



# DUAL INDUCTION LOG

Company BLACK DAHLIA OIL&GAS COMPANY  
 Well STUEDER-1 #32-1  
 Field UNNAMED  
 County BARTON State KANSAS

Location: API #: 15-009-26318-0000  
 E/2-SE-SW-NE  
 2310' FNL & 1600' FEL  
 SEC 32 TWP 17S RGE 11W  
 Permanent Datum GROUND LEVEL Elevation 1812  
 Log Measured From KELLY BUSHING 10' A.G.L.  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 CDL/CNL  
 MEL/SON  
 Elevation  
 K.B. 1822  
 D.F. 1820  
 G.L. 1812

Date	5/5/22
Run Number	ONE
Depth Driller	3400
Depth Logger	3402
Bottom Logged Interval	3400
Top Log Interval	00
Casing Driller	8 5/8" @ 315
Casing Logger	315
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.0/48
pH / Fluid Loss	9.0/8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.850@ 57F
Rmf @ Meas. Temp	.638@ 57F
Rmc @ Meas. Temp	1.02@ 57F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.436@ 111F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	4:30 P.M.
Maximum Recorded Temperature	111F
Equipment Number	8916
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	JIM MUSGROVE

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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, HAYS, KS. (785) 628-6395  
 DIRECTIONS:  
 CLAFLIN, KS. 1 MILE WEST, 1 MILE NORTH, 1/2 WEST, SOUTH INTO

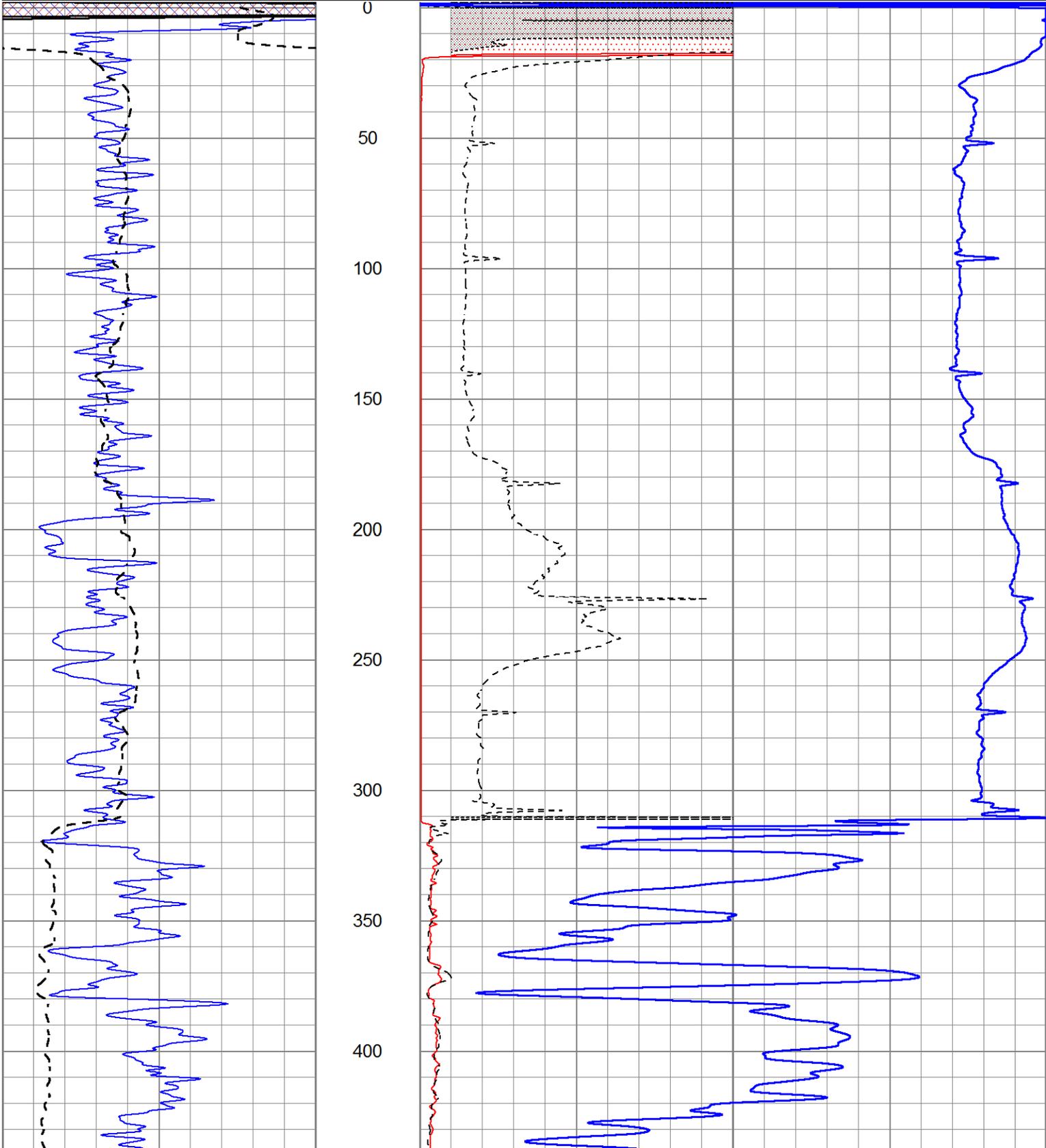


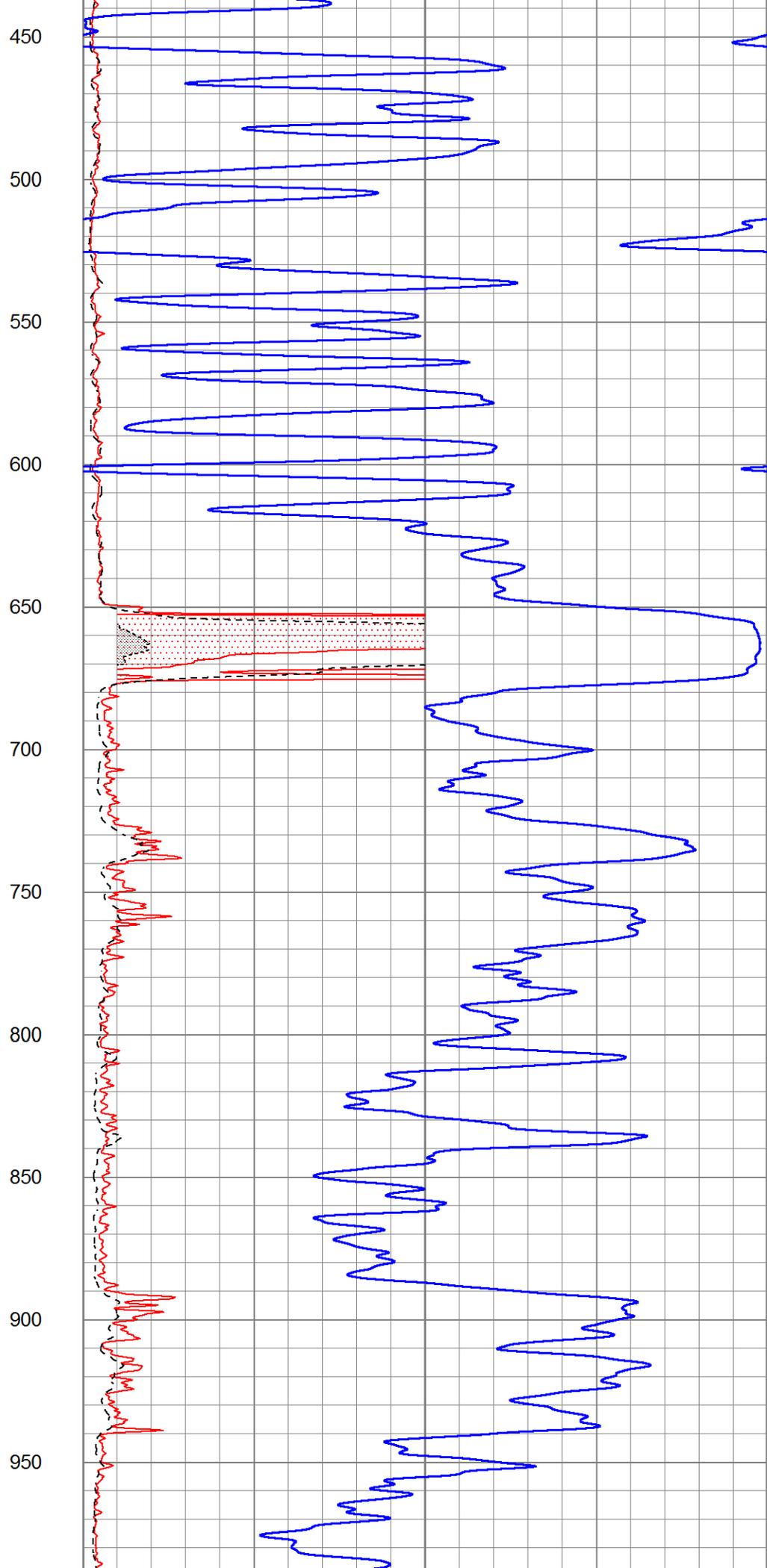
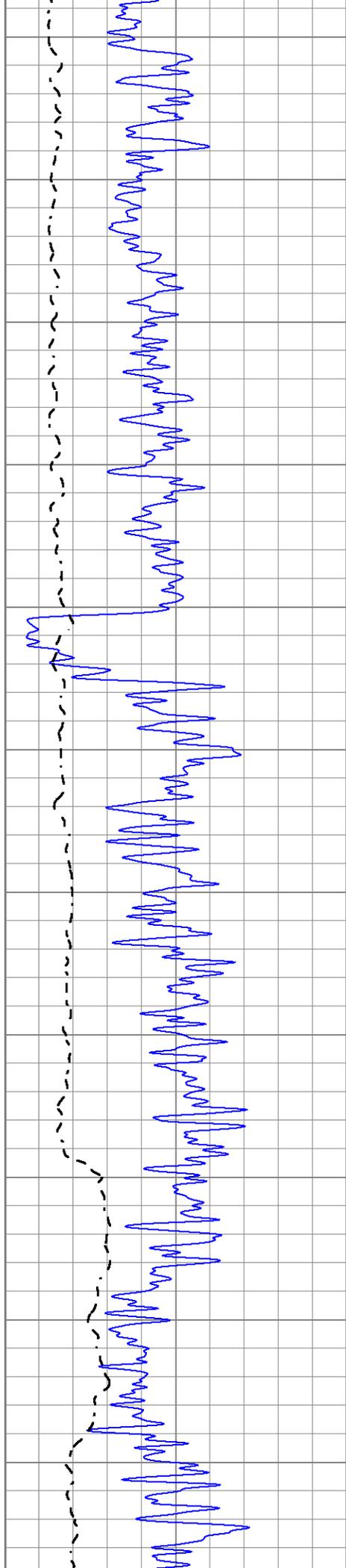
# MAIN SECTION

