



COMPENSATED
DENSITY/NEUTRON
PE LOG

Company NORSTAR PETROLEUM, INC.		Company NORSTAR PETROLEUM, INC.	
Well HINEMAN UNIT #1-16		Well HINEMAN UNIT #1-16	
Field		Field	
County LANE		County LANE	
State KANSAS		State KANSAS	
Location:		API # : 15-101-22586-00-00	
1222' FSL & 1086' FEL		Other Services DIL/MEL SONIC	
SEC 16 TWP 19S RGE 27W		Elevation	
Permanent Datum GROUND LEVEL Elevation 2702		K.B. 2709	
Log Measured From KELLY BUSHING 7' A.G.L		D.F. 2707	
Drilling Measured From KELLY BUSHING		G.L. 2702	
Date	2/23/17		
Run Number	ONE		
Depth Driller	4718		
Depth Logger	4722		
Bottom Logged Interval	4698		
Top Log Interval	3800		
Casing Driller	8 5/8" @ 290		
Casing Logger	290		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3000 PPM	
Density / Viscosity	9.4/59		
pH / Fluid Loss	10.5/7.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.60 @ 79F		
Rmt @ Meas. Temp	1.20 @ 79F		
Rmc @ Meas. Temp	1.92 @ 79F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	1.03 @ 122F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	122F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	WES HANSEN		

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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

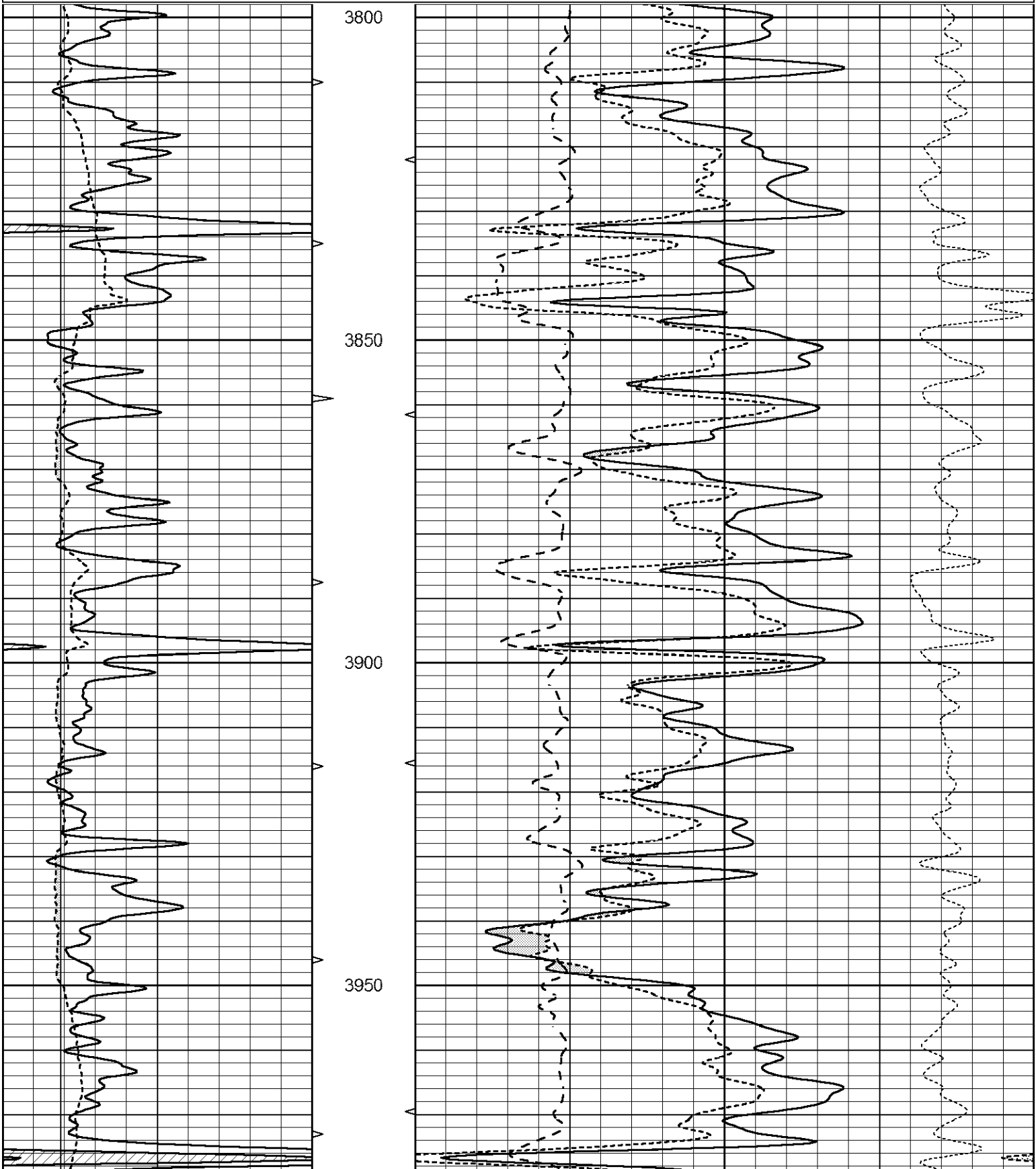
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
ALAMOTA, KS. - 6 SOUTH ON TURKEY RED RD. TO 90 RD. - 1/4 WEST - NORTH INTO

