



**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company DEUTSCH OIL COMPANY
Well JORNS #2-4
Field BAUMAN
County PRATT
State KANSAS

Company DEUTSCH OIL COMPANY
Well JORNS #2-4
Field BAUMAN
County PRATT State KANSAS

Location: API #: 15-151-22459-00-00
1650' FSL & 2310' FEL
SEC 4 TWP 26S RGE 11W
Permanent Datum GROUND LEVEL Elevation 1851
Log Measured From KELLY BUSHING 7' A.G.L
Drilling Measured From KELLY BUSHING
Elevation
K.B. 1858
D.F. 1856
G.L. 1851

Date	3/22/17		
Run Number	ONE		
Depth Driller	4160		
Depth Logger	4165		
Bottom Logged Interval	4141		
Top Log Interval	3200		
Casing Driller	8 5/8" @ 304		
Casing Logger	304		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.2/62		
pH / Fluid Loss	12.5/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50 @ 82F		
Rmt @ Meas. Temp	.37 @ 82F		
Rmc @ Meas. Temp	.60 @ 82F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.35 @ 117F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	12:00 P.M.		
Maximum Recorded Temperature	117F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	AARON YOUNG		

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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

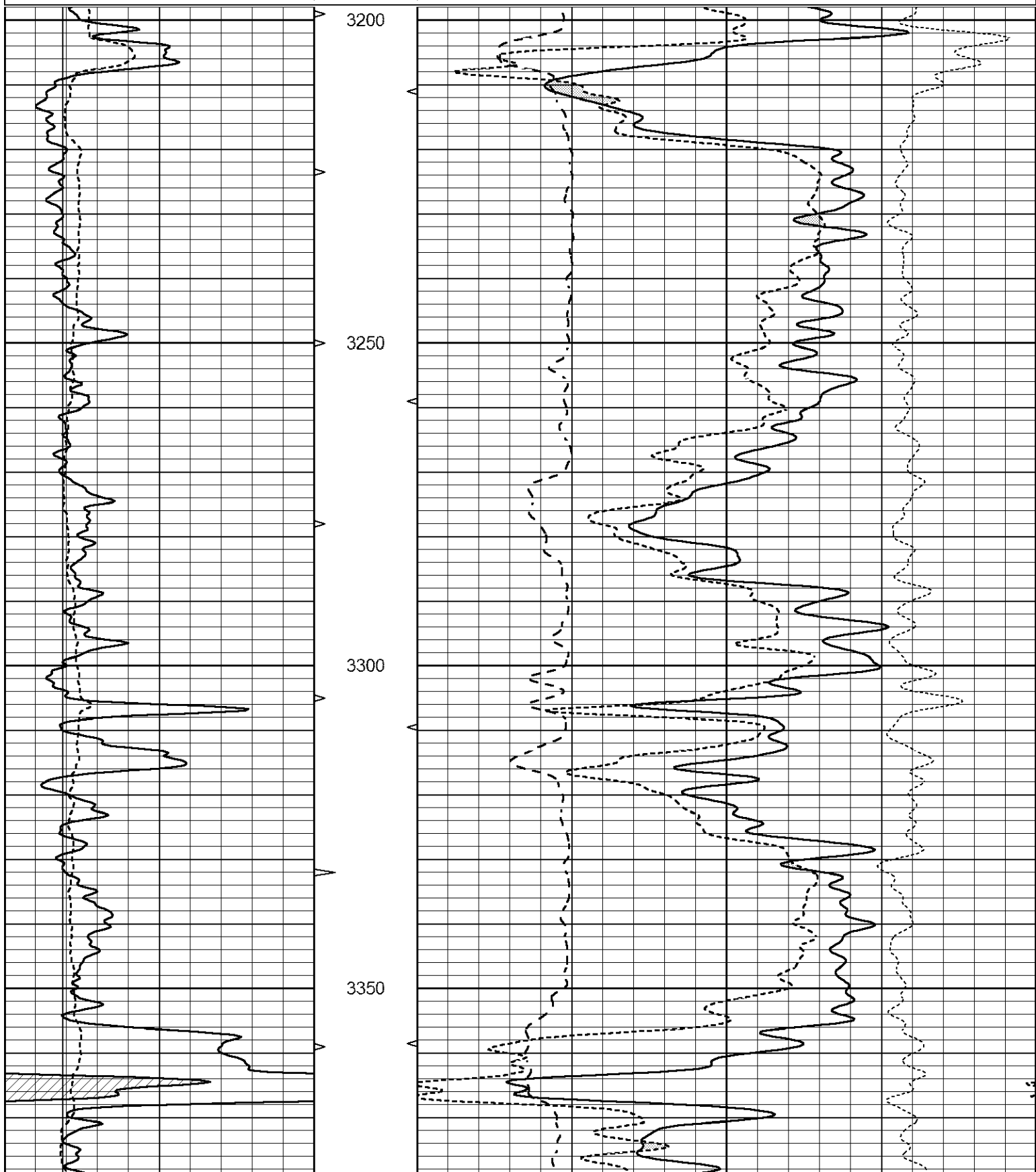
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
TURON, KS. - 4 WEST ON 110TH RD. TO 120TH RD. - 1/2 NORTH - WEST INTO

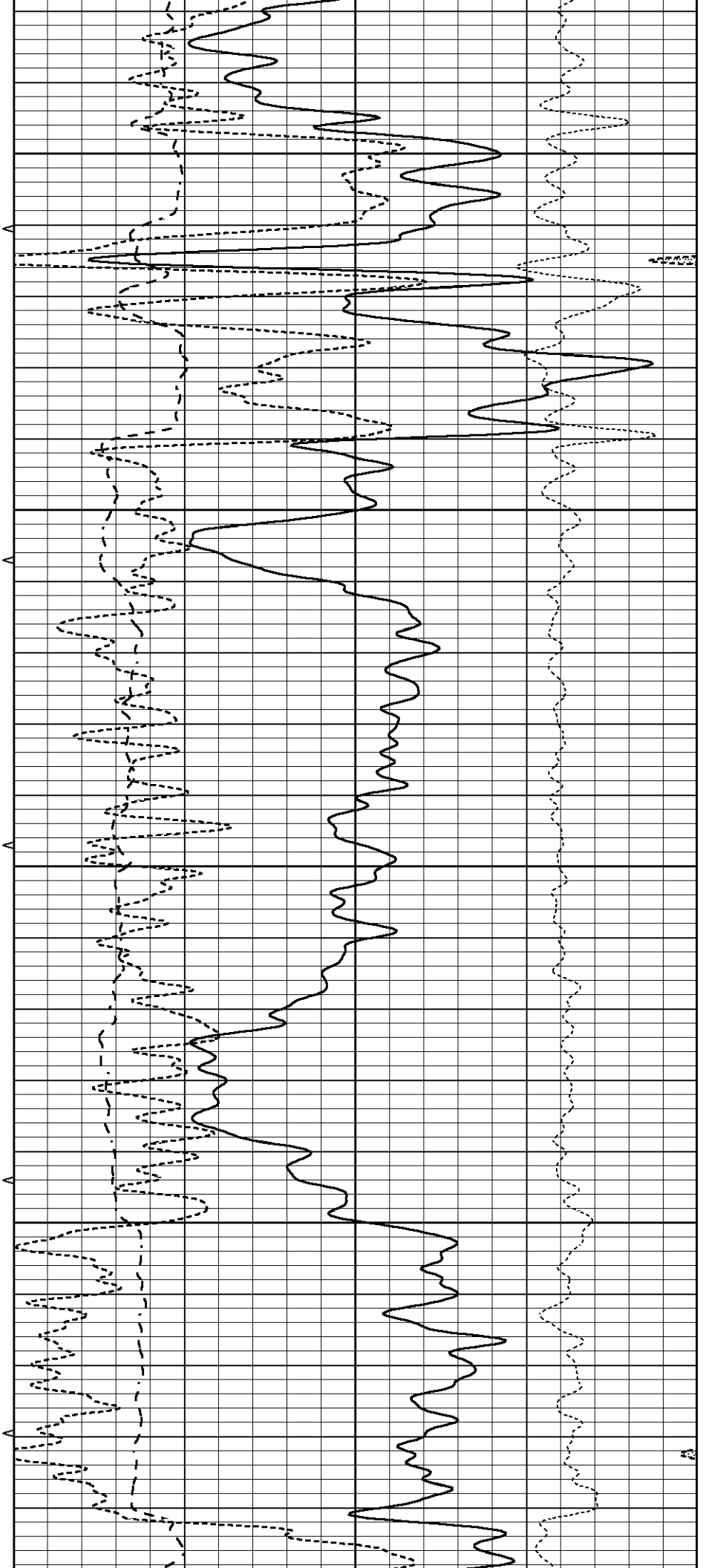
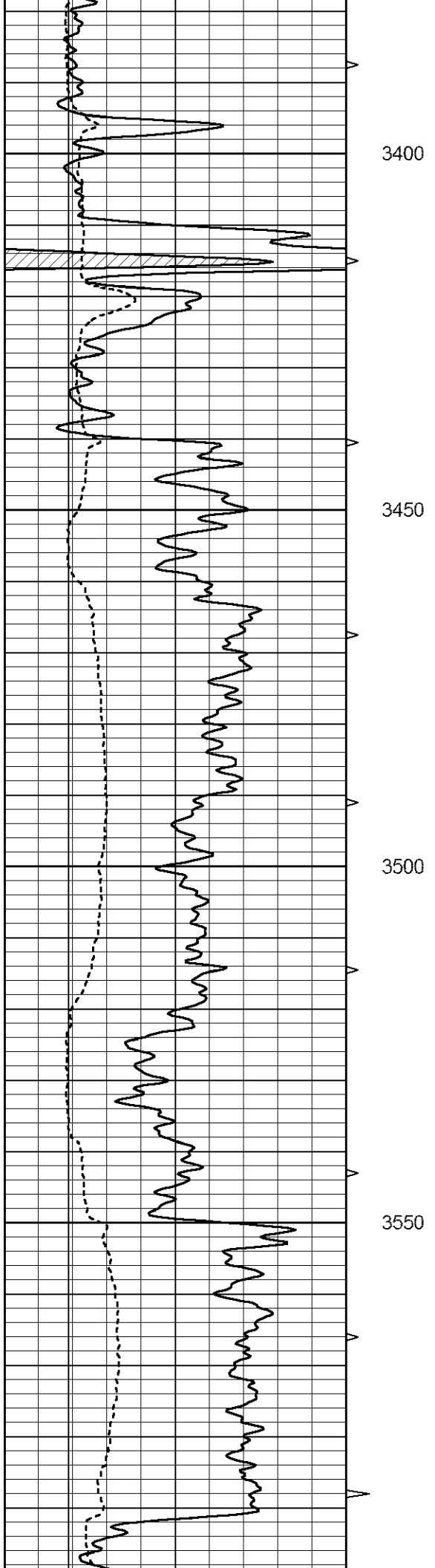


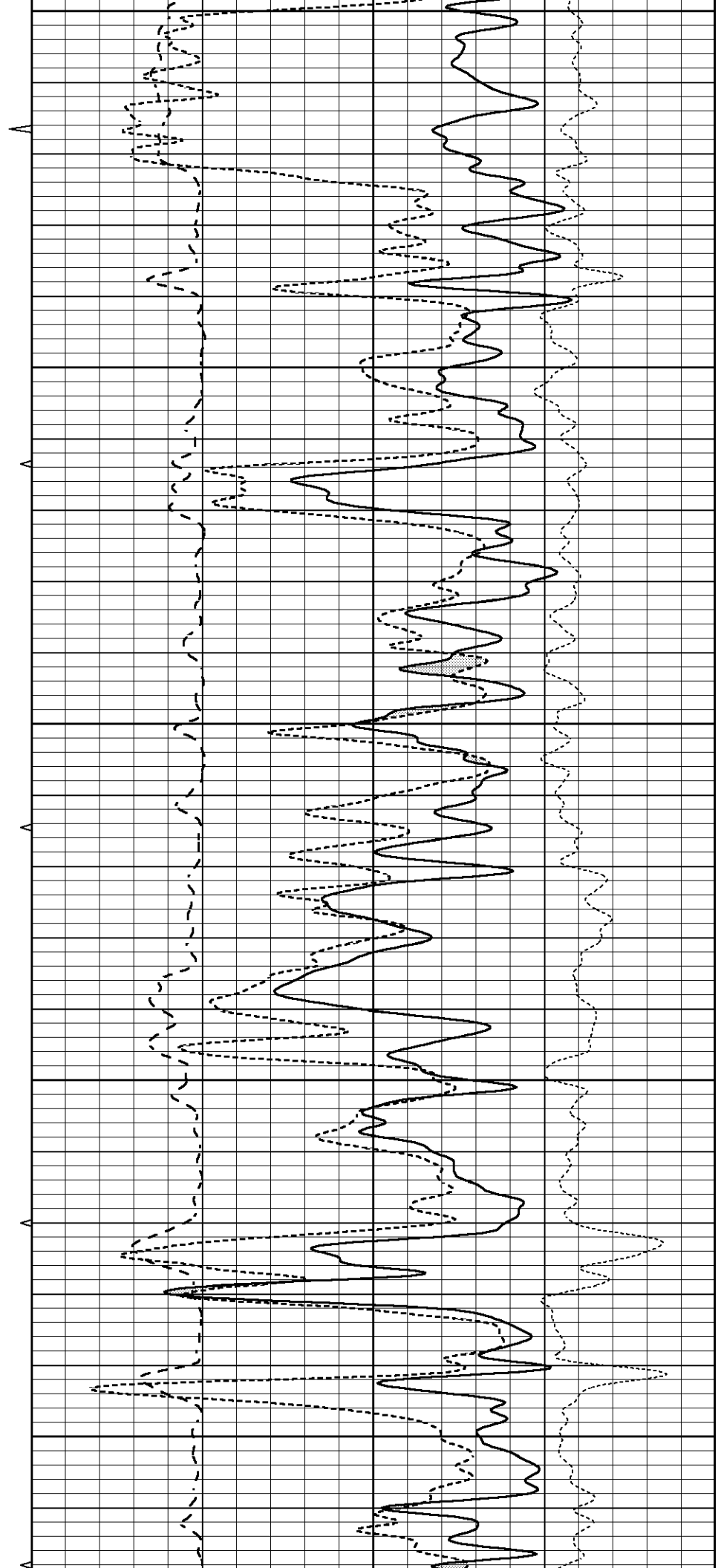
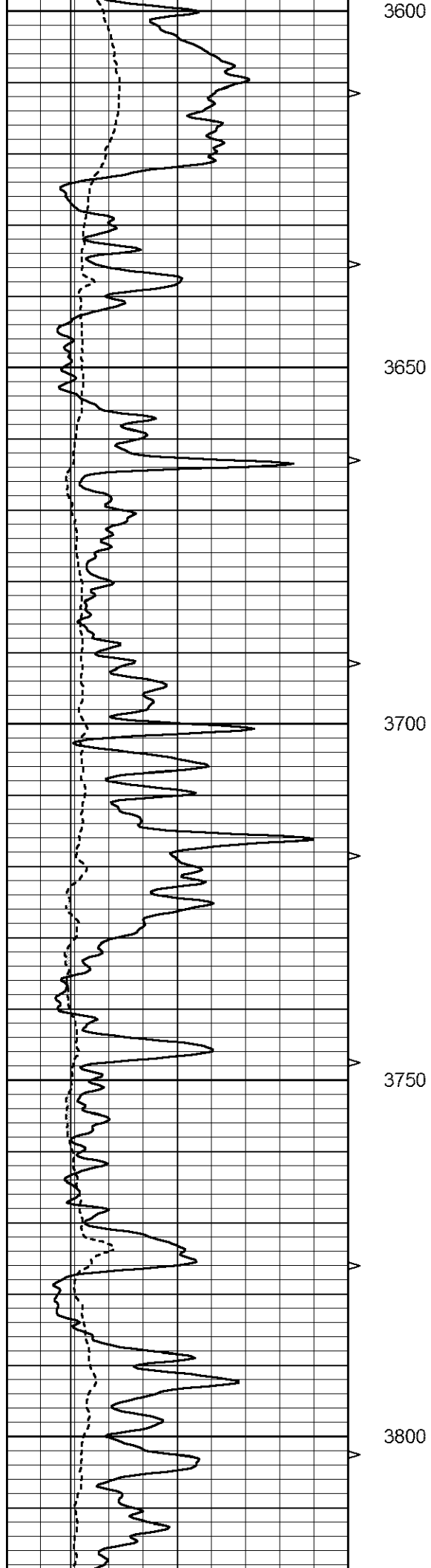
MAIN SECTION

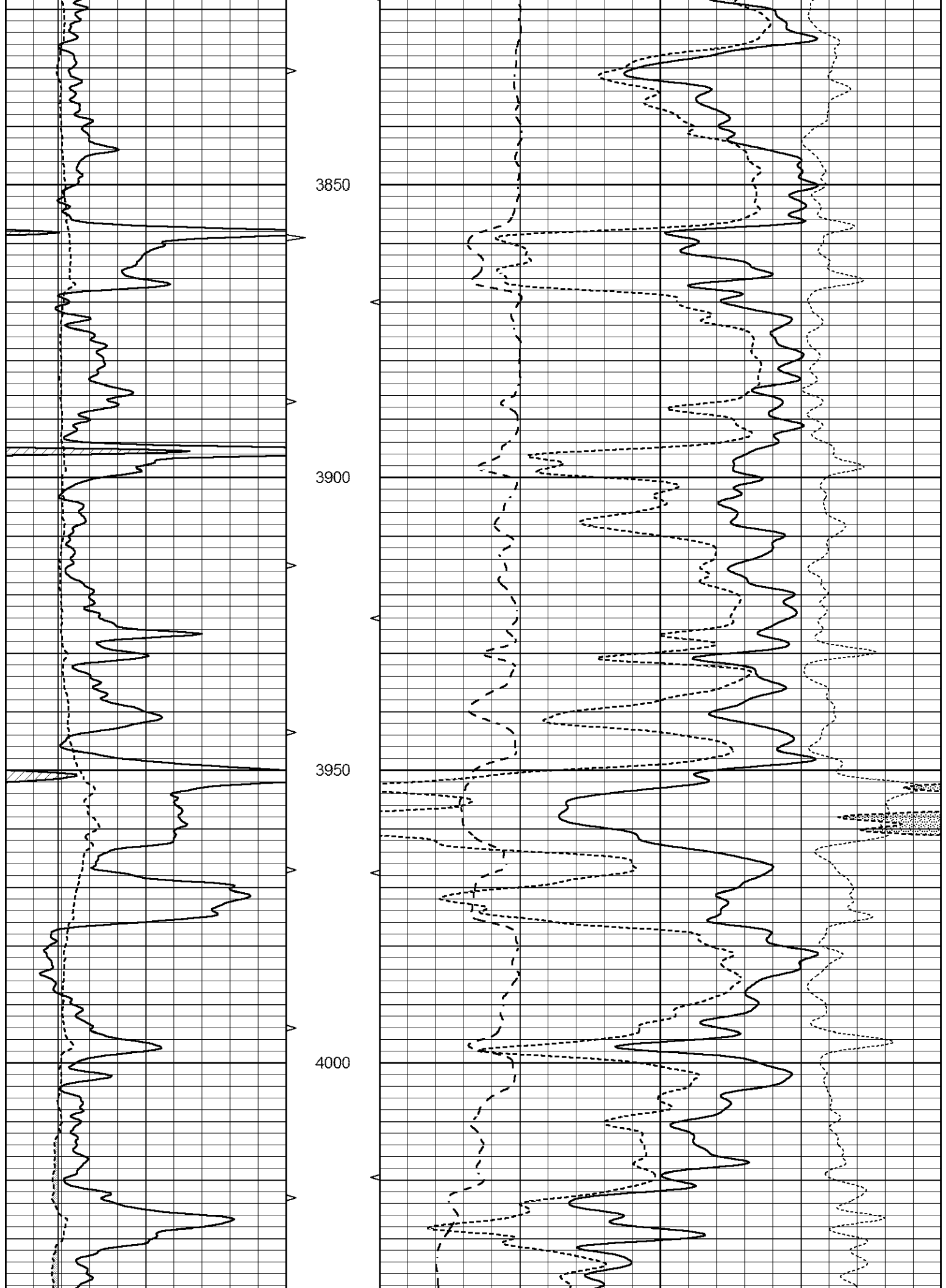
Database File 1125pe8.db
 Dataset Pathname pass4.1
 Presentation Format _ldt_neu
 Dataset Creation Wed Mar 22 12:44:07 2017
 Charted by Depth in Feet scaled 1:240

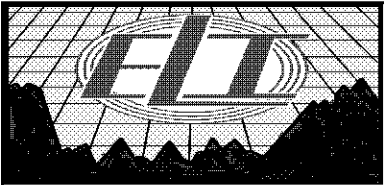
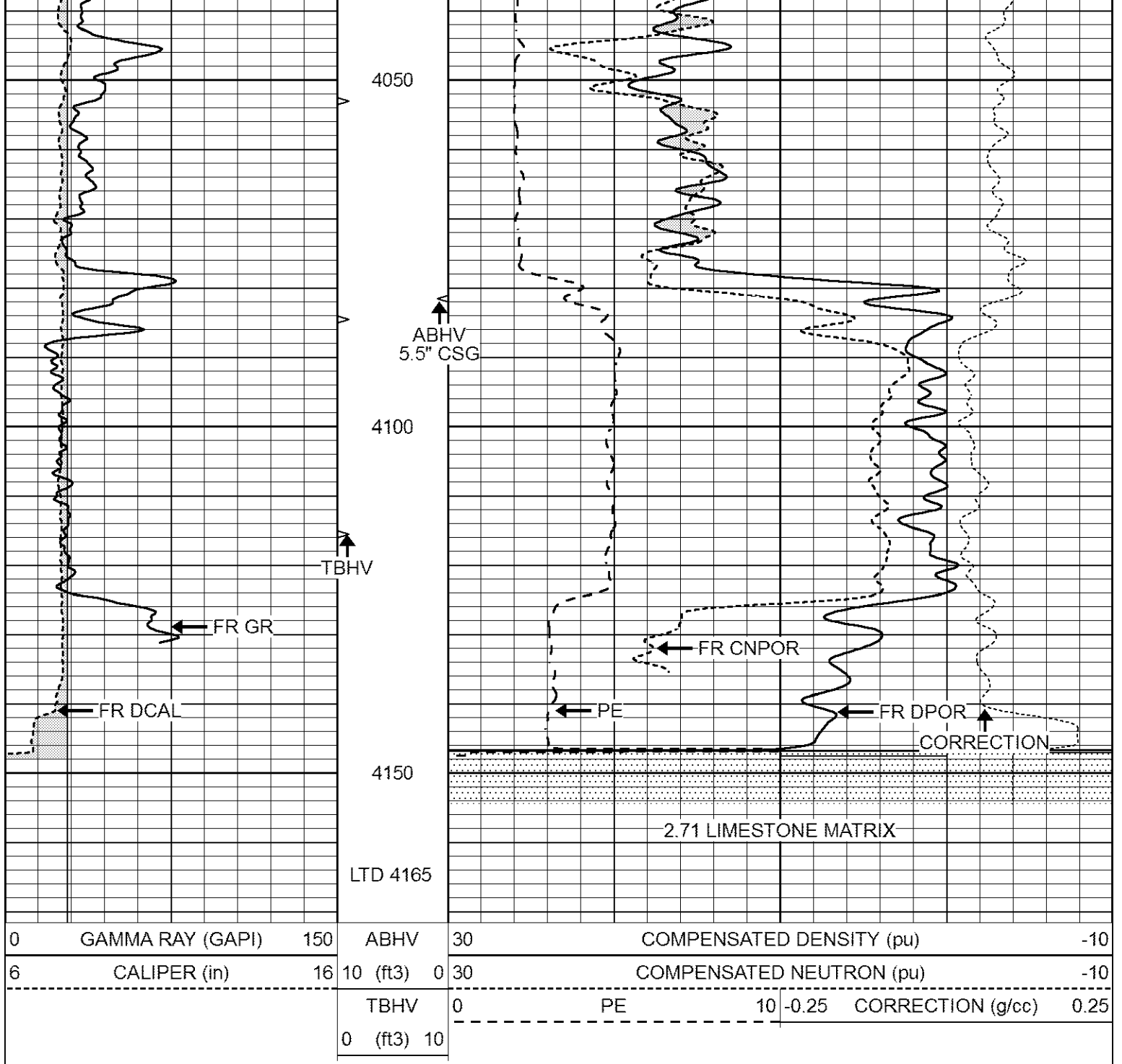
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
			TBHV	0	PE	10 -0.25
			0 (ft3)	10	CORRECTION (g/cc)	0.25







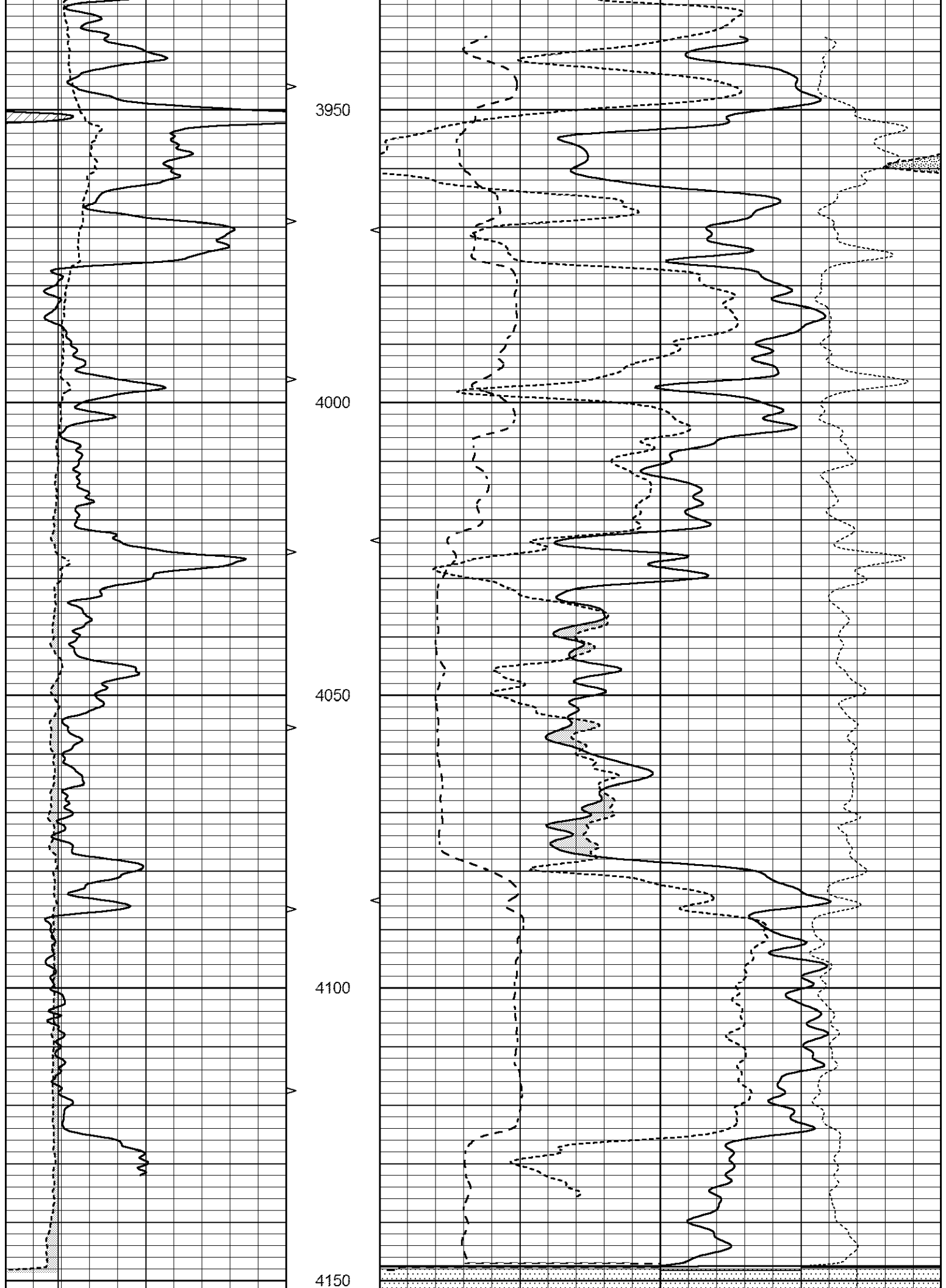




REPEAT SECTION

Database File 1125pe8.db
 Dataset Pathname pass3.1
 Presentation Format _ldt_neu
 Dataset Creation Wed Mar 22 12:31:18 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					



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 1125pe8.db
 Dataset Pathname pass3.1
 Dataset Creation Wed Mar 22 12:31:18 2017

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
 Surface Cal Performed: Thu Mar 12 09:27:11 2015
 Downhole Cal Performed: Thu Mar 12 09:29:20 2015
 After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Loop:	Readings			References			Results	
	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

	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:	: 1.0882
LS Beta:	: 138648.8473	SS Beta:	: 21960.9250	SS CPE:	: 1.5181

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)		Gain	Offset
Low	High	Low	High	Low	High		
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:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3000	GAPI/cps	