



COMPENSATED DENSITY / NEUTRON LOG

Company DOWNING - NELSON OIL COMPANY, INC.

Well VELMA UNIT #1-14

Field COTTON EAST

County TREGO State KANSAS

Location: API #: 15-195-23122-0000
140' FNL & 2195' FEL
NE - NW - NW - NE

Other Services
DIL/MEL
SONIC

SEC 14 TWP 12S RGE 21W

Permanent Datum GROUND LEVEL Elevation 2344
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2352
D.F. 2350
G.L. 2344

Date	6/12/21		
Run Number	ONE		
Depth Driller	4118		
Depth Logger	4119		
Bottom Logged Interval	4095		
Top Log Interval	3200		
Casing Driller	8 5/8" @ 224'		
Casing Logger	224		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4.000 PPM	
Density / Viscosity	9.3/56		
pH / Fluid Loss	10.5/9.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.650 @ 90F		
Rmf @ Meas. Temp	.488 @ 90F		
Rmc @ Meas. Temp	.780 @ 90F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.500 @ 117F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	8:15 P.M.		
Maximum Recorded Temperature	117F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	RON NELSON		

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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.

15-195-23122-0000

Comments

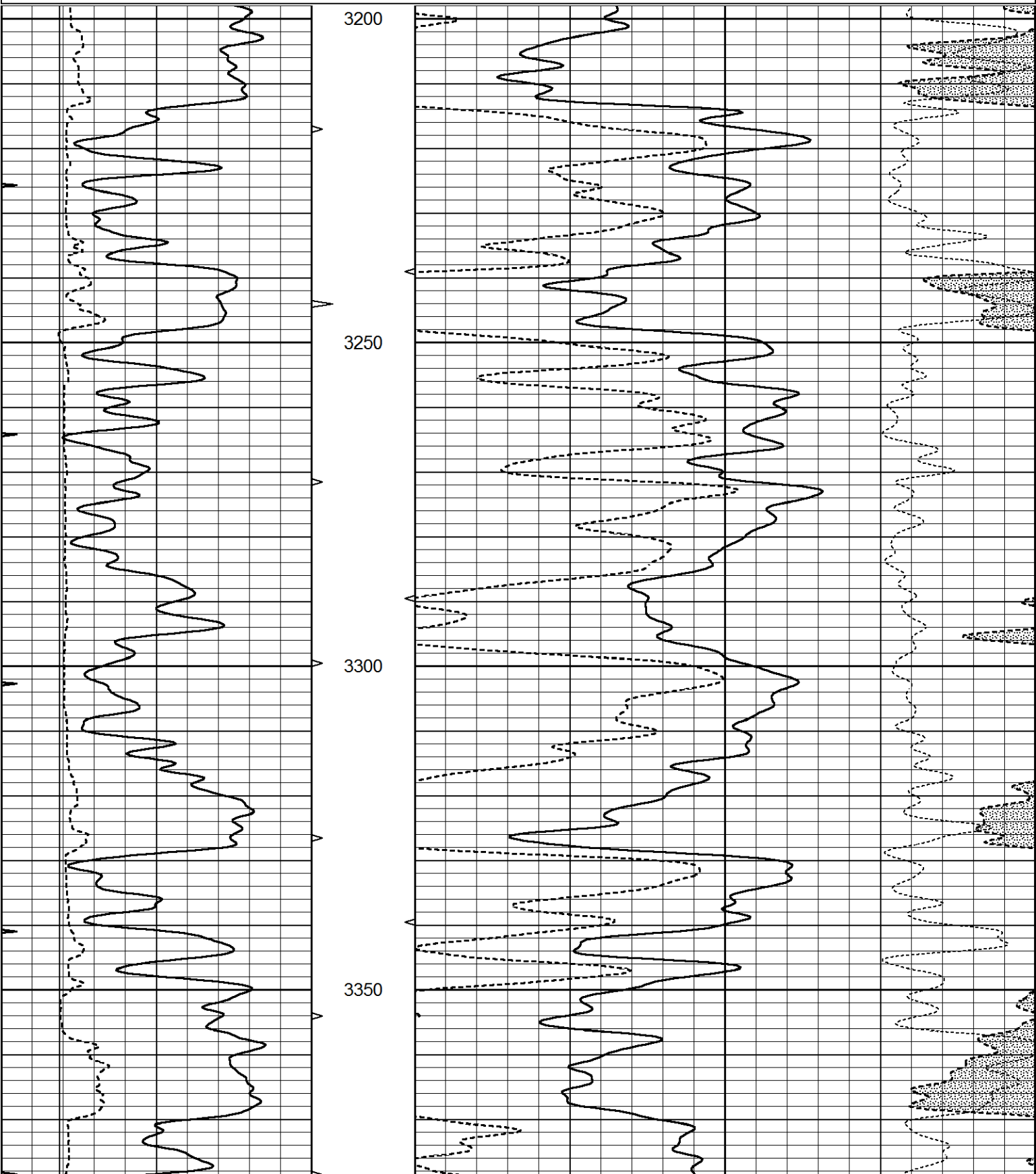
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
ELLIS, KS. & I-70, N. TO CURVE, "LOCUST GROVE RD.", W. TO "400 AVE.", 2N., W. INTO ON TRAIL

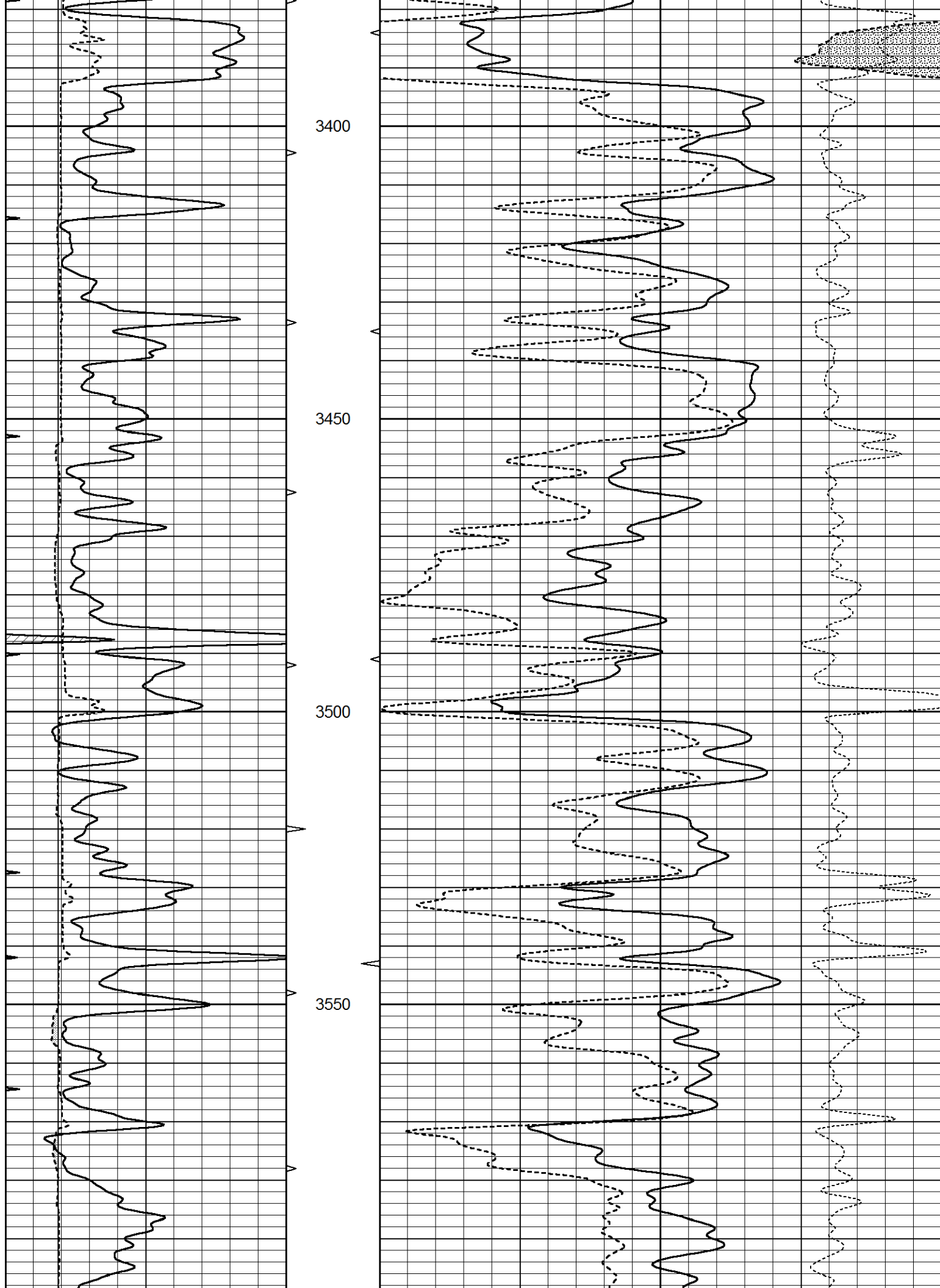


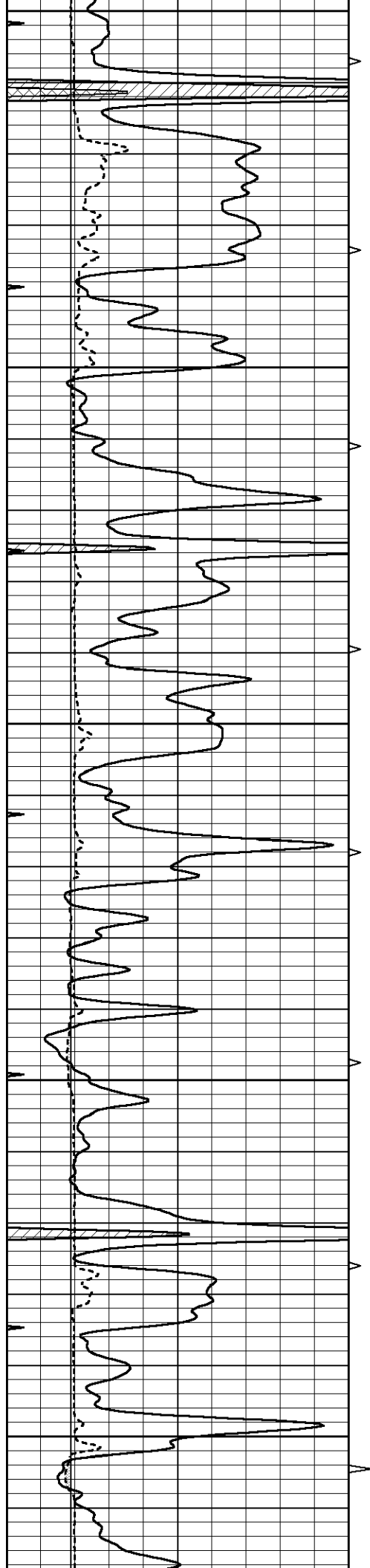
MAIN SECTION

Database File	5576ddn.db
Dataset Pathname	pass3.1M
Presentation Format	den_neu
Dataset Creation	Sat Jun 12 21:07:51 2021
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10	
6	DCAL (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV			-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10					







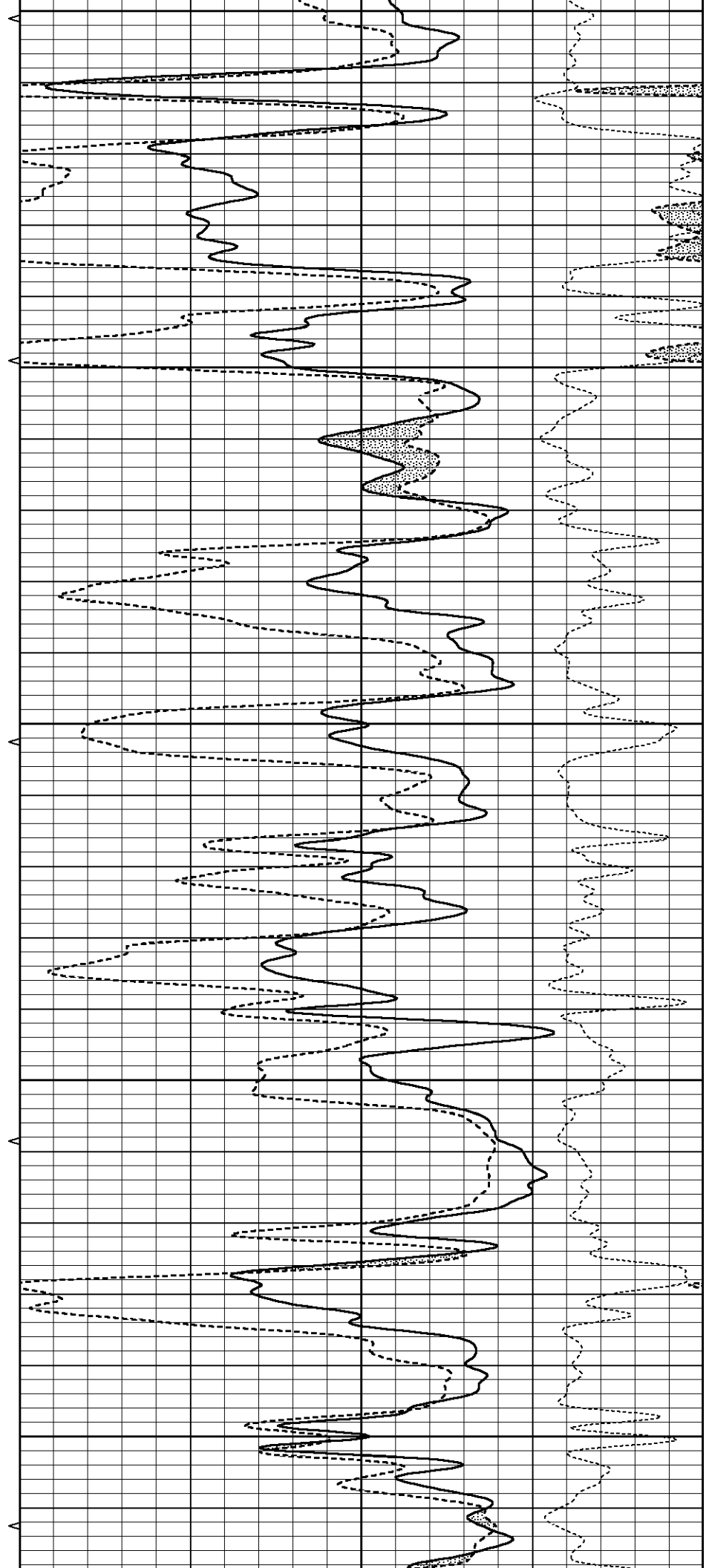
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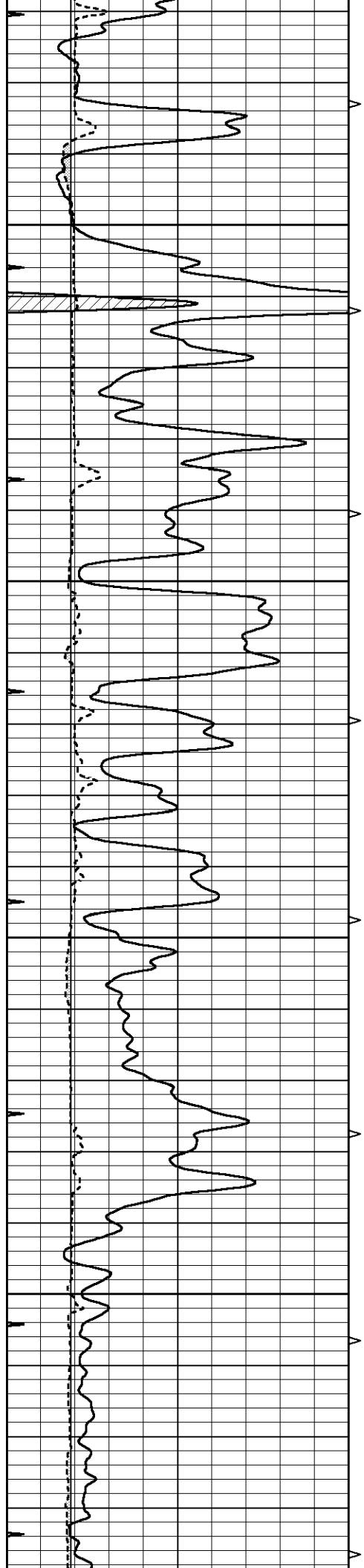
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3700

3750

3800



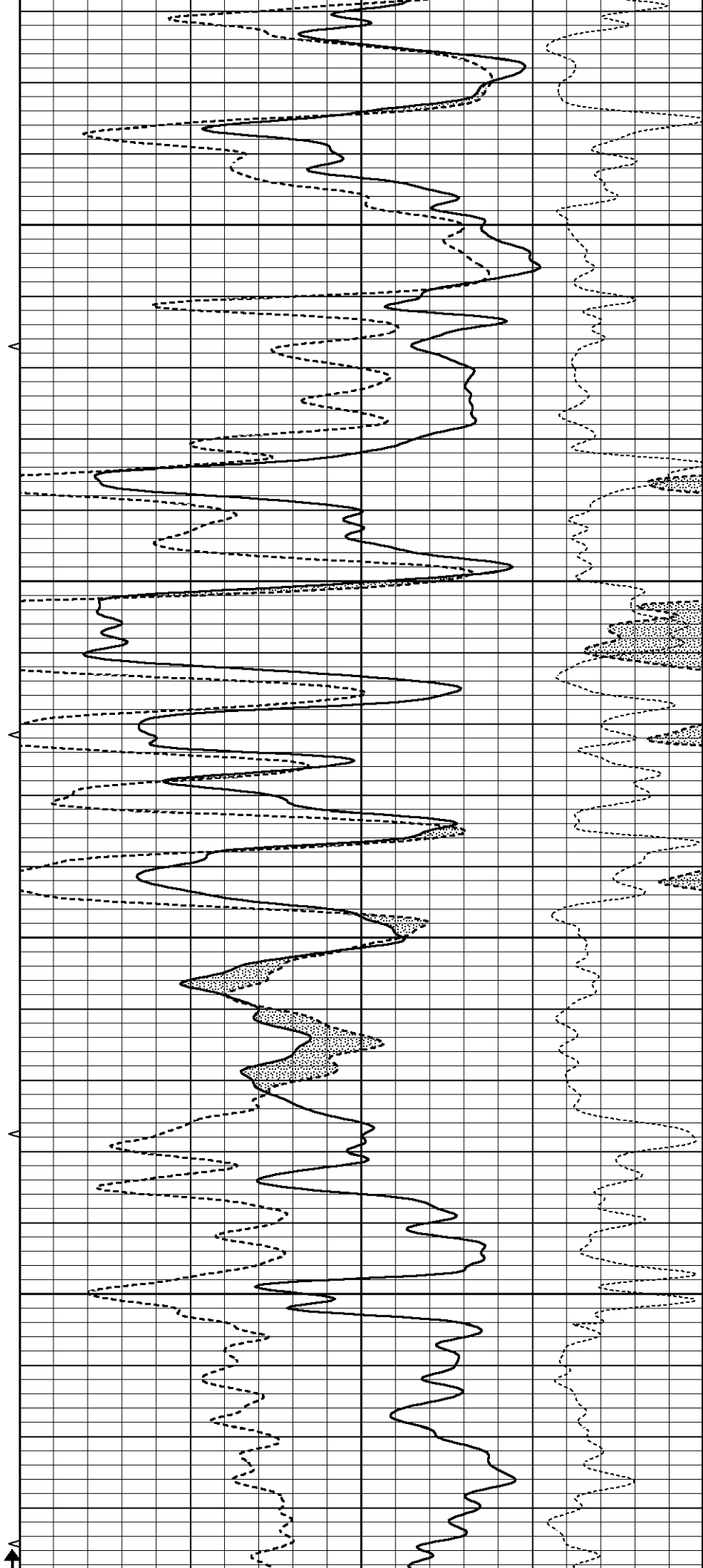


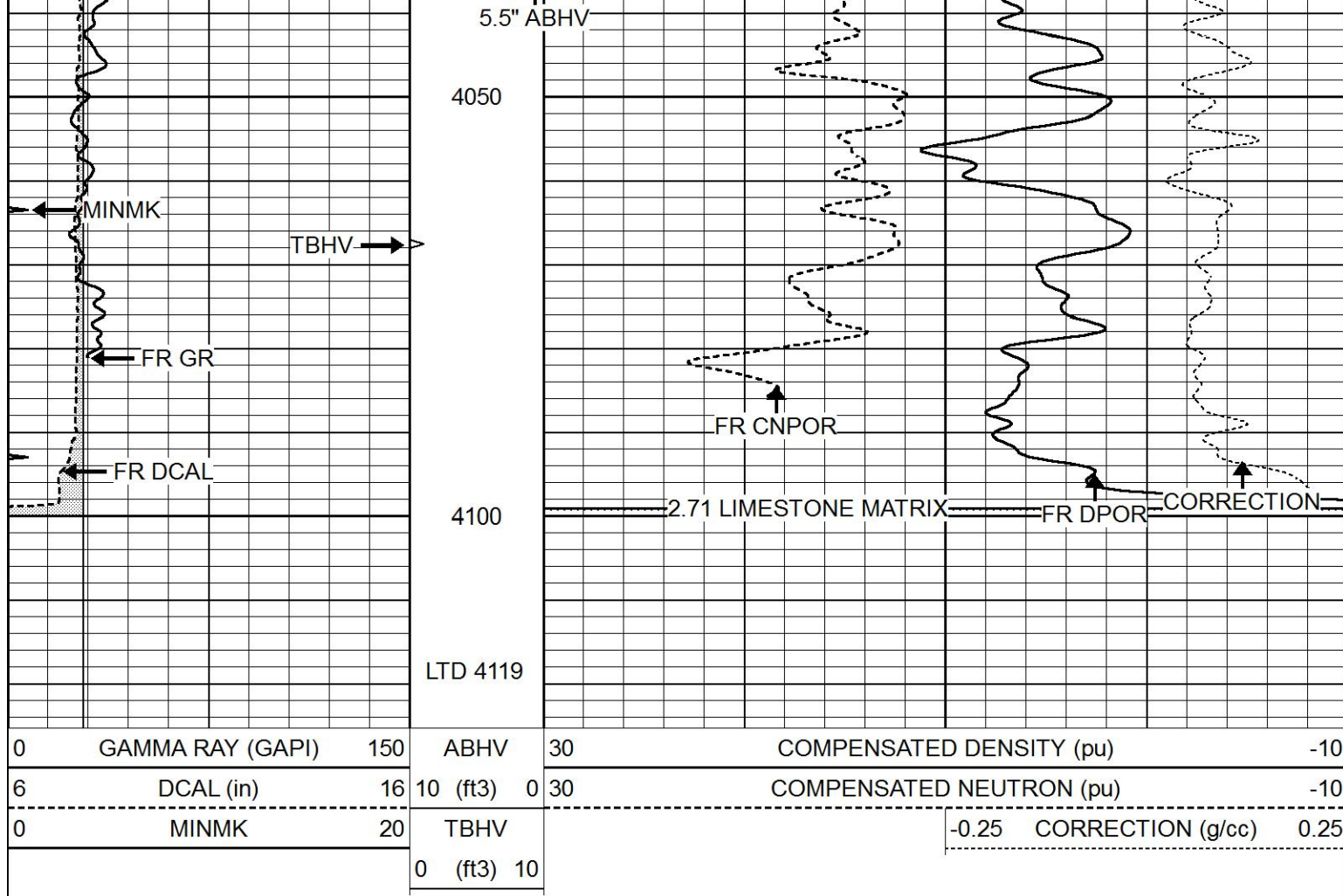
3850

3900

3950

4000

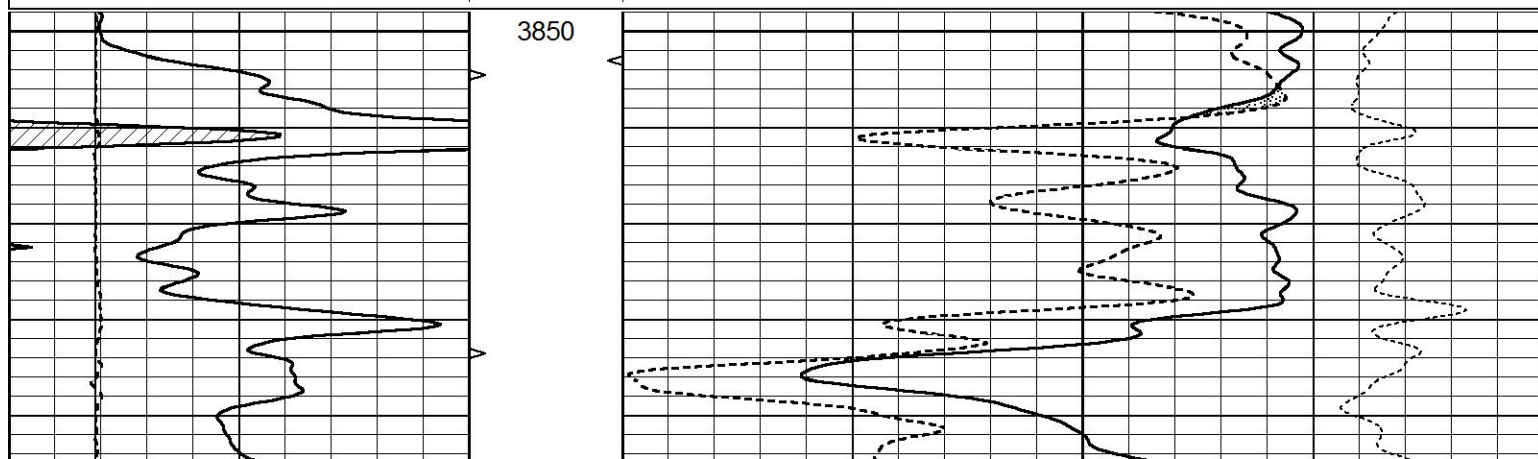


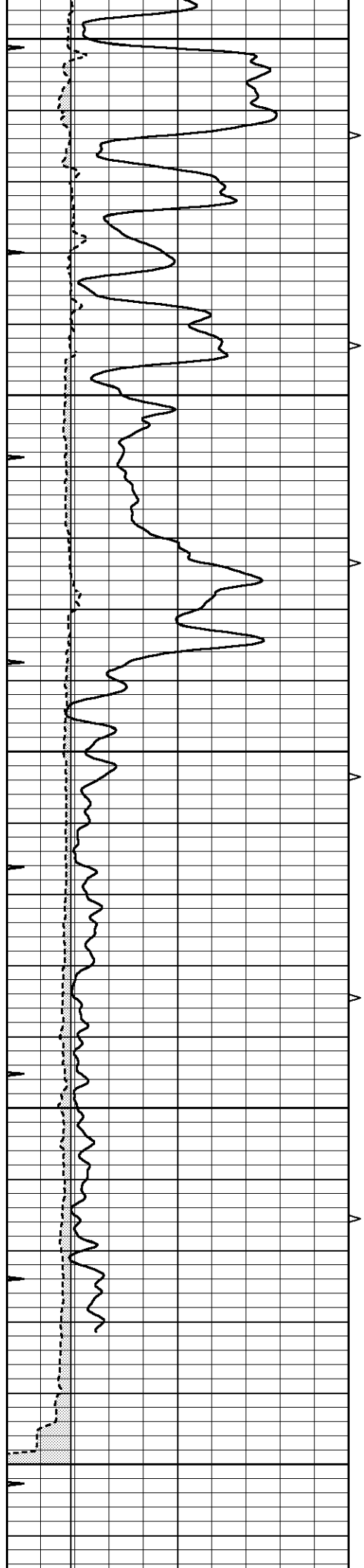


REPEAT SECTION

Database File 5576ddn.db
 Dataset Pathname pass2.2R
 Presentation Format den_neu
 Dataset Creation Sat Jun 12 20:42:41 2021
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	DCAL (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





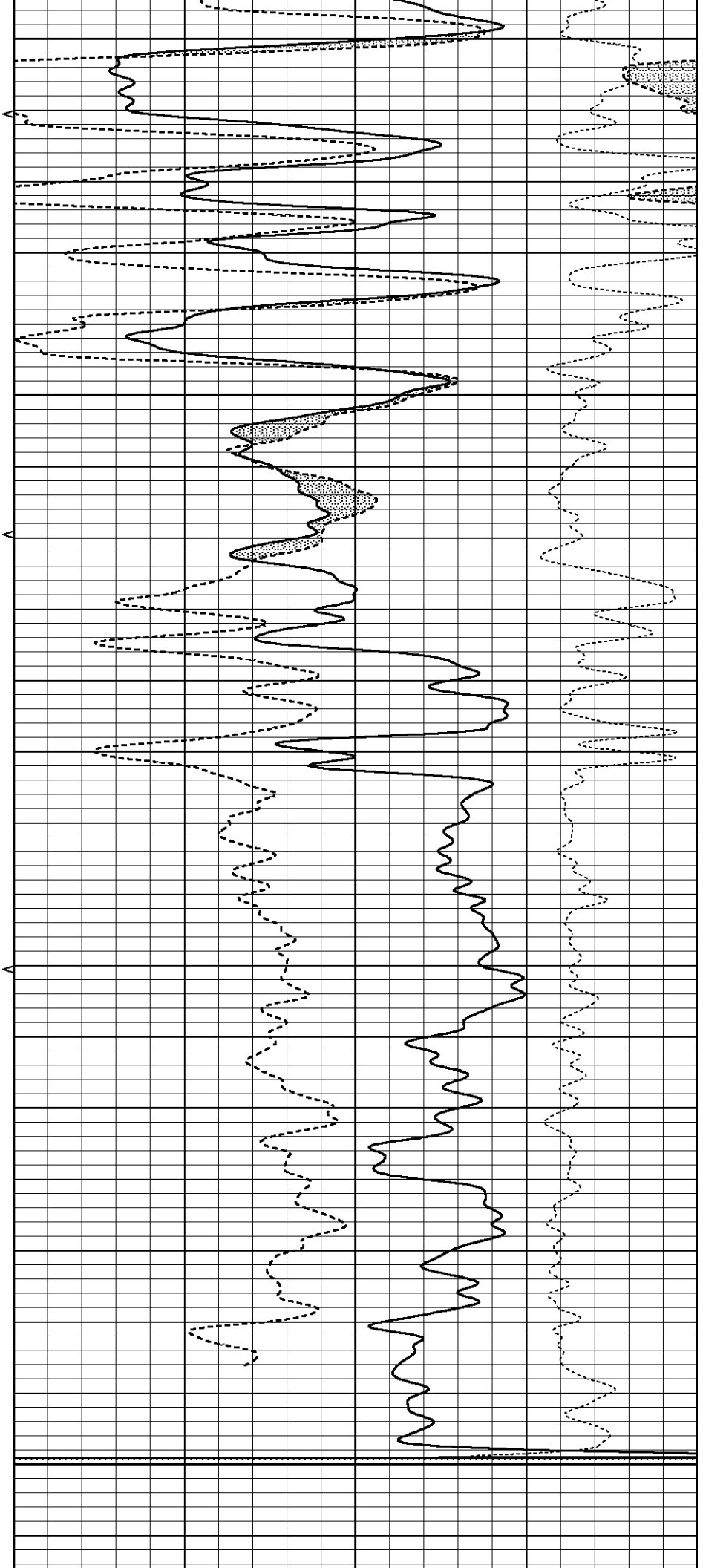
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3950

4000

4050

4100



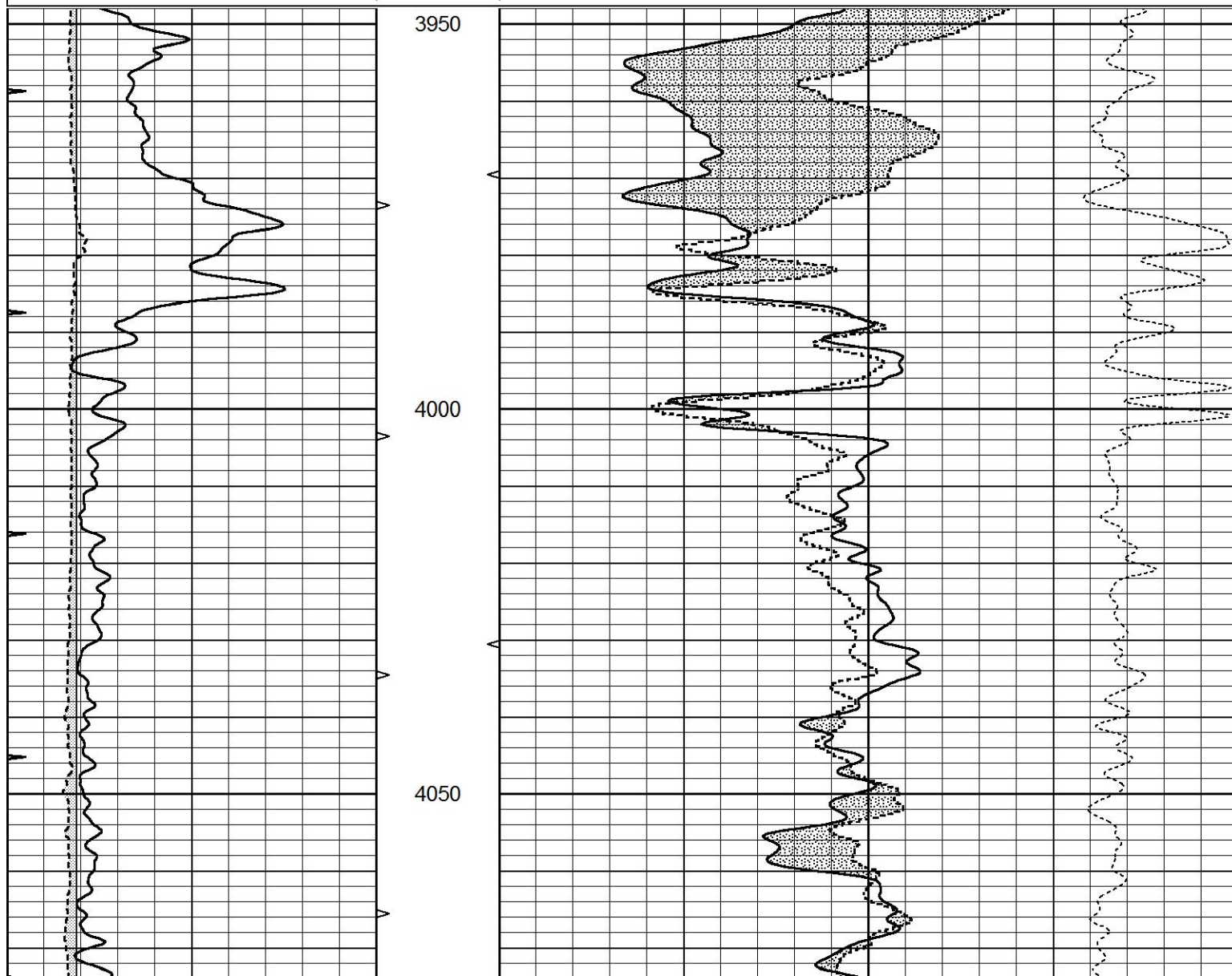
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	DCAL (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

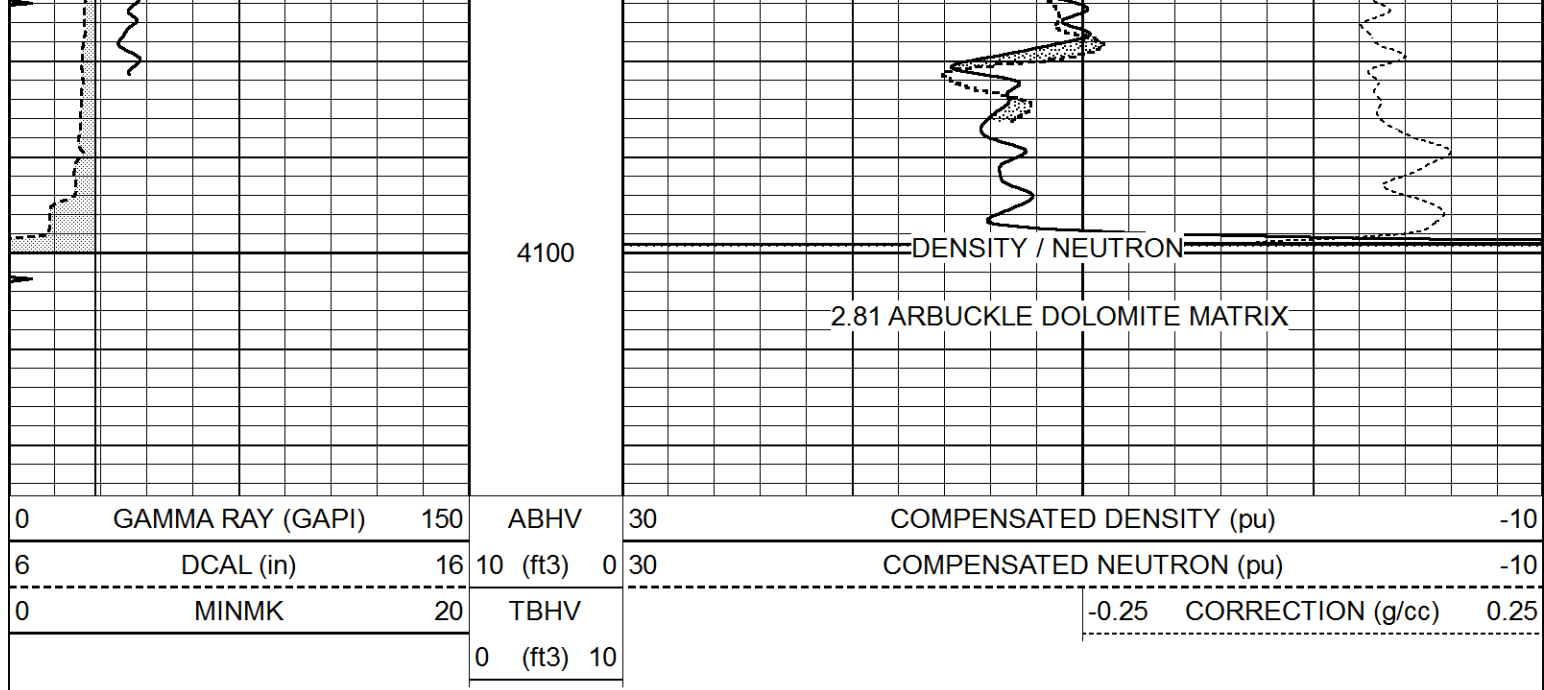


DOLOMITE MATRIX

Database File 5576ddn.db
 Dataset Pathname pass2.2D
 Presentation Format den_neu
 Dataset Creation Sat Jun 12 20:51:38 2021
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	DCAL (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			





Calibration Report		
Database File	5576ddn.db	
Dataset Pathname	pass3.1M	
Dataset Creation	Sat Jun 12 21:07:51 2021	

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Sat Jun 12 20:31:11 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	-32.000
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: 004 Model: PRB

Master Calibration		Performed Tue May 18 11:02:48 2021			
	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1187.1	10004.0	3142.5	2810.8	cps
Window 2	1084.9	8556.6	2749.3	2502.4	cps
Window 3	923.1	5129.8	1819.8	1719.3	cps
Window 4	263.5	263.6	259.7	262.8	cps
Long Space	0.0	7471.7	1664.4	1417.5	cps
Short Space	1.5	984.9	645.6	561.2	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 44.3	Rib Slope	: 0.976	Density/Spine Ratio	: 0.564
Spine Angle	: 74.3	Spine Slope	: 3.555	Spine Intercept	: -15.6

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:	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	

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 Apr 16 13:57:16 2021		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	