



DUAL INDUCTION LOG

Company DOWNING NELSON OIL COMPANY, INC.

Well DOERR #5-34

Field

County ELLIS

State KANSAS

Location: API # : 15-051-26979-0000

1790' FSL & 2289' FWL

SEC 34 TWP 15S RGE 19W3

Permanent Datum GROUND LEVEL Elevation 2043
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
MEL

Elevation

K.B. 2051
D.F. 2049
G.L. 2043

Date 12/8/19

Run Number ONE

Depth Driller 3639

Depth Logger 3640

Bottom Logged Interval 3638

Top Log Interval 00

Casing Driller 8 5/8" @ 1260'

Casing Logger 1260'

Bit Size 7 7/8

Type Fluid in Hole CHEMICAL MUD CHLORIDES 8000 PPM

Density / Viscosity 9.1/47

pH / Fluid Loss 9.5/8.8

Source of Sample FLOWLINE

Rm @ Meas. Temp .75 @ 60F

Rmf @ Meas. Temp .56 @ 60F

Rmc @ Meas. Temp .90 @ 60F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .40 @ 112F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 1111

Maximum Recorded Temperature 112F

Equipment Number 3802

Location HAYS, KANSAS

Recorded By JASON CAPPELLUCCI

Witnessed By MARC DOWNING

<<< 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.

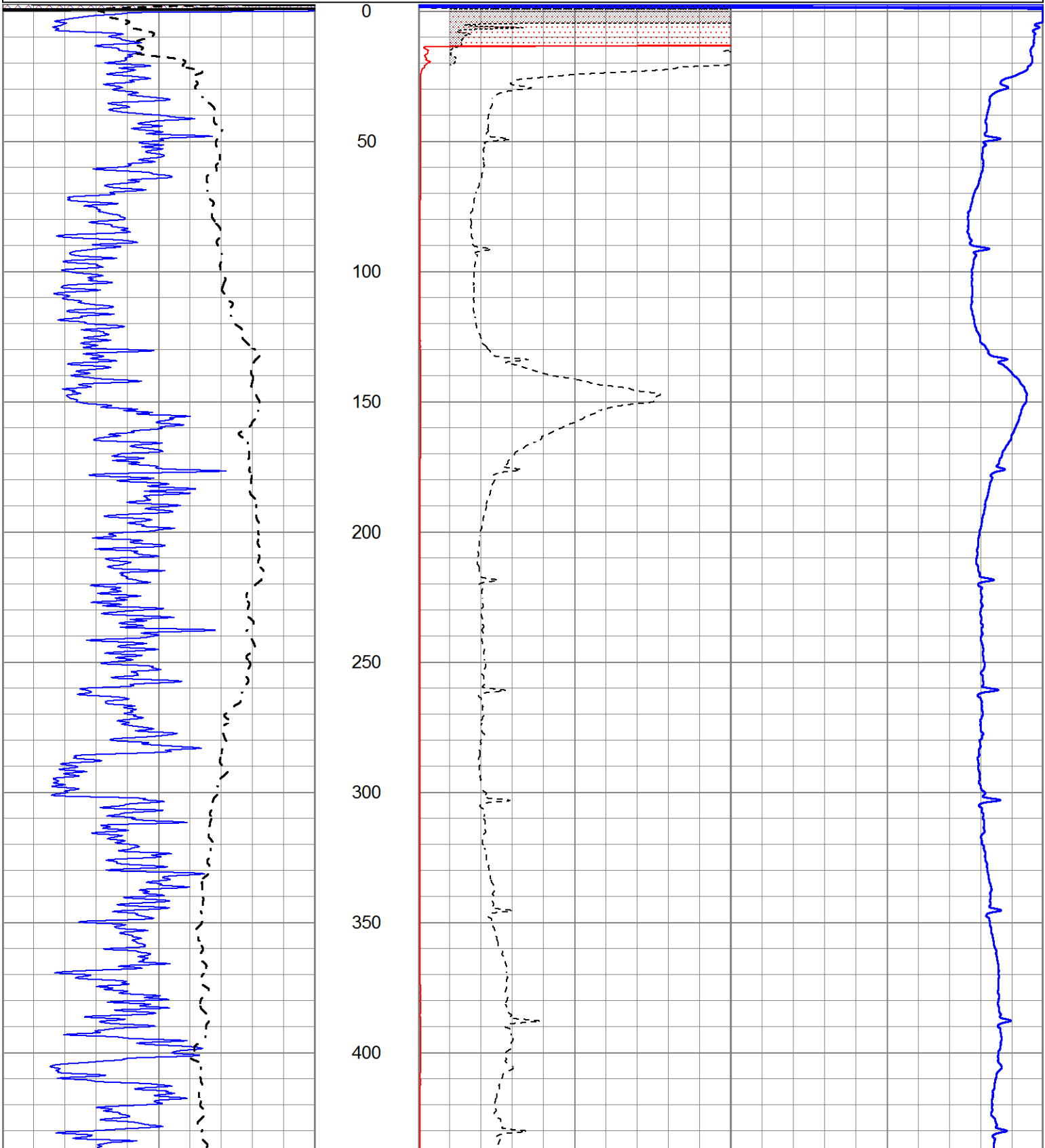
Comments

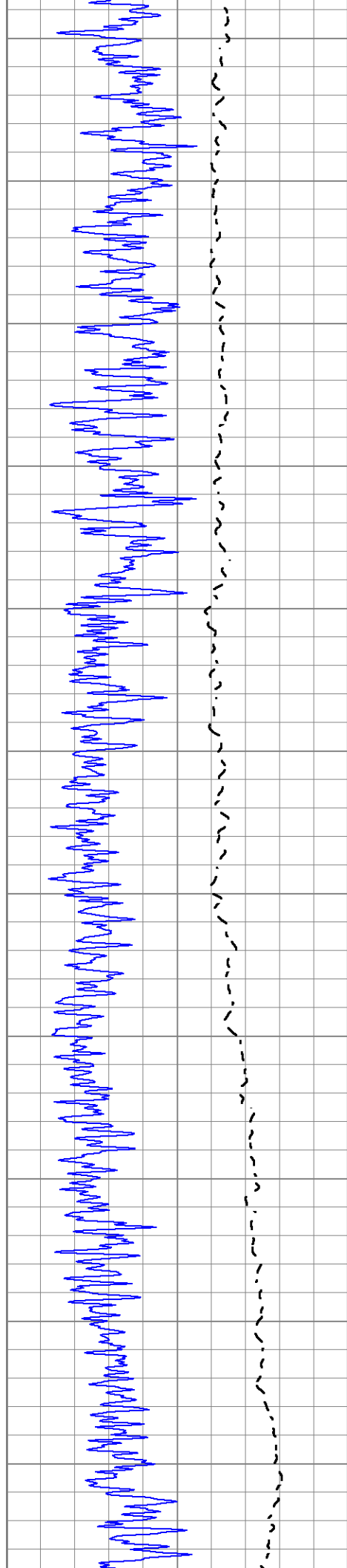
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
SCHOENCHEN, KS. - 5 WEST TO 200TH RD. - 1/2 SOUTH - WEST INTO



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





450

500

550

600

650

700

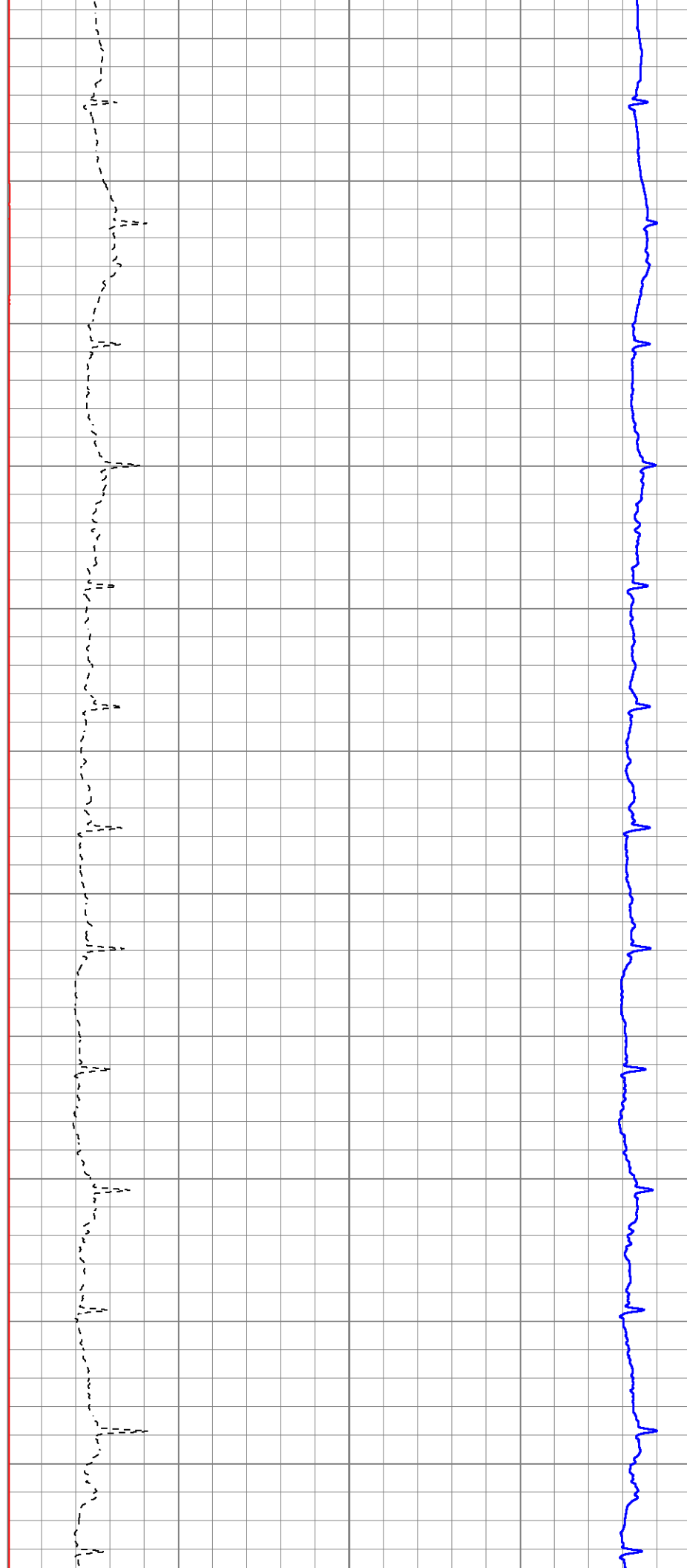
750

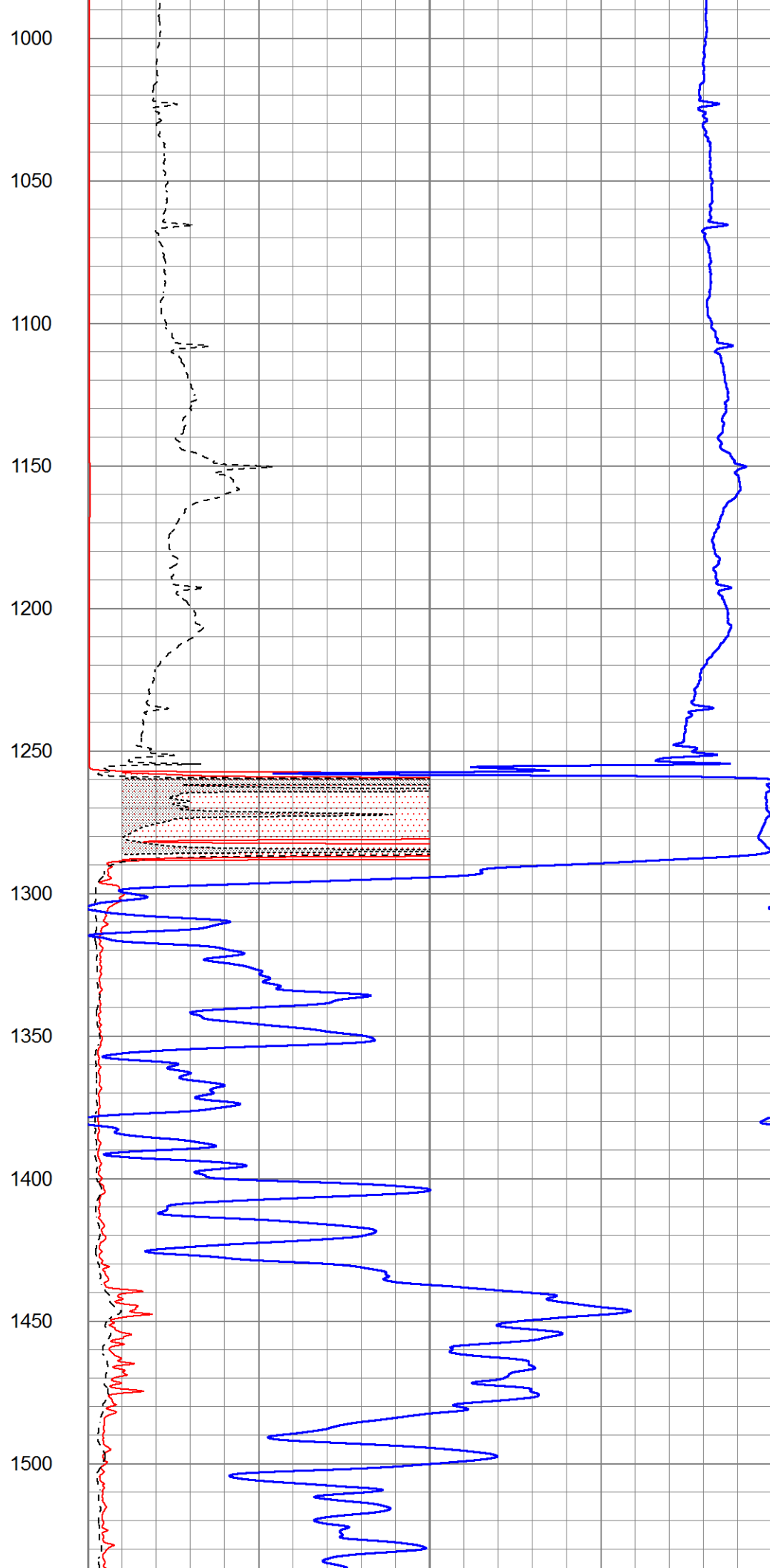
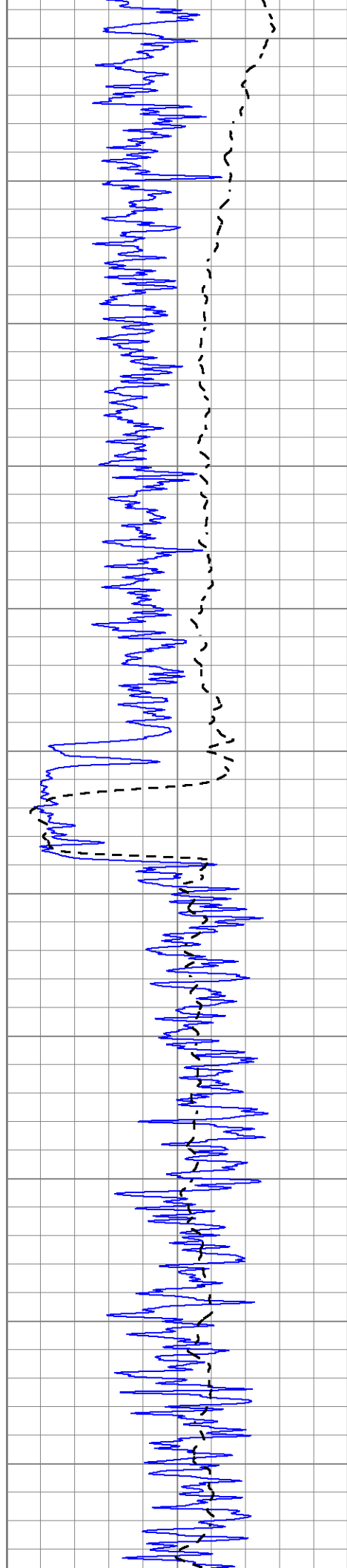
800

