



COMPENSATED
DENSITY/NEUTRON
PE LOG

Company I.A. OPERATING, INC.

Well CARRIE #2-4

Field BLUE HILL NW

County ELLIS State KANSAS

Location: API #: 15-051-26929-0000

330' FSL & 1772' FWL
E2 - SW - SE - SW

SEC 2 TWP 12S RGE 16W

Permanent Datum GROUND LEVEL Elevation 1845
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
DIL/MEL
SONIC

Elevation
K.B. 1853
D.F. 1851
G.L. 1845

Date 8/11/18

Run Number ONE

Depth Driller 3450

Depth Logger 3448

Bottom Logged Interval 3424

Top Log Interval 2600

Casing Driller 8 5/8" @ 928

Casing Logger 928

Bit Size 7 7/8

Type Fluid in Hole CHEMICAL MUD

Density / Viscosity 9.1/54

pH / Fluid Loss 11.0/7.2

Source of Sample FLOWLINE

Rm @ Meas. Temp .50 @ 90F

Rmf @ Meas. Temp .37 @ 90F

Rmc @ Meas. Temp .60 @ 90F

Source of Rmf / Rmc MEASUREMENT

Rm @ BHT .40 @ 111F

Time Circulation Stopped 2 HOURS

Time Logger on Bottom 111F

Maximum Recorded Temperature 111F

Equipment Number 3802

Location HAYS, KANSAS

Recorded By JASON CAPPELLUCCI

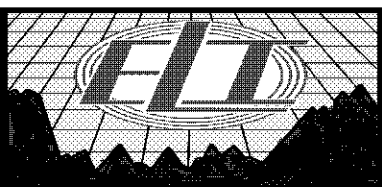
Witnessed By STEVE REED

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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

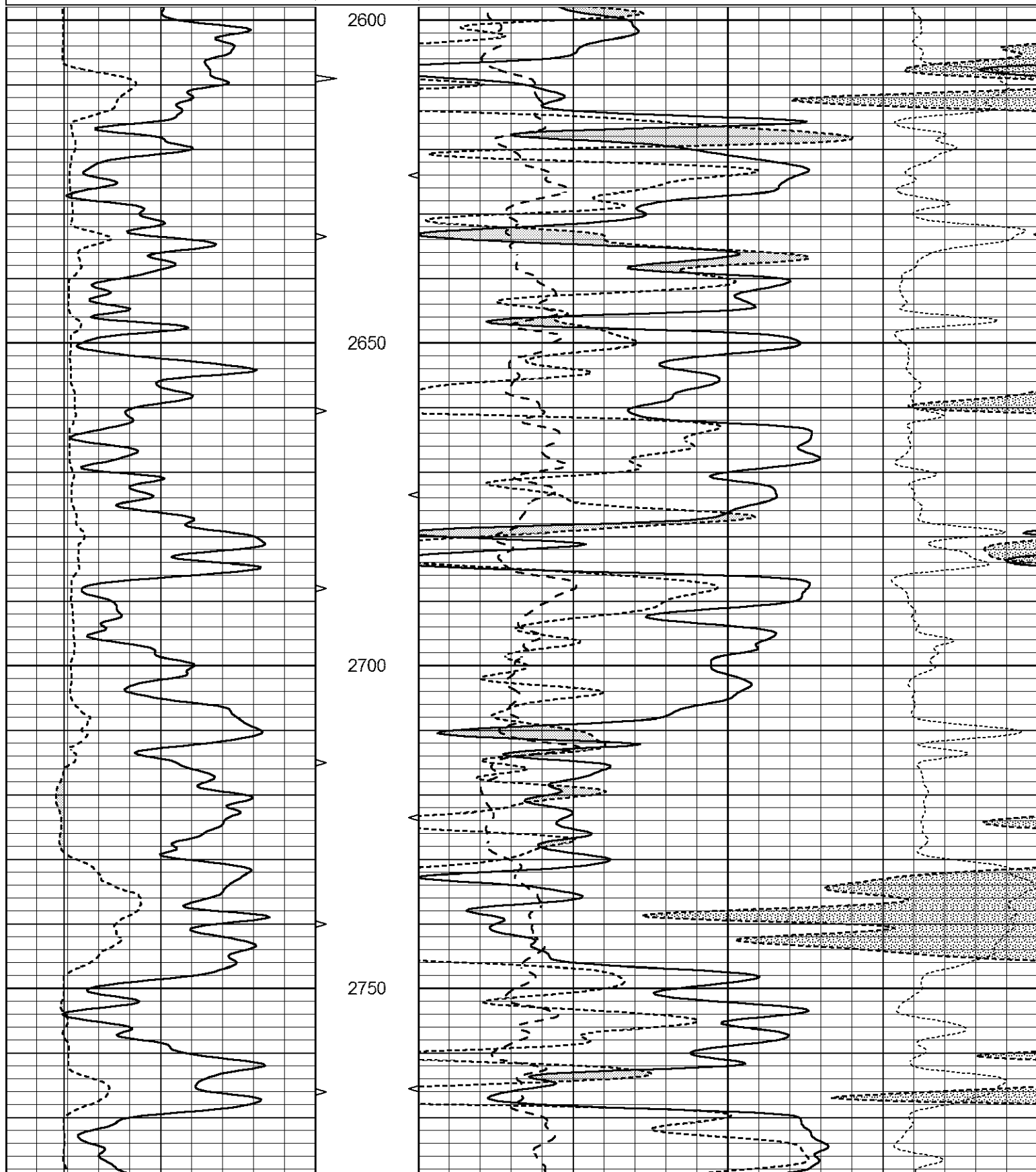
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
VICTORIA, KS. - NORTH TO EMMERAM RD. - 3 EAST TO 370TH RD. - NORTH
TO SEVERIN RD. - 1 EAST TO WALKER RD. - 1 NORTH - EAST INTO

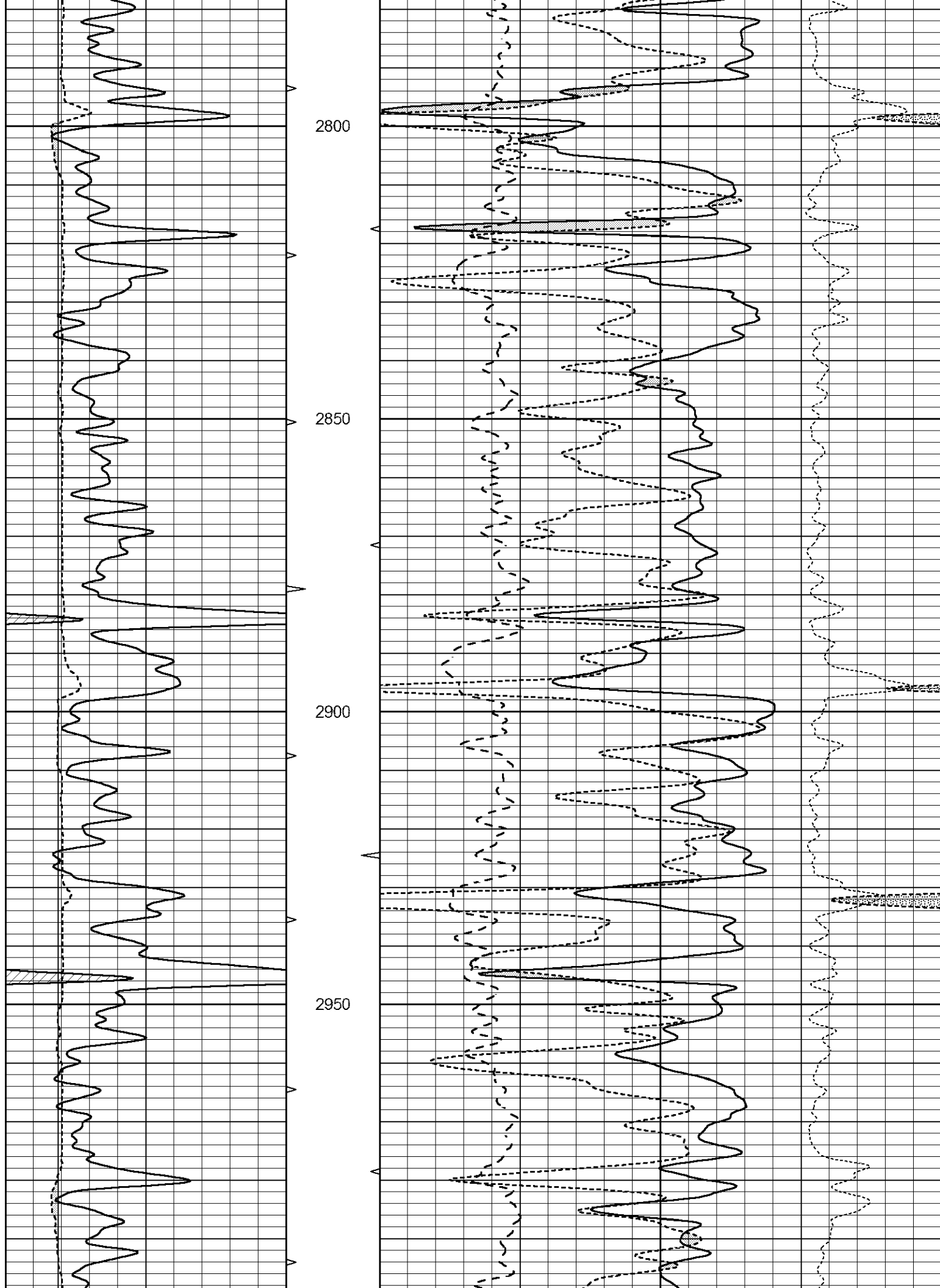


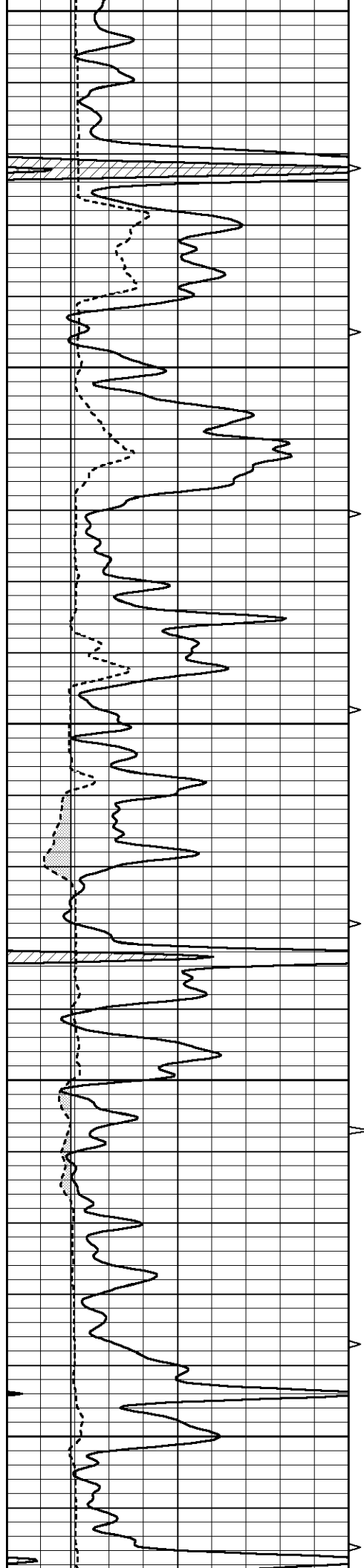
MAIN SECTION

Database File 2518pe8.db
Dataset Pathname pass3.1
Presentation Format _ldt_neu
Dataset Creation Sat Aug 11 04:41:13 2018
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
			TBHV	0	PE	10 -0.25
			0 (ft3) 10	CORRECTION (g/cc) 0.25		







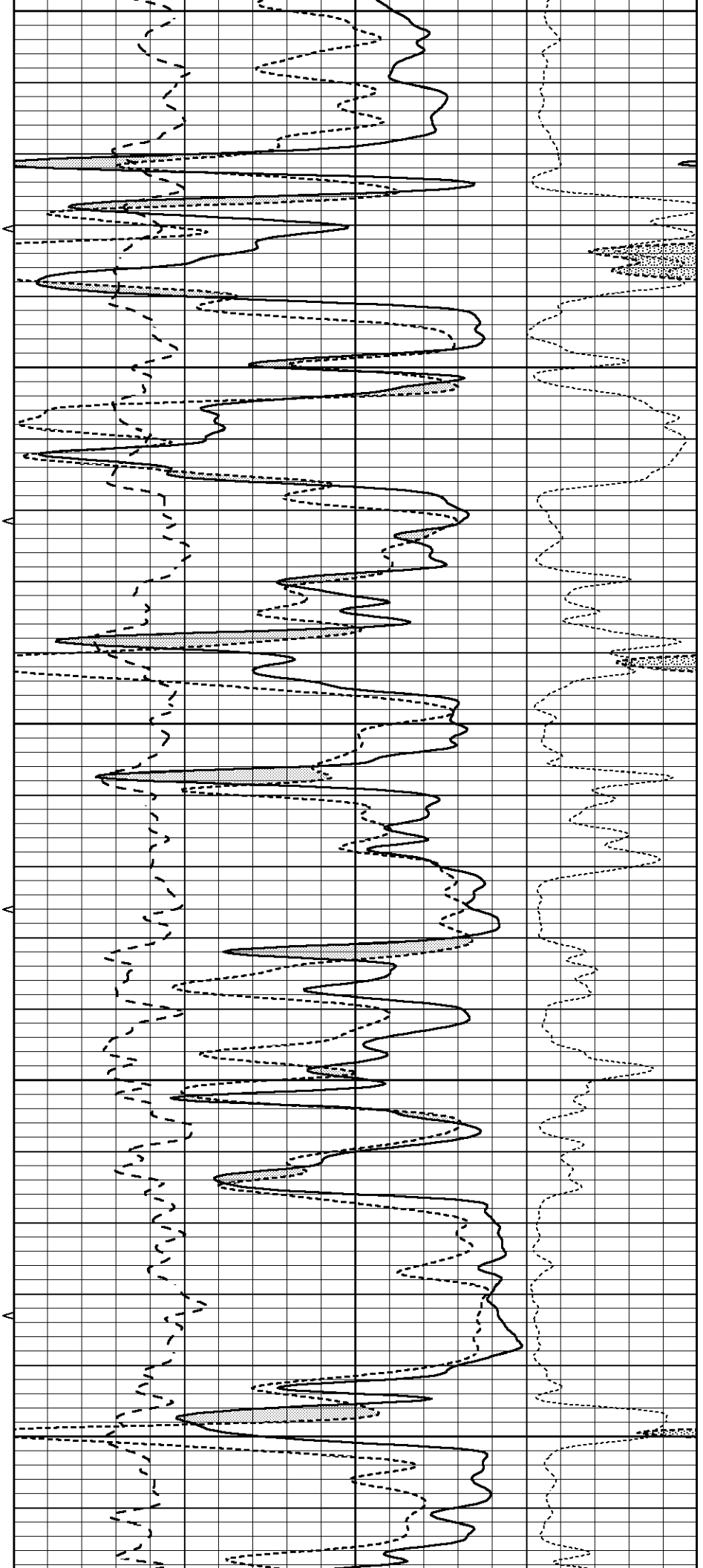
3000

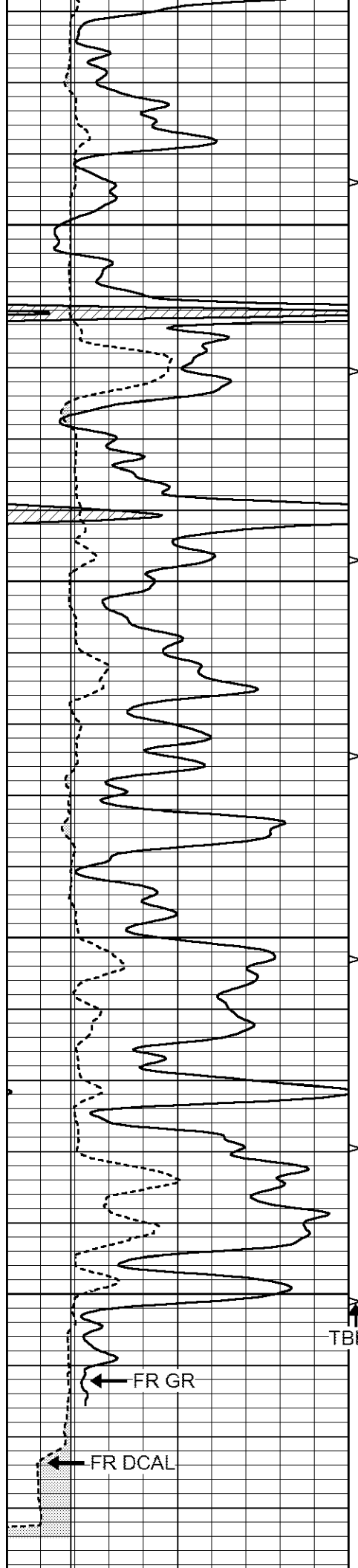
3050

3100

3150

3200





3250

3300

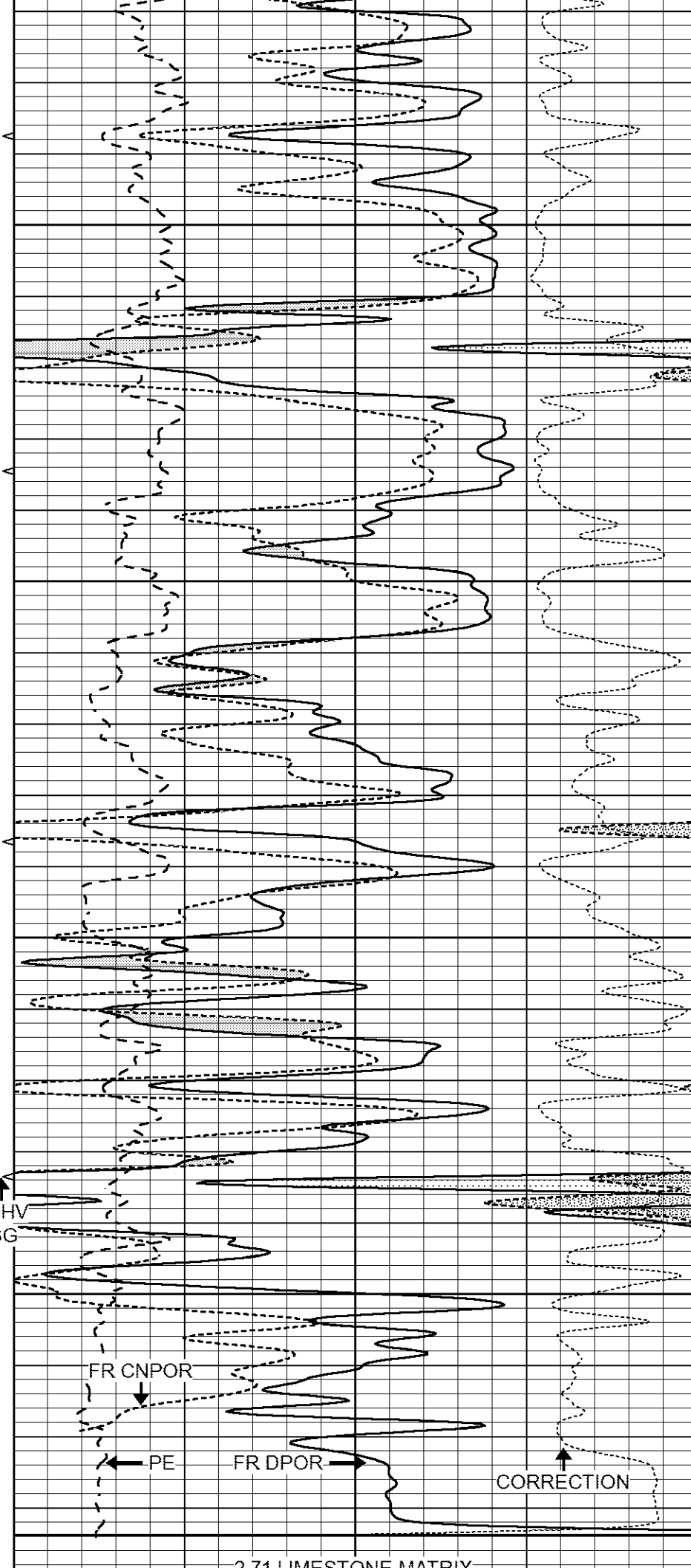
3350

3400

TBHV

FR GR

FR DCAL



ABHV

5.5" CSG

FR CNPOR

PE

FR DPOR

CORRECTION

2.71 LIMESTONE MATRIX

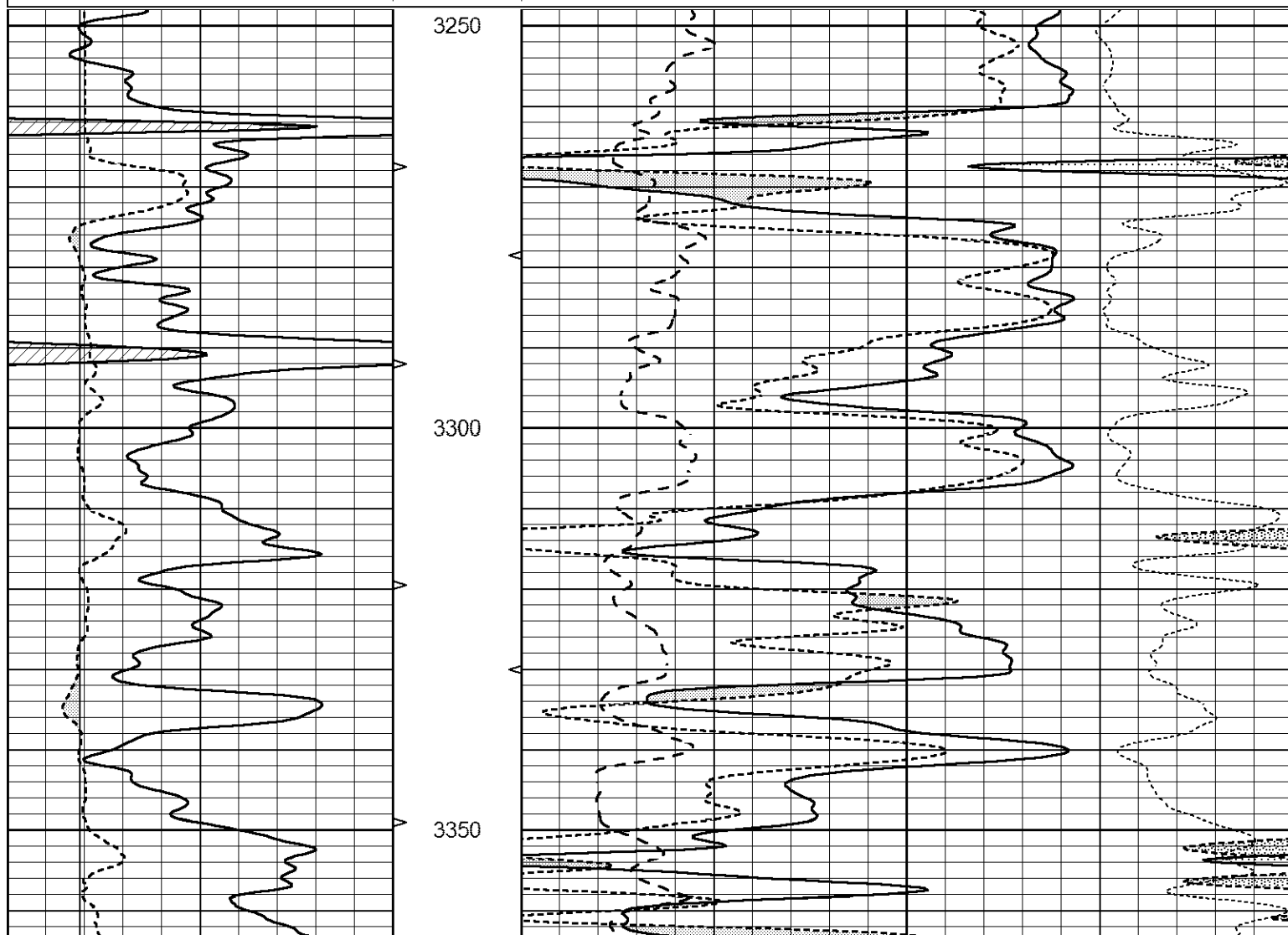
			LTD 3448 3450			2.77 LIMESTONE MATRIX		
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)			-10
			TBHV	0	PE	10	-0.25	CORRECTION (g/cc) 0.25
			0 (ft3) 10					

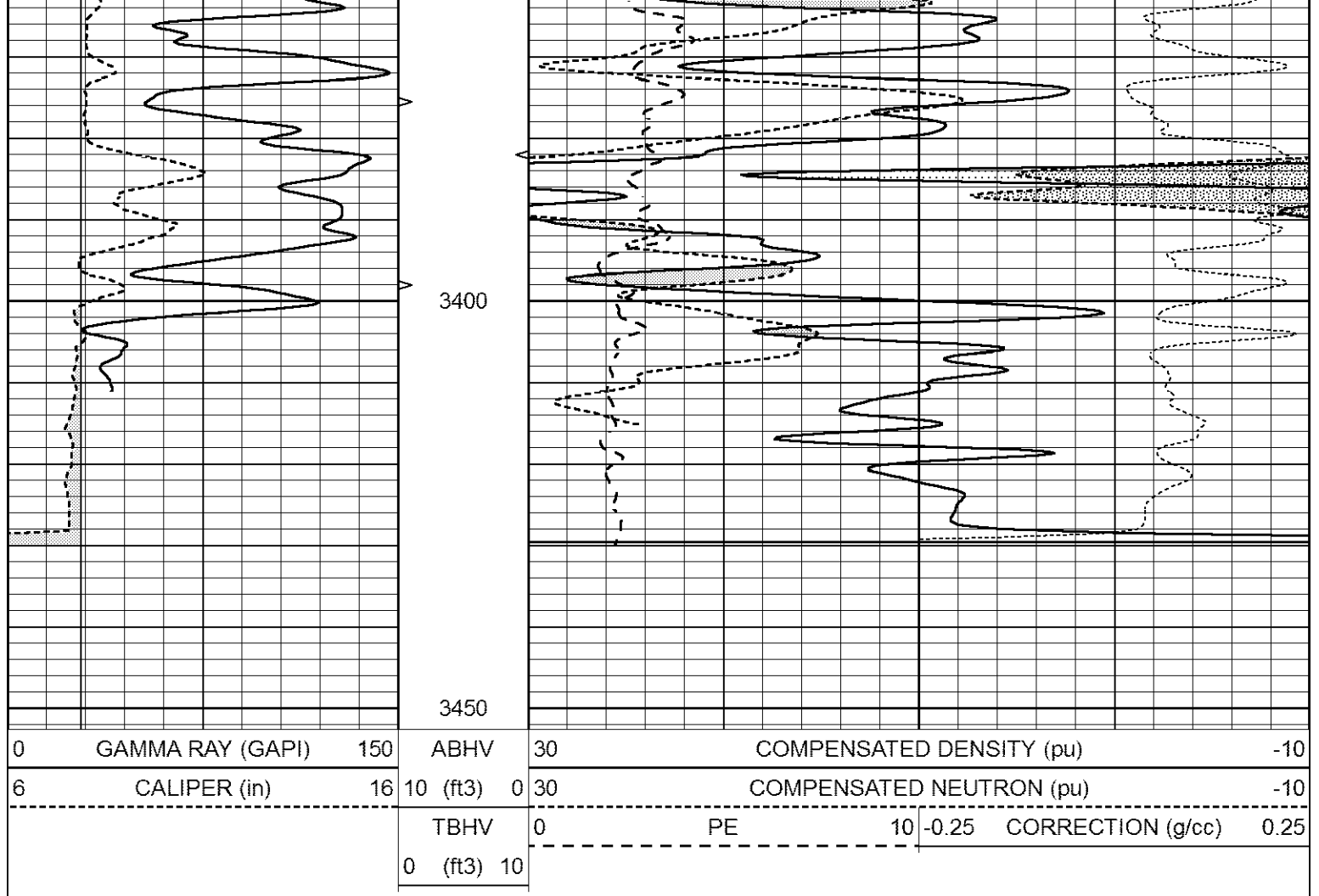


REPEAT SECTION

Database File 2518pe8.db
 Dataset Pathname pass2.2
 Presentation Format _ldt_neu
 Dataset Creation Sat Aug 11 04:32:19 2018
 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
			TBHV	0	PE	10	-0.25	CORRECTION (g/cc) 0.25
			0 (ft3) 10					





Calibration Report

Database File 2518pe8.db
Dataset Pathname pass2.2
Dataset Creation Sat Aug 11 04:32:19 2018

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
Surface Cal Performed: Mon May 22 14:23:32 2017
Downhole Cal Performed: Thu Mar 12 09:29:20 2015
After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099

LL3	7.503	V	1500.000	Ohm-m				
	0.001	V	20.000	Ohm-m				
	-7.481	V	3745.000	mmho-m				
After Survey Verification								
	Readings			Targets		Results		
	Zero	Cal		Zero	Cal	m'	b'	
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

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Compensated Neutron Calibration Report

Serial Number:	080621PMC
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:	7	
Tool Model:	Probe1	
Performed:	Wed Jun 29 11:10:58 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4300	GAPI/cps