



DUAL INDUCTION LOG

Company	H & B PETROLEUM CORPORATION	Company	H & B PETROLEUM CORPORATION
Well	WELLMAN #1	Well	WELLMAN #1
Field	RINO	Field	RINO
County	RICE	County	RICE
State	KANSAS	State	KANSAS
Location:	API # : 15-159-22841-0000 537' FSL & 1901' FWL NE-SW-SE-SW	Permanent Datum Log Measured From Drilling Measured From	GROUND LEVEL Elevation 1697 KELLY BUSHING 9' A.G.L KELLY BUSHING
	SEC 33 TWP 21S RGE 9W		Elevation K.B. 1706 D.F. 1704 G.L. 1697
Date	4/28/17		
Run Number	ONE		
Depth Driller	3600		
Depth Logger	3698		
Bottom Logged Interval	3696		
Top Log Interval	00		
Casing Driller	8 5/8" @ 351'		
Casing Logger	350		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.5/48		
pH / Fluid Loss	9.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 89F		
Rmf @ Meas. Temp	0.48 @ 89F		
Rmc @ Meas. Temp	0.78 @ 89F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.51 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPELLUCCI		
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
CHASE, KS. - SOUTH TO ALDEN KS. - SOUTH THRU 3 SETS OF CURVES
2 MORE SOUTH TO Y AVE. - 1/2 EAST - NORTH INTO

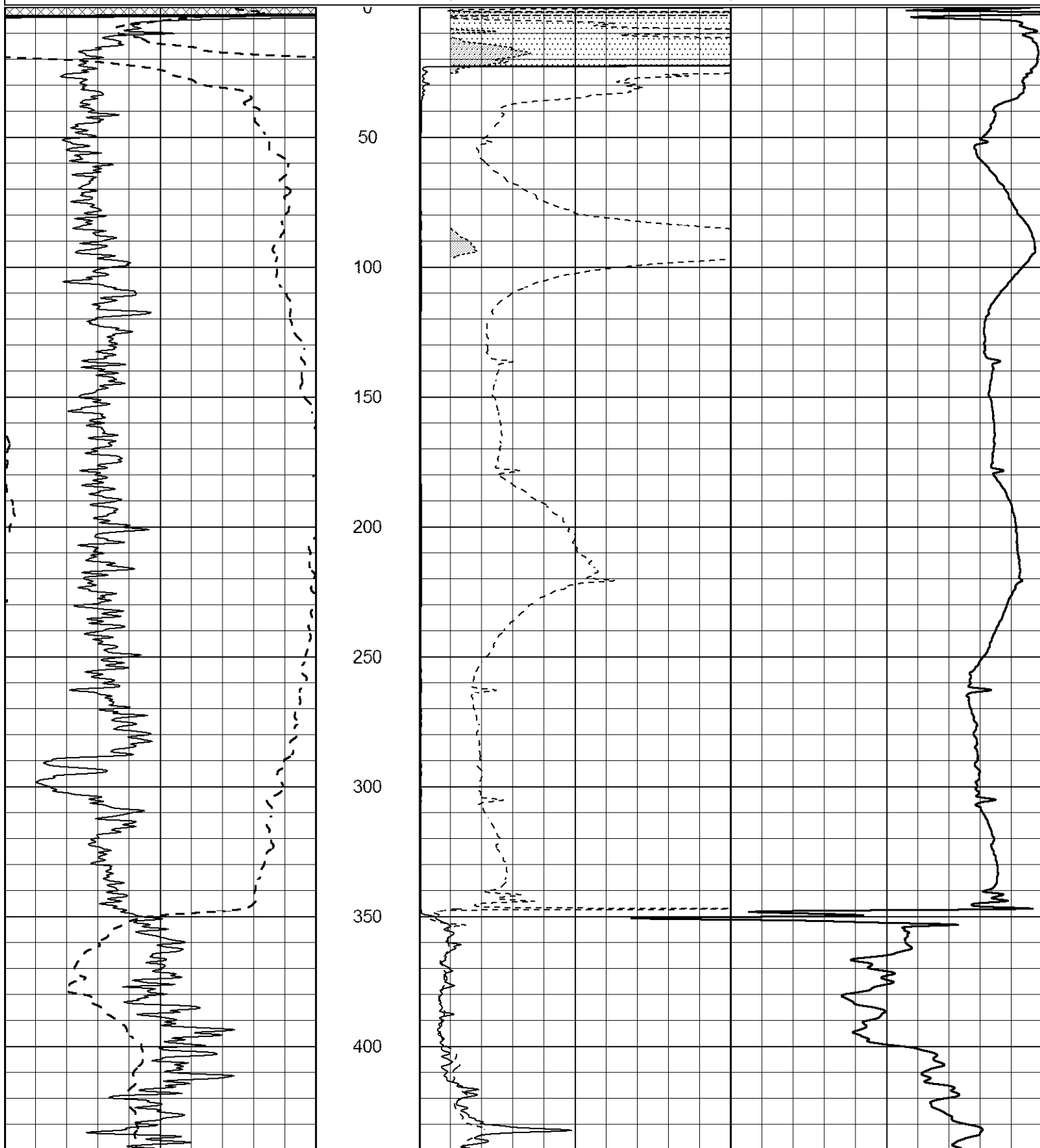


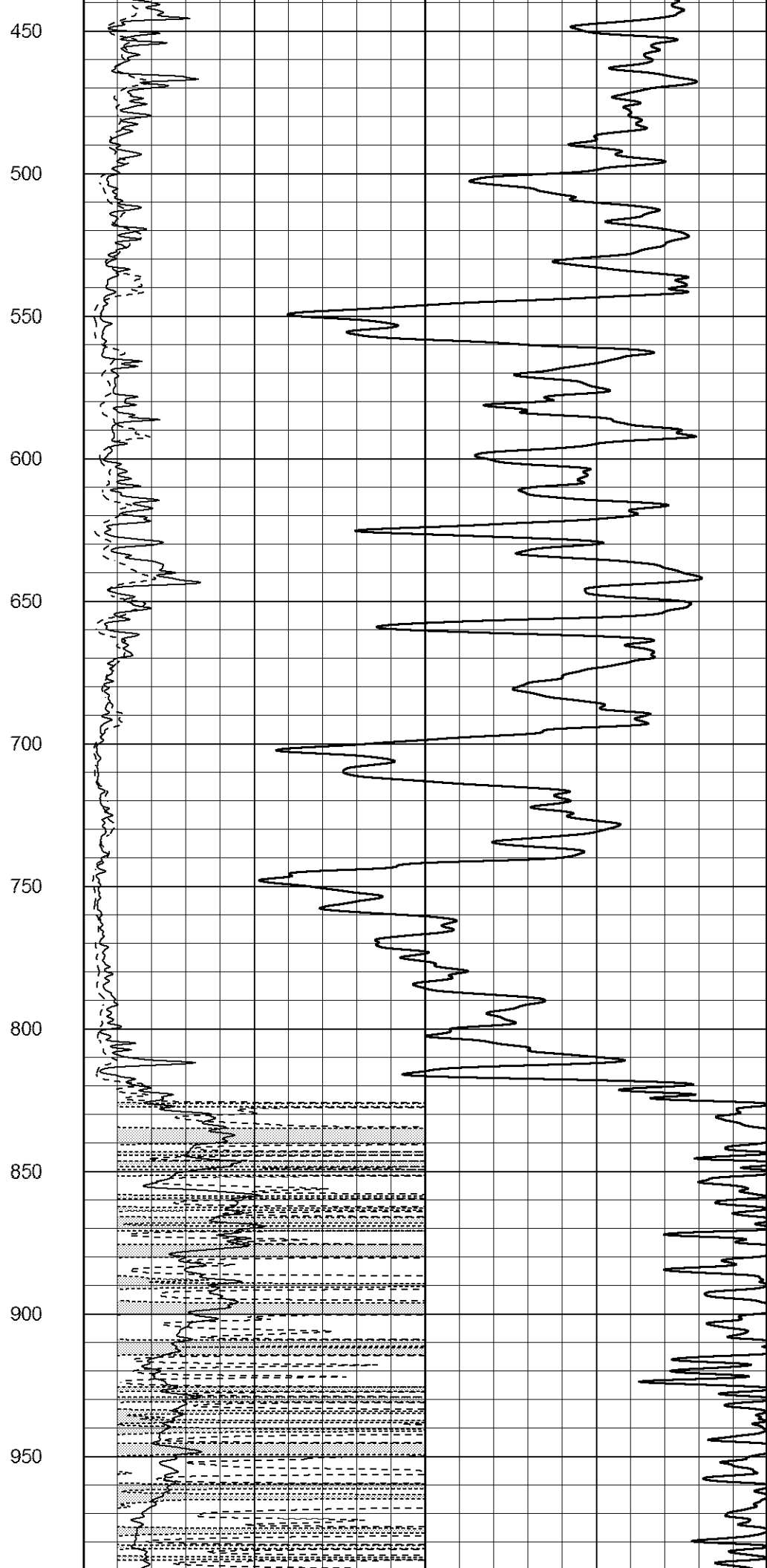
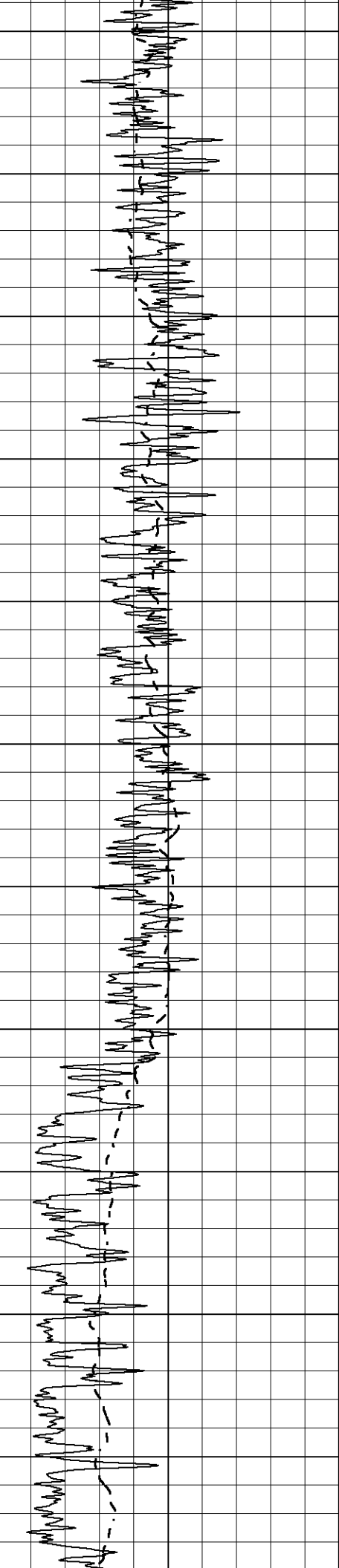
MAIN SECTION