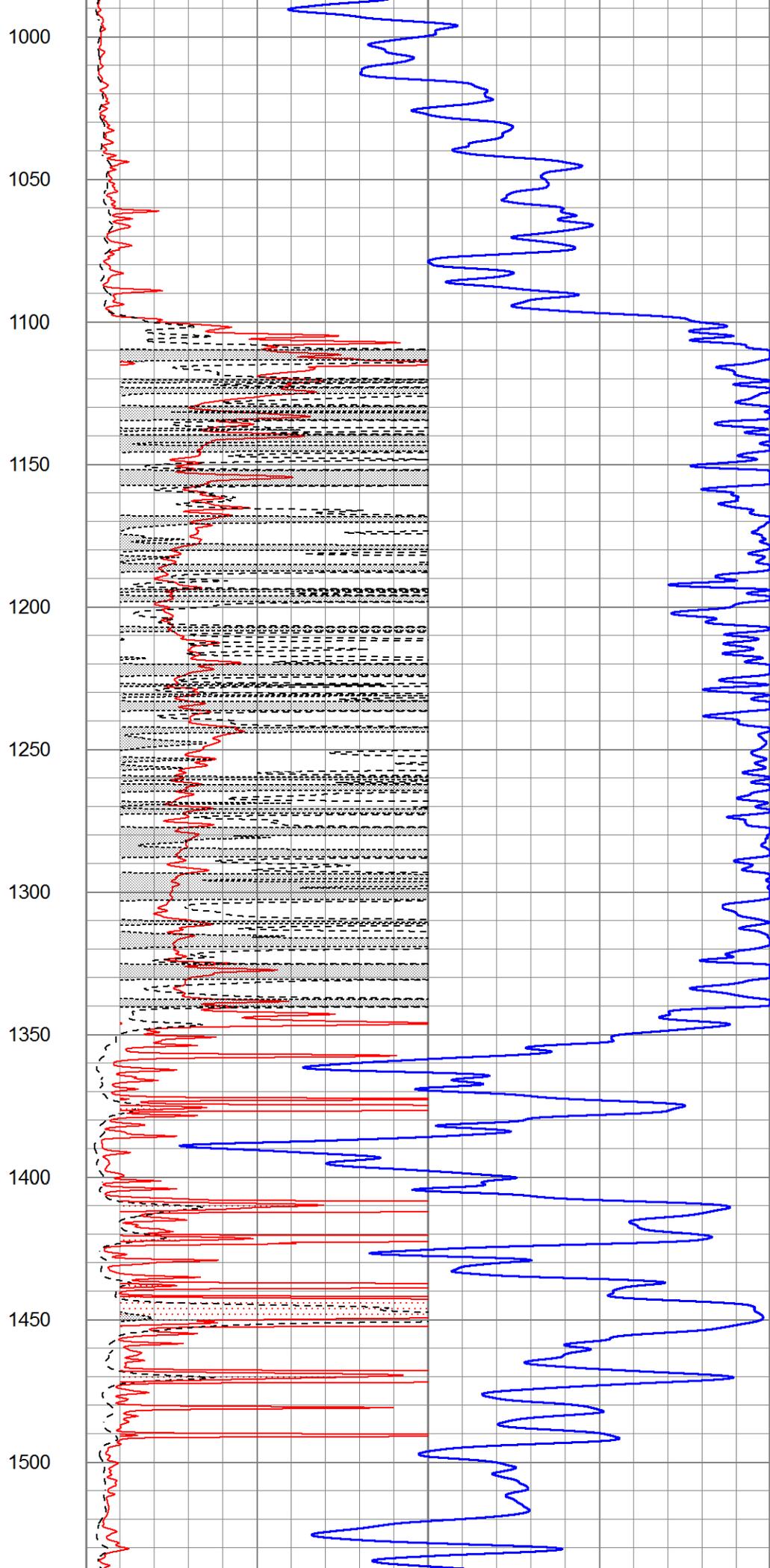
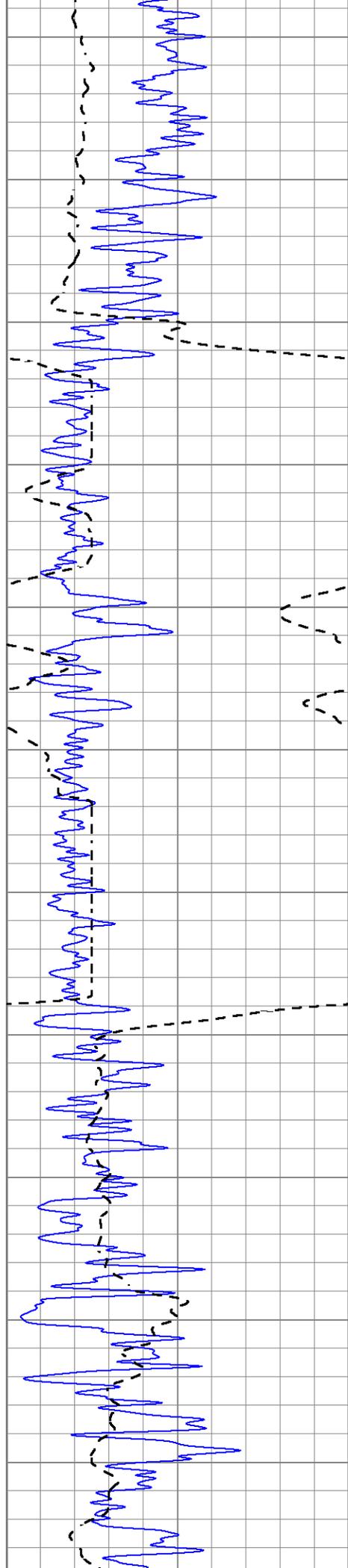
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 Presentation Format \_dil2  
 Dataset Creation Thu May 05 18:05:25 2022  
 Charted by Depth in Feet scaled 1:600

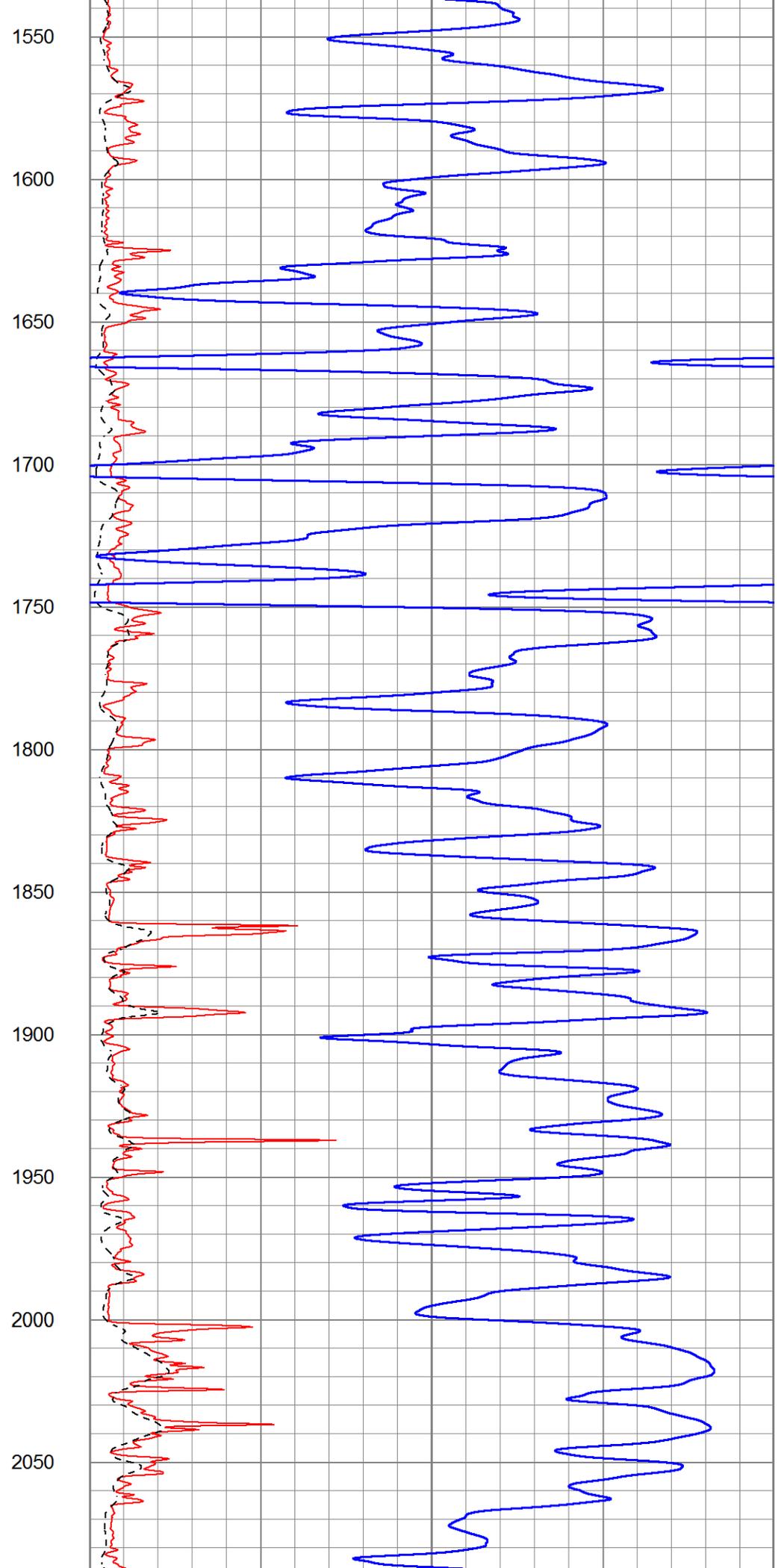
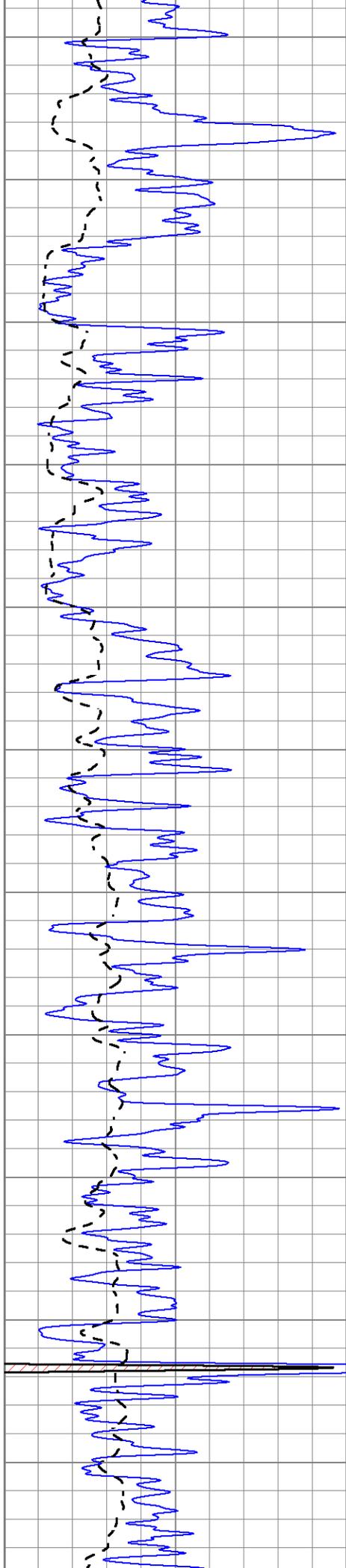
0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

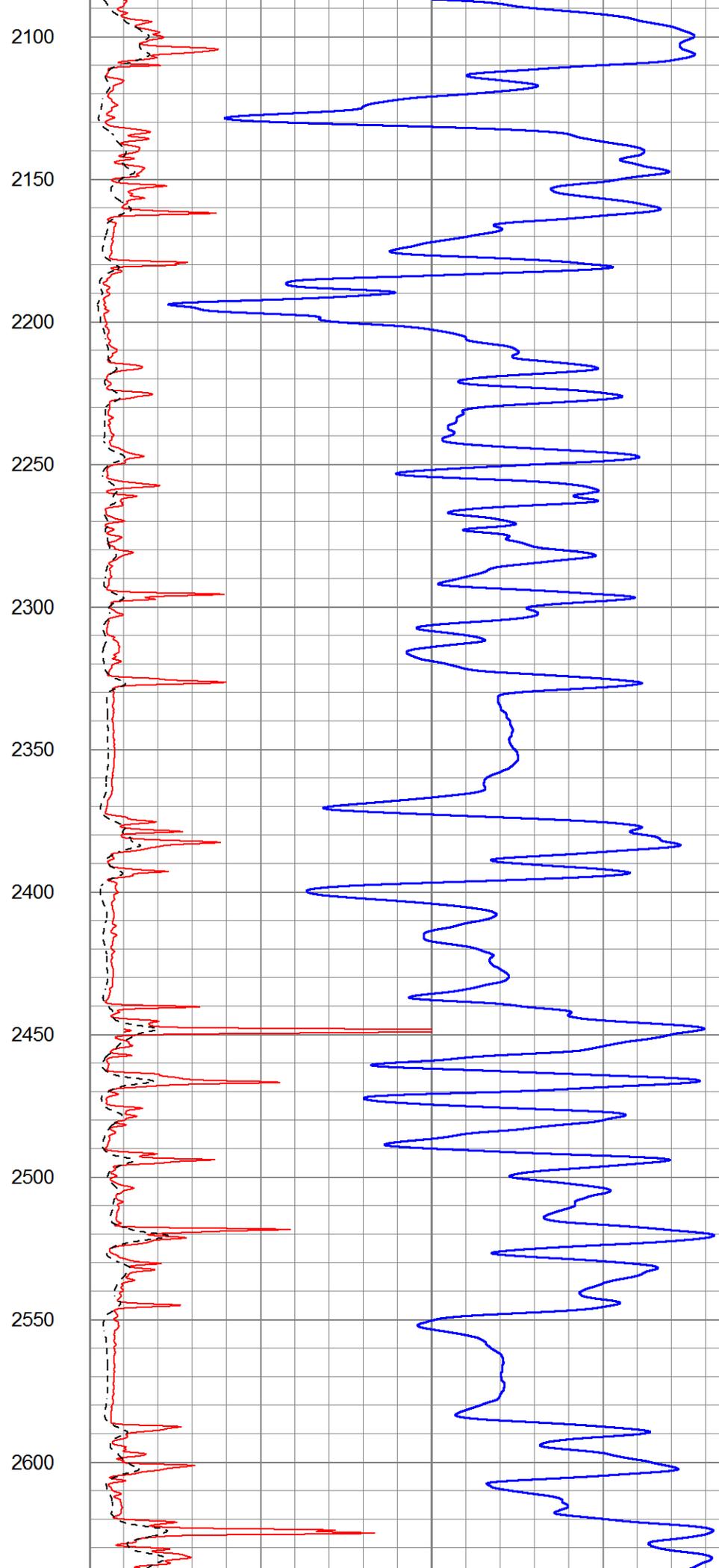
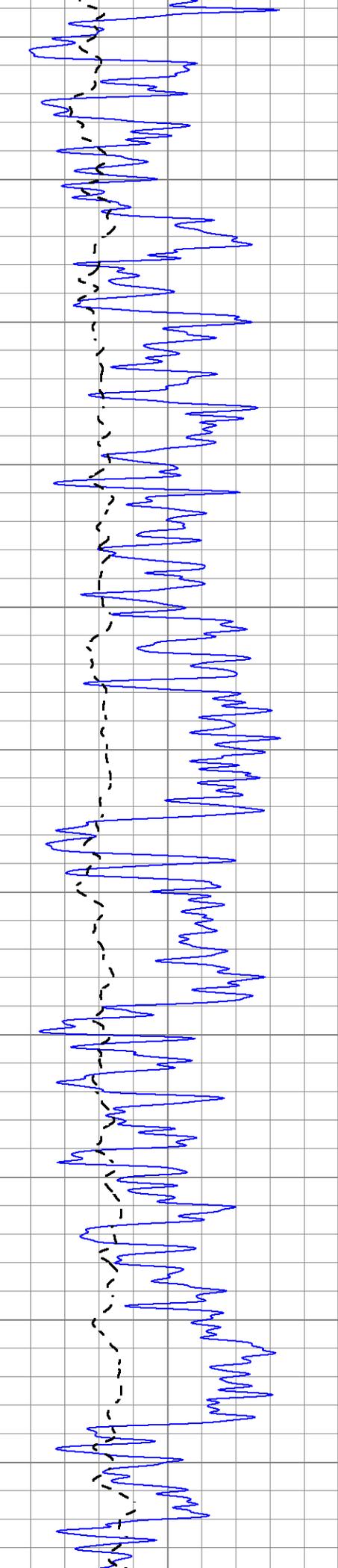
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

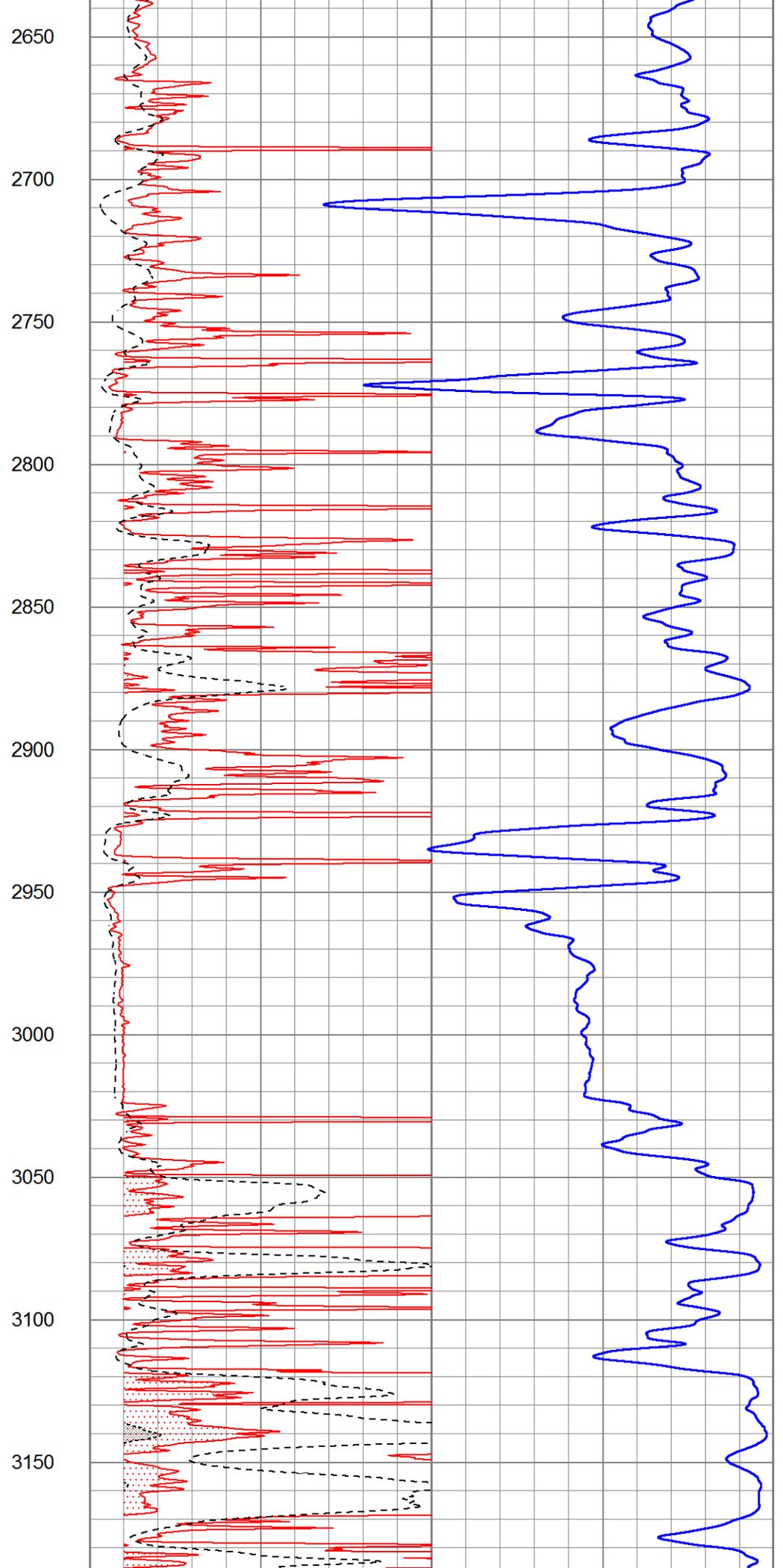
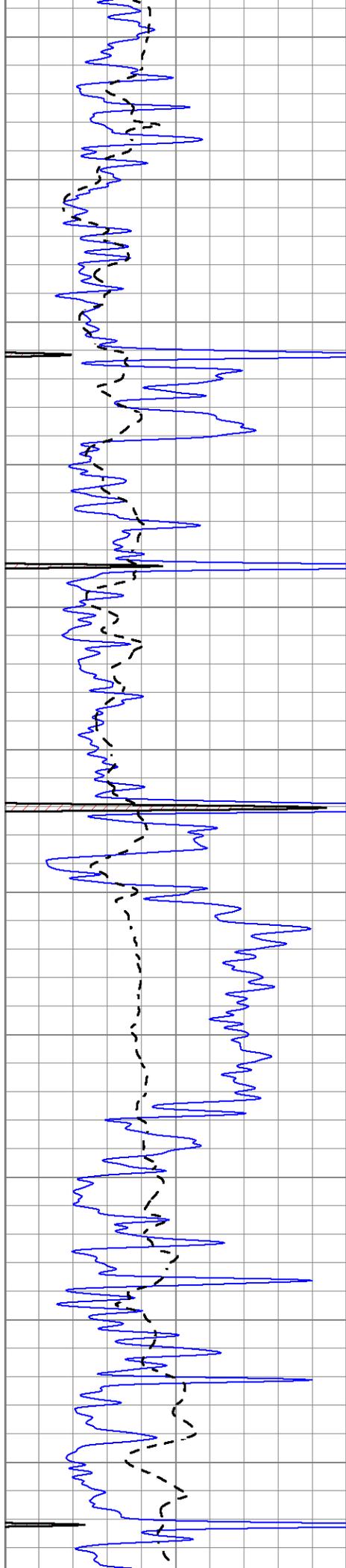


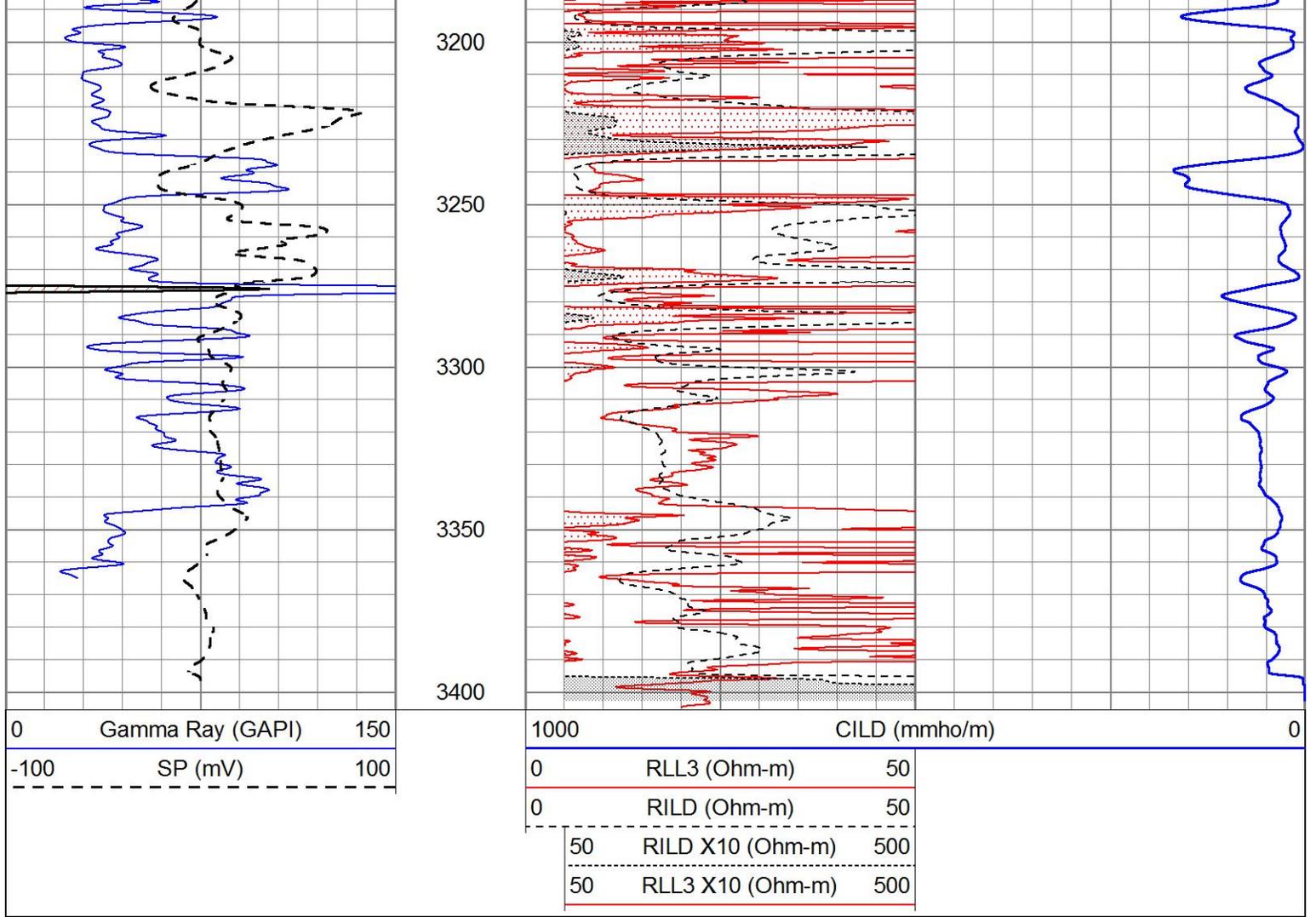








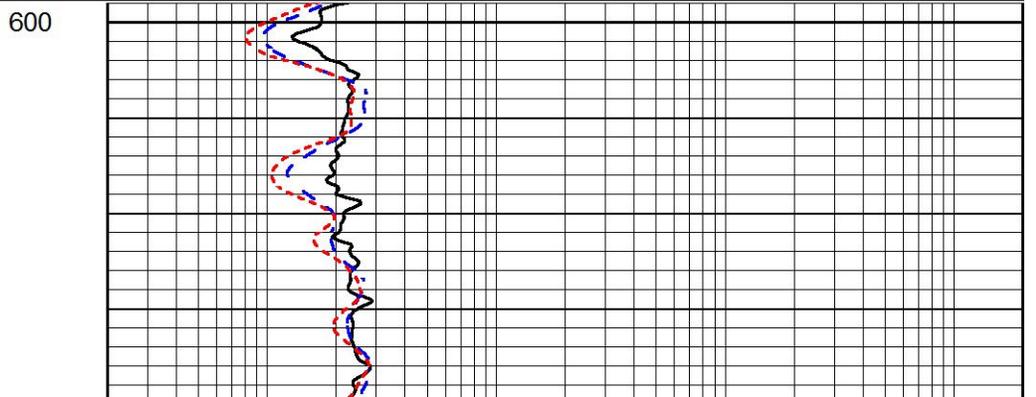
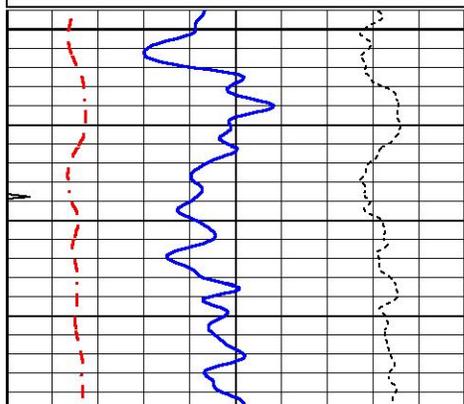


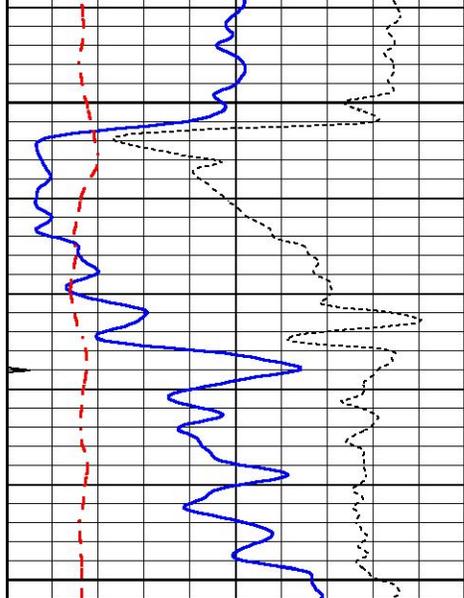


# ANHYDRITE

Database File 5898ddn.db  
 Dataset Pathname pass3.1A  
 Presentation Format \_dil  
 Dataset Creation Thu May 05 18:17:59 2022  
 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	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

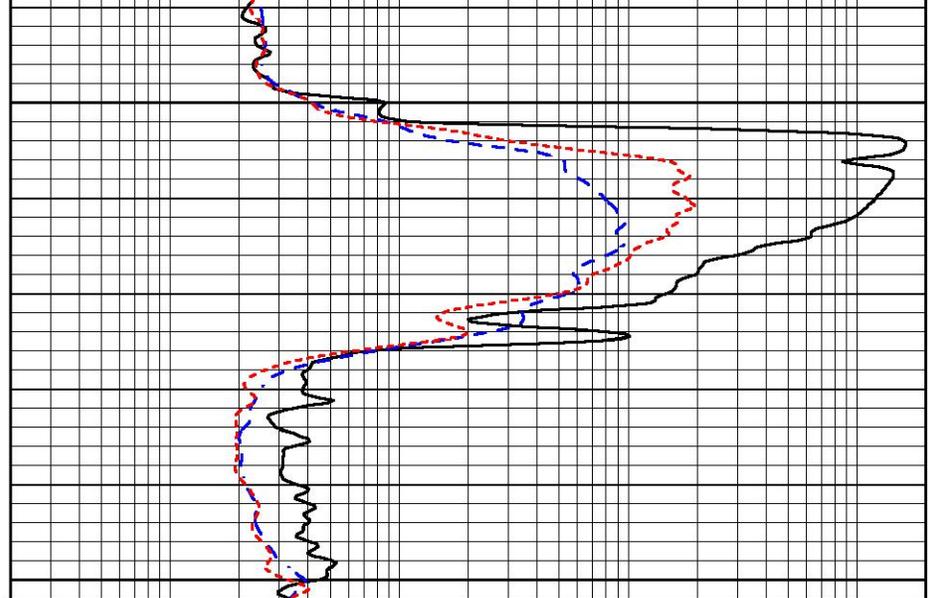




0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

650

700



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

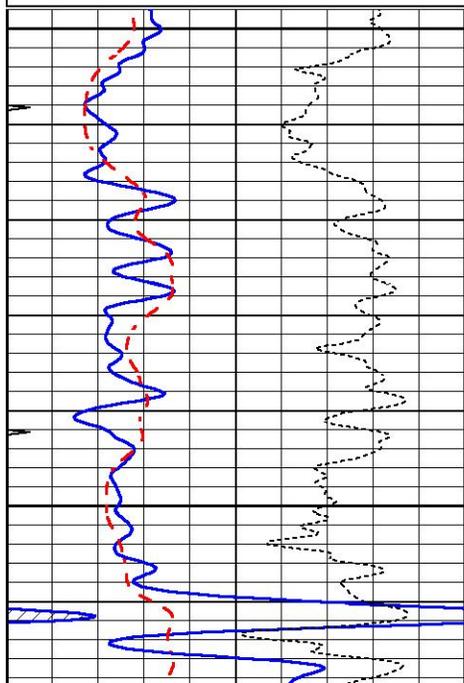


# MAIN SECTION

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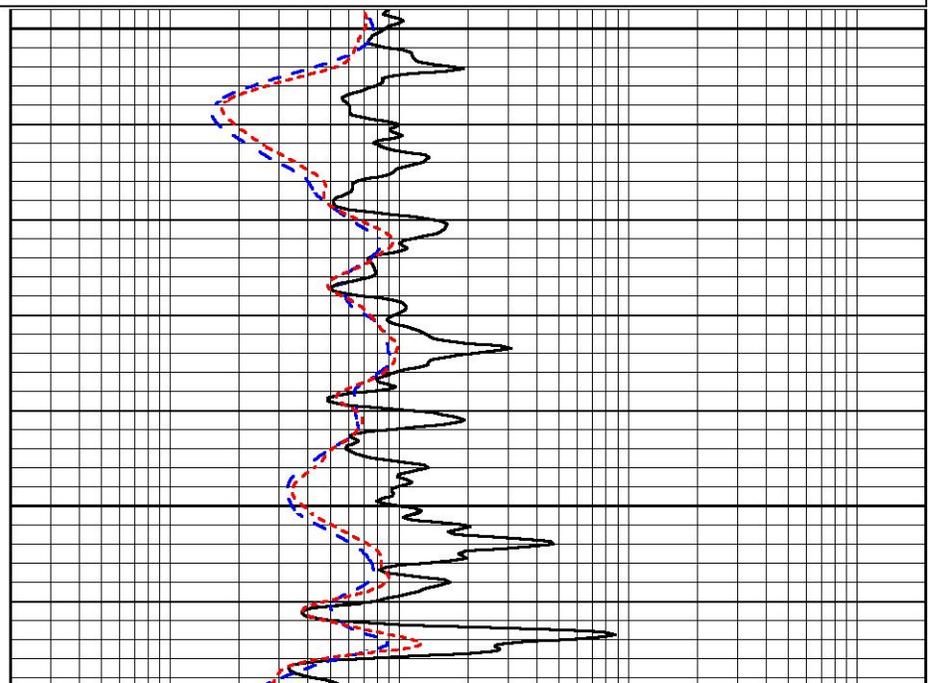
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

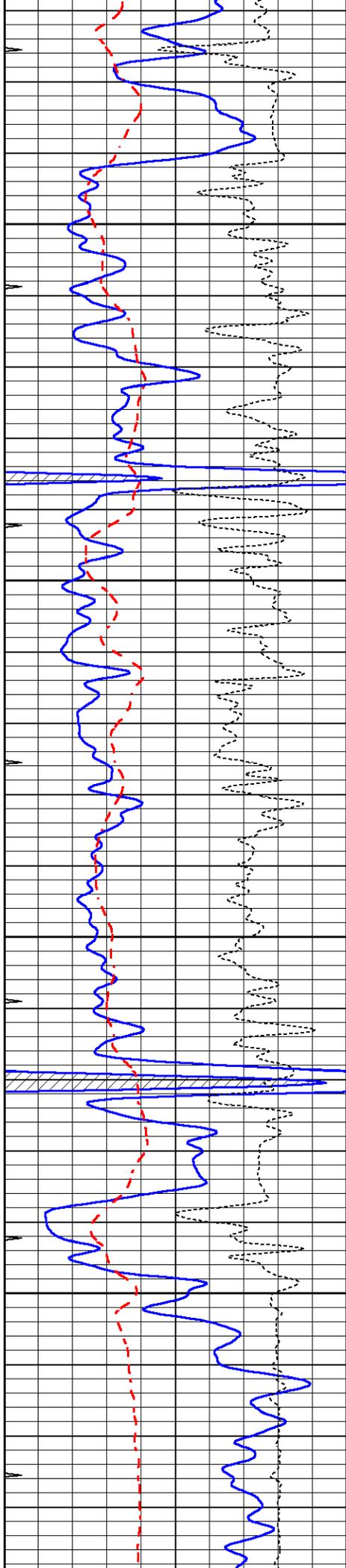
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2700

2750



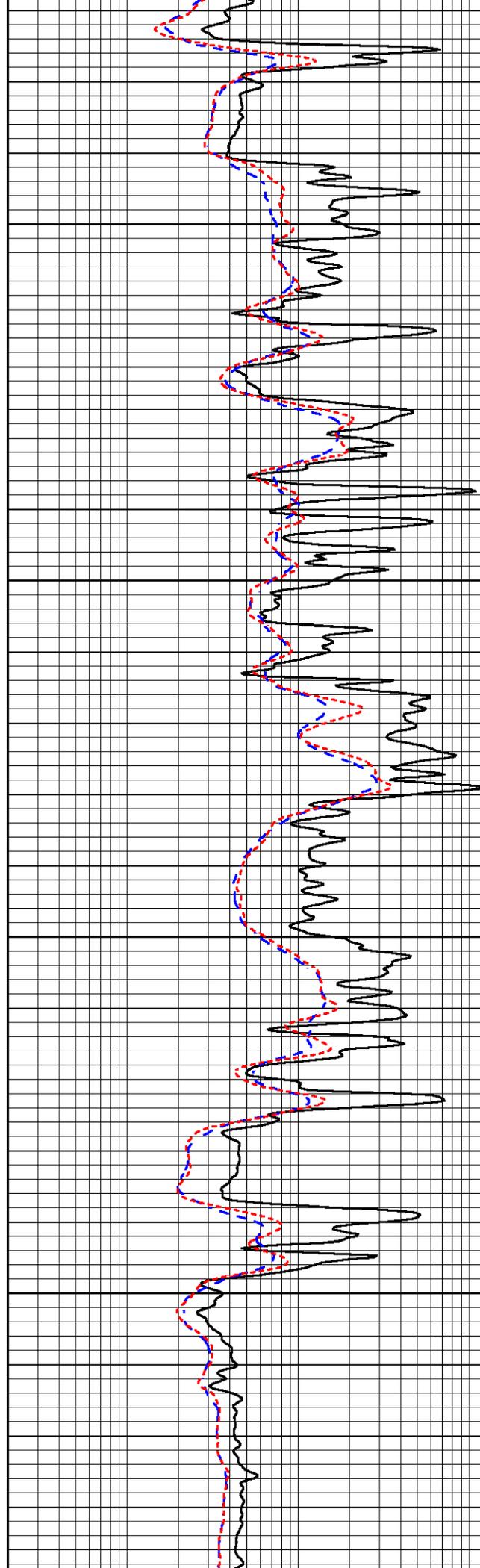


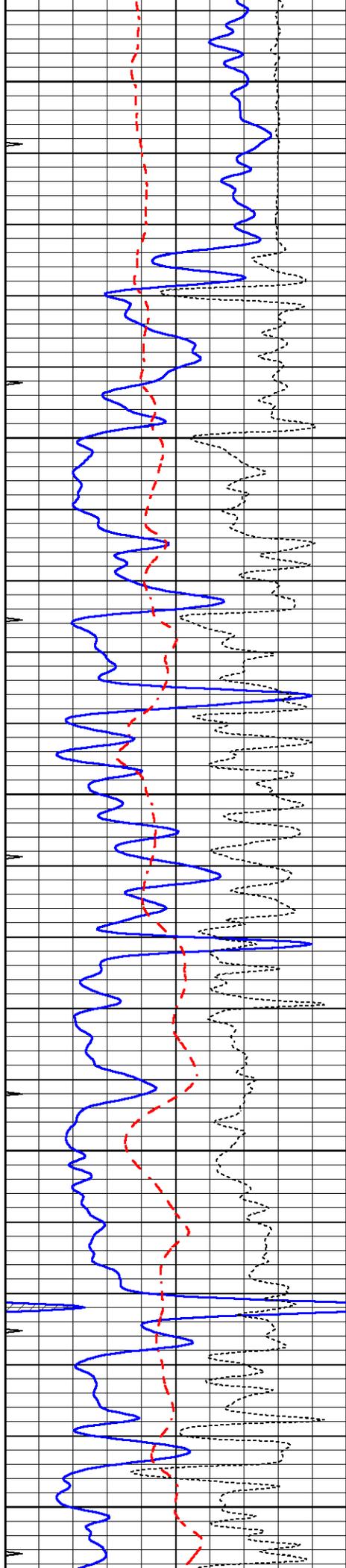
2800

2850

2900

2950





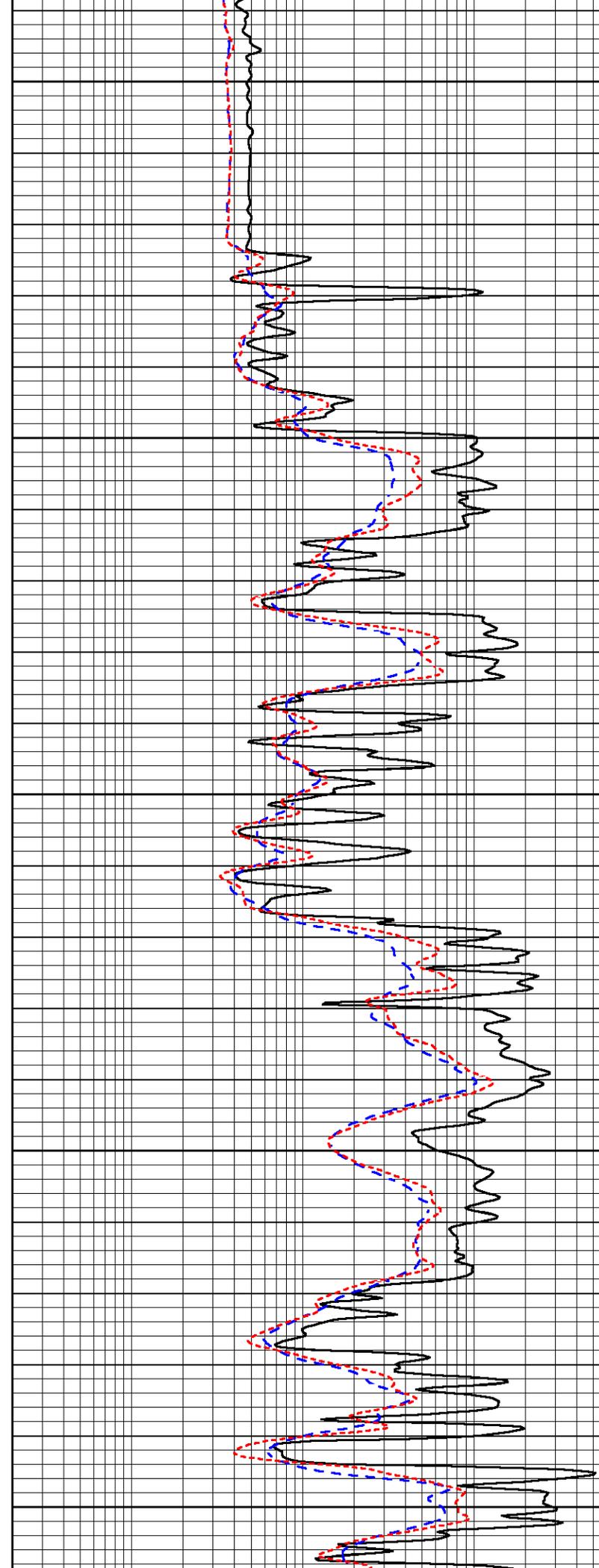
3000

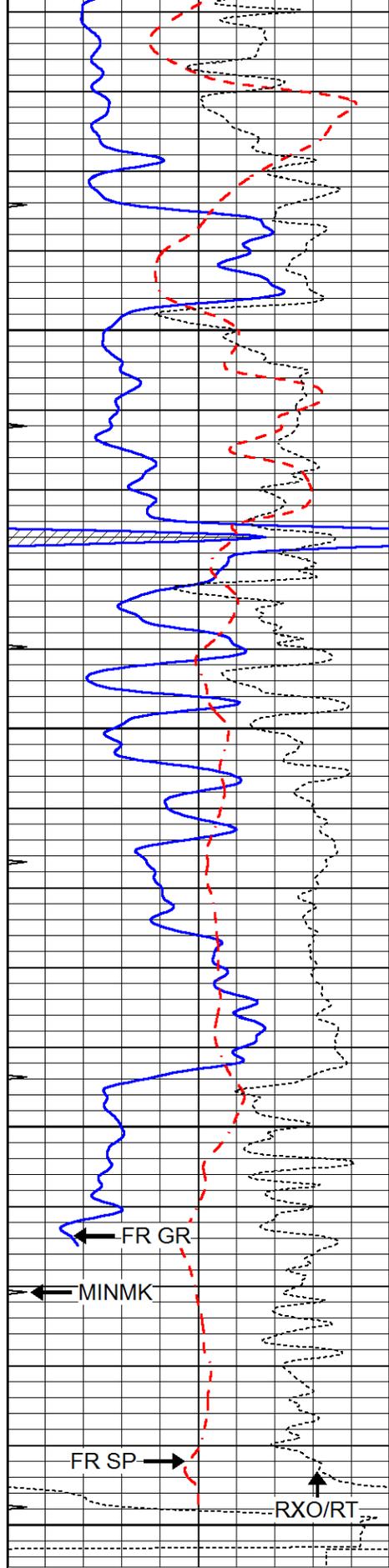
3050

3100

3150

3200





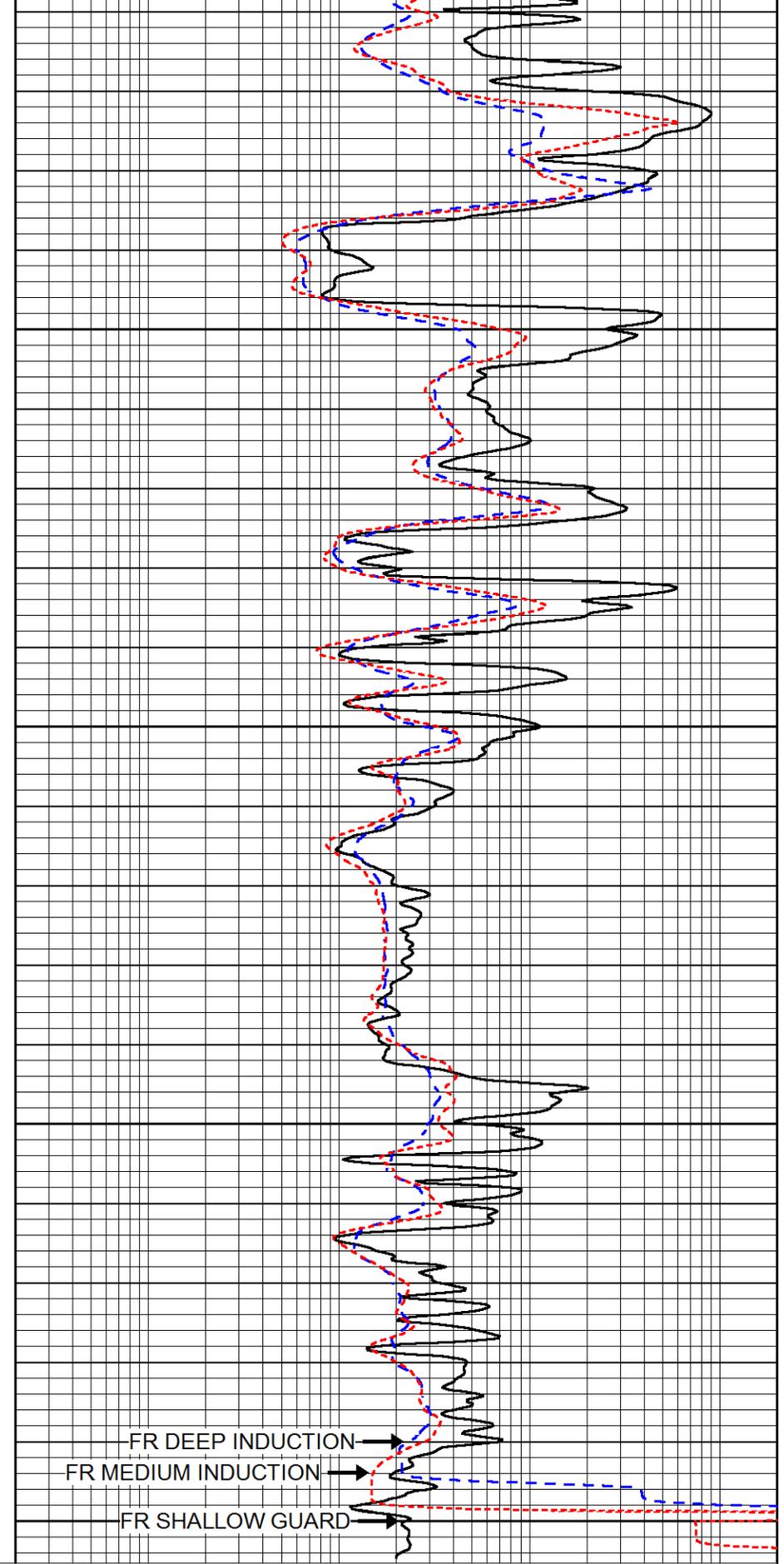
3250

3300

3350

3400  
LTD 3402

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

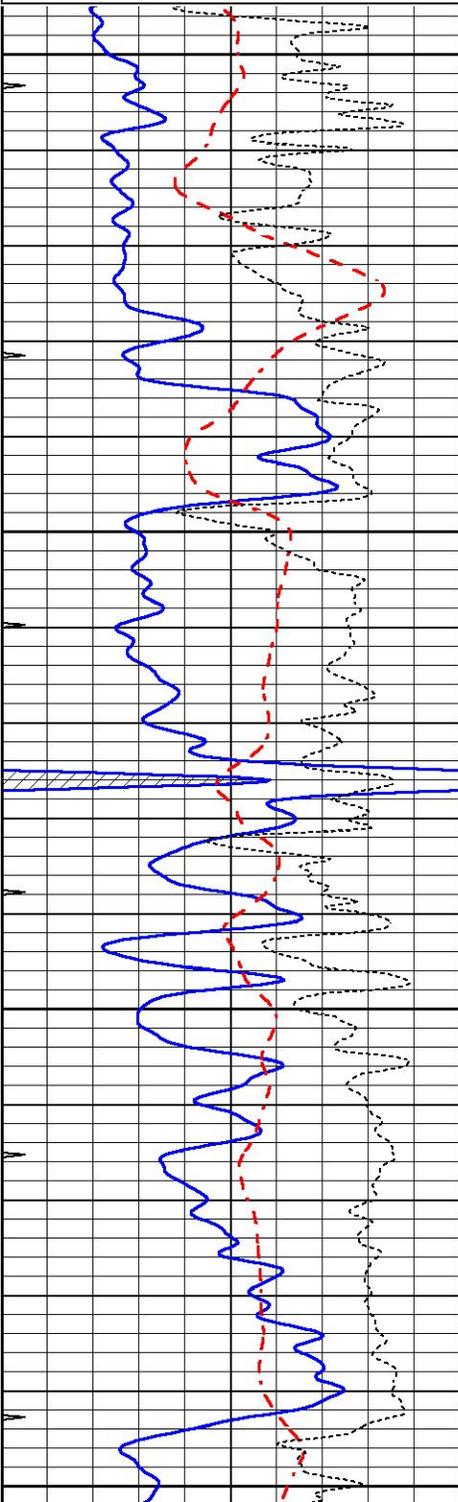


# REPEAT SECTION

Database File 5898ddn.db  
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 Presentation Format \_dil  
 Dataset Creation Thu May 05 17:16:28 2022  
 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

