COMPENSATED DENSITY / NEUTRON PE LOG

Company ARP OPERATING, LLC.
Well BRADSHAW #1-33
Field WILDCAT
County THOMAS State KANSAS

Location: API # : 15-193-21089-0000
500' FNL & 595' FWL
SE - NW - NW - NW

SEC 33 TWP 10S RGE 32W

Other Services
DIL/MEL
SONIC

Elevation
K.B. 3037
D.F. 3035
G.L. 3026

Permanent Datum GROUND LEVEL Elevation 3026
Log Measured From KELLY BUSHING 11' A.G.L.
Drilling Measured From KELLY BUSHING

Date	11/3/21		
Run Number	ONE		
Depth Driller	4684		
Depth Logger	4670		
Bottom Logged Interval	4646		
Top Log Interval	3600		
Casing Driller	8 5/8"@250'		
Casing Logger	250		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,200 PPM	
Density / Viscosity	9.5/50		
pH / Fluid Loss	11.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.20@82F		
Rmf @ Meas. Temp	.900@82F		
Rmc @ Meas. Temp	1.44@82F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.807@122F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	11:30 P.M.		
Maximum Recorded Temperature	122F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	SEAN DEENIHAN		

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State KANSAS

<< Fold Here >>>

Comments

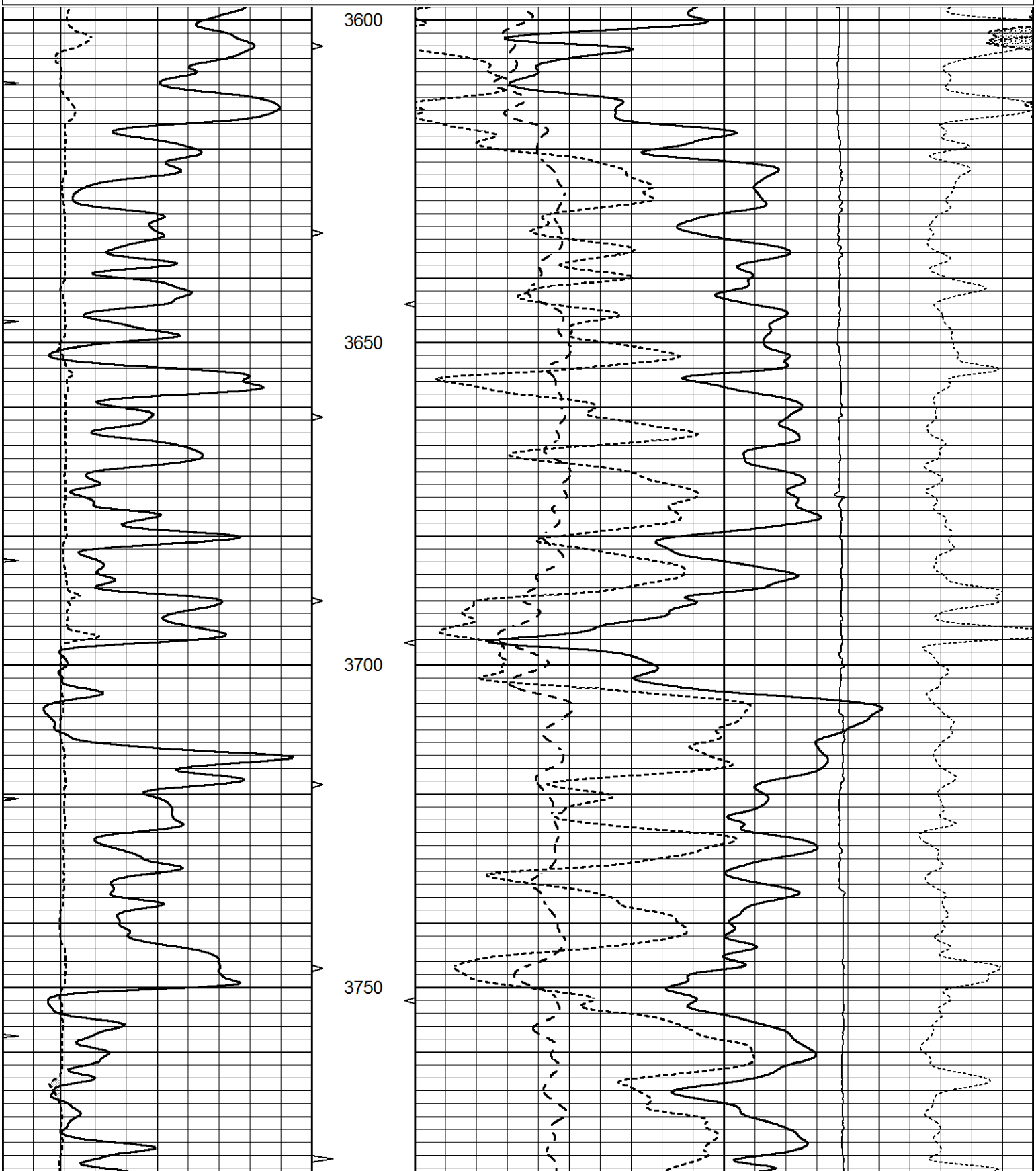
15-193-21089-0000

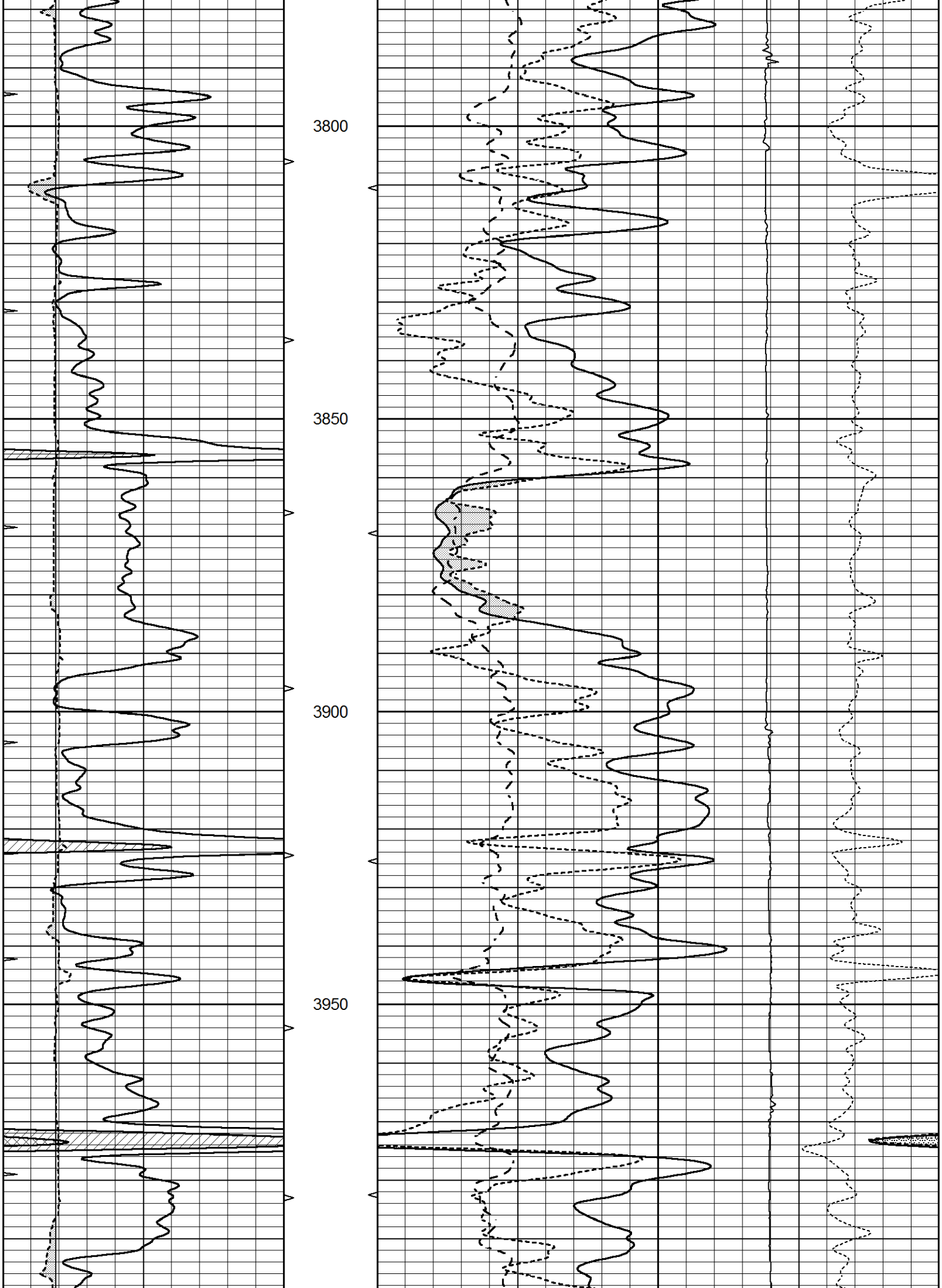
THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
OAKLEY, KS., (I-70 & EXIT 70) 2S. TO "RD. C", 2W., 1S., E. INTO

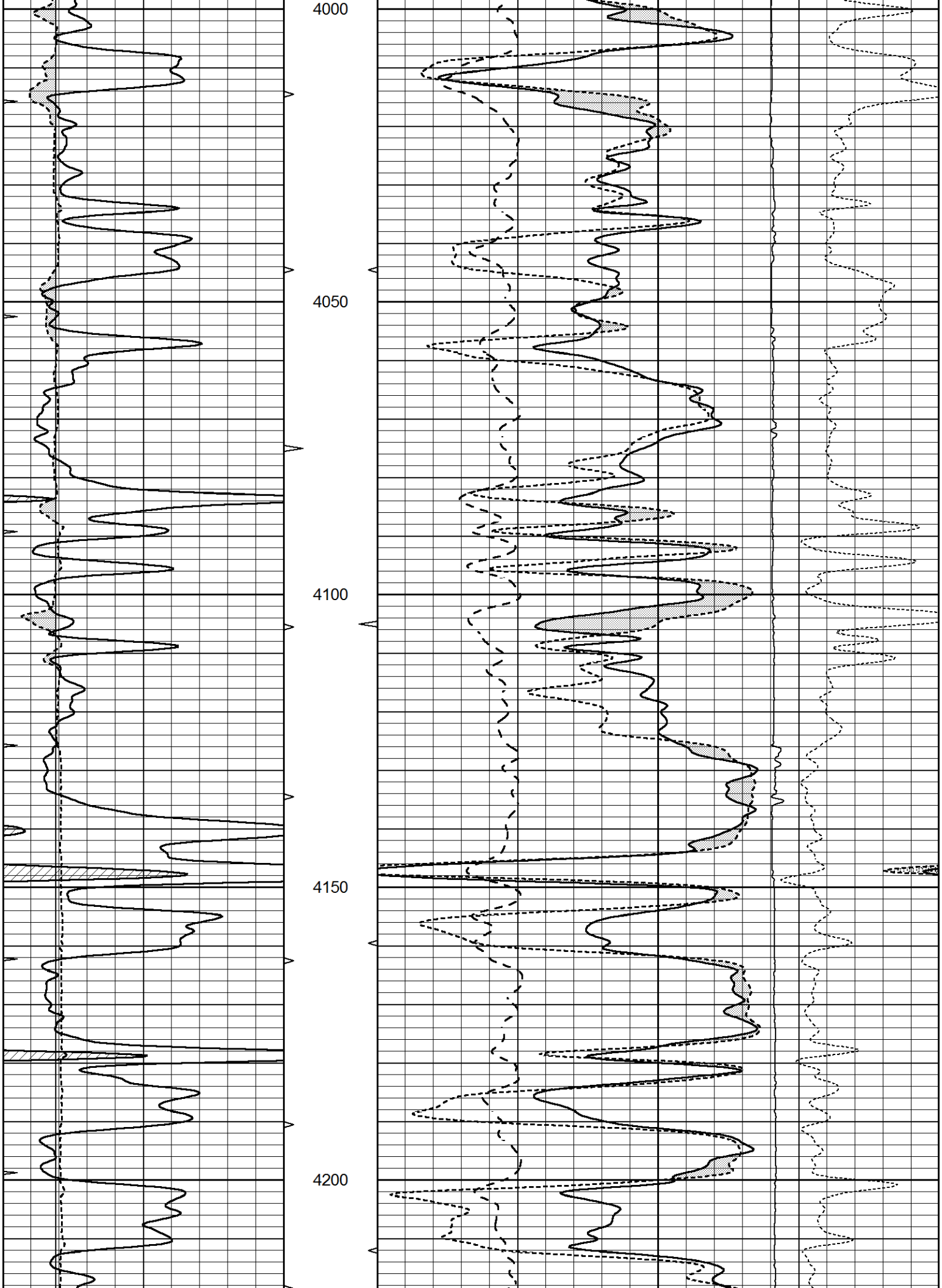
MAIN SECTION

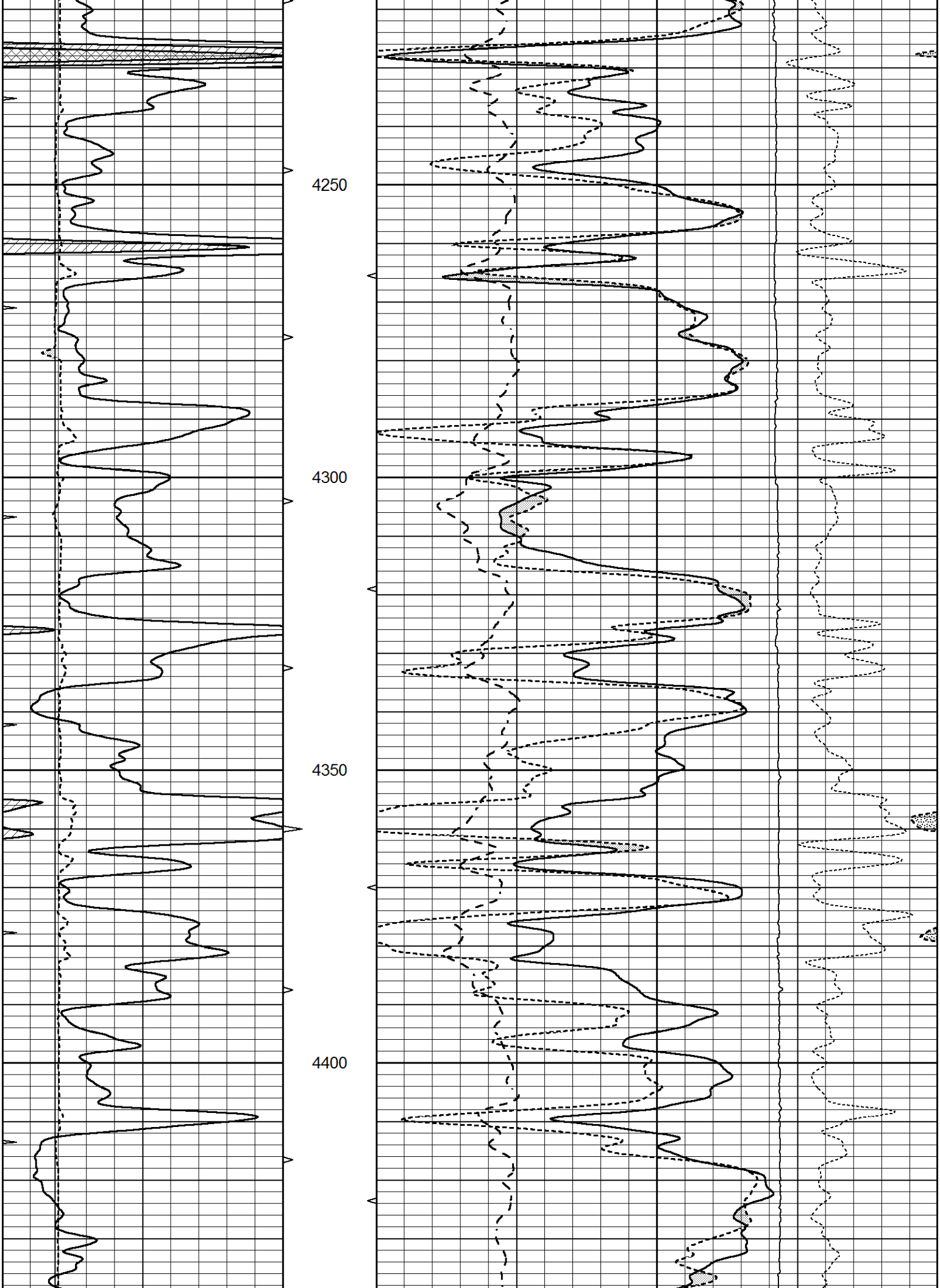
Database File	5830pe.db
Dataset Pathname	pass3.1M
Presentation Format	ldt_neu
Dataset Creation	Thu Nov 04 01:21:08 2021
Charted by	Depth in Feet scaled 1:240

