



**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company I.A. OPERATING, INC.

Well ZERFAS #30-2

Field ZERFAS

County ELLIS State KANSAS

Location: API #: 15-051-27042-0000
1626' FSL & 1384' FEL
SE - SE - NW - SE

SEC 30 TWP 11S RGE 19W

Permanent Datum GROUND LEVEL Elevation 2135
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
DILMEL
Elevation
K.B. 2143
D.F. 2141
G.L. 2135

Date	8/27/22	Run Number	ONE
Depth Driller	3703	Depth Logger	3706
Bottom Logged Interval	3682	Top Log Interval	3000
Casing Driller	8 5/8"@221'	Casing Logger	221
Bit Size	7 7/8"	Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/51	PH / Fluid Loss	10.0/6.0
Source of Sample	FLOWLINE	Rm @ Meas. Temp	1.40@75F
Rmf @ Meas. Temp	1.05@75F	Rmc @ Meas. Temp	1.68@75F
Source of Rmf / Rmc	MEASUREMENT	Rm @ BHT	.929@113F
Time Circulation Stopped	8 HOURS	Time Logger on Bottom	1:30 A.M.
Maximum Recorded Temperature	113F	Equipment Number	922339
Location	HAYS, KANSAS	Recorded By	JEFF LUEBBERS
Witnessed By	JEFF LAWLER		

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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.

15-051-27042-0000

Comments

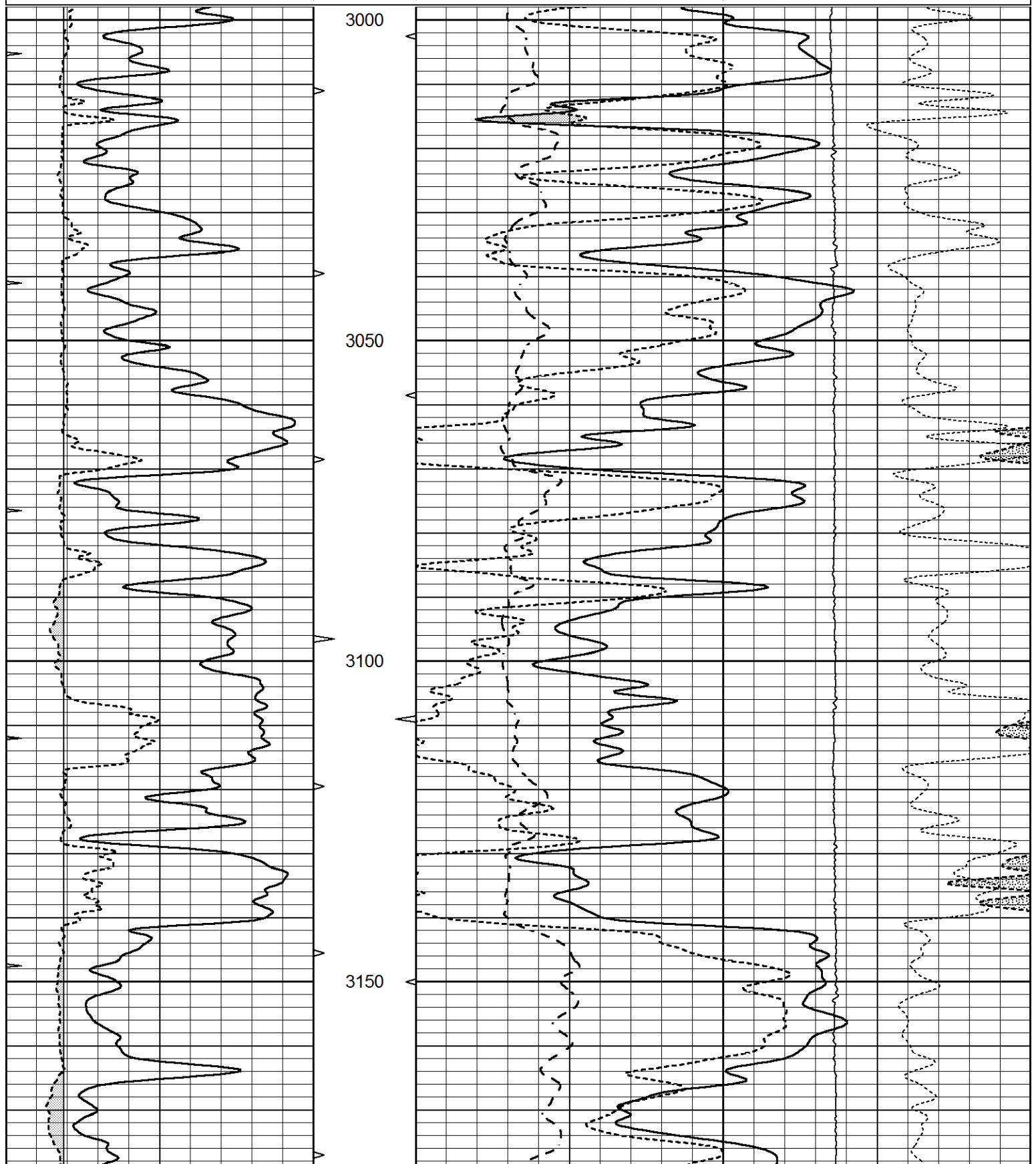
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
(BUCKEYE RD. & 170TH AVE.), 4N. W. INTO

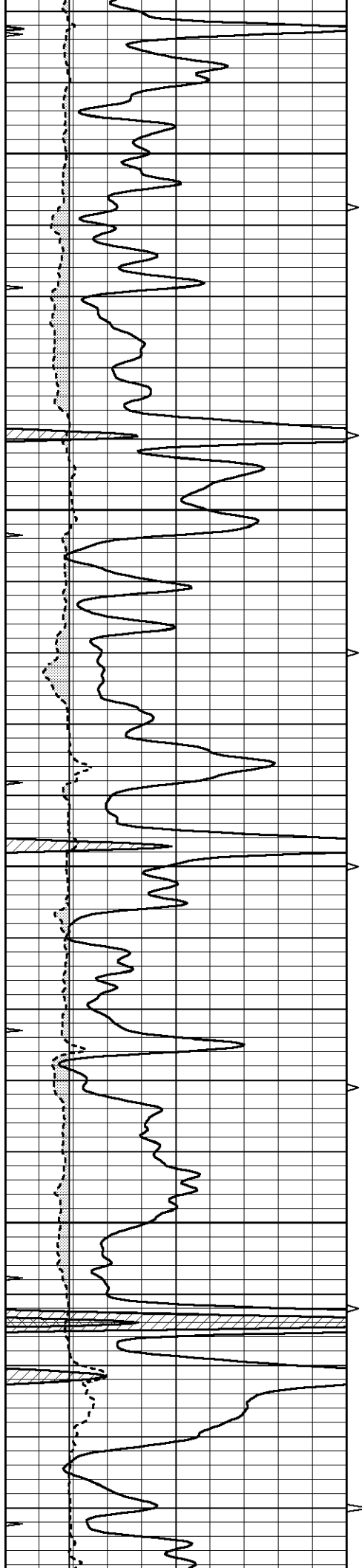


MAIN SECTION

Database File 6913pe.db
 Dataset Pathname pass3.1M
 Presentation Format ldt_neu
 Dataset Creation Sat Aug 27 02:57:56 2022
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10	
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10			0	LTEN (lb)	5000



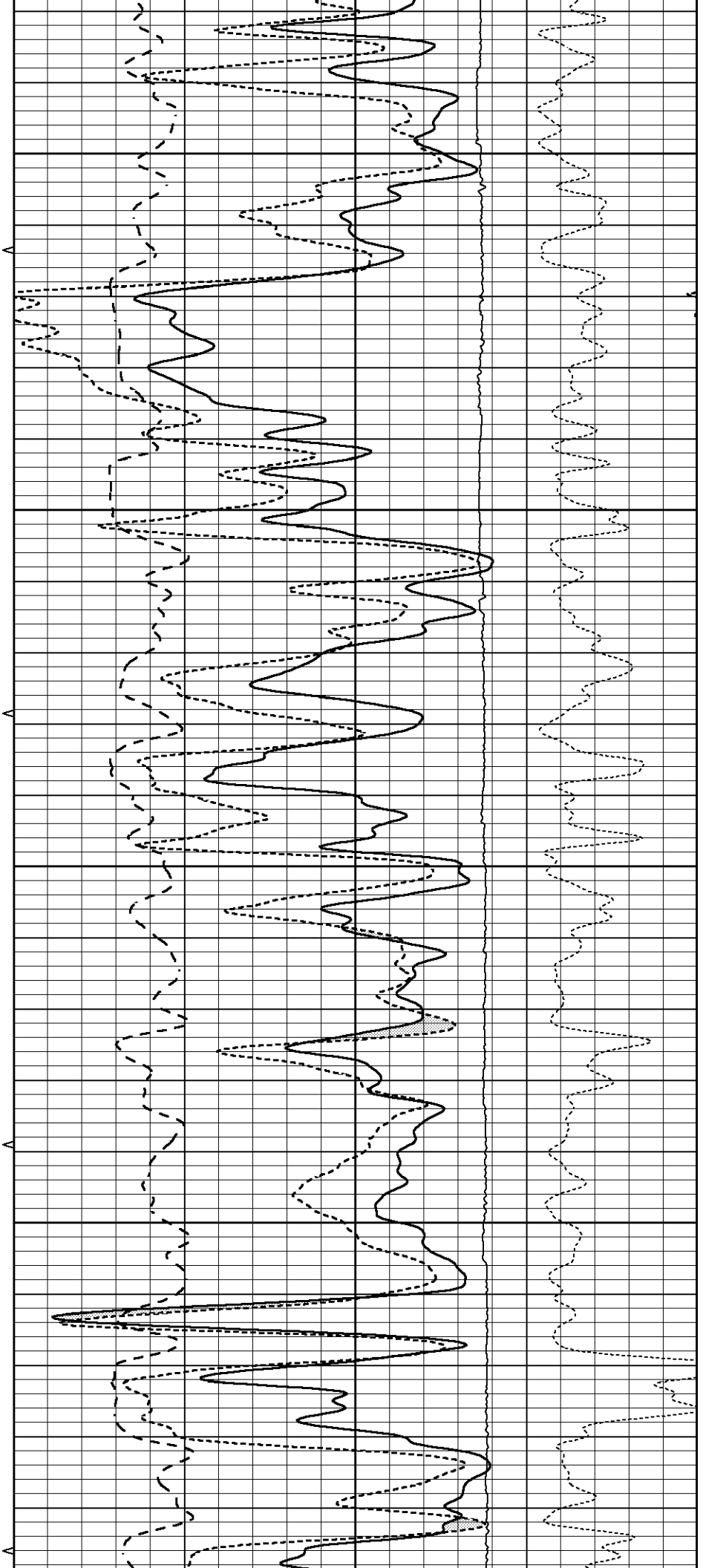


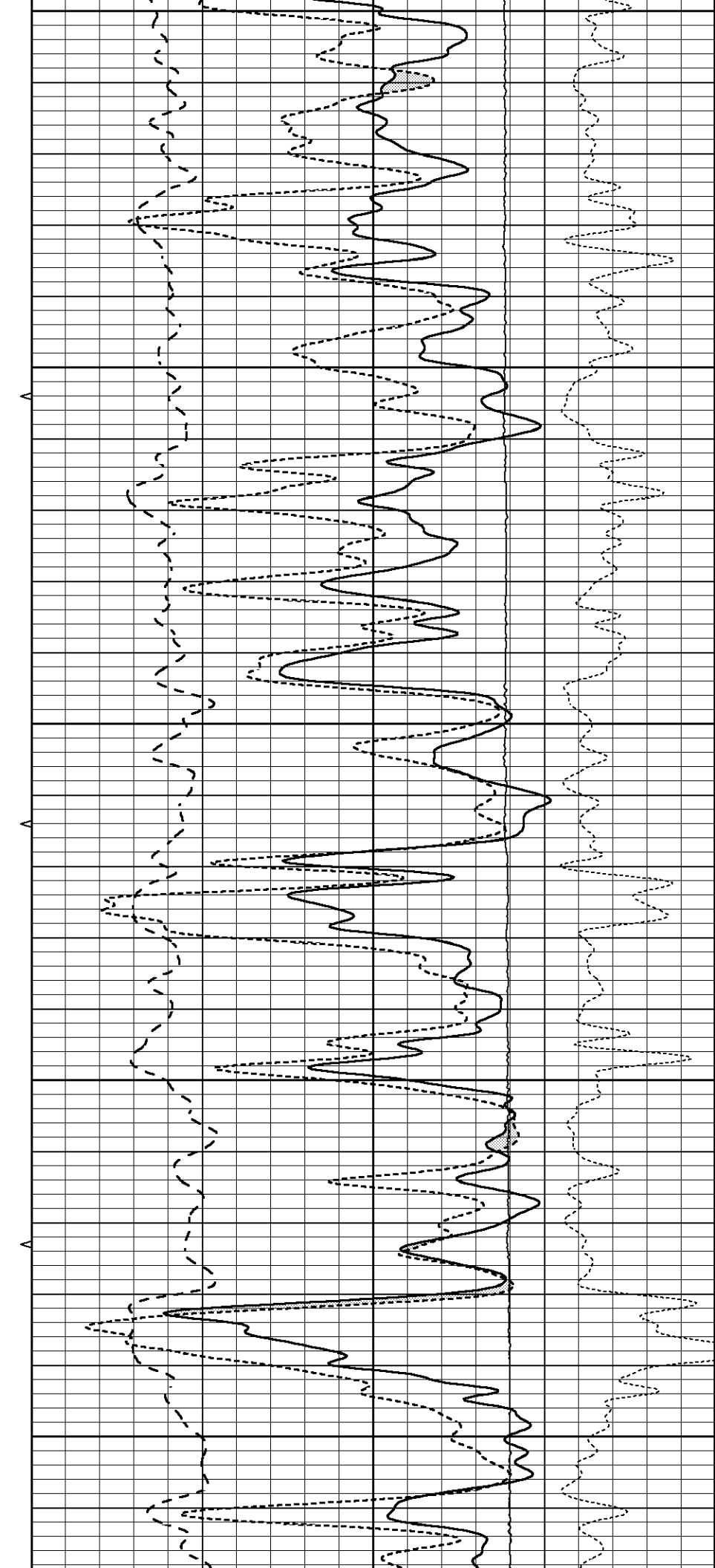
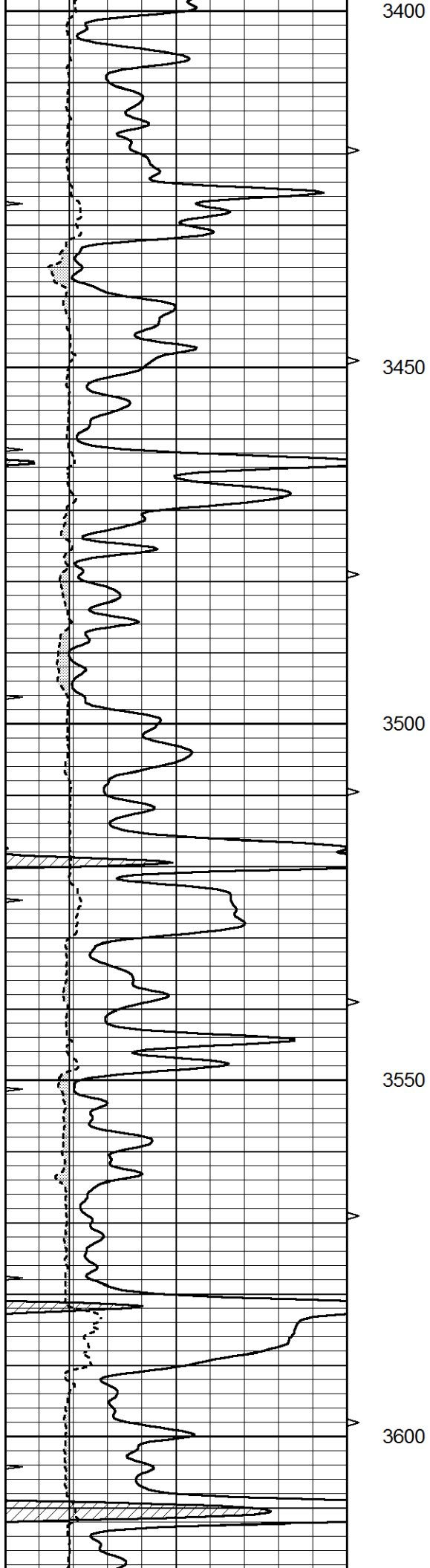
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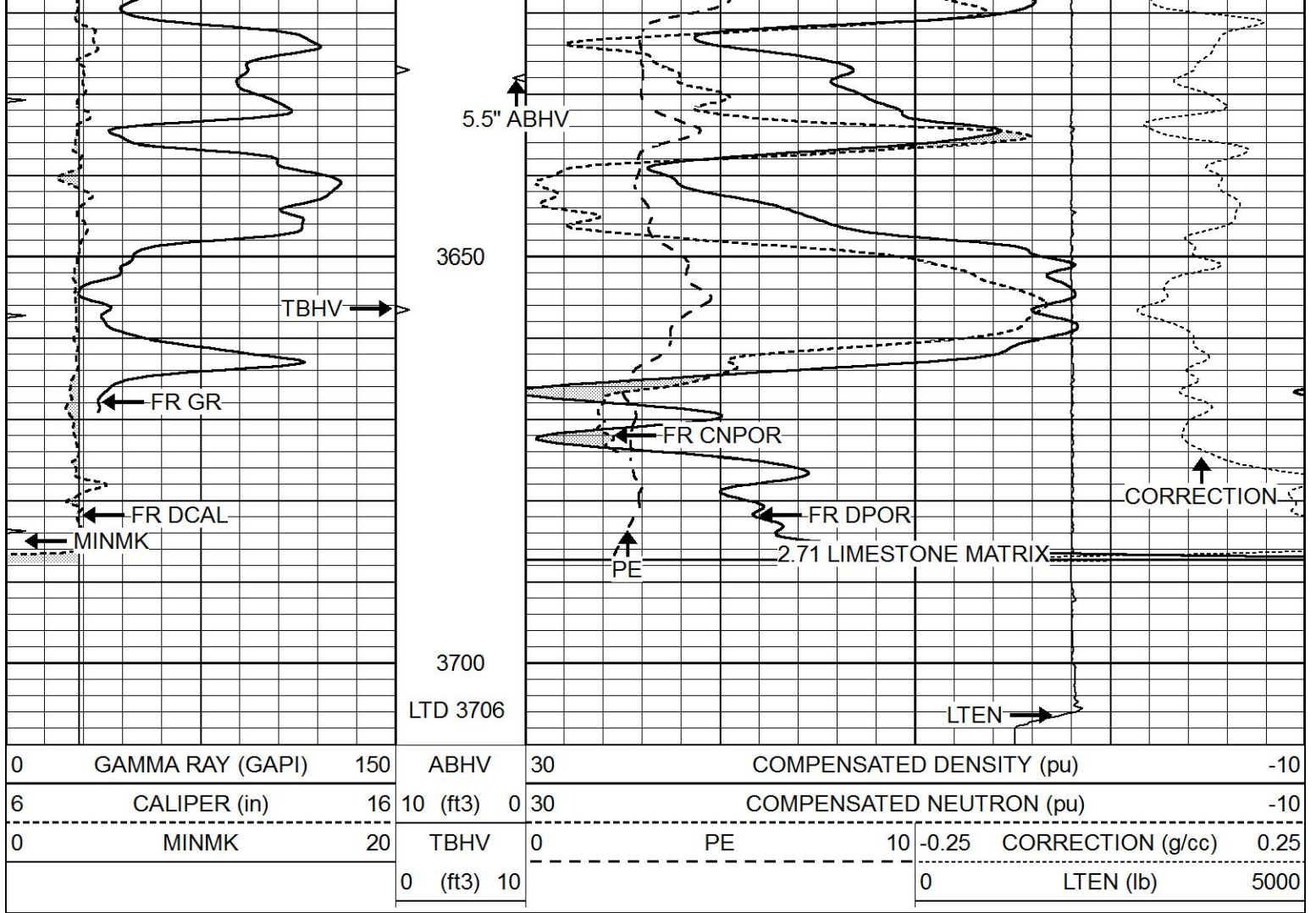
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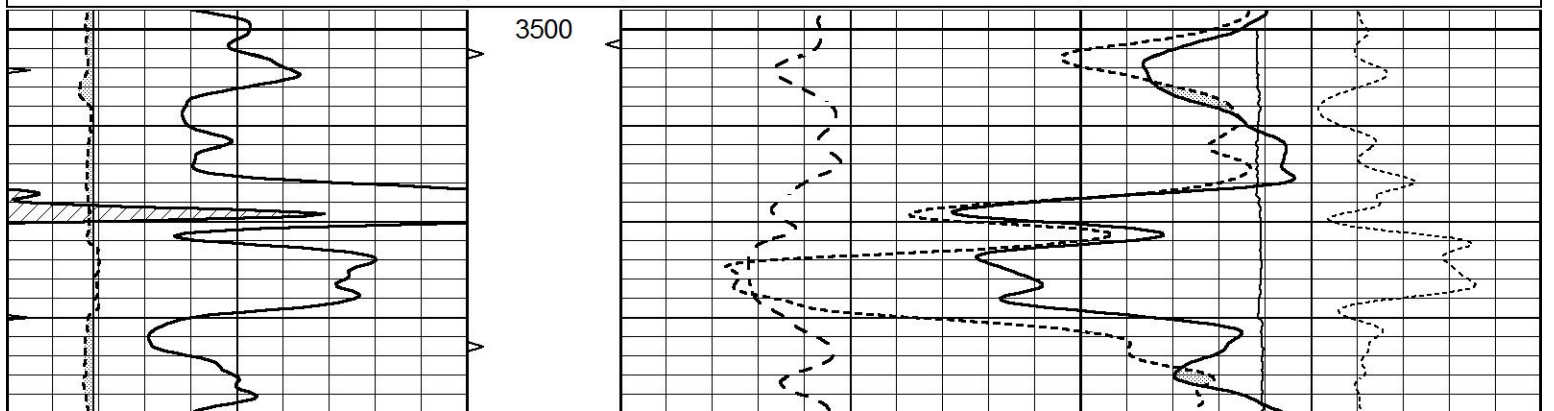


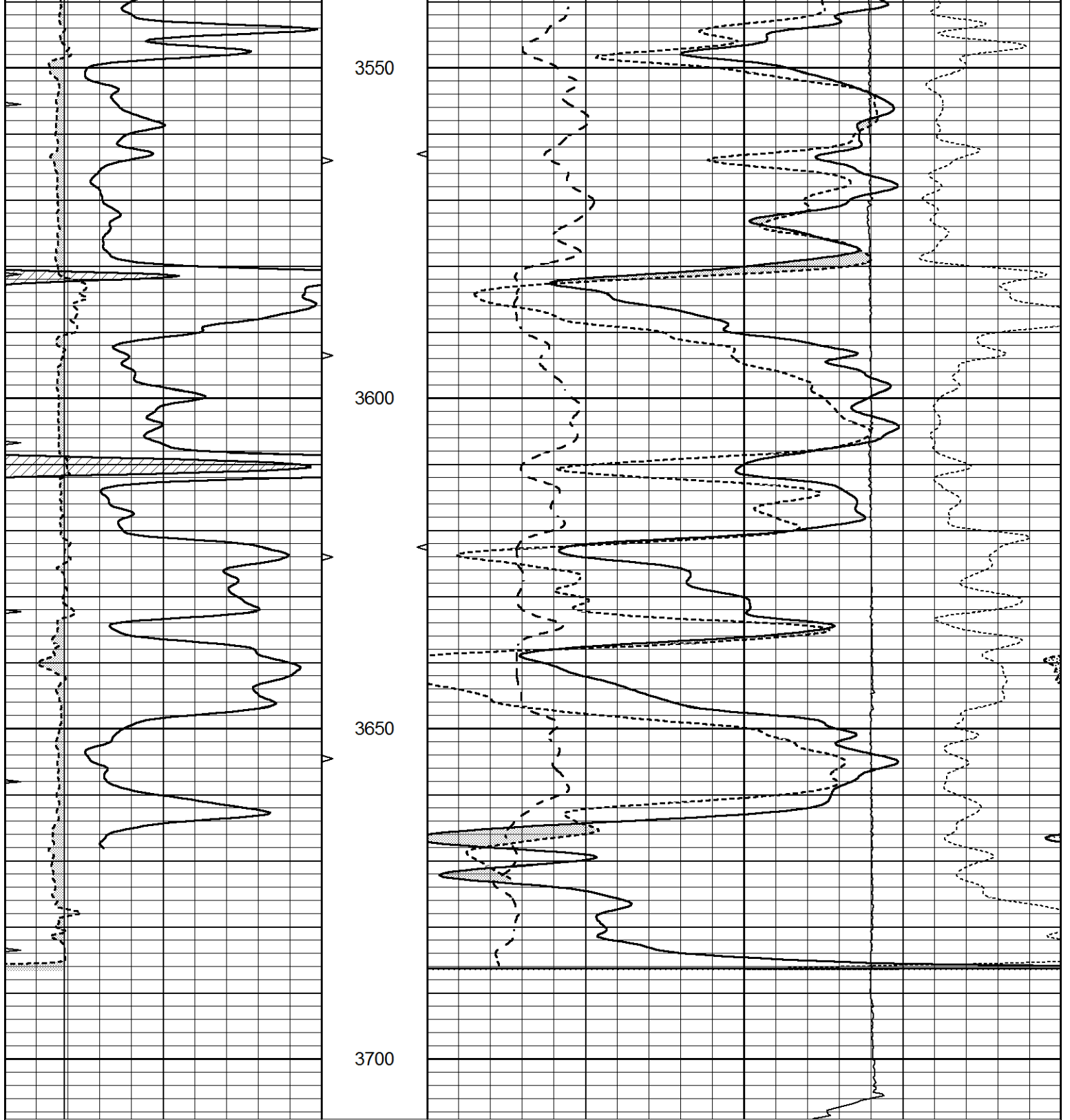


REPEAT SECTION

Database File 6913pe.db
 Dataset Pathname pass2.1R
 Presentation Format ldt_neu
 Dataset Creation Sat Aug 27 02:16:06 2022
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		0 LTEN (lb) 5000





0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10			
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10		
0	MINMK	20	TBHV	0	10	PE	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10			0	LTEN (lb)	5000

Calibration Report

Database File 6913pe.db
 Dataset Pathname pass3.1M
 Dataset Creation Sat Aug 27 02:57:56 2022

Dual Induction Calibration Report

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	640.000	8.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	630.000	-8.000
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: 004 Model: PRB

Master Calibration

Performed Tue Aug 02 11:29:35 2022

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1154.2	10019.5	3137.9	2795.6	cps
Window 2	1054.4	8597.6	2733.4	2469.5	cps
Window 3	902.3	5241.4	1832.1	1719.3	cps
Window 4	251.9	261.1	255.8	252.9	cps
Long Space	0.0	7543.2	1679.0	1415.0	cps
Short Space	4.4	2049.3	1321.7	1116.8	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 43.7	Rib Slope	: 0.957	Density/Spine Ratio	: 0.562
Spine Angle	: 73.7	Spine Slope	: 3.426	Spine Intercept	: -17.2

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
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number: 070558
 Tool Model: OPEN_GR
 Performed: Sat Aug 27 02:15:03 2022

Calibrator Value: 1.0 GAPI
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps
 Sensitivity: 0.3000 GAPI/cps