

DUAL INDUCTION LOG

Company	RICHLAN DRILLING	Company	RICHLAN DRILLING
Well	R. J. SCHREIBER #1	Well	R. J. SCHREIBER #1
Field	BEAVER SOUTH	Field	BEAVER SOUTH
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	API # : 15-009-26314-0000 957' FSL & 441' FWL SE - NW - SW - SW	Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	1918
Log Measured From	KELLY BUSHING 11' A.G.L.		
Drilling Measured From	KELLY BUSHING		
	SEC 21 TWP 16S RGE 12W		
Date	10/29/21		
Run Number	ONE		
Depth Driller	3485		
Depth Logger	3479		
Bottom Logged Interval	3477		
Top Log Interval	00		
Casing Driller	8 5/8" @ 522'		
Casing Logger	514		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,200 PPM	
Density / Viscosity	9.0/55		
pH / Fluid Loss	10.0/5.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600 @ 60F		
Rmf @ Meas. Temp	.450 @ 60F		
Rmc @ Meas. Temp	.720 @ 60F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.324 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	2:15 P.M.		
Maximum Recorded Temperature	111F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE	RICK SCREIBER	BOB SCHREIBER

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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.

15-009-26314-0000

Comments

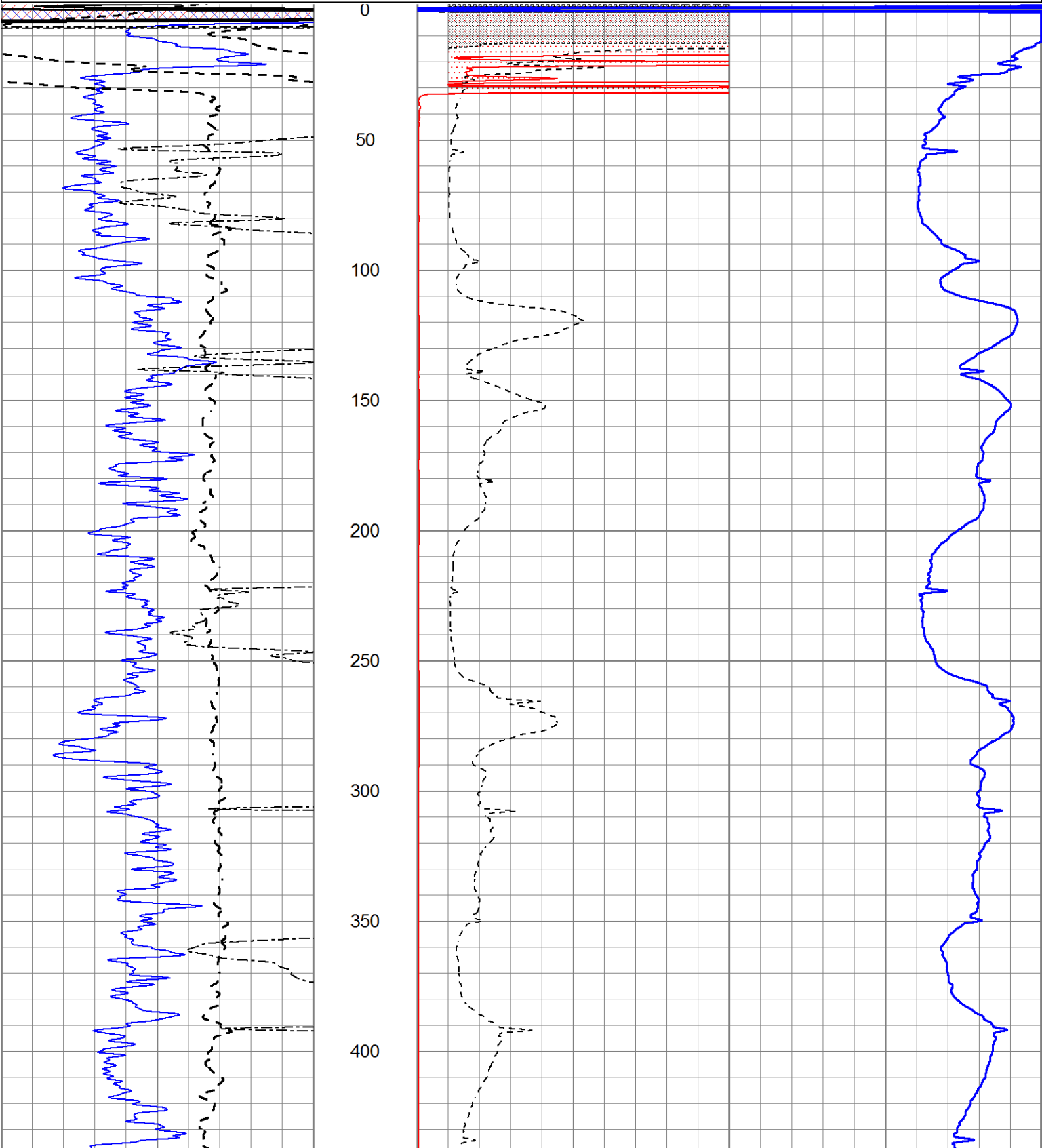
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
BEAVER, KS., 1/4N. ON BKLTOP, E. INTO

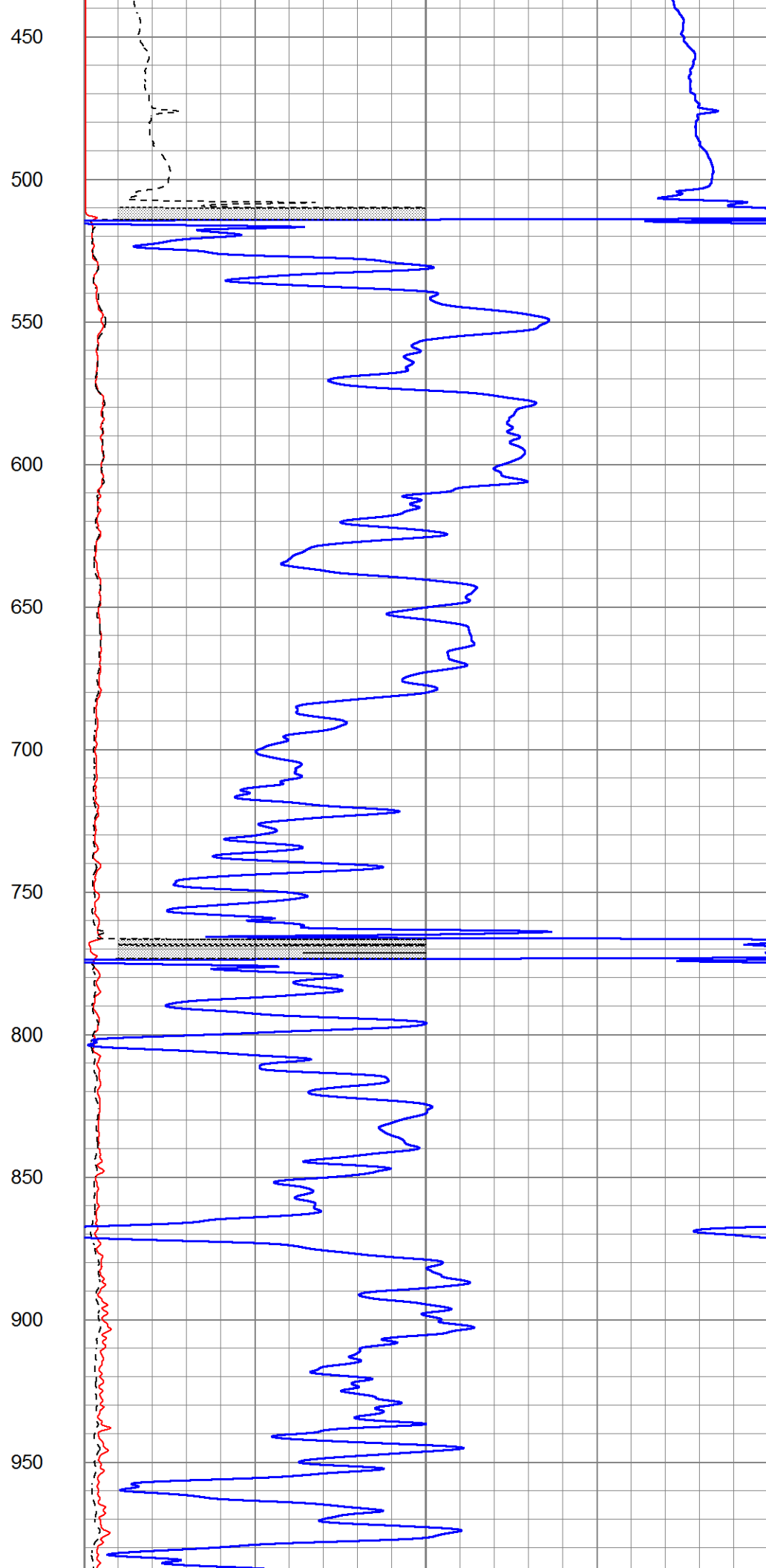
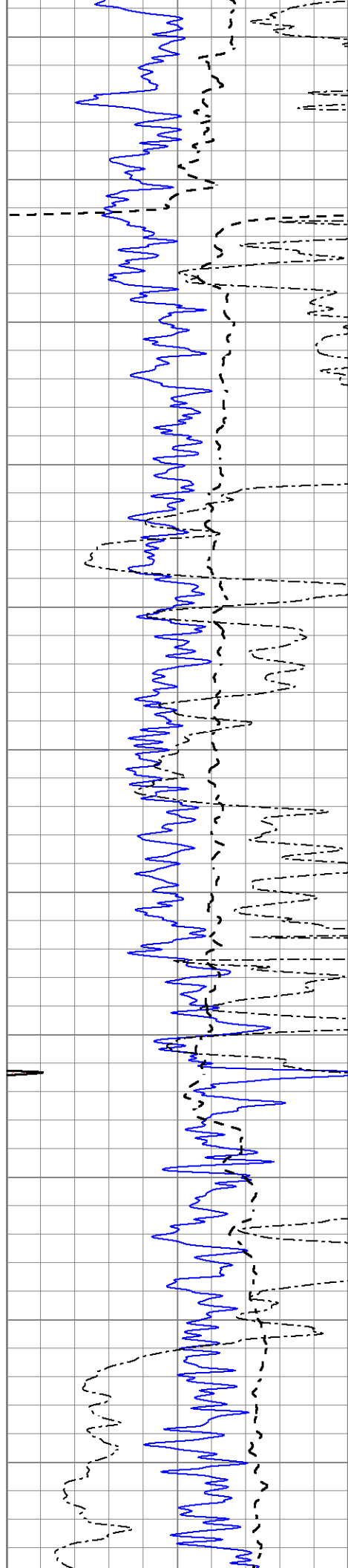