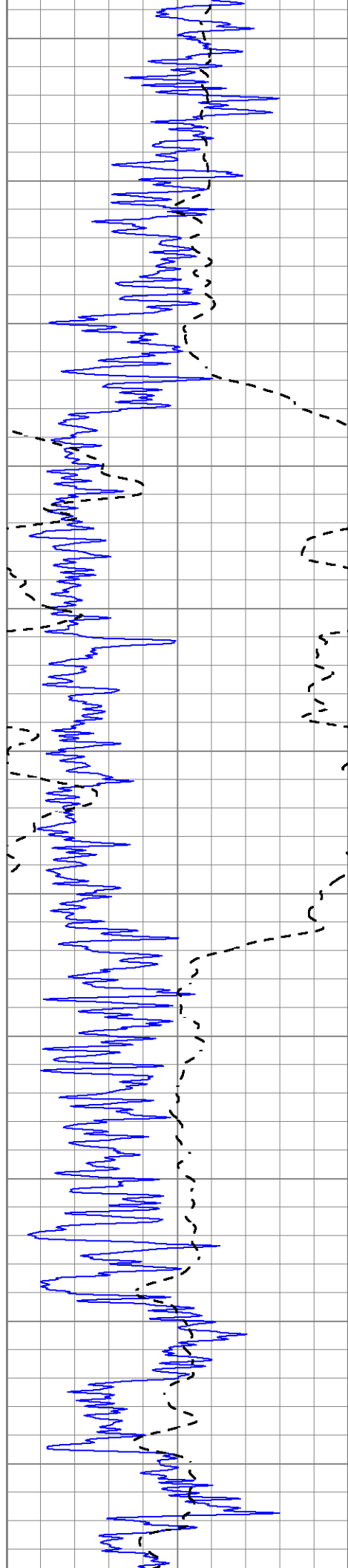
850

900

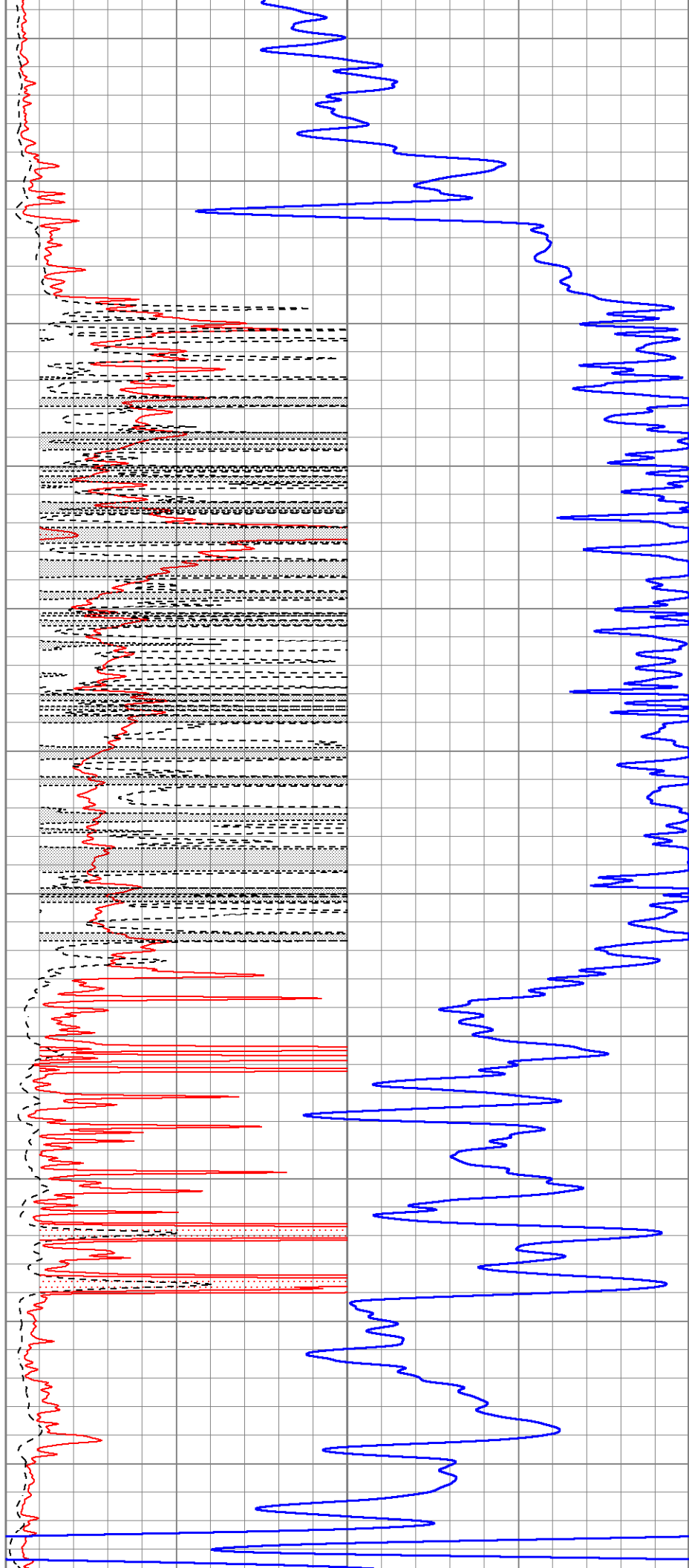
950

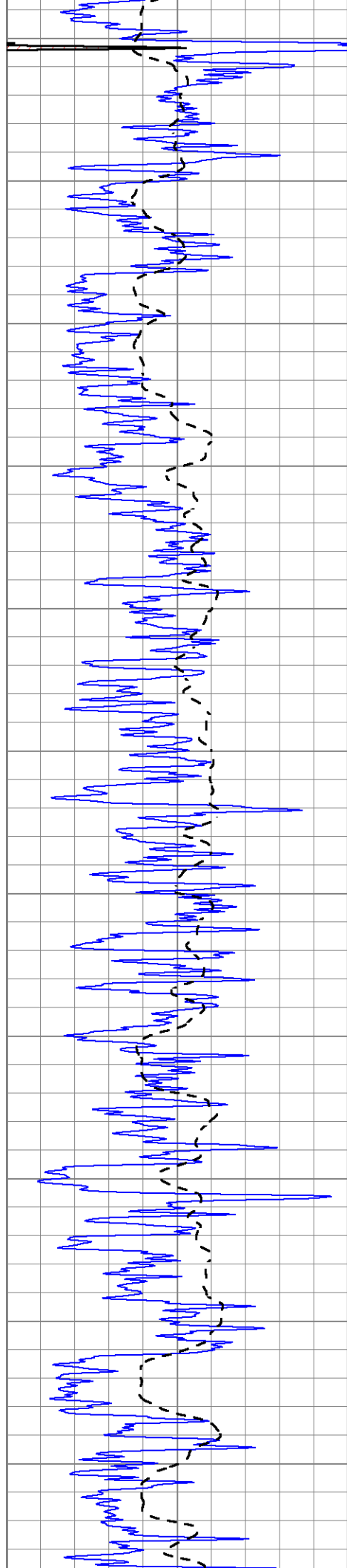






1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050





2100

2150

2200

2250

2300

2350

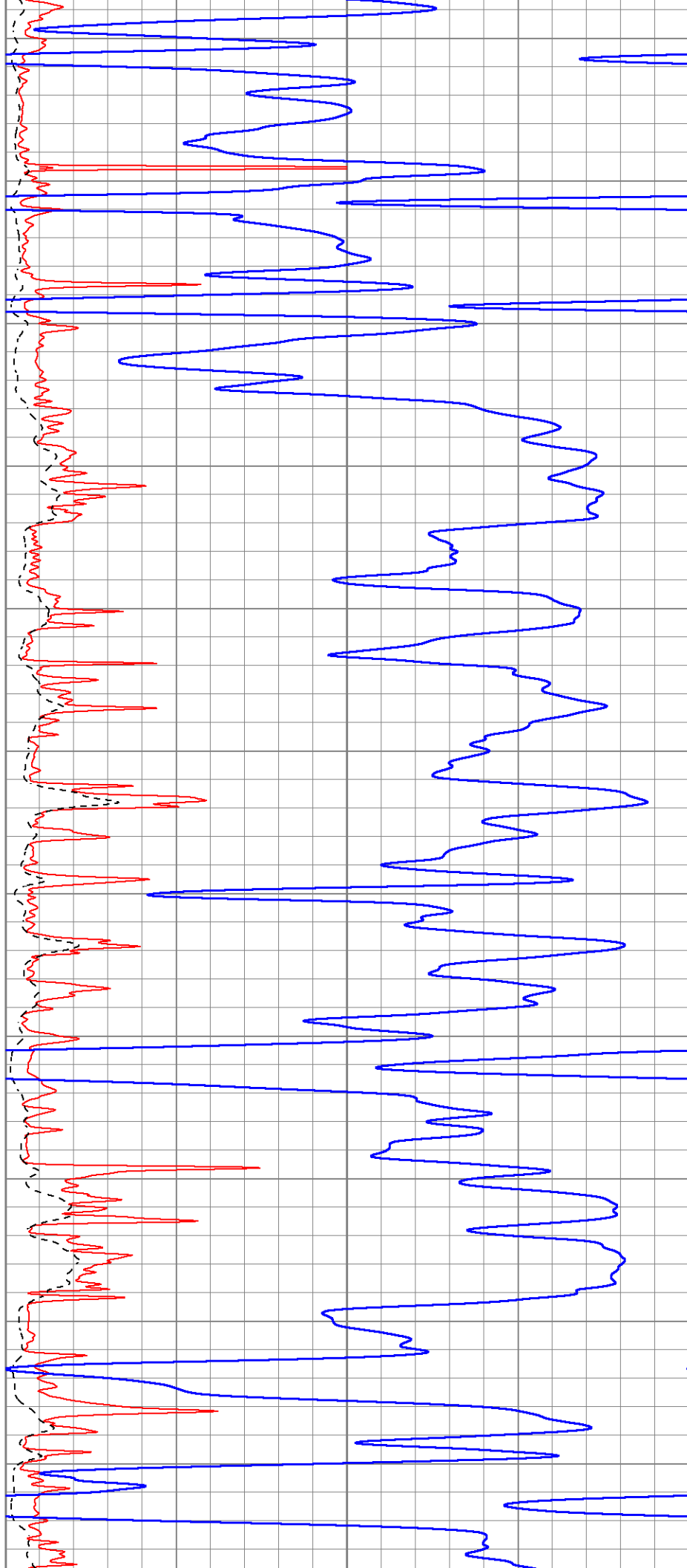
2400

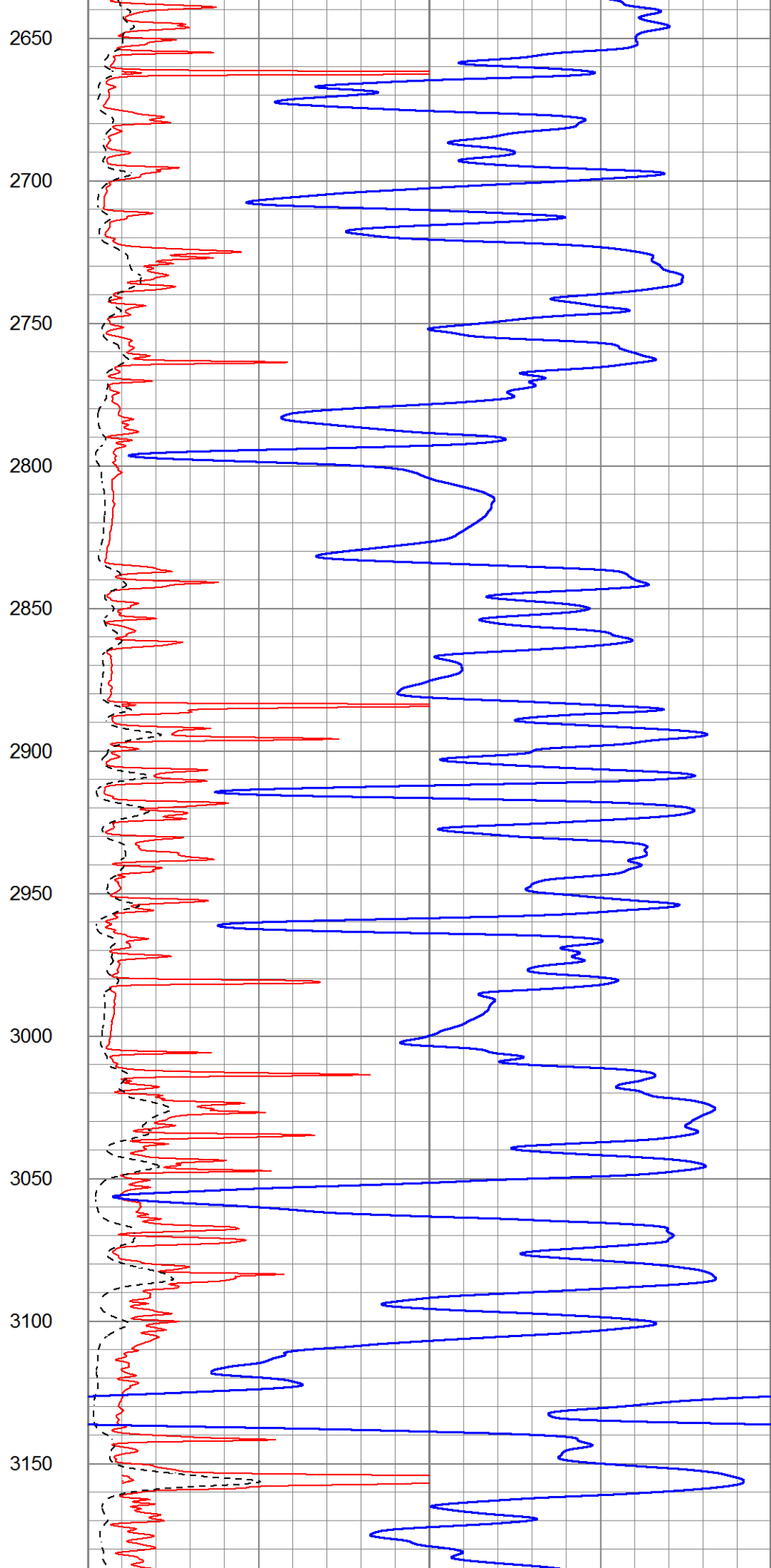
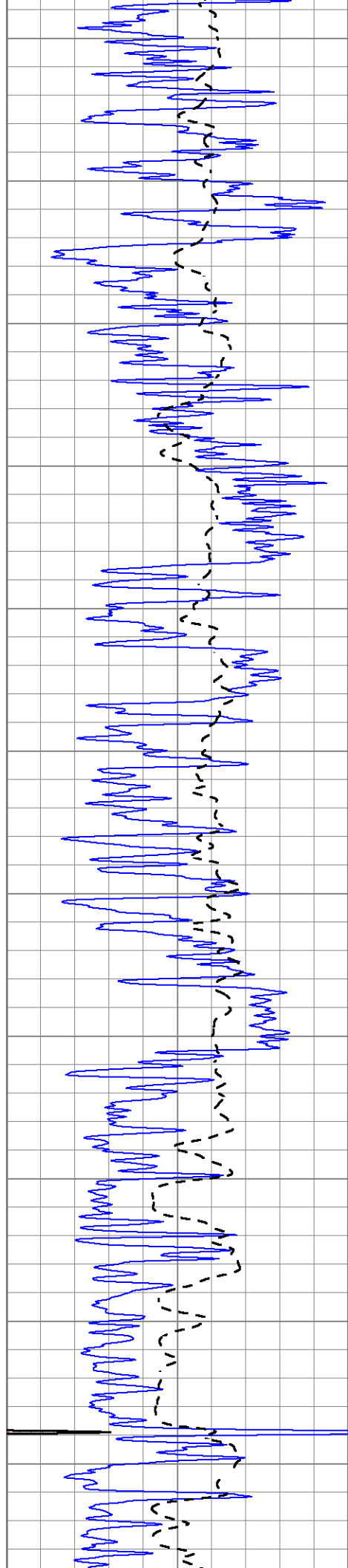
2450

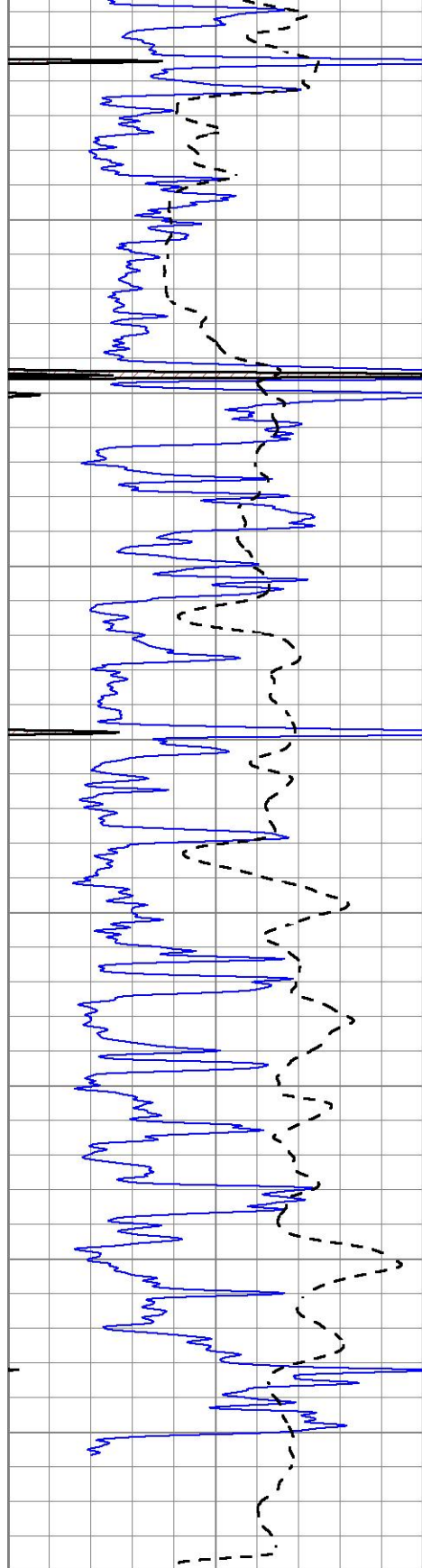
2500

2550

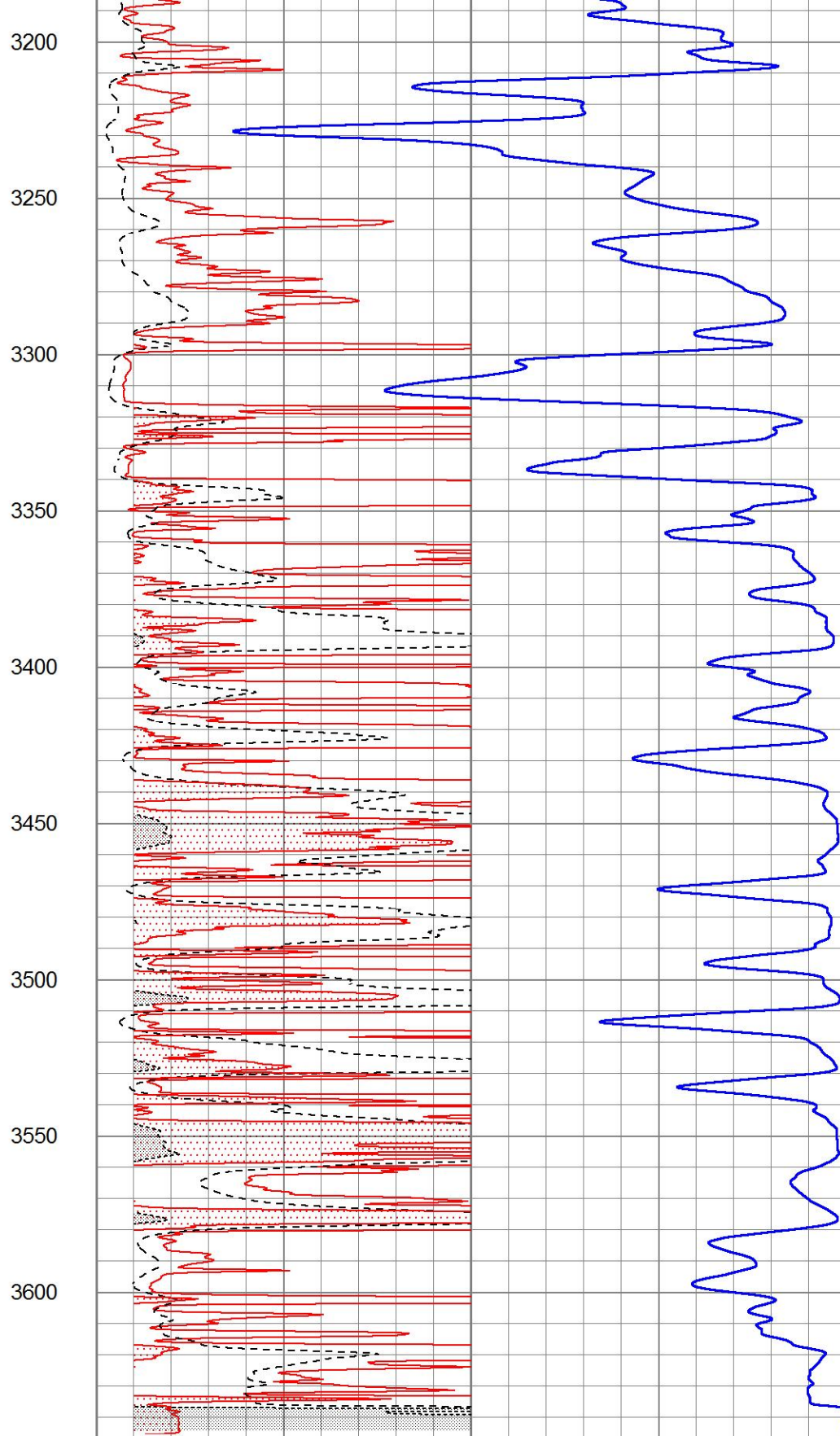
2600







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

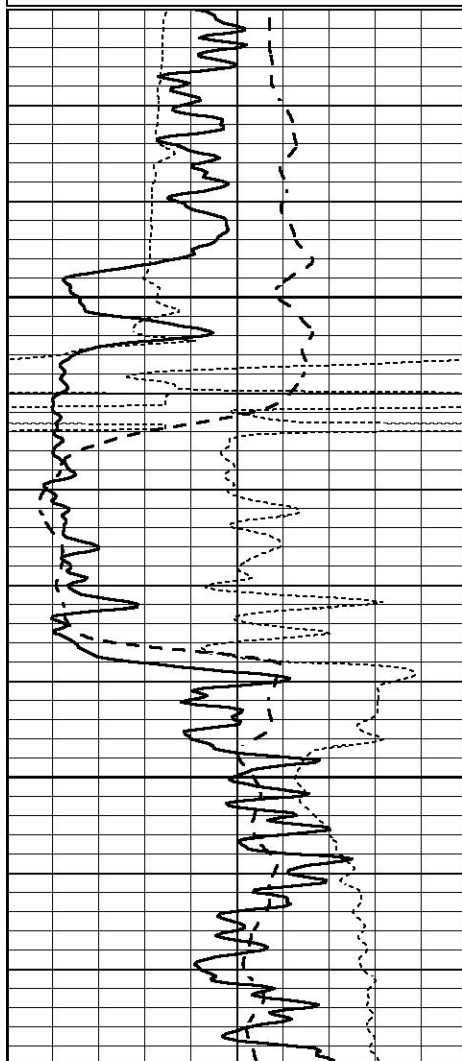




ANHYDRITE

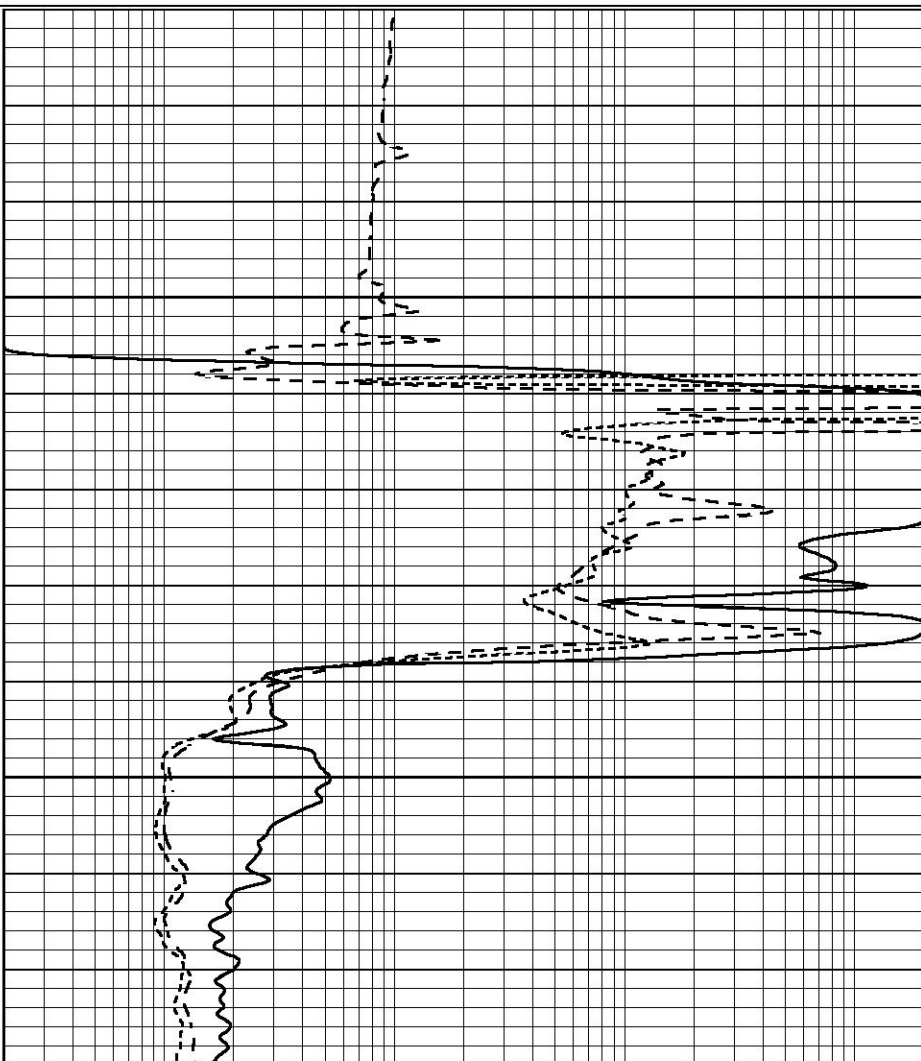
Database File 4439ddn.db
Dataset Pathname pass3.2
Presentation Format _dil
Dataset Creation Sun Dec 08 22:35:37 2019
Charted by Depth in Feet scaled 1:240

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



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



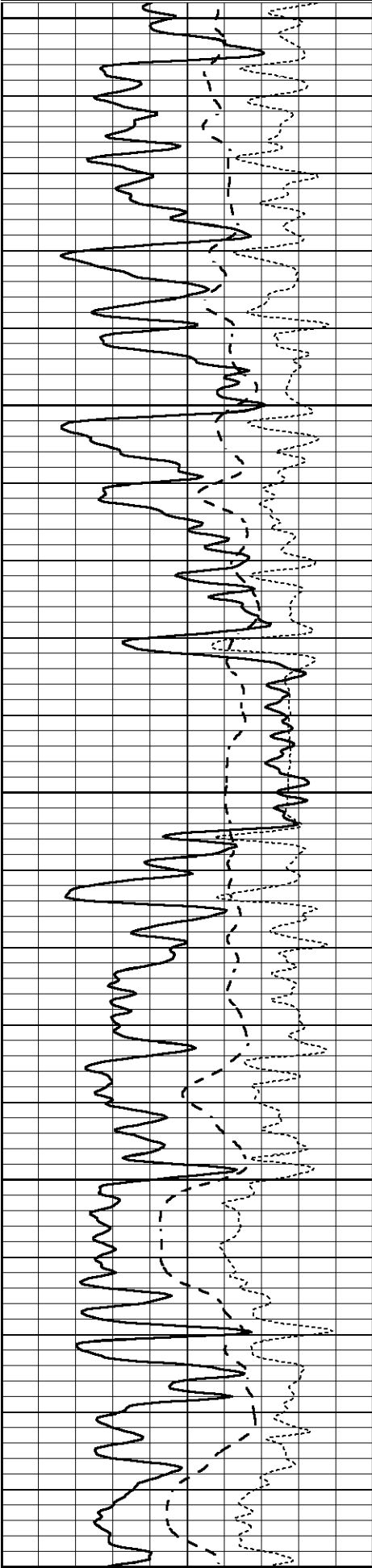
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



