



DUAL INDUCTION LOG

Company L.D. DRILLING, INC.

Well WALTERS #1-25

Field

County NORTON

State KANSAS

Location: API #: 15-137-20754-0000

1500' FSL & 2310' FEL

Other Services  
CDL/CNL  
MEL

SEC 25 TWP 5S RGE 23W

Elevation

Permanent Datum GROUND LEVEL Elevation 2298

Log Measured From KELLY BUSHING 5' A.G.L

Drilling Measured From KELLY BUSHING

K.B. 2303  
D.F. 2301  
G.L. 2298

Date	2/24/20
Run Number	ONE
Depth Driller	3755
Depth Logger	3754
Bottom Logged Interval	3752
Top Log Interval	00
Casing Driller	8 5/8" @ 249'
Casing Logger	249'
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/54
pH / Fluid Loss	11.0/6.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.70 @ 70F
Rmf @ Meas. Temp	1.27 @ 70F
Rmc @ Meas. Temp	2.04 @ 70F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	1.04 @ 114F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	114F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	JEFF CHRISTIAN

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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  
HILL CITY, KS. - NORTH TO COUNTY LINE - 1 MORE MILE NORTH - WEST INTO

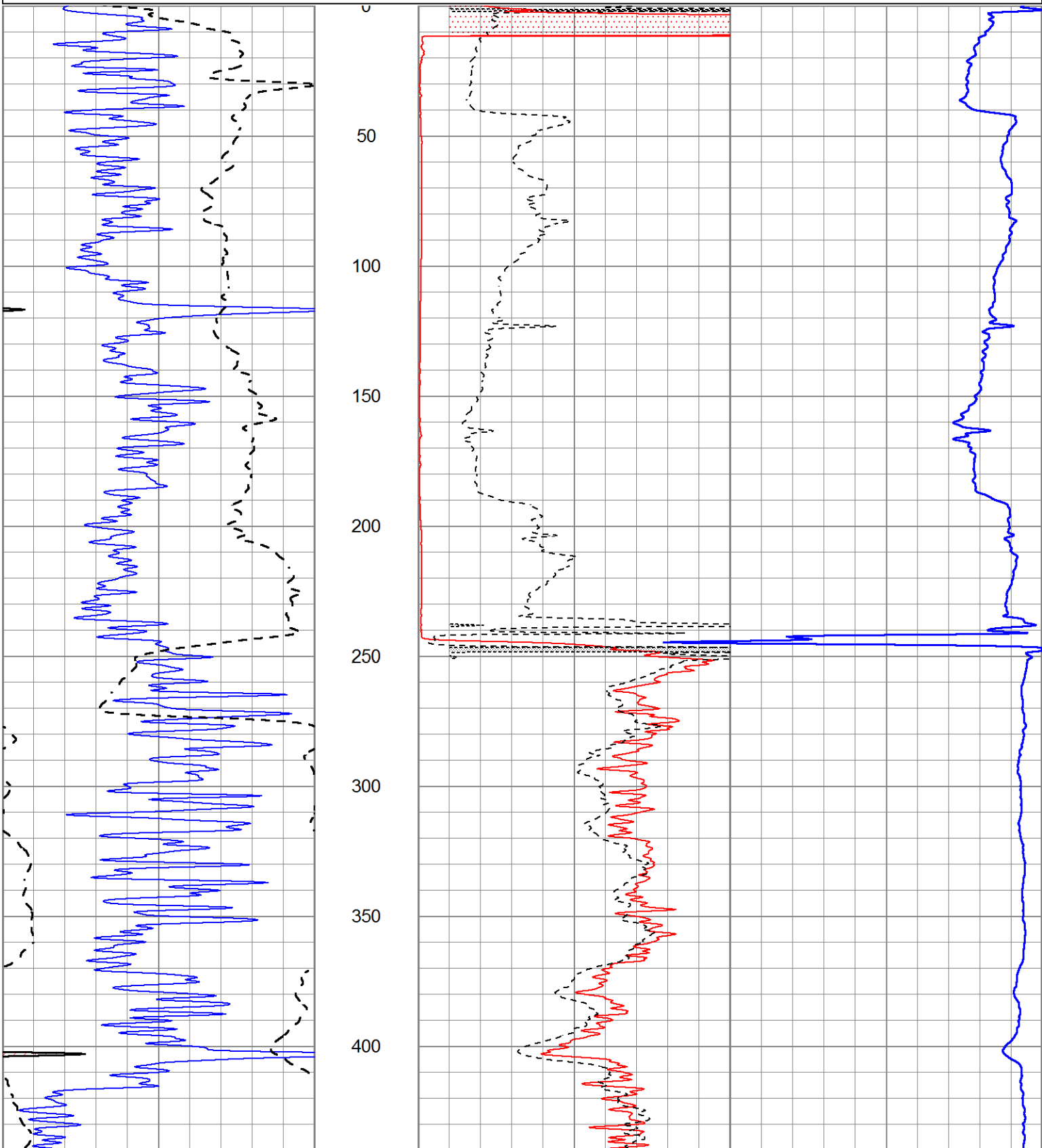


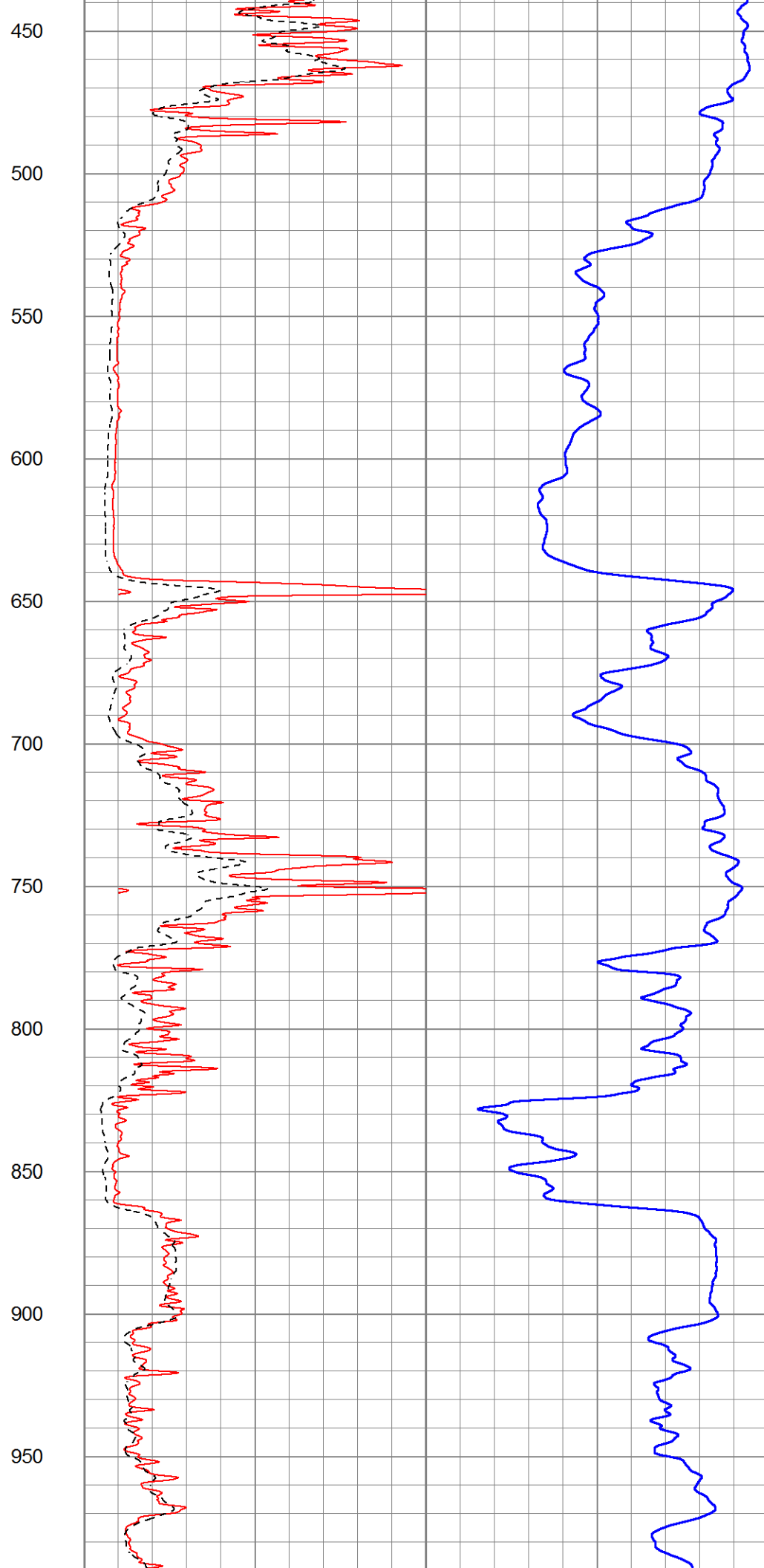
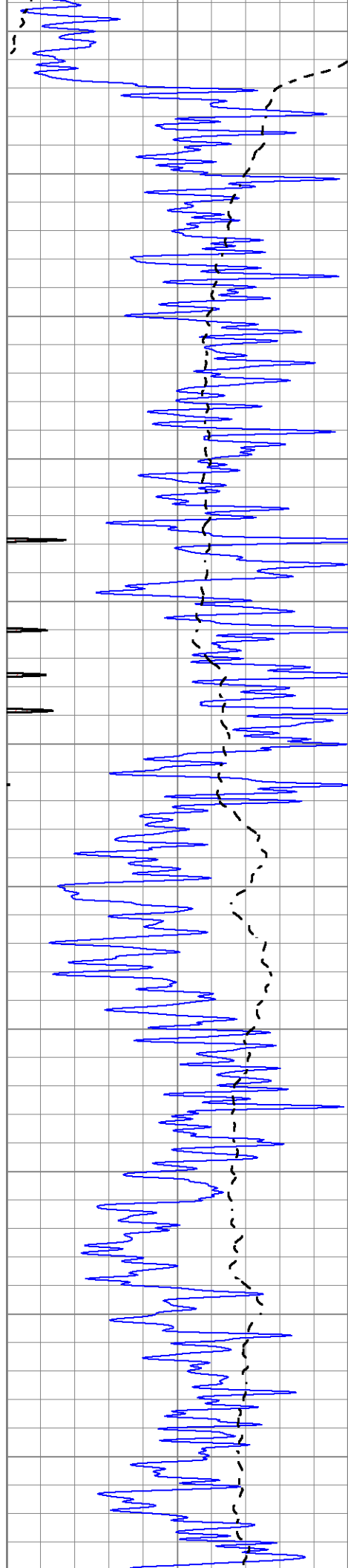
MAIN SECTION

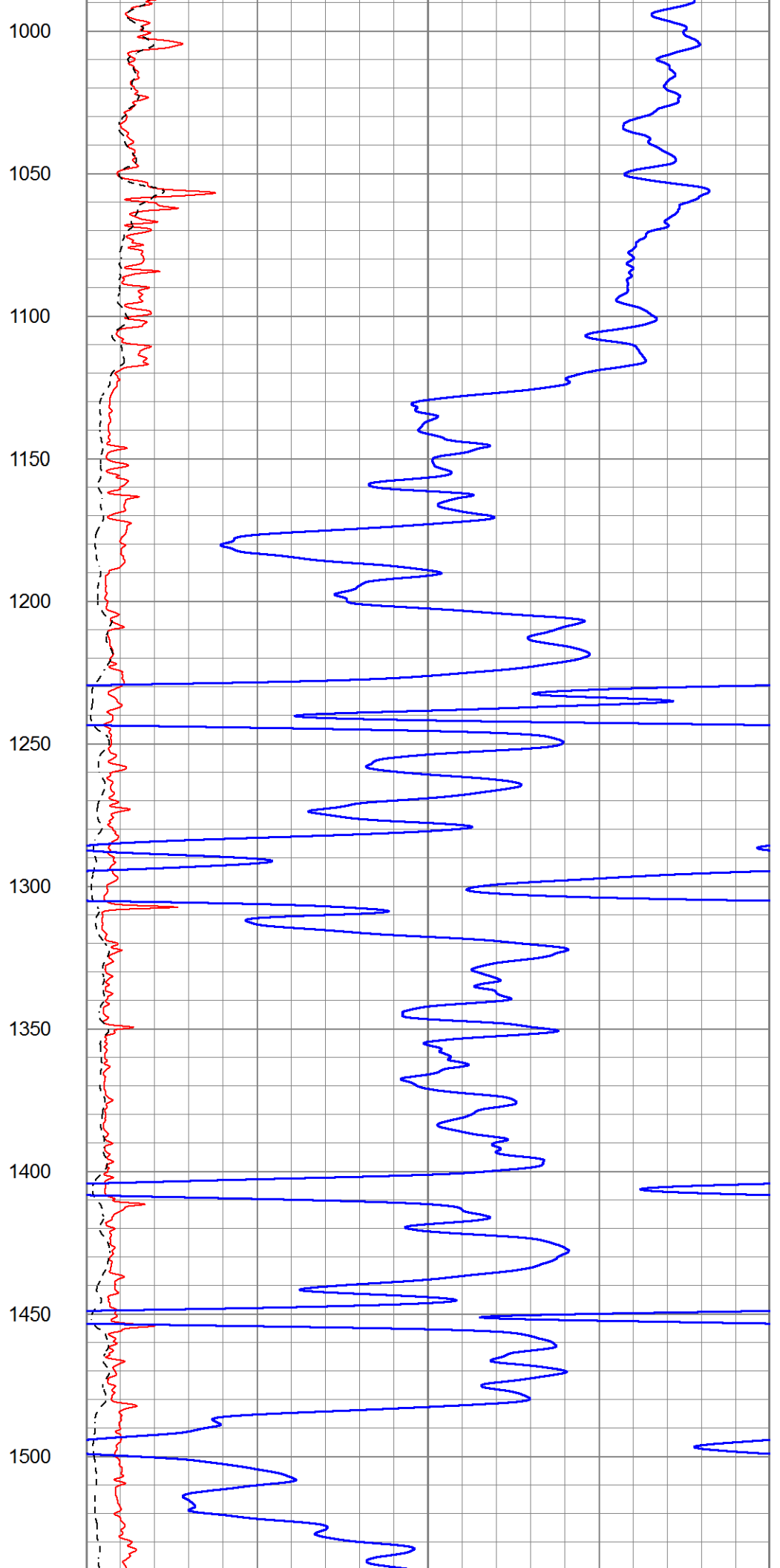
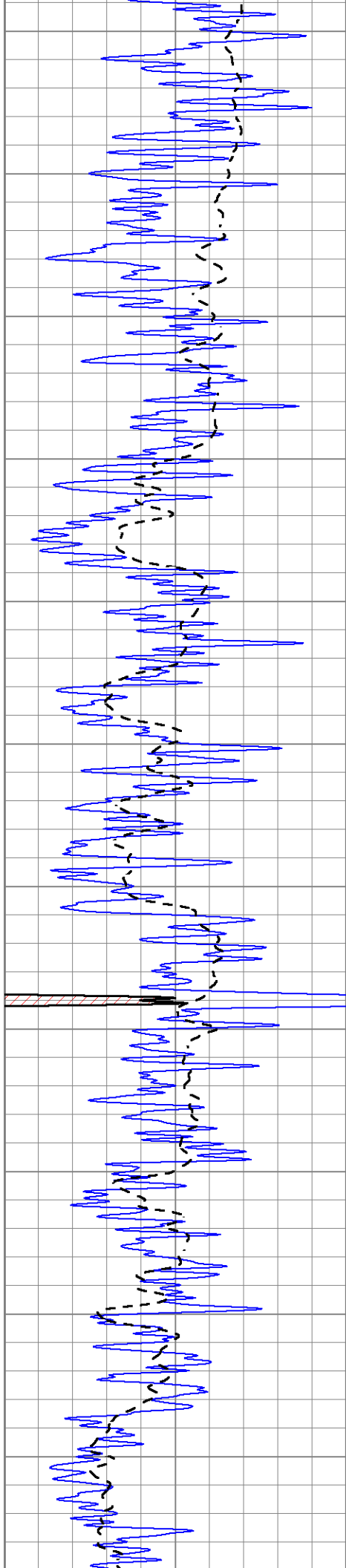
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 Presentation Format \_dil2  
 Dataset Creation Mon Feb 24 07:10:53 2020  
 Charted by Depth in Feet scaled 1:600

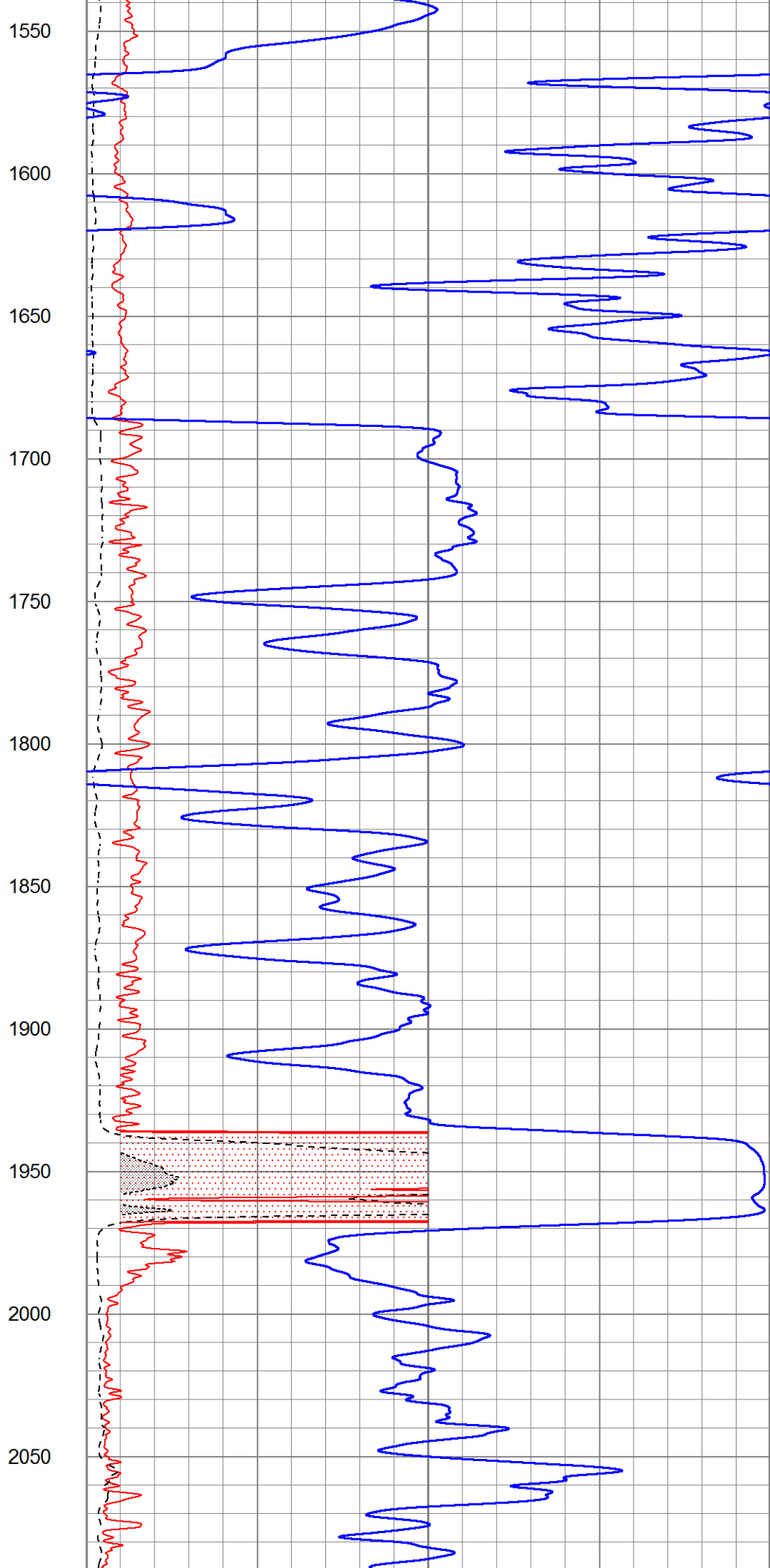
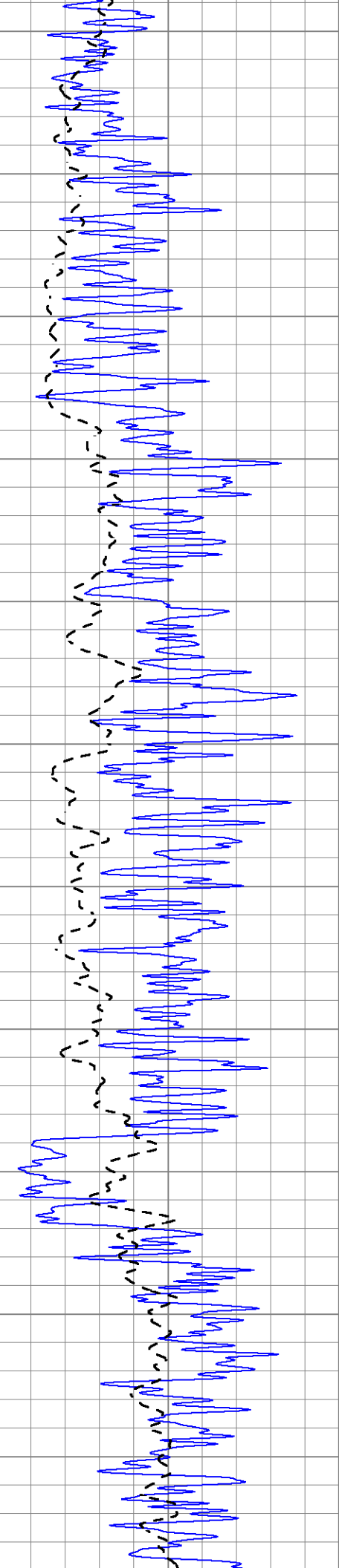
0 Gamma Ray (GAPI) 150  
 -100 SP (mV) 100

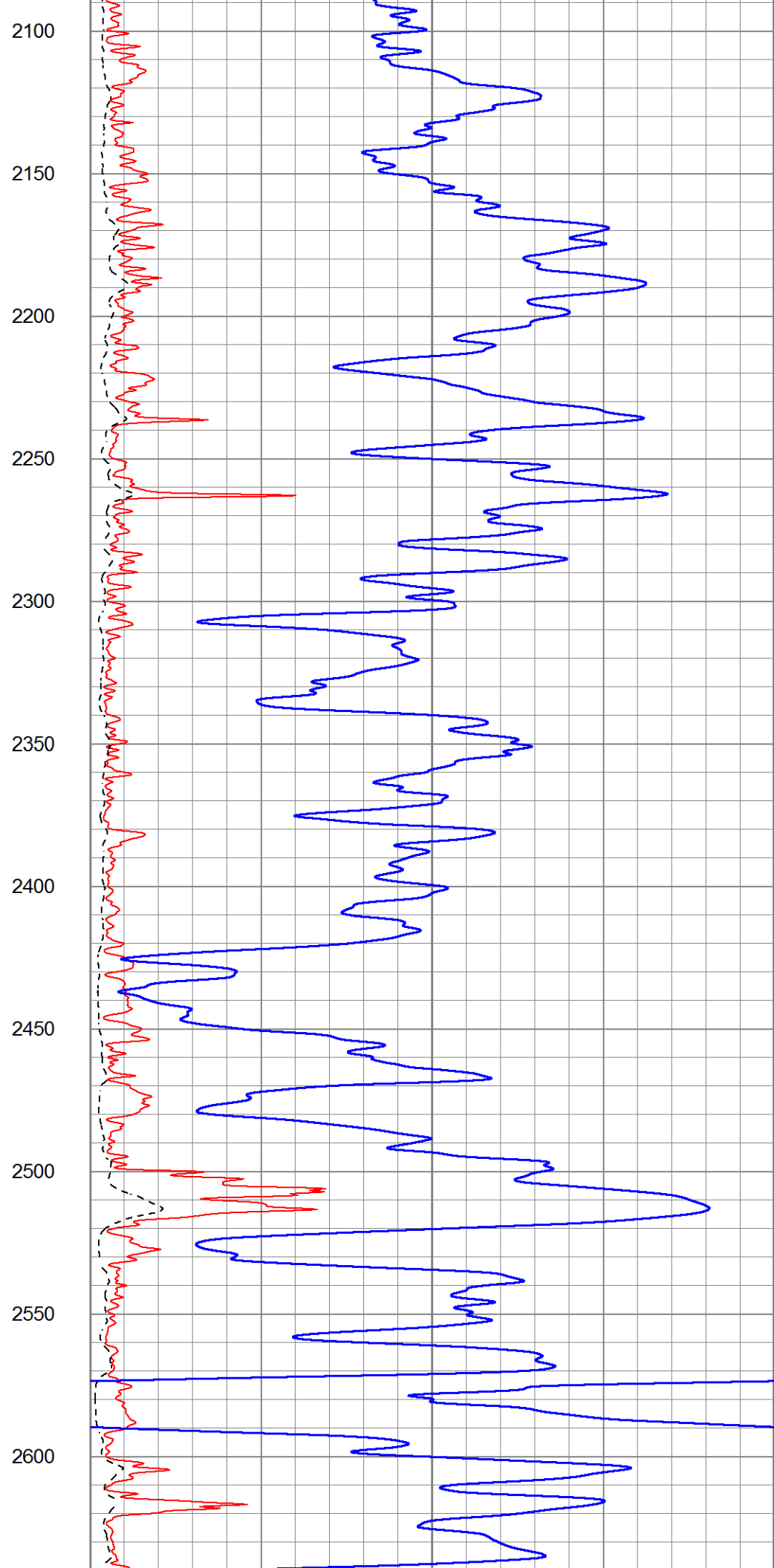
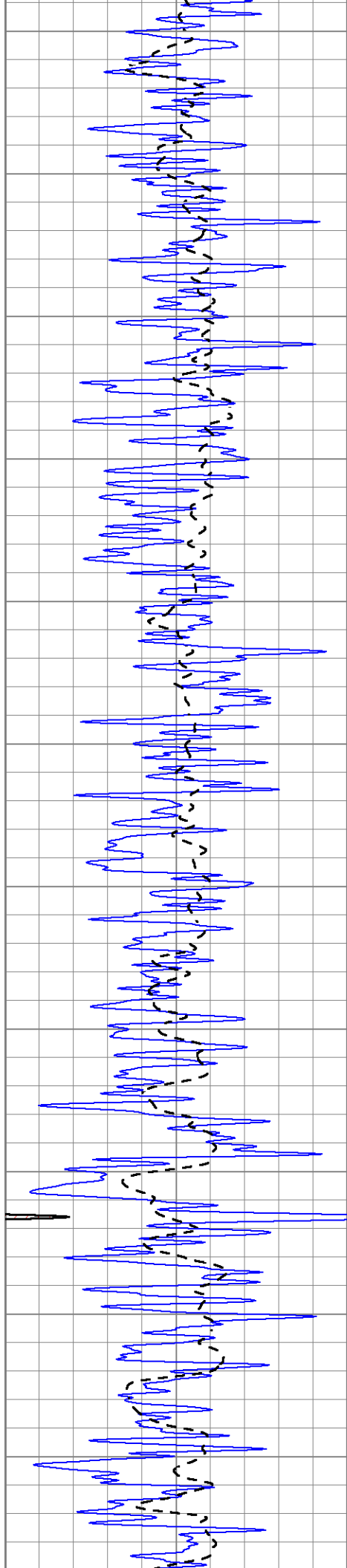
1000 CILD (mmho/m) 0  
 0 RLL3 (Ohm-m) 50  
 0 Deep Induction (Ohm-m) 50  
 50 RILD X10 (Ohm-m) 500  
 50 RLL3 X10 (Ohm-m) 500

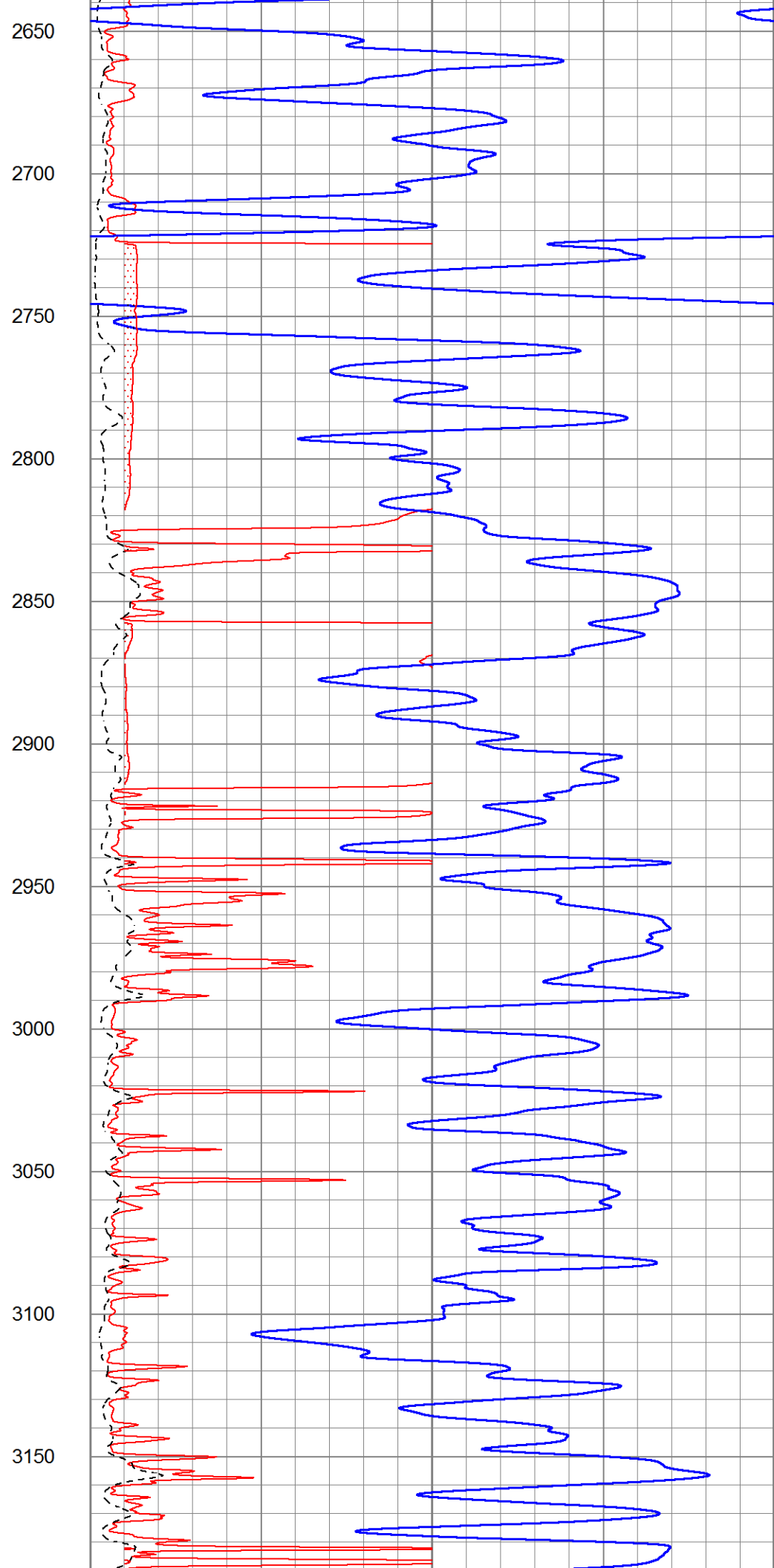
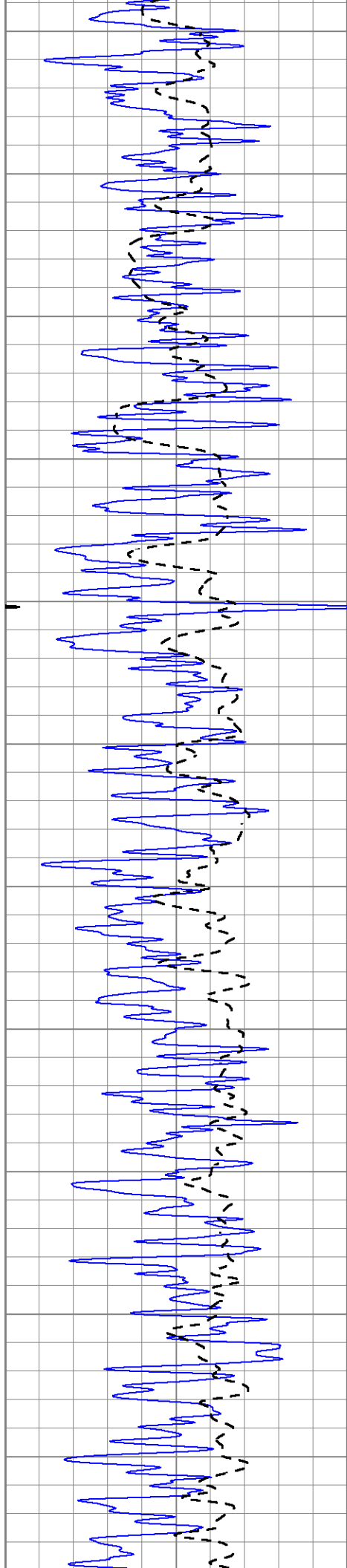


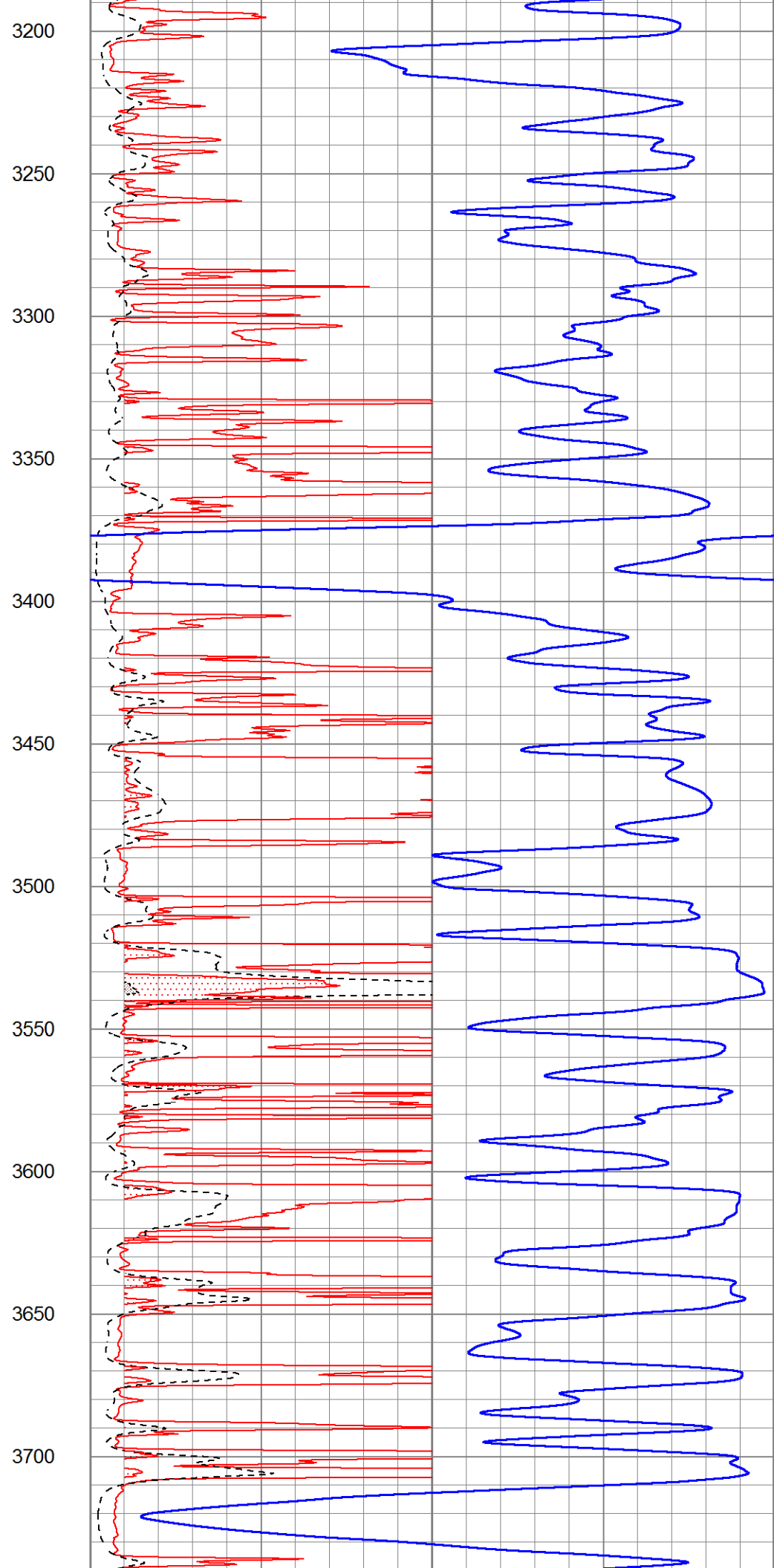
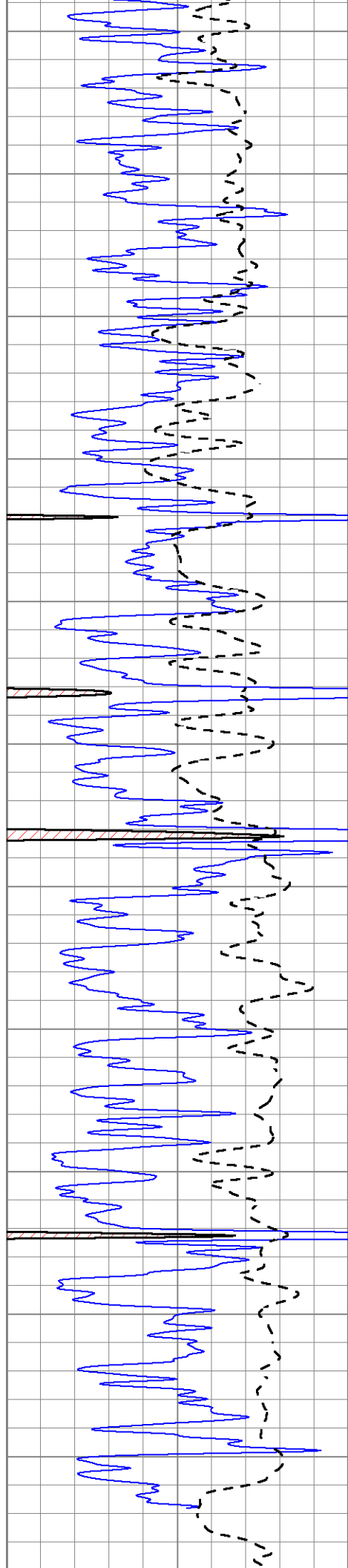


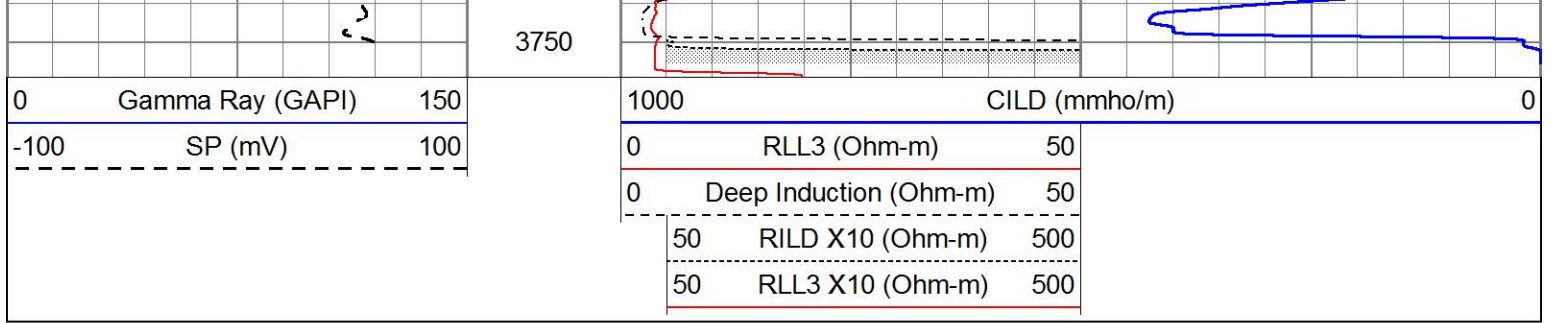








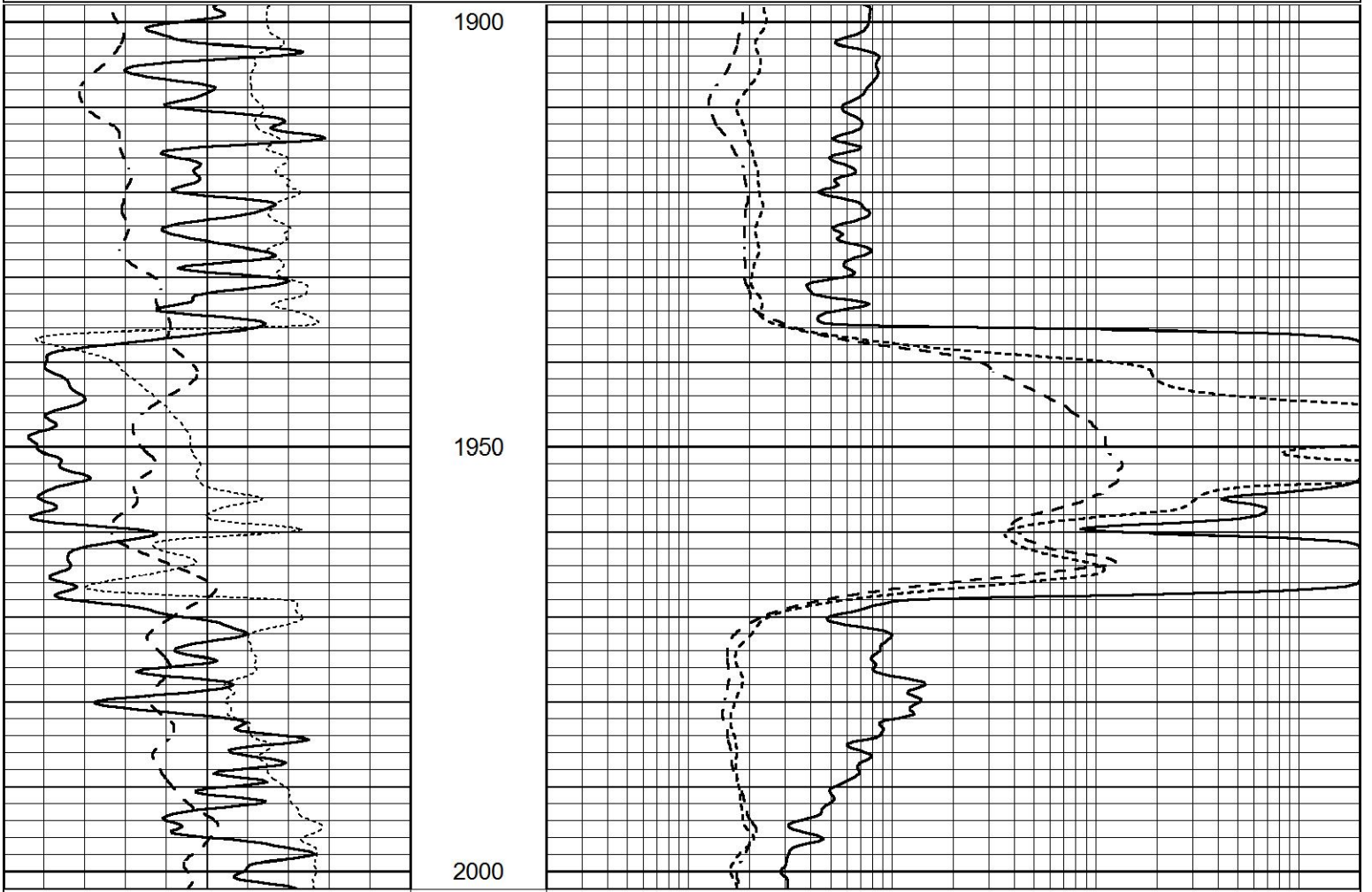




# ANHYDRITE

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 Dataset Pathname pass3.2  
 Presentation Format \_dil  
 Dataset Creation Mon Feb 24 06:27:18 2020  
 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



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

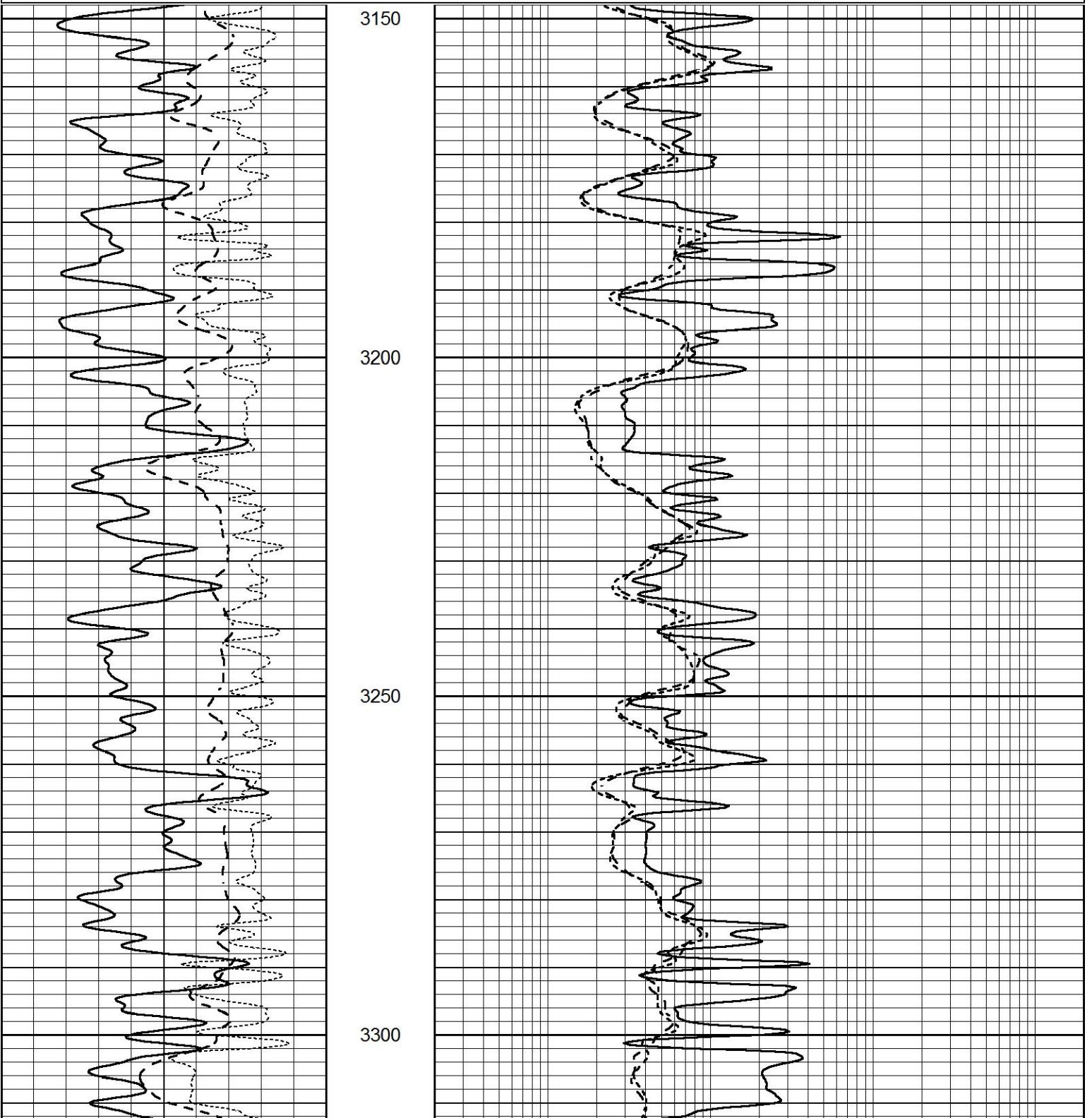


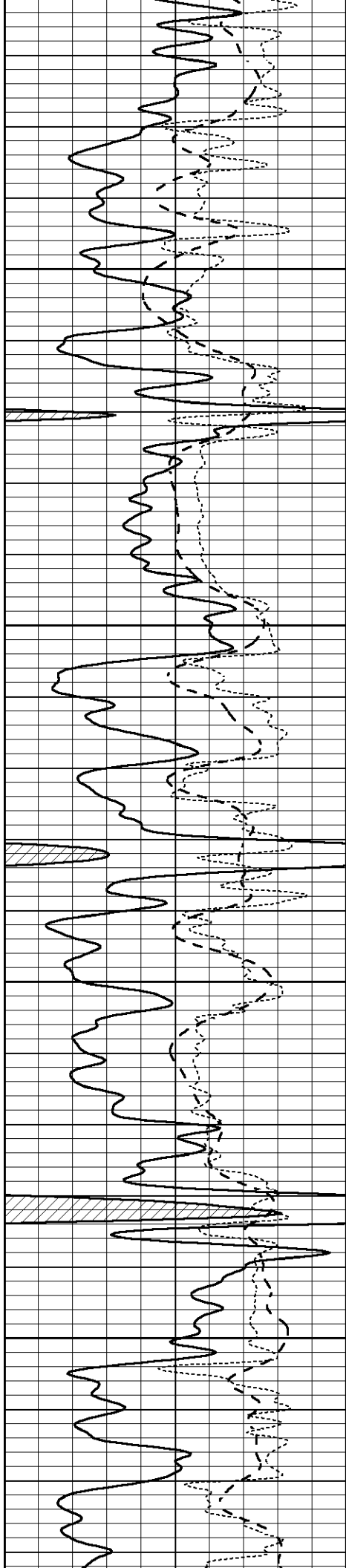
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Presentation Format \_dil  
Dataset Creation Mon Feb 24 06:13:23 2020  
Charted by Depth in Feet scaled 1:240

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



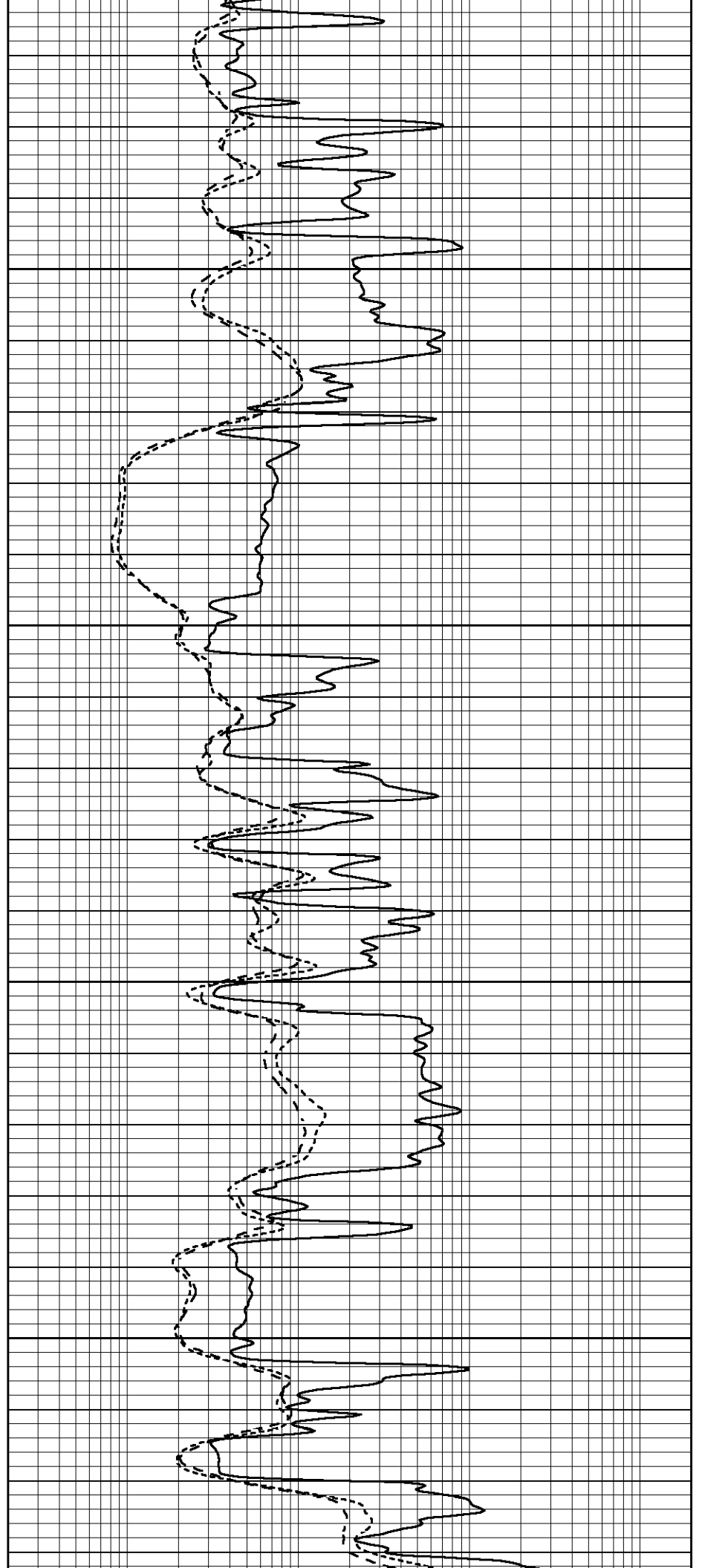


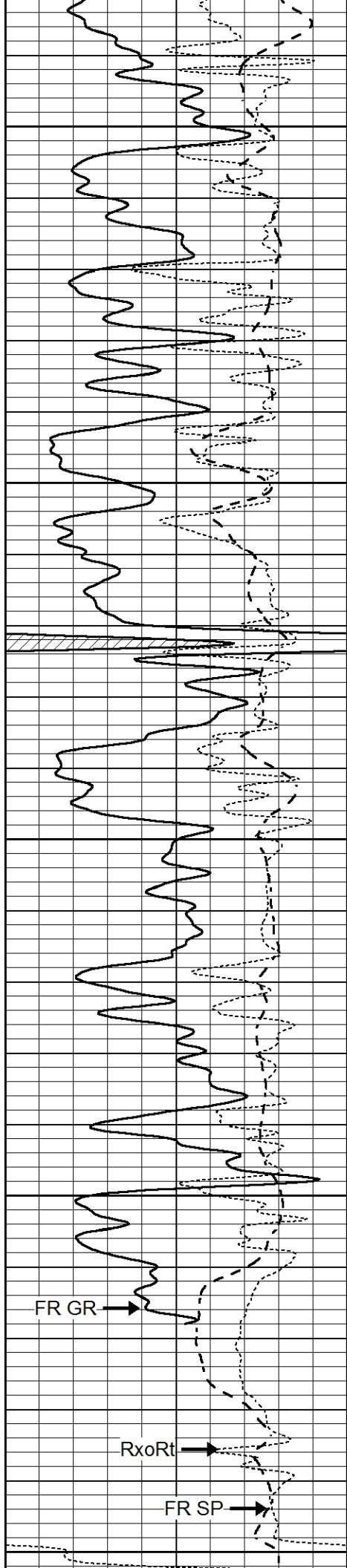
3350

3400

3450

3500





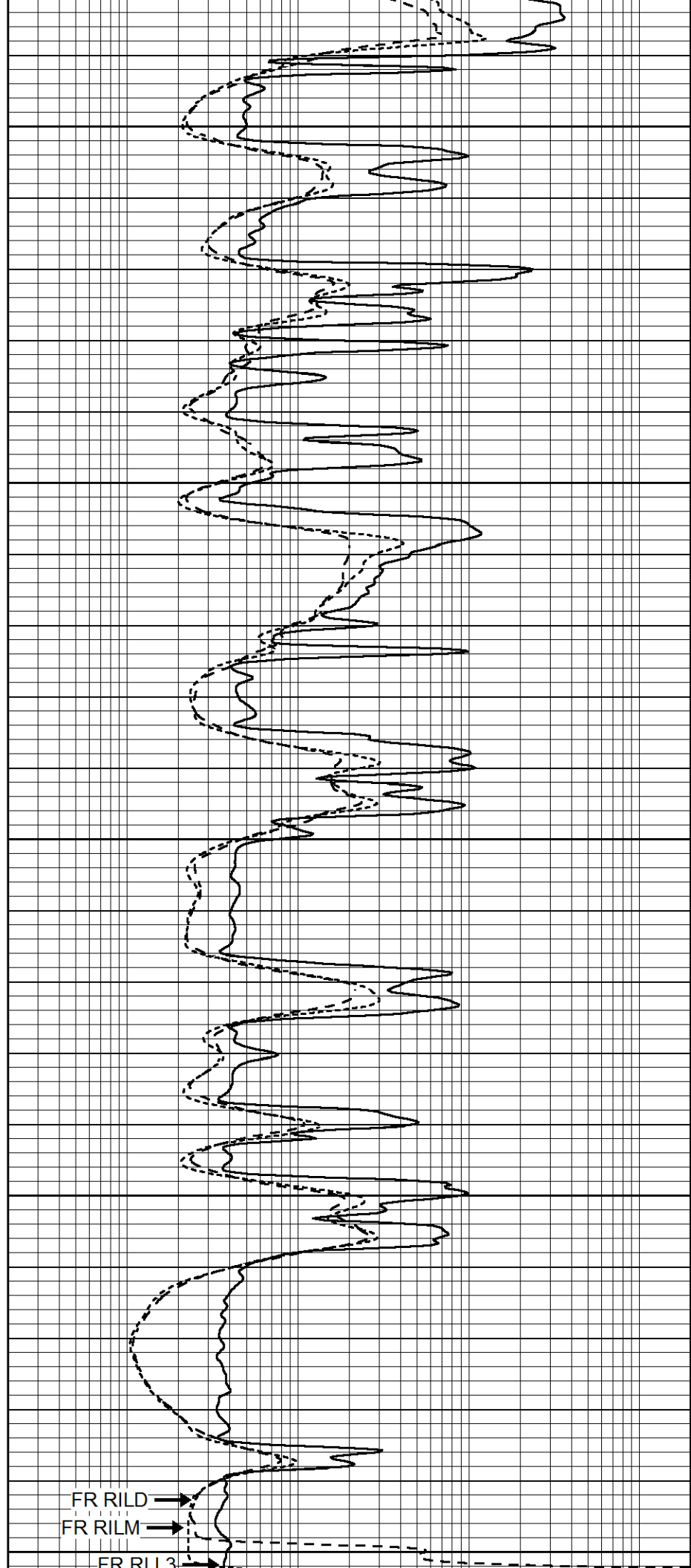
3550

3600

3650

3700

3750



LTD 3754

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

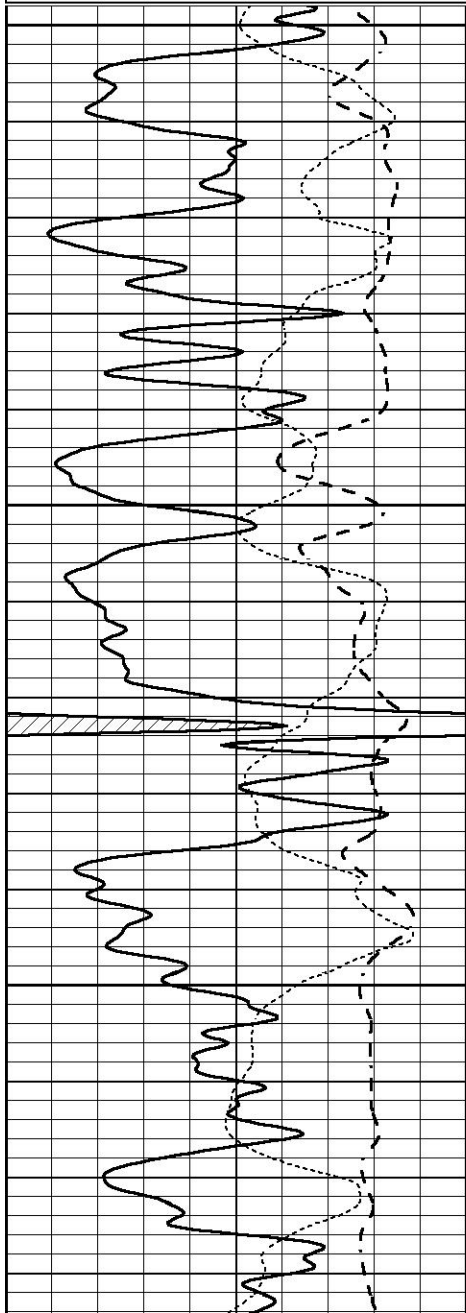


# REPEAT SECTION

Database File 4730ddn.db  
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 Presentation Format \_dil  
 Dataset Creation Mon Feb 24 06:32:16 2020  
 Charted by Depth in Feet scaled 1:240

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

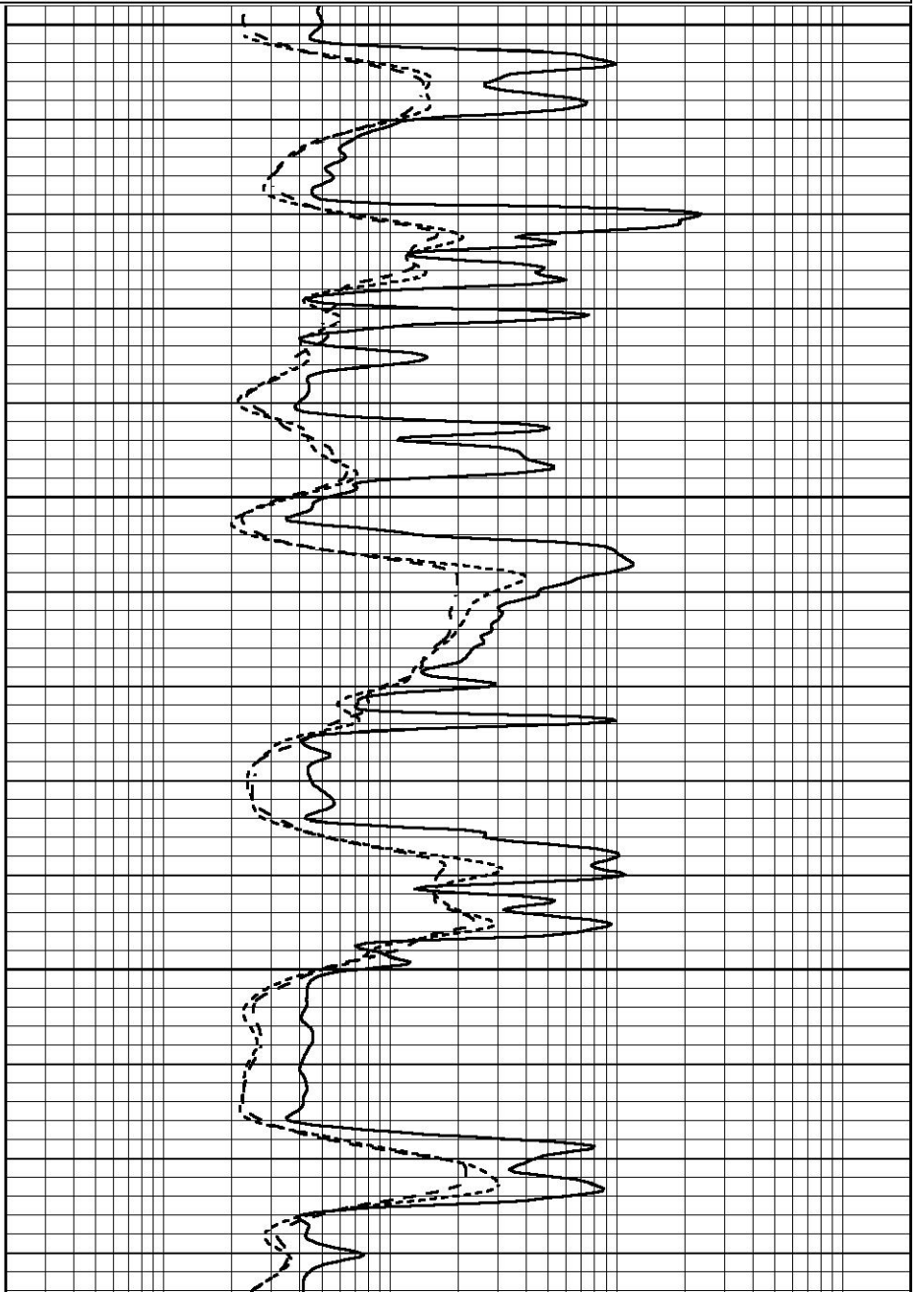
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

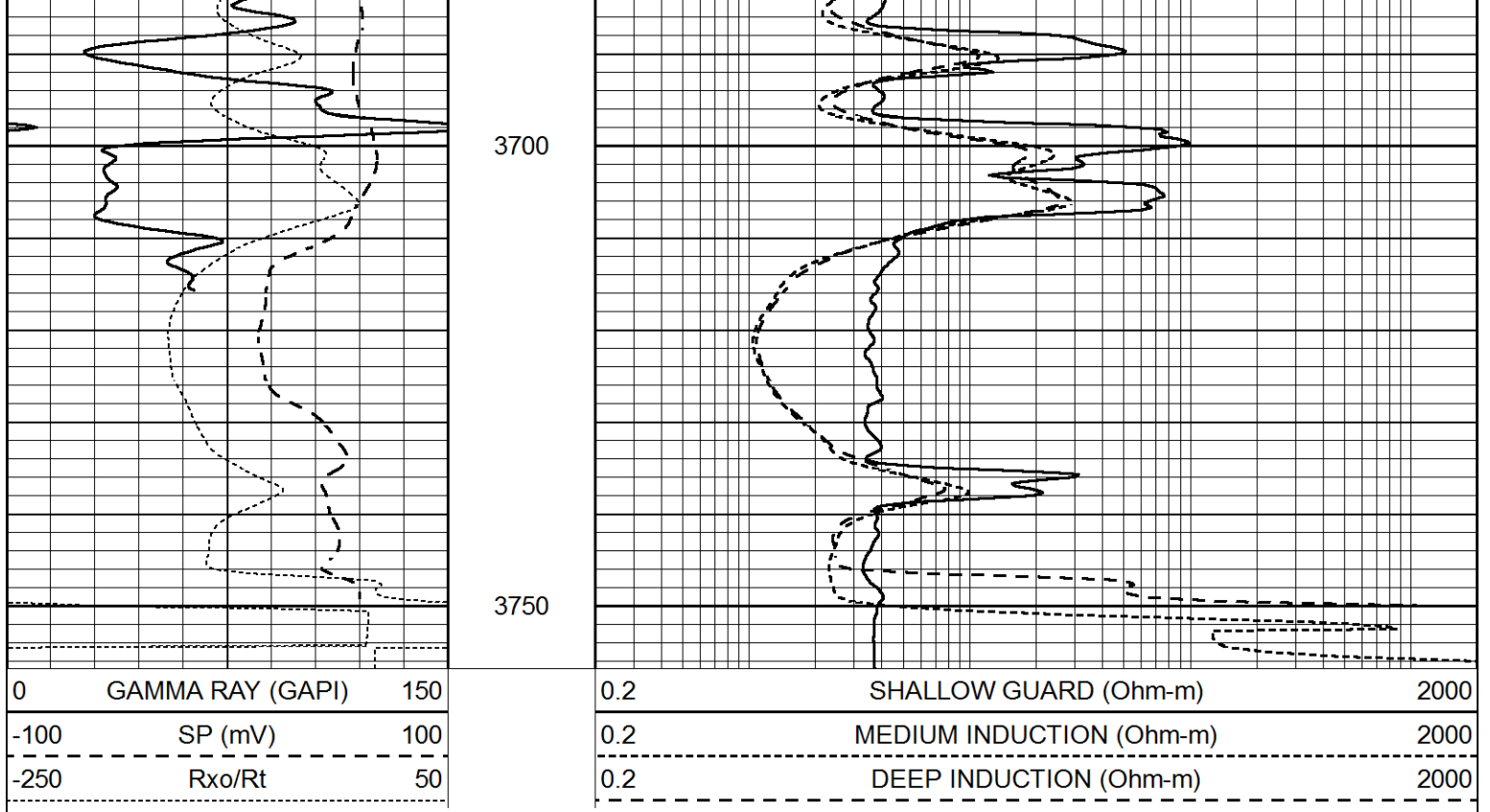


3550

3600

3650





### Calibration Report

Database File      4730ddn.db  
 Dataset Pathname    pass2.1  
 Dataset Creation    Mon Feb 24 06:32:16 2020

### 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			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	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	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
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	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: Tue Dec 10 10:02:55 2019

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.4800 GAPI/cps