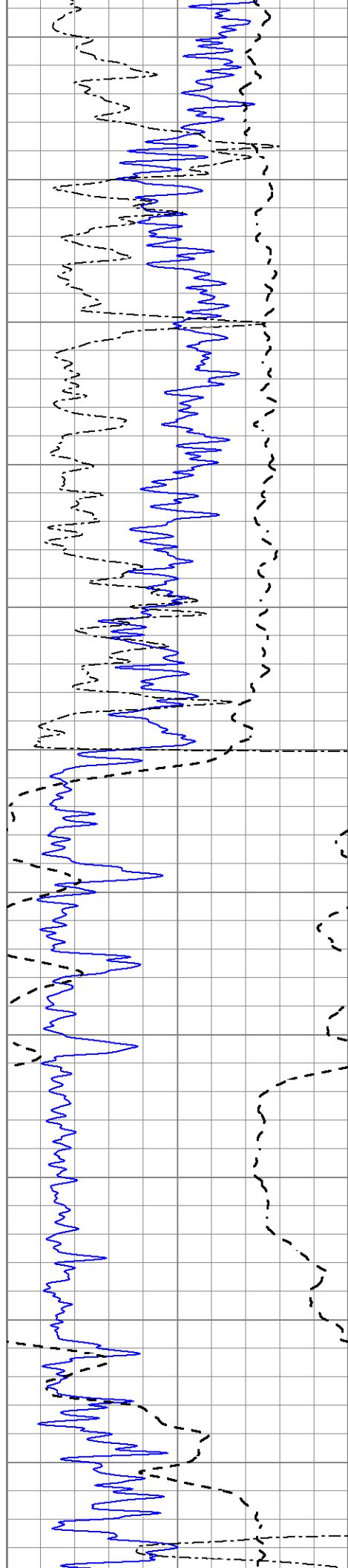
MAIN SECTION

Database File	5826ddn.db
Dataset Pathname	pass3.1M
Presentation Format	dil2
Dataset Creation	Fri Oct 29 15:34:45 2021
Charted by	Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	1000	CILD (mmho/m)	0
-100	SP (mV)	100	0	RLL3 (Ohm-m)	50
0	RWA (Ohm-m)	1	0	RILD (Ohm-m)	50
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500







1000

1050

1100

1150

1200

1250

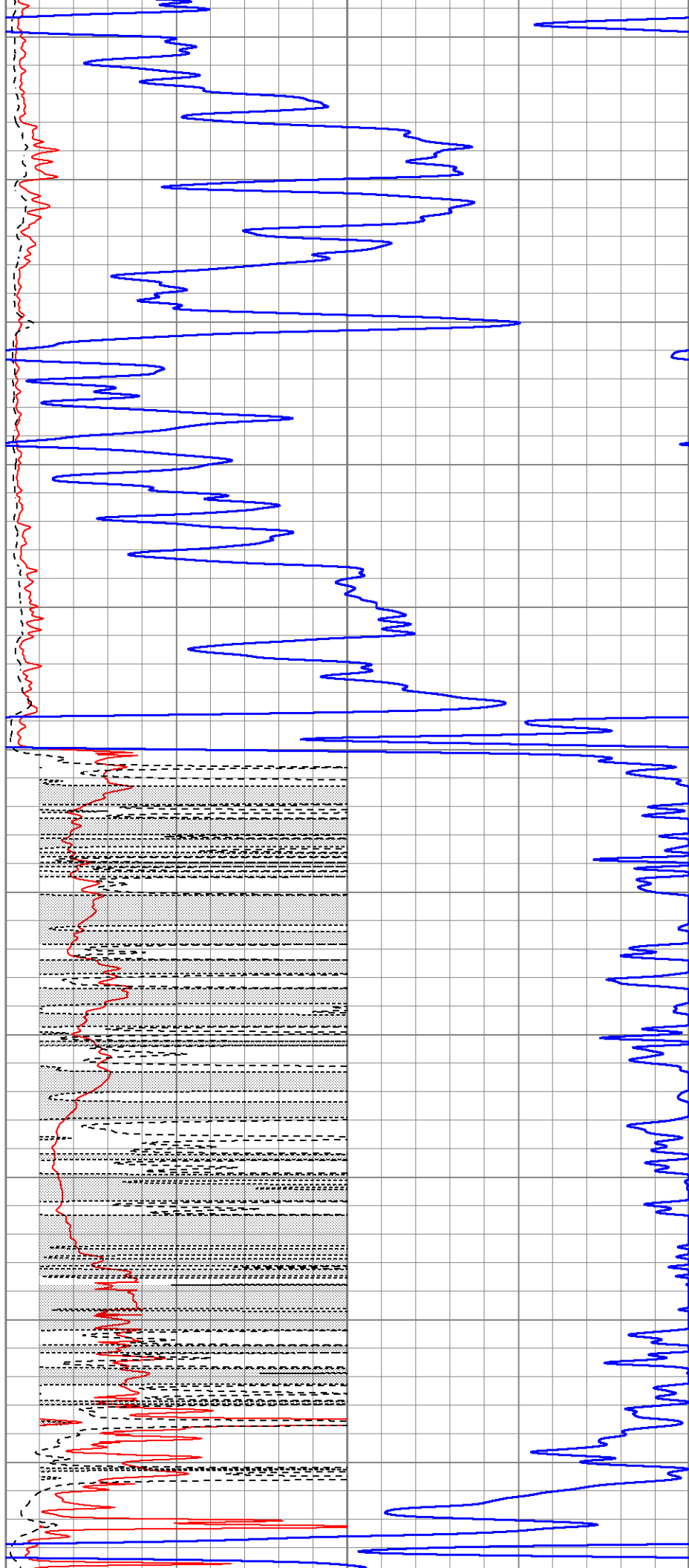
1300

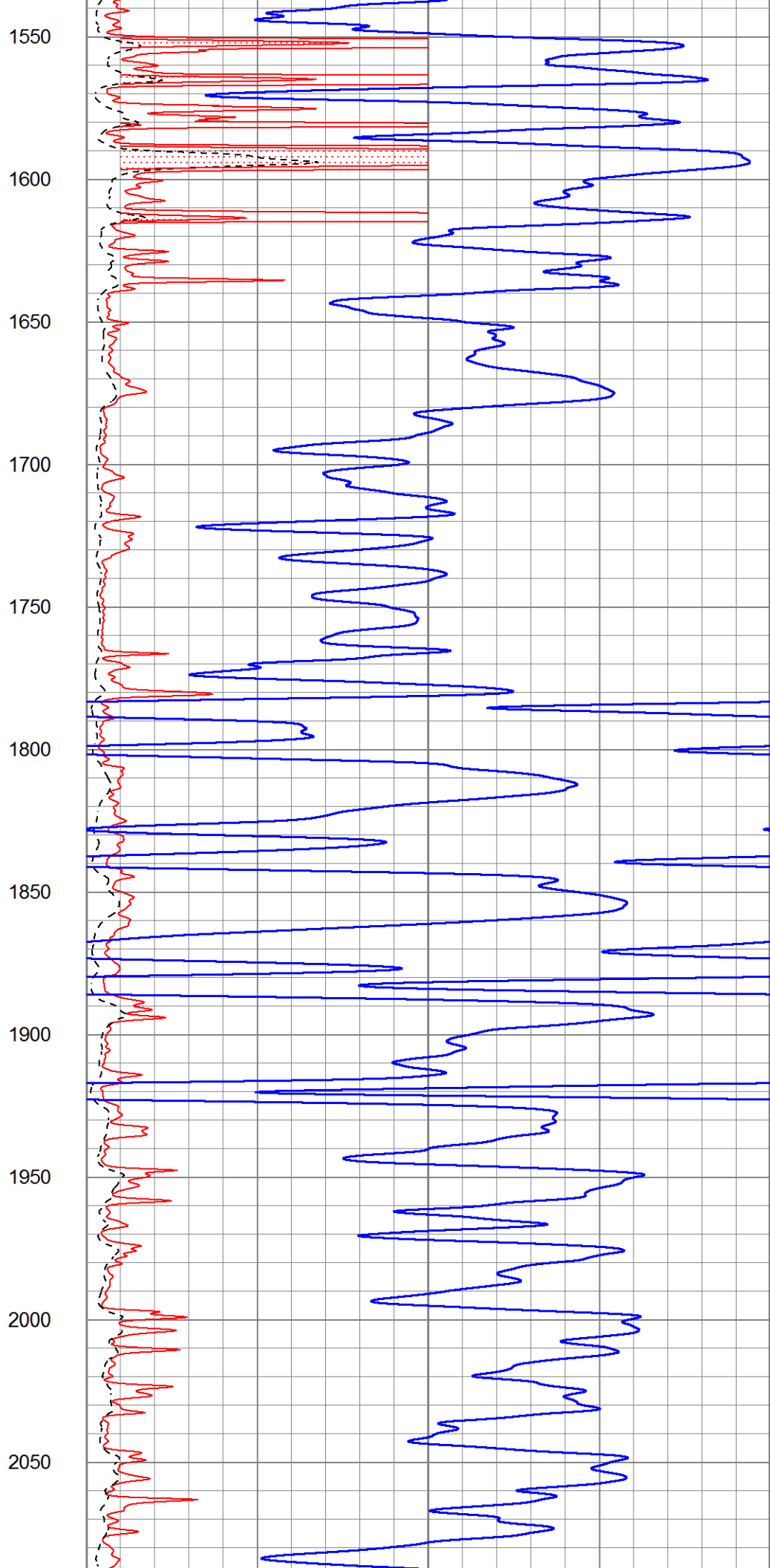
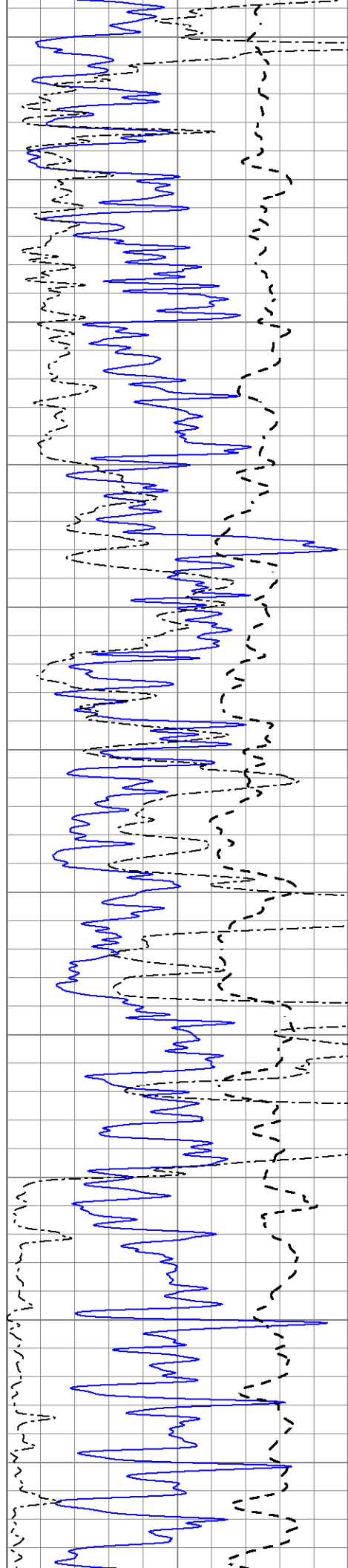
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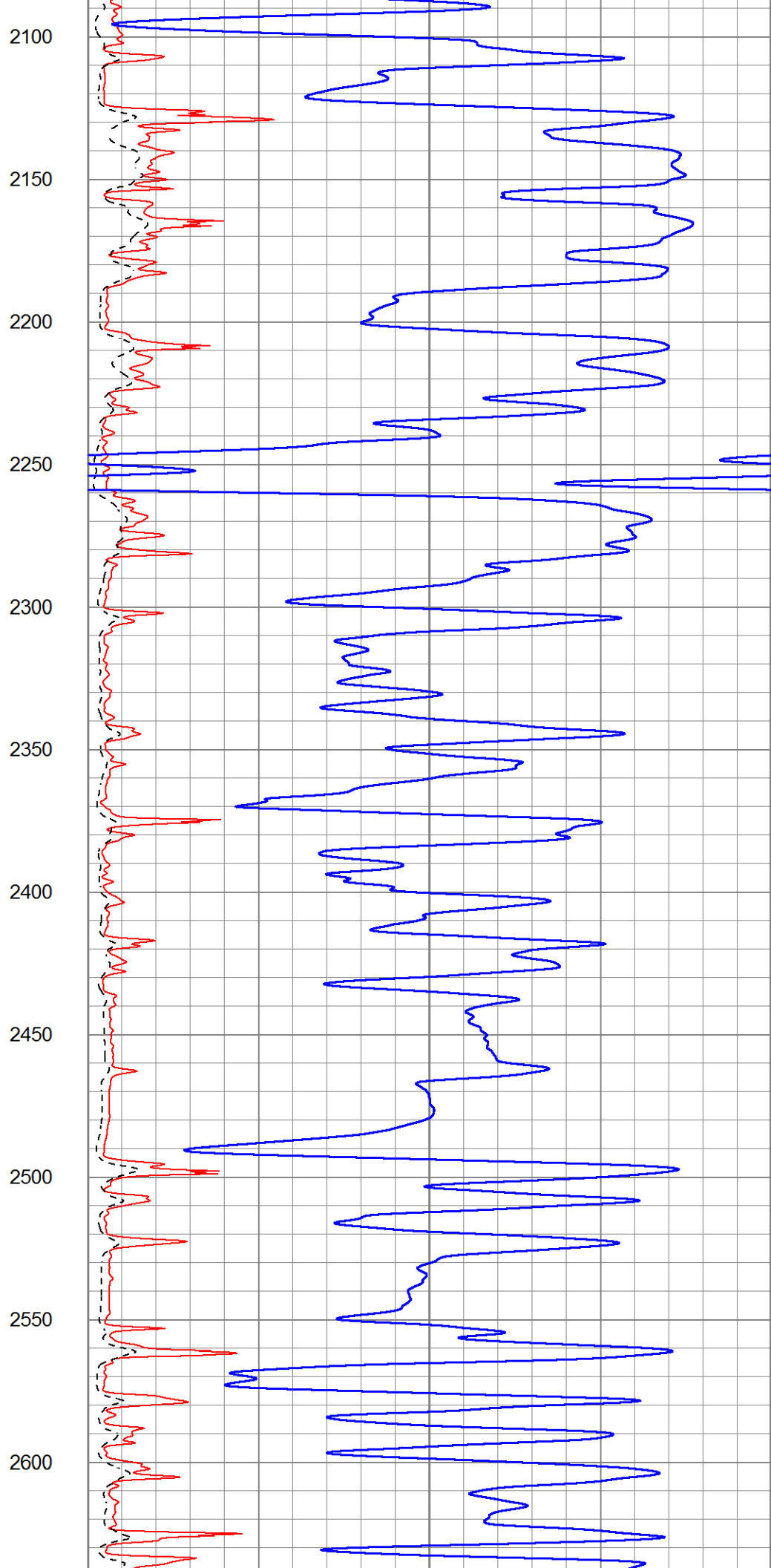
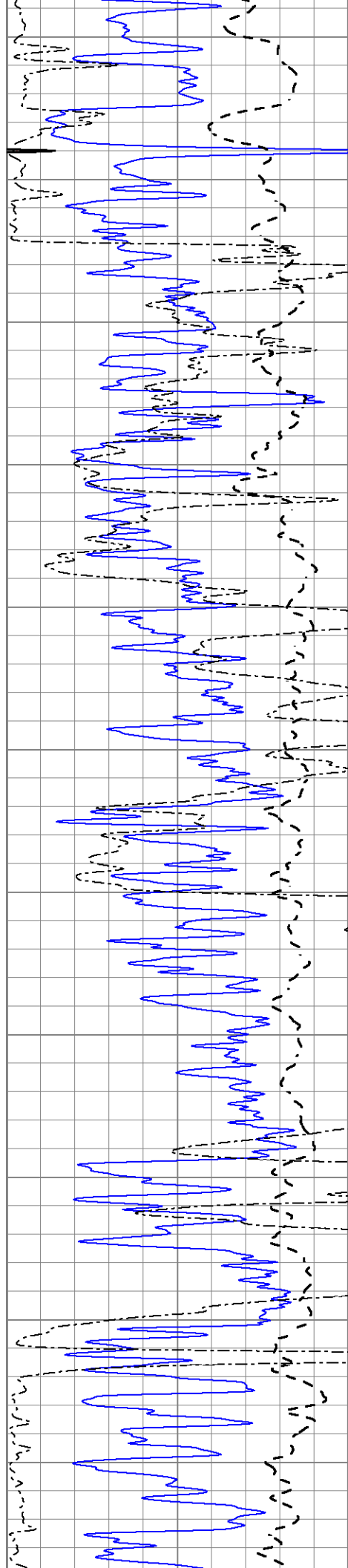
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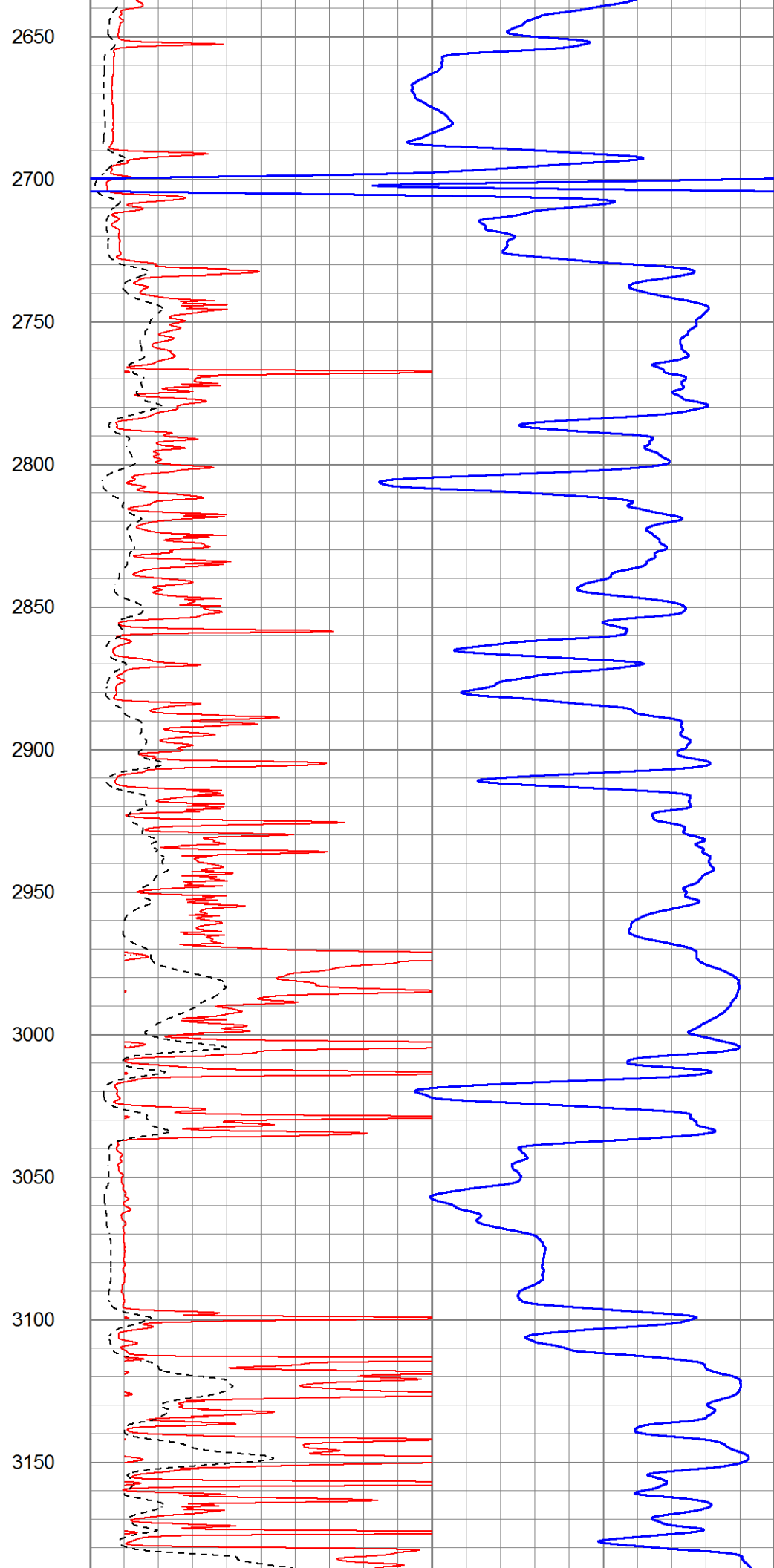
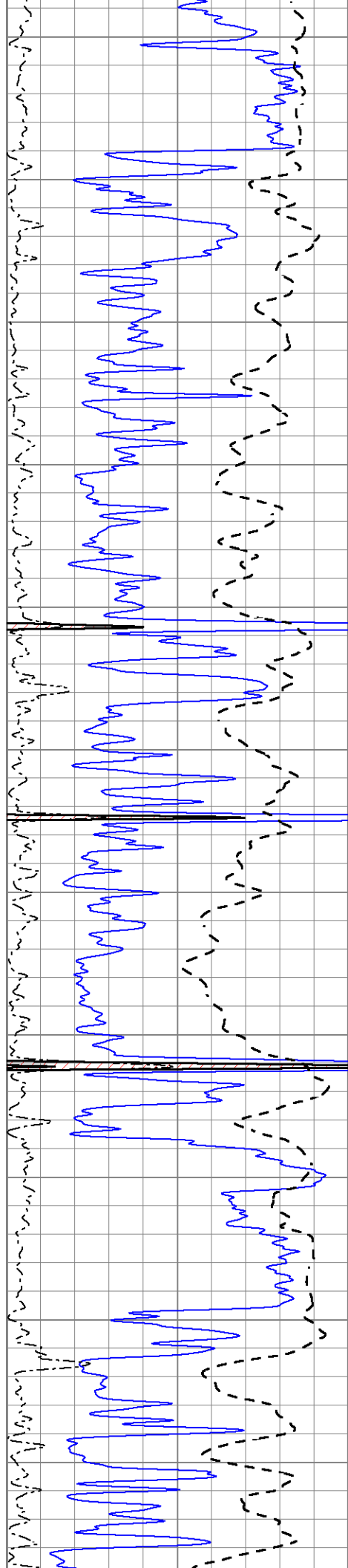
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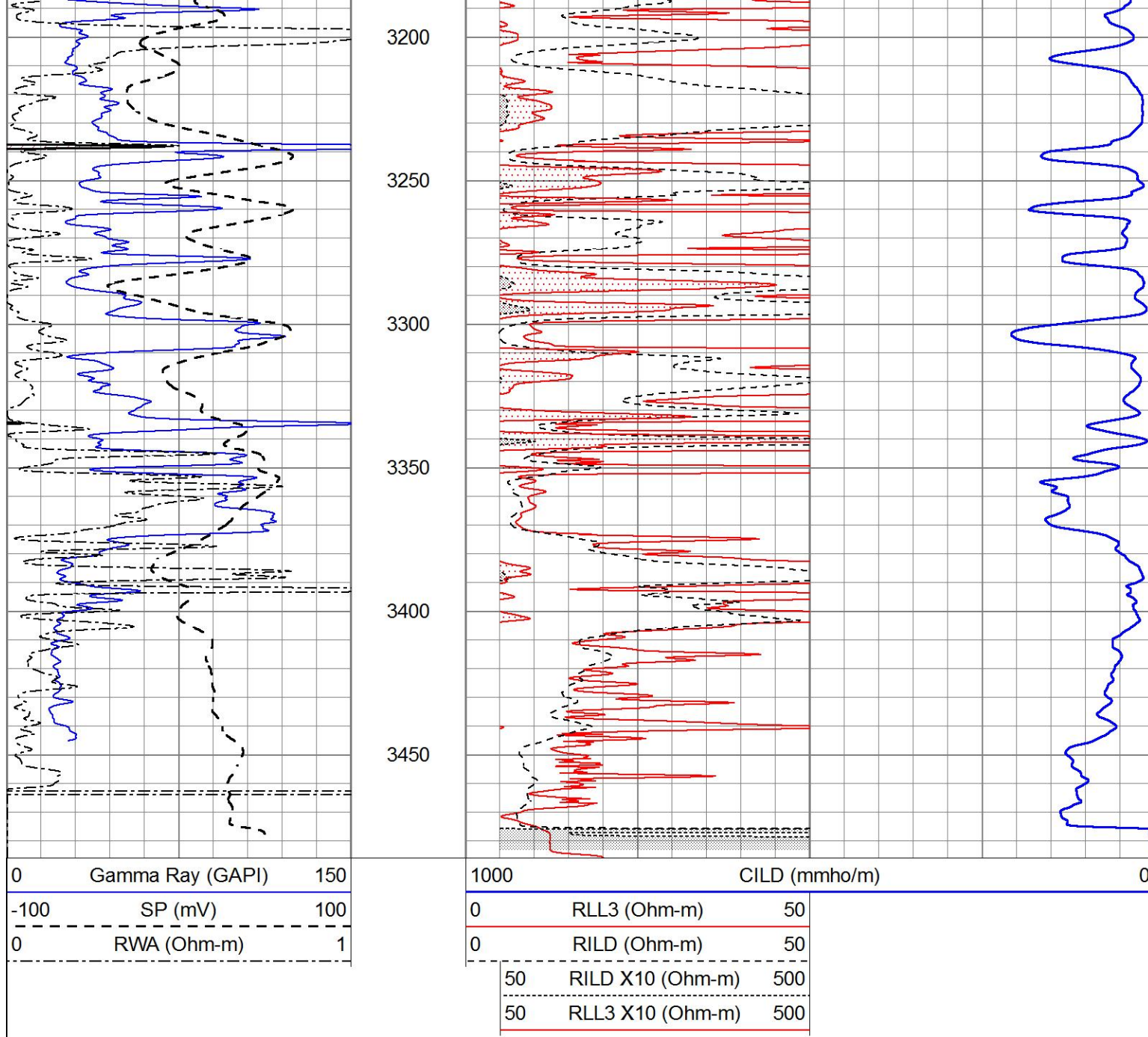
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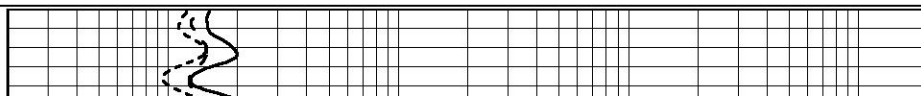
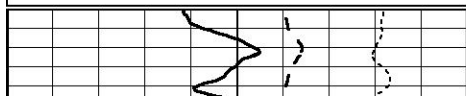


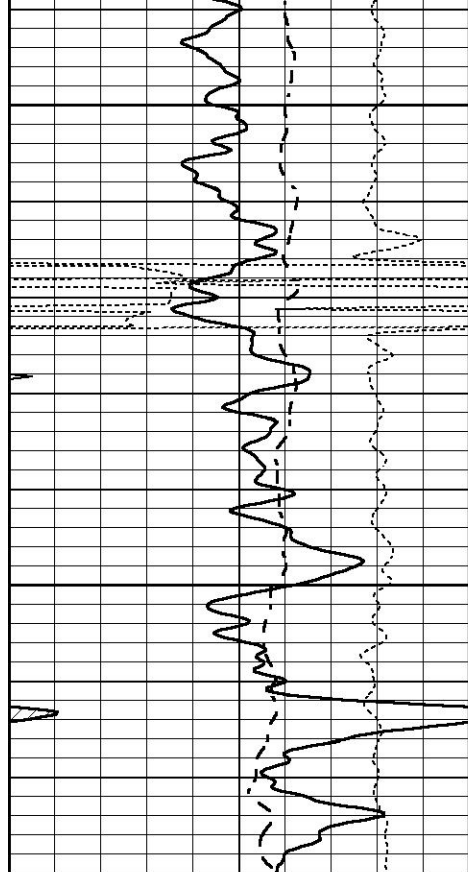


ANHYDRITE

Database File 5826ddn.db
 Dataset Pathname pass3.1A
 Presentation Format _dil
 Dataset Creation Fri Oct 29 15:35:24 2021
 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			

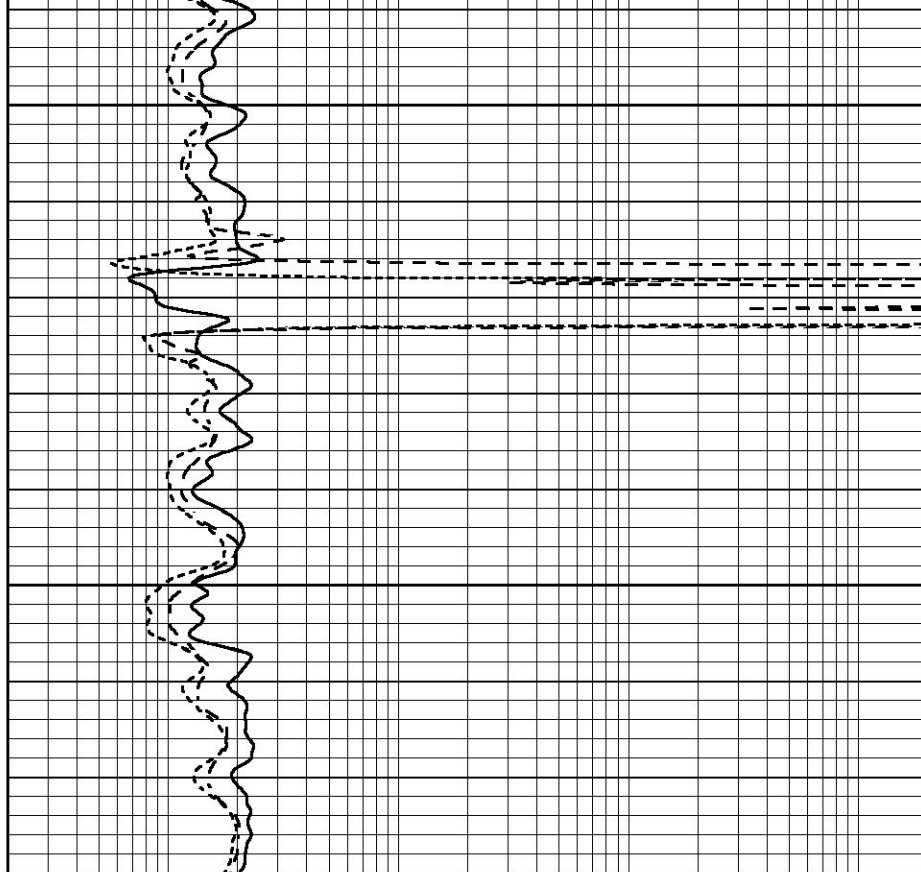




0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

750

800



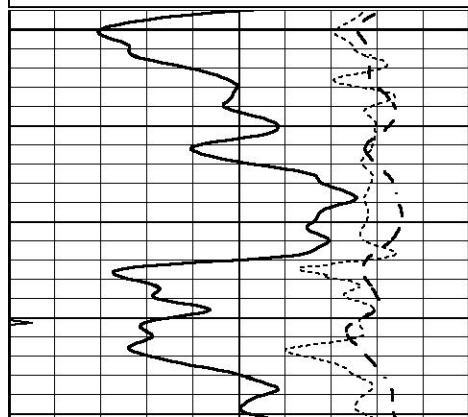
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



MAIN SECTION

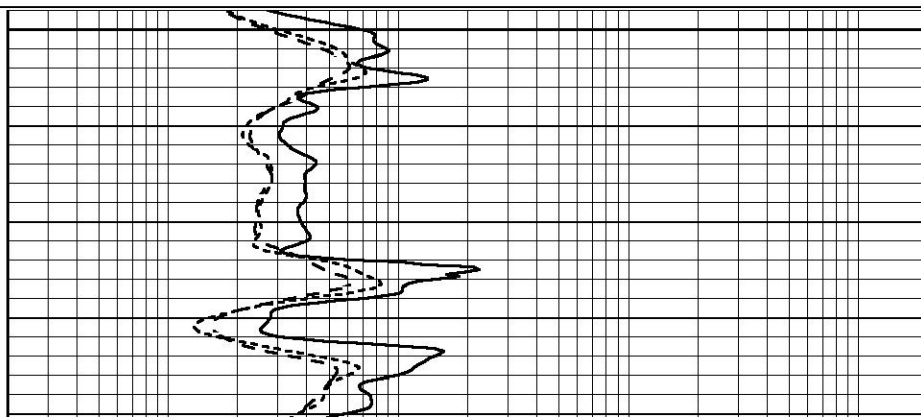
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 Dataset Pathname pass3.1M
 Presentation Format _dil
 Dataset Creation Fri Oct 29 15:34:45 2021
 Charted by Depth in Feet scaled 1:240

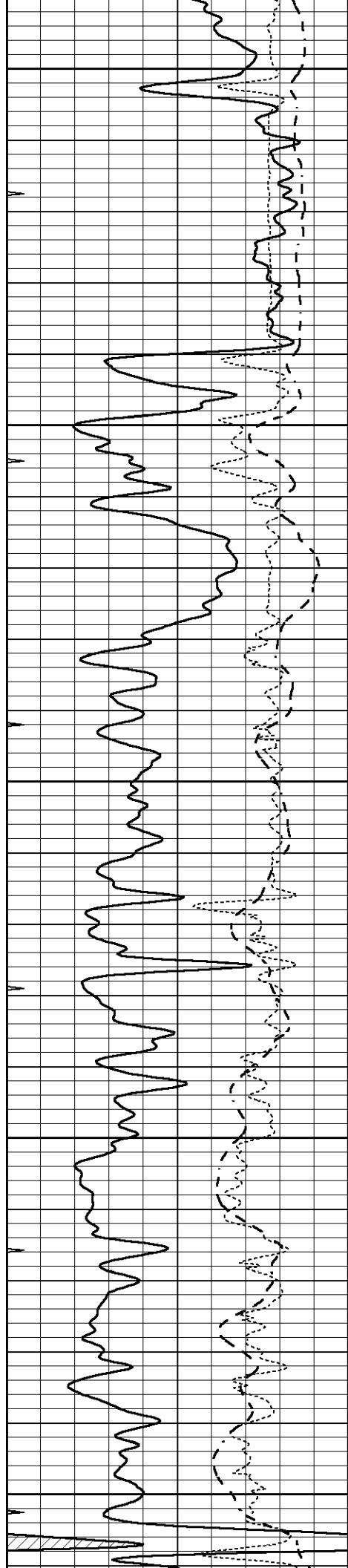
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20



2600

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





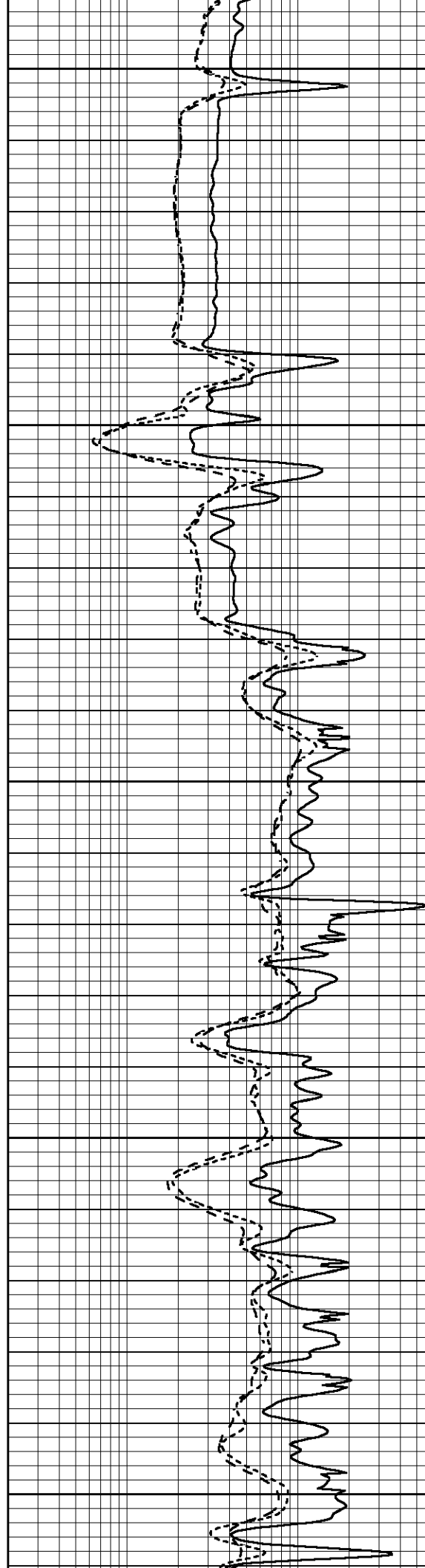
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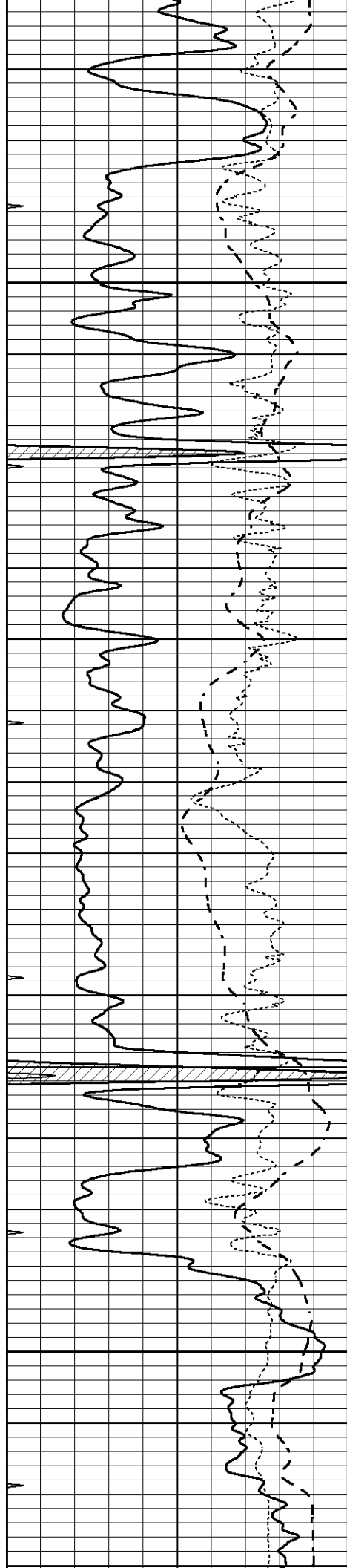
2700

2750

2800

2850



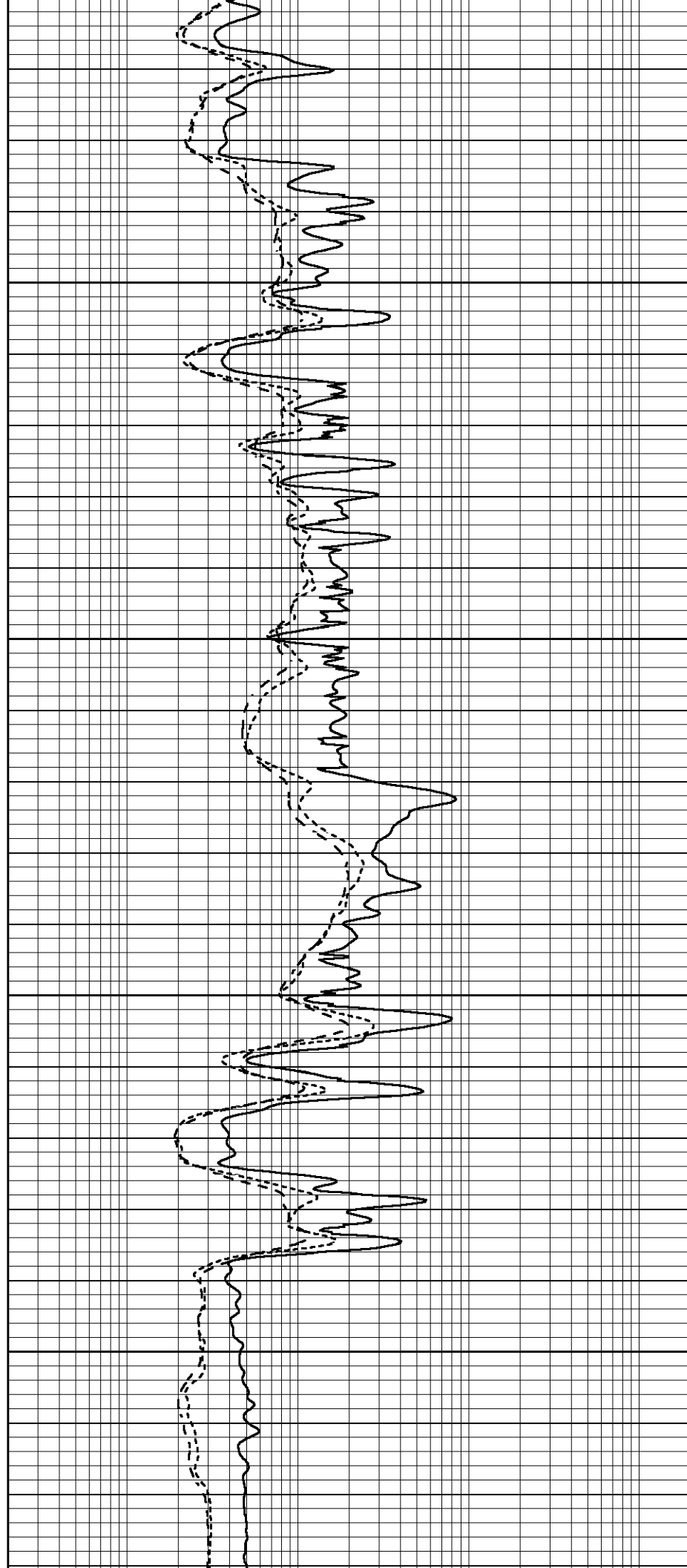


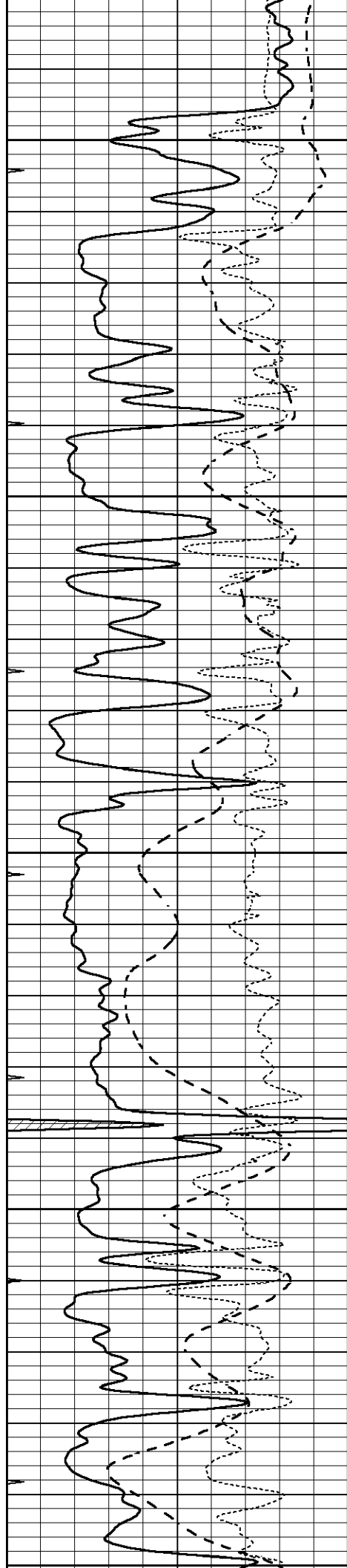
2900

2950

3000

3050





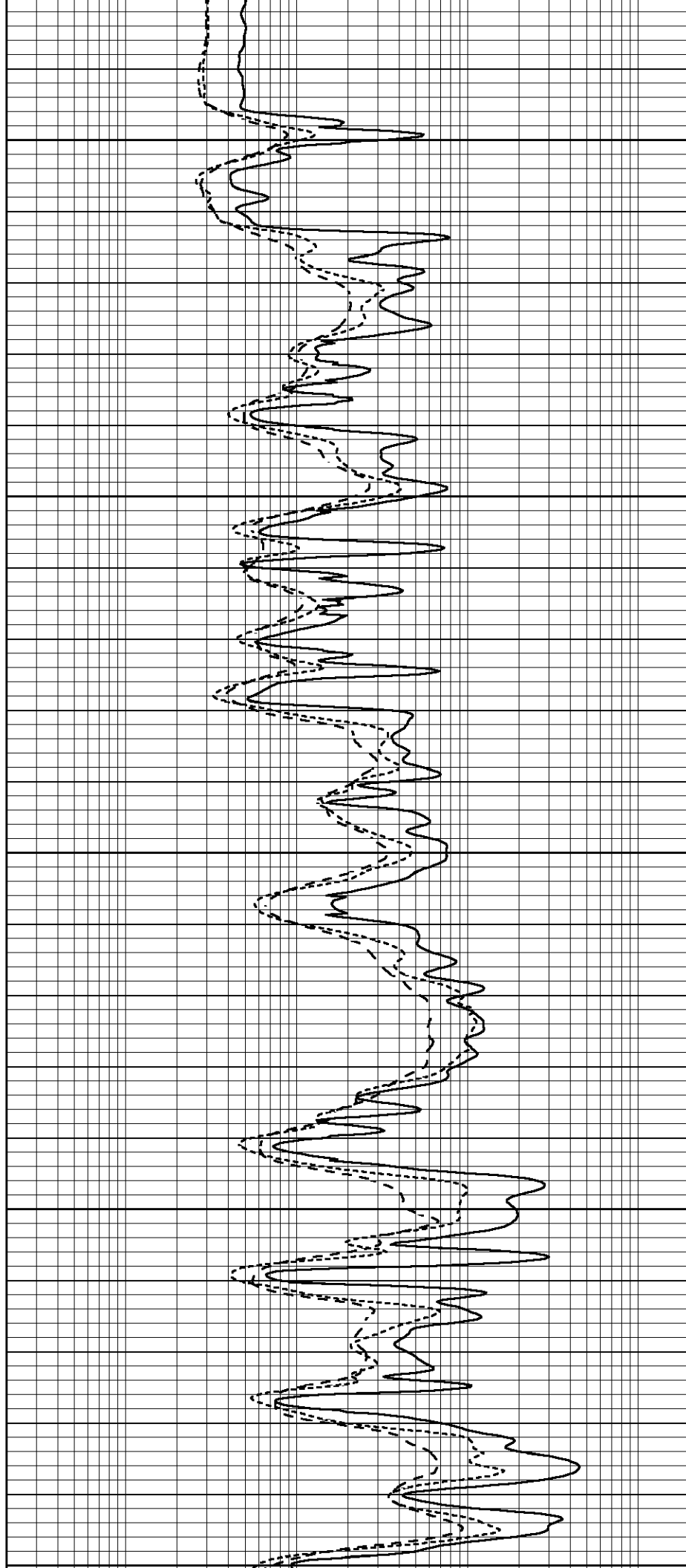
3100

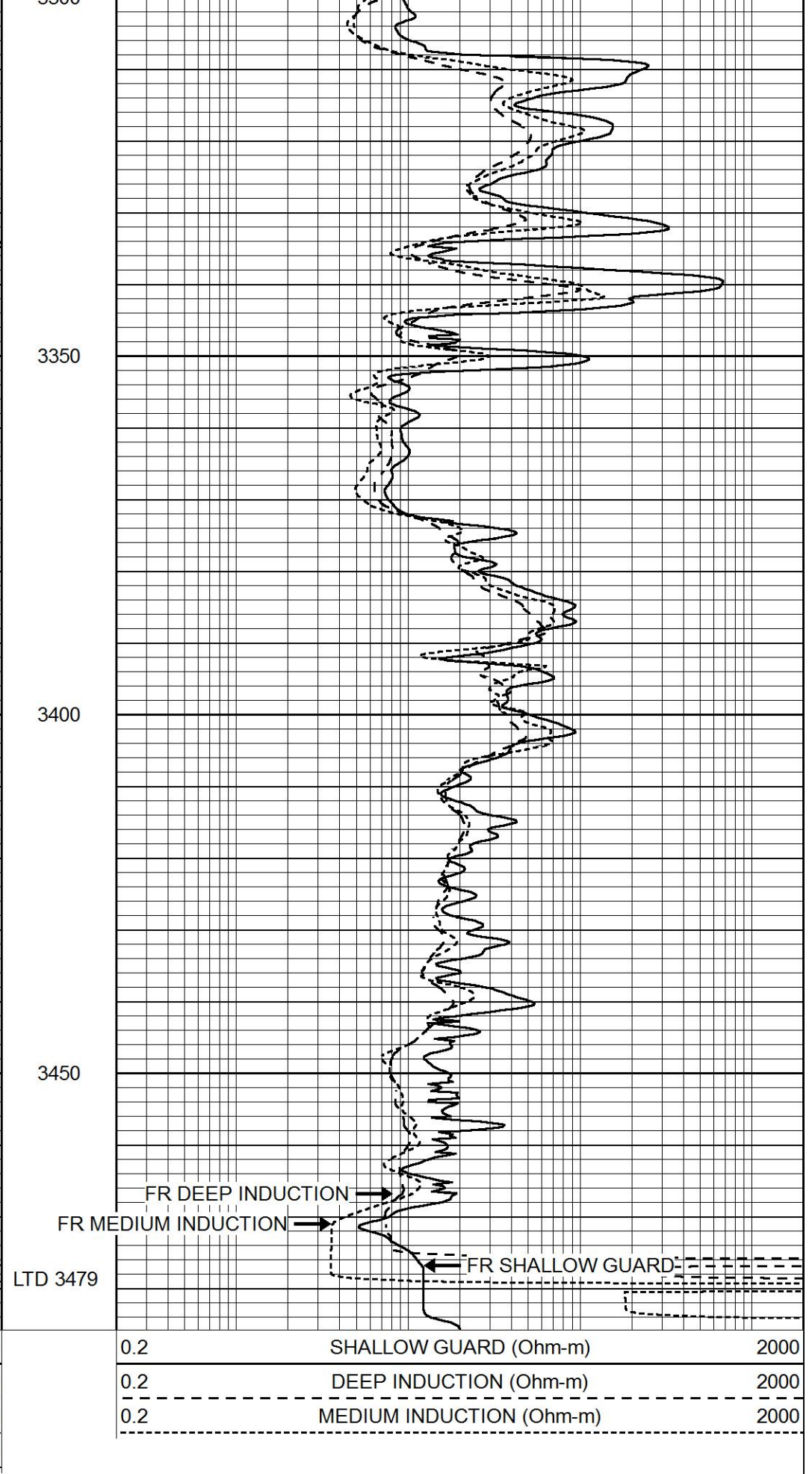
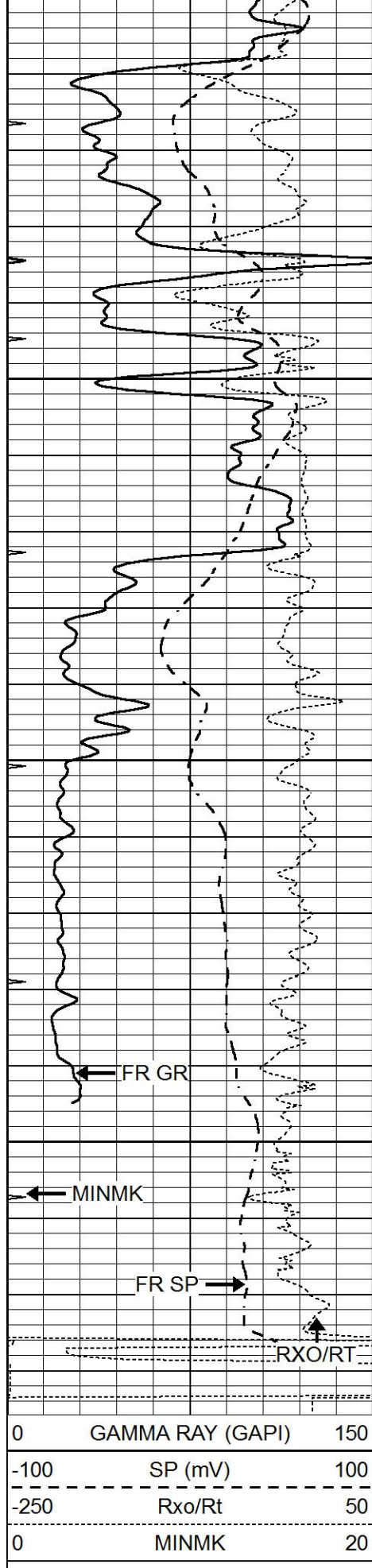
3150

3200

3250

3300





REPEAT SECTION

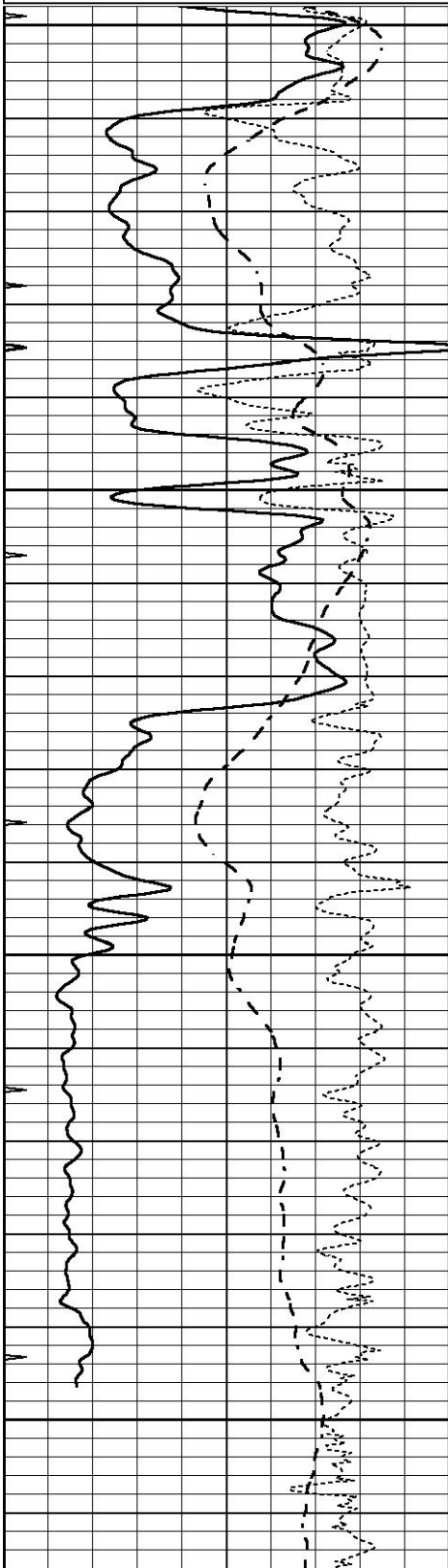


REPEAT SECTION

Database File 5826ddn.db
Dataset Pathname pass2.1R
Presentation Format _dil
Dataset Creation Fri Oct 29 14:53:32 2021
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

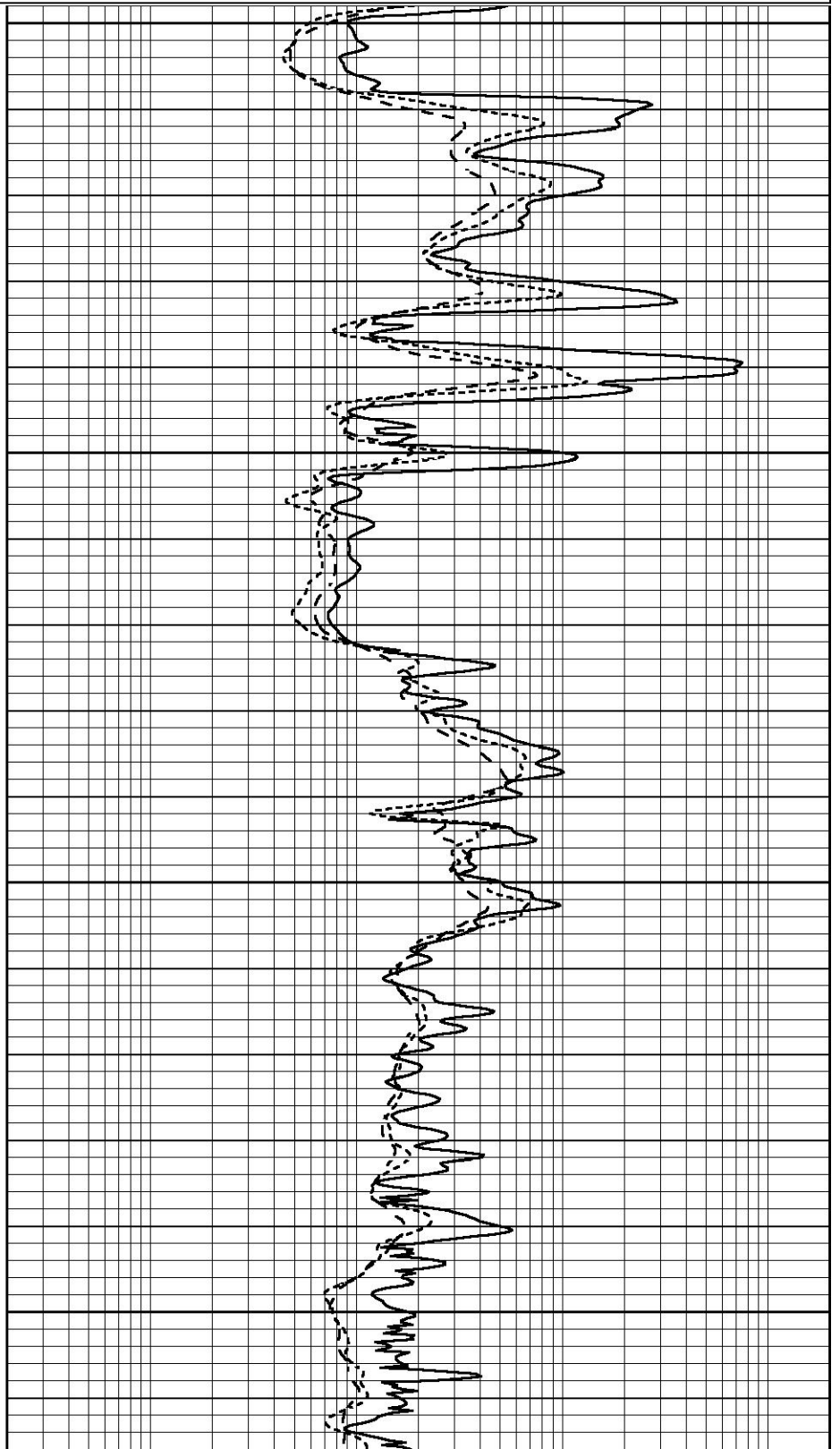


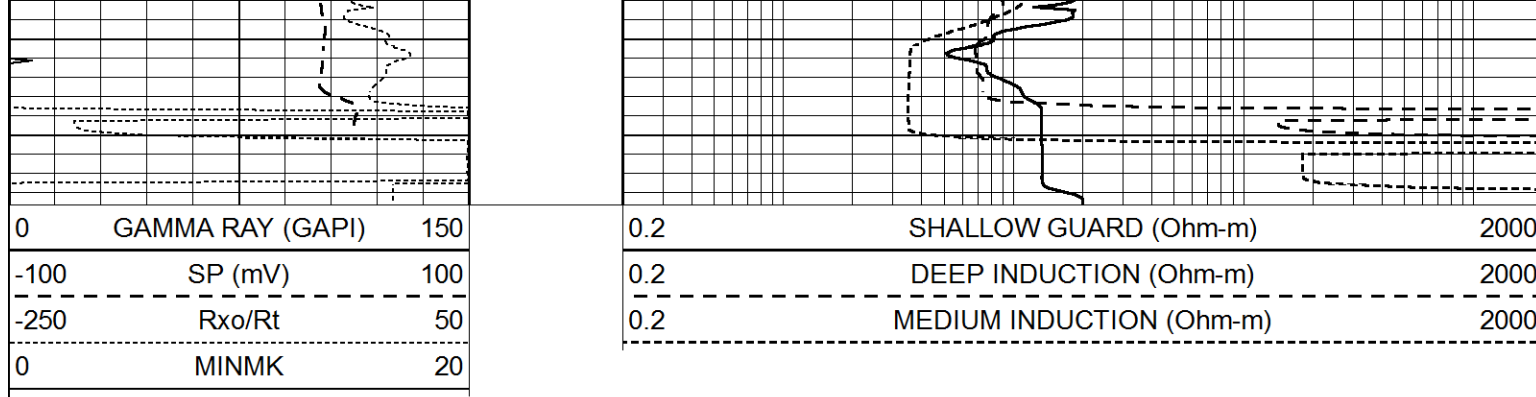
3300

3350

3400

3450





Calibration Report									
Database File	5826ddn.db								
Dataset Pathname	pass3.1M								
Dataset Creation	Fri Oct 29 15:34:45 2021								
Dual Induction Calibration Report									
Serial-Model:				PROBE9-DILG					
Surface Cal Performed:				Sat Oct 16 05:47:03 2021					
Downhole Cal Performed:				Wed Mar 11 11:31:19 2020					
After Survey Verification Performed:				Wed Mar 11 11:31:22 2020					
Surface Calibration									
Readings			References				Results		
Loop:	Air	Loop		Air	Loop		m	b	
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	720.000	-18.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	720.000	-28.000	
Internal:	Zero	Cal		Zero	Cal		m	b	
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256	
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102	
Downhole Calibration									
Readings			References				Results		
	Zero	Cal		Zero	Cal		m'	b'	
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000	
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000	
LL3		7.500	V		1400.000	Ohm-m			
		0.000	V		20.000	Ohm-m			
		-7.200	V		4000.000	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: 003				Model: PRB					
Master Calibration					Performed Fri Mar 05 10:51:07 2021				
Background		Magnesium		Aluminum		Aluminum+Fe			

Window 1	1570.6	10682.1	3457.0	3096.9	cps
Window 2	1451.7	9432.7	3101.4	2816.5	cps
Window 3	1334.0	7160.6	2532.0	2369.3	cps
Window 4	370.4	373.1	366.4	370.9	cps
Long Space	0.0	7981.0	1649.7	1364.8	cps
Short Space	2.8	3522.0	2211.0	1823.6	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 43.5	Rib Slope	: 0.951	Density/Spine Ratio	: 0.535
Spine Angle	: 73.5	Spine Slope	: 3.386	Spine Intercept	: -18.7

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	

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Compensated Neutron Calibration Report
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Serial Number:	070808PMC
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:	070558
Tool Model:	OPEN_GR
Performed:	Fri Sep 03 05:25:49 2021

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps