



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company	GRADY BOLDING CORPORATION		
Well	GRIZZELL #27		
Field	BLOOMER		
County	ELLSWORTH	State	KANSAS
Location:	API # : 15-053-21308-0000		Other Services CDL/CNL MEL
Permanent Datum	1996' FNL & 1131' FEL NW - SW - SE -NE		Elevation
Log Measured From	SEC 31 TWP 17S RGE 10W	GROUND LEVEL	K.B. 1798
Drilling Measured From		KELLY BUSHING 10' A.G.L.	D.F. 1796
		KELLY BUSHING	G.L. 1788
Date	4/2/14		
Run Number	ONE		
Depth Driller	3312		
Depth Logger	3312		
Bottom Logged Interval	3310		
Top Log Interval	00		
Casing Driller	8 5/8" @ 312		
Casing Logger	311		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5700 PPM	
Density / Viscosity	9.3/5.1		
pH / Fluid Loss	9.5/7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75 @ 72F		
Rmt @ Meas. Temp	.56 @ 72F		
Rmc @ Meas. Temp	.90 @ 72F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.53 @ 102F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	102F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
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 NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
CLAFLIN, KS. - 4 EAST TO 160 RD - 3/4 NORTH - 1/2 EAST INTO



NABORS
COMPLETION
& PRODUCTION

MAIN SECTION

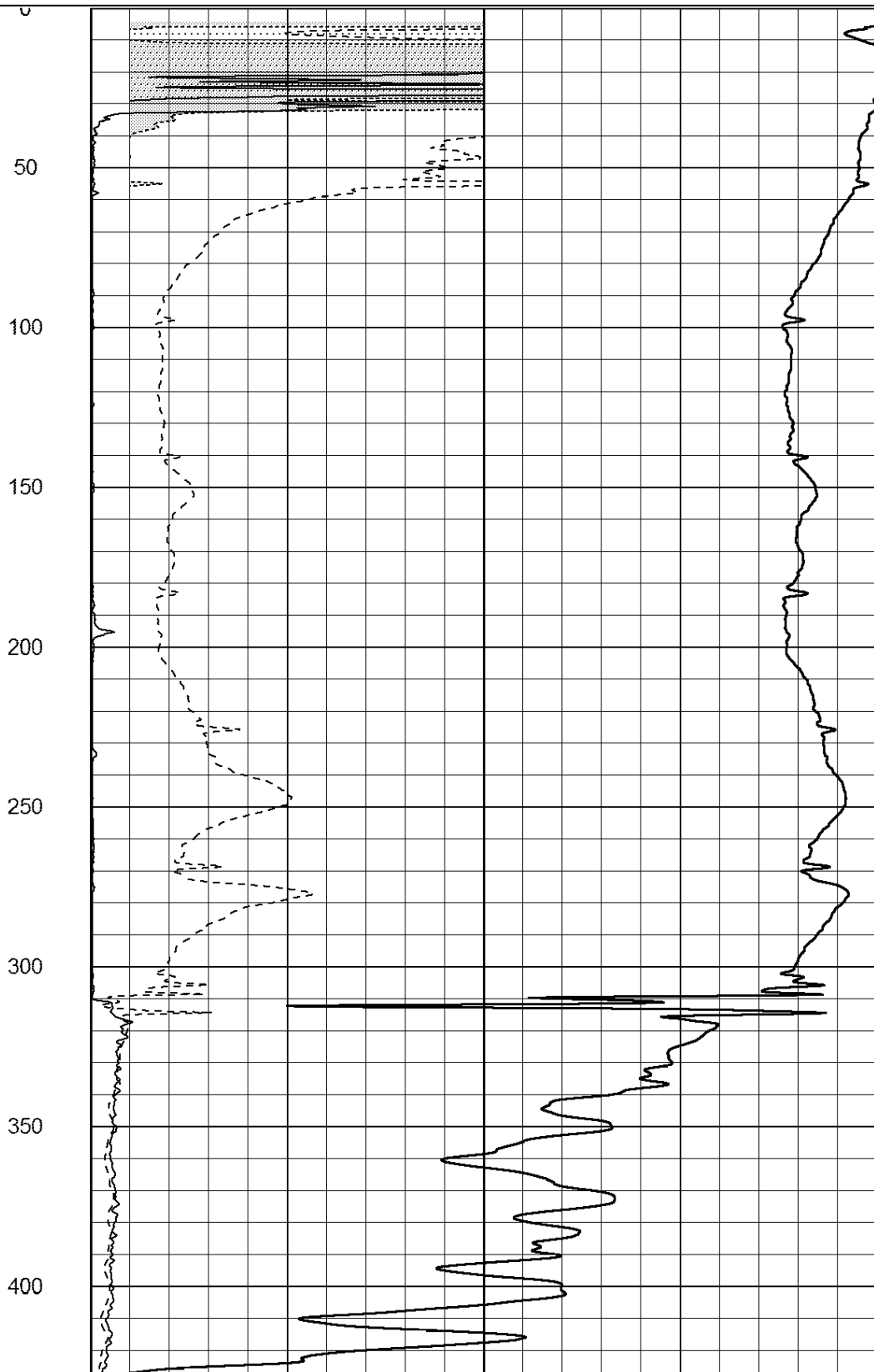
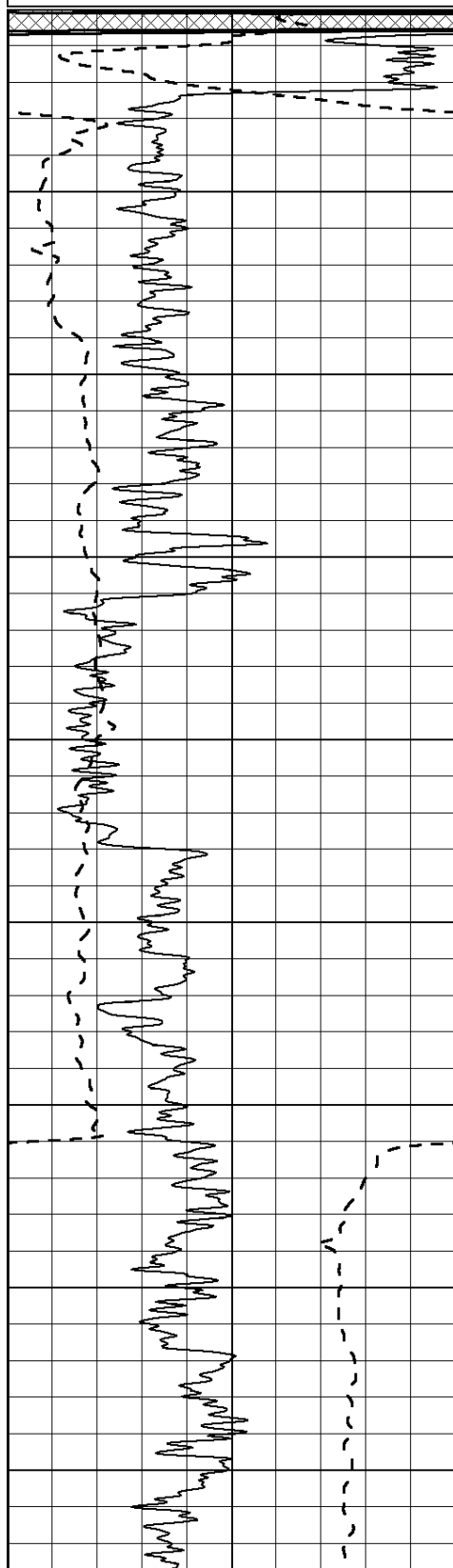
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 Charted by: Depth in Feet scaled 1:600

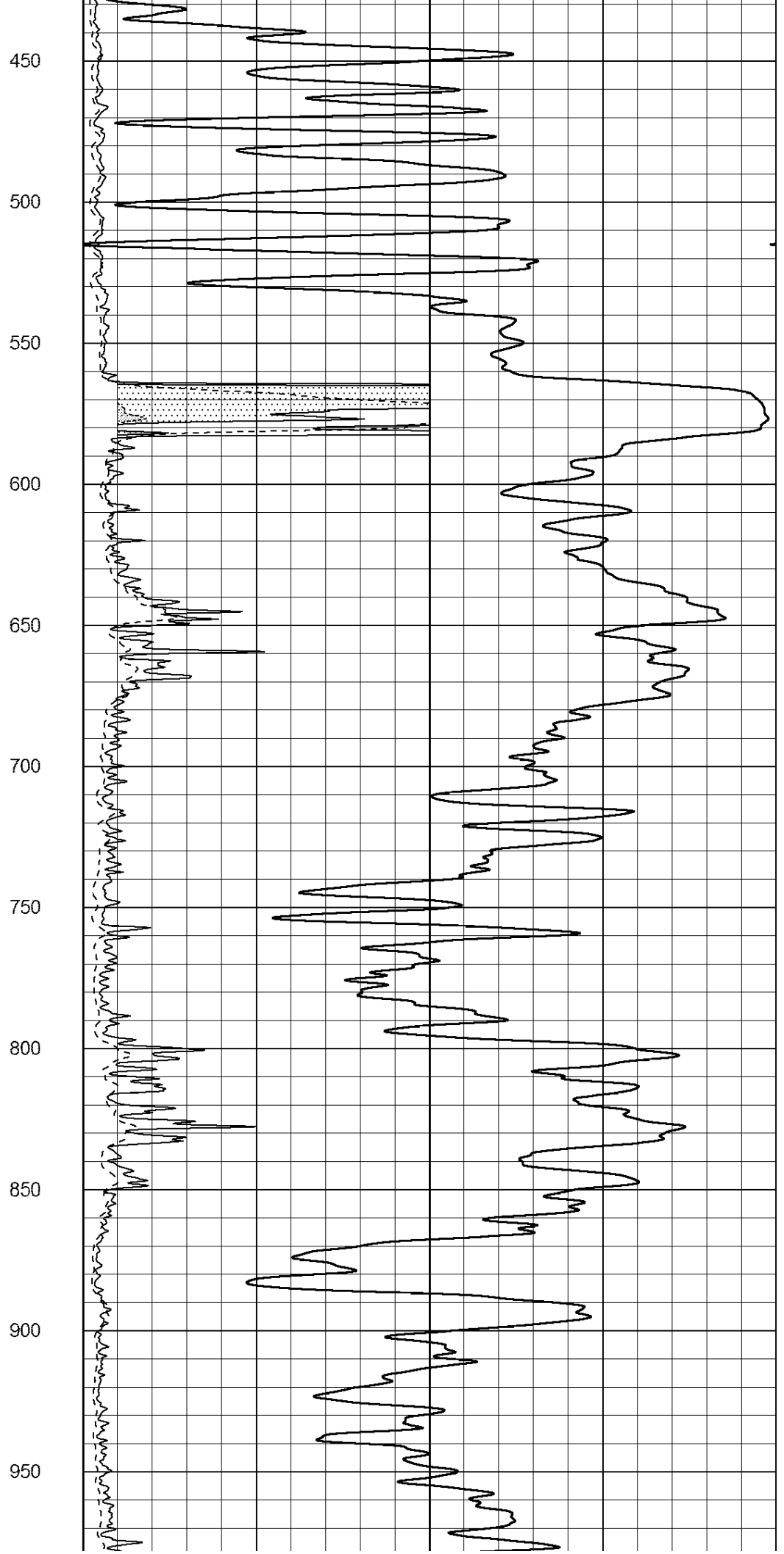
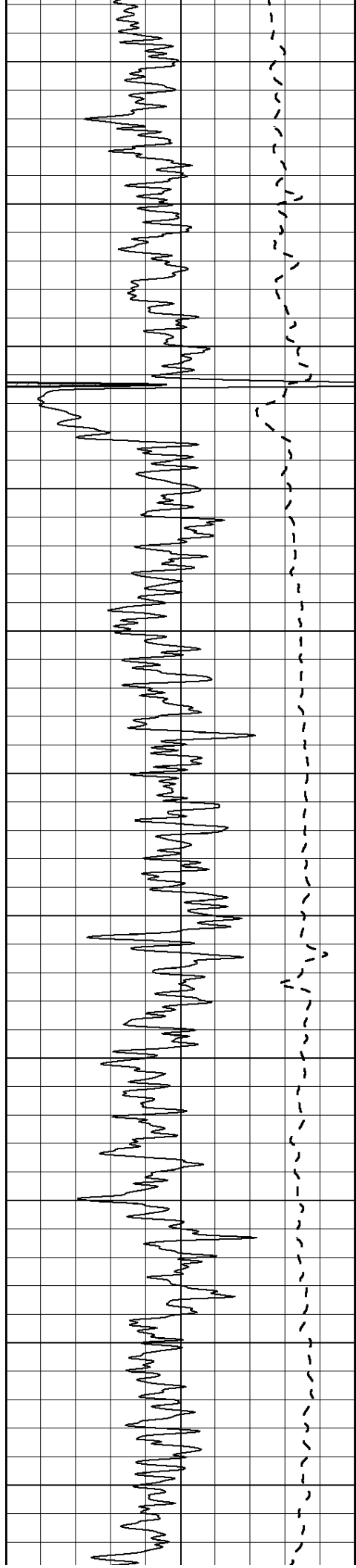
0 Gamma Ray (GAPI) 150
 -100 SP (mV) 100

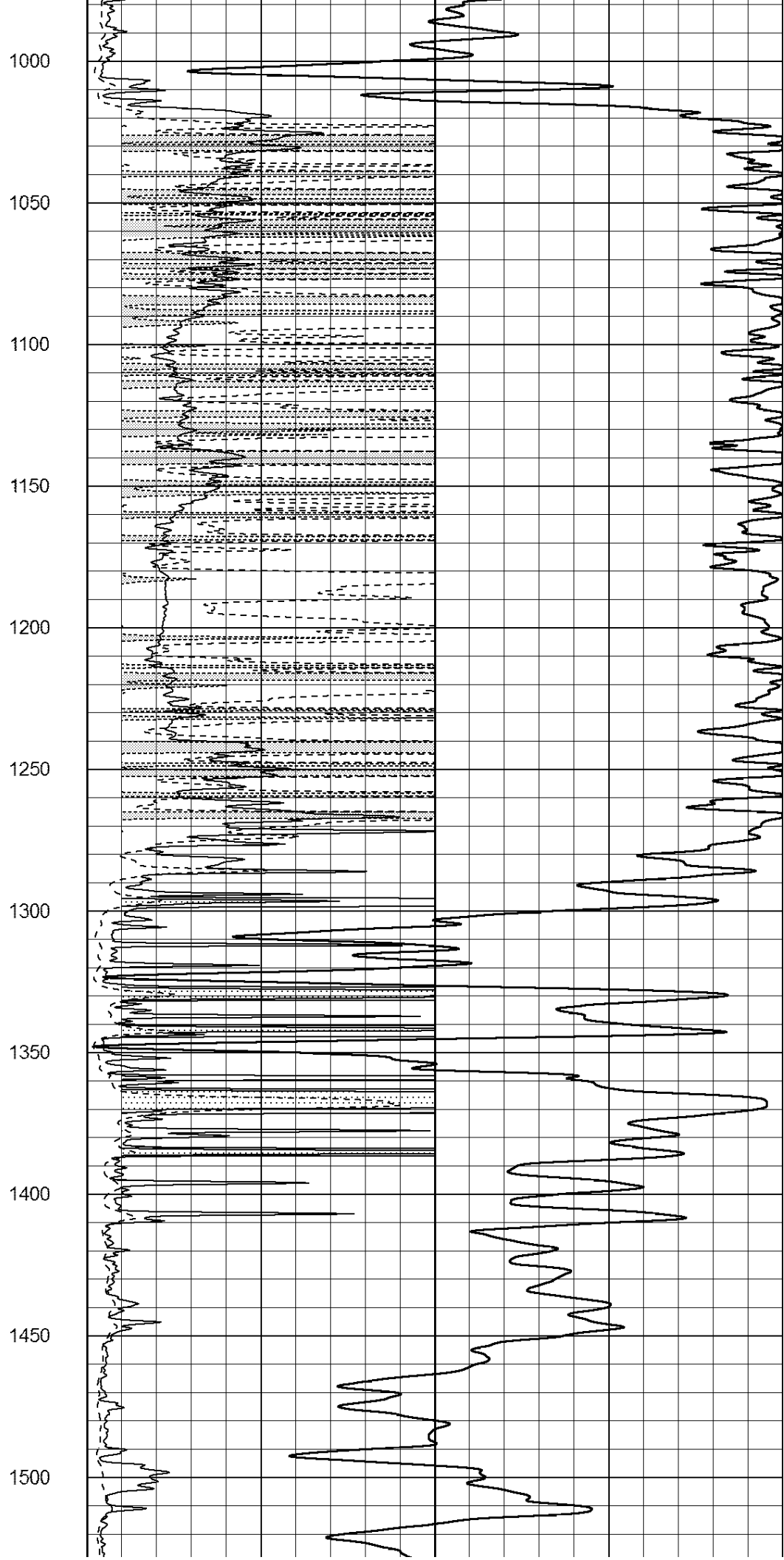
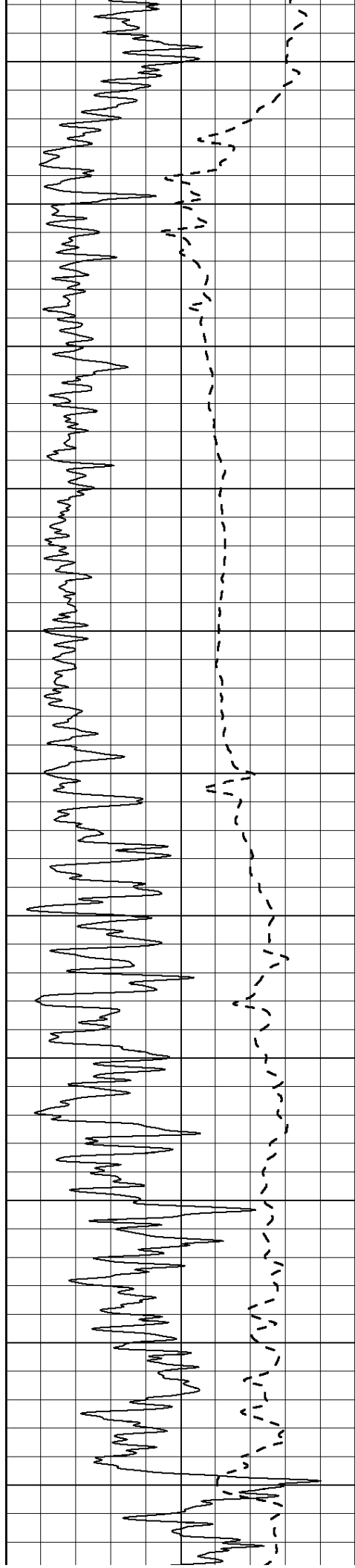
0 RLL3 (Ohm-m) 50
 0 RILD (Ohm-m) 50

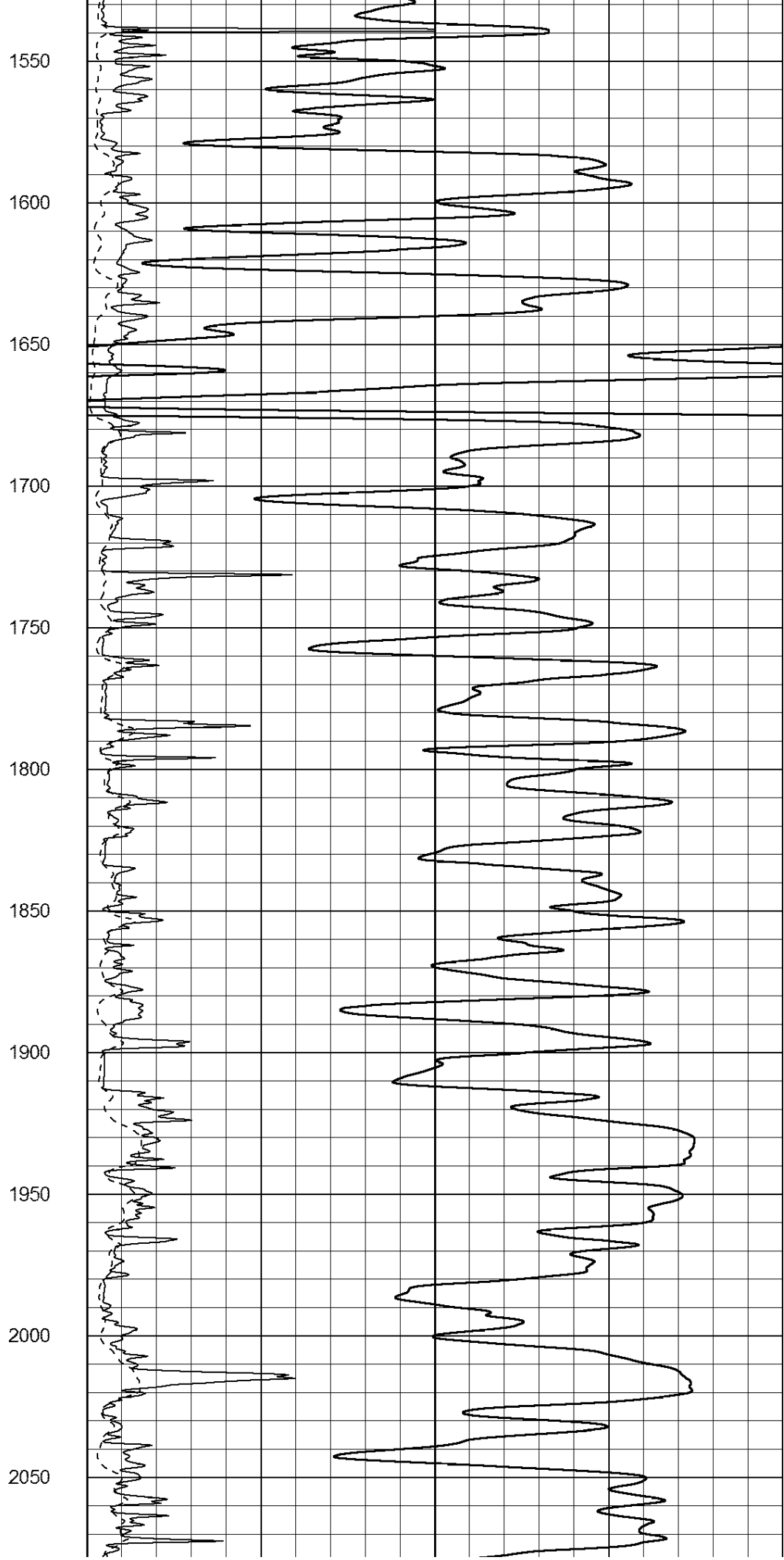
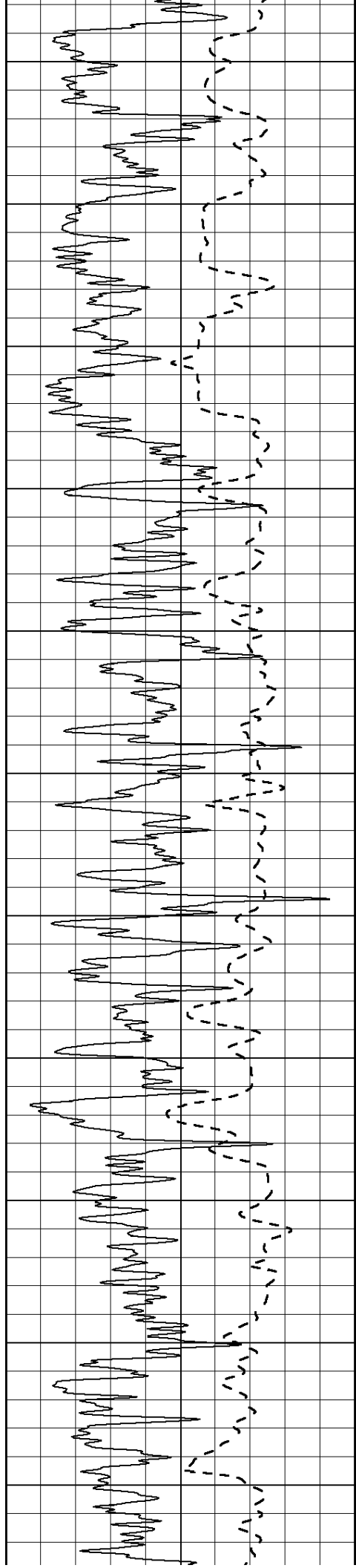
1000 CILD (mmho/m) 0

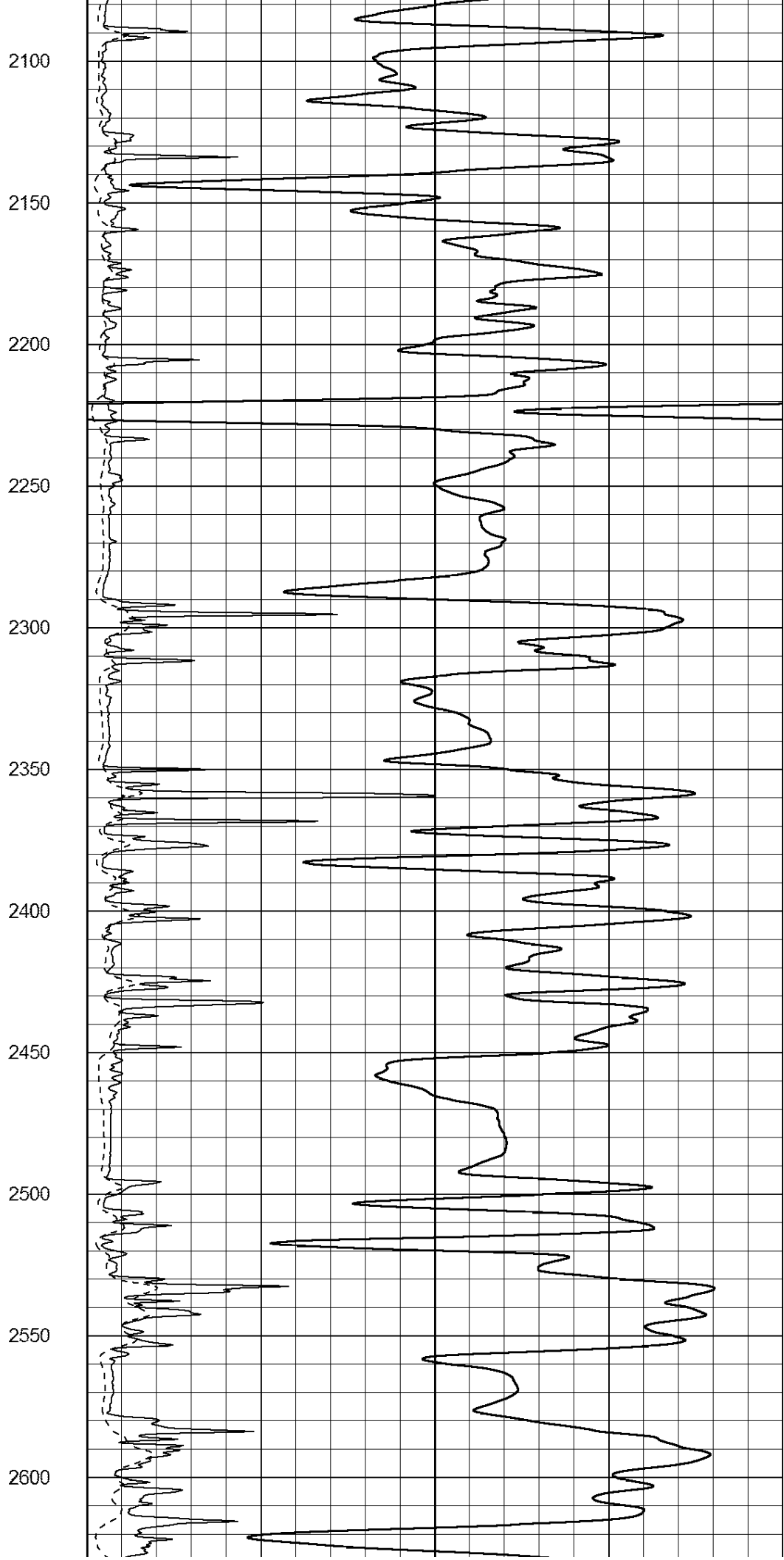
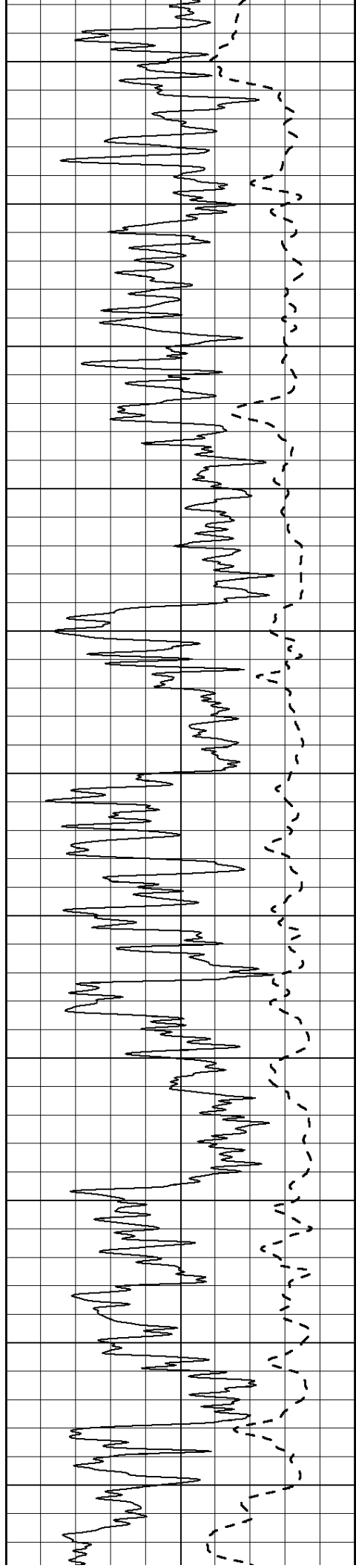
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 50 RLL3 X10 (Ohm-m) 500