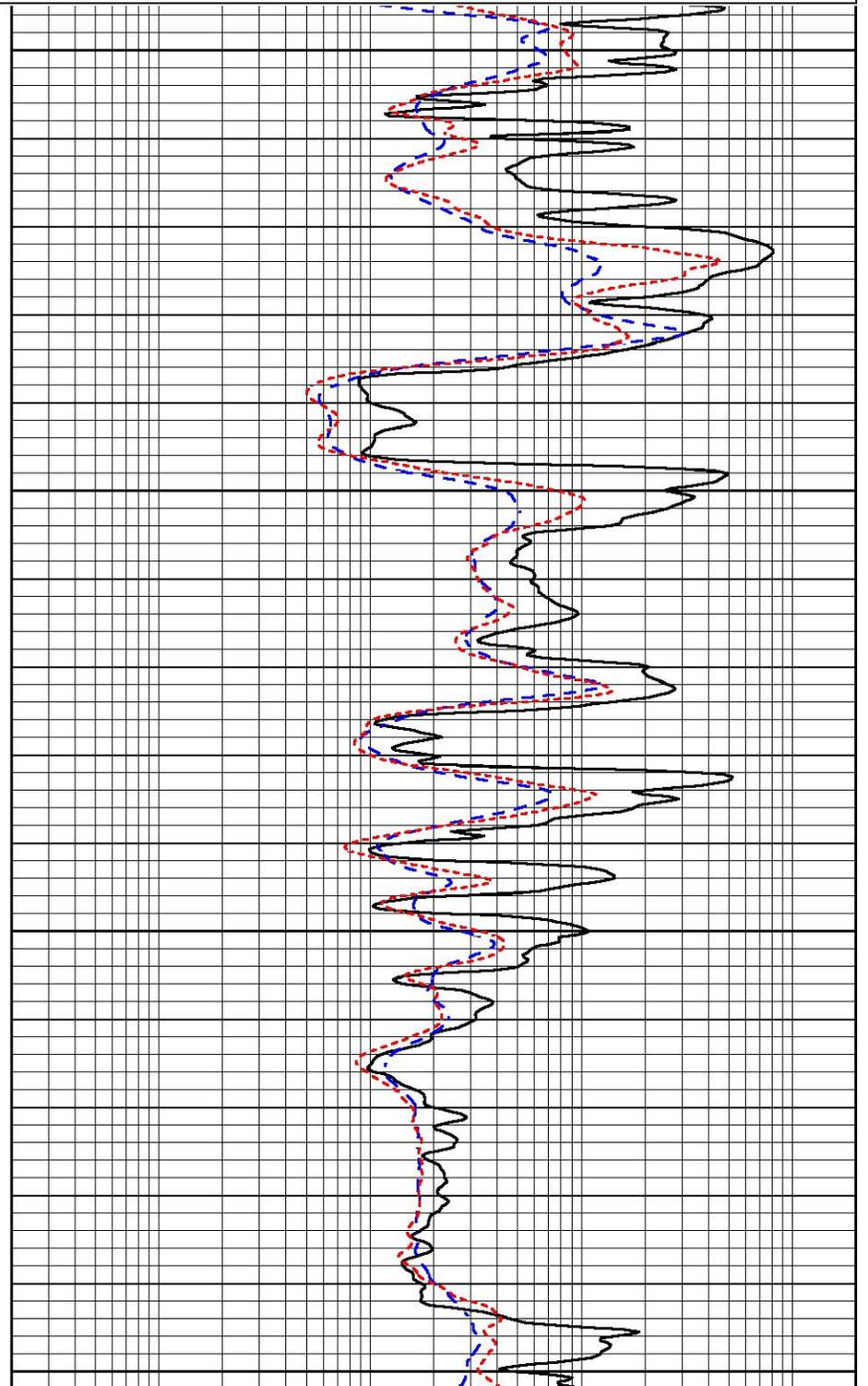


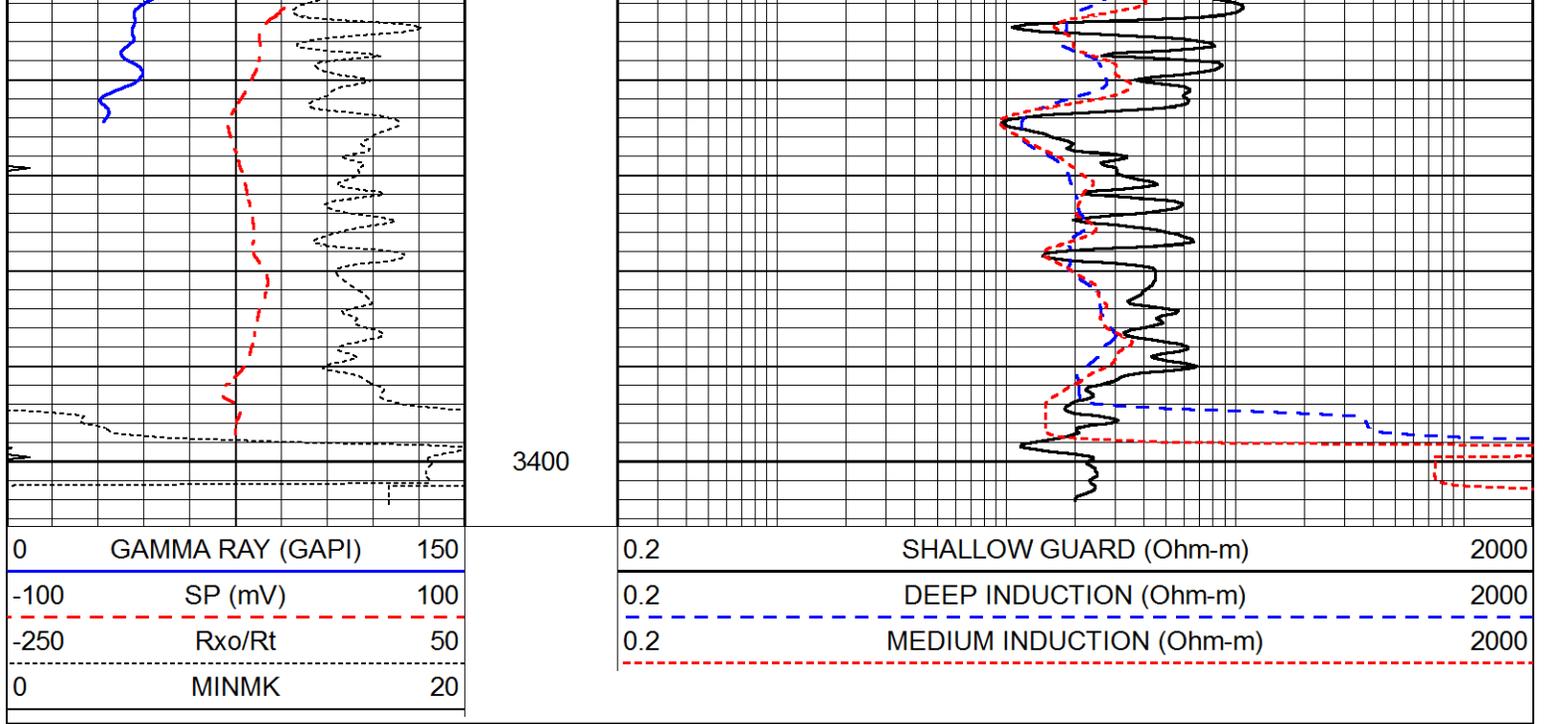
3200

3250

3300

3350





### Calibration Report

Database File      5898ddn.db  
 Dataset Pathname    pass3.1M  
 Dataset Creation    Thu May 05 18:05:25 2022

### Dual Induction Calibration Report

Serial-Model:                    PROBE8-DILG  
 Surface Cal Performed:        Thu May 05 16:18:10 2022  
 Downhole Cal Performed:      Mon Sep 10 14:28:38 2018  
 After Survey Verification Performed:    Mon Sep 10 14:28:40 2018

#### Surface Calibration

Loop:	Readings				References			Results	
	Air	Loop			Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	600.000	0.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-10.000	
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  
0.000 Ohm-m  
1.000 mmho-m1.000 Ohm-m  
0.000 Ohm-m  
1.000 mmho-mLitho Density Calibration Report  
Serial: 002N Model: PRB

## Master Calibration

Performed Tue Mar 10 15:08:00 2020

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	780.1	6981.9	2088.6	1871.2	cps
Window 2	718.6	5898.2	1813.8	1664.1	cps
Window 3	580.0	2989.5	1088.0	1039.1	cps
Window 4	172.8	175.7	175.3	173.5	cps
Long Space	0.0	5179.6	1095.2	945.5	cps
Short Space	1.1	1228.6	821.2	690.4	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 45.5	Rib Slope	: 1.016	Density/Spine Ratio	: 0.548
Spine Angle	: 75.5	Spine Slope	: 3.857	Spine Intercept	: -18.9

## 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 Long Space	cps 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:	Thu May 05 16:17:57 2022		
Calibrator Value:	150.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	276.0	cps	
Sensitivity:	0.7500	GAPI/cps	