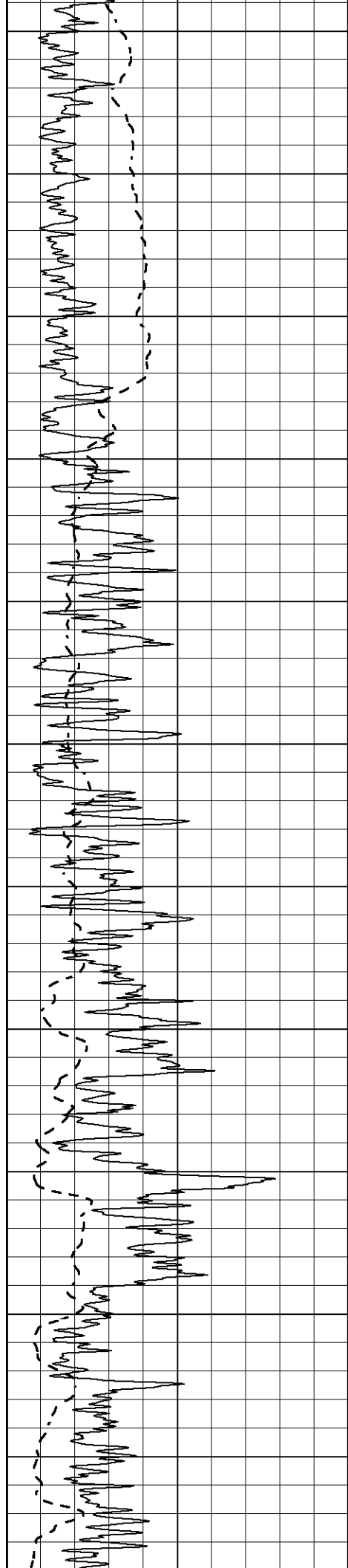
Database File 1138ddn8.db
Dataset Pathname pass4.2
Presentation Format _dil2
Dataset Creation Fri Apr 28 15:39:38 2017
Charted by Depth in Feet scaled 1:600

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







1000

1050

1100

1150

1200

1250

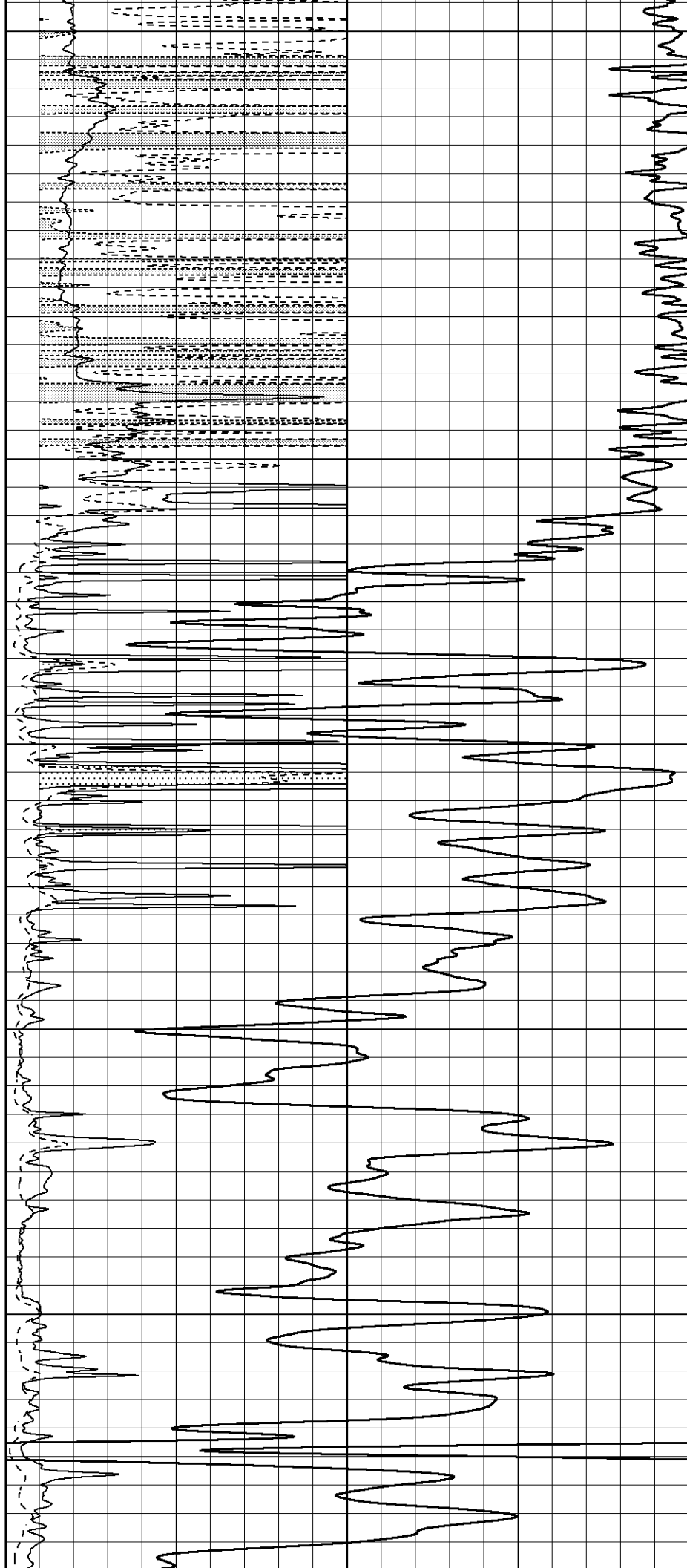
1300

1350

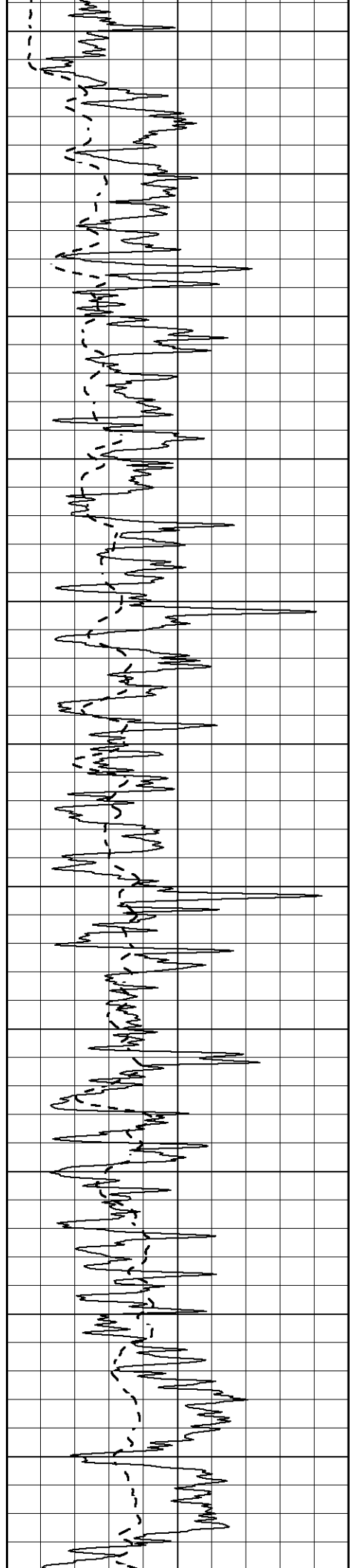
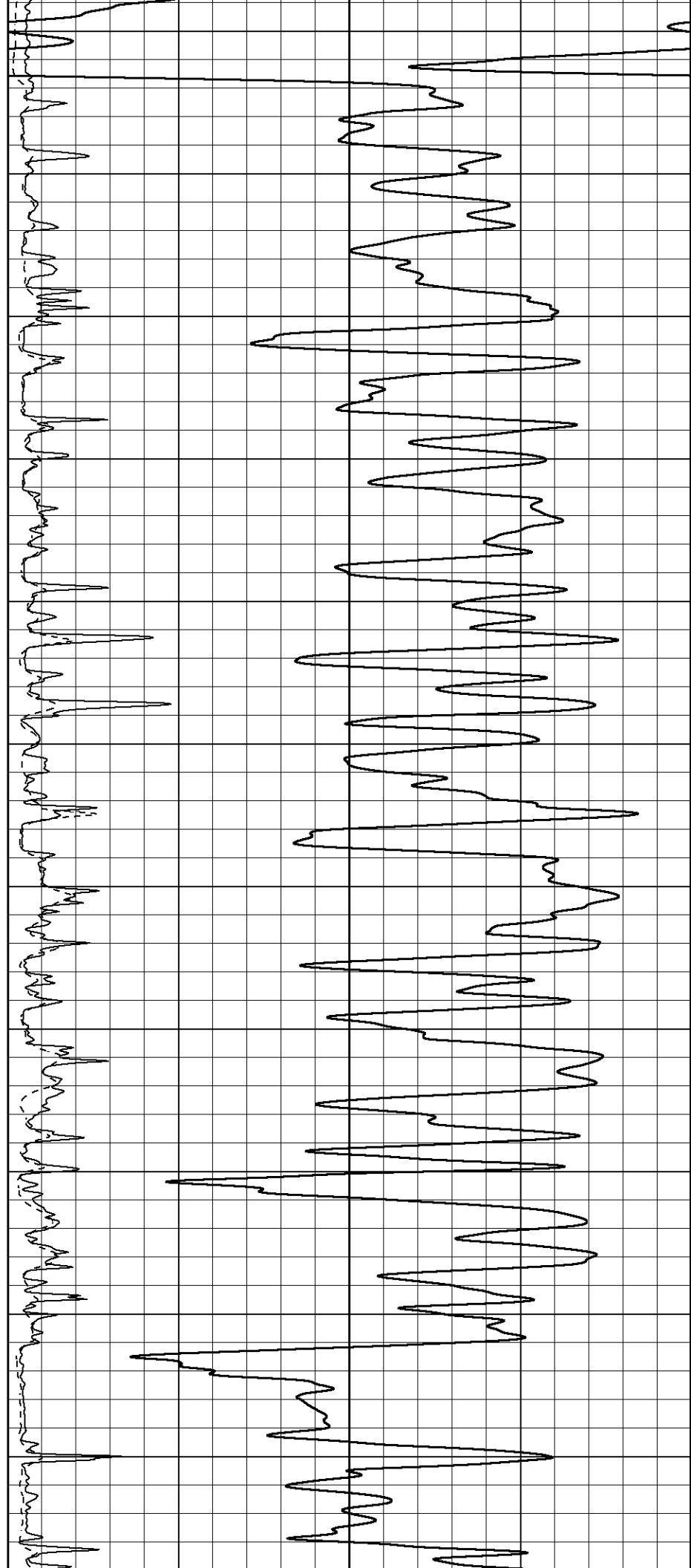
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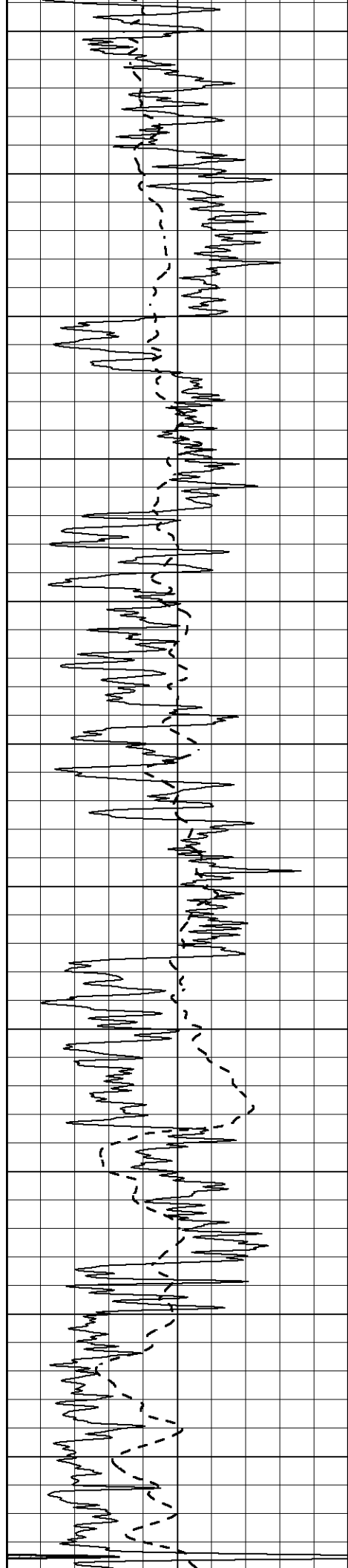
1450

1500



1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050





2100

2150

2200

2250

2300

2350

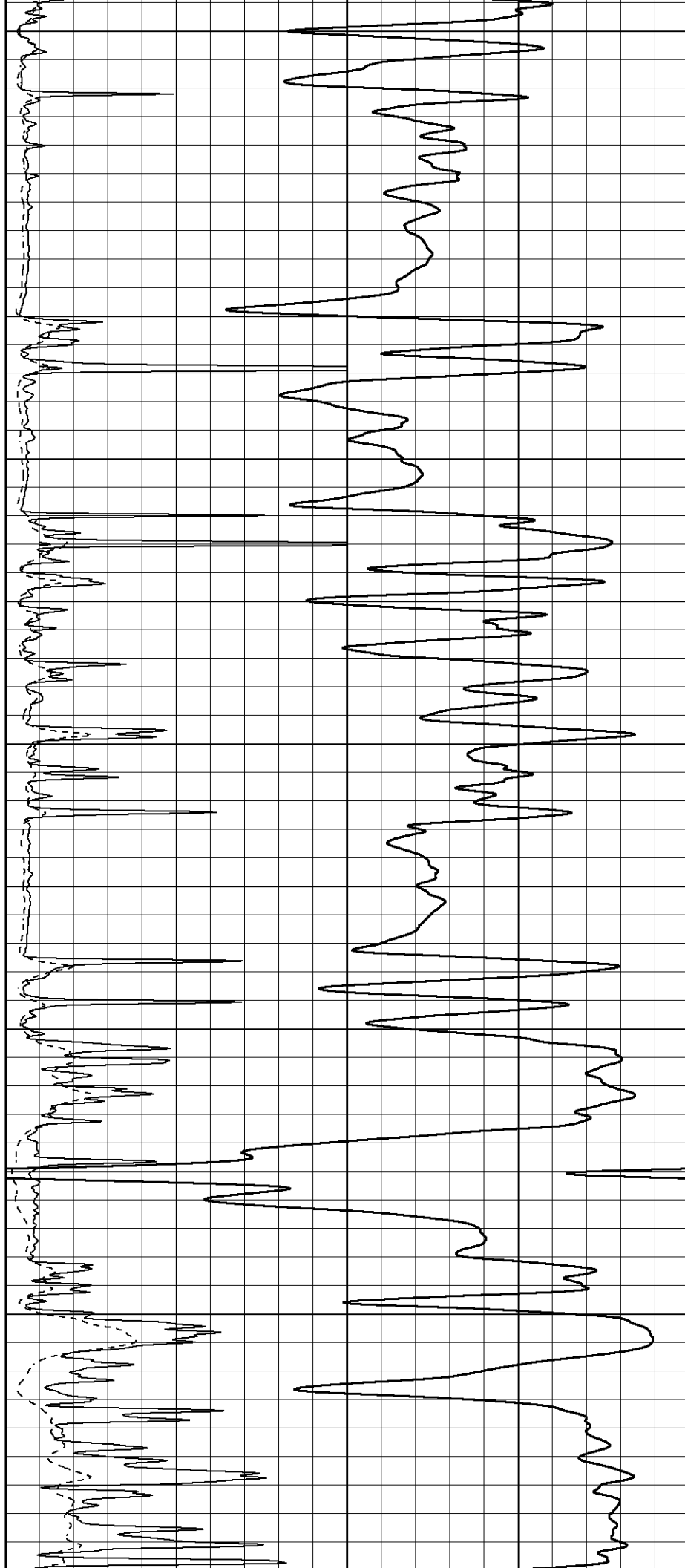
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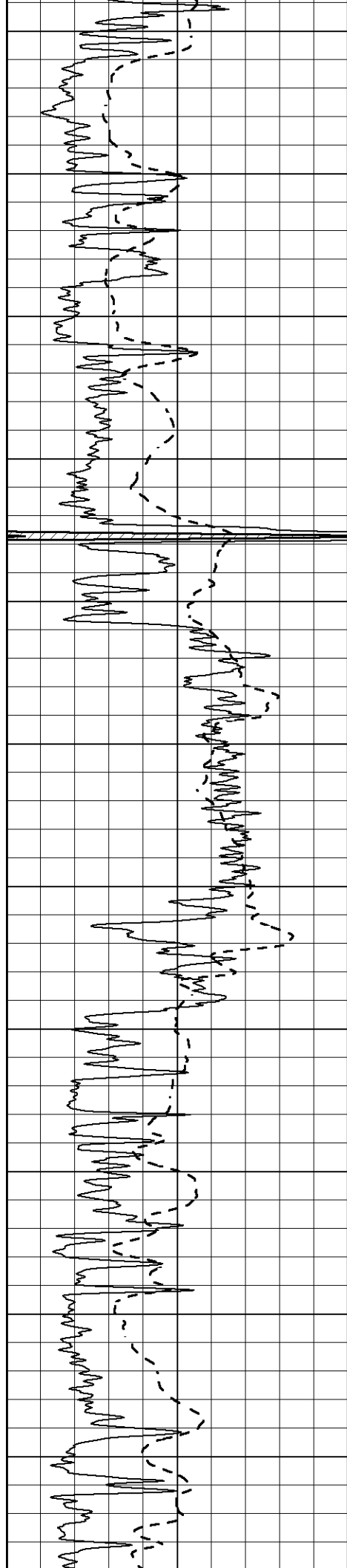
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

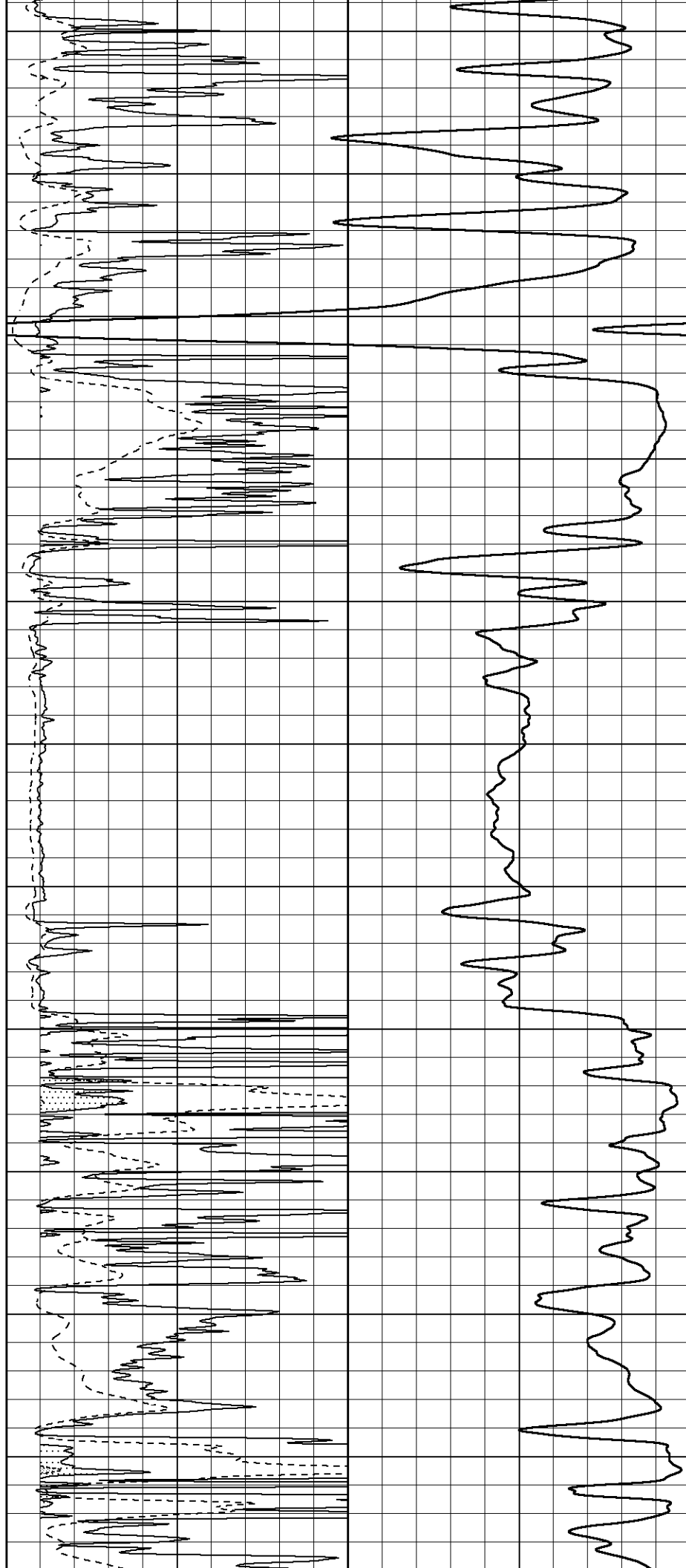
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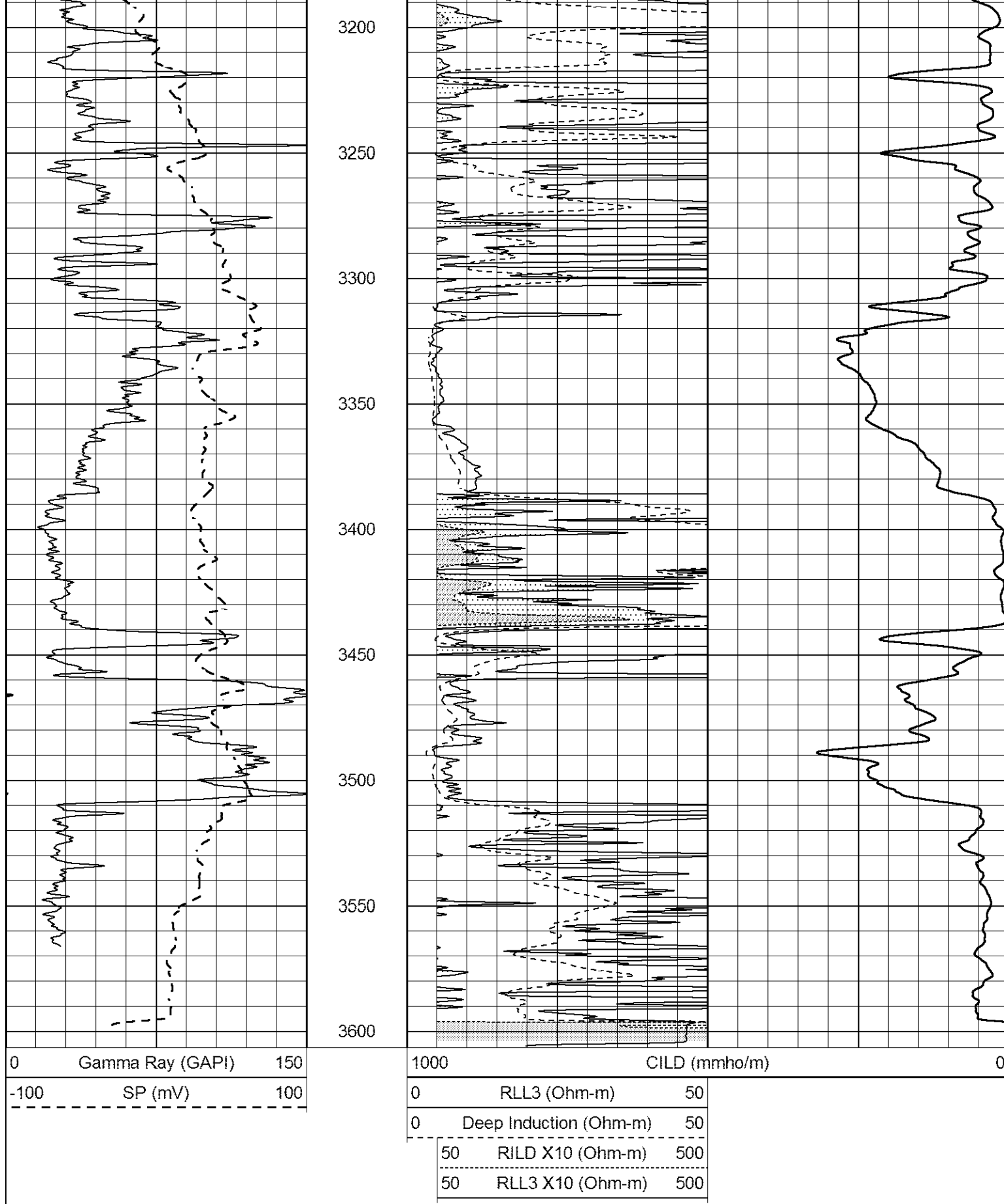
3000

3050

3100

3150

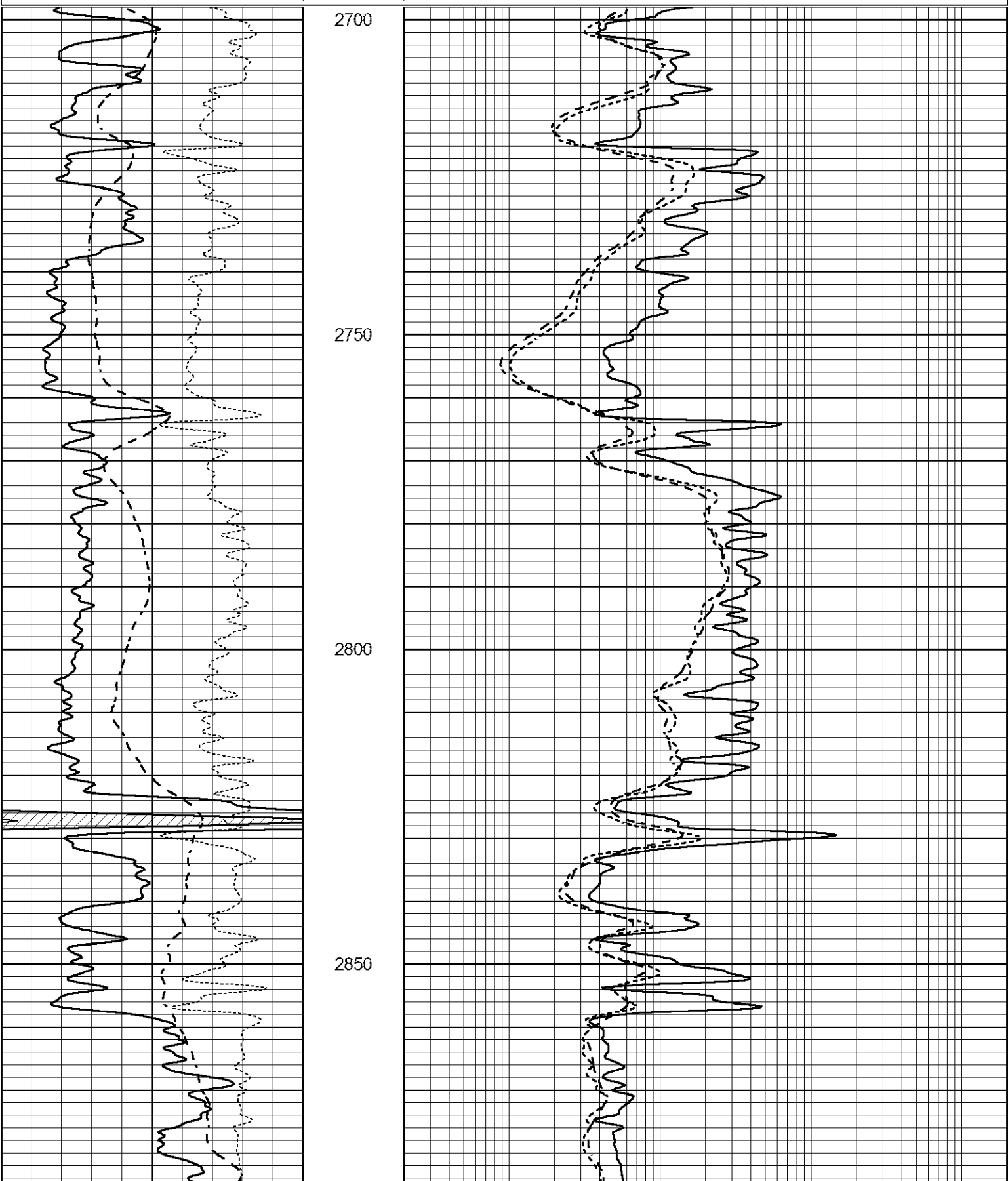


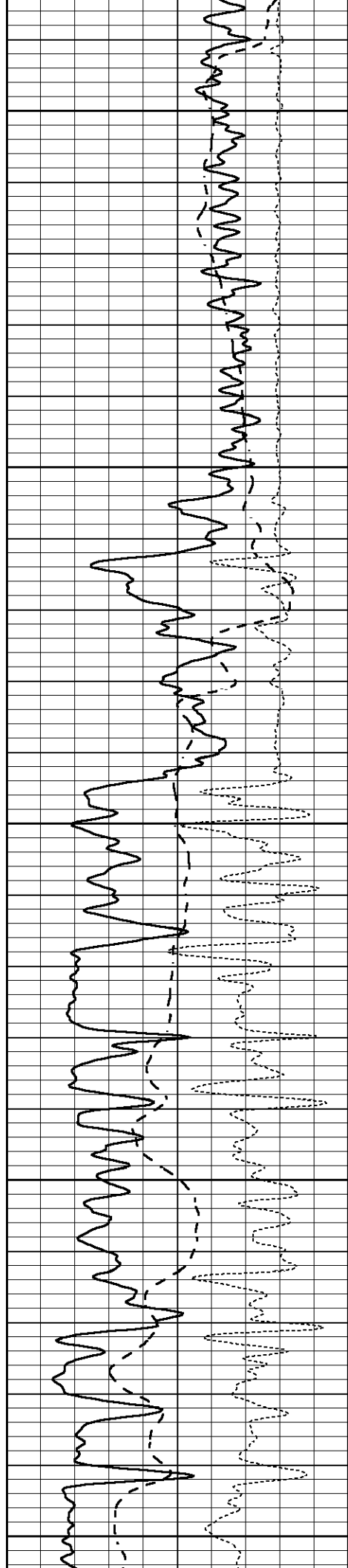


MAIN SECTION

Database File	1138ddn8.db
Dataset Pathname	pass4.1
Presentation Format	_dil
Dataset Creation	Fri Apr 28 14:50:23 2017
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





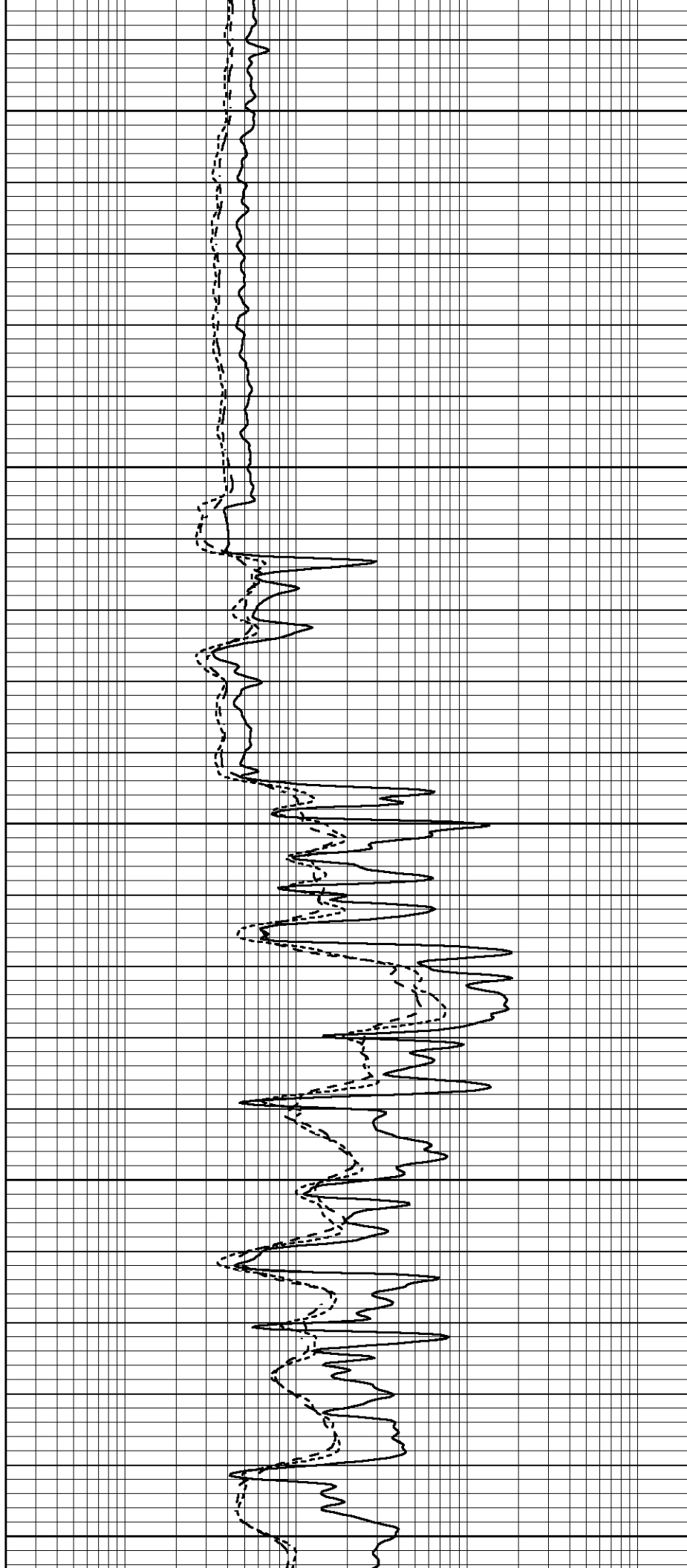
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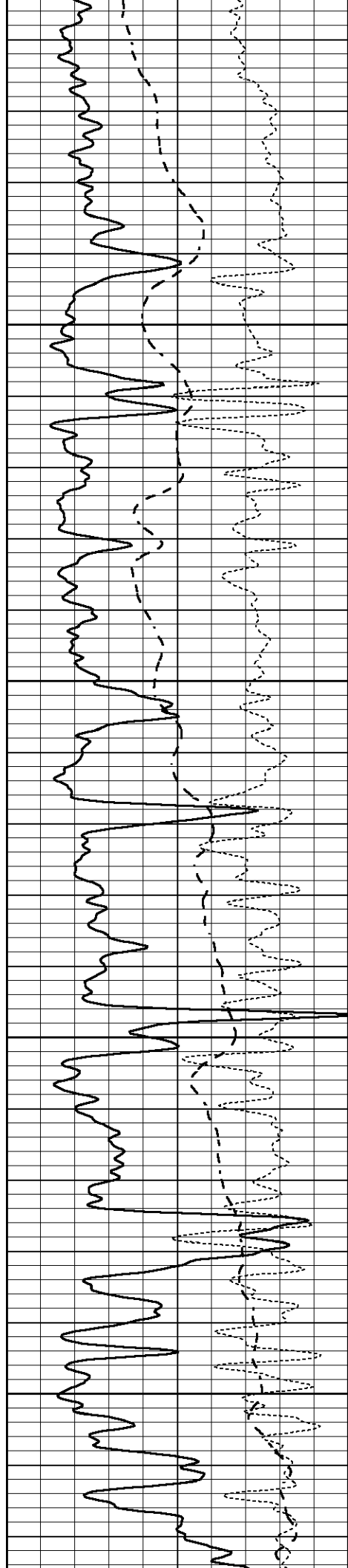
2950

3000

3050

3100



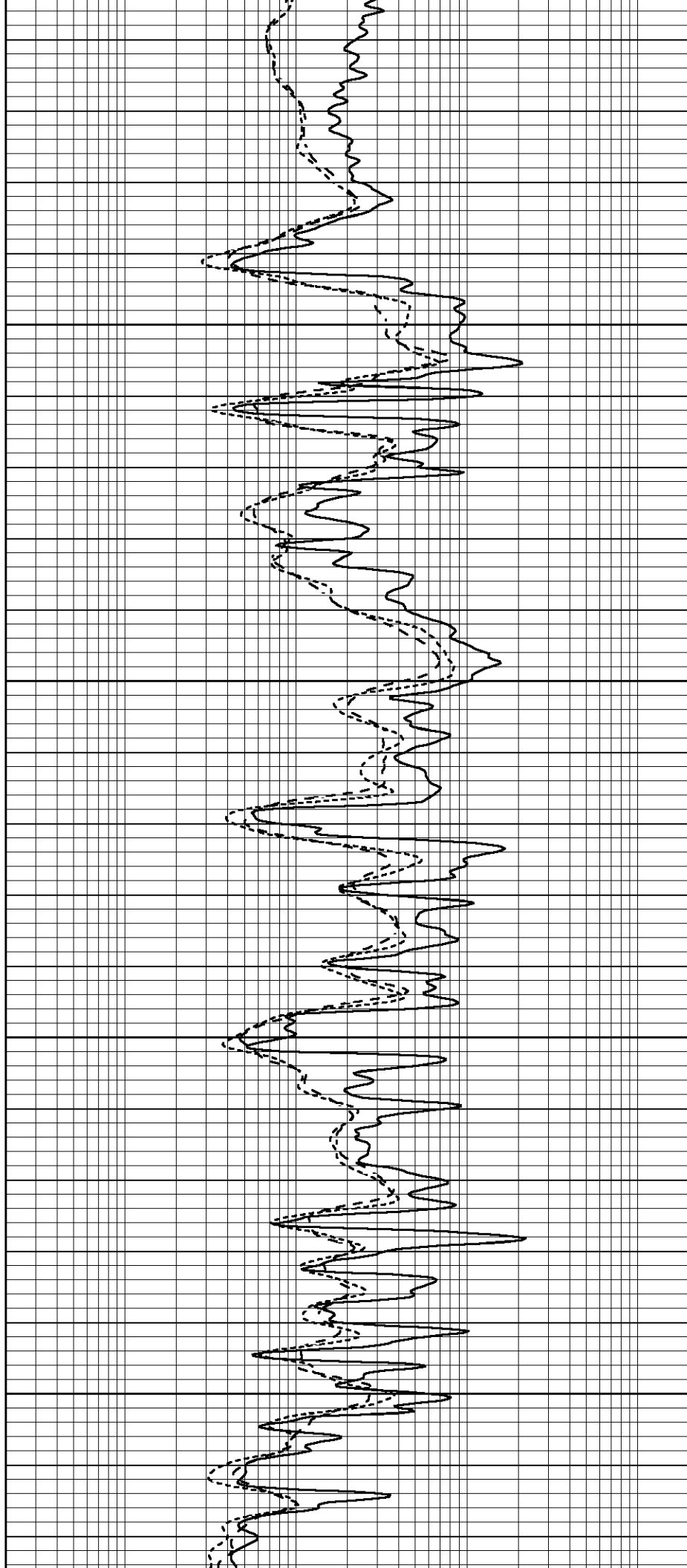


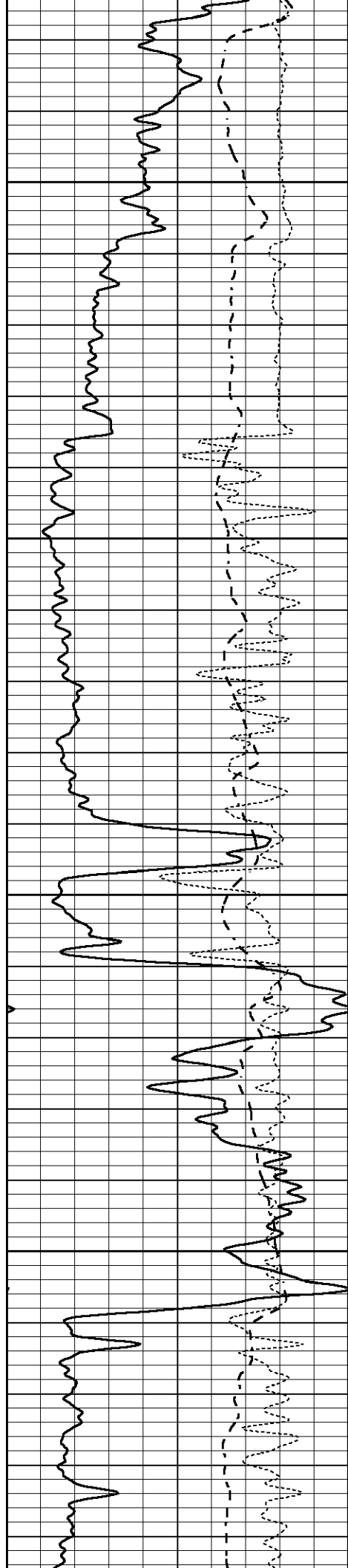
3150

3200

3250

3300



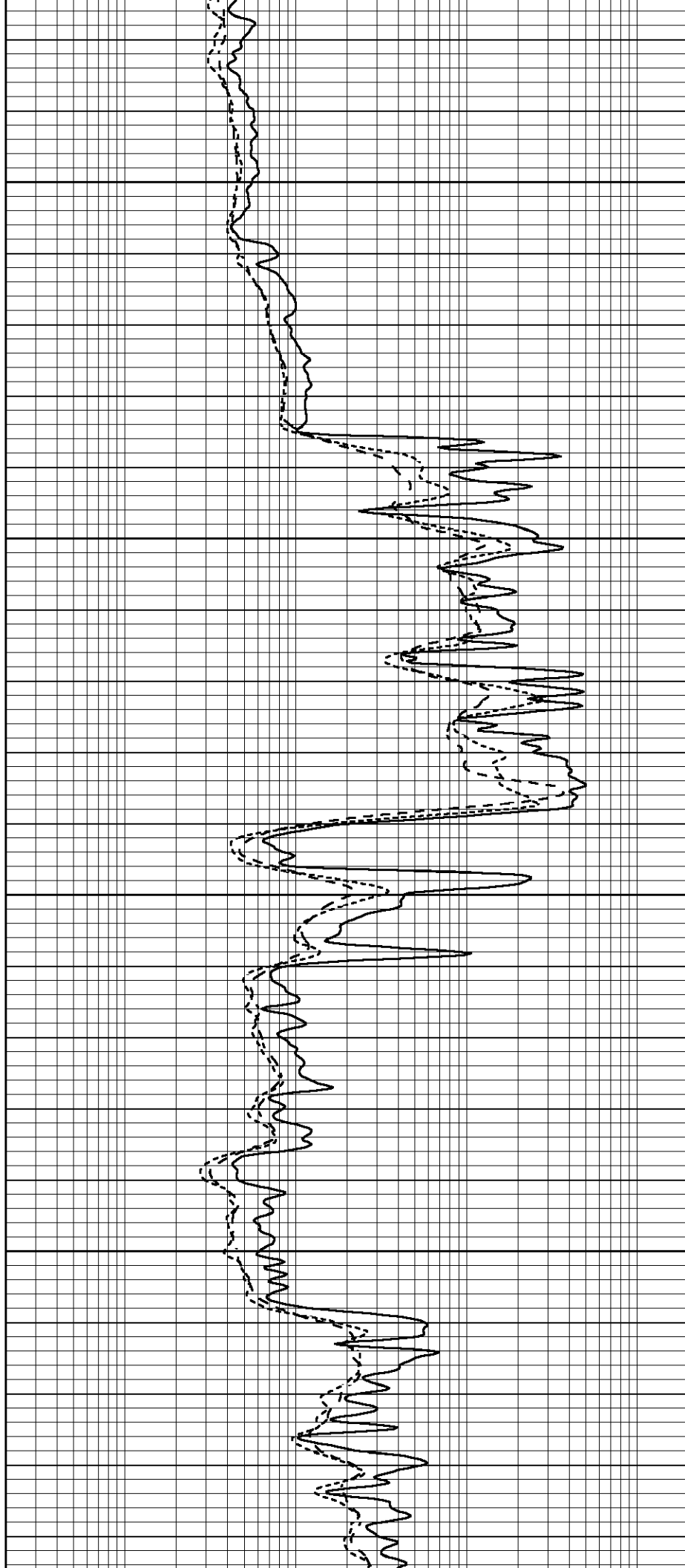


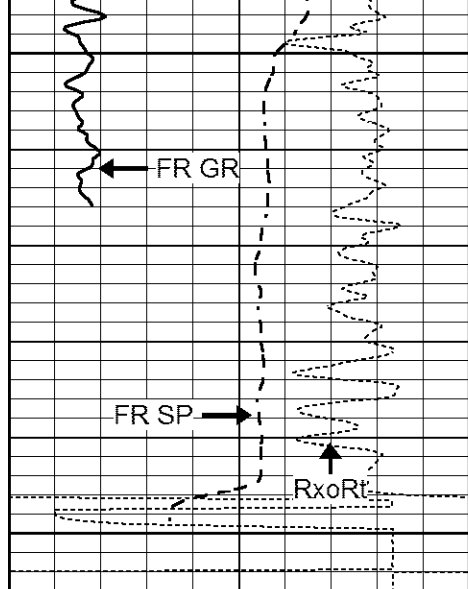
3350

3400

3450

3500

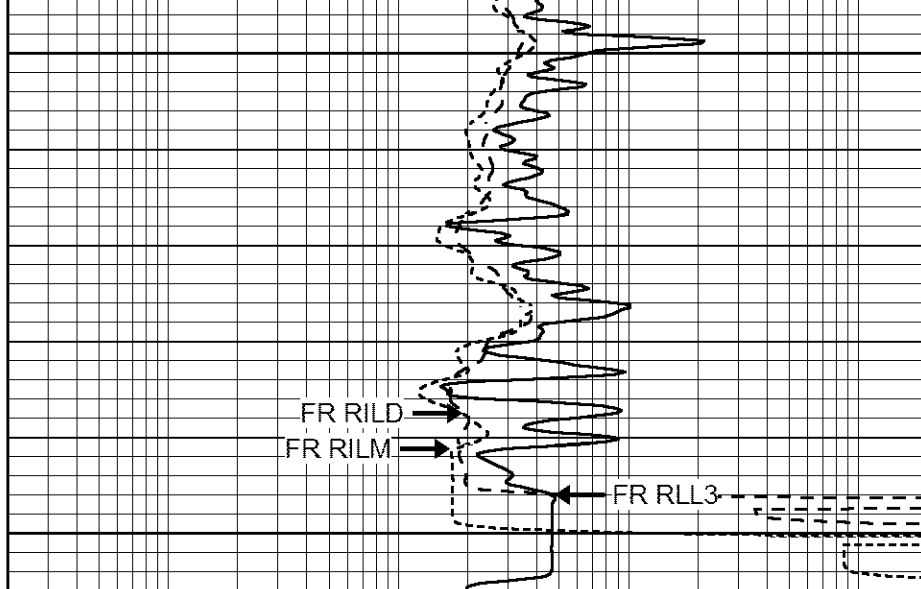




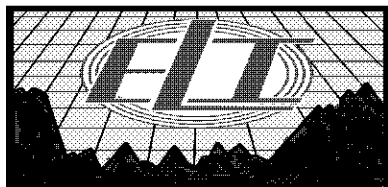
3550

LTD 3598
3600

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

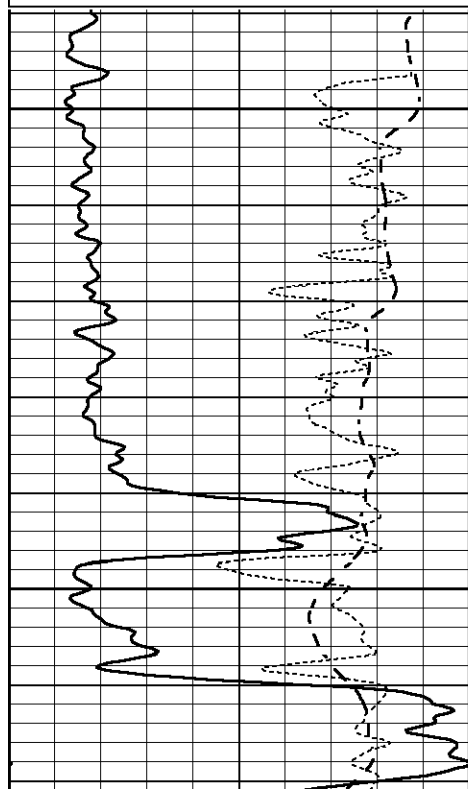


REPEAT SECTION

Database File 1138ddn8.db
Dataset Pathname pass3.1
Presentation Format _dil
Dataset Creation Fri Apr 28 14:43:04 2017
Charted by Depth in Feet scaled 1:240

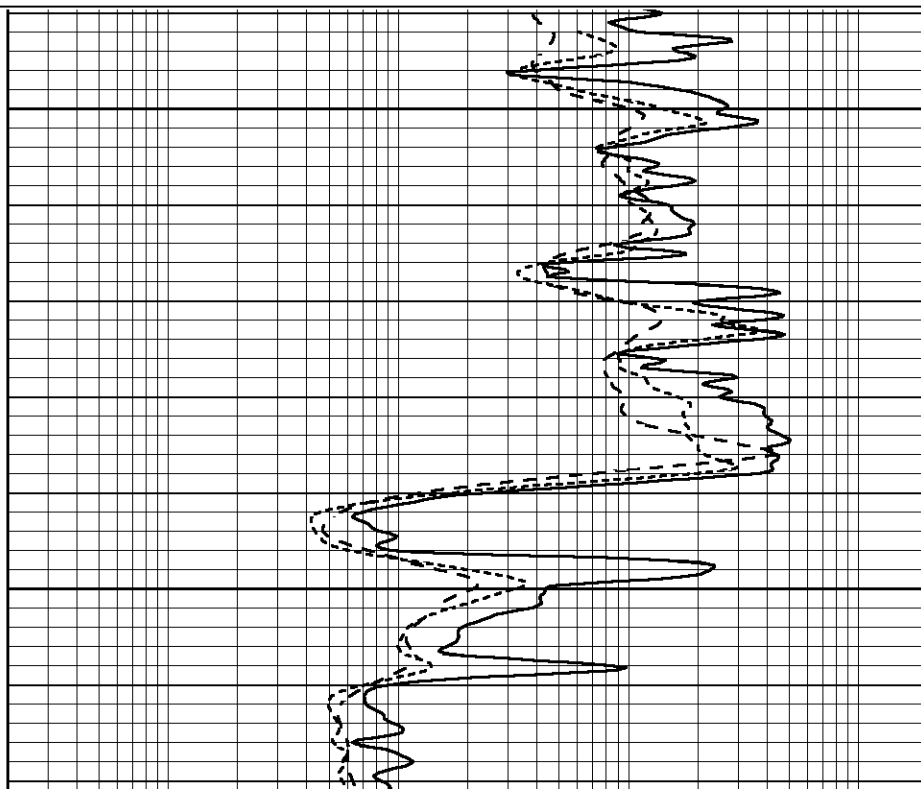
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

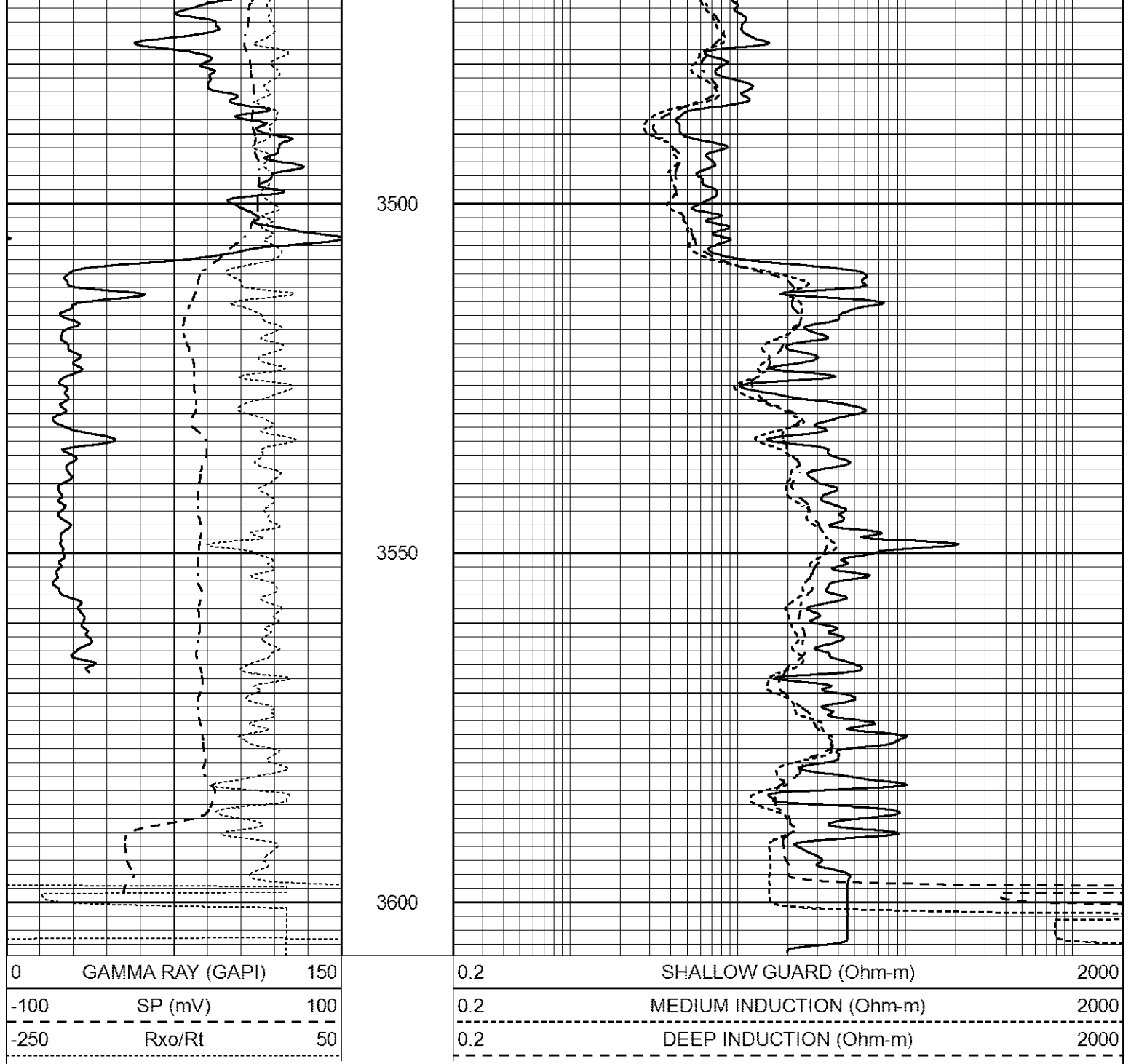
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



3400

3450





Calibration Report

Database File 1138ddn8.db
 Dataset Pathname pass3.1
 Dataset Creation Fri Apr 28 14:43:04 2017

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Thu Mar 12 09:27:11 2015
 Downhole Cal Performed: Thu Mar 12 09:29:20 2015
 After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Loop:	Readings			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	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: Wed Feb 11 18:53:41 2015					
	Background	Aluminum	Magnesium					
Window 1	613.01	6027.40	27508.60	cps				
Window 2	48.21	1424.77	7132.66	cps				
Window 4	266.48	1373.19	5767.15	cps				
Window 5	622.07	10090.30	18937.90	cps				
Window 6	49.07	1682.84	3271.18	cps				
Window 8	298.04	3248.38	5980.58	cps				
Bulk Density	-	2.6020	1.6830	g/cc				
Pe	-	3.0000	2.5070	b/e				
LS Alpha:	: -1.8451	SS Alpha:	: -0.7542	LS CPE:		: 1.0882		
LS Beta:	: 138648.8473	SS Beta:	: 21960.9250	SS CPE:		: 1.5181		
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: Wed Feb 11 18:53:41 2015	
Results	Readings	References (in)	
Low	High	Low	High
5123.0	9461.6	8.5	14.0
		Gain	Offset
		0.0	1.4

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:	070558		
Tool Model:	Probe1		
Performed:	Wed Jun 29 08:29:10 2016		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	