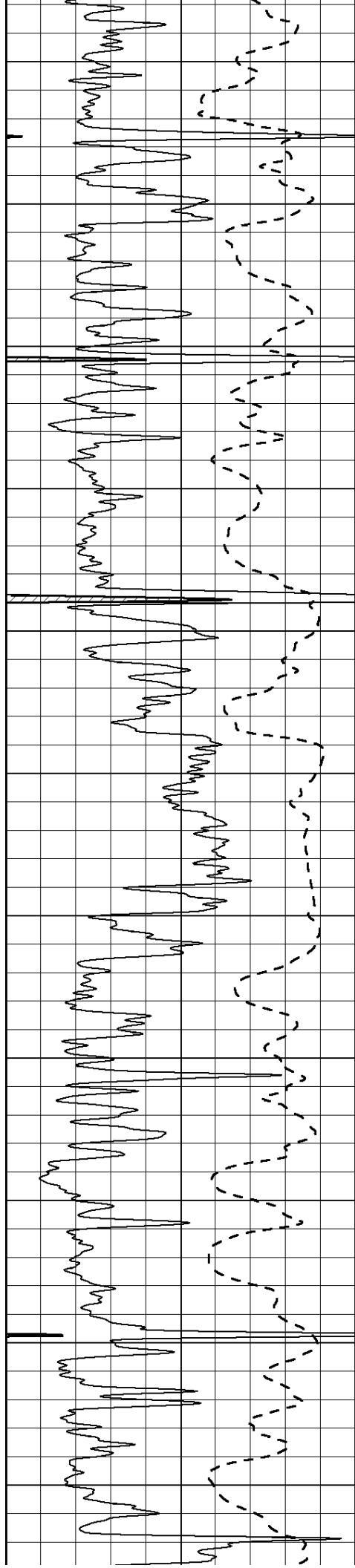












2650

2700

2750

2800

2850

2900

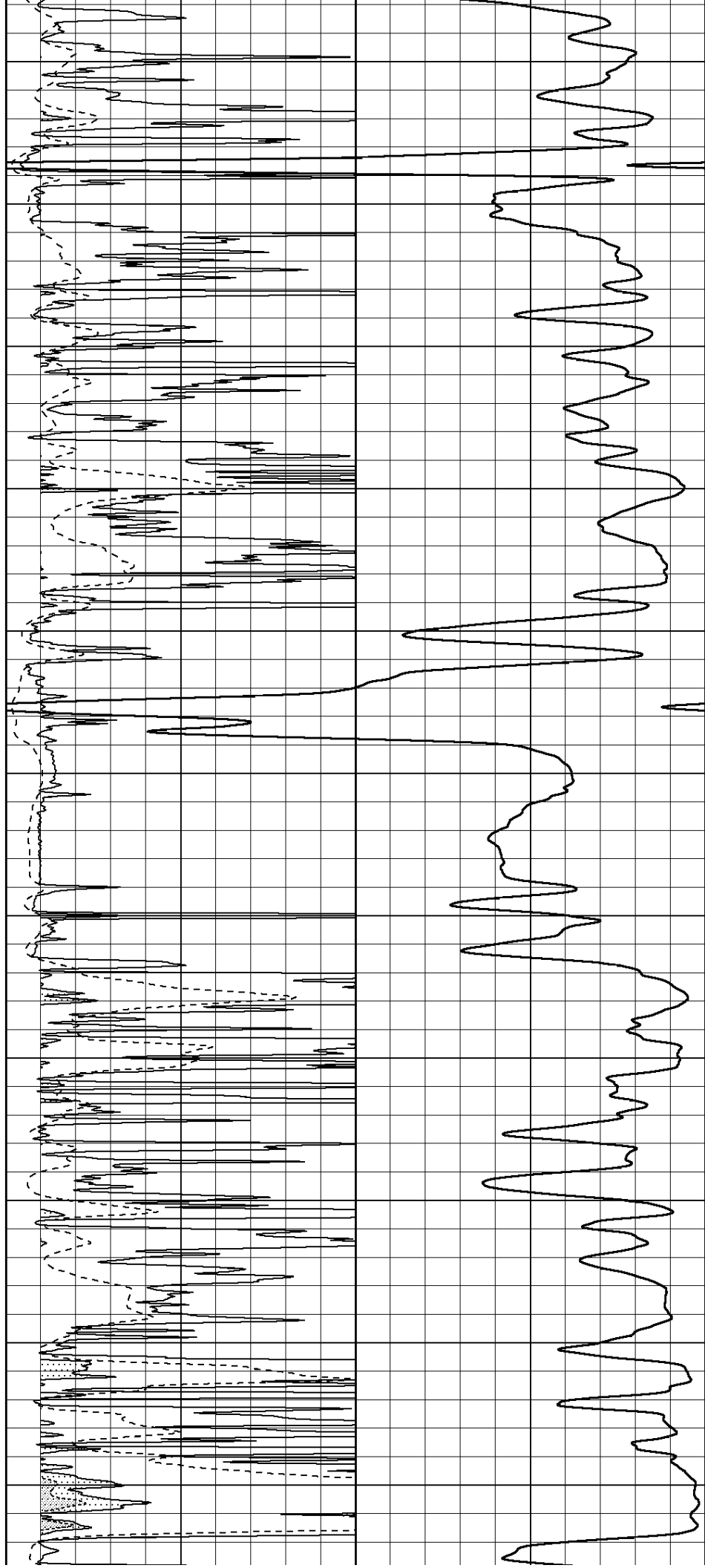
2950

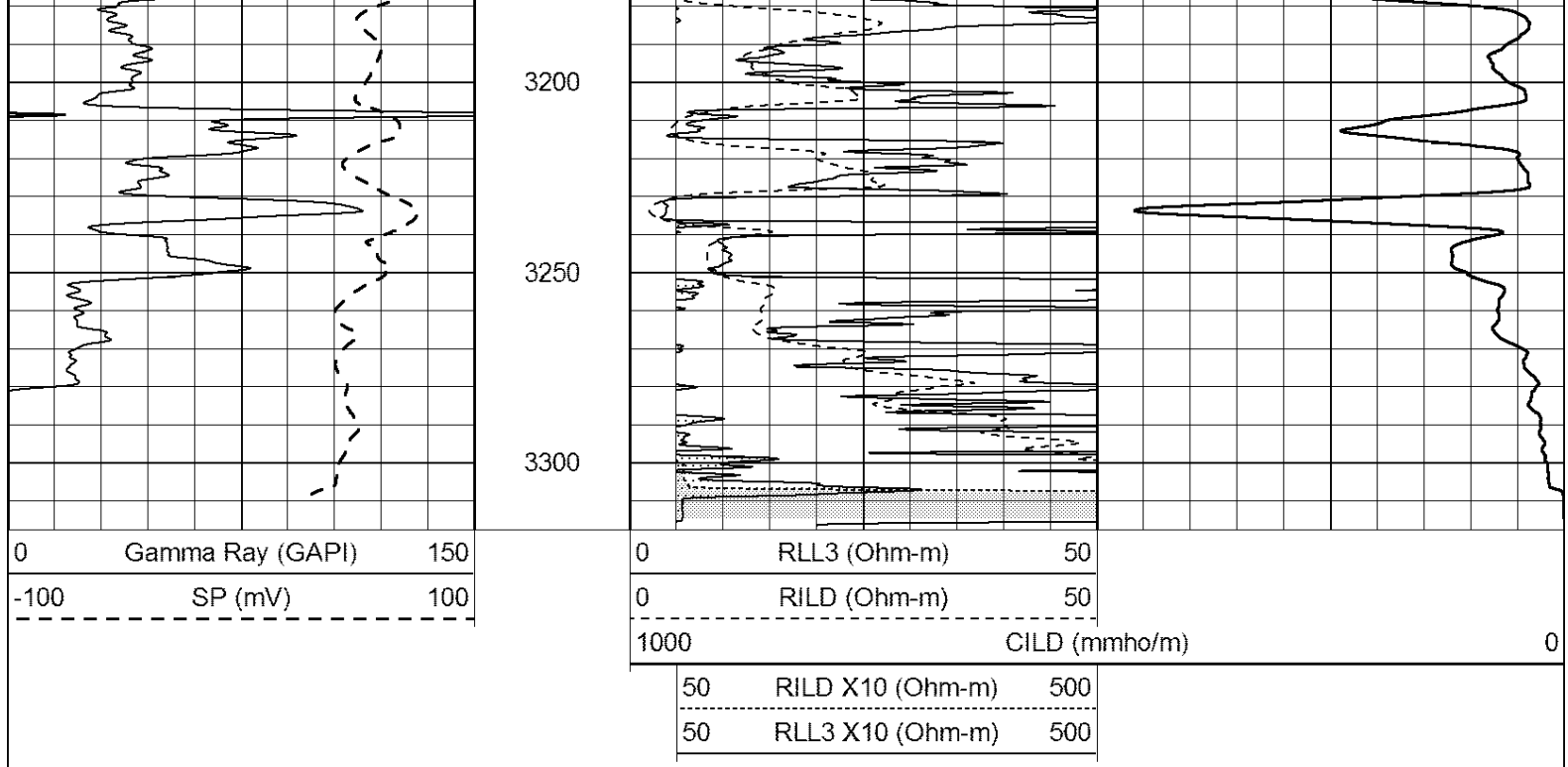
3000

3050

3100

3150

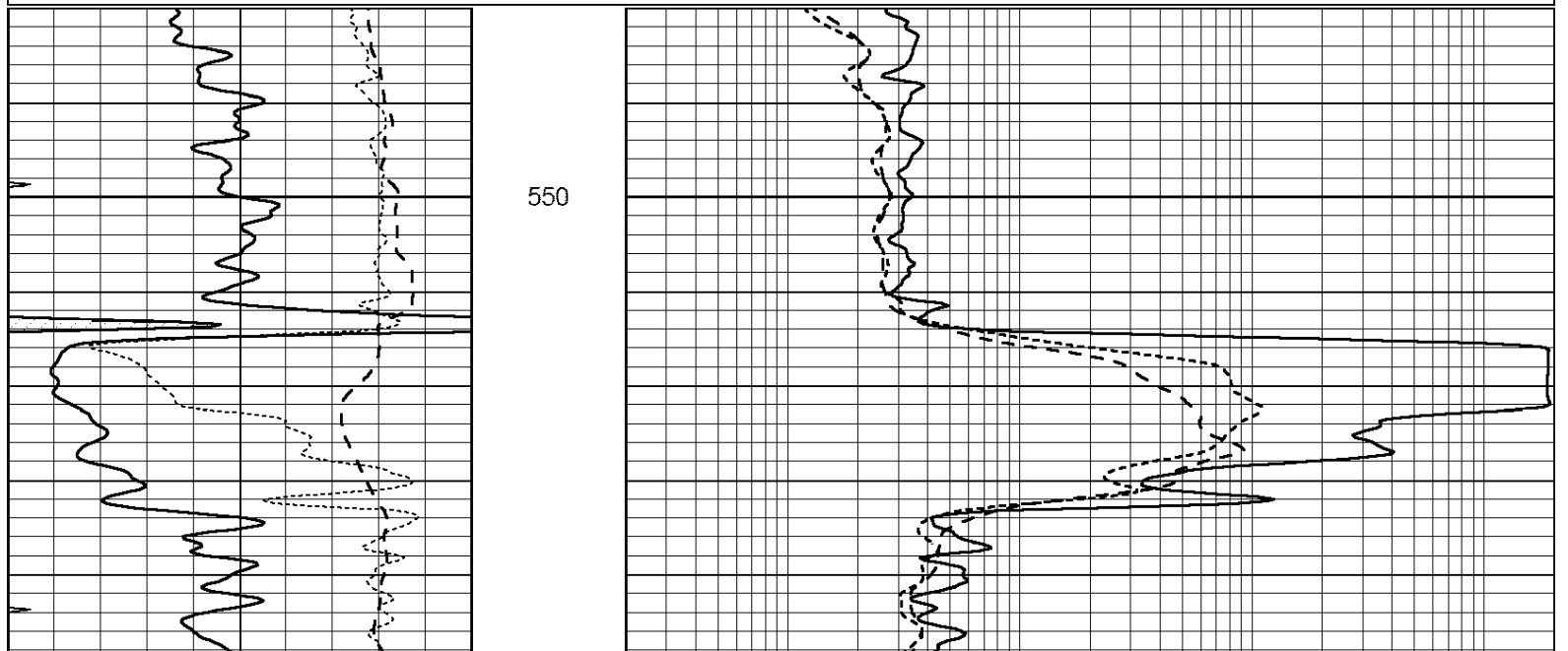


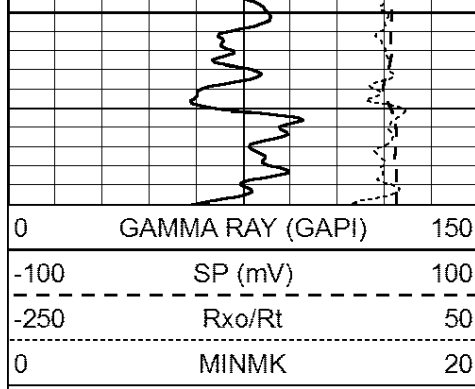


ANHYDRITE

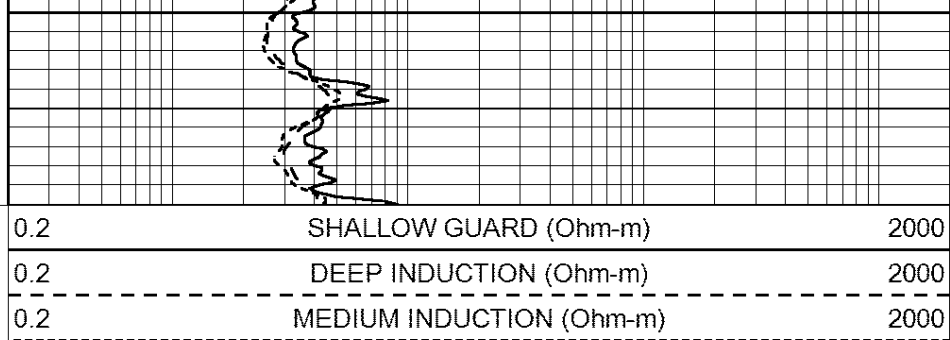
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 Charted by: Depth in Feet scaled 1:240

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			



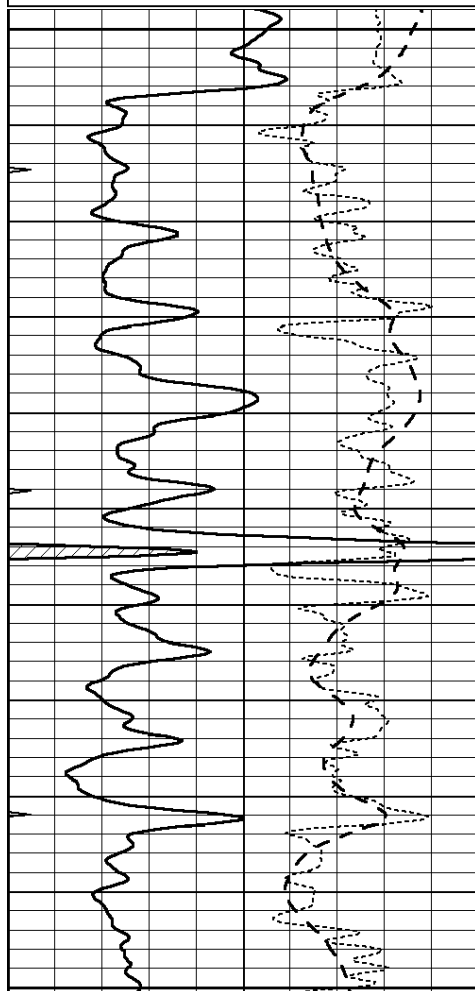
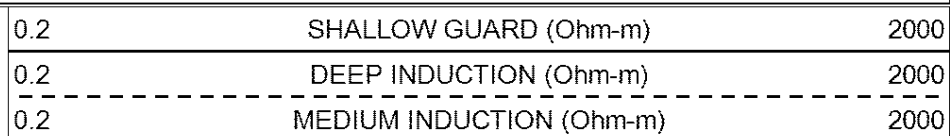
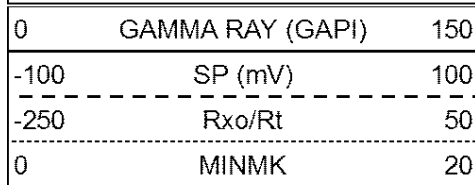


600



MAIN SECTION

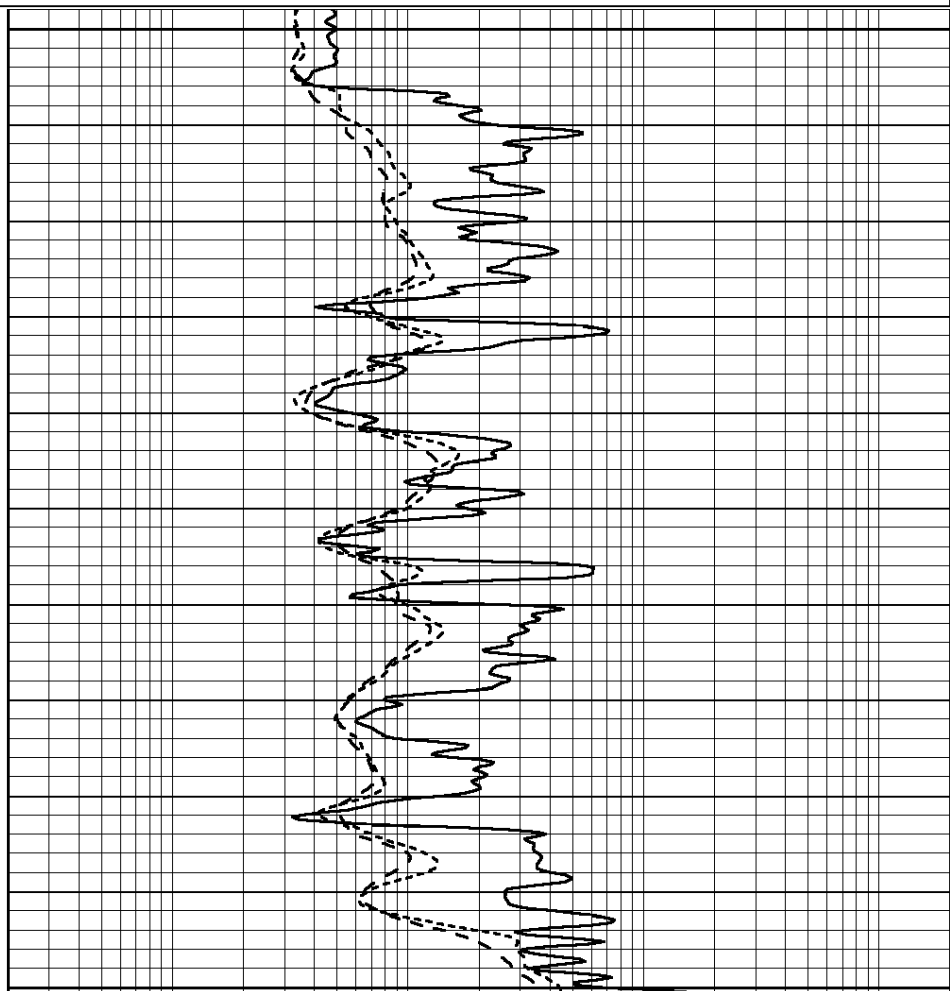
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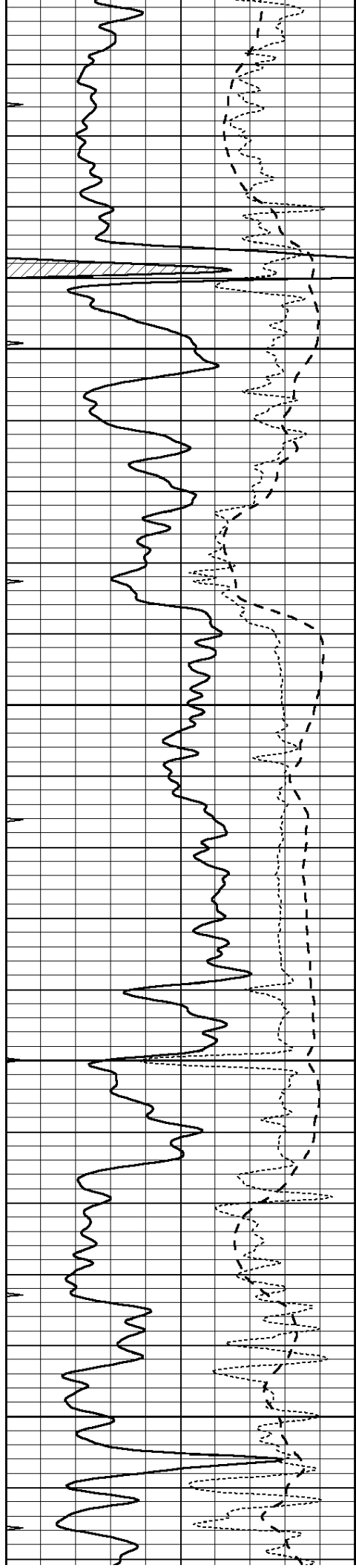


2700

2750

2800



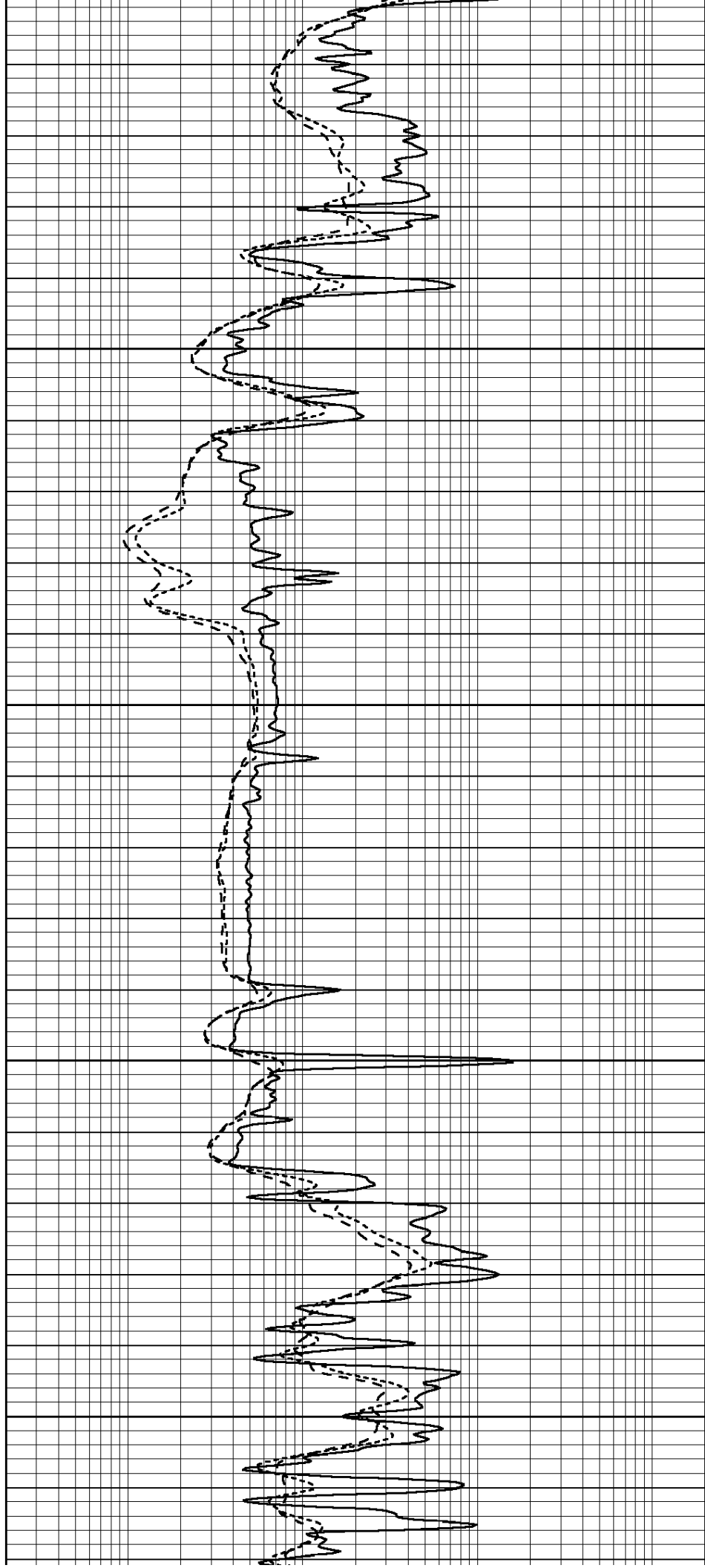


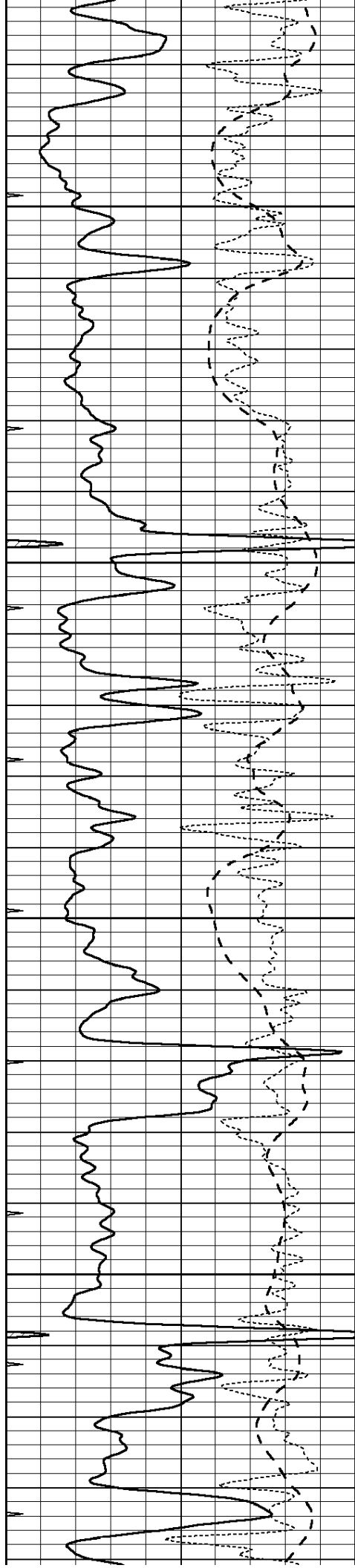
2850

2900

2950

3000



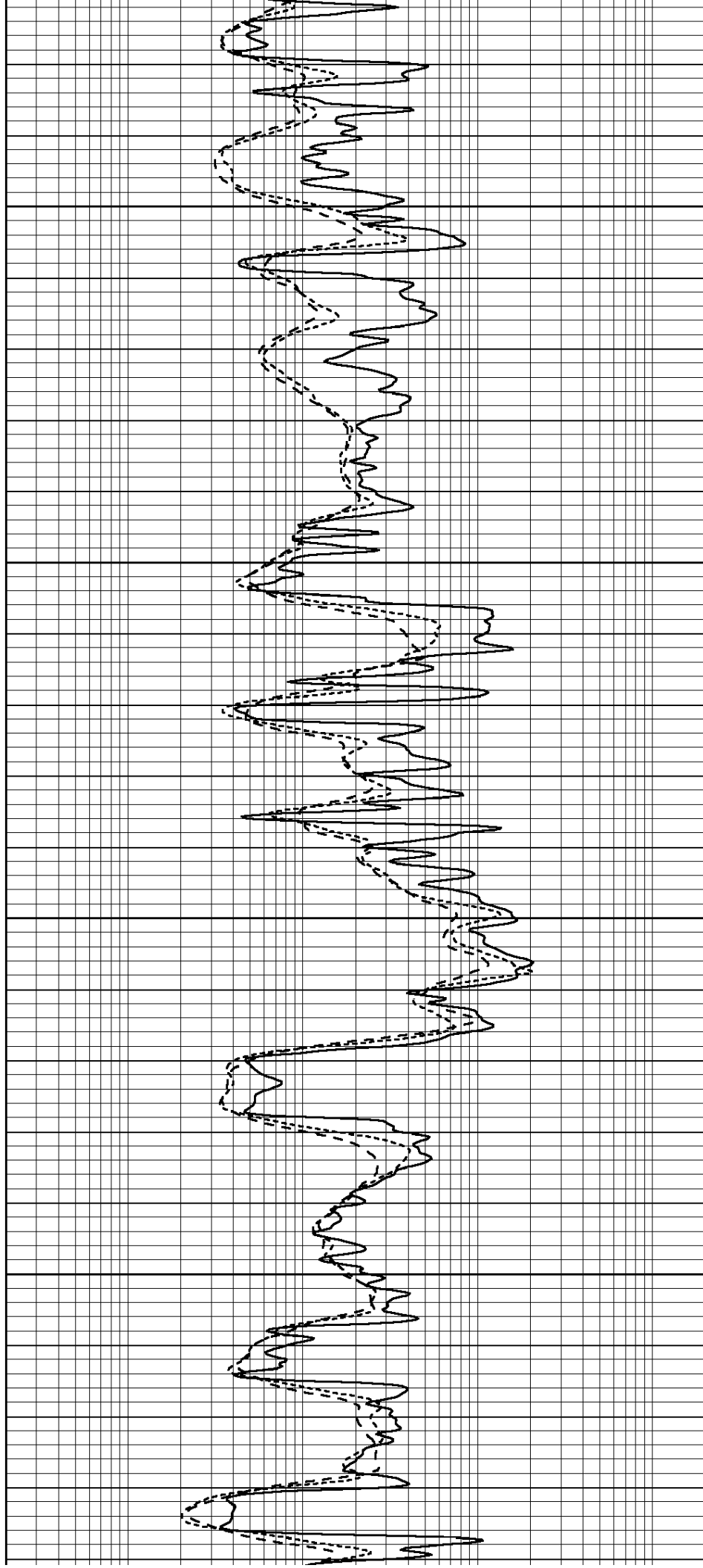


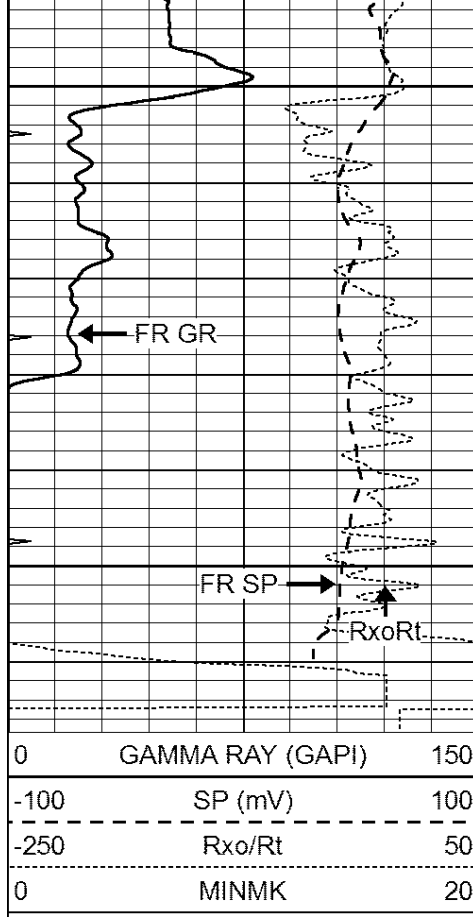
3050

3100

3150

3200

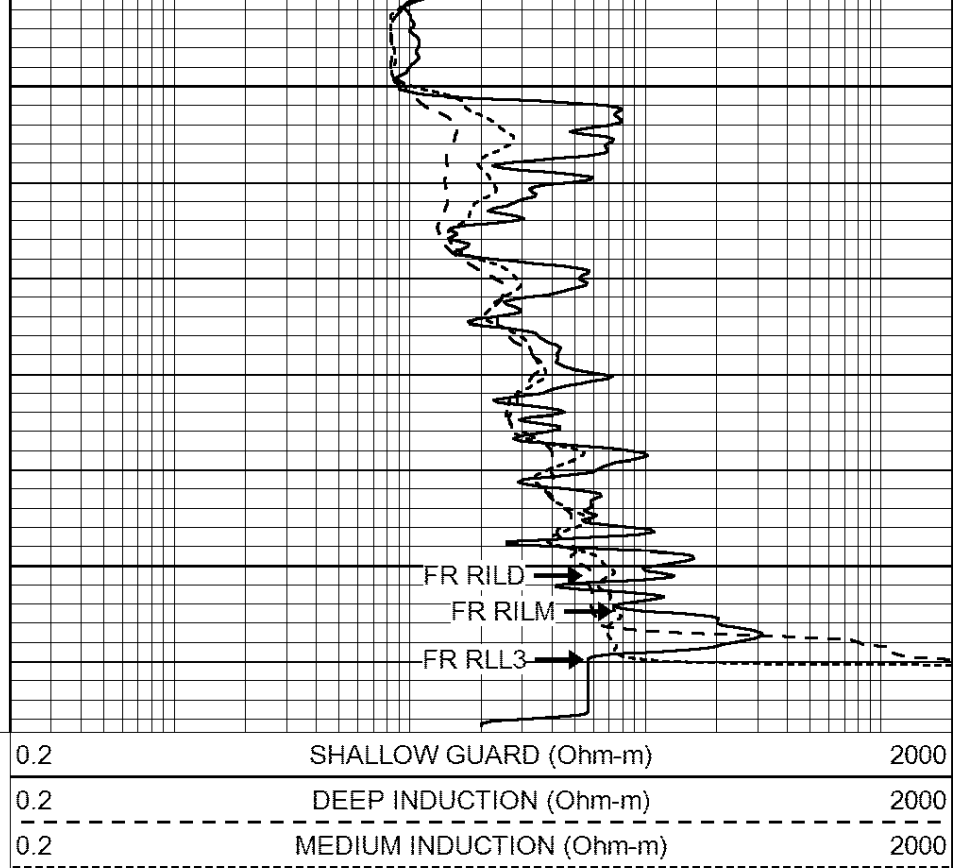




3250

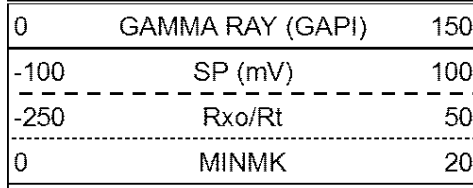
3300

LTD 3312

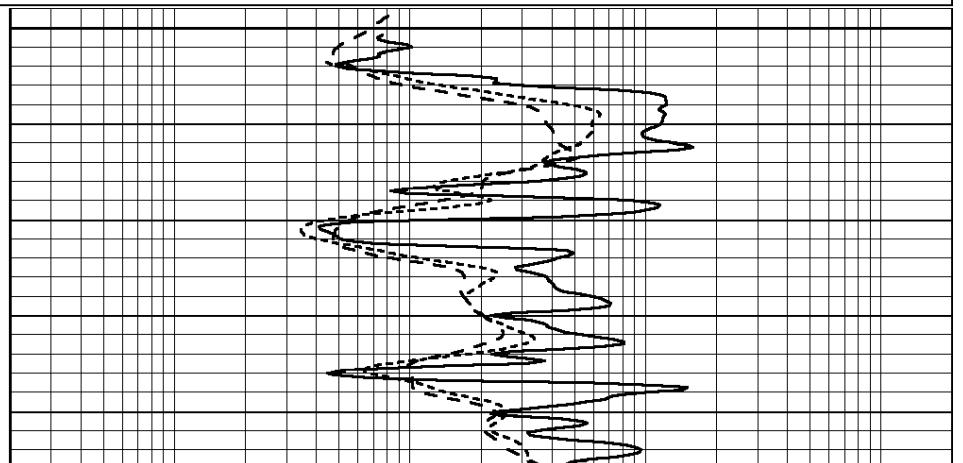
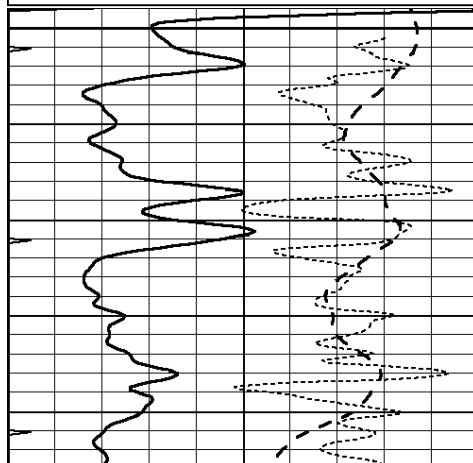
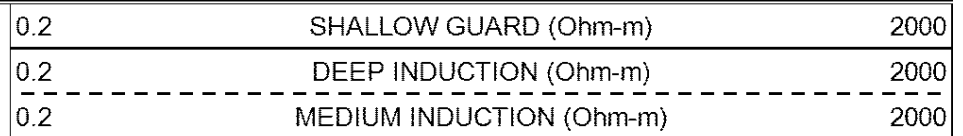


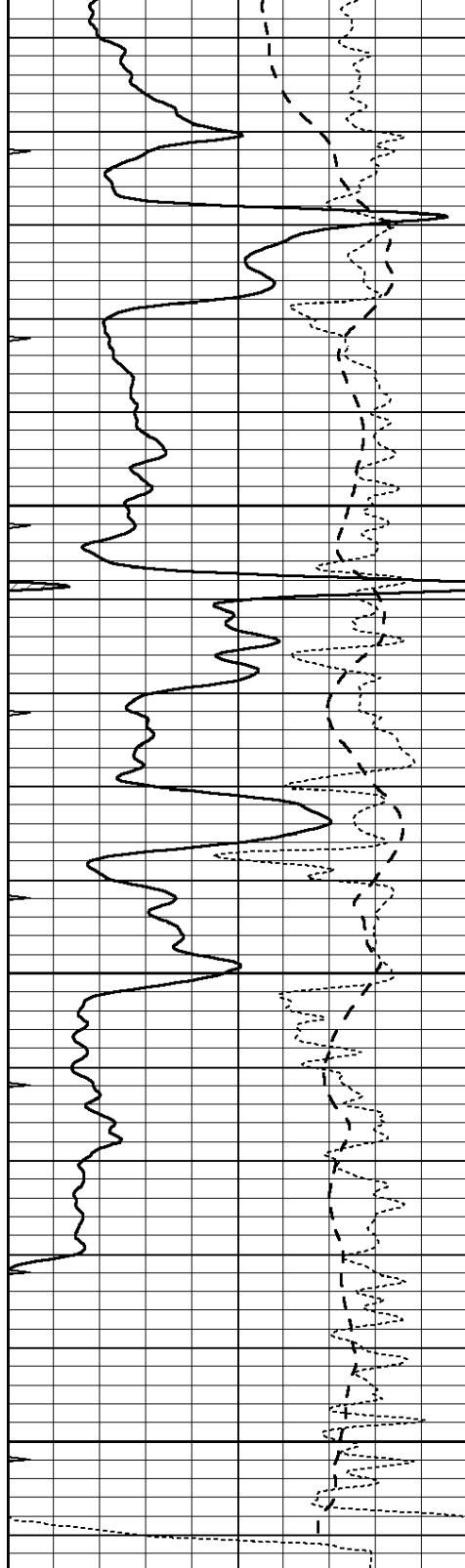
REPEAT SECTION

Database File: 24018ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Wed Apr 02 23:28:40 2014
 Charted by: Depth in Feet scaled 1:240



3100





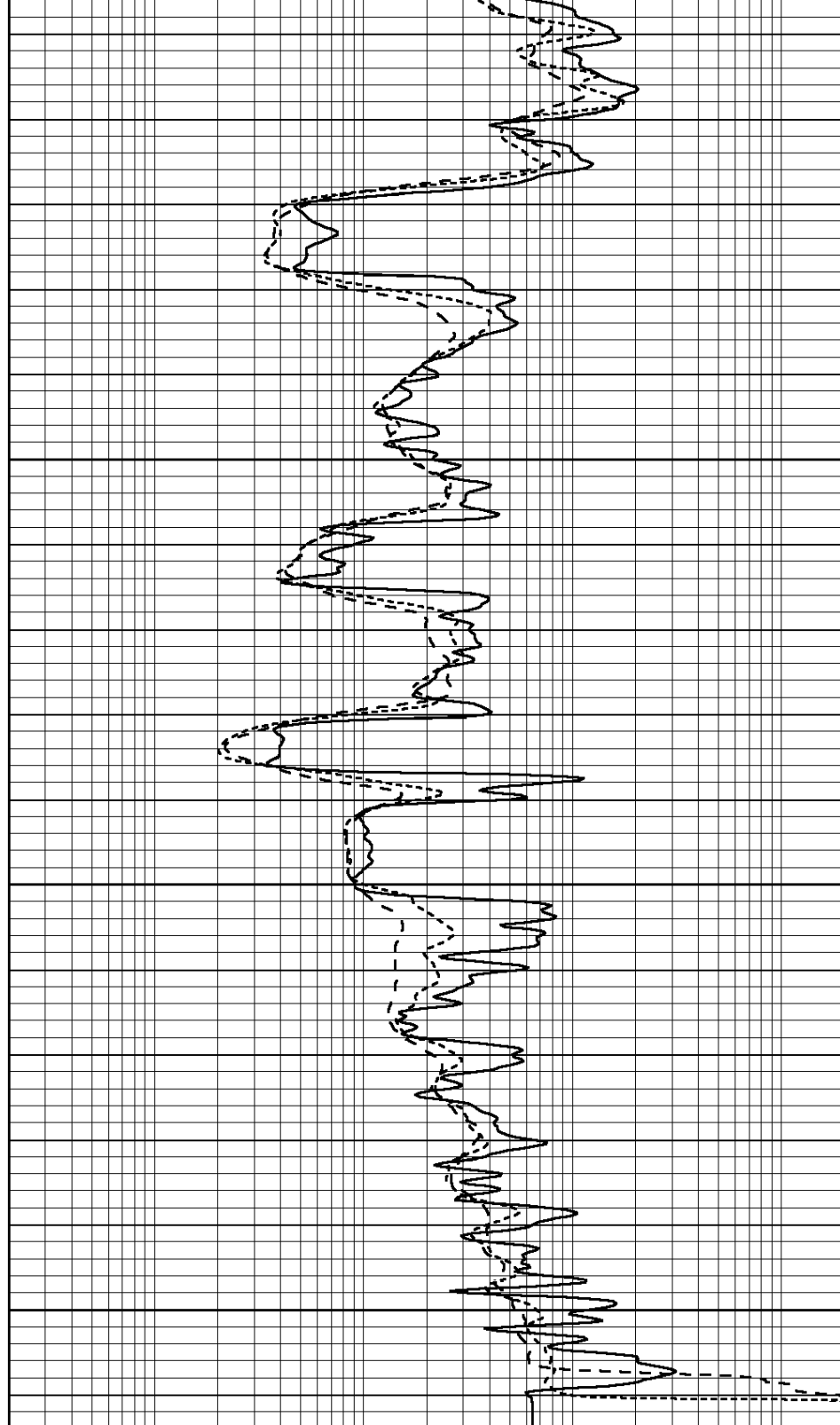
3150

3200

3250

3300

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

Calibration Report

Database File: 24018ddn.db
 Dataset Pathname: pass2.1
 Dataset Creation: Wed Apr 02 23:28:40 2014

Serial-Model:
 Surface Cal Performed:
 Downhole Cal Performed:
 After Survey Verification Performed:

PROBE8-DILG
 Fri Aug 01 06:33:19 2008
 Mon Jul 28 11:08:27 2008
 Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
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		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:
 Source / Verifier:
 Master Calibration Performed:
 Before Survey Verification Performed:
 After Survey Verification Performed:

GEAR4-GEARHART
 143 / 143
 Wed Sep 18 03:03:09 2013

Master Calibration

	Density			Far Detector		Near Detector		
Magnesium	1.710	g/cc		1075.98		532.39		cps
Aluminum	2.560	g/cc		286.51		422.88		cps
Spine Angle = 80.13				Density/Spine Ratio = 0.633				
	Size			Reading				
Small Ring	8.00	in		3.21	V			
Large Ring	14.00	in		5.46	V			

Before Survey Verification

Target	Measured
g/cc	g/cc
g/cc	g/cc
g/cc	g/cc

After Survey Verification						
Target			Measured			
g/cc			g/cc			
g/cc			g/cc			
g/cc			g/cc			
Compensated Neutron Calibration Report						
Serial Number:			6l			
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		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		
POST-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu
Gamma Ray Calibration Report						
Serial Number:		GR6				
Tool Model:		OPEN				
Performed:		Fri Nov 29 08:34:37 2013				
Calibrator Value:		150.0	GAPI			
Background Reading:		0.0	cps			
Calibrator Reading:		276.0	cps			
Sensitivity:		0.6035	GAPI/cps			