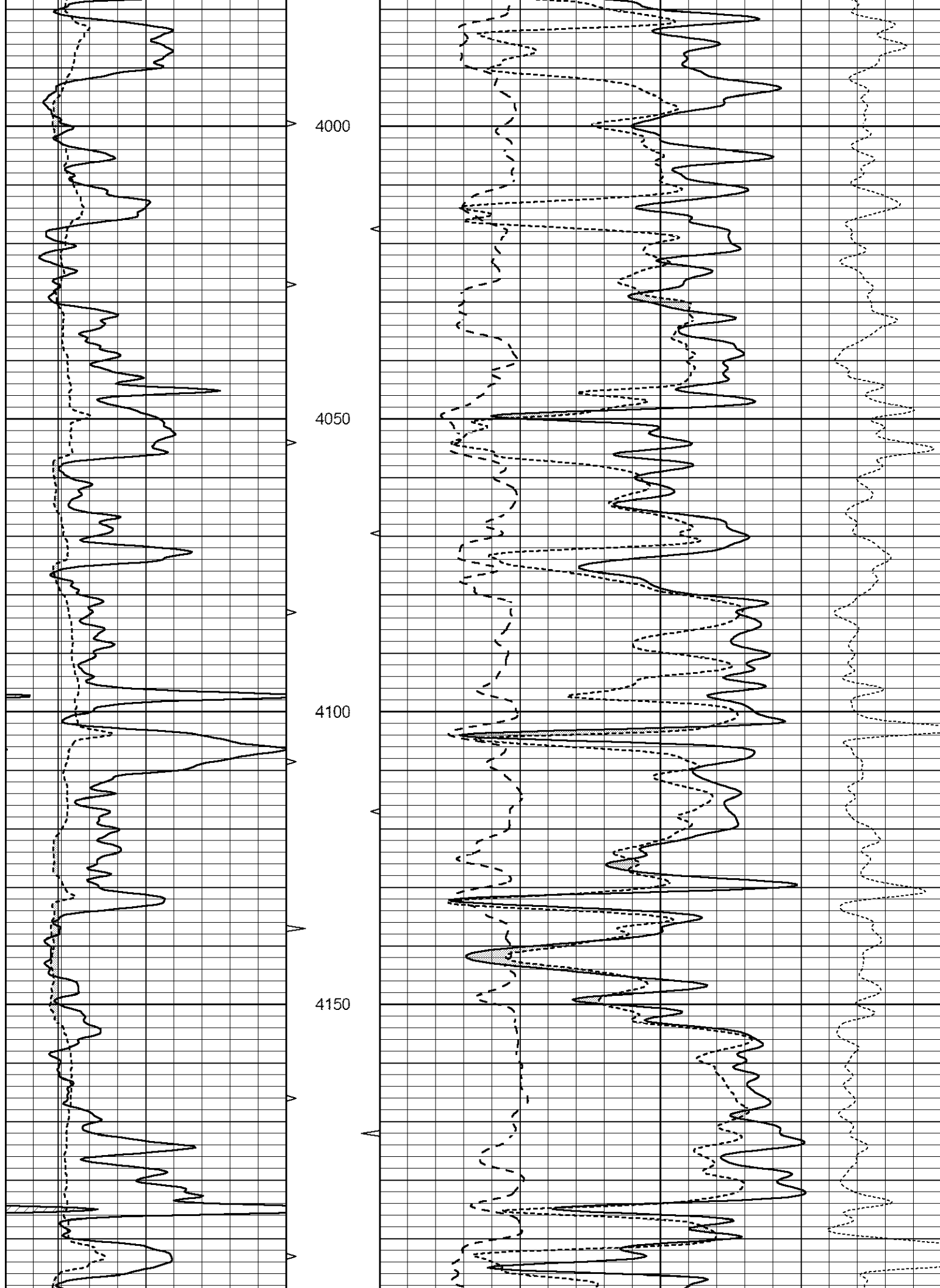


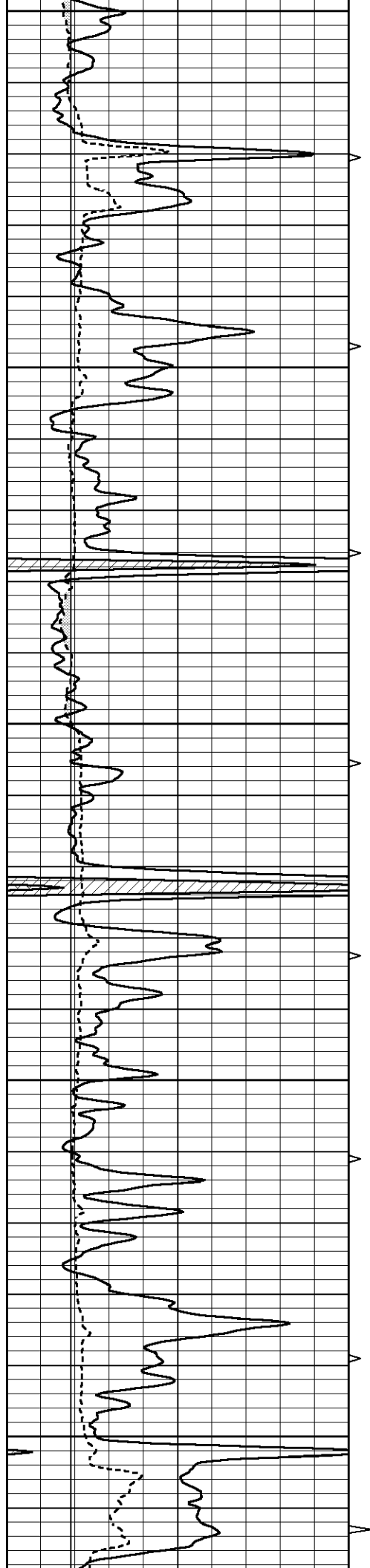
MAIN SECTION

Database File	1121ddn8.db
Dataset Pathname	pass4.1
Presentation Format	_ldt_neu
Dataset Creation	Thu Feb 23 10:22:50 2017
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
			TBHV	0	PE	10 -0.25
			0 (ft3)	10	CORRECTION (g/cc)	0.25







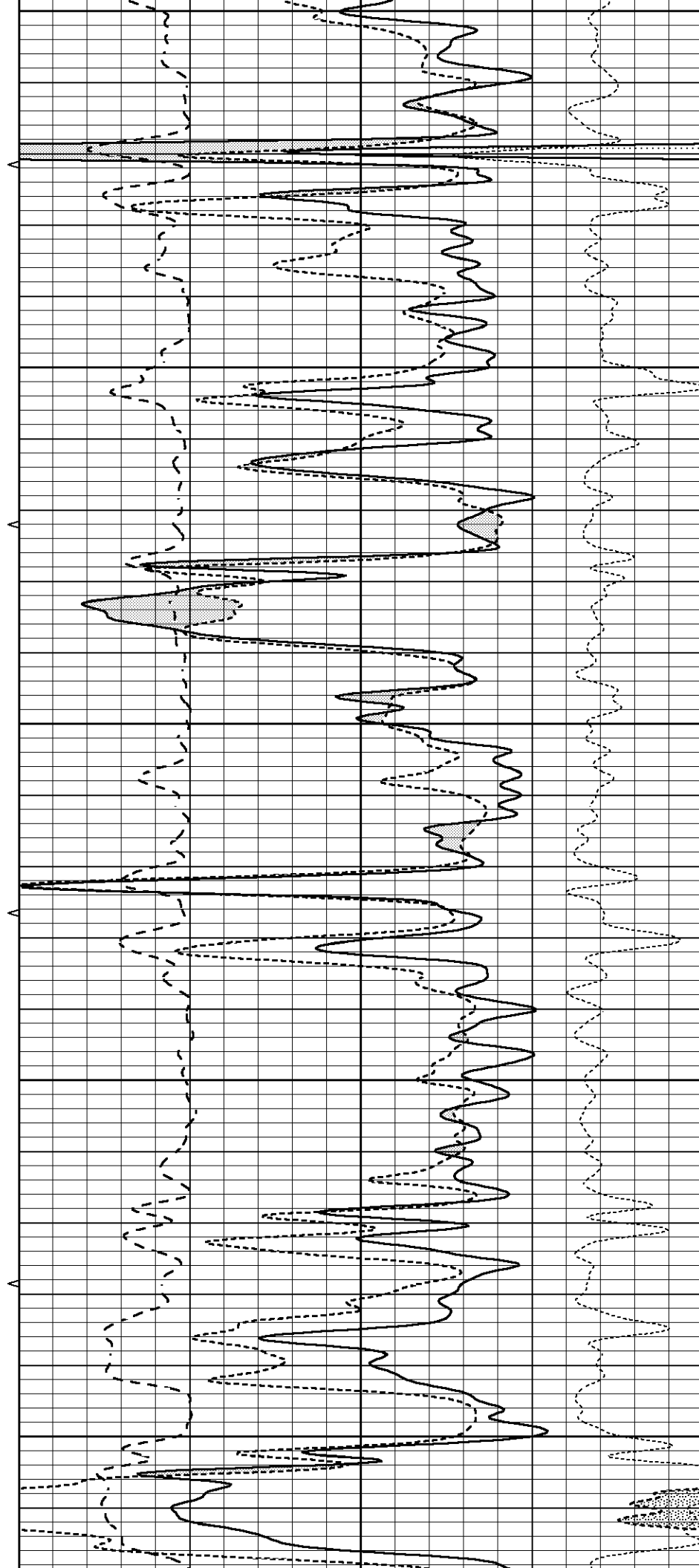
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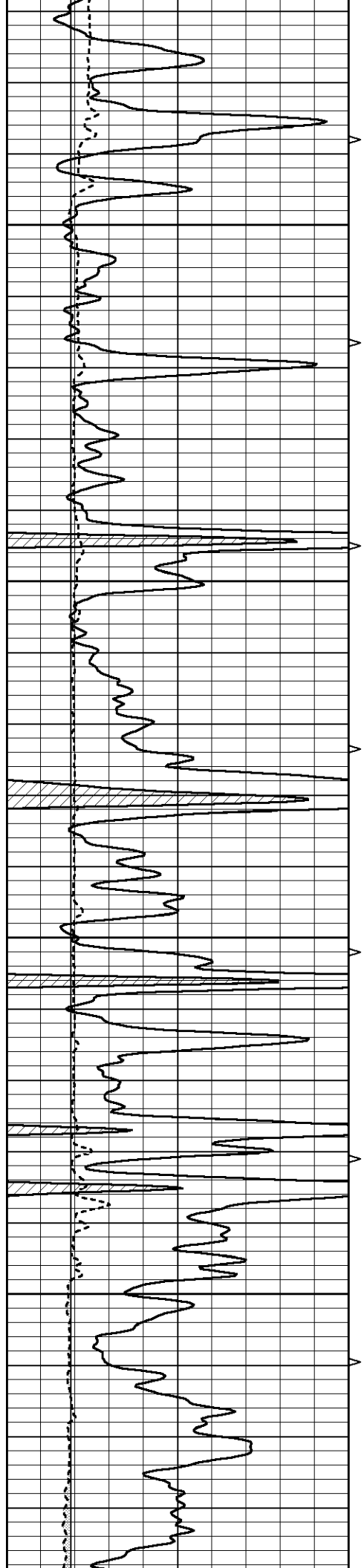
4250

4300

4350

4400



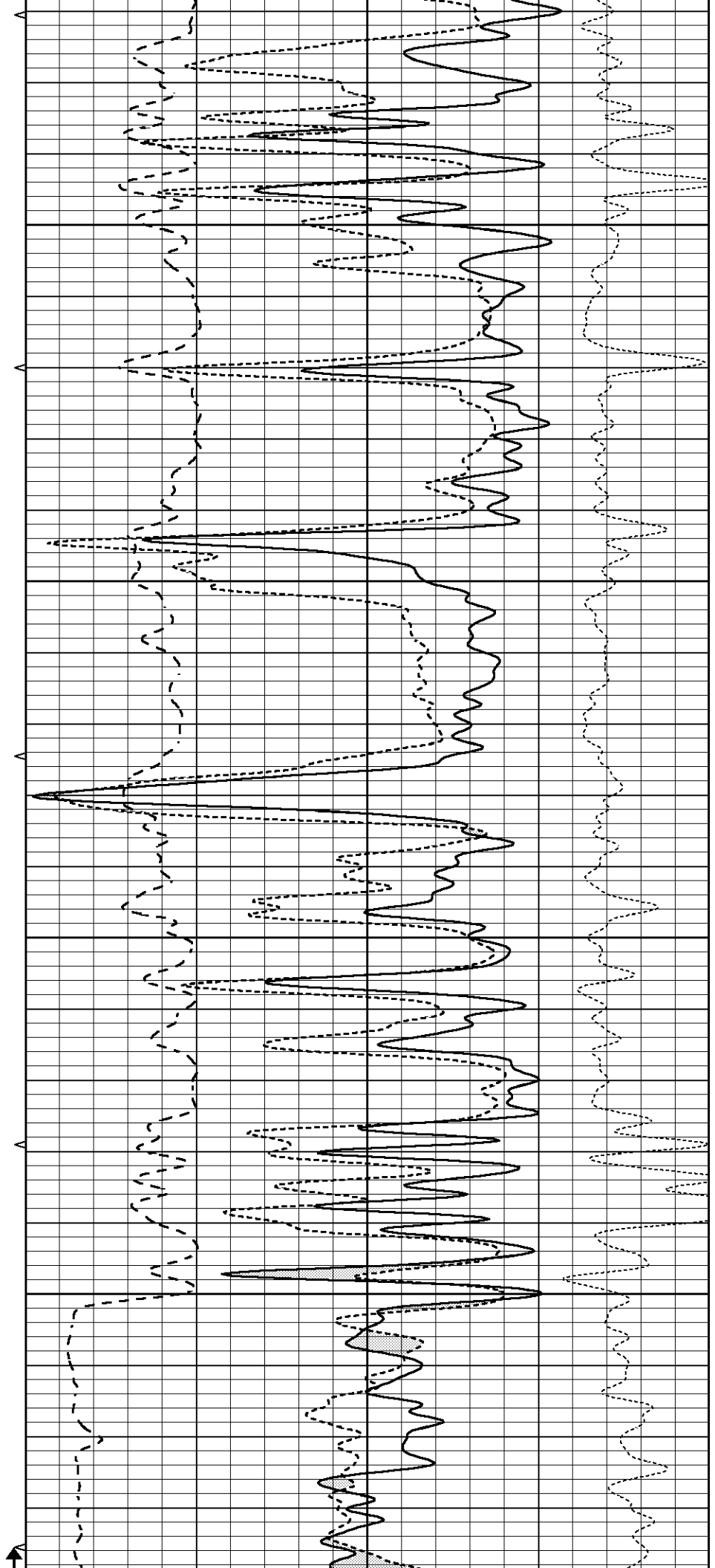


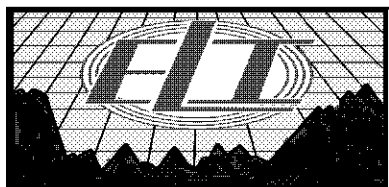
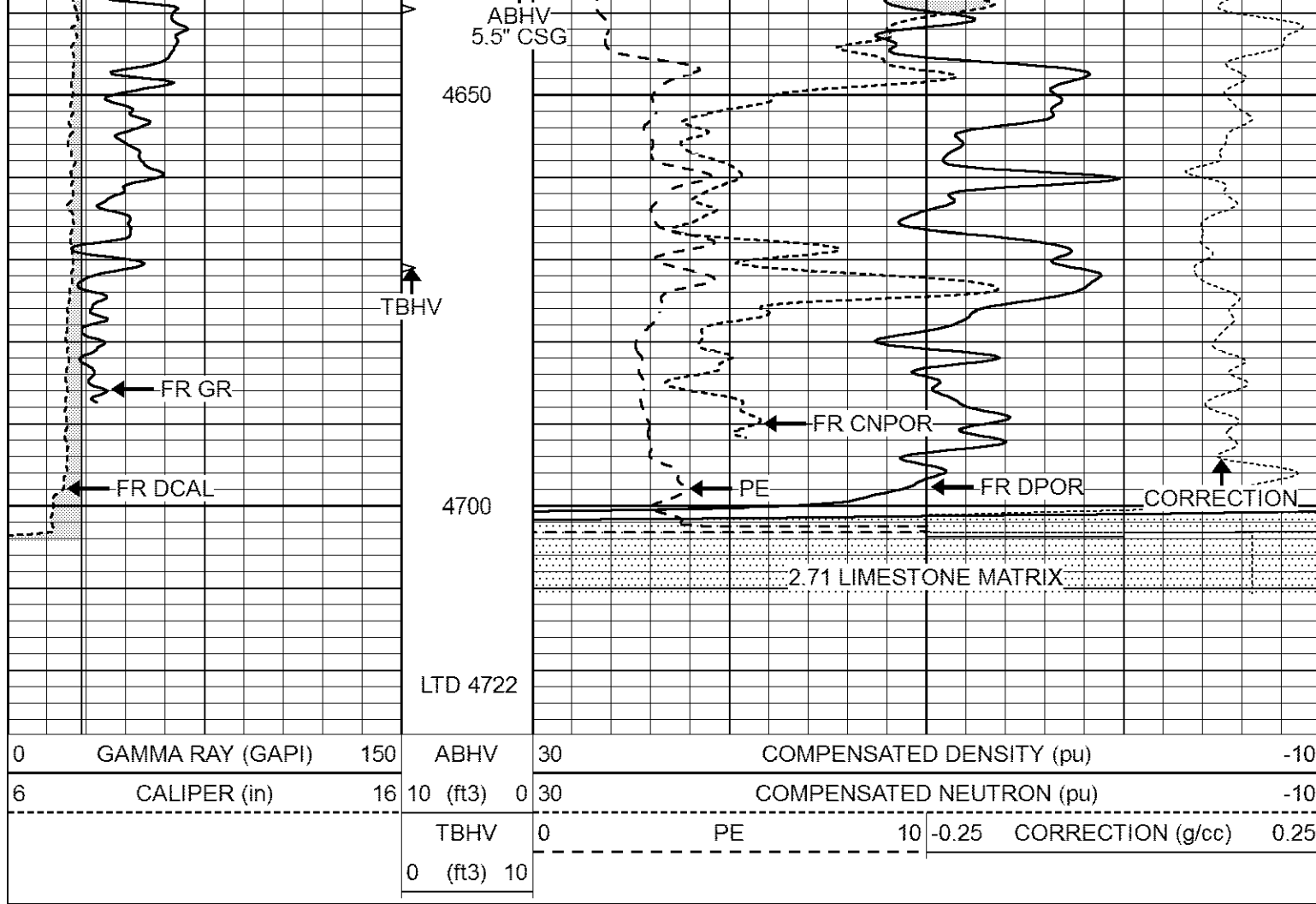
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4500

4550

4600

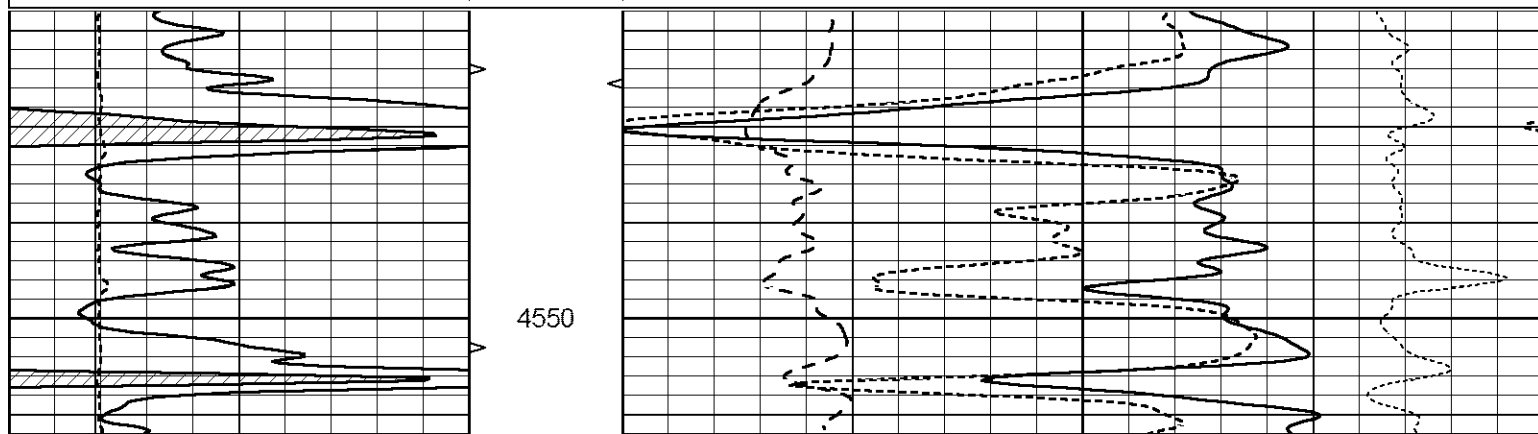


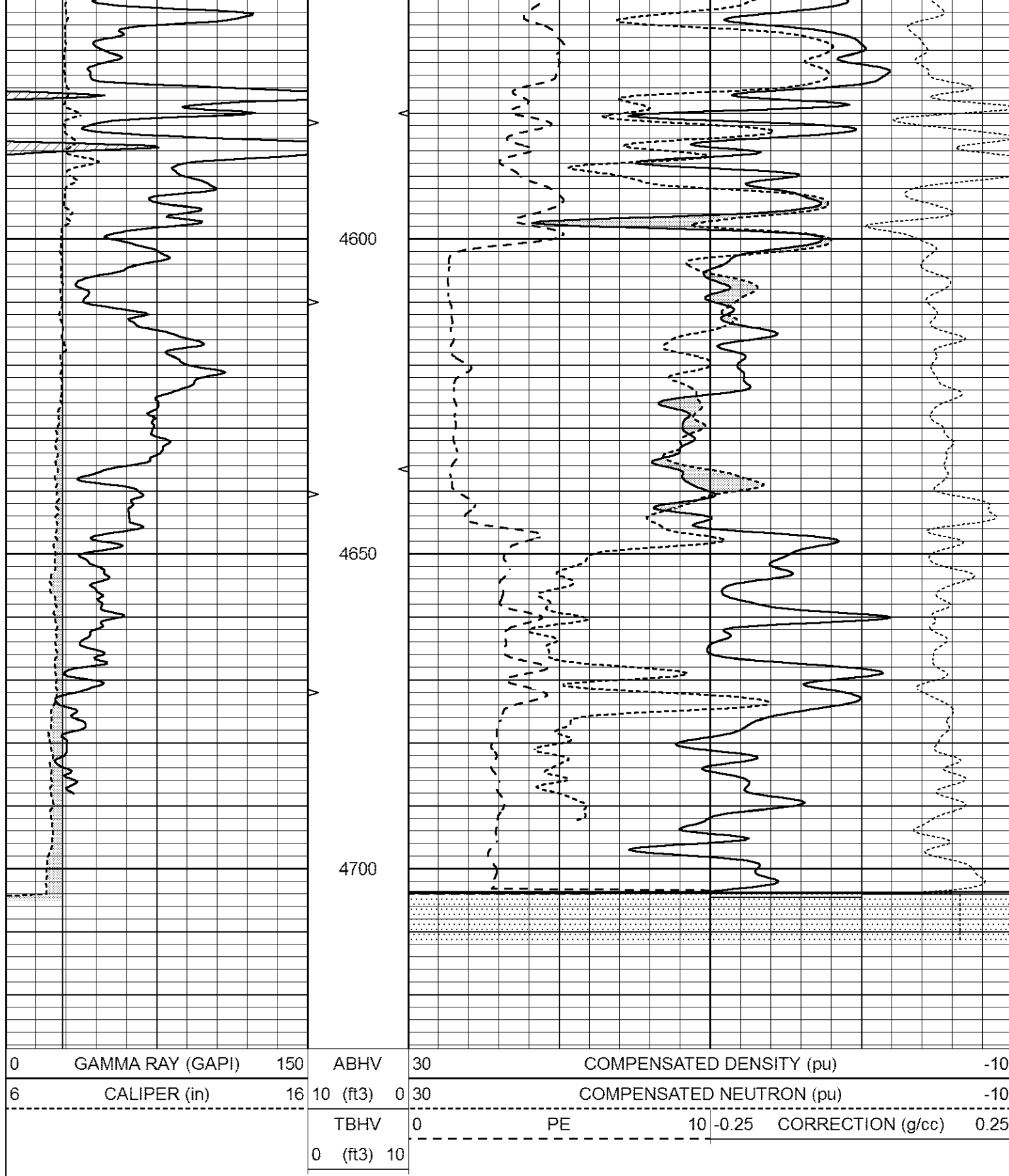


REPEAT SECTION

Database File 1121ddn8.db
 Dataset Pathname pass3.1
 Presentation Format _ldt_neu
 Dataset Creation Thu Feb 23 10:32:02 2017
 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 1121ddn8.db
 Dataset Pathname pass3.1
 Dataset Creation Thu Feb 23 10:32:02 2017

Dual Induction Calibration Report

Serial-Model:

FW1410-55-Probe

Surface Cal Performed:
Downhole Cal Performed:
After Survey Verification Performed:

Thu Mar 12 09:27:11 2015
Thu Mar 12 09:29:20 2015
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		

Litho Density Calibration Report

Serial: 140704

Model: V4_10P

Source Number: 74GBq-19

Master Calibration

Performed: Wed Feb 11 18:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	613.01	6027.40	27508.60	cps
Window 2	48.21	1424.77	7132.66	cps
Window 4	266.48	1373.19	5767.15	cps
Window 5	622.07	10090.30	18937.90	cps
Window 6	49.07	1682.84	3271.18	cps
Window 8	298.04	3248.38	5980.58	cps
Bulk Density	-	2.6020	1.6830	g/cc
Pe	-	3.0000	2.5070	b/e
LS Alpha:	: -1.8451	SS Alpha:	: -0.7542	LS CPE:
LS Beta:	: 138648.8473	SS Beta:	: 21960.9250	SS CPE:

Before Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps

Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

After Survey Background Counts Verification

Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

Lithodensity Caliper Calibration

Performed: Wed Feb 11 18:53:41 2015

Results	Readings	References (in)			
Low	High	Low	High	Gain	Offset
5123.0	9461.6	8.5	14.0	0.0	1.4

Before Survey Caliper Verification

Performed:

Reference	Reading
_____	_____
Caliper (in)	

After Survey Caliper Verification

Performed:

Reference	Reading
_____	_____
Caliper (in)	

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:070558

Tool Model:Probe1

Performed:Wed Jun 29 08:29:10 2016

Calibrator Value:1.0GAPI

Background Reading:0.0cps

Calibrator Reading:1.0cps

Sensitivity:

0.3000

GAPI/cps