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




3800
3850
3900
3950


4000
4050
4100
4150
4200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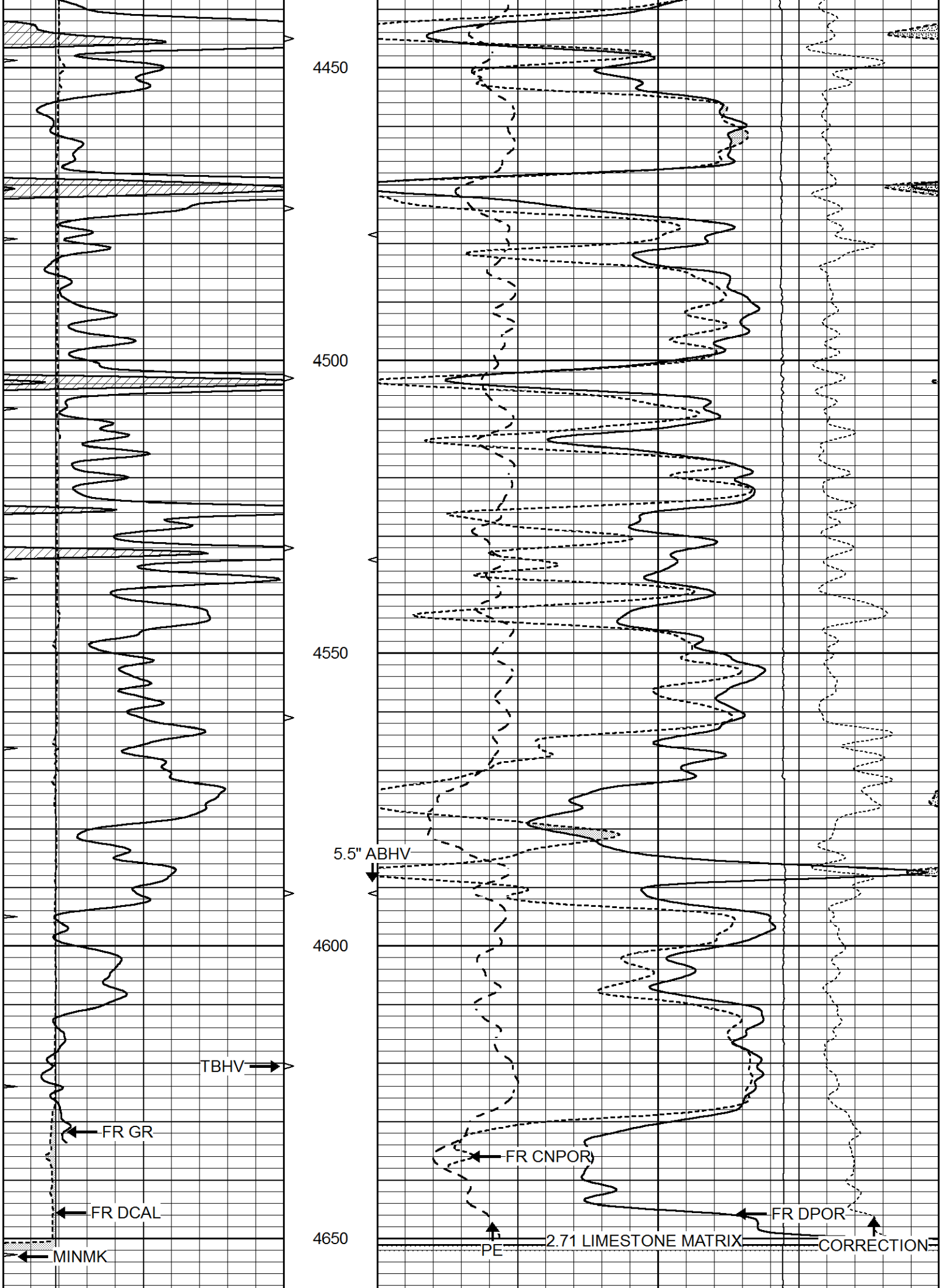
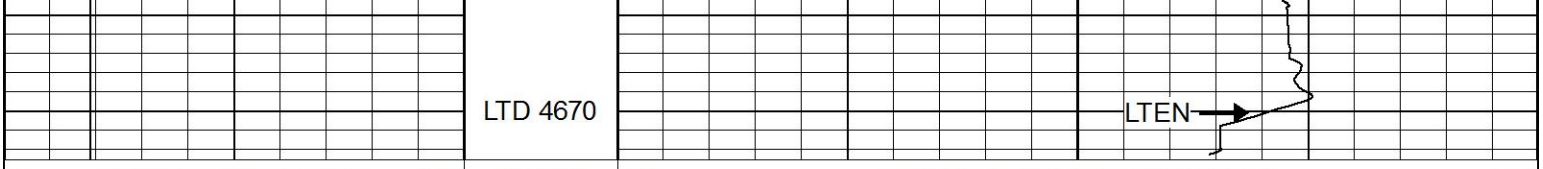
4300
4350
4400


4450
4500
4550
5.5" ABHV
4600
TBHV
FR GR
FR CNPOR
FR DCAL
FR DPOR
4650
MINMK
PE
2.71 LIMESTONE MATRIX
CORRECTION

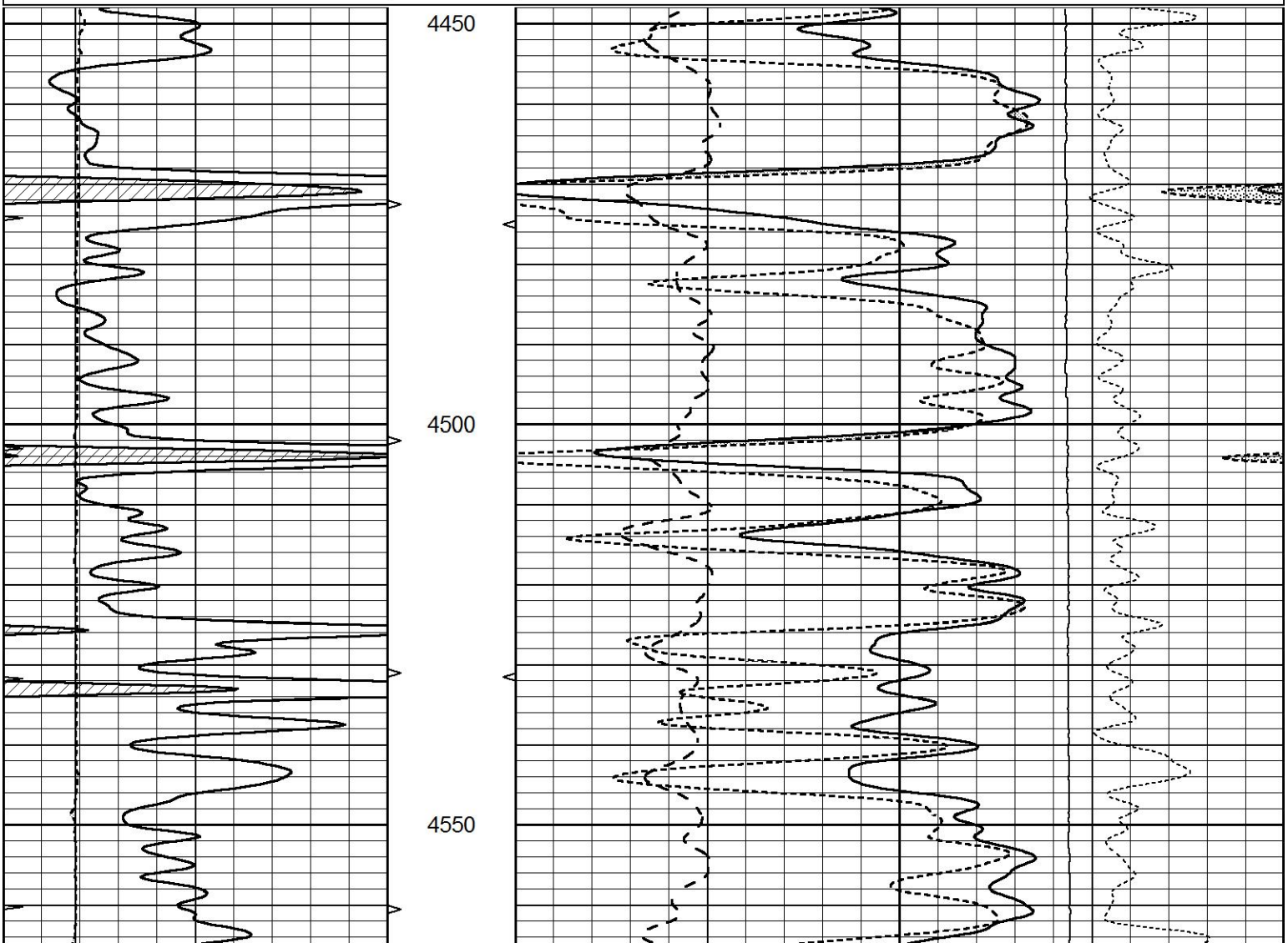


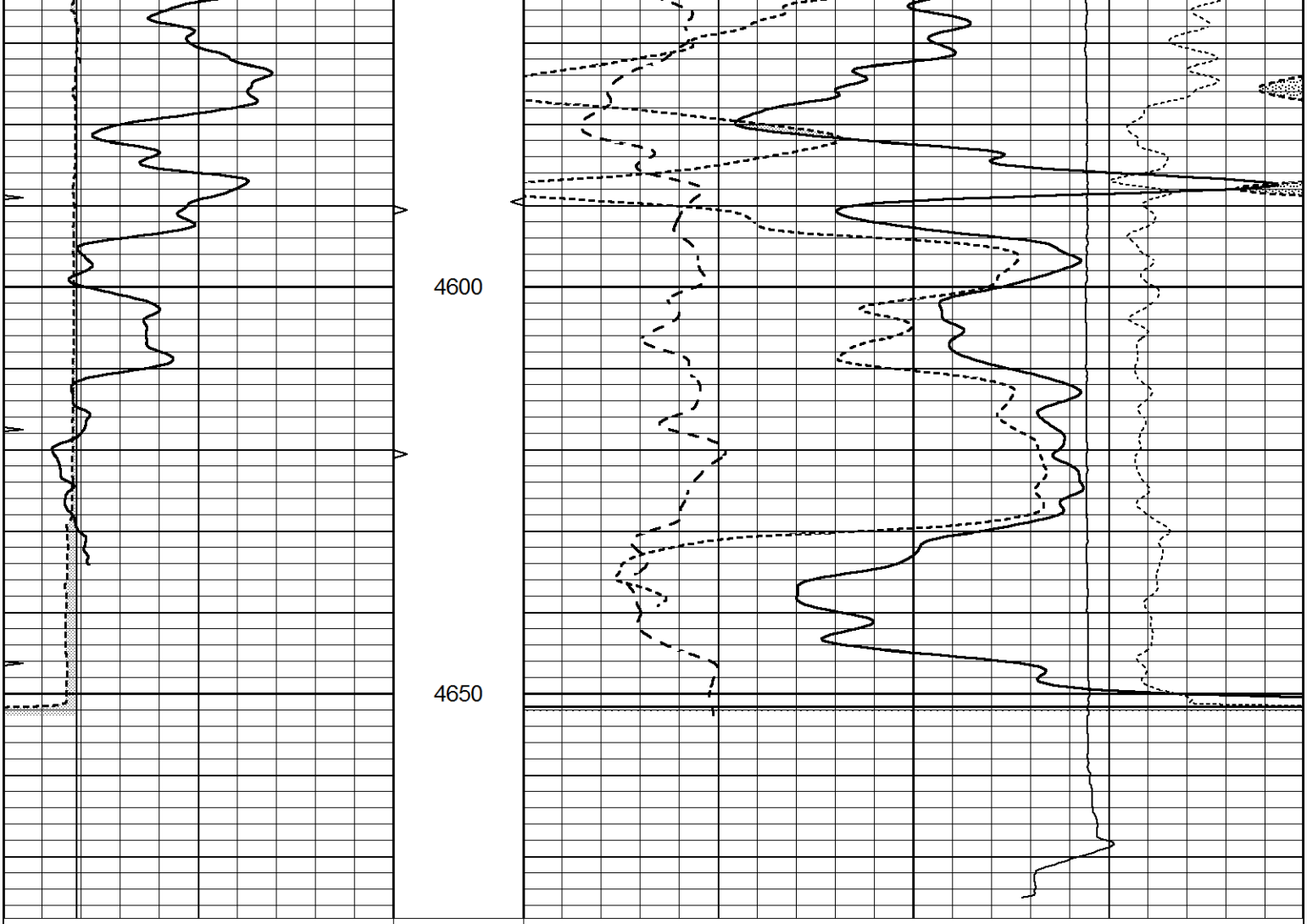
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE 10	-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			0 LTEN (lb)	5000

REPEAT SECTION

Database File	5830pe.db
Dataset Pathname	pass2.1R
Presentation Format	ldt_neu
Dataset Creation	Wed Nov 03 23:51:48 2021
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	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10				0 LTEN (lb) 5000

Calibration Report

Database File 5830pe.db
Dataset Pathname pass3.1M
Dataset Creation Thu Nov 04 01:21:08 2021

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
Surface Cal Performed: Wed Nov 03 23:37:20 2021
Downhole Cal Performed: Thu Mar 12 11:45:10 2020
After Survey Verification Performed: Thu Mar 12 11:45:00 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	650.000	5.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	680.000	-40.000
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		
		0.000	mmho-m		4000.000	mmho-m		

Litho Density Calibration Report
Serial: 003 Model: PRB

Master Calibration

Performed Fri Mar 05 10:51:07 2021

	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1570.6	10682.1	3457.0	3096.9	cps
Window 2	1451.7	9432.7	3101.4	2816.5	cps
Window 3	1334.0	7160.6	2532.0	2369.3	cps
Window 4	370.4	373.1	366.4	370.9	cps
Long Space	0.0	7981.0	1649.7	1364.8	cps
Short Space	2.8	3522.0	2211.0	1823.6	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	

Rib Angle	: 43.5	Rib Slope	: 0.951	Density/Spine Ratio	: 0.535
Spine Angle	: 73.5	Spine Slope	: 3.386	Spine Intercept	: -18.7

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:	Fri Sep 03 05:25:49 2021	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps