



RADIATION GUARD LOG

Company MUSTANG ENERGY CORP.

Well ZIMMERMAN #4

Field ZIMM

County ELLIS

State KANSAS

Location: 3300' FSL & 990' FEL

AP1 #: 15-051-23872-0001

Other Services

Permanent Datum GROUND LEVEL Elevation 2021

Log Measured From KELLY BUSHING 7' A.G.L.

Drilling Measured From KELLY BUSHING

Elevation

K.B. 2028

D.F. 2026

G.L. 2021

Date	8/14/21
Run Number	ONE
Depth Driller	3614
Depth Logger	3620
Bottom Logged Interval	3618
Top Log Interval	2800
Casing Driller	8 5/8" @ 1213
Casing Logger	1213
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.4/78
pH / Fluid Loss	8.5/14
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.6@ 70F
Rmf @ Meas. Temp	.45@ 70F
Rmc @ Meas. Temp	.72 @ 70F
Source of Rmf / Rmc	MEASURED
Rm @ BHT	.37 @ 113F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	113F
Equipment Number	1523
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	ROD BRIN

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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

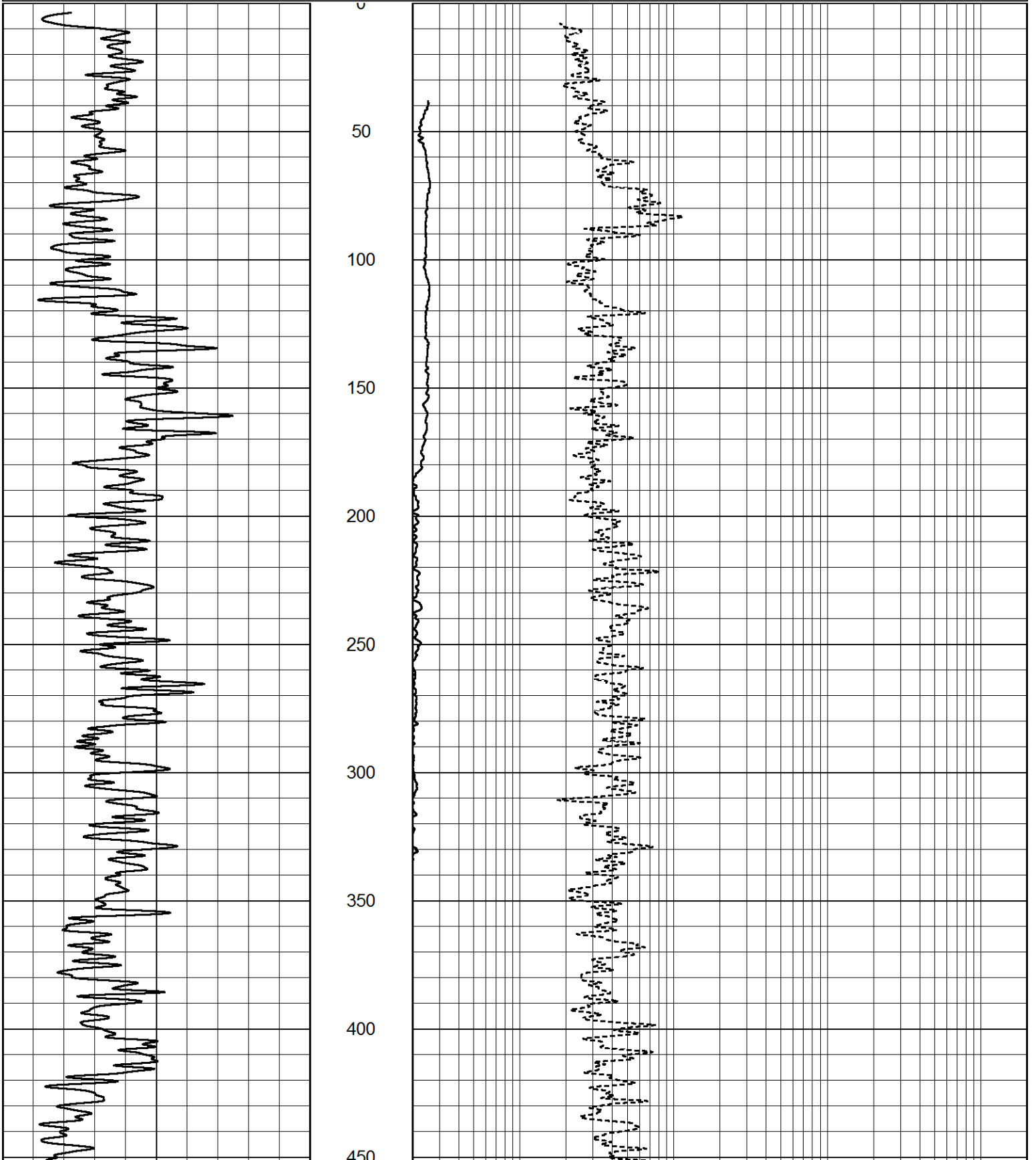
THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395
DIRECTIONS: SCHOENCHEN WEST TO 210 RD, SOUTH 3/8 MILE WEST INTO.

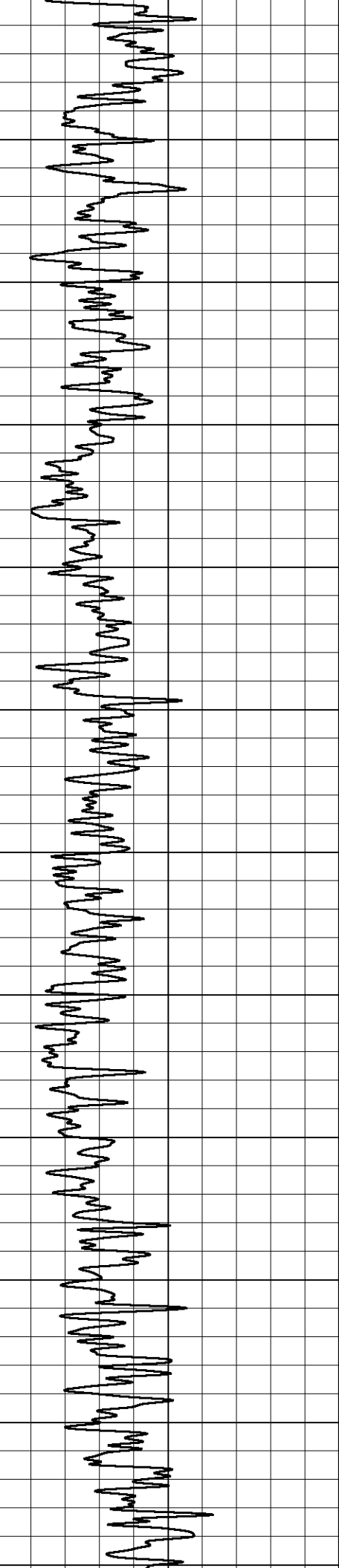


MAIN PASS

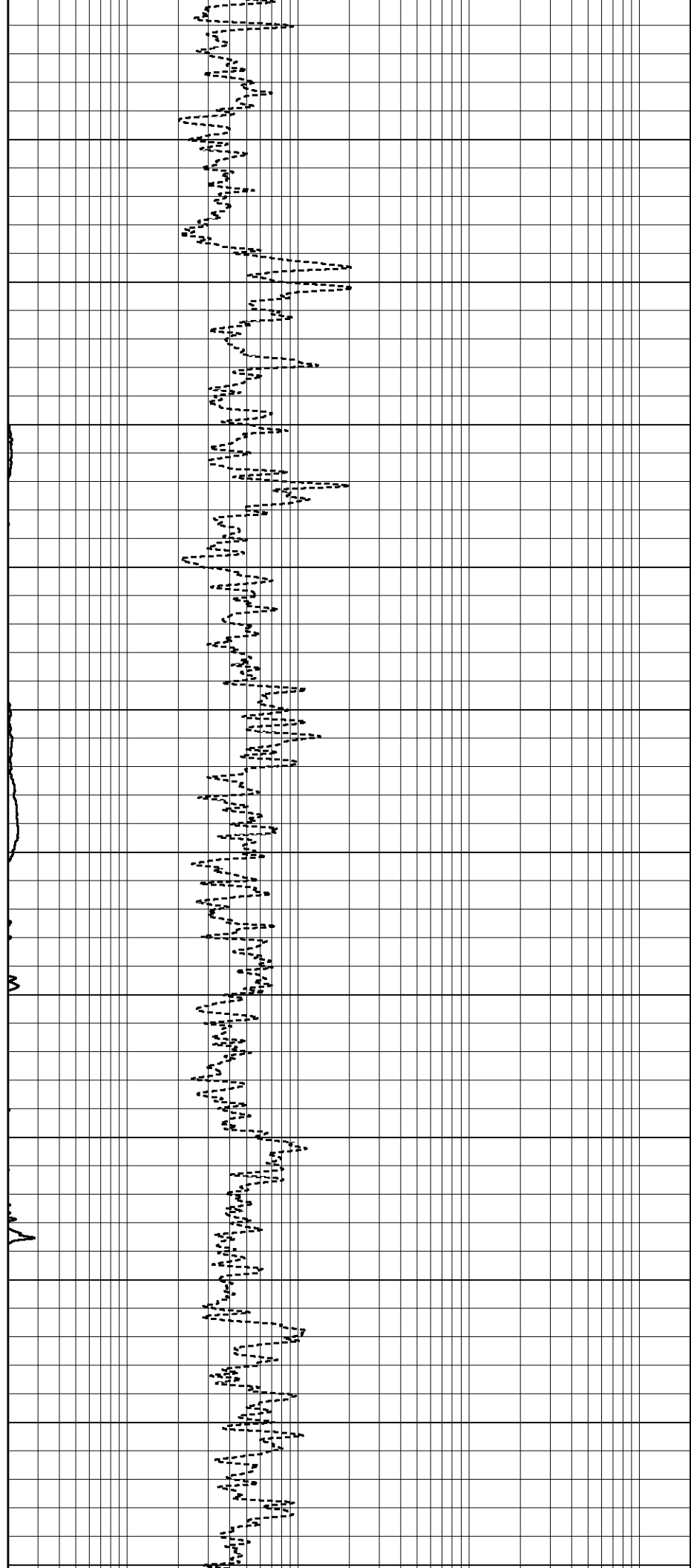
Database File 5614rag.db
 Dataset Pathname pass3.1
 Presentation Format rag2
 Dataset Creation Sat Aug 14 02:25:52 2021
 Charted by Depth in Feet scaled 1:600

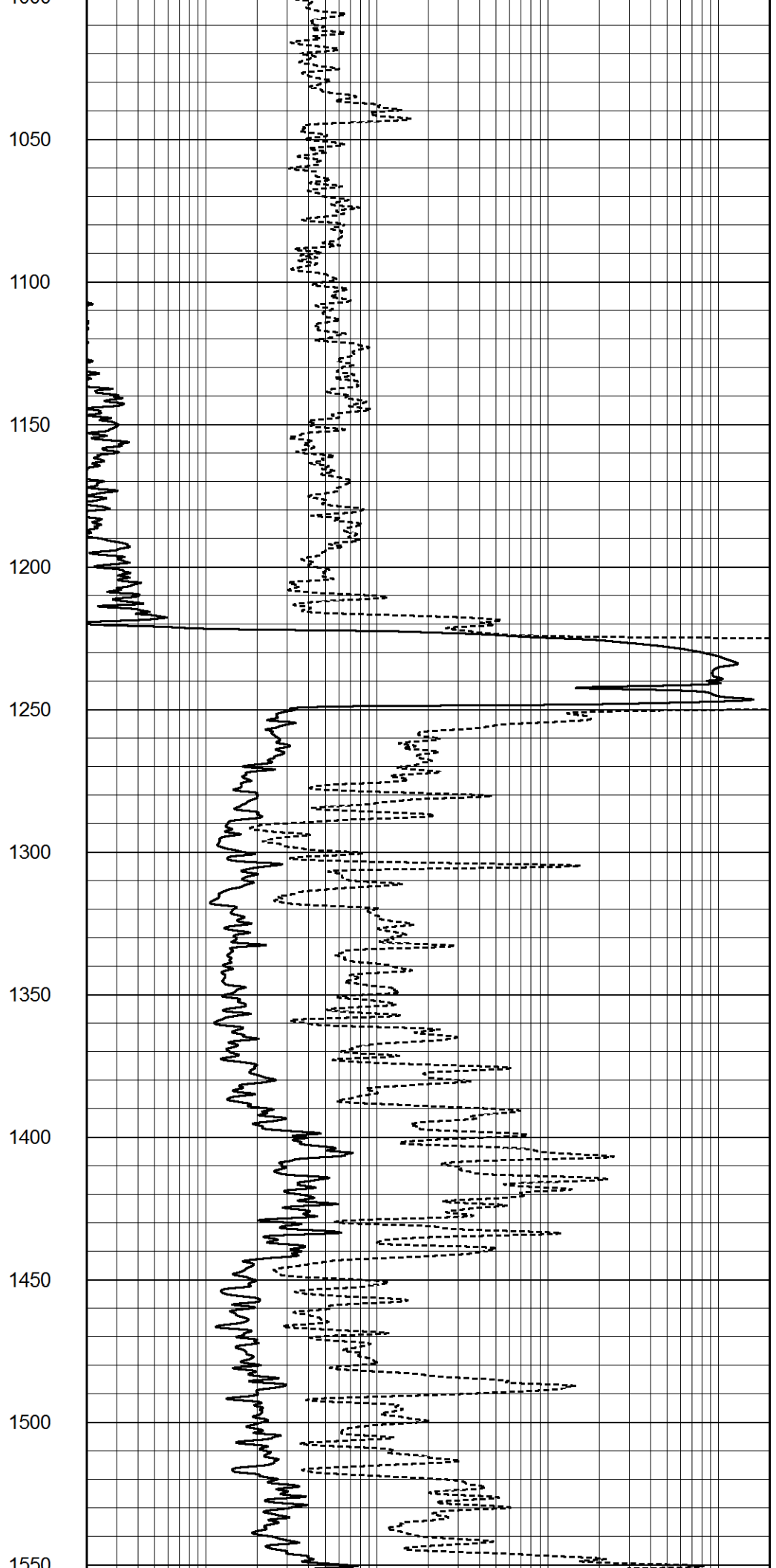
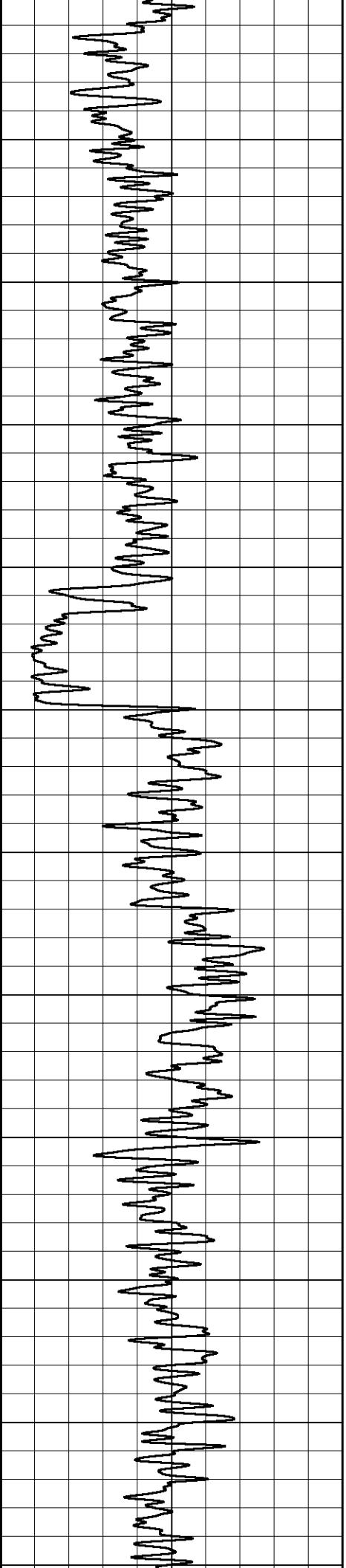
0	GAMMA RAY (GAPI)	150	ABHV (ft3)	0.2	GUARD (Ohm-m)	2000
			TBHV (ft3)	-50	NEUTRON (cps)	350

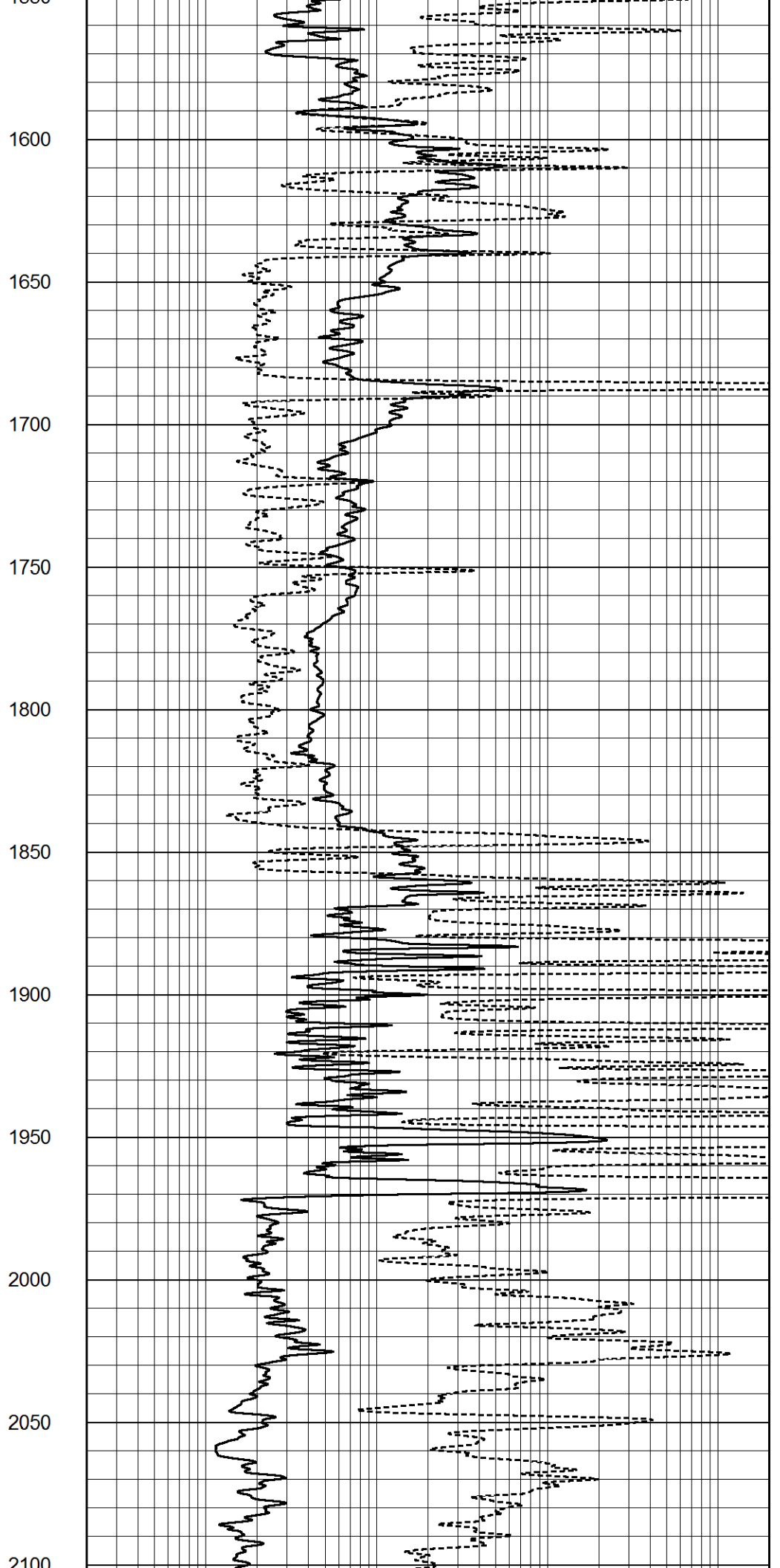
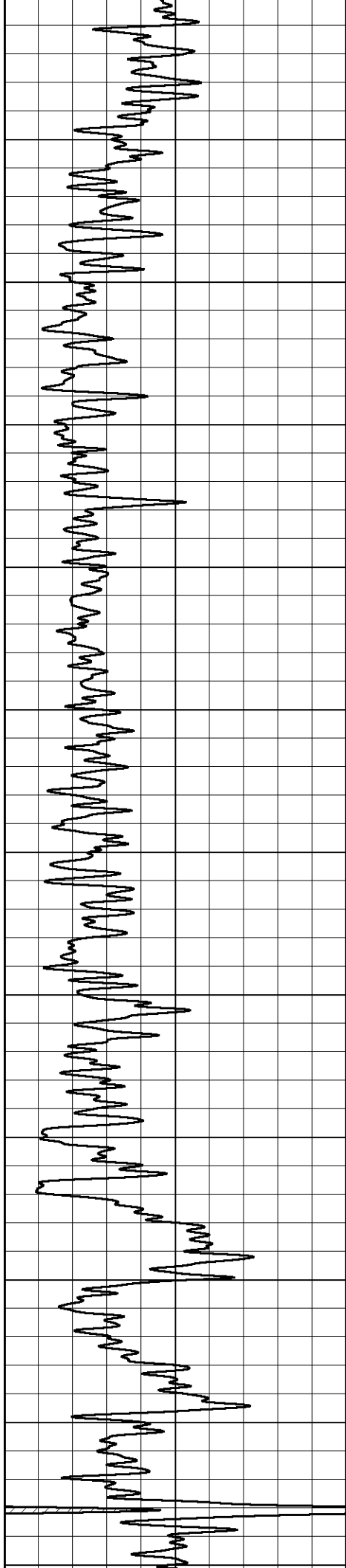


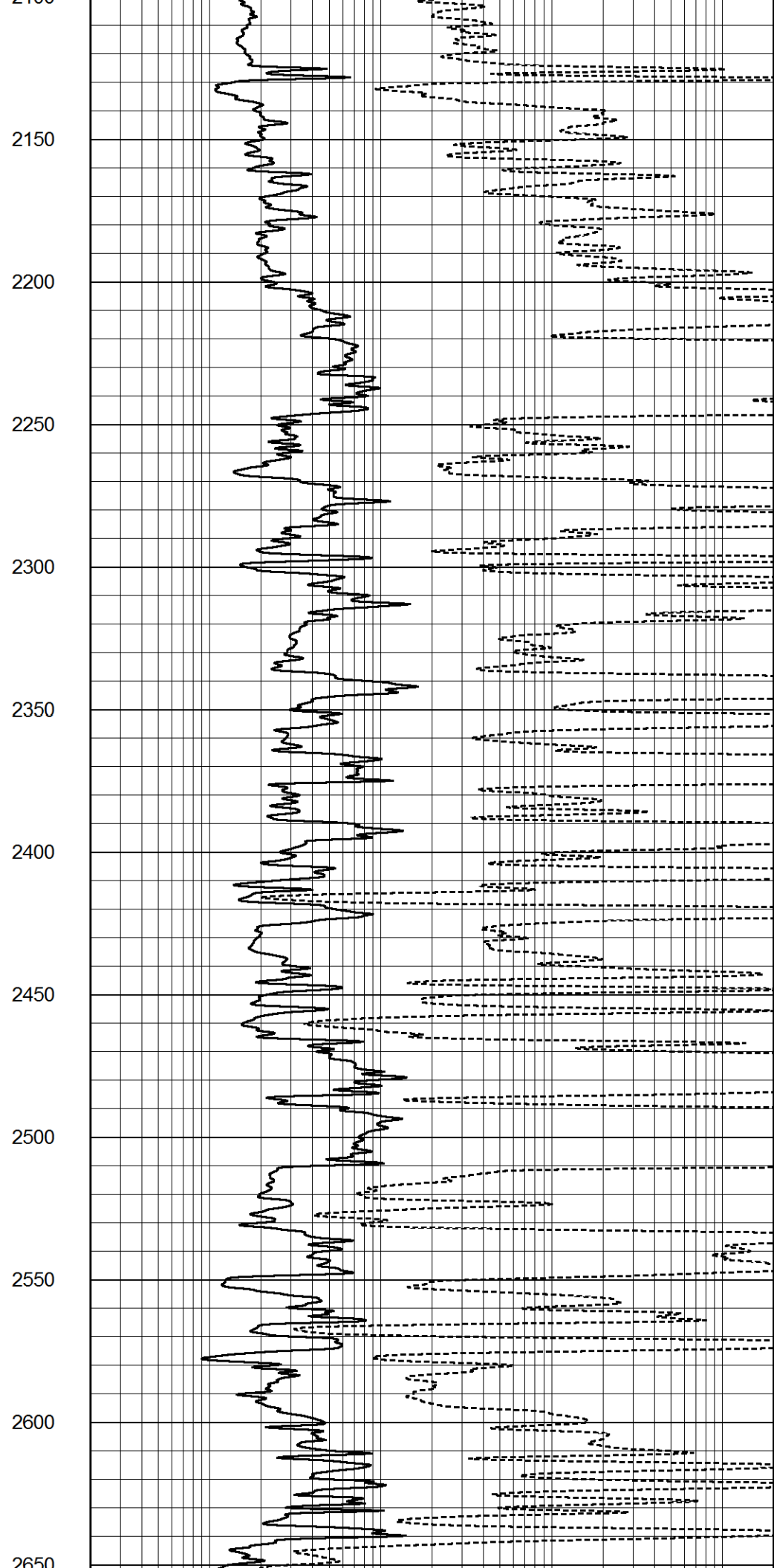
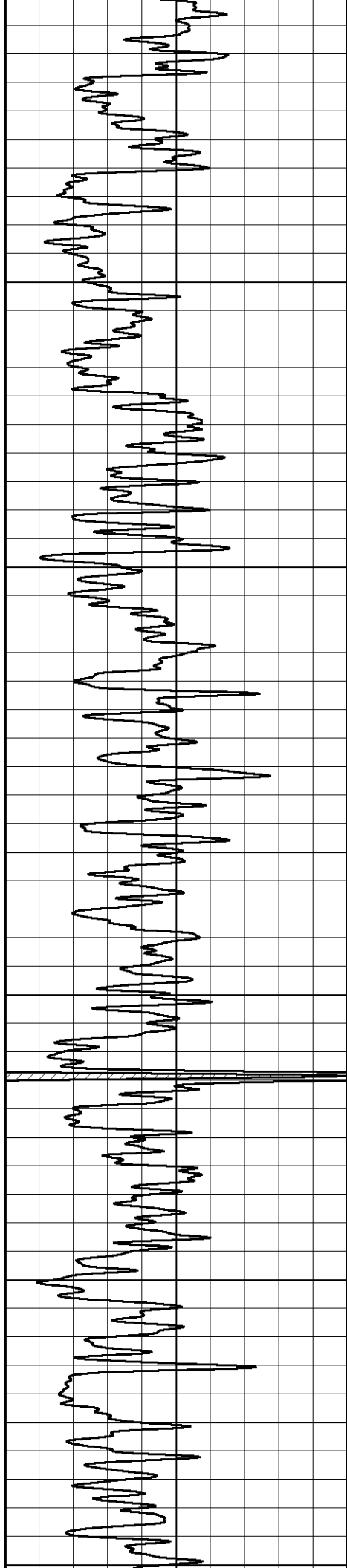


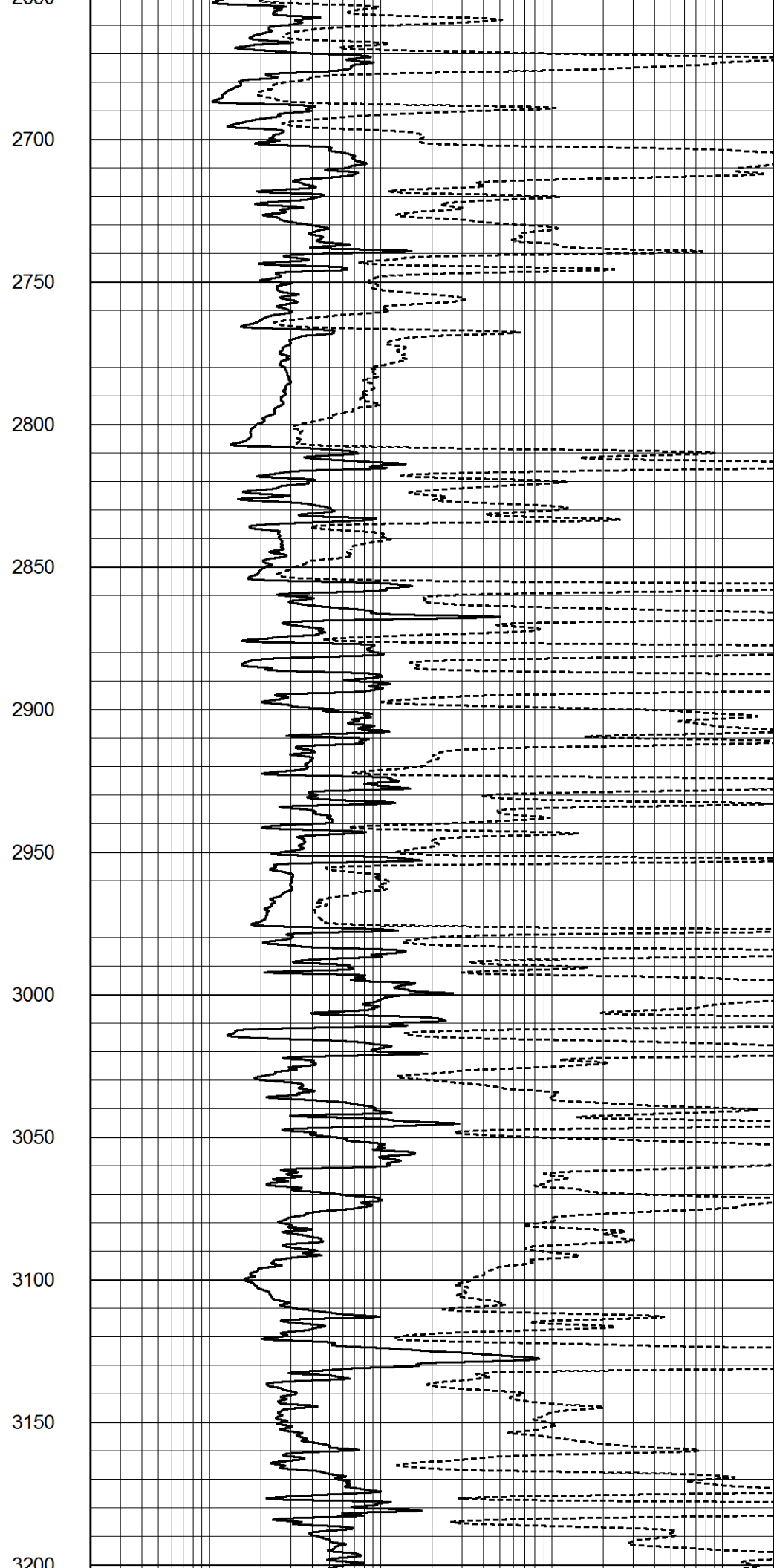
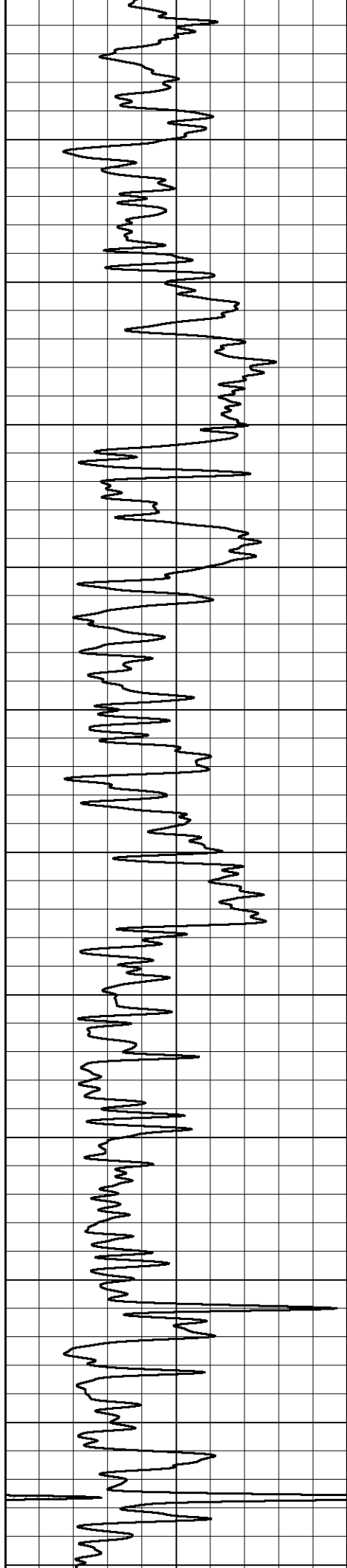
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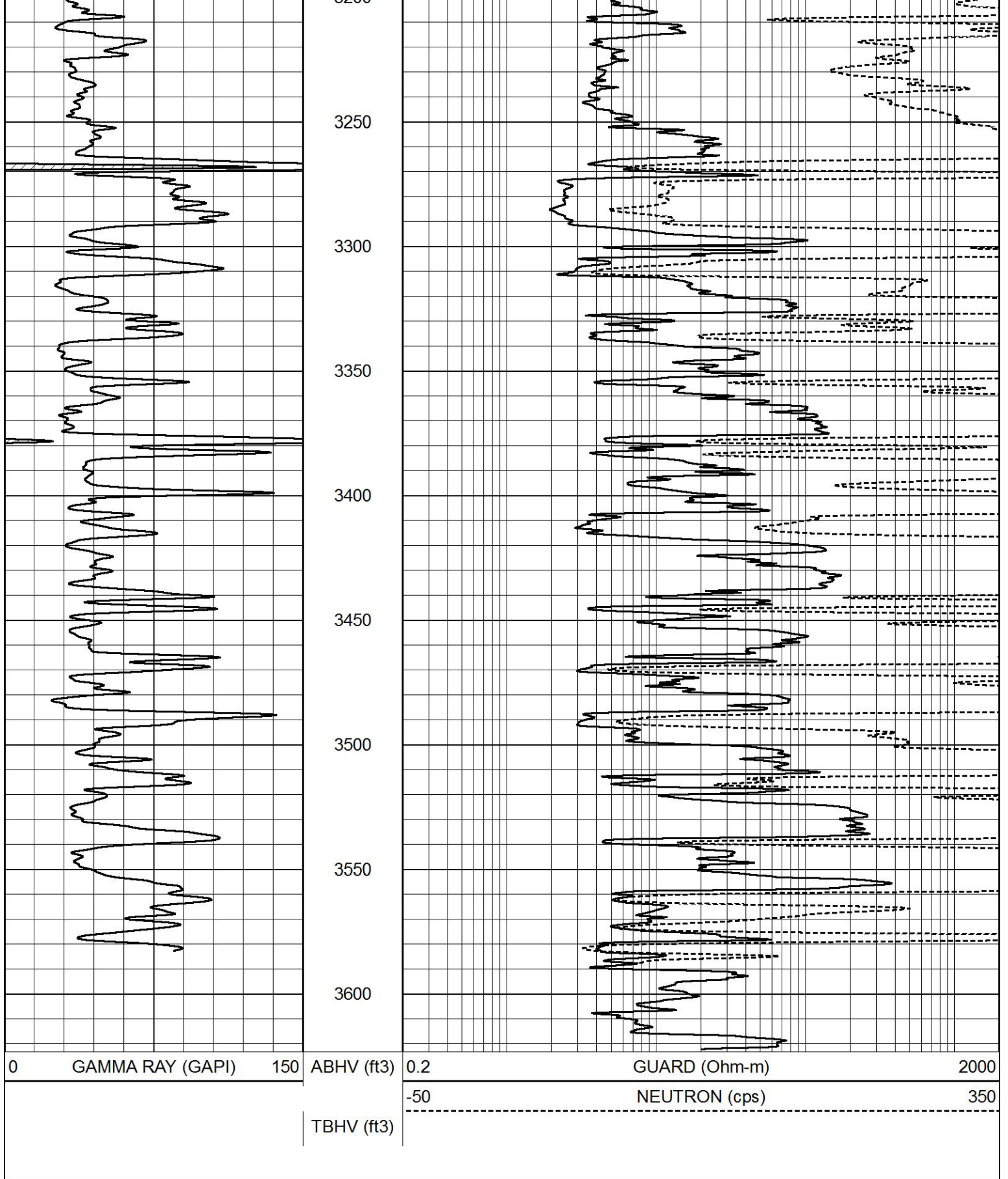








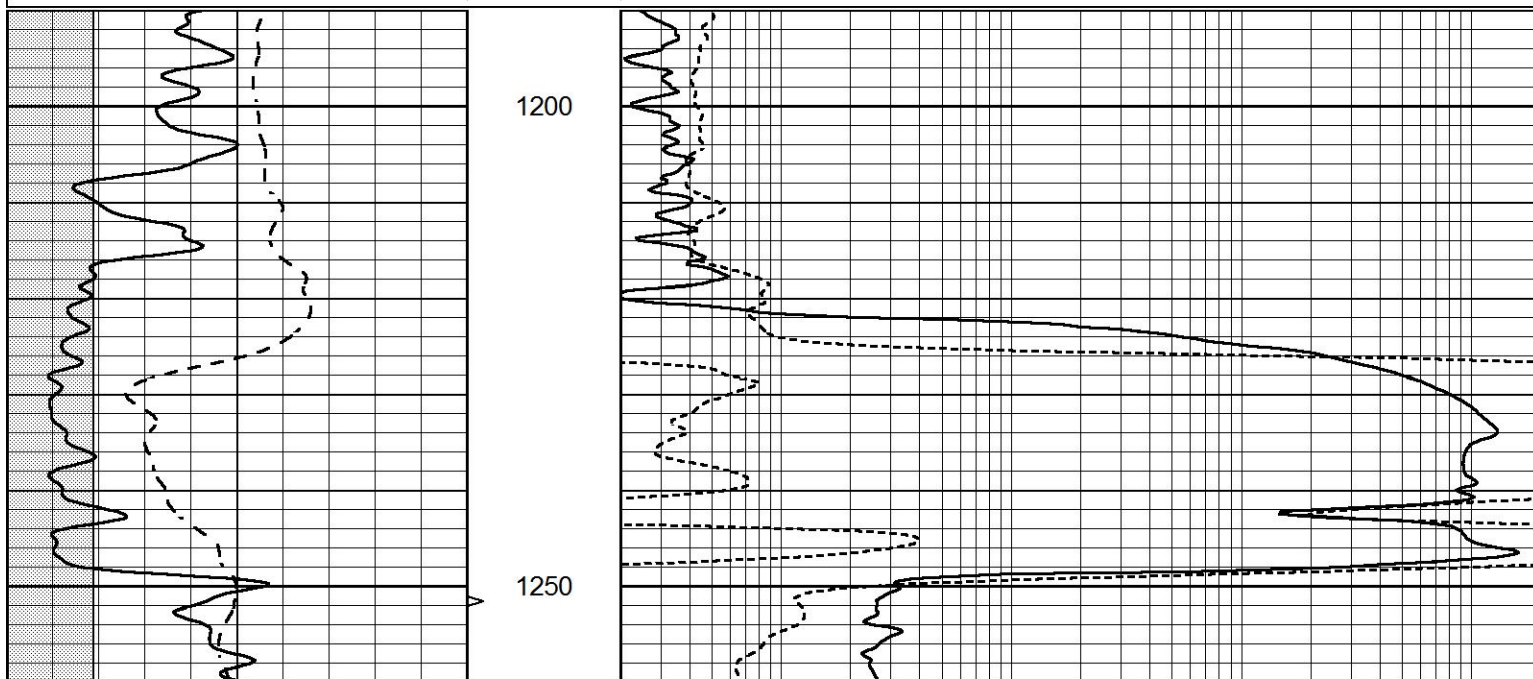




MAIN PASS

Dataset Pathname pass3.1
 Presentation Format rag
 Dataset Creation Sat Aug 14 02:25:52 2021
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV		NEUTRON
-100	SP (mV)	100	10 (ft3)	0	GUARD
6	CALIPER (in)	16	TBHV		
			0 (ft3)	10	



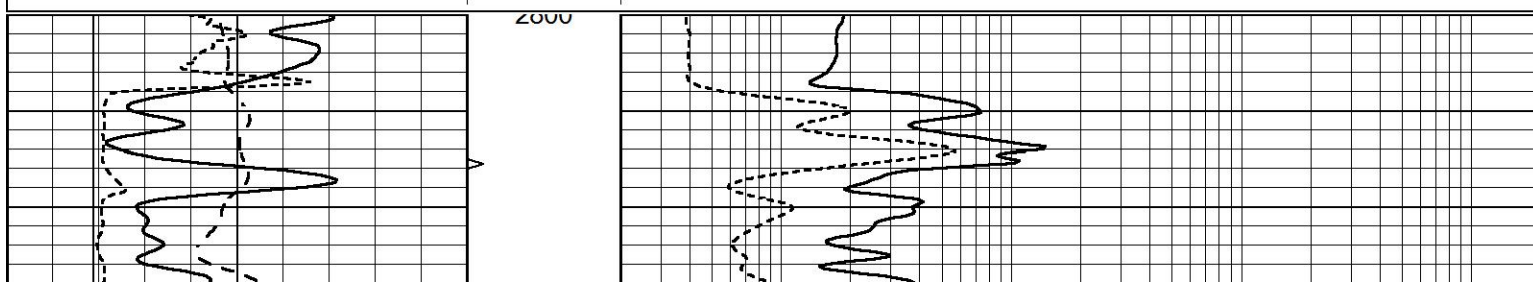
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-100	SP (mV)	100	10 (ft3)	0	GUARD
6	CALIPER (in)	16	TBHV		
			0 (ft3)	10	

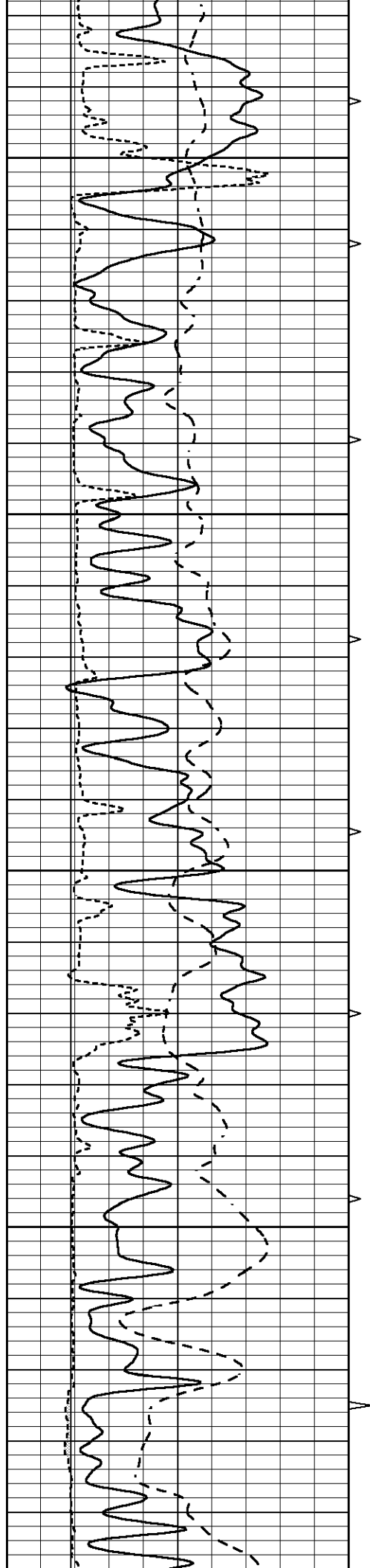


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-100	SP (mV)	100	10 (ft3)	0	GUARD
6	CALIPER (in)	16	TBHV		
			0 (ft3)	10	



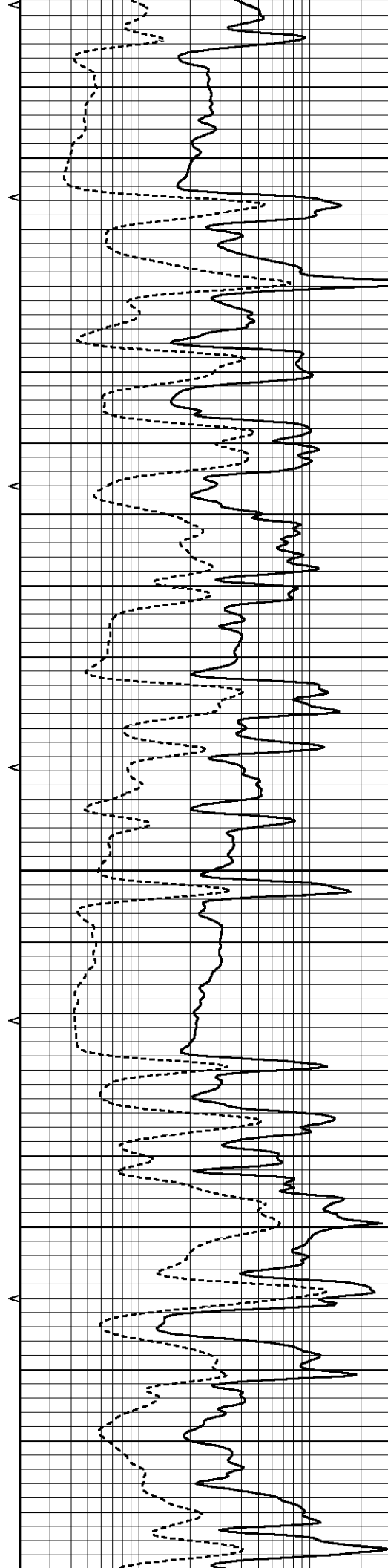


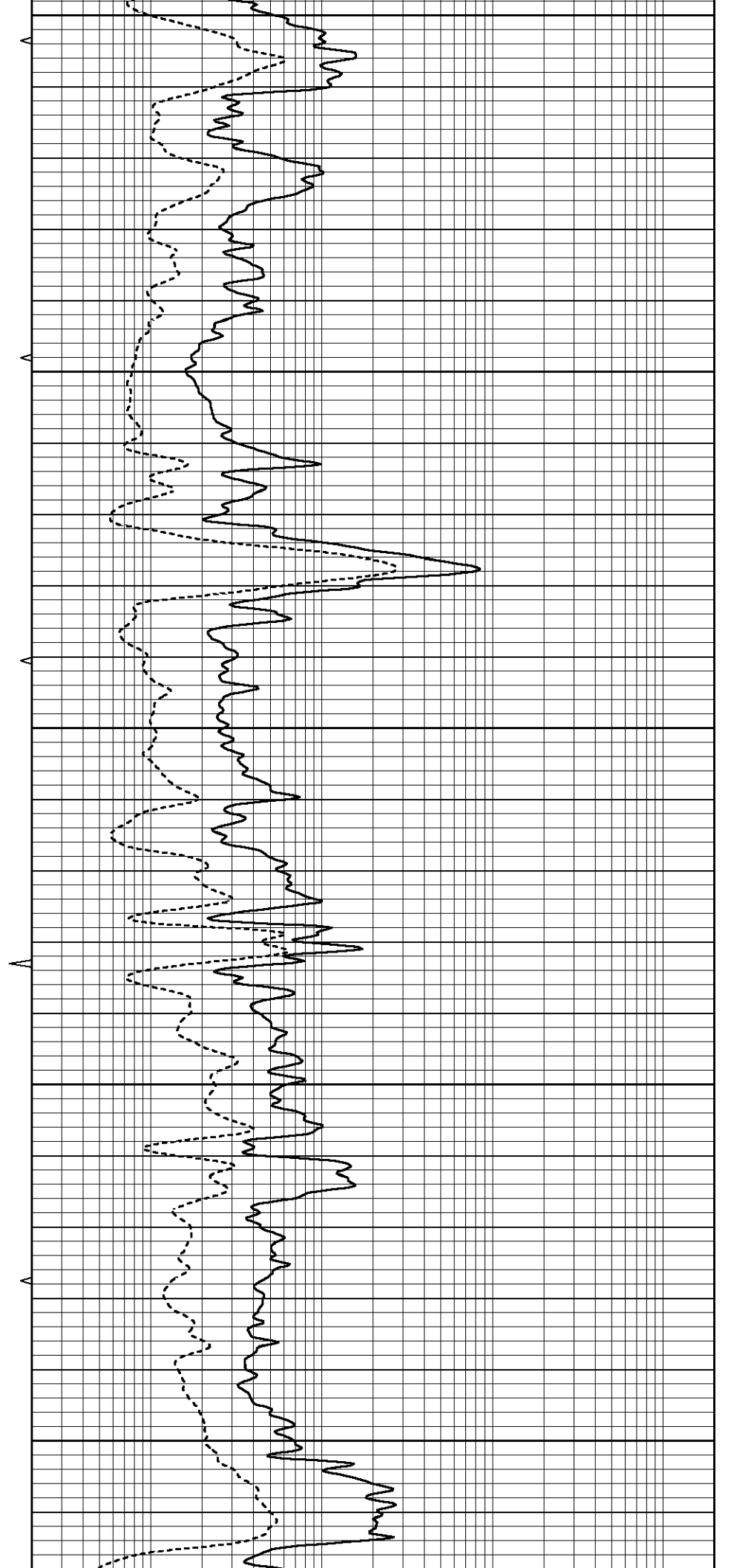
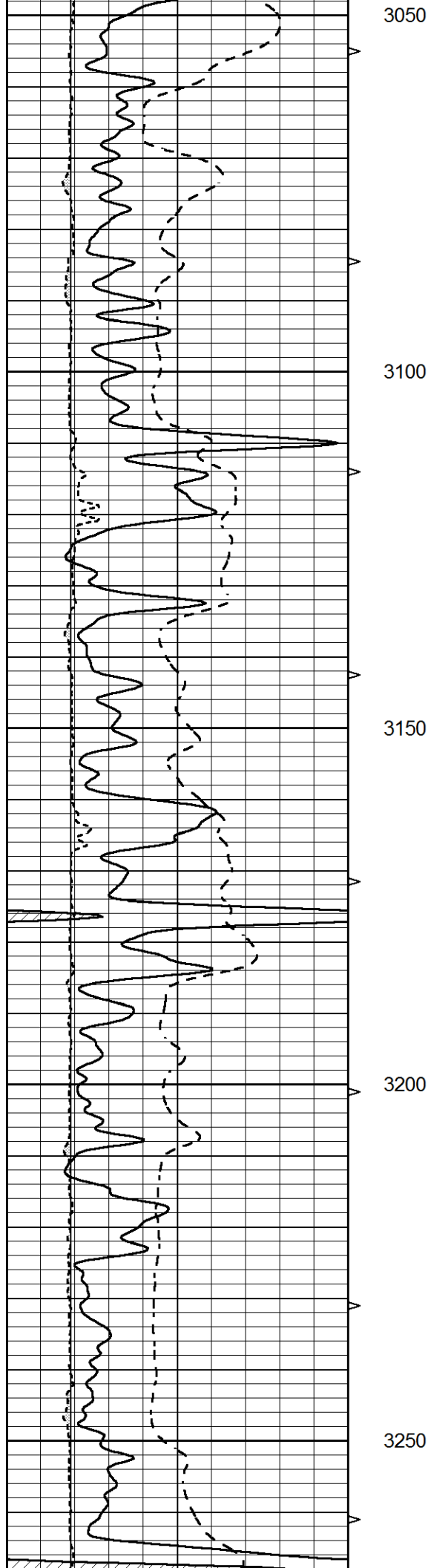
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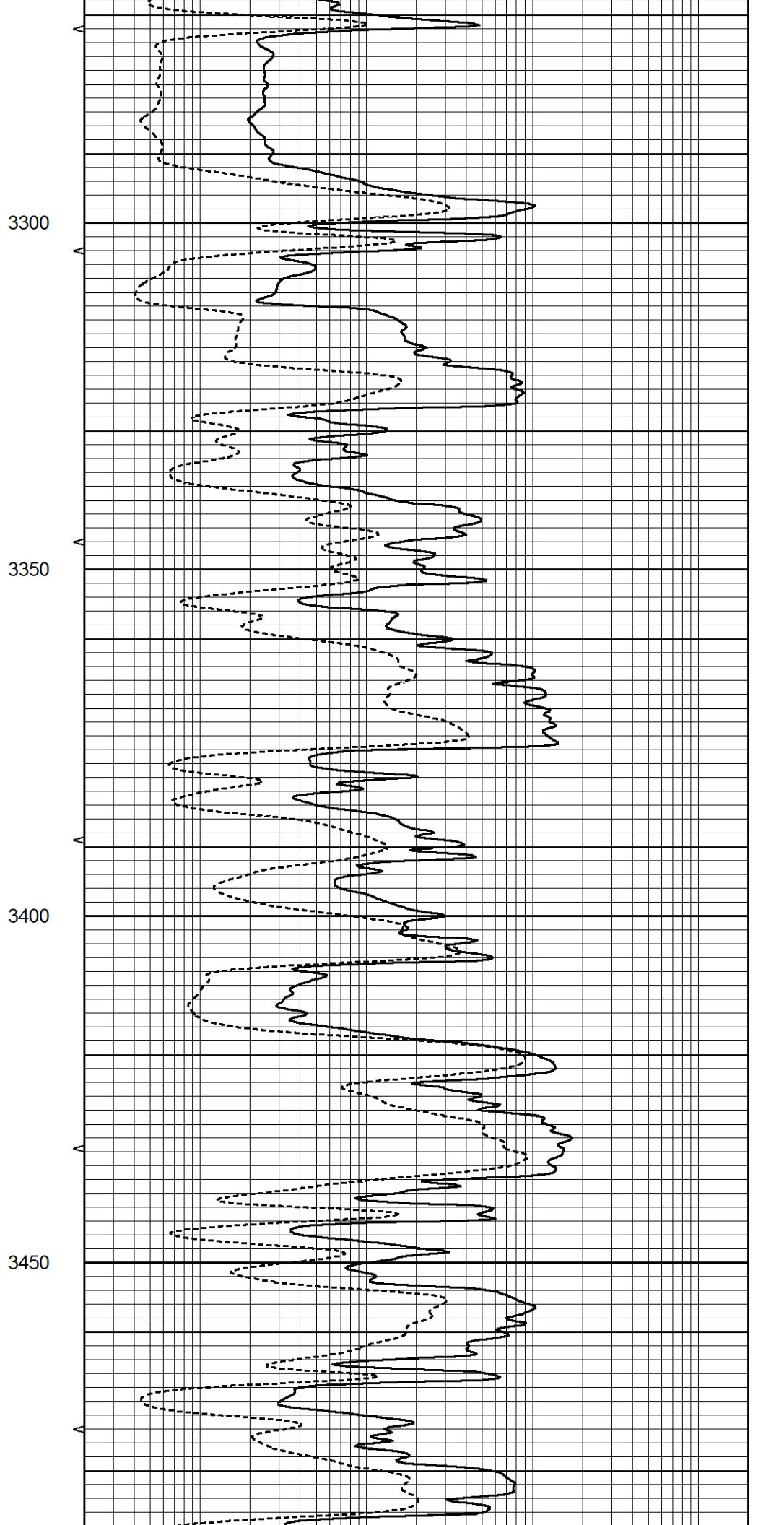
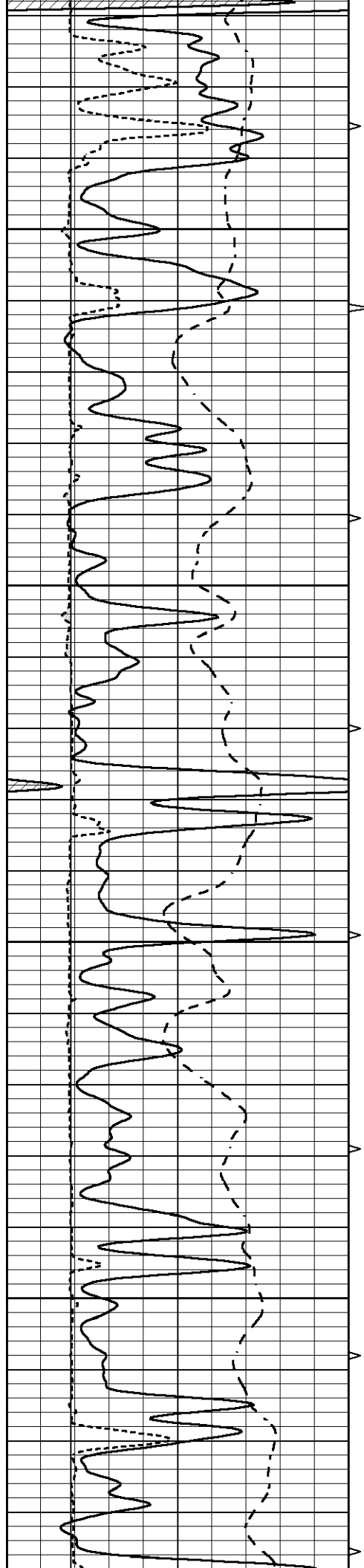
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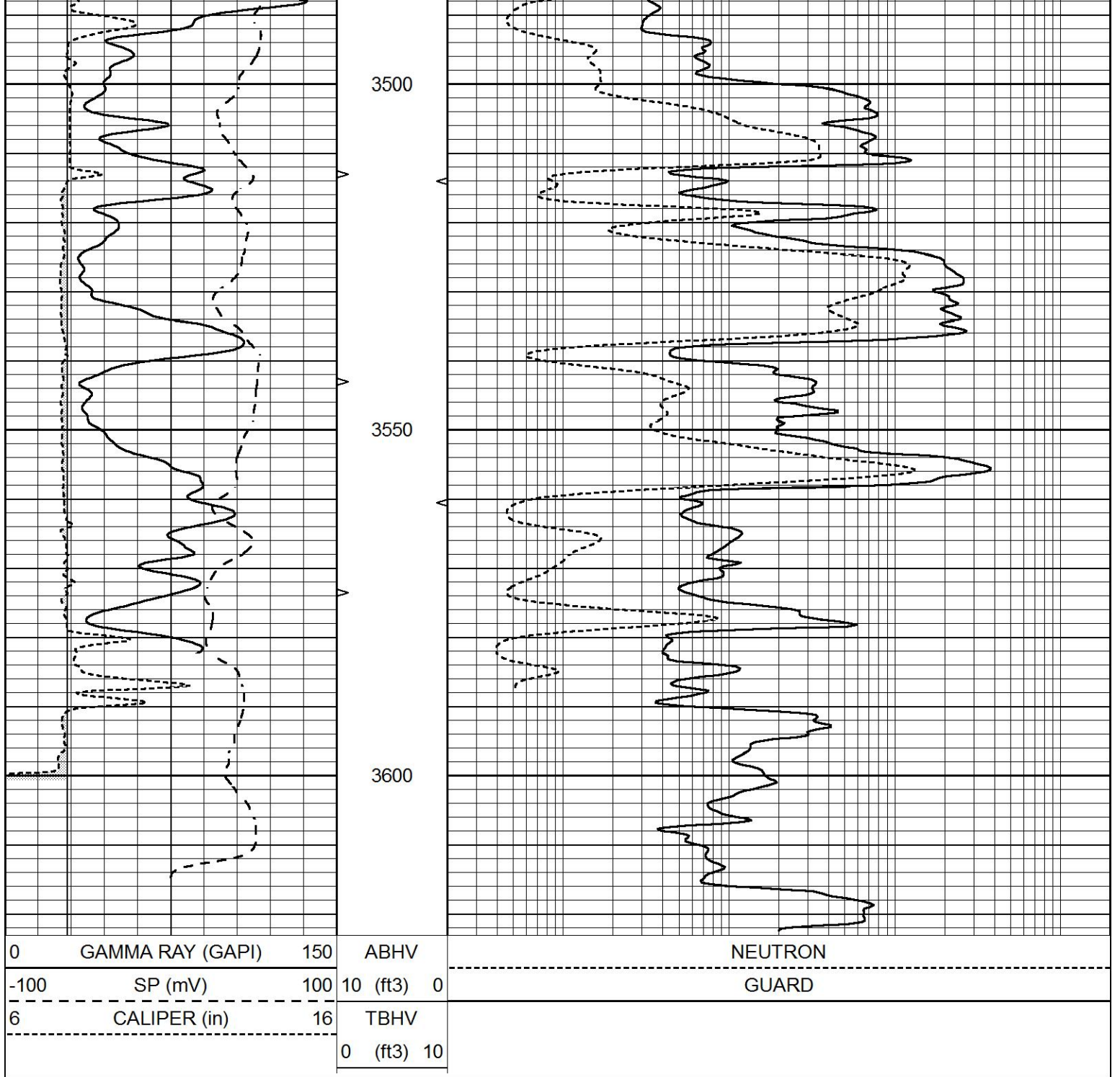
2950

3000





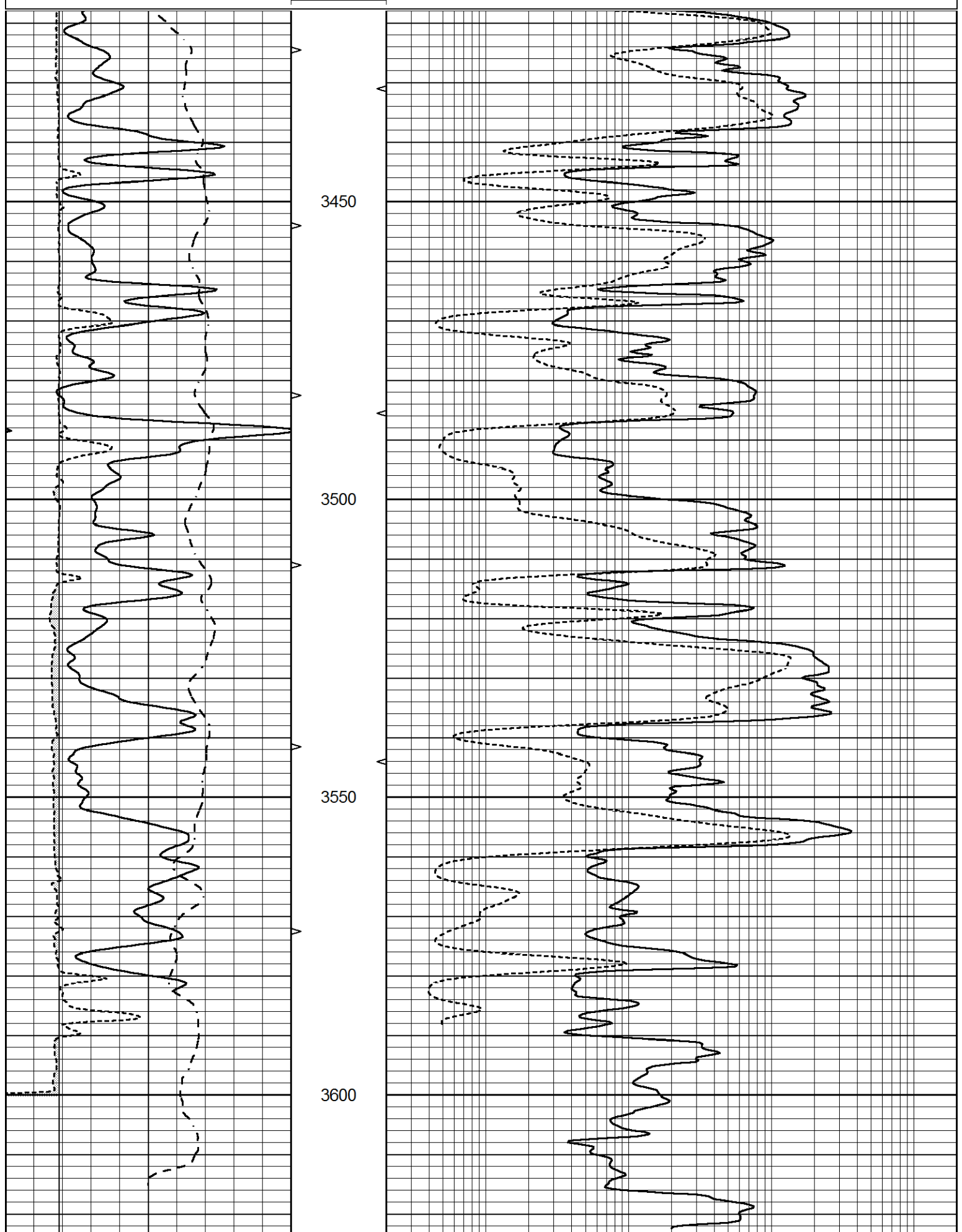




REPEAT SECTION

Database File 5614rag.db
 Dataset Pathname pass2.1
 Presentation Format rag
 Dataset Creation Sat Aug 14 01:40:01 2021
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV		NEUTRON
-100	SP (mV)	100	10 (ft3)	0	GUARD
6	CALIPER (in)	16	TBHV		
			0 (ft3)	10	



0	GAMMA RAY (GAPI)	150	ABHV	
-100	SP (mV)	100	10 (ft3)	0
6	CALIPER (in)	16	TBHV	
				NEUTRON
				GUARD

Calibration Report

Database File 5614rag.db
 Dataset Pathname pass2.1
 Dataset Creation Sat Aug 14 01:40:01 2021

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Sep 10 14:28:35 2018
 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	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
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		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: 001N Model: PRB

Master Calibration

Performed Thu Mar 19 11:30:16 2020

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1572.2	7510.8	2837.3	2643.1	cps
Window 2	1446.2	6523.9	2552.8	2409.9	cps
Window 3	1060.9	3611.4	1731.5	1684.8	cps
Window 4	145.5	363.4	363.2	368.1	cps
Long Space	0.0	5077.7	1106.6	963.7	cps
Short Space	3.1	1709.3	1103.4	916.9	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	

Rib Angle : 44.0 Rib Slope : 0.965 Density/Spine Ratio : 0.555

Spine Angle : 74.0

Spine Slope : 3.481

Spine Intercept : -17.4

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	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
Long Space

cps
cps

pu

pu

Gamma Ray Calibration Report

Serial Number: GR6
Tool Model: OPEN
Performed: Thu Jul 30 20:04:35 2020

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 276.0 cps

Sensitivity: 0.7500 GAPI/cps