



DUAL
INDUCTION
LOG

Company M&M EXPLORATION, INC.

Well GUTHRIE FARMS #1

Field
County HARVEY State KANSAS

Location: API #: 15-079-20719-0000

1090' FNL & 330' FWL
SEC 9 TWP 22S RGE 2E

Other Services
CDL/CNL/PE
MEL/SON

Company M&M EXPLORATION, INC.
Well GUTHRIE FARMS #1
Field
County HARVEY
State KANSAS

Permanent Datum GROUND LEVEL Elevation 1474
Log Measured From KELLY BUSHING 12' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1486
D.F. 1484
G.L. 1474

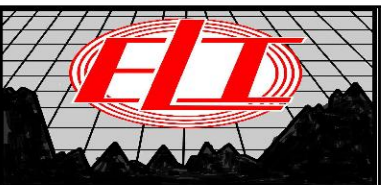
Date	10/30/19
Run Number	ONE
Depth Driller	3300
Depth Logger	3300
Bottom Logged Interval	3298
Top Log Interval	00
Casing Driller	8 5/8" @ 212'
Casing Logger	212'
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1/60
pH / Fluid Loss	10.0/8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.10 @ 62F
Rmf @ Meas. Temp	0.82 @ 62F
Rmc @ Meas. Temp	1.32 @ 62F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.62 @ 110F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	110F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	WYATT URBAN

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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
RUSSELL KS, SOUTH TO INTERSECTION OF HWY 281 & HWY 4 - 3 SOUTH ON BOYD
BLKTOP - 2 WEST - 1/4 SOUTH - EAST INTO

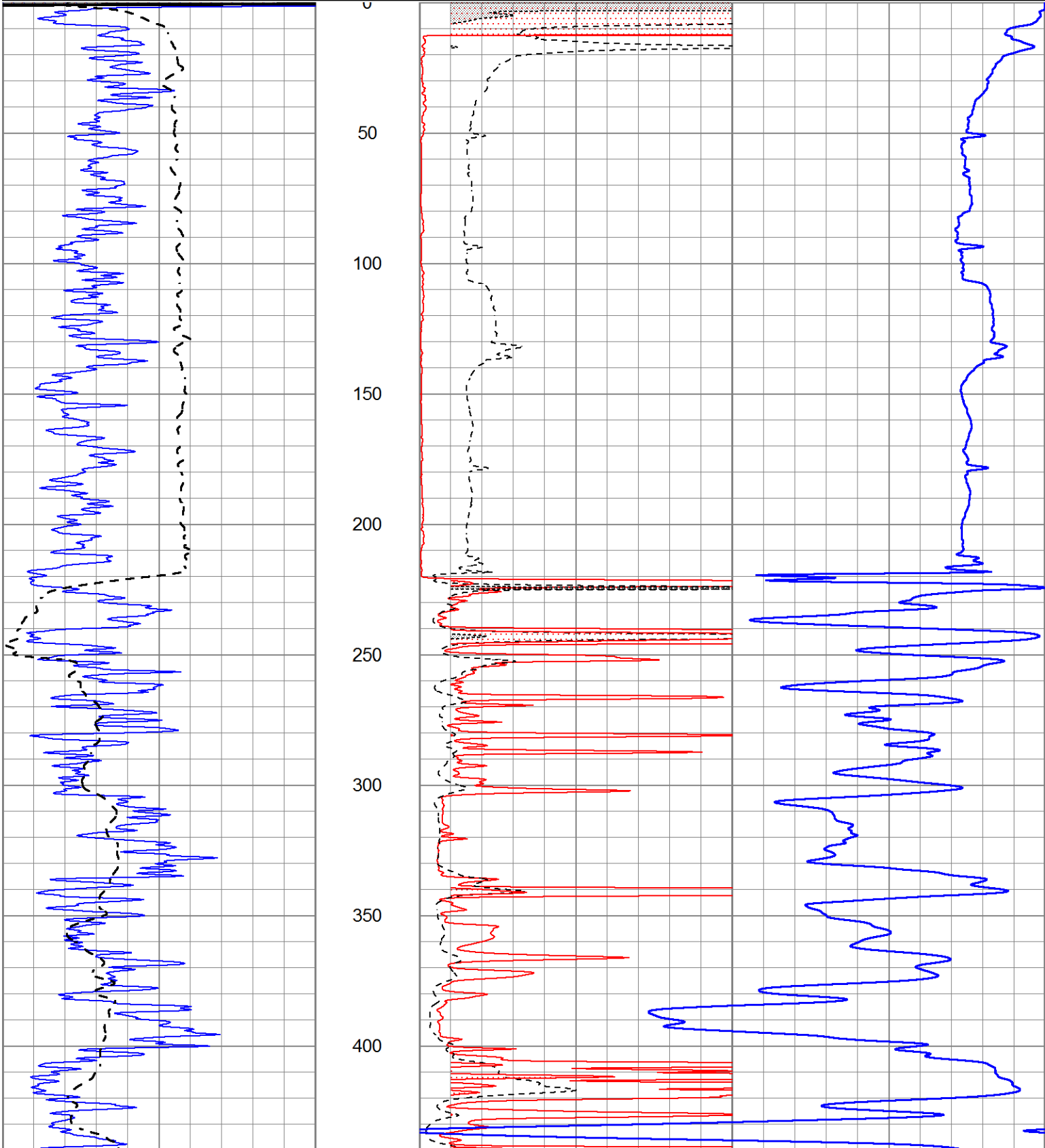


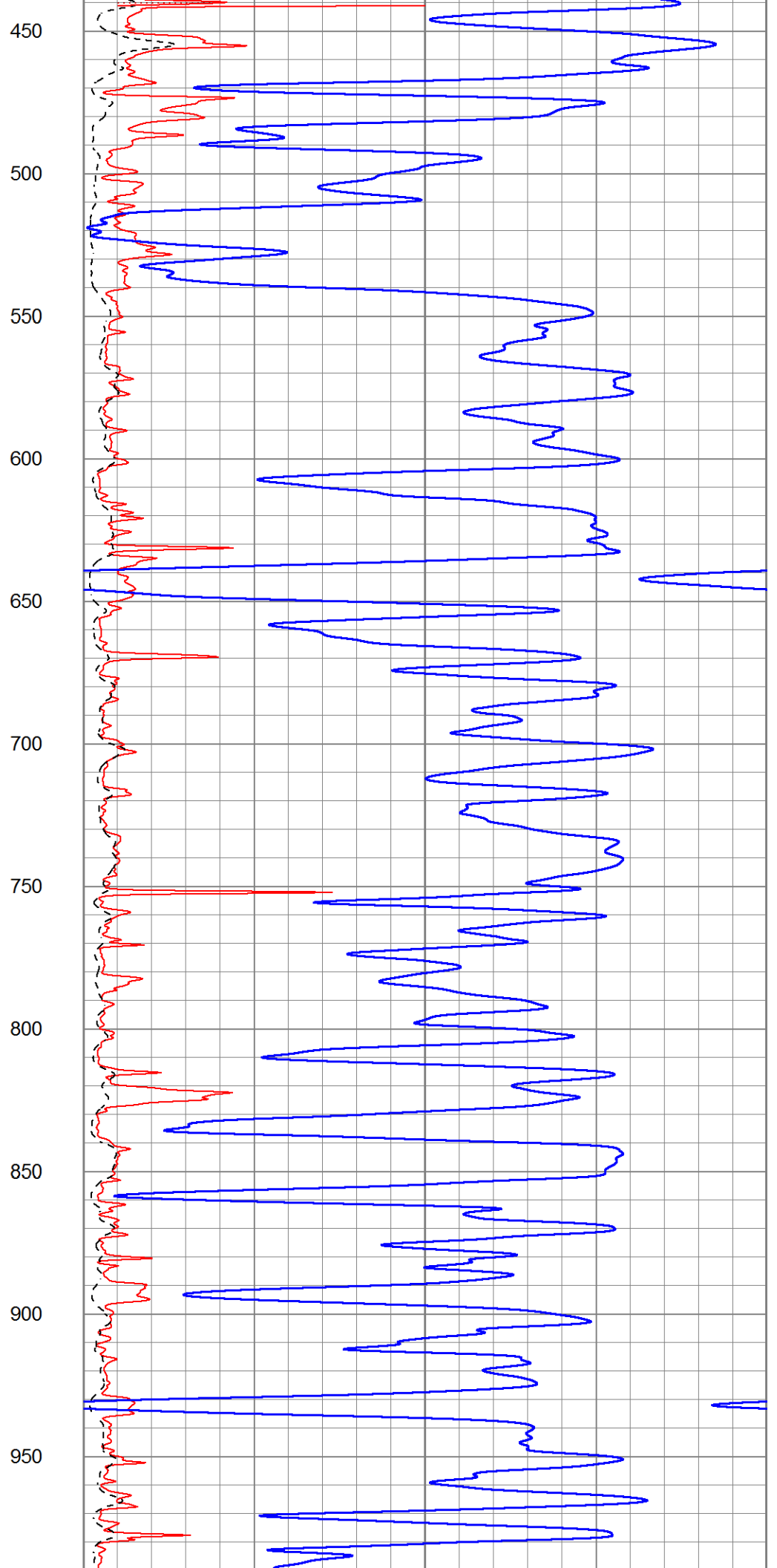
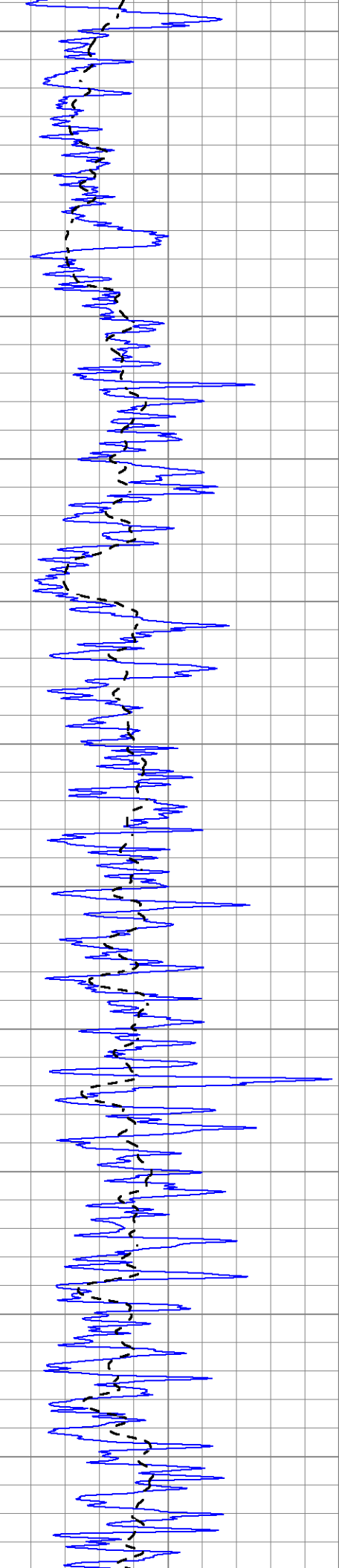
MAIN SECTION

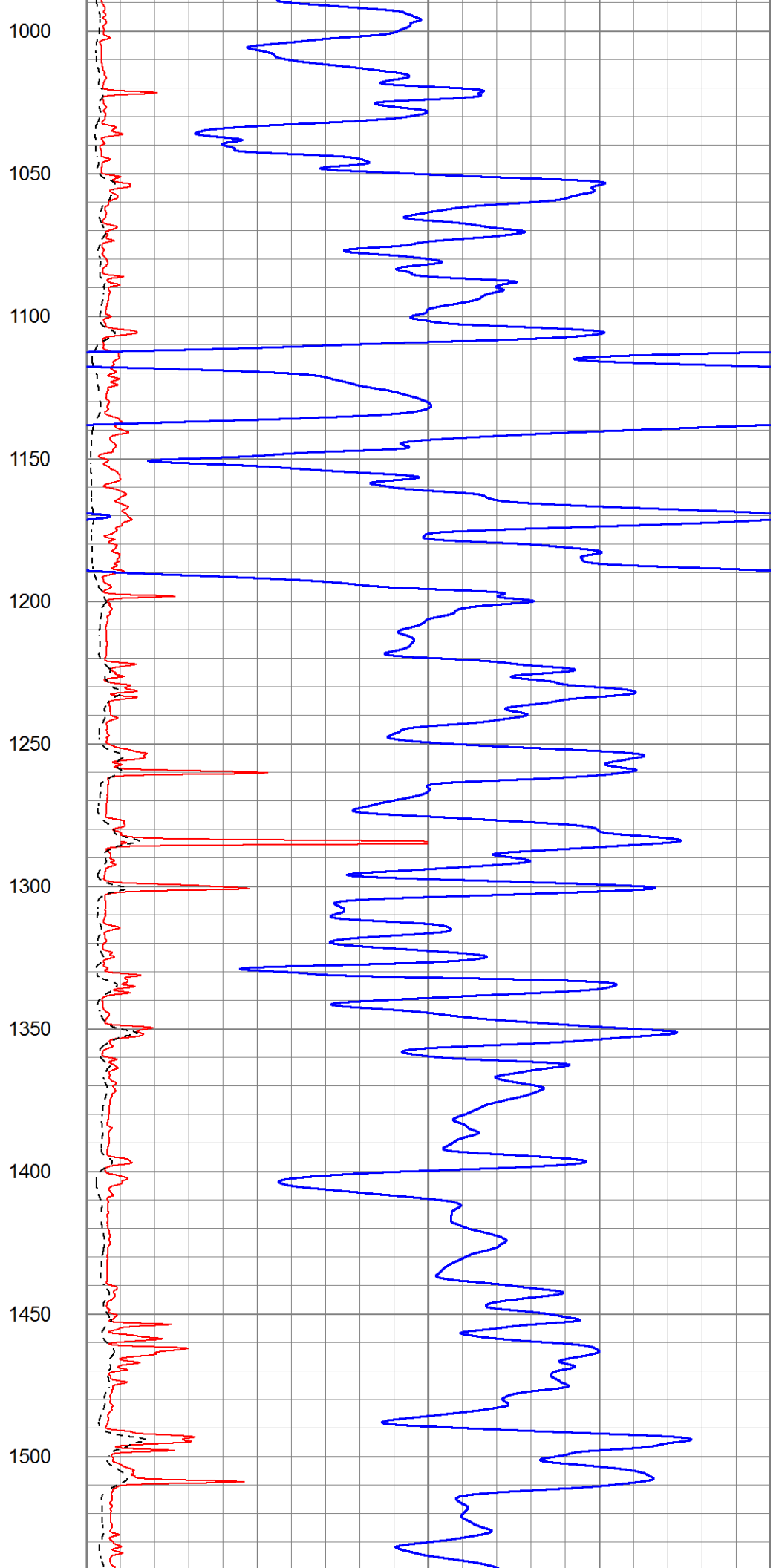
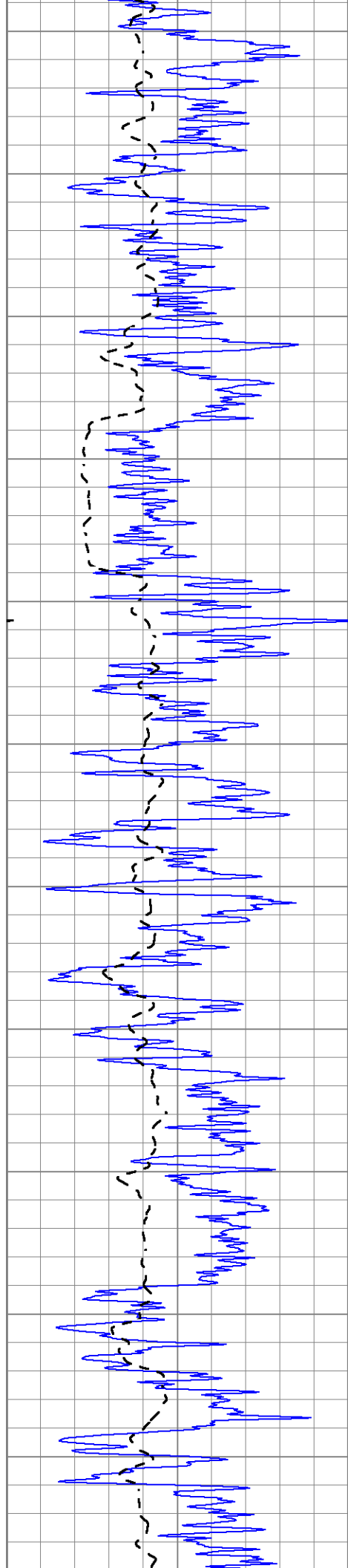
Database File 4428pe.db
 Dataset Pathname pass3.2
 Presentation Format _dil2
 Dataset Creation Wed Oct 30 10:23:20 2019
 Charted by Depth in Feet scaled 1:600

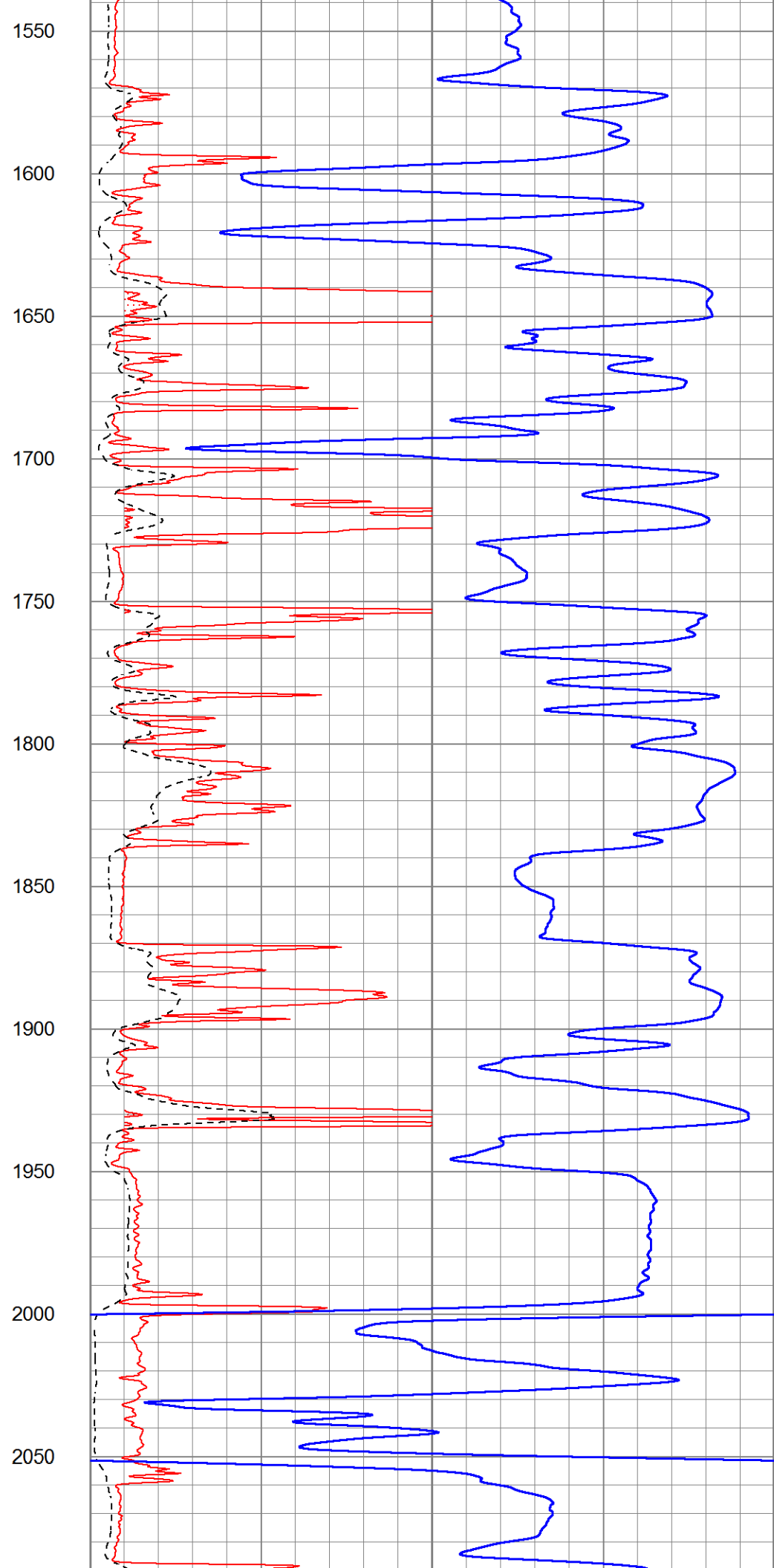
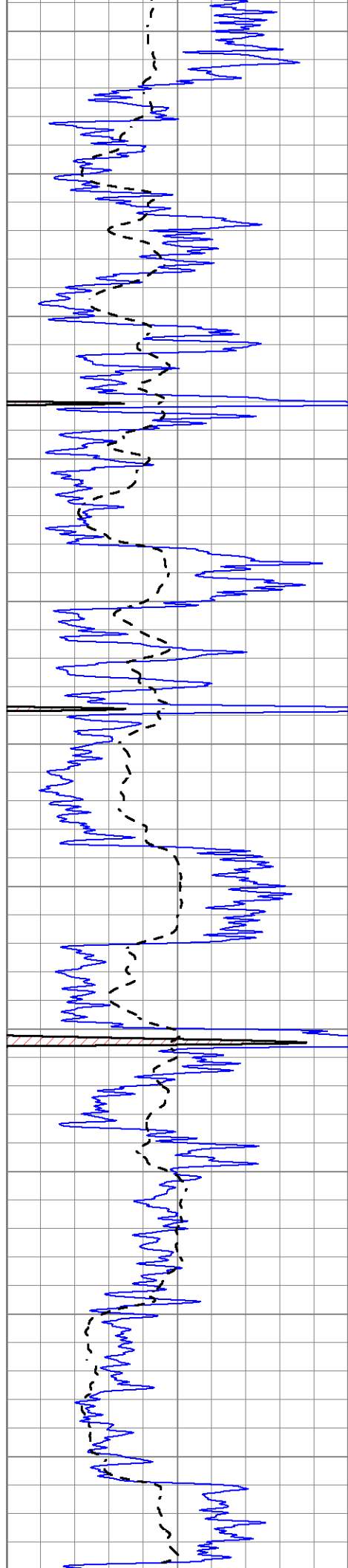
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

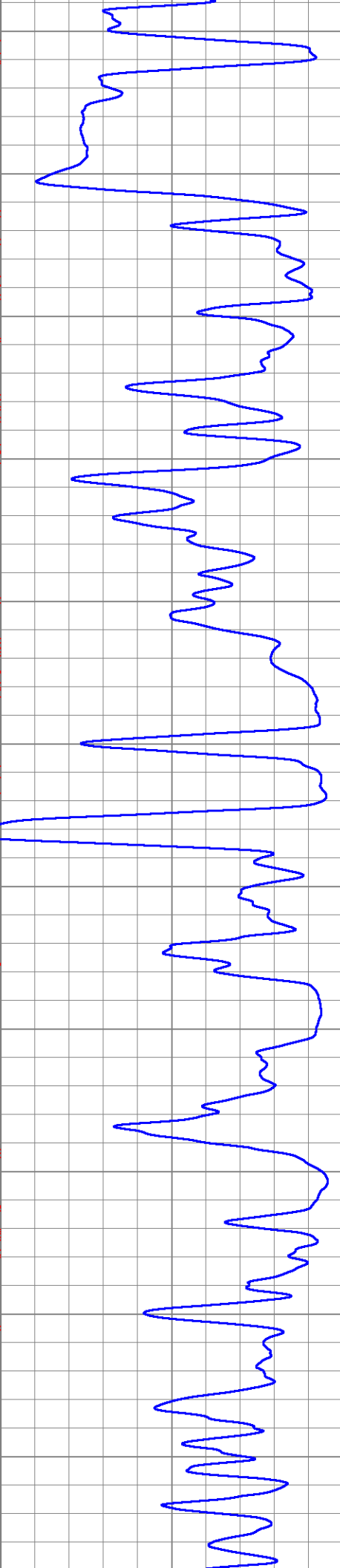
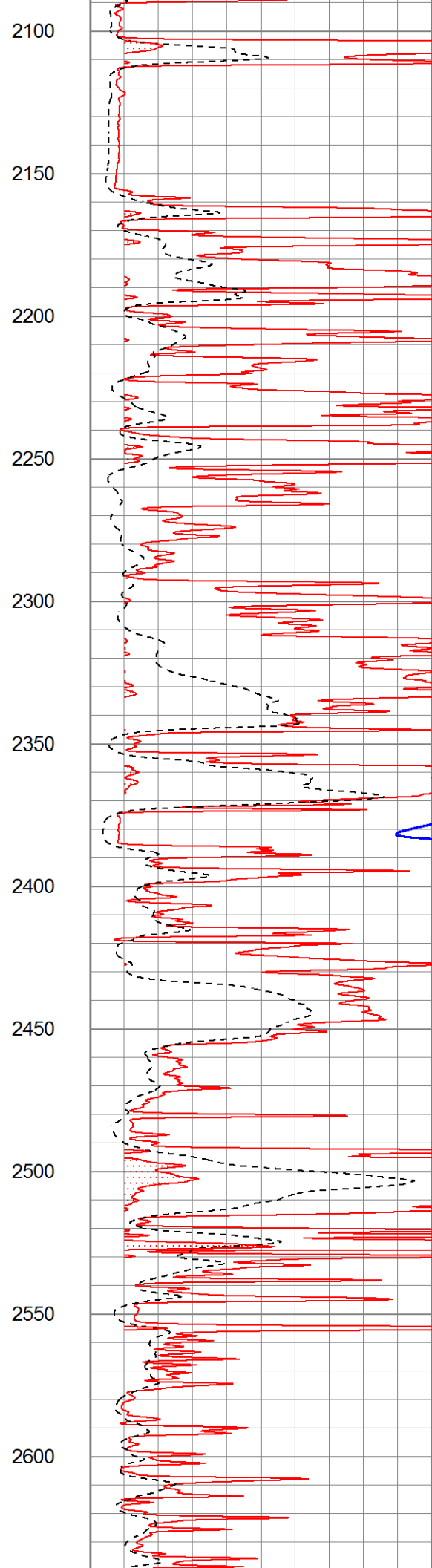
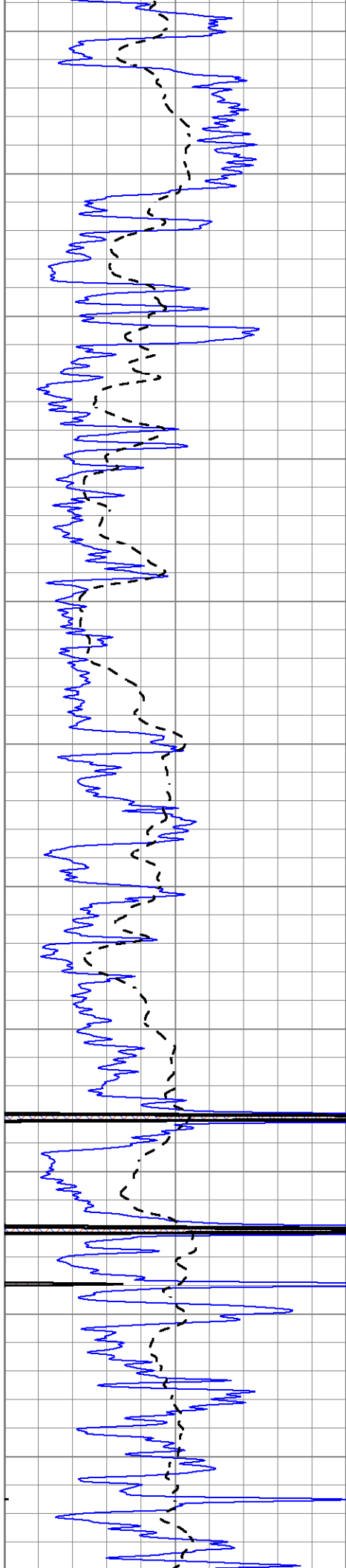
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

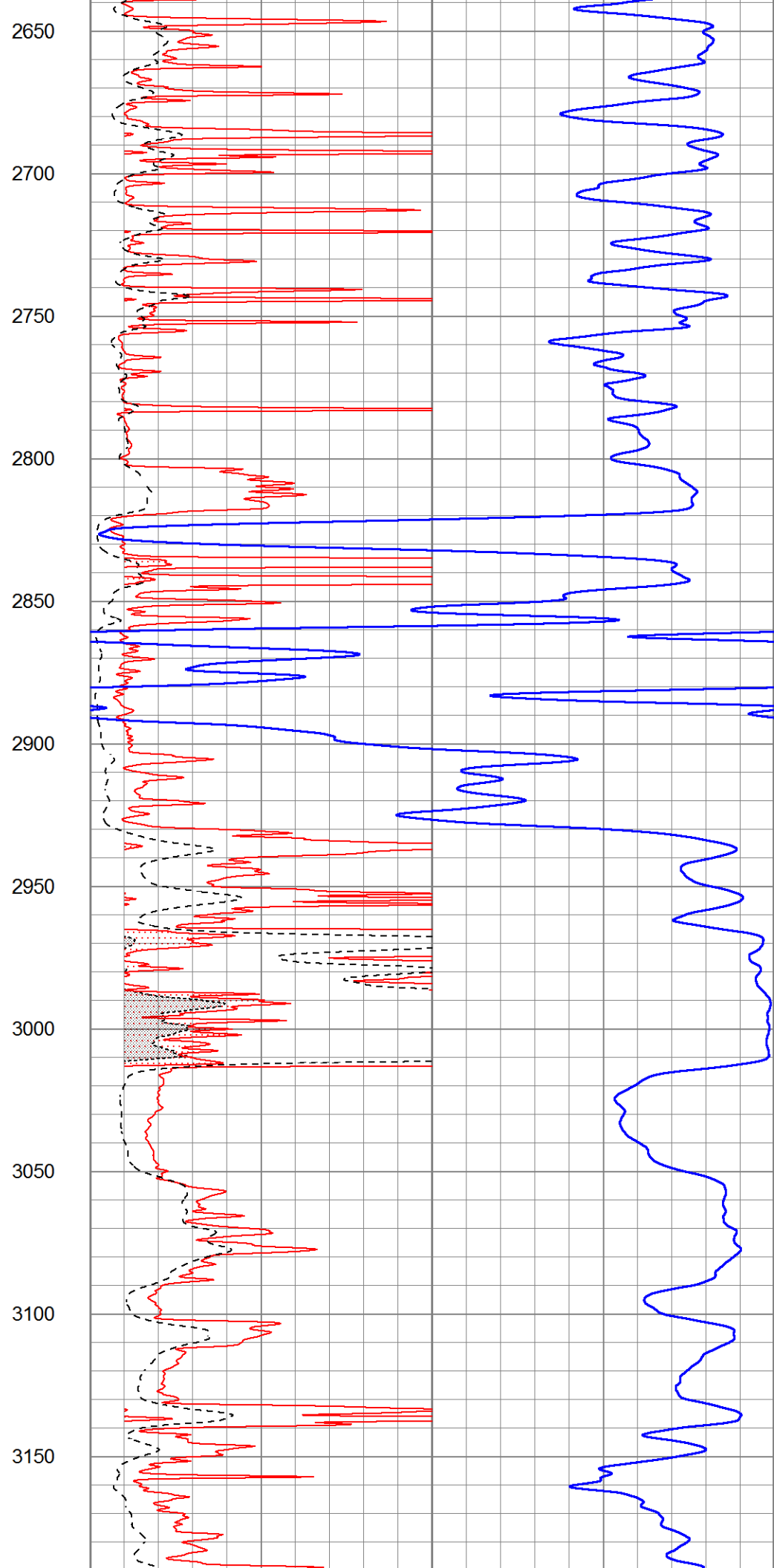
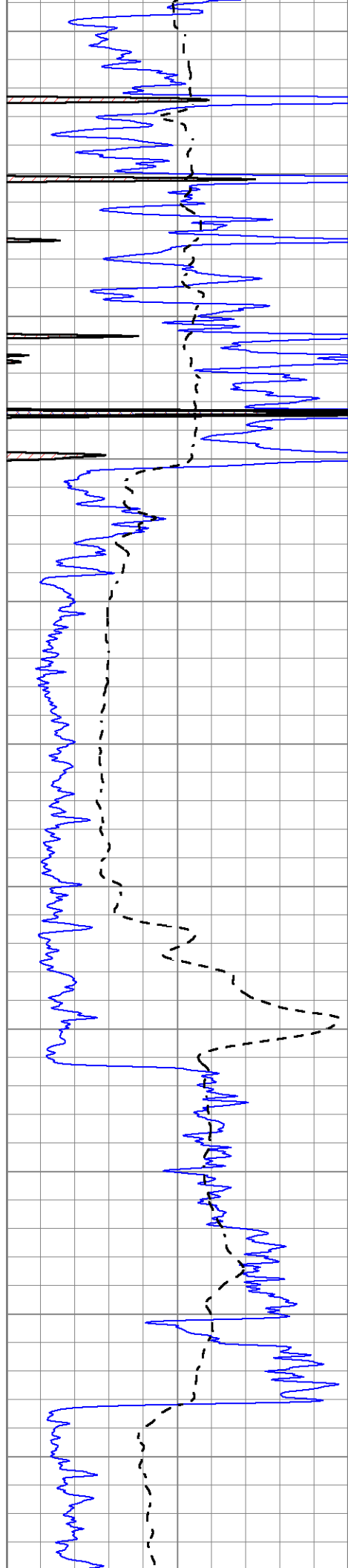


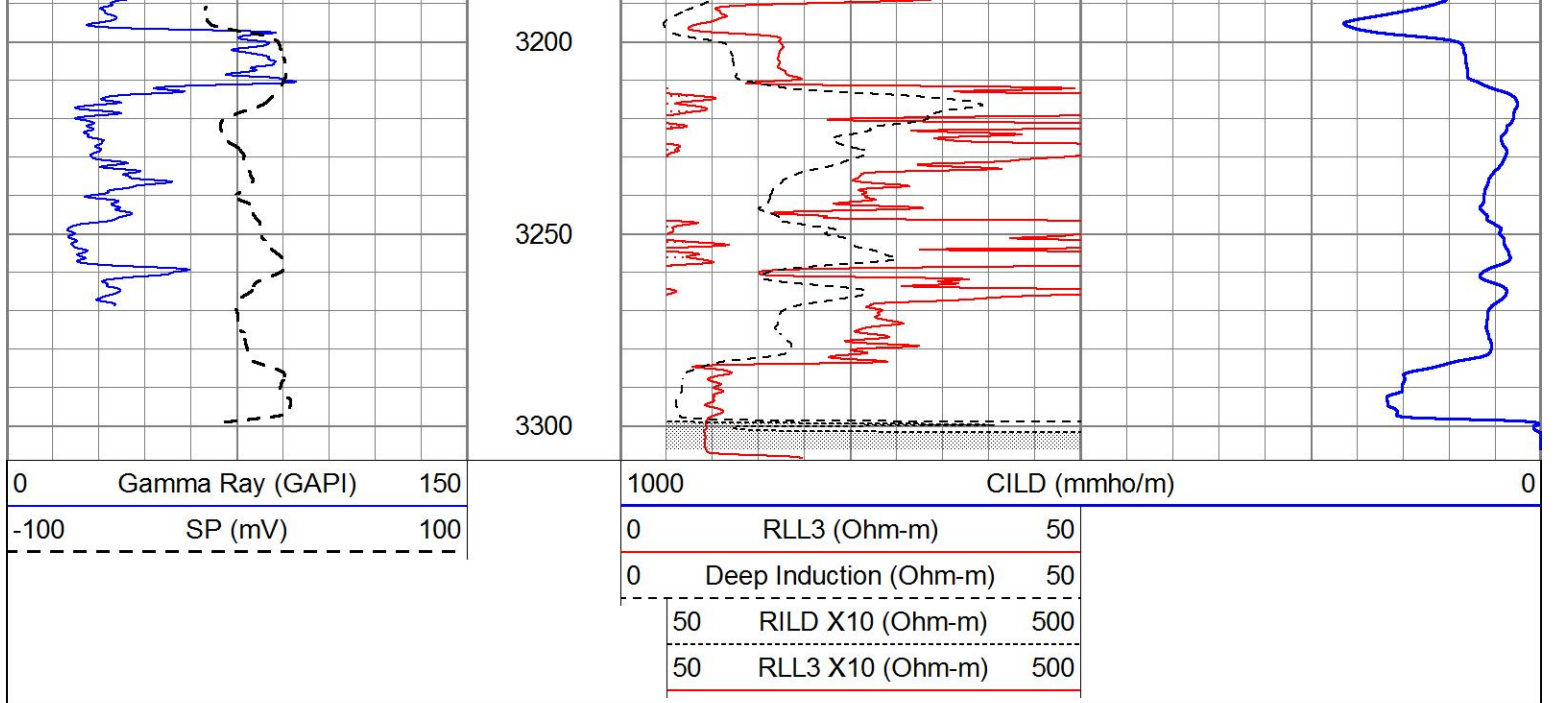








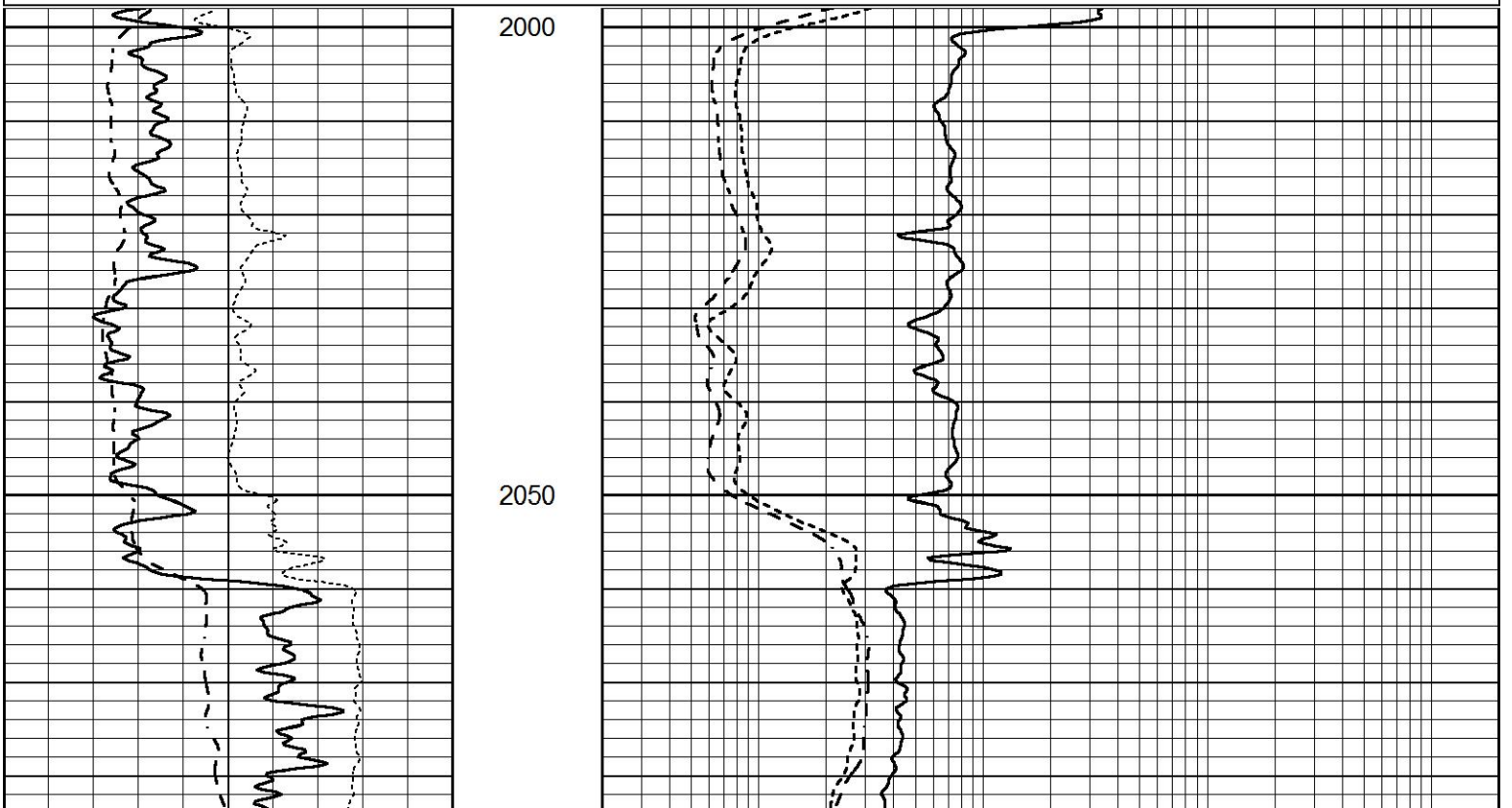


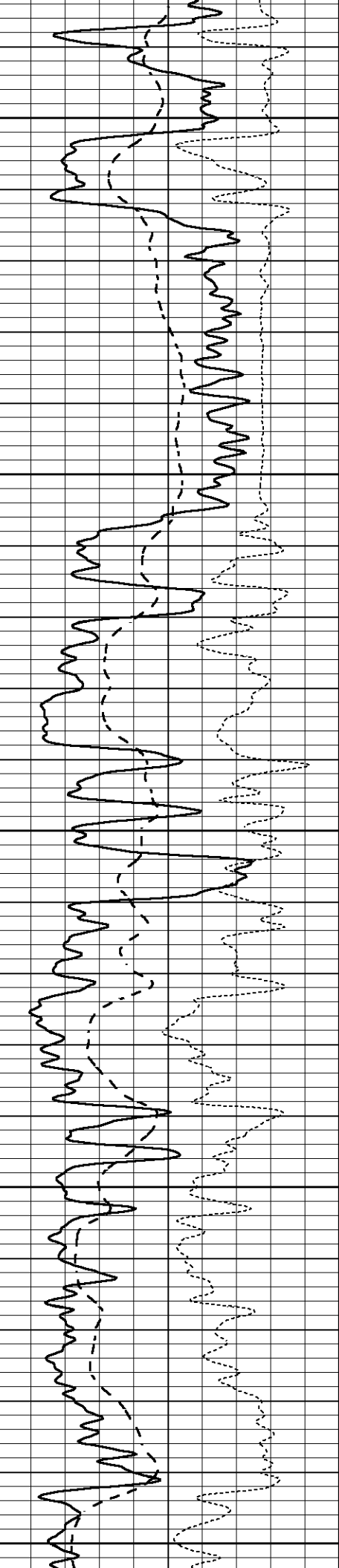


MAIN SECTION

Database File 4428pe.db
 Dataset Pathname pass3.1
 Presentation Format _dil
 Dataset Creation Wed Oct 30 09:32:39 2019
 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





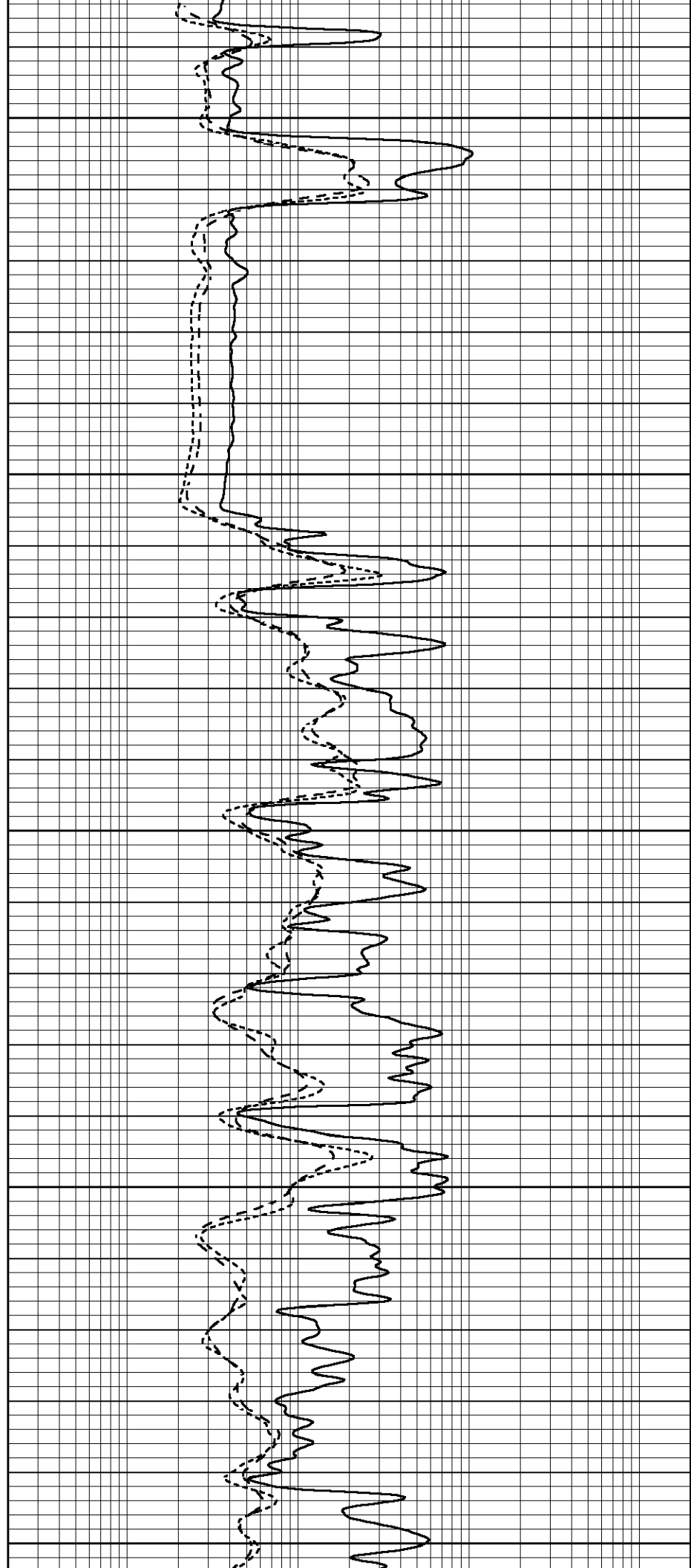
2100

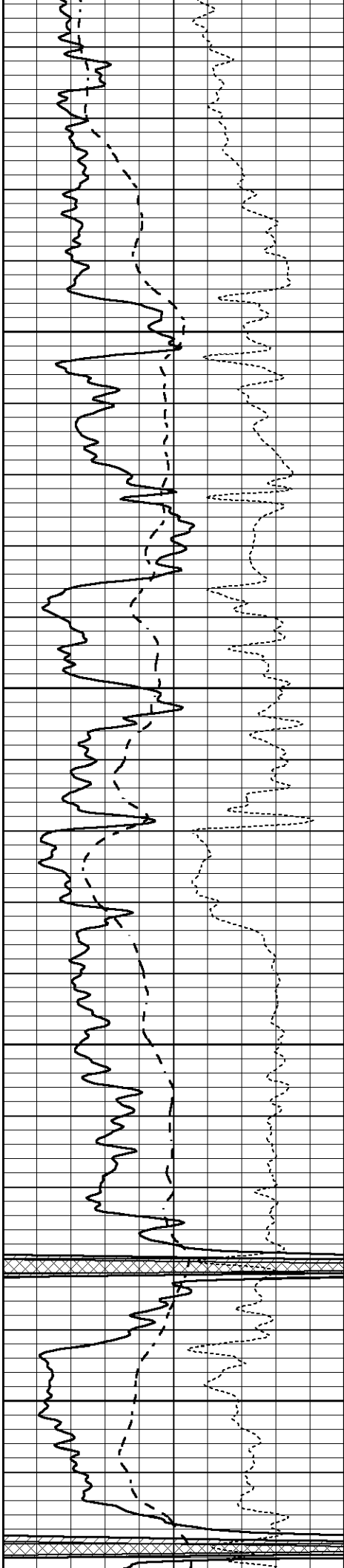
2150

2200

2250

2300



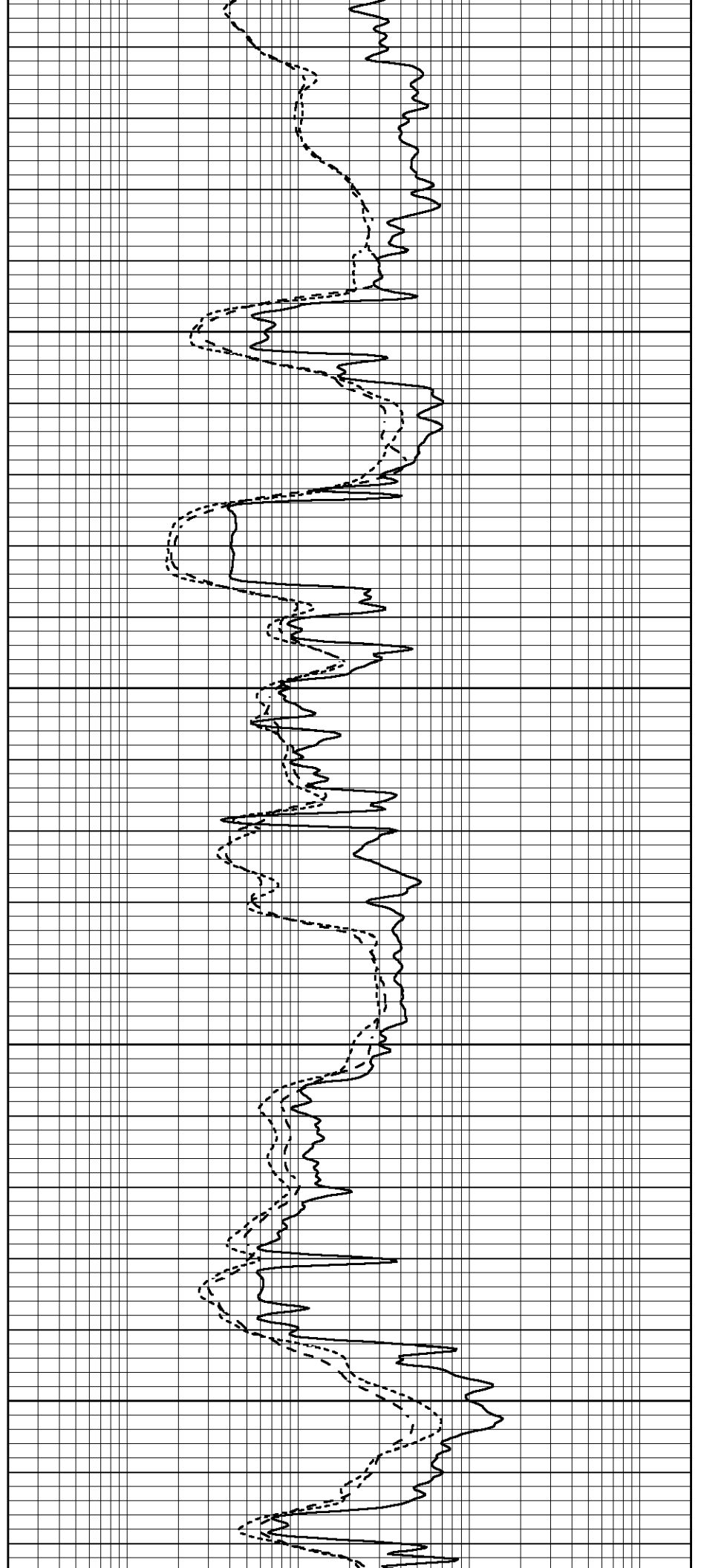


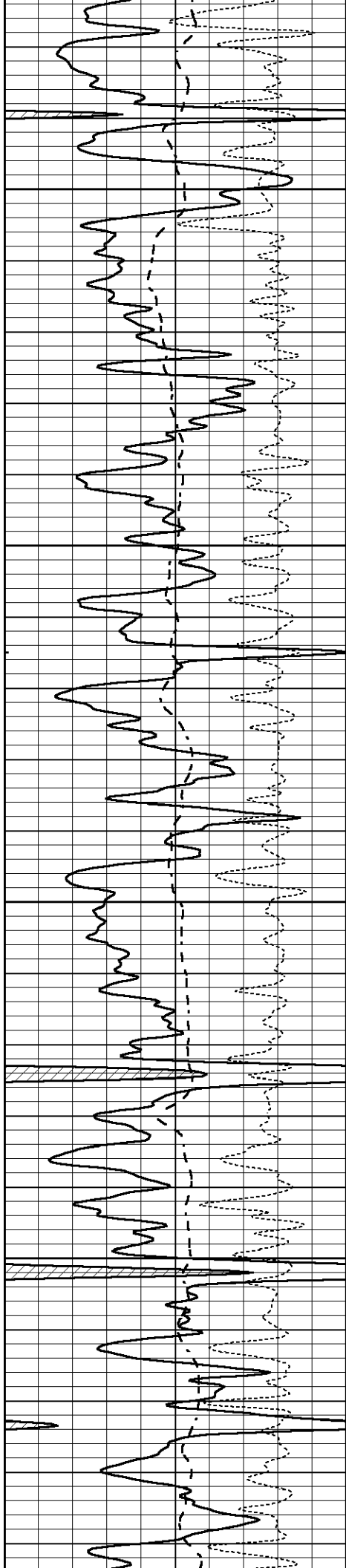
2350

2400

2450

2500



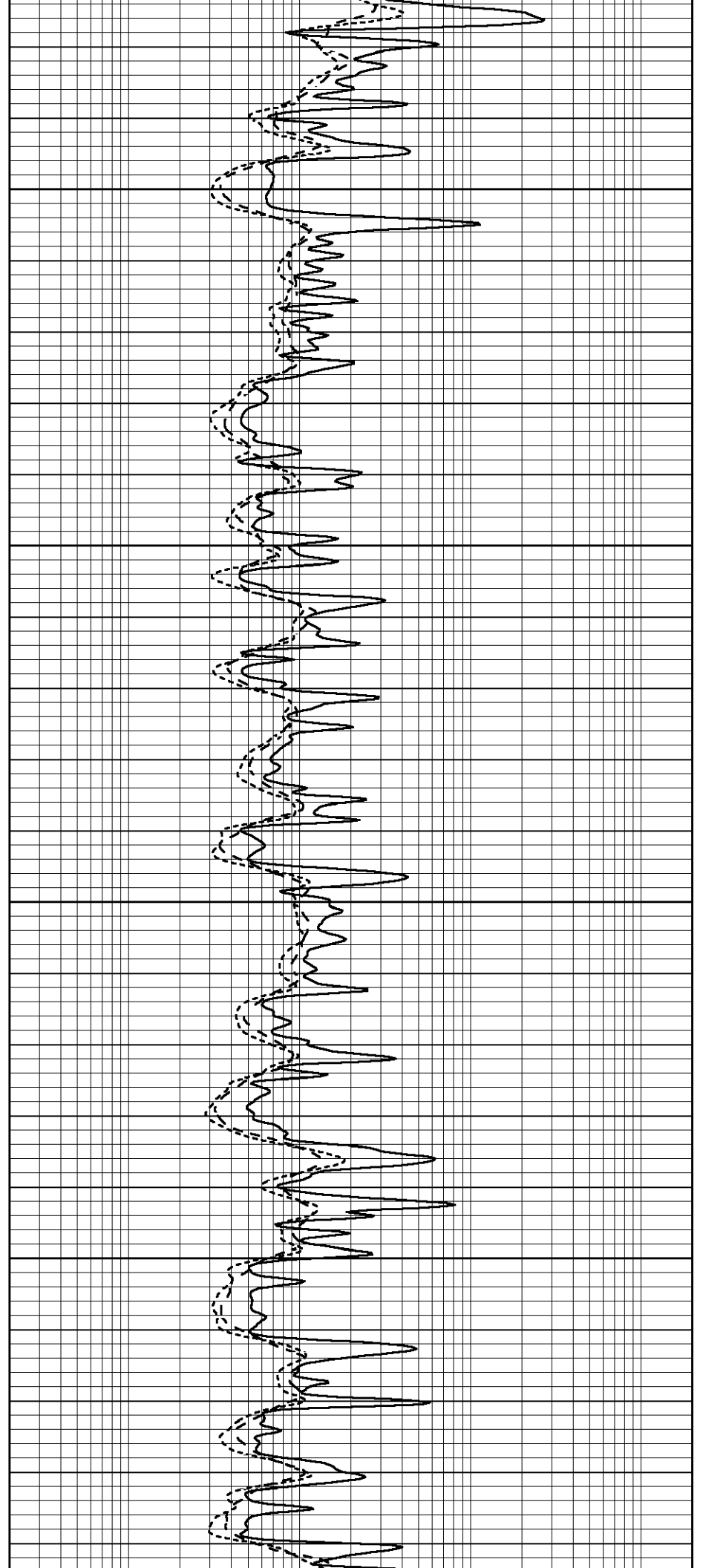


2550

2600

2650

2700





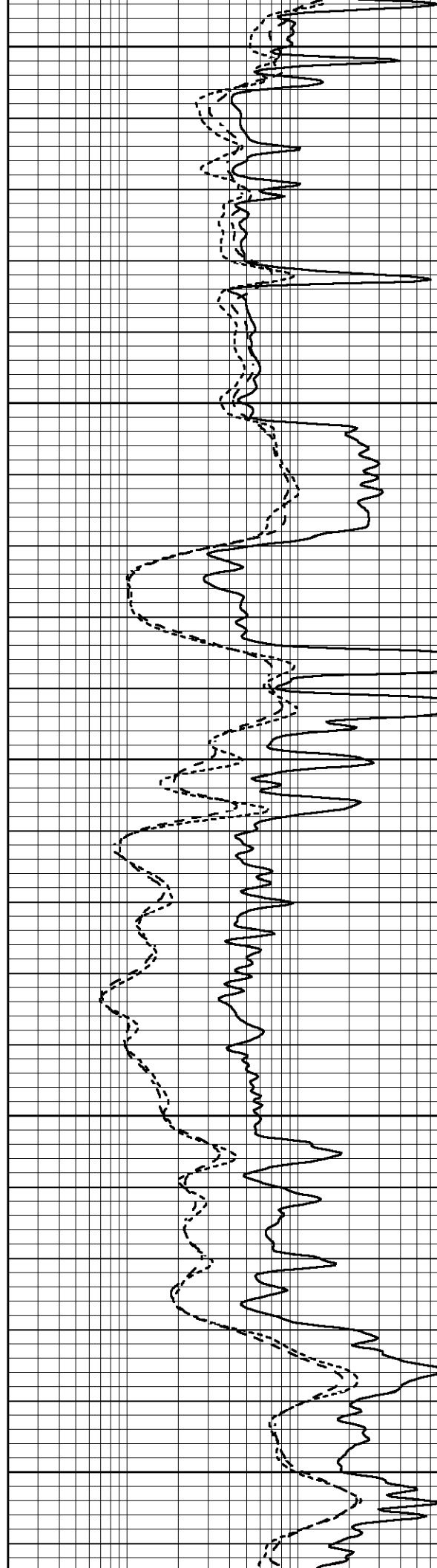
2750

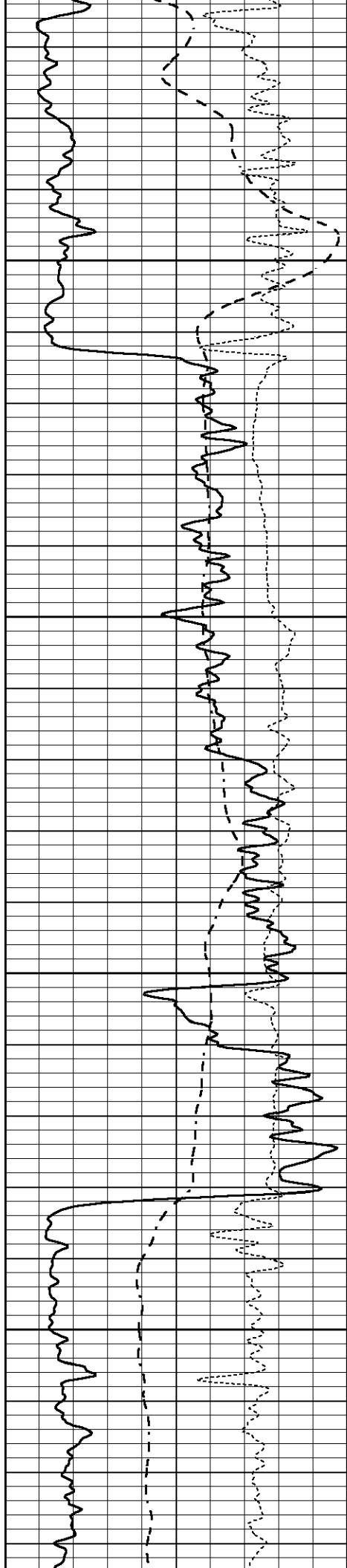
2800

2850

2900

2950



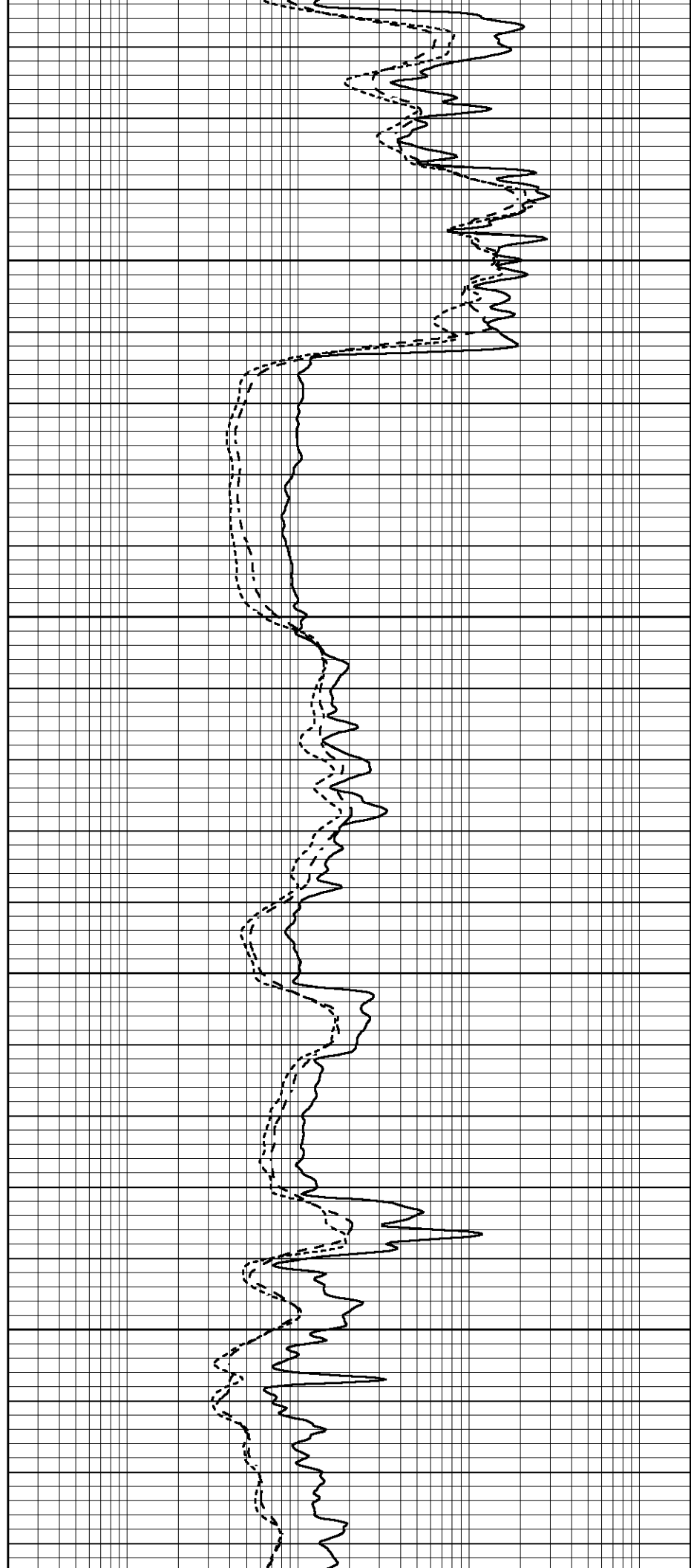


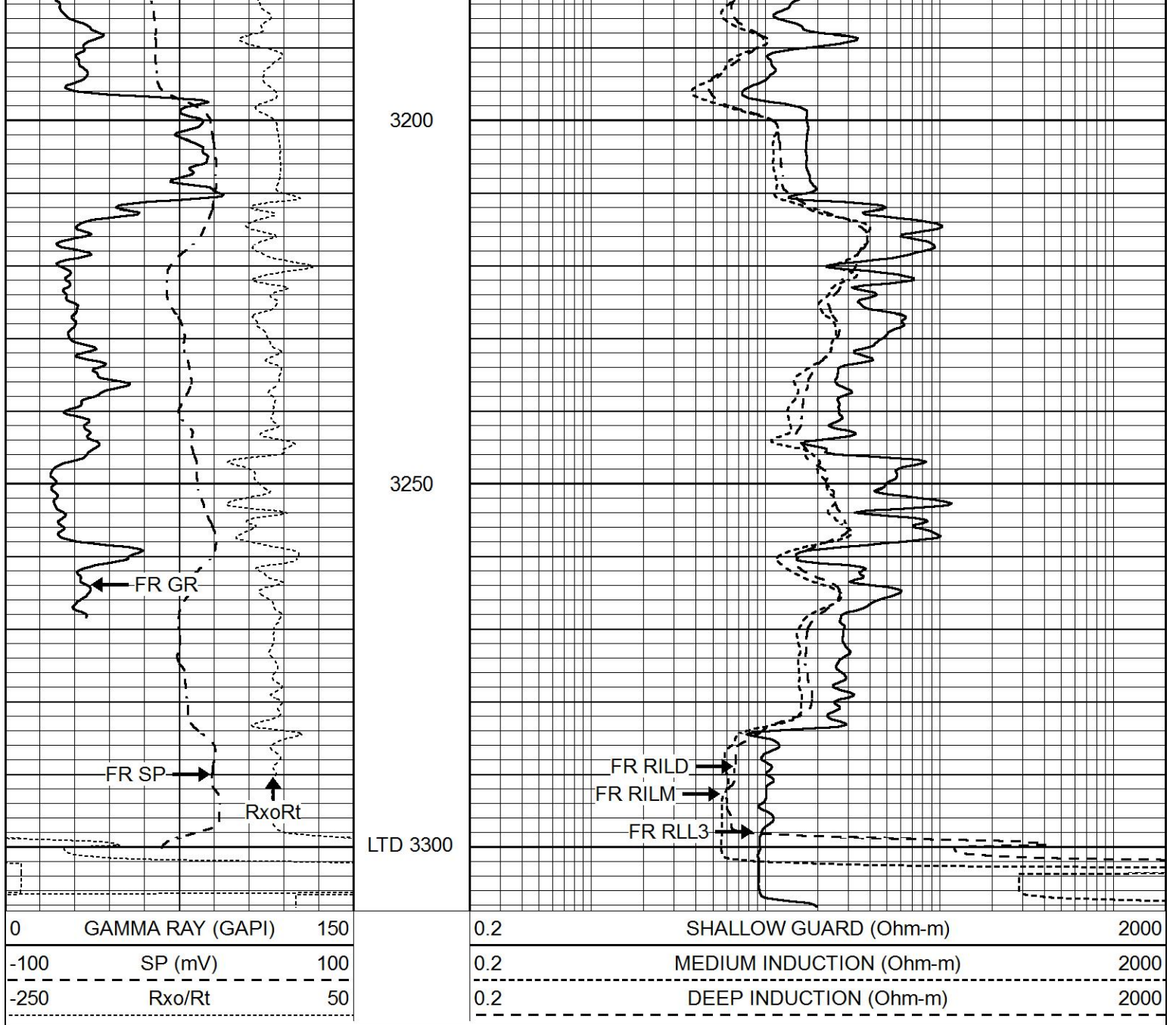
3000

3050

3100

3150

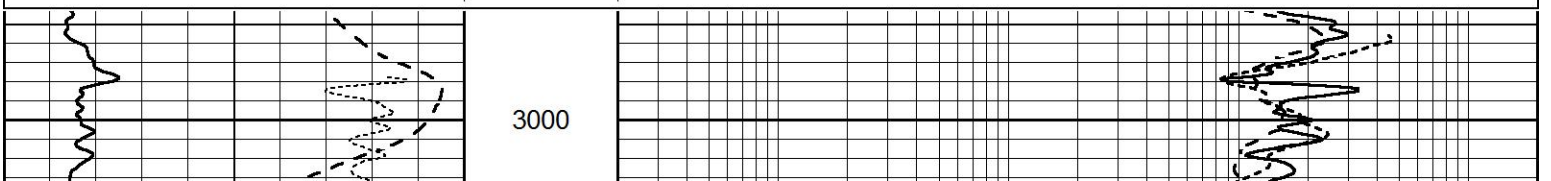


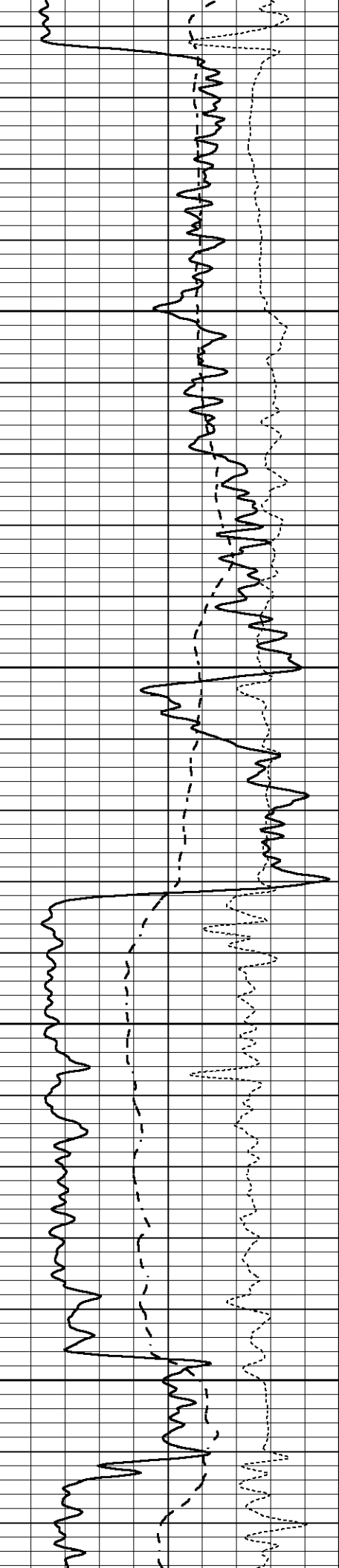


REPEAT SECTION

Database File 4428pe.db
 Dataset Pathname pass2.1
 Presentation Format _dil
 Dataset Creation Wed Oct 30 09:15:49 2019
 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



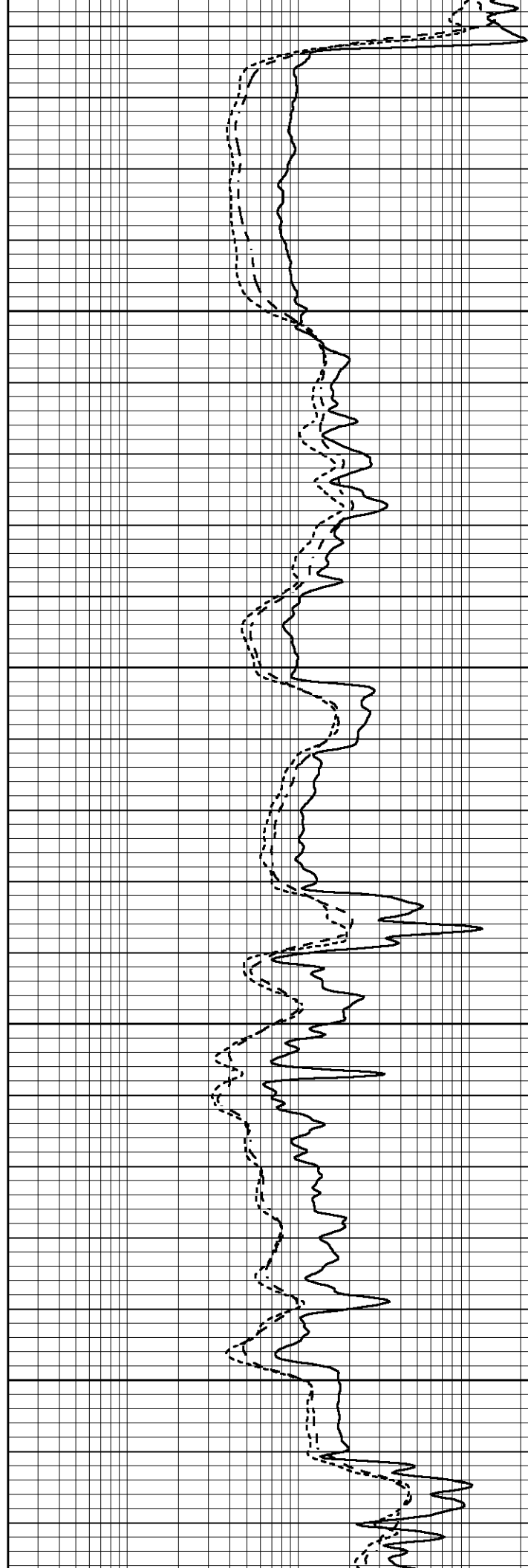


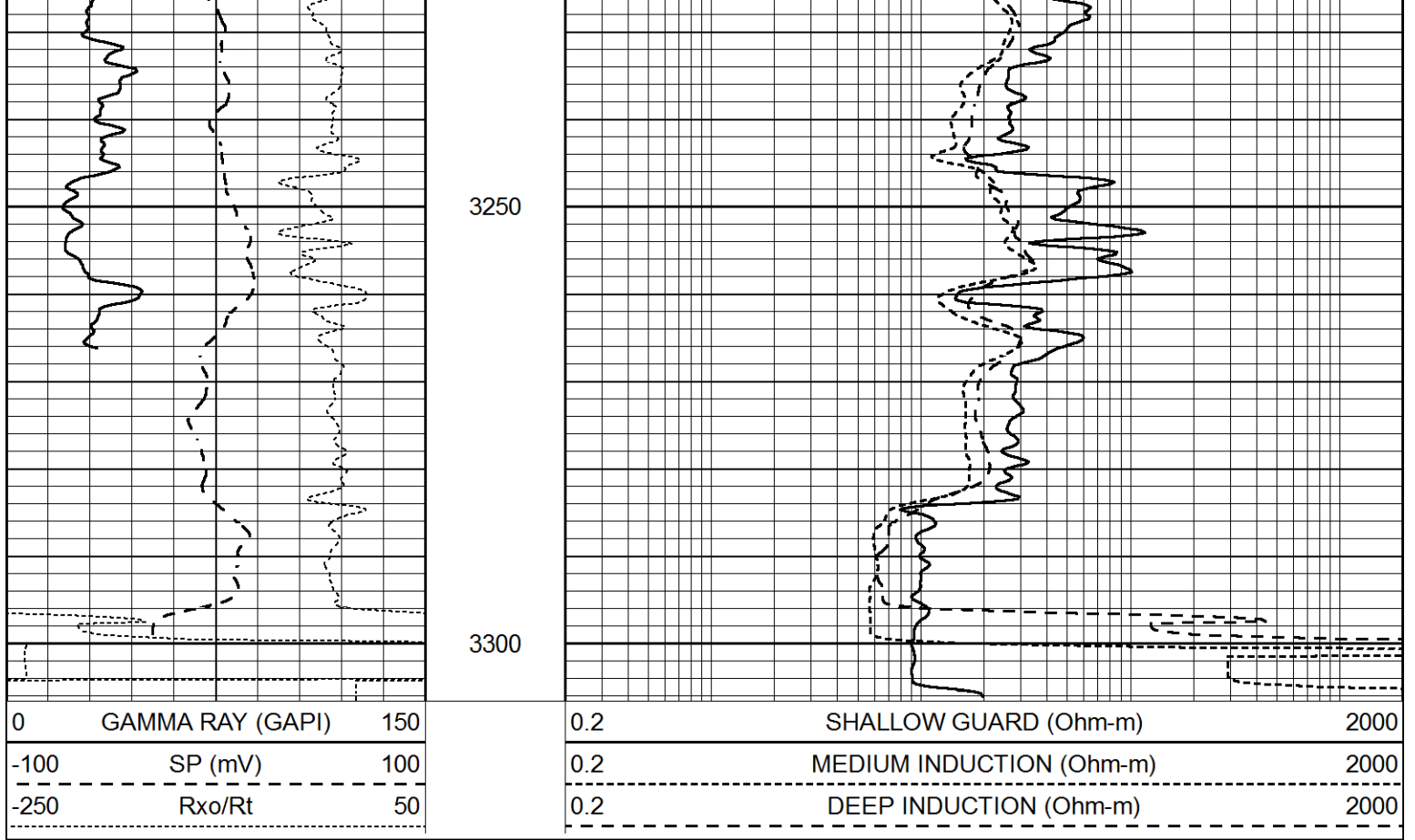
3050

3100

3150

3200





Calibration Report

Database File 4428pe.db
 Dataset Pathname pass2.1
 Dataset Creation Wed Oct 30 09:15:49 2019

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Tue Feb 19 11:44:18 2019
 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			V	References			Results	
	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			V	Cal			m	
Deep	0.007	0.649			V	0.000	400.000	mmho/m	623.784
Medium	0.004	0.743		V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings			mmho/m	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

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:
LS Beta:	: 127931.7253	SS Beta:	: 20075.8142	SS CPE:
				: 1.1004
				: 1.5209

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: Fri Jan 18 10:53:52 2019

Results	Readings	References (in)		Gain	Offset
Low	High	Low	High		
3586.3	5529.9	8.0	16.0	0.0	-6.8

Before Survey Caliper Verification

Performed:

Reference	Reading
_____	_____

Caliper (in)

After Survey Caliper Verification

Performed:

Reference

Reading

Caliper (in)

Compensated Neutron Calibration Report

Serial Number:
Tool Model:

080621PMC
NABORS

PRE-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space

cps

pu

pu

Long Space

cps

POST-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space

cps

pu

pu

Long Space

cps

Gamma Ray Calibration Report

Serial Number:

7

Tool Model:

Probe1

Performed:

Tue Feb 19 11:45:10 2019

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.4300

GAPI/cps