



**COMPENSATED  
DENSITY/NEUTRON  
PE LOG**

Company HERMAN L. LOEB, LLC.  
Well #1-16 CLAYTON - ZIMMERMAN  
Field FRALICK WEST  
County KIOWA  
State KANSAS

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Location: API #: 15-097-21872-0000  
1091' FSL & 2480' FEL  
SEC 16 TWP 28S RGE 20W  
Permanent Datum GROUND LEVEL Elevation 2320  
Log Measured From KELLY BUSHING 11' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services DILMEL  
Elevation K.B. 2331  
D.F. 2329  
G.L. 2320

Date	2/9/24	
Run Number	ONE	
Depth Driller	5025	
Depth Logger	5026	
Bottom Logged Interval	5002	
Top Log Interval	4000	
Casing Driller	8.675@519	
Casing Logger	519	
Bit Size	7.785	
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8,000 PPM
Density / Viscosity	9.0/56	
pH / Fluid Loss	10.5/9.2	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	.540@74F	
Rmf @ Meas. Temp	.405@74F	
Rmc @ Meas. Temp	.648@74F	
Source of Rmf / Rmc	MEASUREMENT	
Rm @ BHT	.317@126F	
Time Circulation Stopped	2.5 HOURS	
Time Logger on Bottom	8:00 P.M.	
Maximum Recorded Temperature	126F	
Equipment Number	922339	
Location	HAYS, KANSAS	
Recorded By	JEFF LUEBBERS	JEREMY PASEK
Witnessed By	JON CHRISTENSEN	

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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.

15-097-21872-0000 Comments

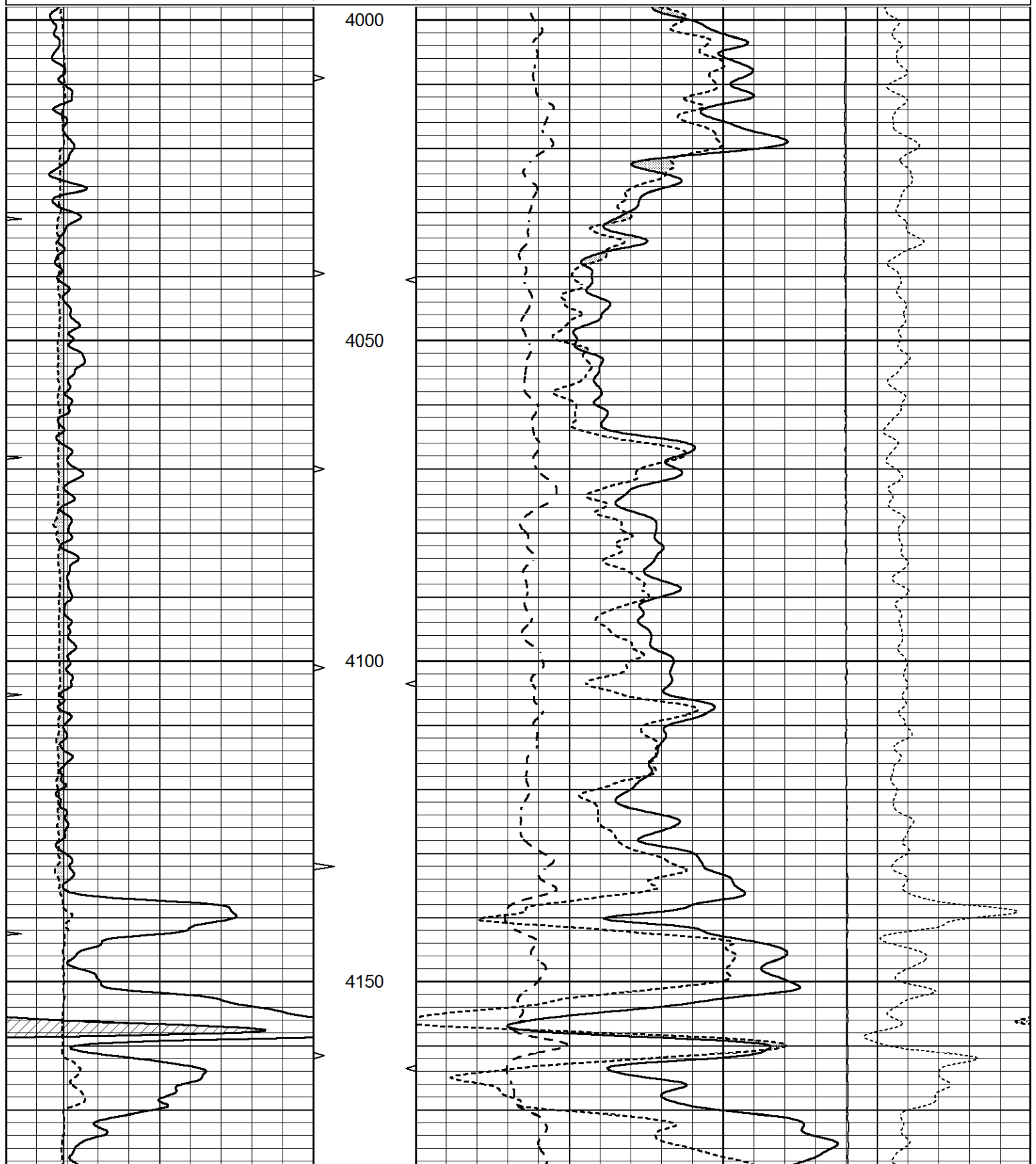
THANK YOU FOR USING ELI WIRELINE HAYS. KANSAS (785) 628-6395  
DIRECTIONS  
MULLINVILLE, KS., (HWY 400 & MAIN ST.) 1 1/2 N. TO "15 ST.", 1 1/2W., S. INTO

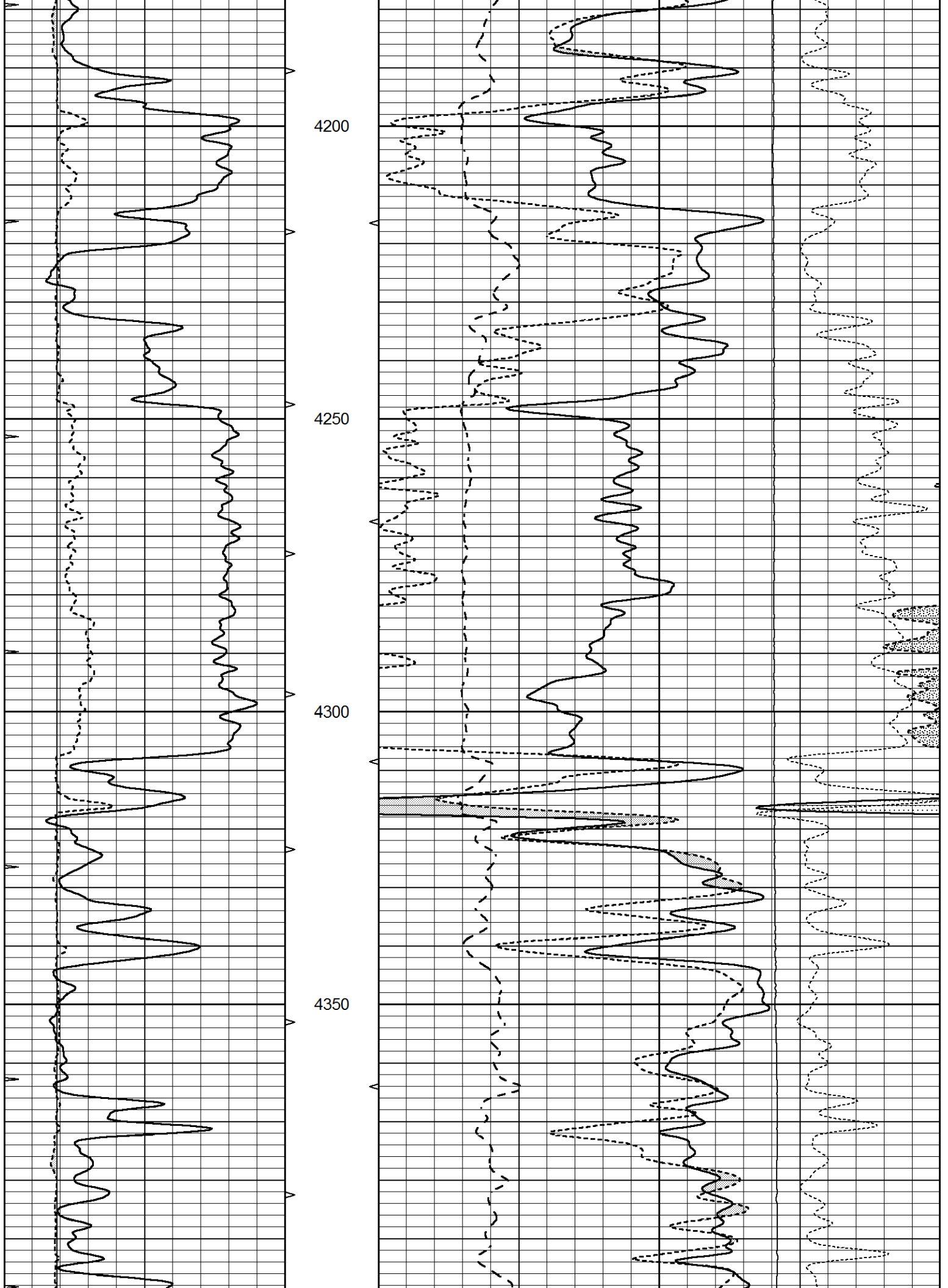


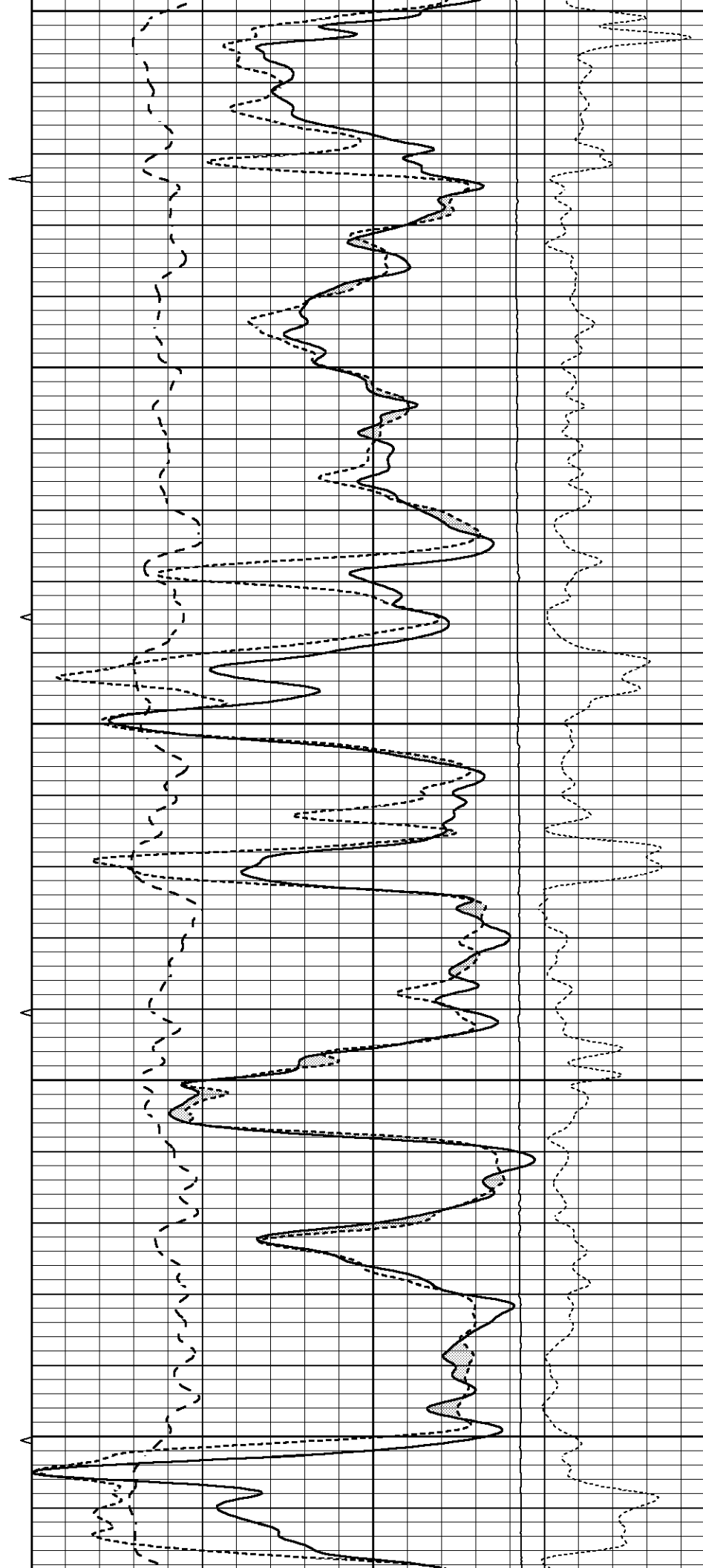
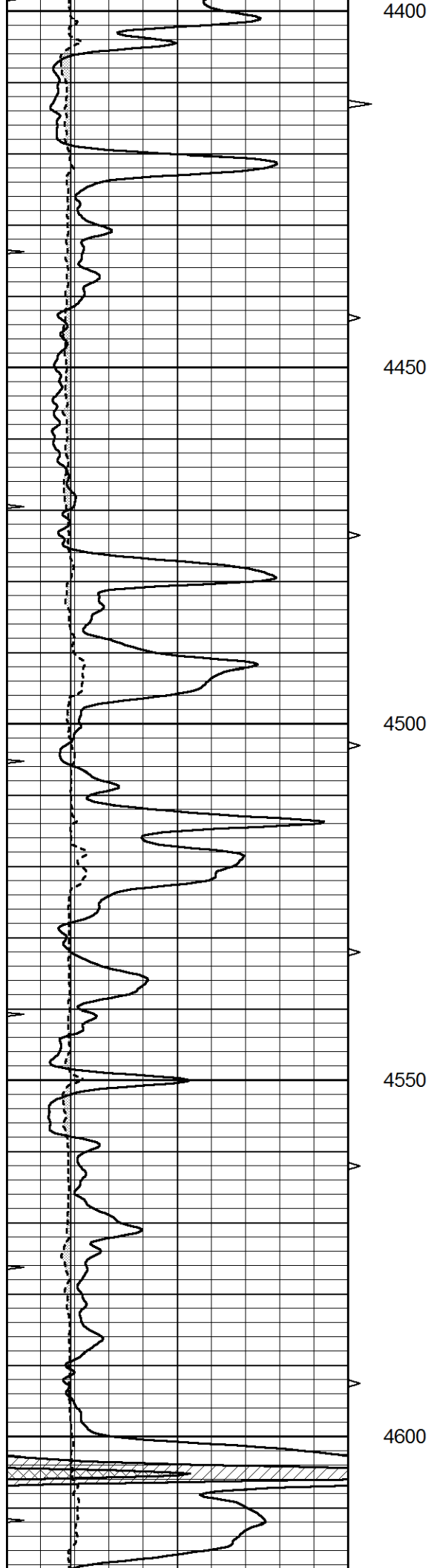
# MAIN SECTION

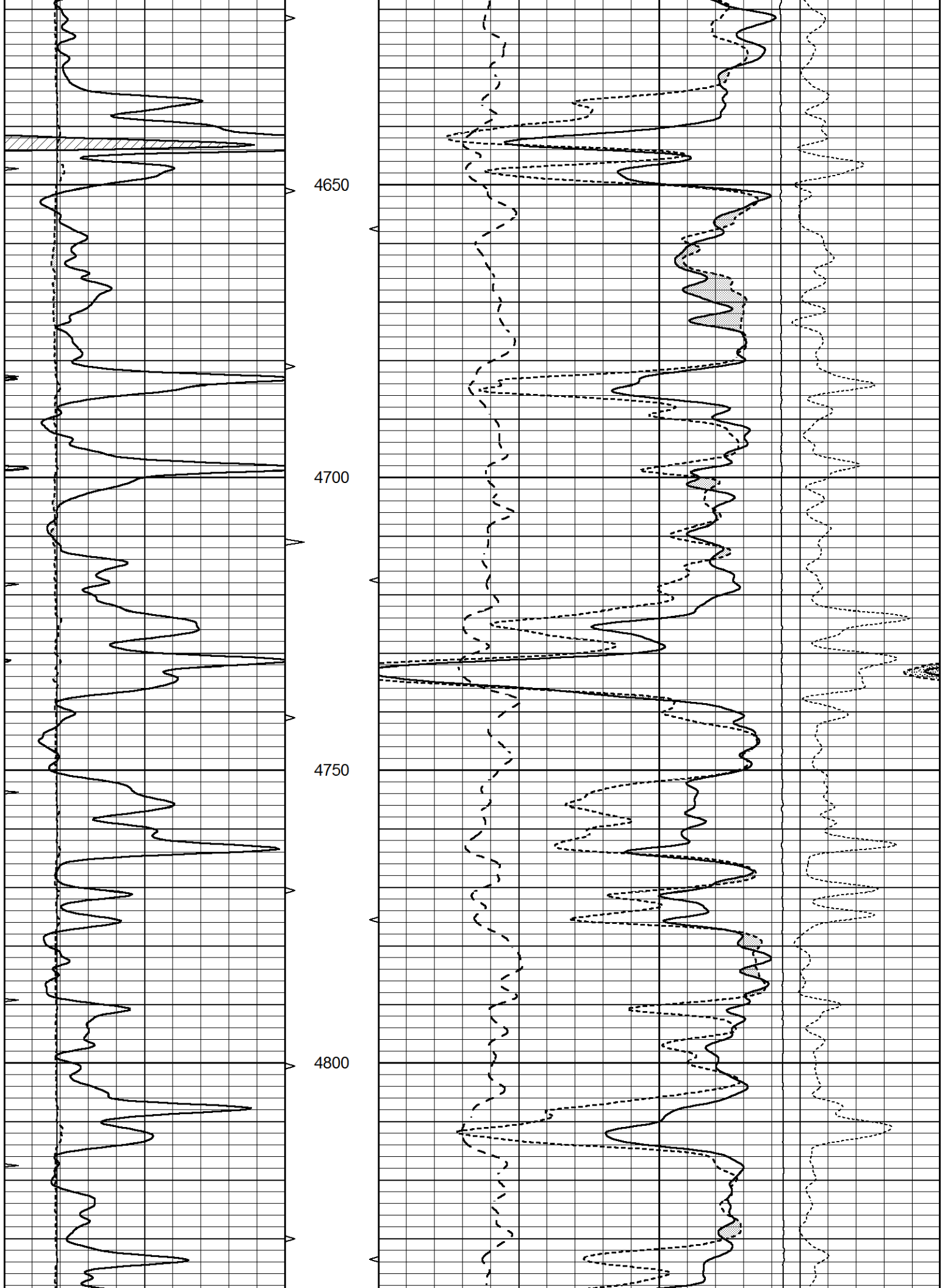
Database File 8409pe.db  
 Dataset Pathname pass3.1M  
 Presentation Format \_ldt\_neu  
 Dataset Creation Fri Feb 09 21:39:15 2024  
 Charted by Depth in Feet scaled 1:240

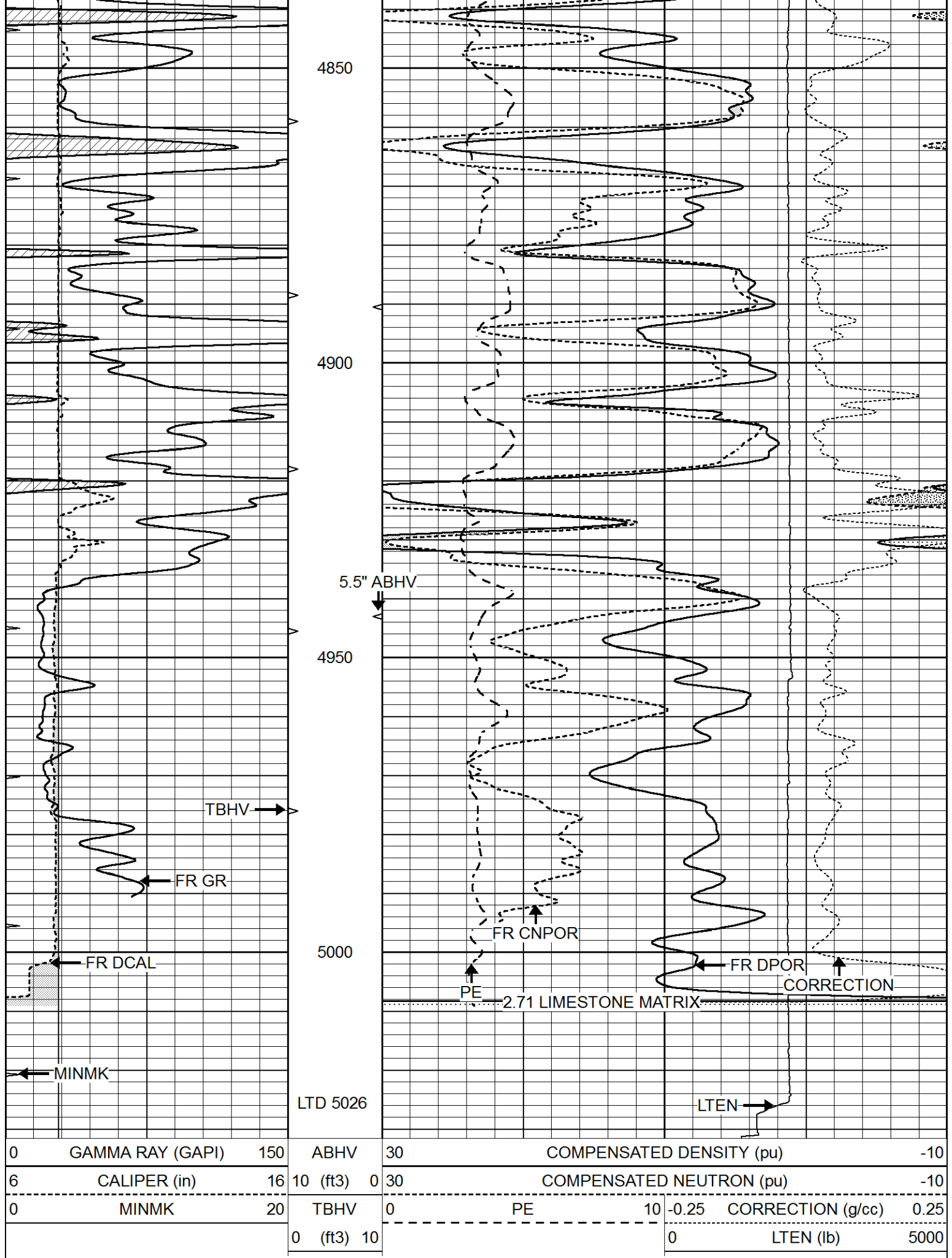
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		0	LTEN (lb) 5000











4850

4900

4950

5000

LTD 5026

5.5" ABHV

TBHV

FR GR

FR DCAL

MINMK

FR CNPOR

PE

2.71 LIMESTONE MATRIX

FR DPOR

CORRECTION

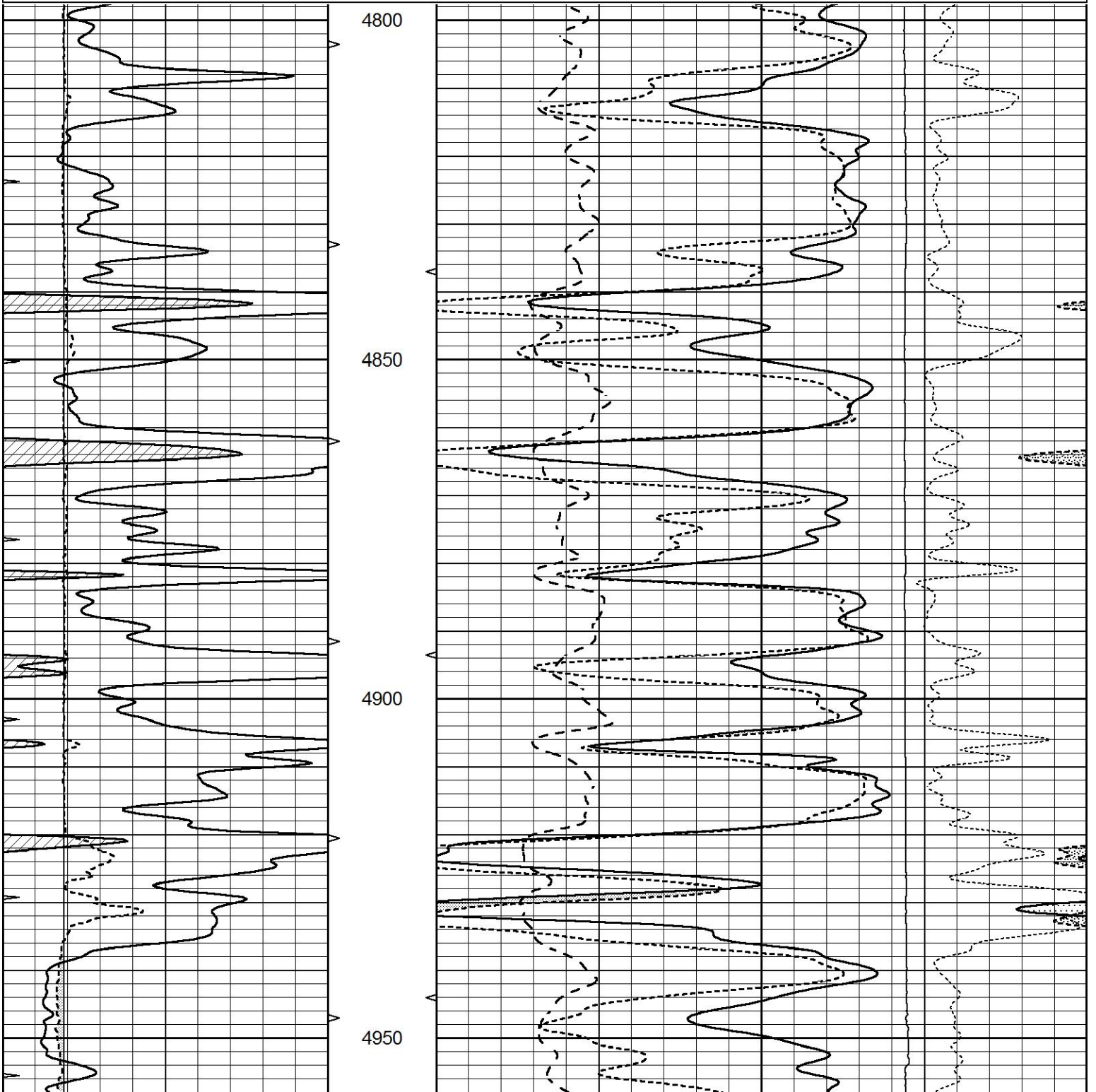
LTEN

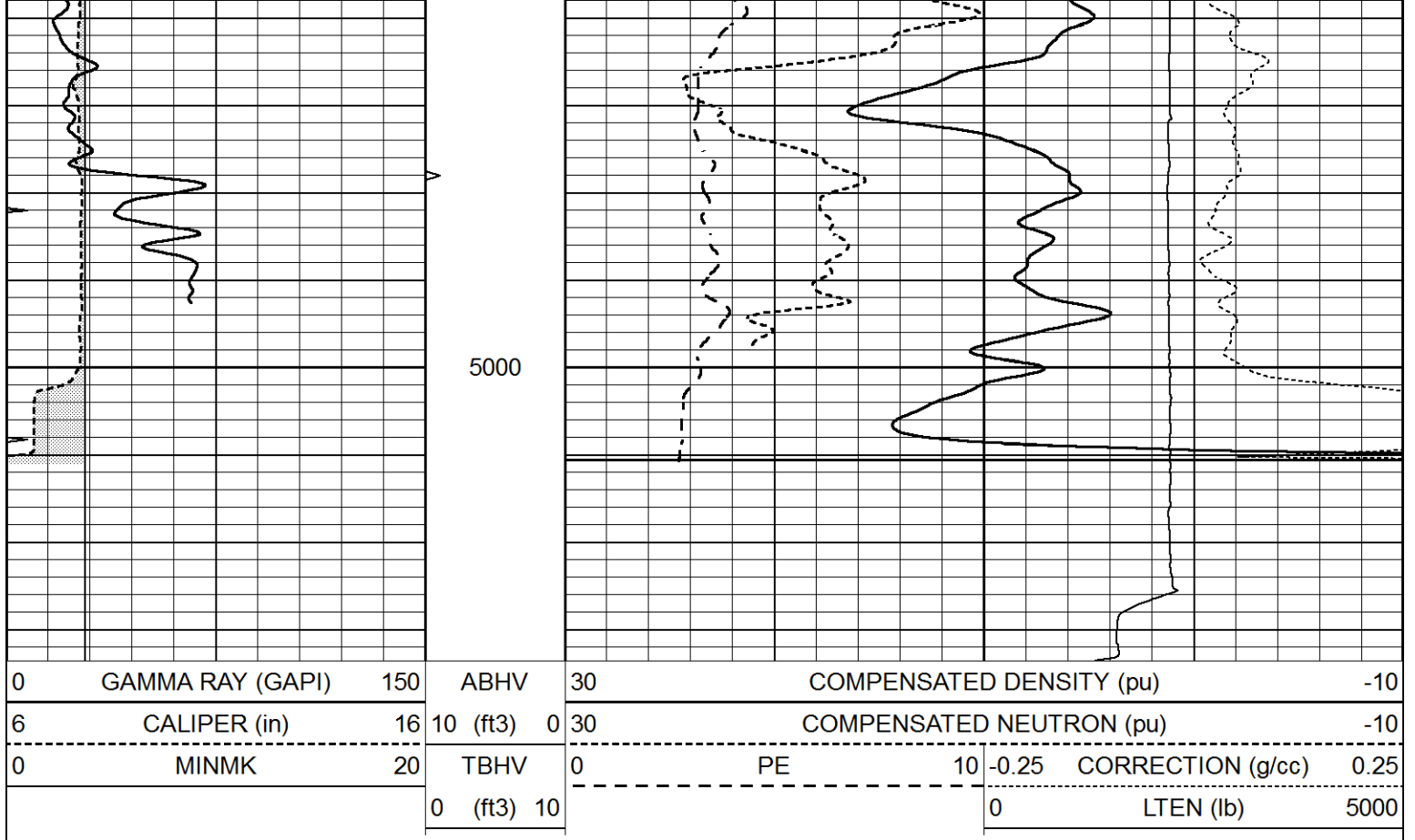


# REPEAT SECTION

Database File 8409pe.db  
 Dataset Pathname pass2.1R  
 Presentation Format \_ldt\_neu  
 Dataset Creation Fri Feb 09 21:43:13 2024  
 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	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





Calibration Report			
Database File	8409pe.db		
Dataset Pathname	pass3.1M		
Dataset Creation	Fri Feb 09 21:39:15 2024		

Dual Induction Calibration Report			
Serial-Model:	PROBE8-DILG		
Surface Cal Performed:	Fri Jan 26 14:23:03 2024		
Downhole Cal Performed:	Mon Aug 14 00:39:25 2023		
After Survey Verification Performed:	Mon Jul 28 11:08:27 2008		

Surface Calibration								
Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	660.000	4.000
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

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 Tue Aug 02 14:54:49 2022

Background

Magnesium

Aluminum

Aluminum+Fe

Window 1	1540.1	9840.1	3279.8	3001.8	cps
Window 2	1435.6	8495.4	2920.3	2720.3	cps
Window 3	1167.4	4527.9	1868.6	1810.1	cps
Window 4	344.6	343.5	346.7	342.3	cps
Long Space	0.0	7059.8	1484.8	1284.7	cps
Short Space	3.3	2502.7	1618.3	1368.5	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	

Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.544
Spine Angle	: 74.4	Spine Slope	: 3.576	Spine Intercept	: -19.1

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:	Wed Dec 20 03:59:02 2023		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	