COMPENSATED DENSITY / NEUTRON PE LOG

Company HARTMAN OIL CO., INC.
Well HEYEN #1-3
Field GRAY NORTH
County STAFFORD State KANSAS

Location: API # : 15-185-24107-0000
2307' FNL & 1113' FEL
NW - SW - SE - NE

SEC 2 TWP 24S RGE 13W

Other Services
DIL/MEL
SONIC

Elevation
K.B. 1905
D.F. 1903
G.L. 1894

Permanent Datum GROUND LEVEL Elevation 1894
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING

Company HARTMAN OIL CO., INC.
Well HEYEN #1-3
Field GRAY NORTH
County STAFFORD
State KANSAS

Date	4/23/22		
Run Number	ONE		
Depth Driller	4100		
Depth Logger	4101		
Bottom Logged Interval	4077		
Top Log Interval	2900		
Casing Driller	8 5/8"@326'		
Casing Logger	316'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 9,500 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	10.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.340@85F		
Rmf @ Meas. Temp	.255@85F		
Rmc @ Meas. Temp	.408@85F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.247@117F		
Time Circulation Stopped	4.5 HOURS		
Time Logger on Bottom	3:00 A.M.		
Maximum Recorded Temperature	117F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS	COLE ROBBEN	
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.

Comments

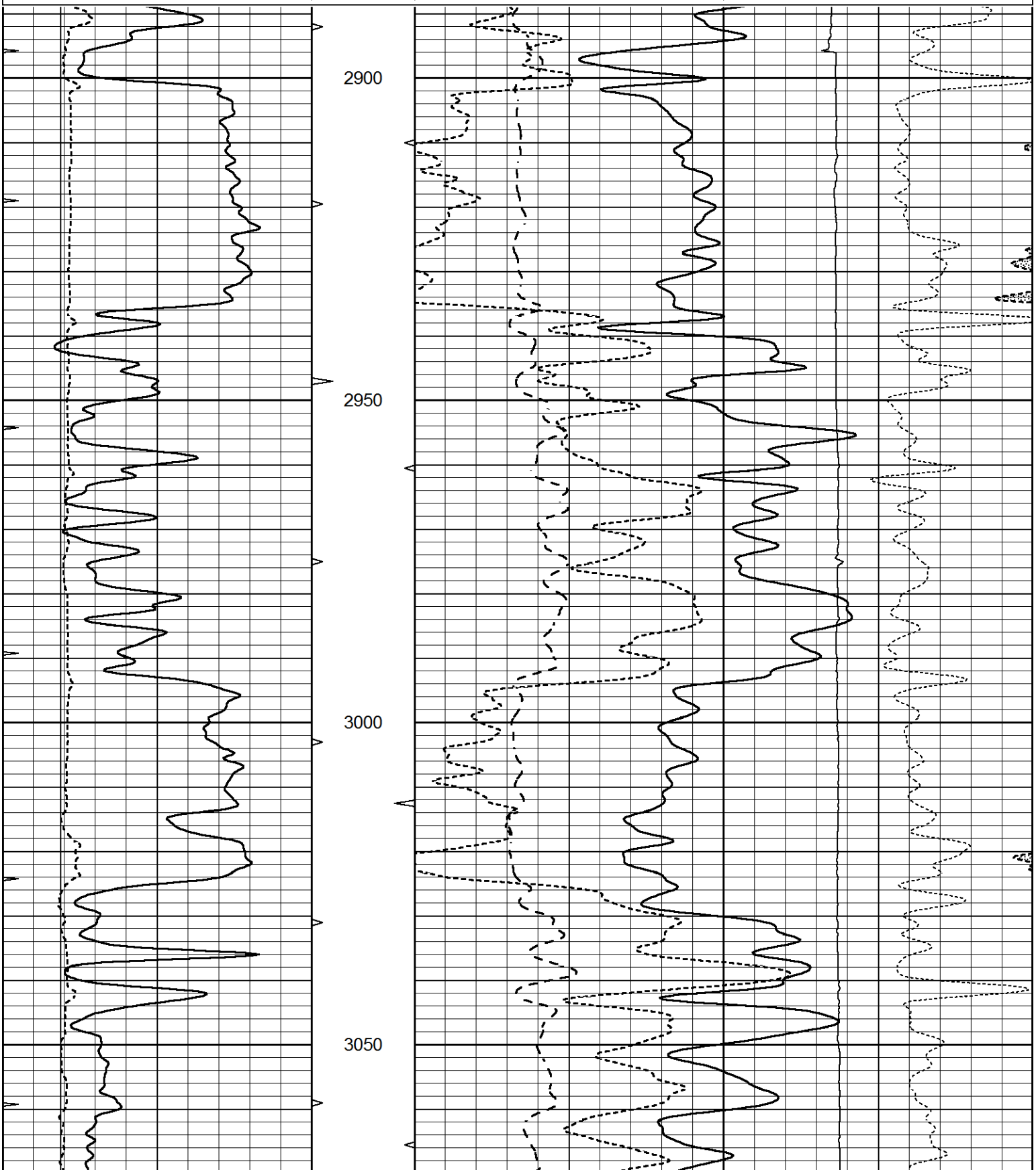
15-185-24107-0000

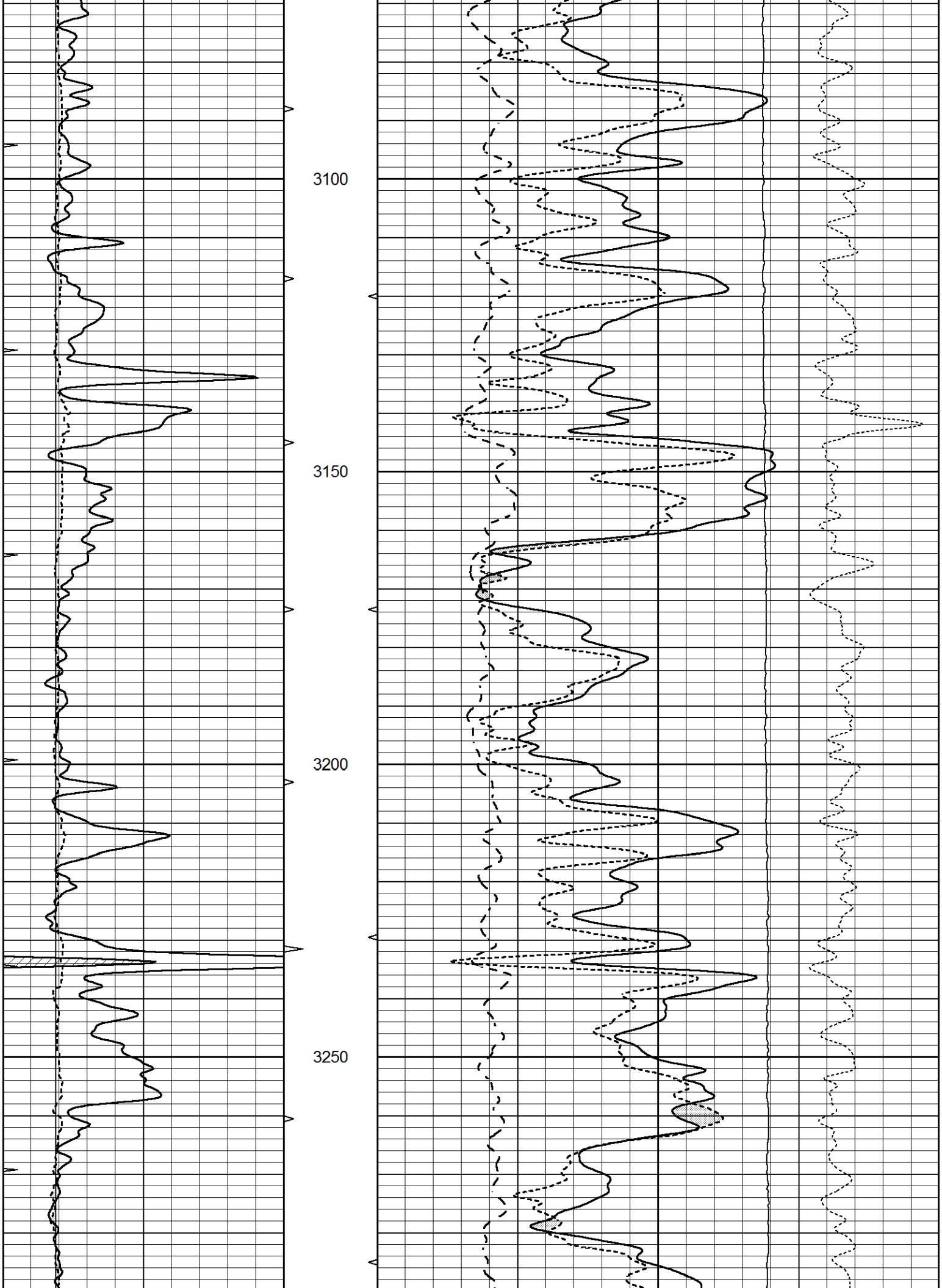
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
ST JOHN, KS. E ON NE 30TH ST. 1.5 MILES, S. INTO PAST TANK BATTERIES

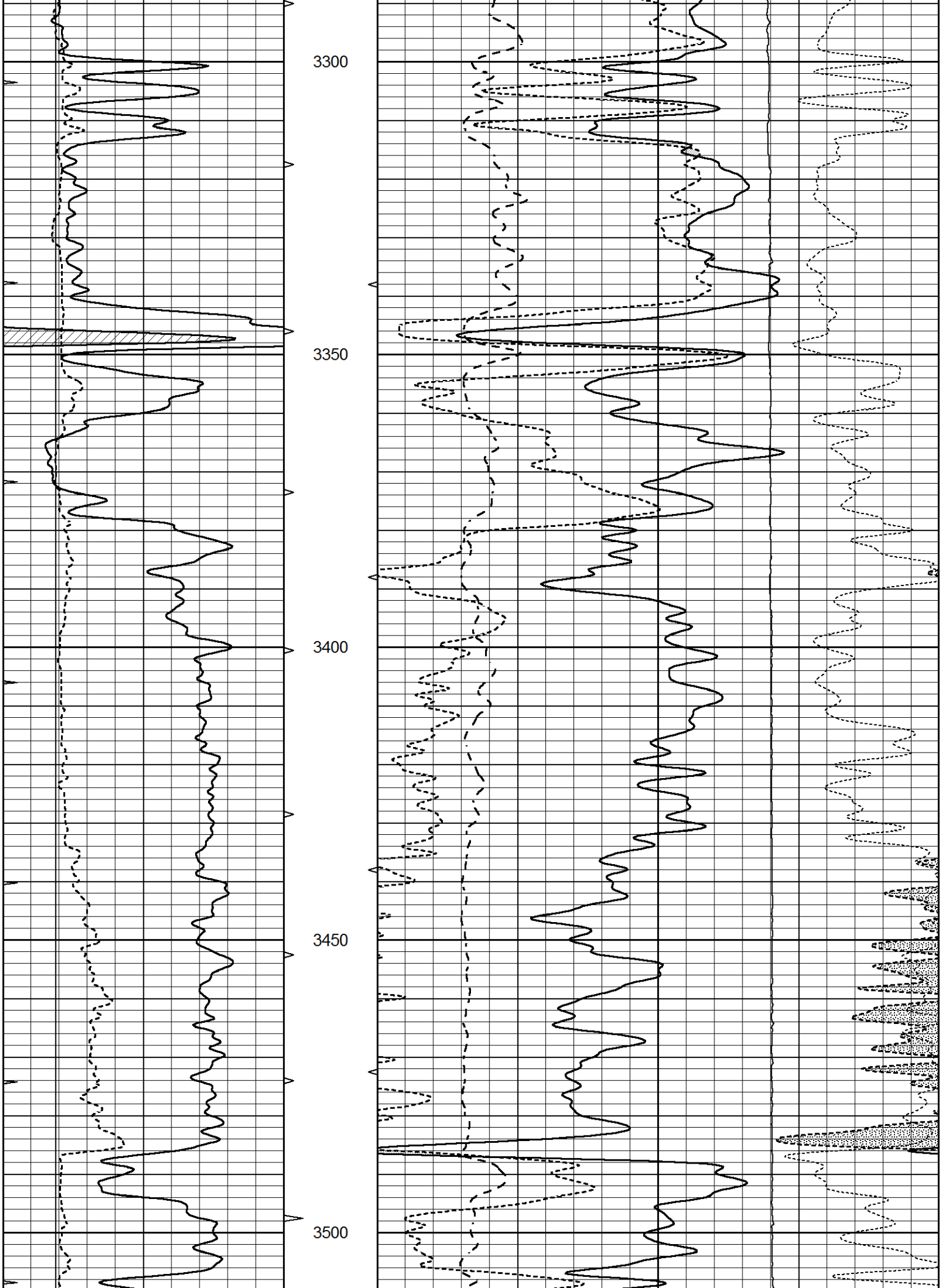
MAIN SECTION

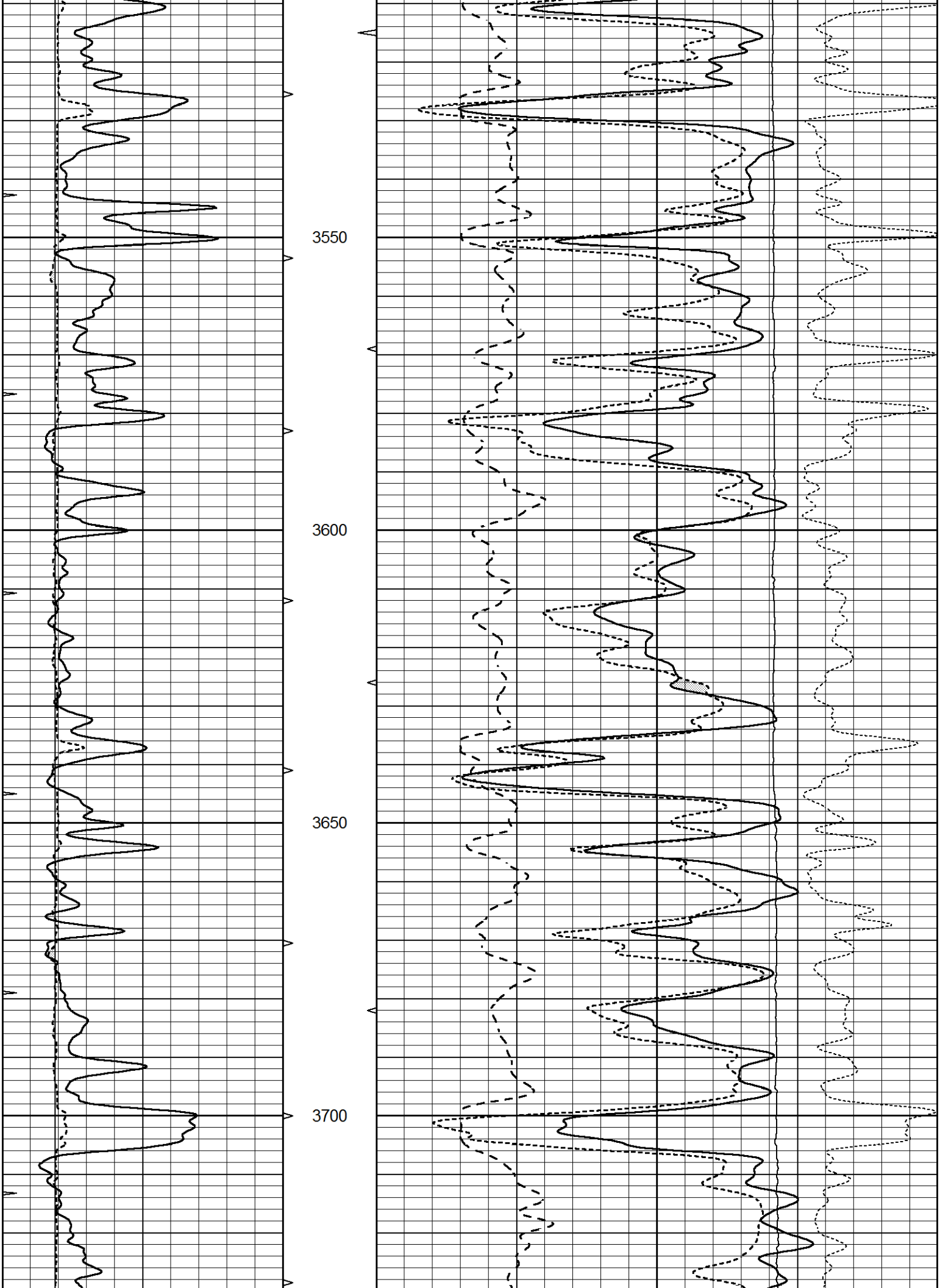
Database File	6334pe.db
Dataset Pathname	pass3.1M
Presentation Format	ldt_neu
Dataset Creation	Sat Apr 23 05:14:13 2022
Charted by	Depth in Feet scaled 1:240

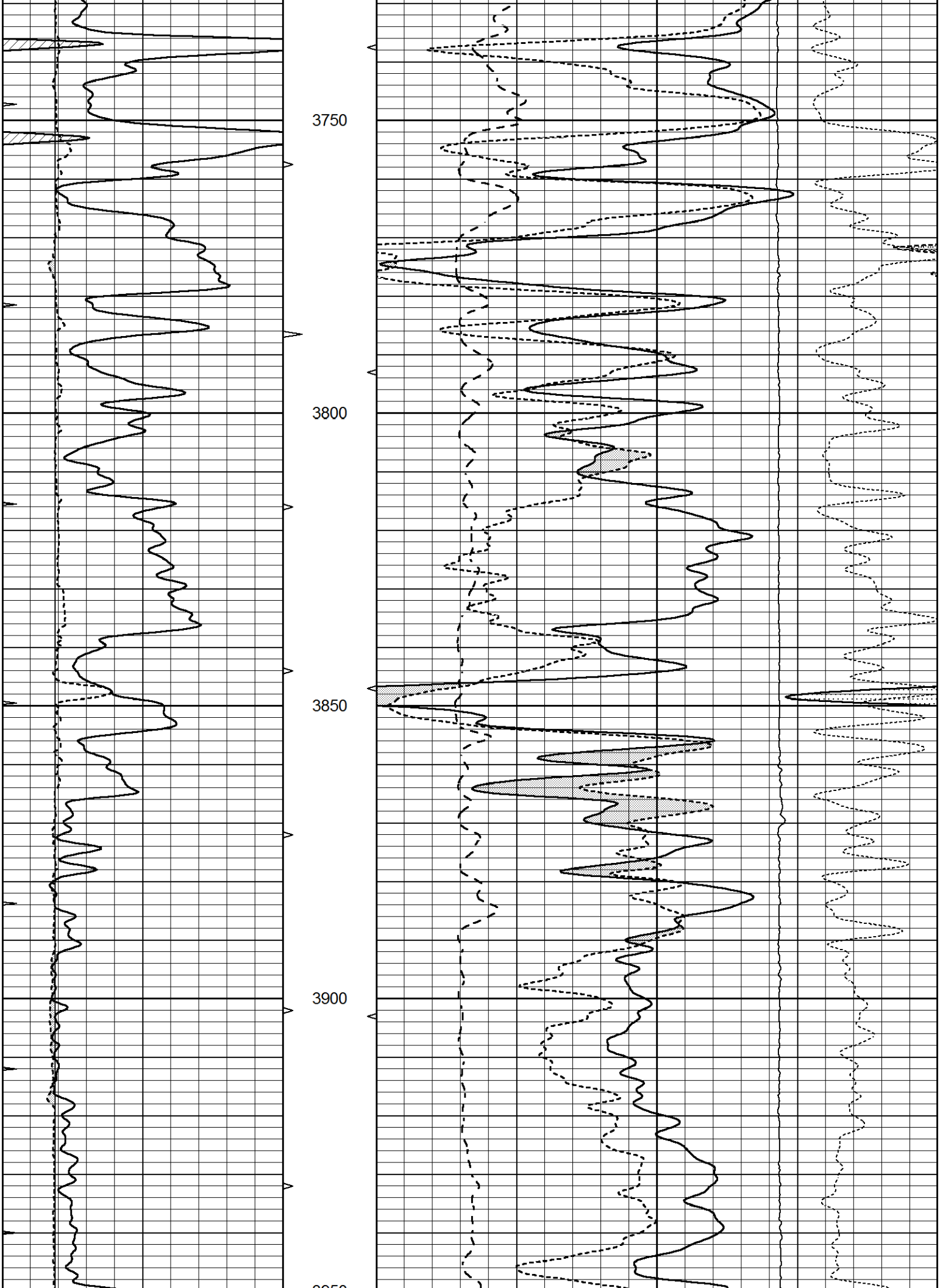
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10				0 LTEN (lb) 5000

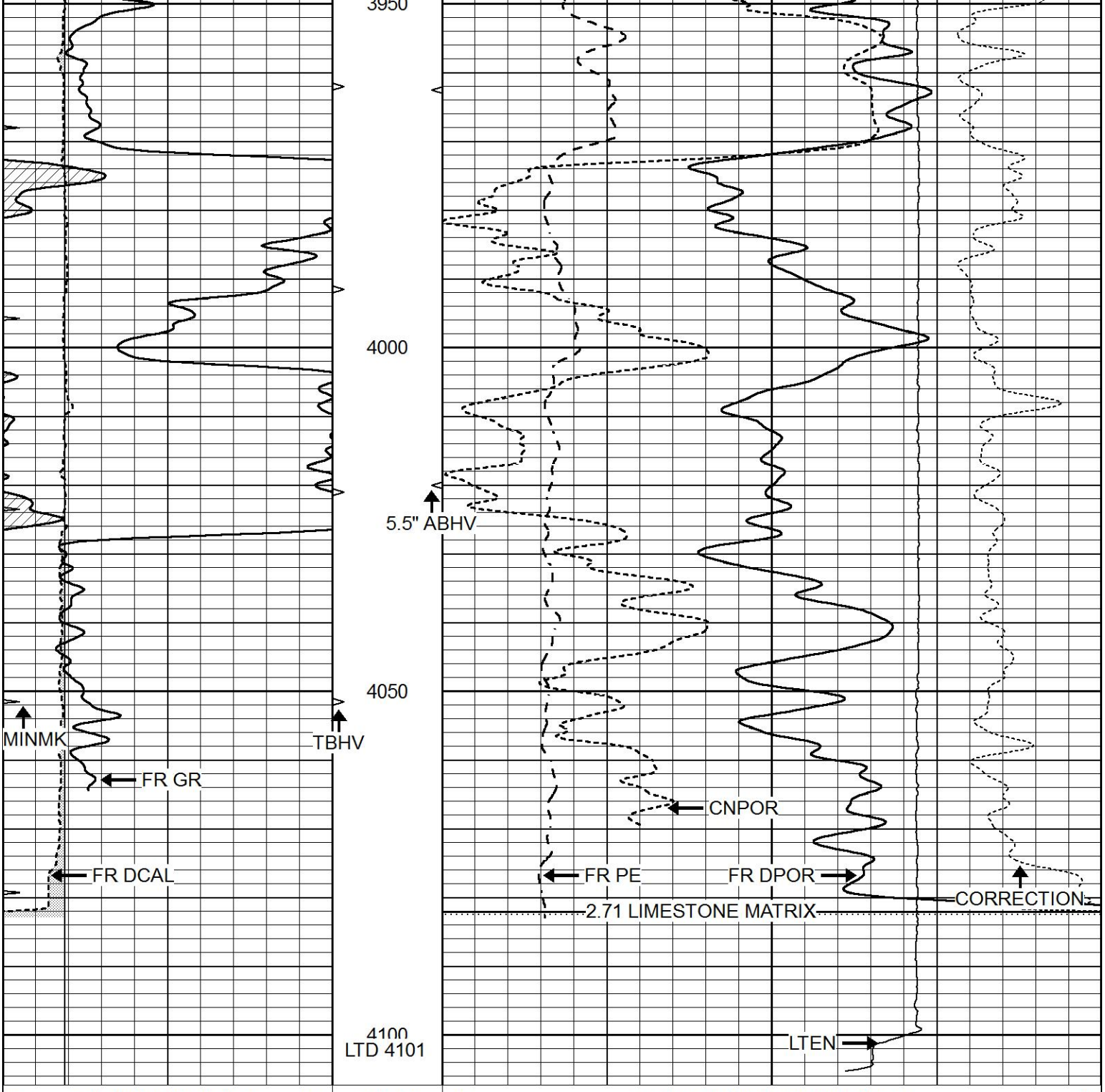



3100
3150
3200
3250


3300
3350
3400
3450
3500


3550
3600
3650
3700


3750
3800
3850
3900

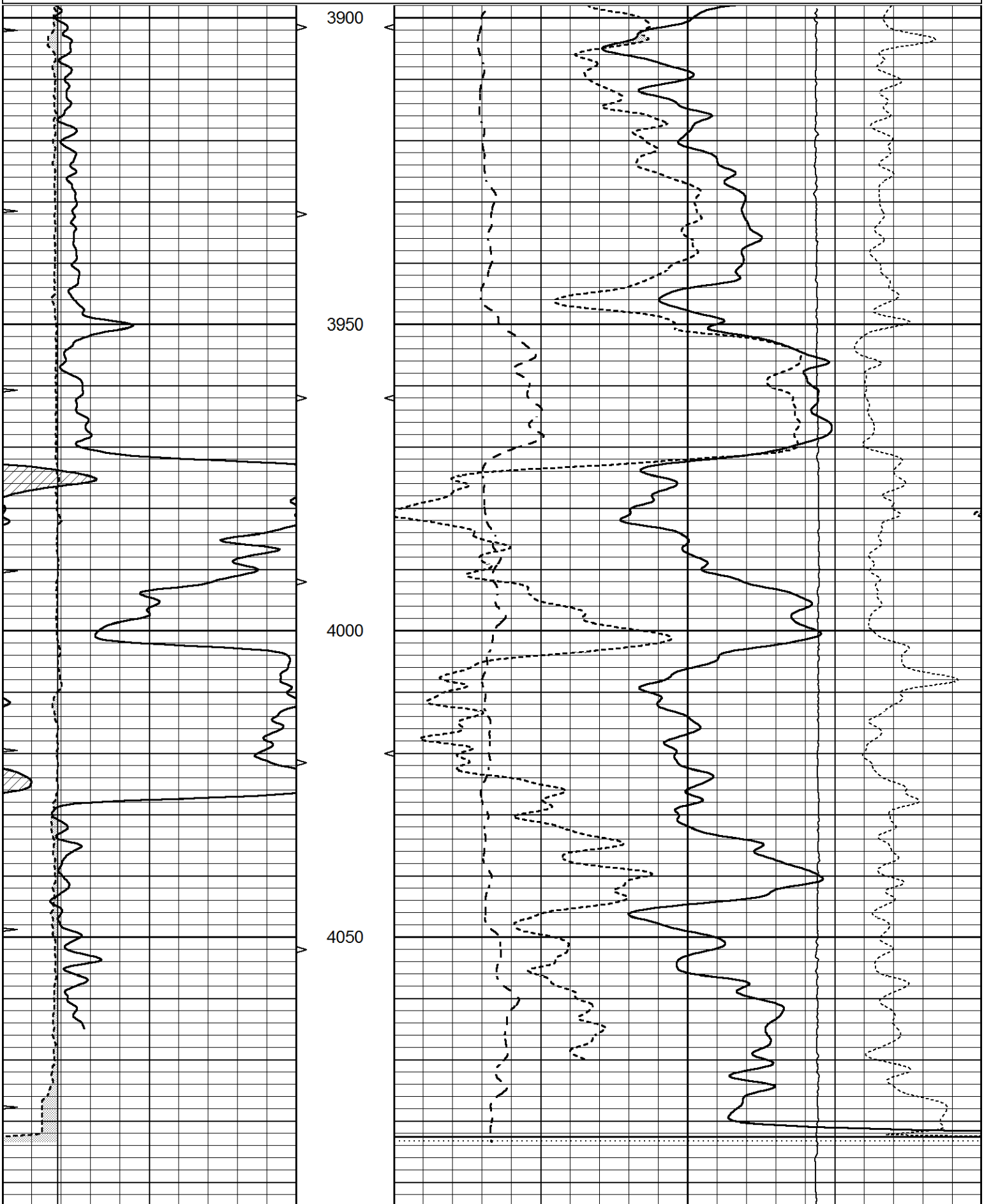


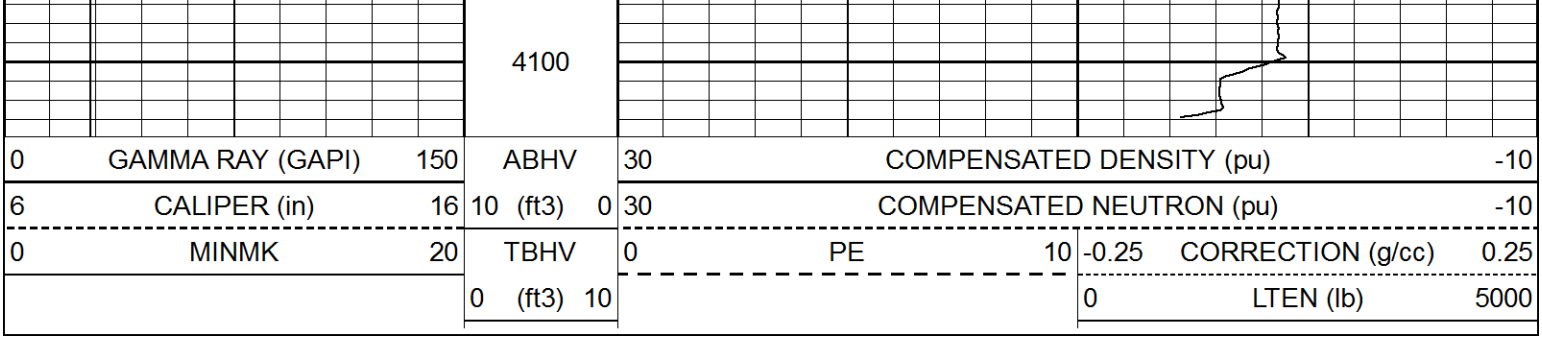
REPEAT SECTION

Database File	6334pe.db
Dataset Pathname	pass2.1RR
Presentation Format	ldt_neu
Dataset Creation	Sat Apr 23 05:19:49 2022
Charted by	Depth in Feet scaled 1:240

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 (ft3) 10	-0.25	CORRECTION (g/cc) 0.25
				0	LTEN (lb) 5000





Calibration Report

Database File 6334pe.db
Dataset Pathname pass3.1M
Dataset Creation Sat Apr 23 05:14:13 2022

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
Surface Cal Performed: Sat Jan 29 12:57:54 2022
Downhole Cal Performed: Mon Jul 28 11:08:27 2008
After Survey Verification Performed: 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	640.000	5.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	650.000	-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: 001 Model: PRB

Master Calibration

Performed Mon May 11 11:33:29 2020

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1593.8	10211.9	3449.0	3132.1	cps
Window 2	1486.7	8824.2	3065.6	2829.4	cps

Window 2	1486.7	6824.2	3065.6	2829.4	cps
Window 3	1206.8	4705.7	1944.6	1871.7	cps
Window 4	361.0	367.9	364.8	363.1	cps
Long Space	0.0	7337.5	1578.9	1342.7	cps
Short Space	2.7	2543.4	1657.9	1382.7	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	

Rib Angle	: 44.4	Rib Slope	: 0.980	Density/Spine Ratio	: 0.552
Spine Angle	: 74.4	Spine Slope	: 3.590	Spine Intercept	: -19.2

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 Apr 23 03:38:55 2022

Calibrator Value: 1.0 GAPI

Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps