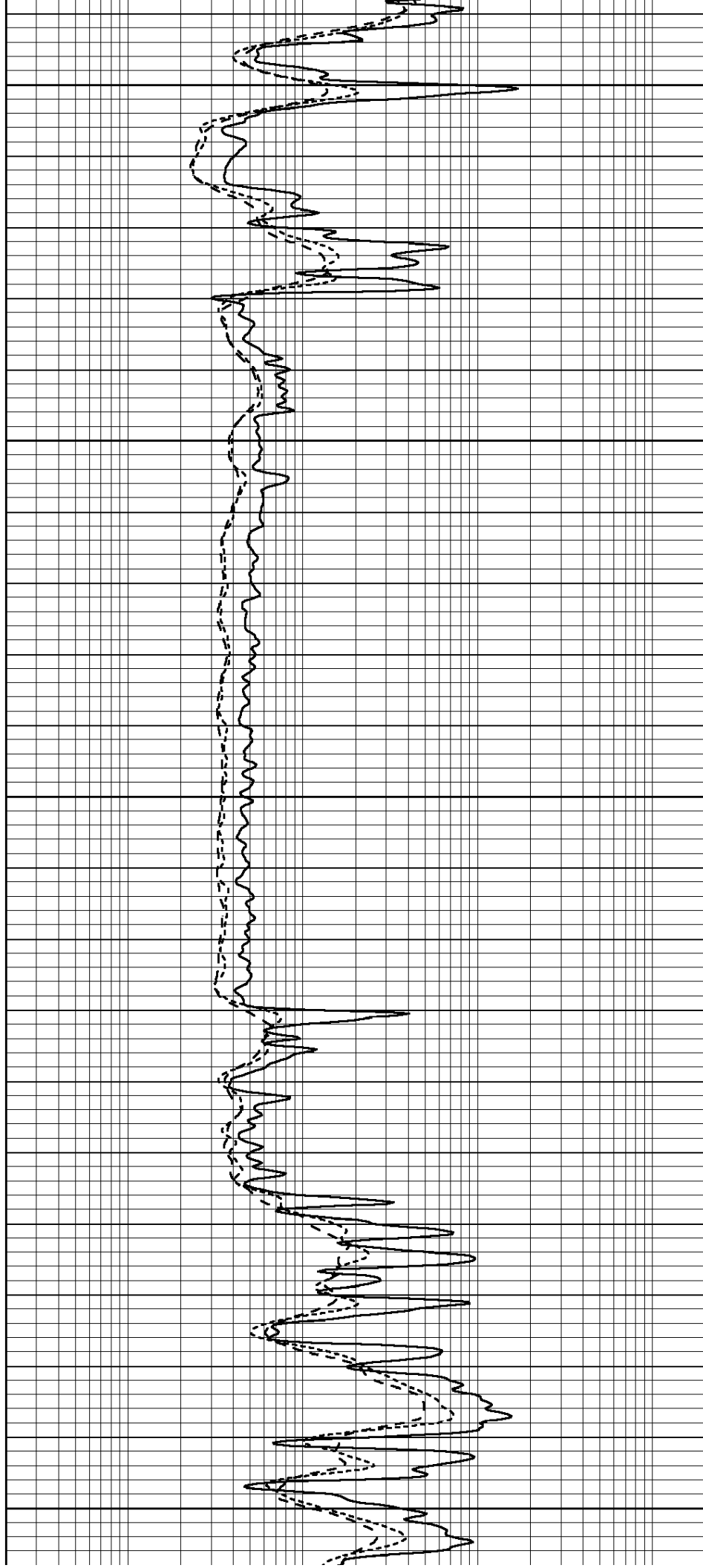
3100

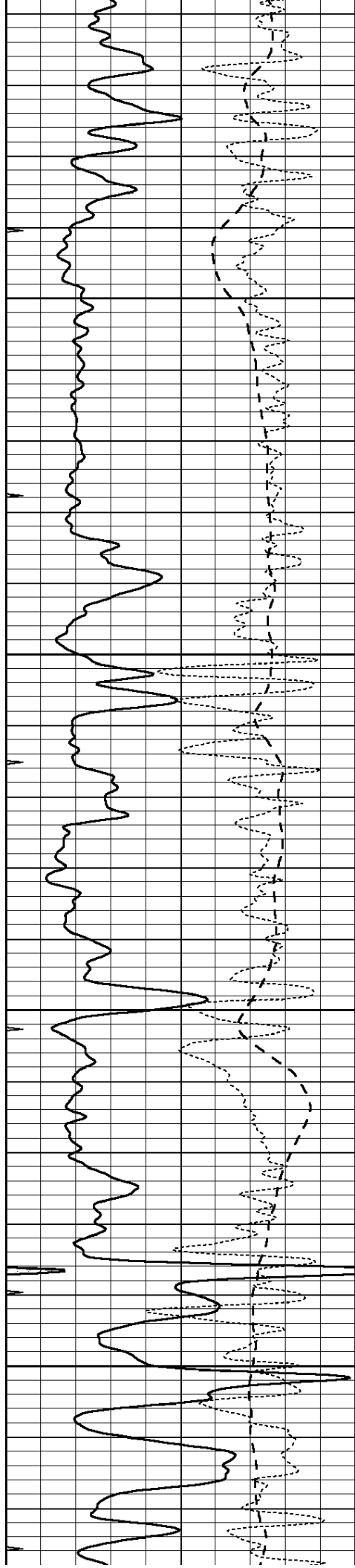
3150

3200

3250

3300



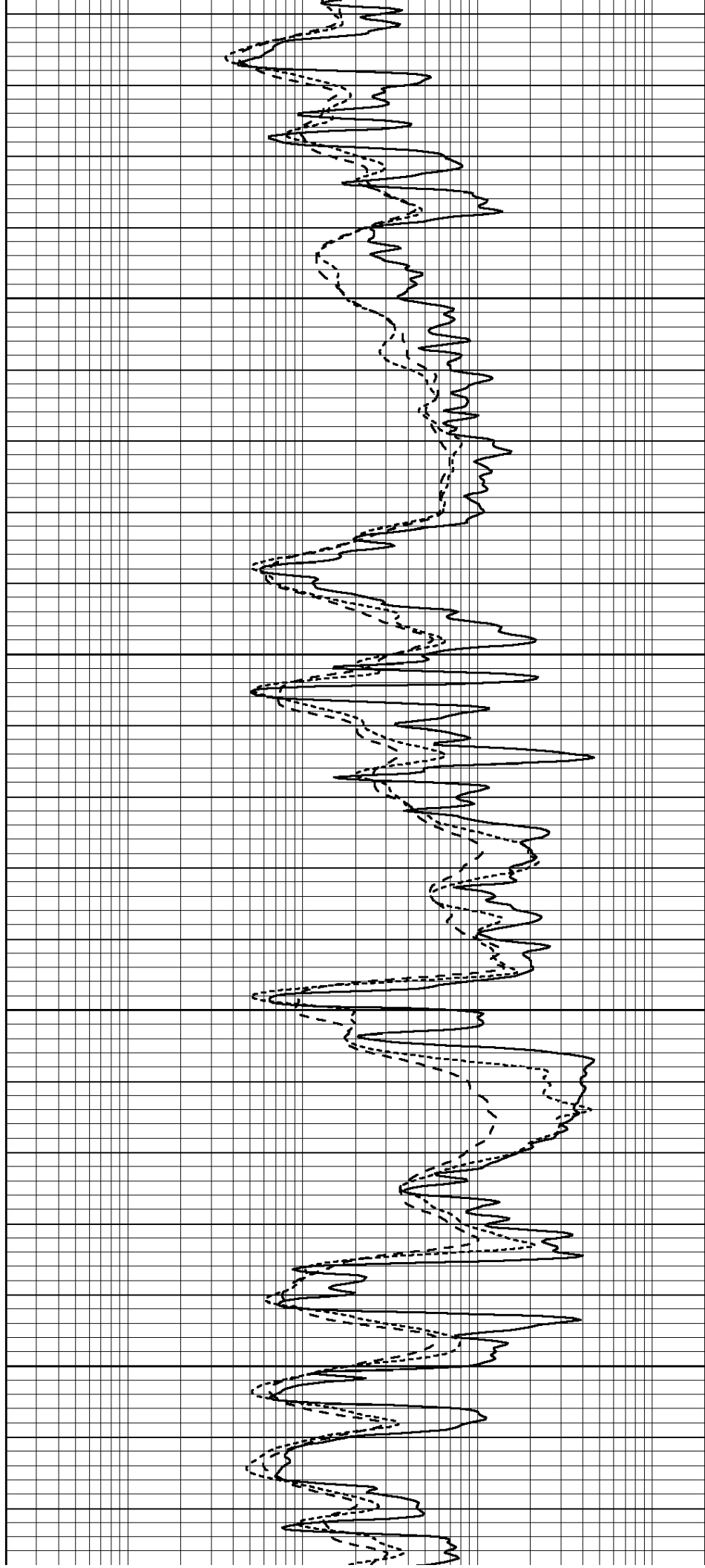


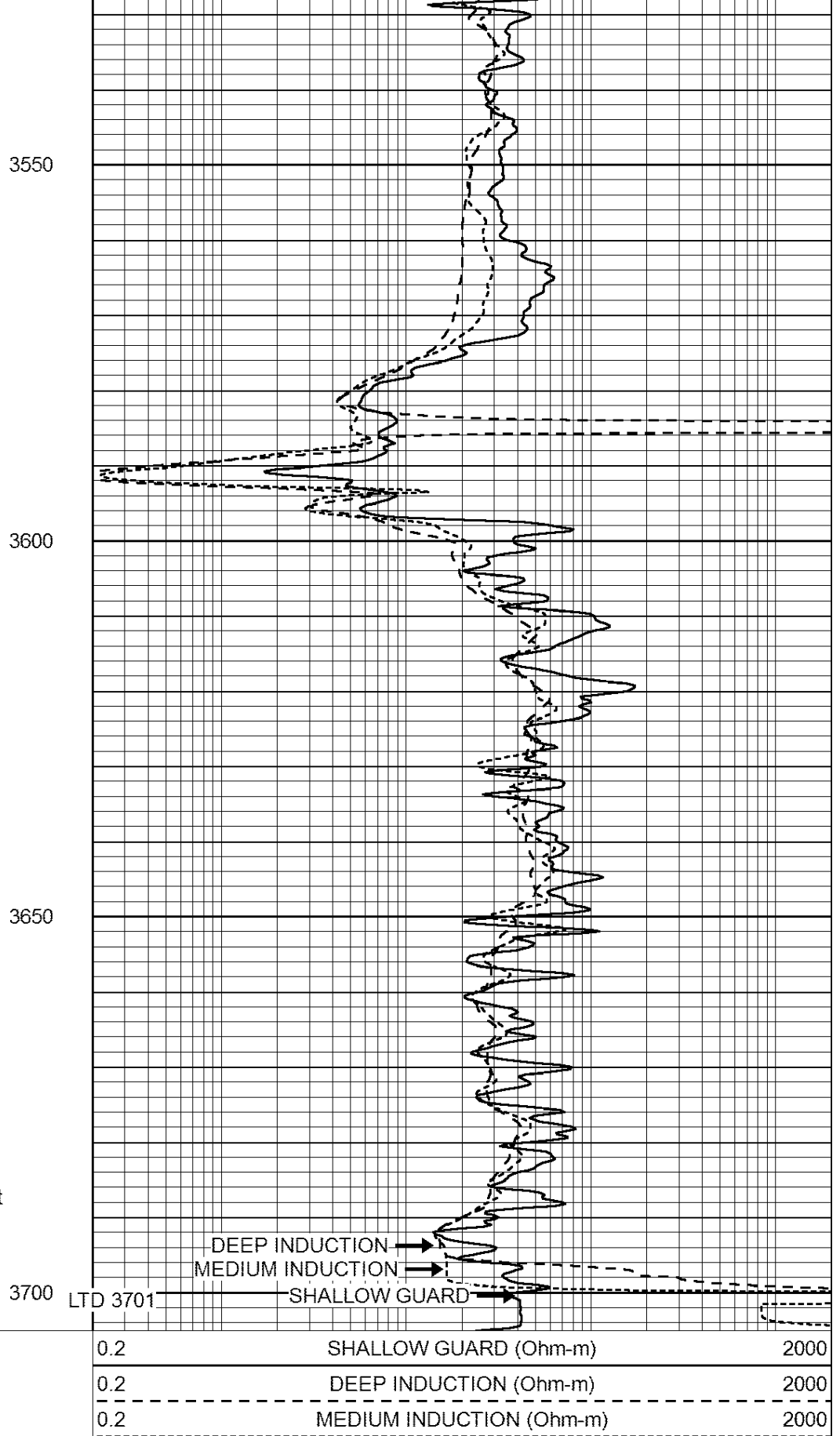
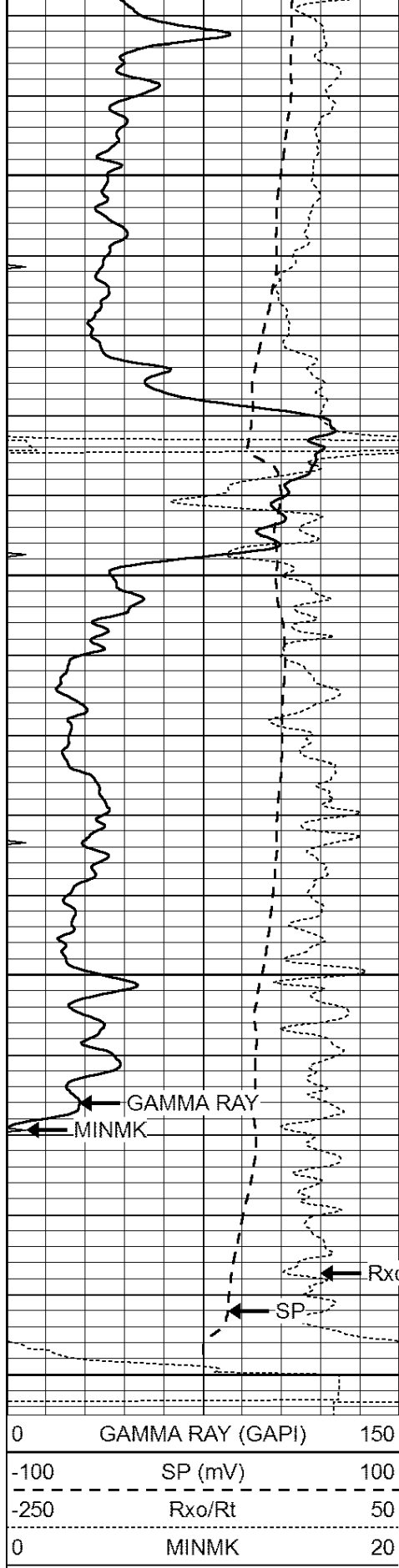
3350

3400

3450

3500



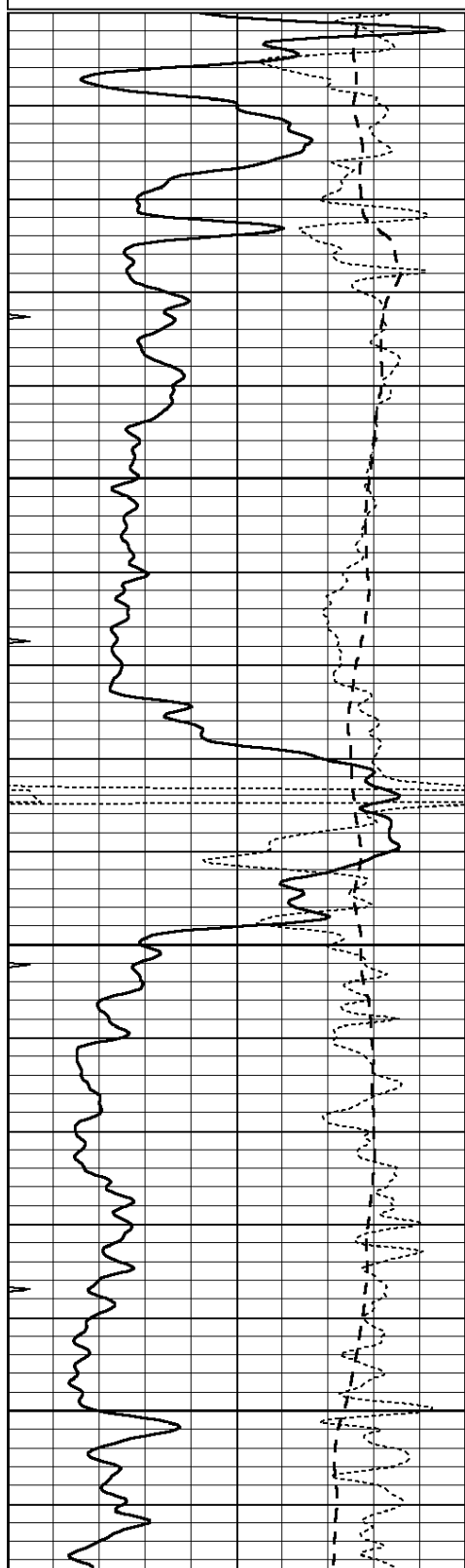


REPEAT SECTION

Database File: 4099pe.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Thu Oct 17 11:10:20 2019
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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

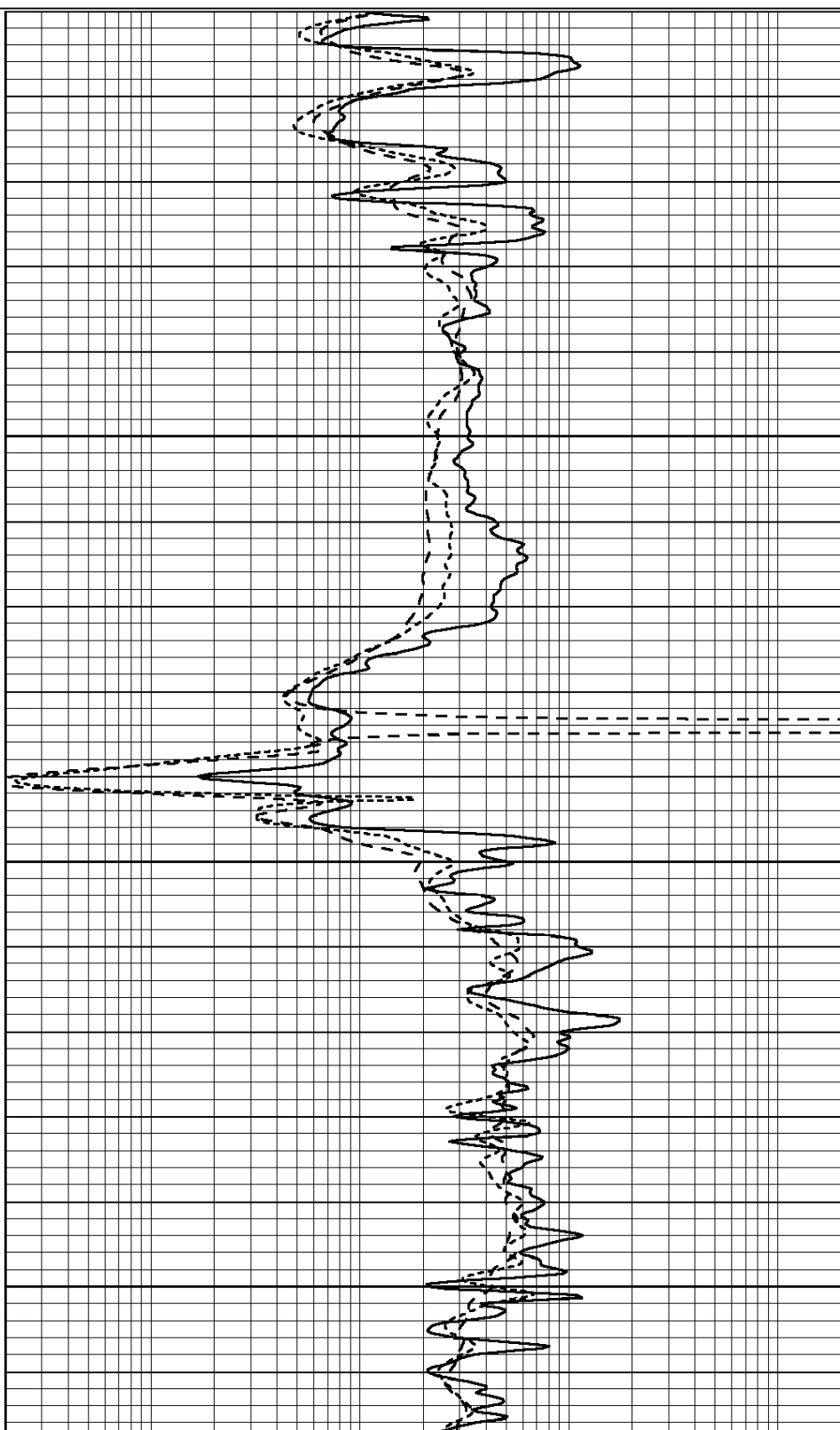


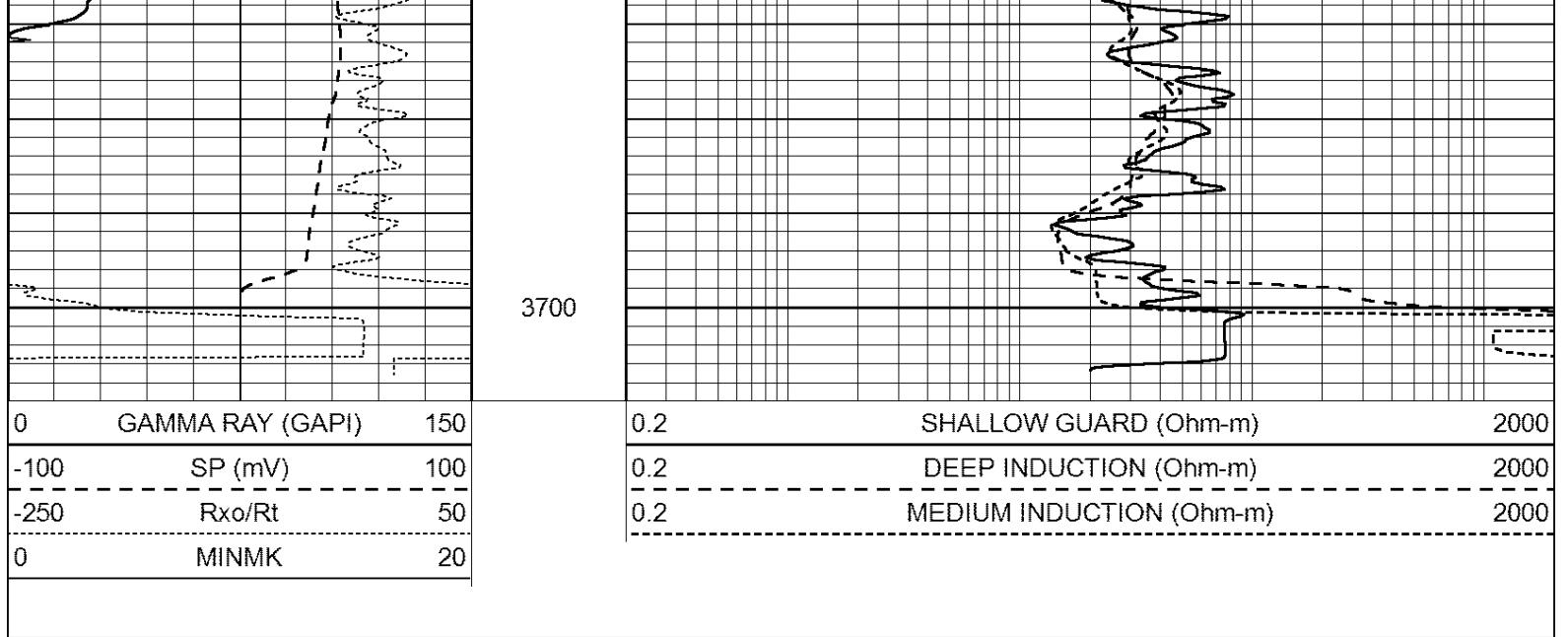
3500

3550

3600

3650





Calibration Report								
Database File:		4099pe.db						
Dataset Pathname:		pass3.1						
Dataset Creation:		Thu Oct 17 11:10:20 2019						
Dual Induction Calibration Report								
Serial-Model:		PROBE8-DILG						
Surface Cal Performed:		Mon Sep 10 14:28:35 2018						
Downhole Cal Performed:		Mon Sep 10 14:28:38 2018						
After Survey Verification Performed:		Mon Sep 10 14:28:40 2018						
Surface Calibration								
		Readings			References		Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739
Downhole Calibration								
		Readings			References		Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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		

Litho Density Calibration Report
Serial: 001N Model: PRB

Master Calibration

Performed Fri Feb 22 10:21:38 2019

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1650.2	7609.7	2906.5	8386.5	cps
Window 2	1538.2	6635.9	2614.4	7212.4	cps
Window 3	1257.0	3718.7	1765.8	3927.1	cps
Window 4	376.8	375.6	373.4	374.5	cps
Long Space	0.0	5097.7	1076.2	5674.2	cps
Short Space	2.8	1704.3	1106.3	1723.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.5	Rib Slope	: 0.982	Density/Spine Ratio	: 0.545
Spine Angle	: 74.5	Spine Slope	: 3.599	Spine Intercept	: -18.2

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Compensated Neutron Calibration Report

Serial Number: 6I
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

PRE-SURVEY VERIFICATION

Detector	Readings		Measured	Target
1) Short Space		cps		
Long Space		cps		

	Long Space	cps	pu	pu
2)	Short Space Long Space	cps cps		pu
3)	Short Space Long Space	cps cps		pu

POST-SURVEY VERIFICATION				
	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Wed Jul 03 12:57:34 2019	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5700	GAPI/cps