MAIN SECTION

Database File 4439ddn.db
Dataset Pathname pass3.1
Presentation Format _dil
Dataset Creation Sun Dec 08 22:23:45 2019
Charted by Depth in Feet scaled 1:240

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



2900

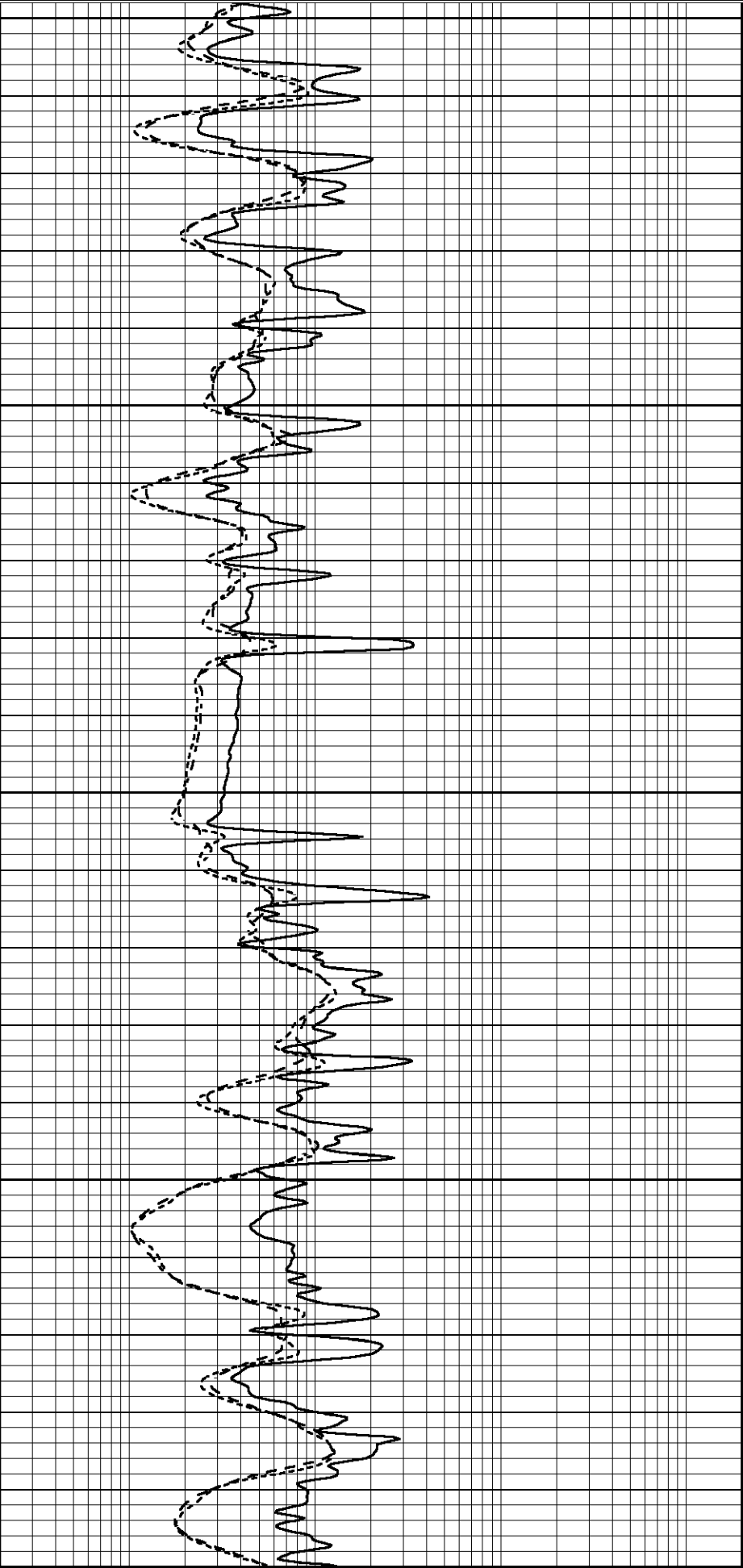
2950

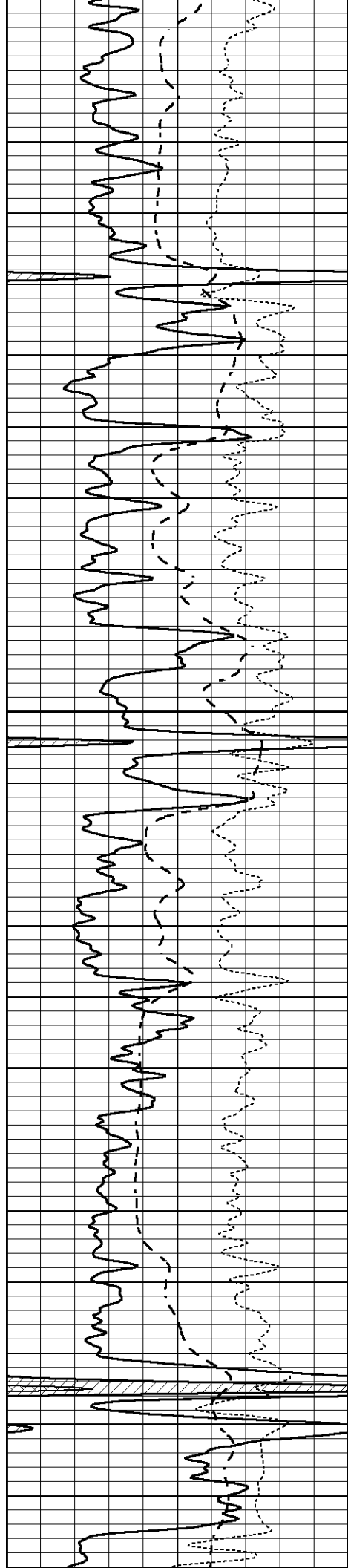
3000

3050

3100

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





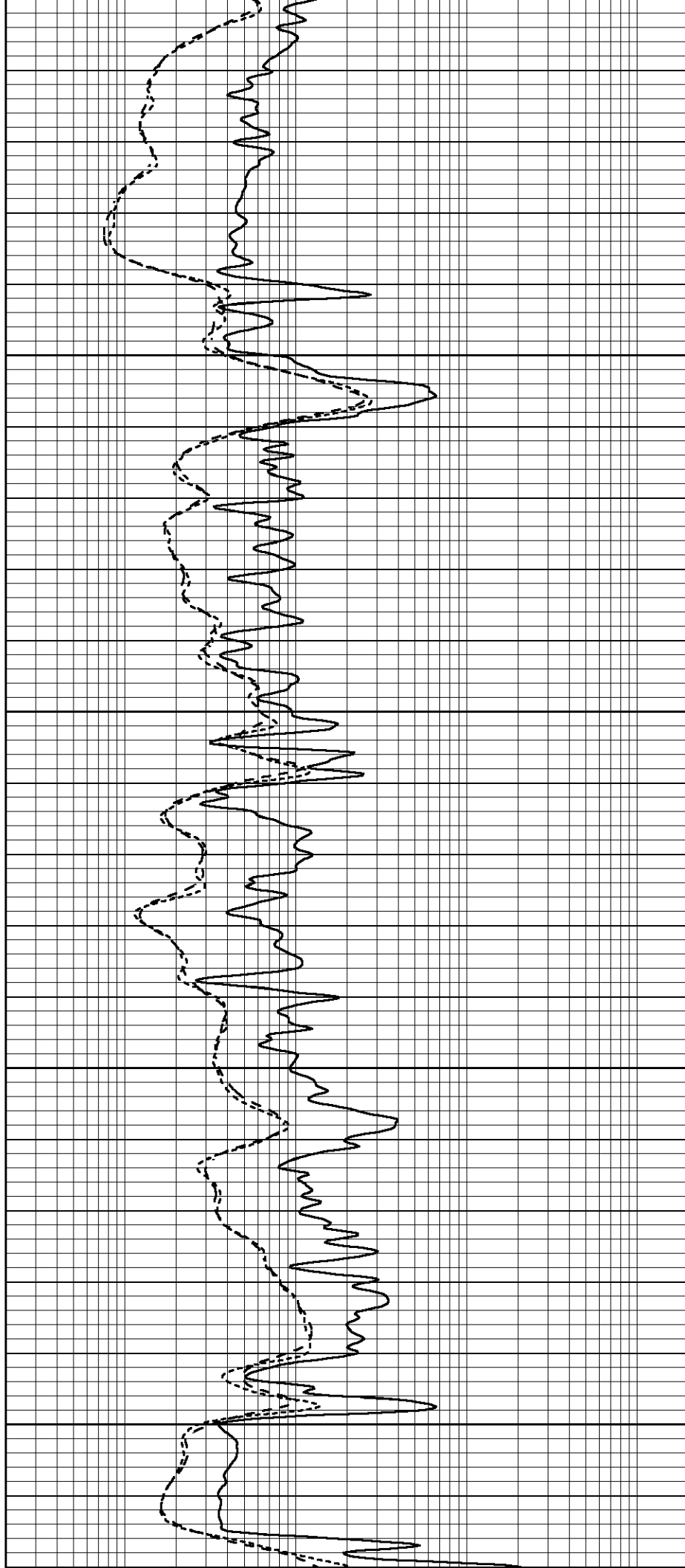
3100

3150

3200

3250

3300



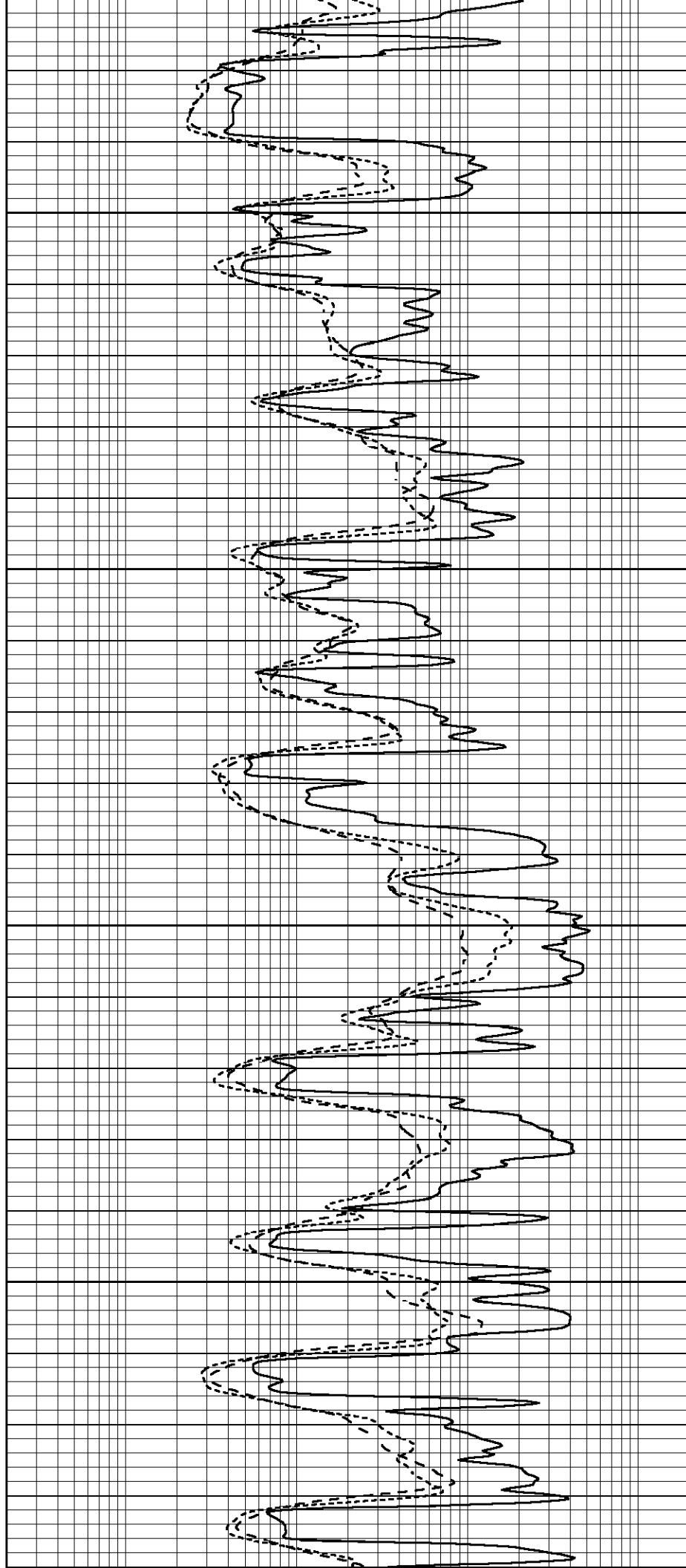


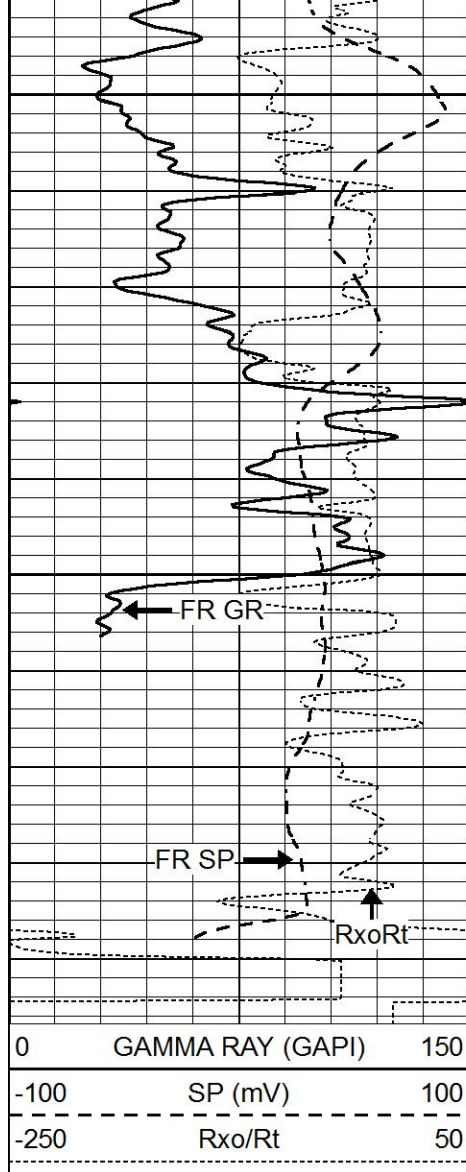
3350

3400

3450

3500

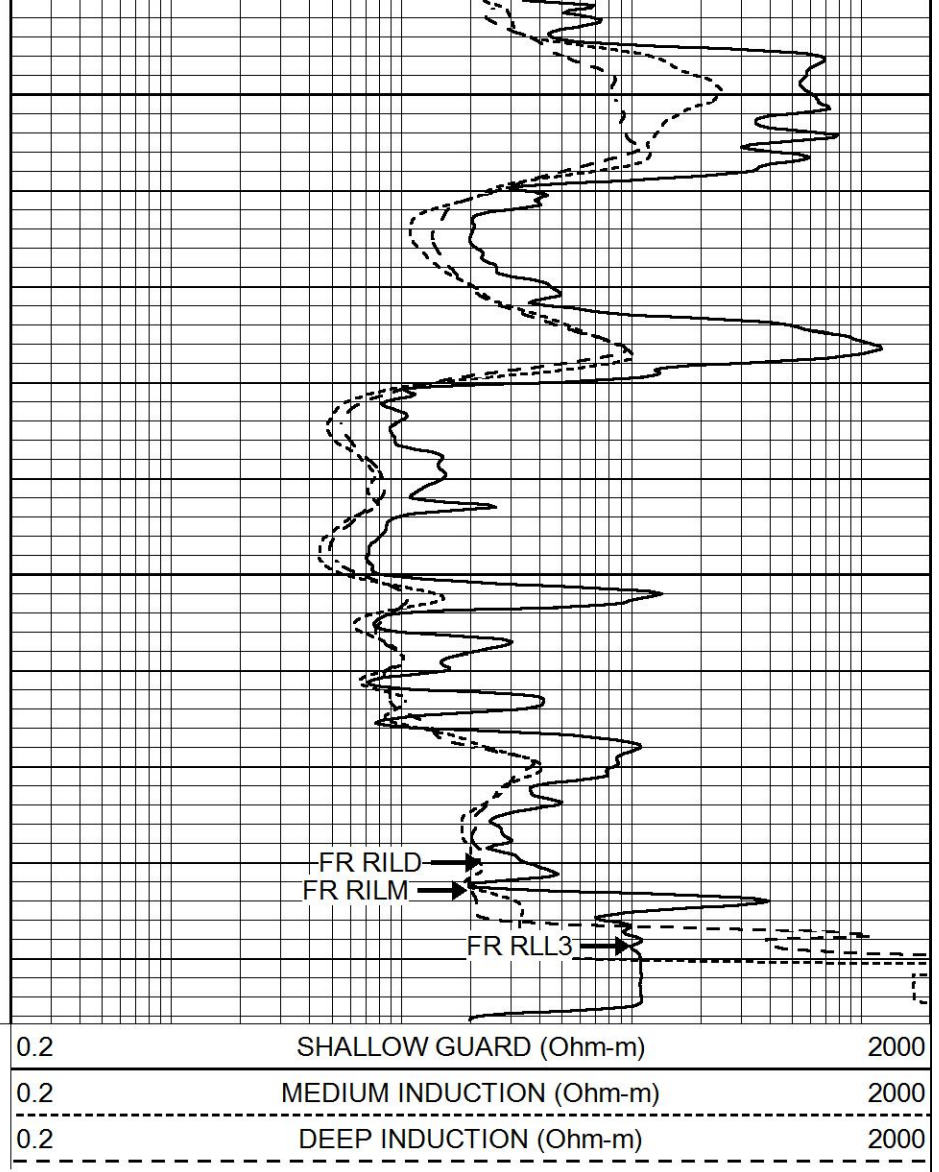




3550

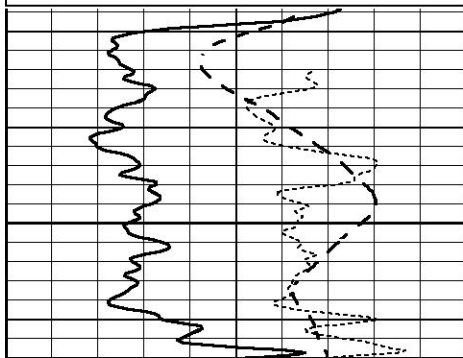
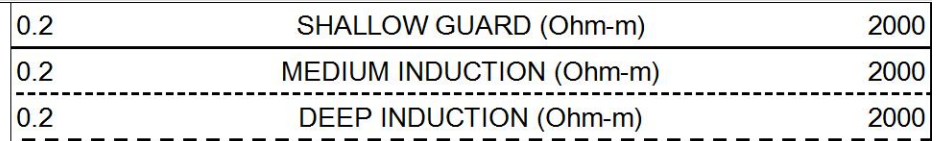
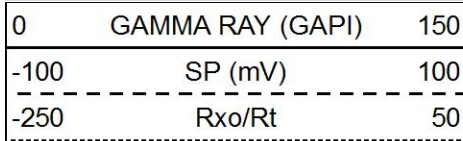
3600

LTD 3640

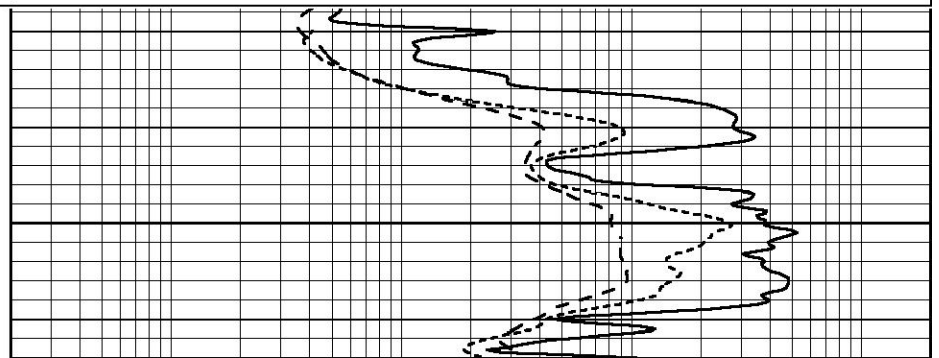


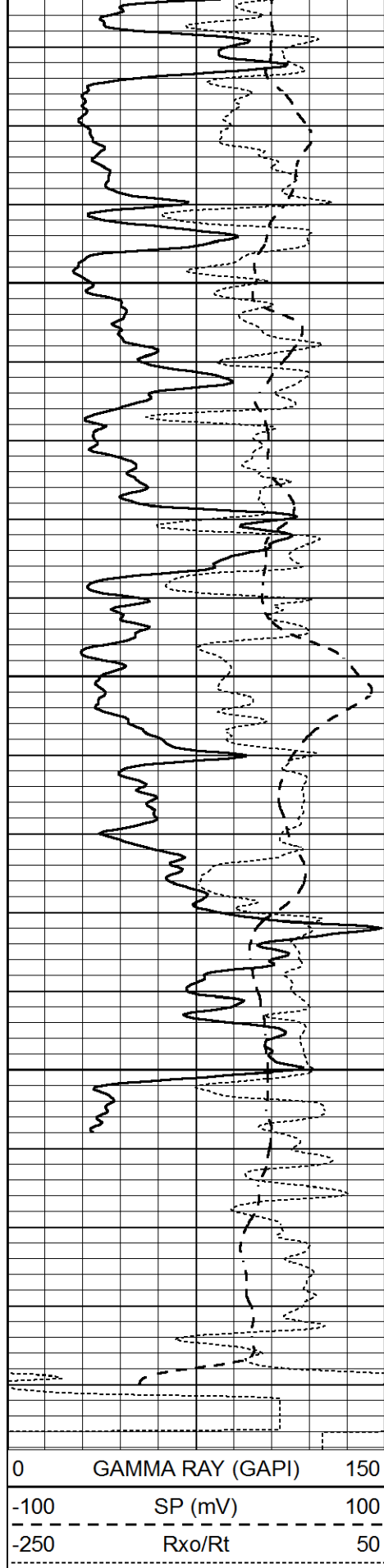
REPEAT SECTION

Database File 4439ddn.db
 Dataset Pathname pass2.1
 Presentation Format _dil
 Dataset Creation Sun Dec 08 22:22:43 2019
 Charted by Depth in Feet scaled 1:240



3450

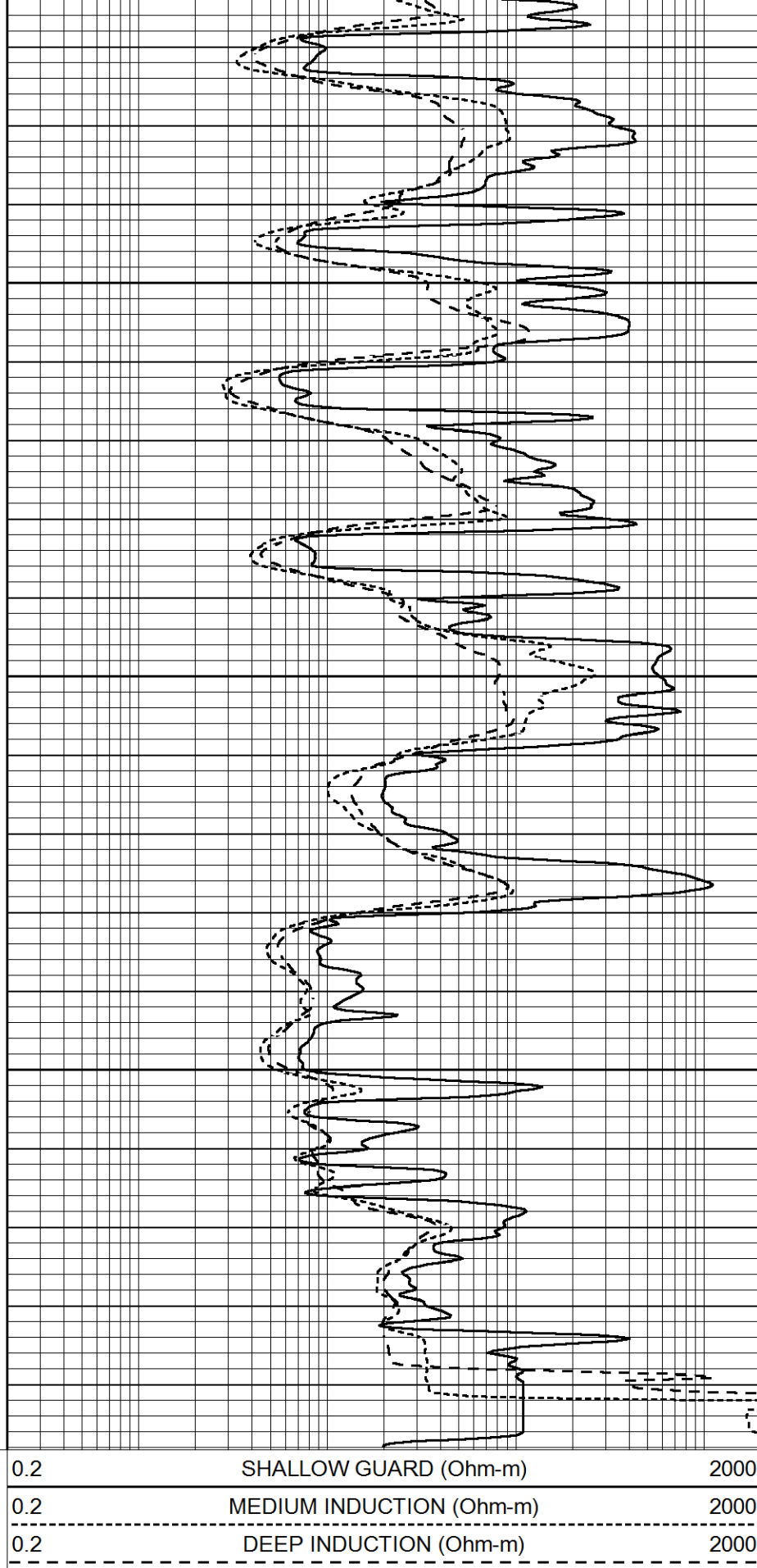




3500

3550

3600



Calibration Report

Database File 4439ddn.db
Dataset Pathname pass2.1
Dataset Creation Sun Dec 08 22:22:43 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									
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 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)
Low	High	Low High Gain Offset
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:	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:	Tue Feb 19 11:45:10 2019
Calibrator Value:	1.0
	CAL

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4800	GAPI/cps