



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company	TENGASCO, INC.	Company	TENGASCO, INC.
Well	ZERGER "A" #1	Well	ZERGER "A" #1
Field	WEBSTER	Field	WEBSTER
County	ROOKS	County	ROOKS
State	KANSAS	State	KANSAS
Location:	API # : 15-163-24014-0000	Other Services	DIL/MEL
	1320' FSL & 495' FEL		
	W/2 - E/2 - E/2 - NE		
	SEC 21 TWP 8S RGE 19W		
Permanent Datum	GROUND LEVEL	Elevation	1992
Log Measured From	KELLY BUSHING 7' A.G.L.	K.B. 1999	
Drilling Measured From	KELLY BUSHING	D.F. 1997	
		G.L. 1992	
Date	4/7/12		
Run Number	ONE		
Depth Driller	3530		
Depth Logger	3532		
Bottom Logged Interval	3508		
Top Log Interval	2700		
Casing Driller	8 5/8"@262'		
Casing Logger	262		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3,000 PPM	
Density / Viscosity	9.1/56		
pH / Fluid Loss	10.0/7.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.50@70F		
Rmt @ Meas. Temp	1.13@70F		
Rmc @ Meas. Temp	1.80@70F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.938@112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	1:00 P.M.		
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	CLAYTON ERICKSON	KEITH KARLIN	

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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 SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
ZURICH, KS. 7 1/2N. ON BLKTOP, W. INTO

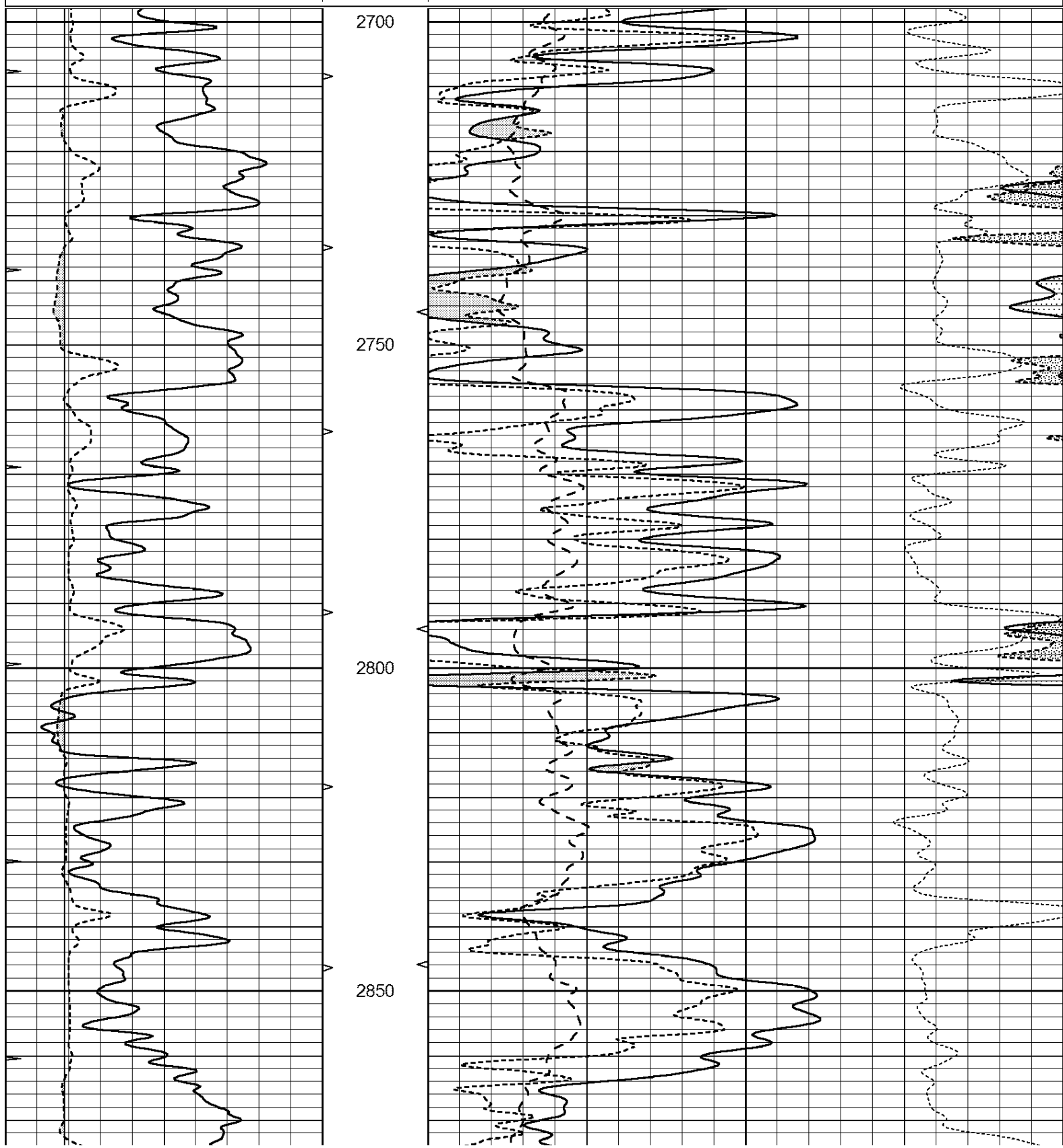


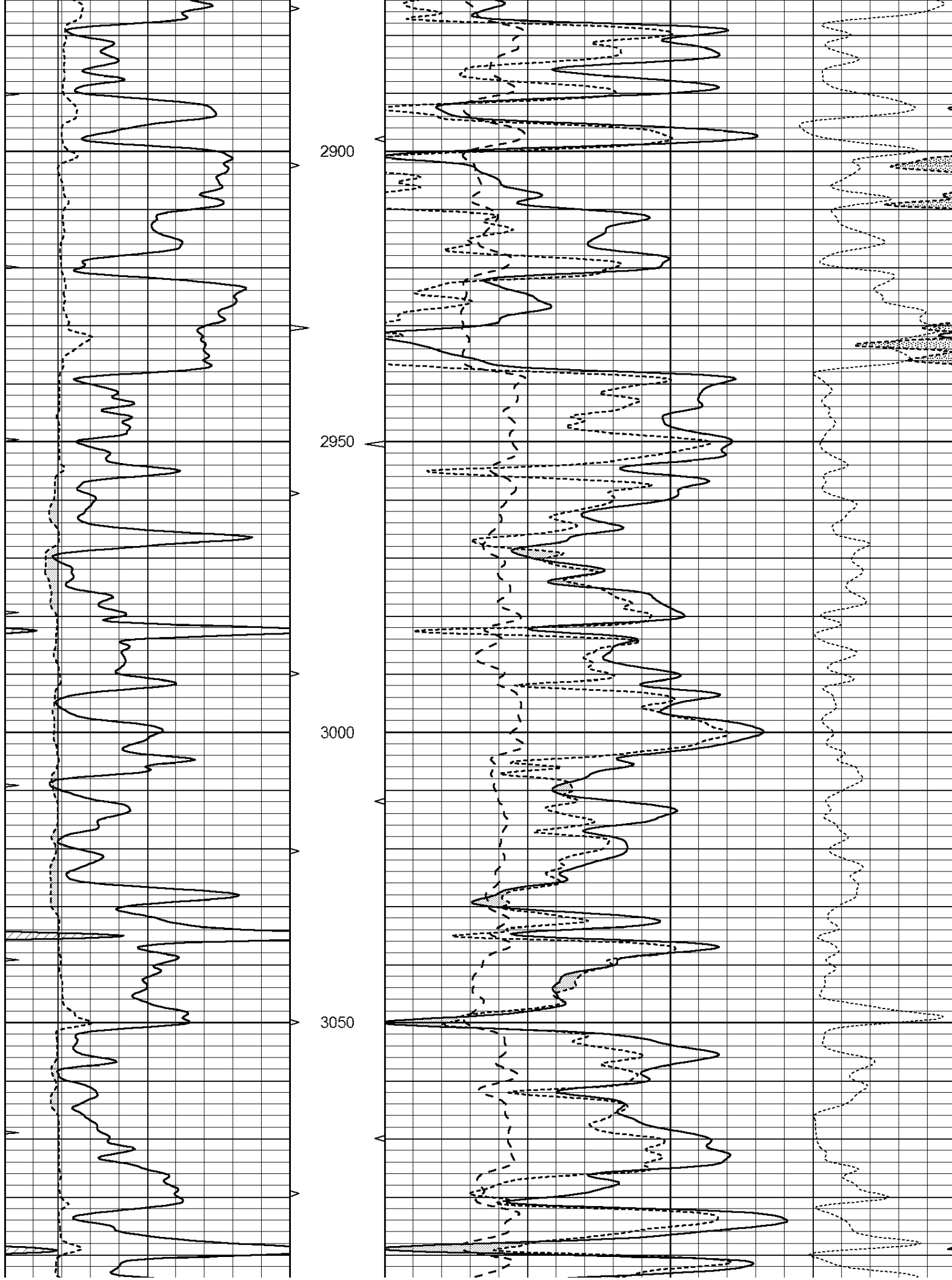
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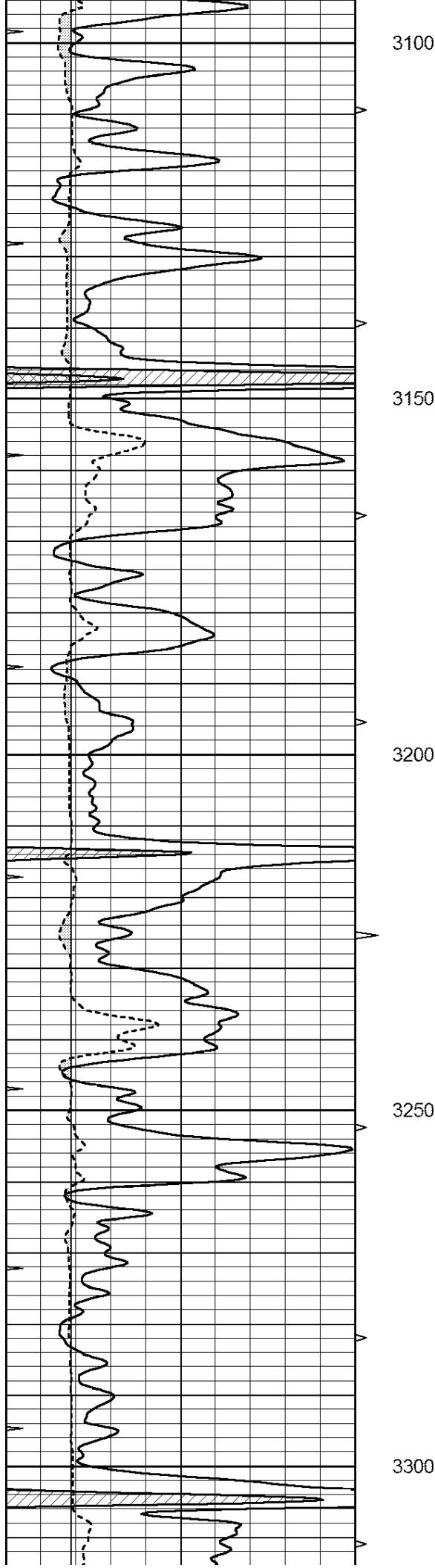
MAIN SECTION

Database File: 408621pe.db
 Dataset Pathname: pass3.5
 Presentation Format: ldt_neu
 Dataset Creation: Sat Apr 07 14:27:44 2012 by Calc Open-Cased 110302
 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		







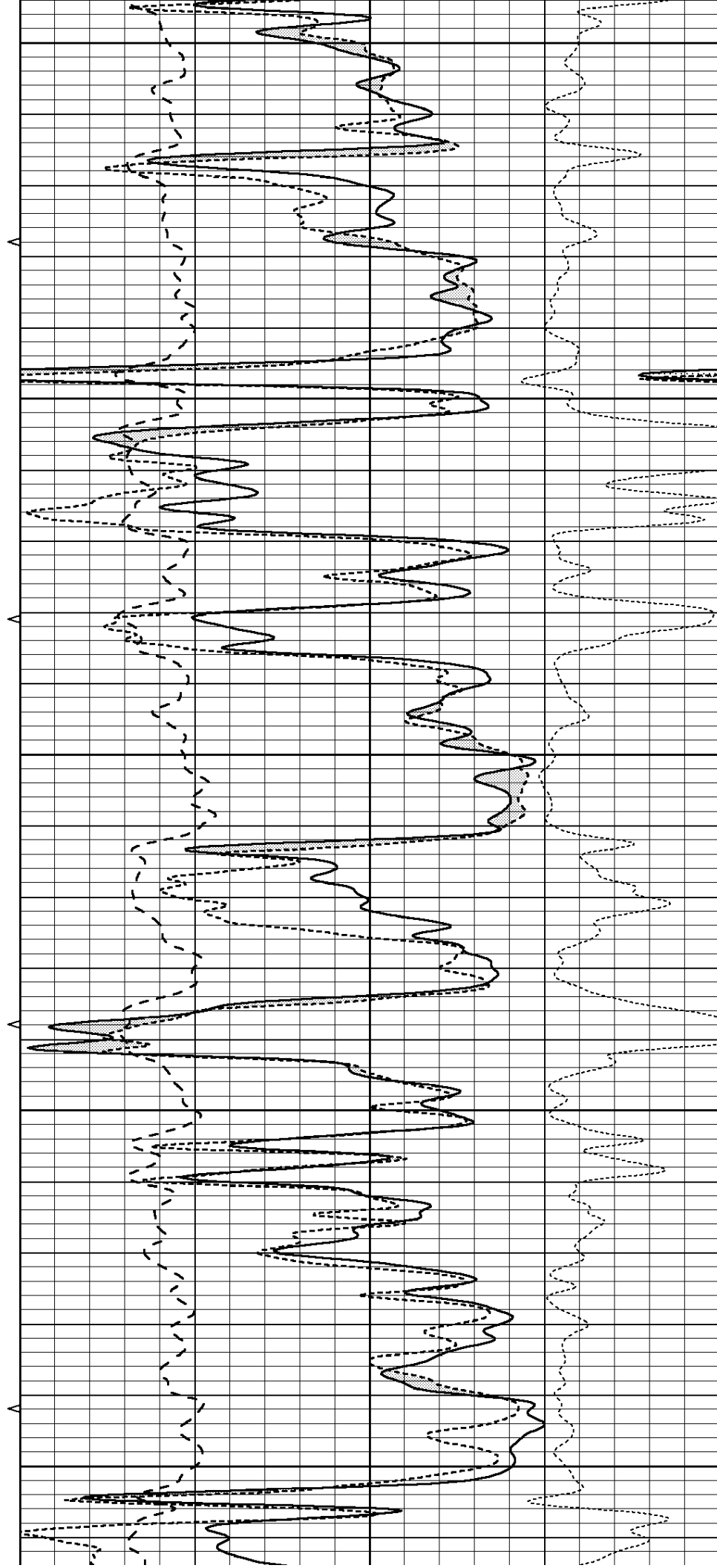
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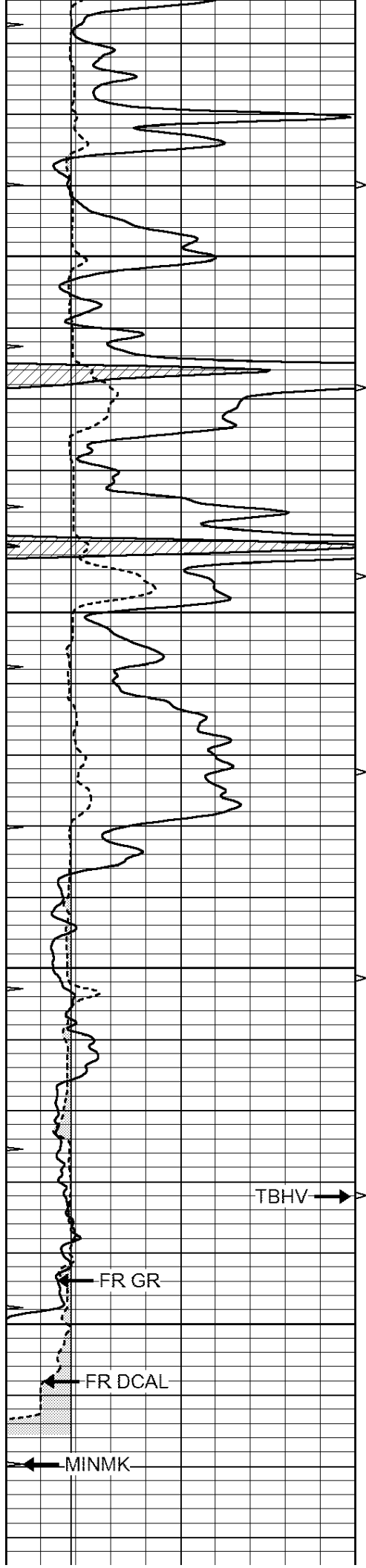
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3200

3250

3300



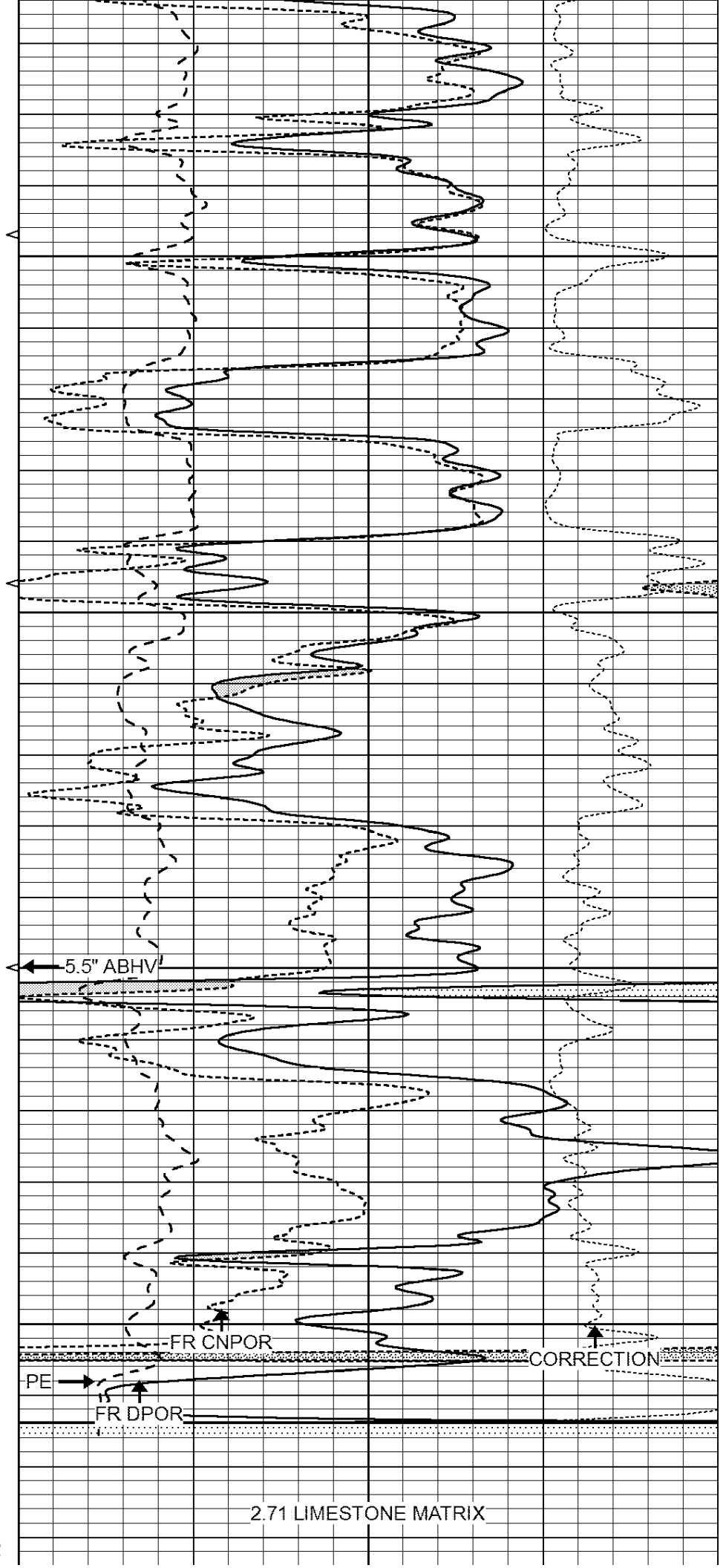


3350

3400

3450

3500



LTD 3532

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			



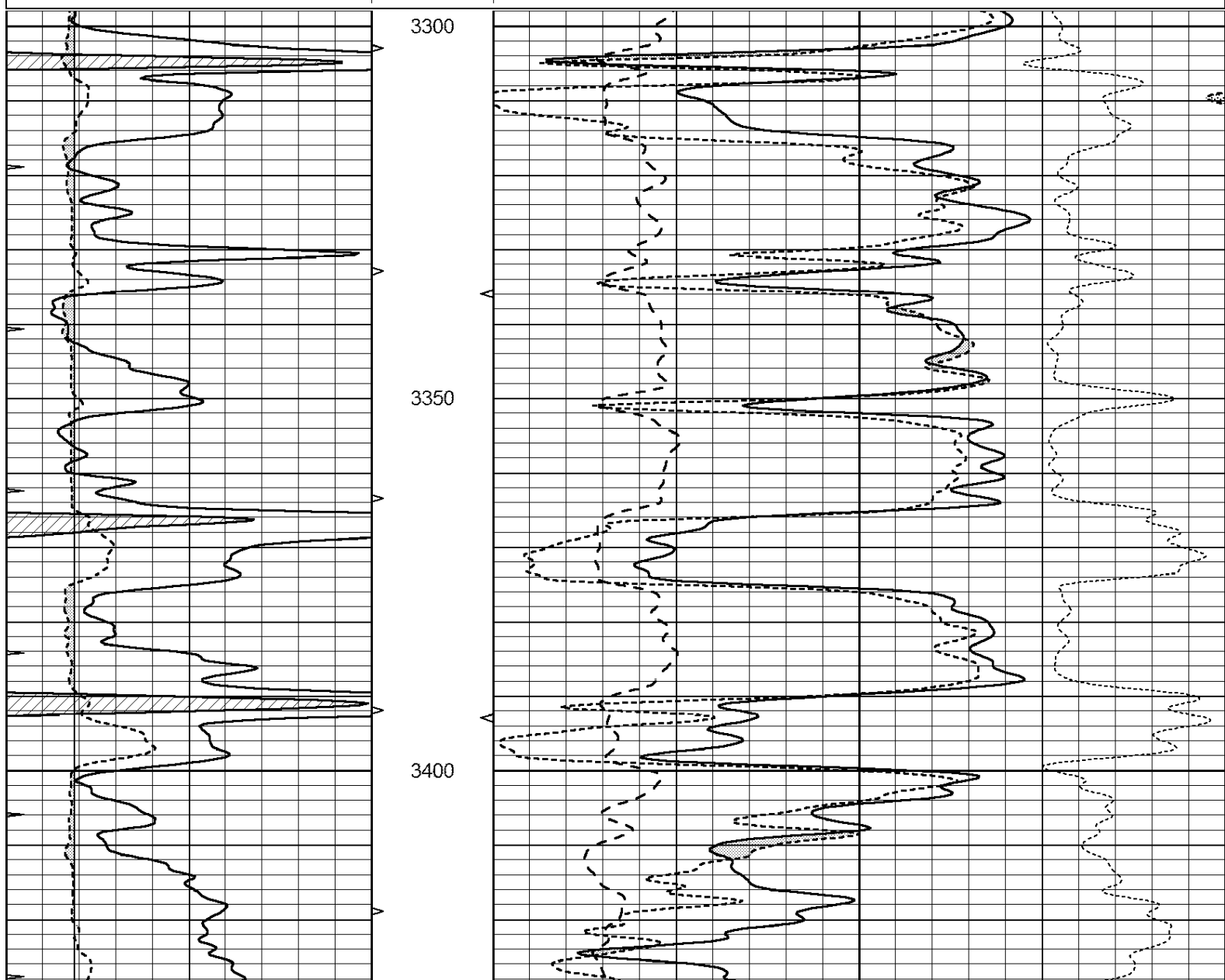
SUPERIOR

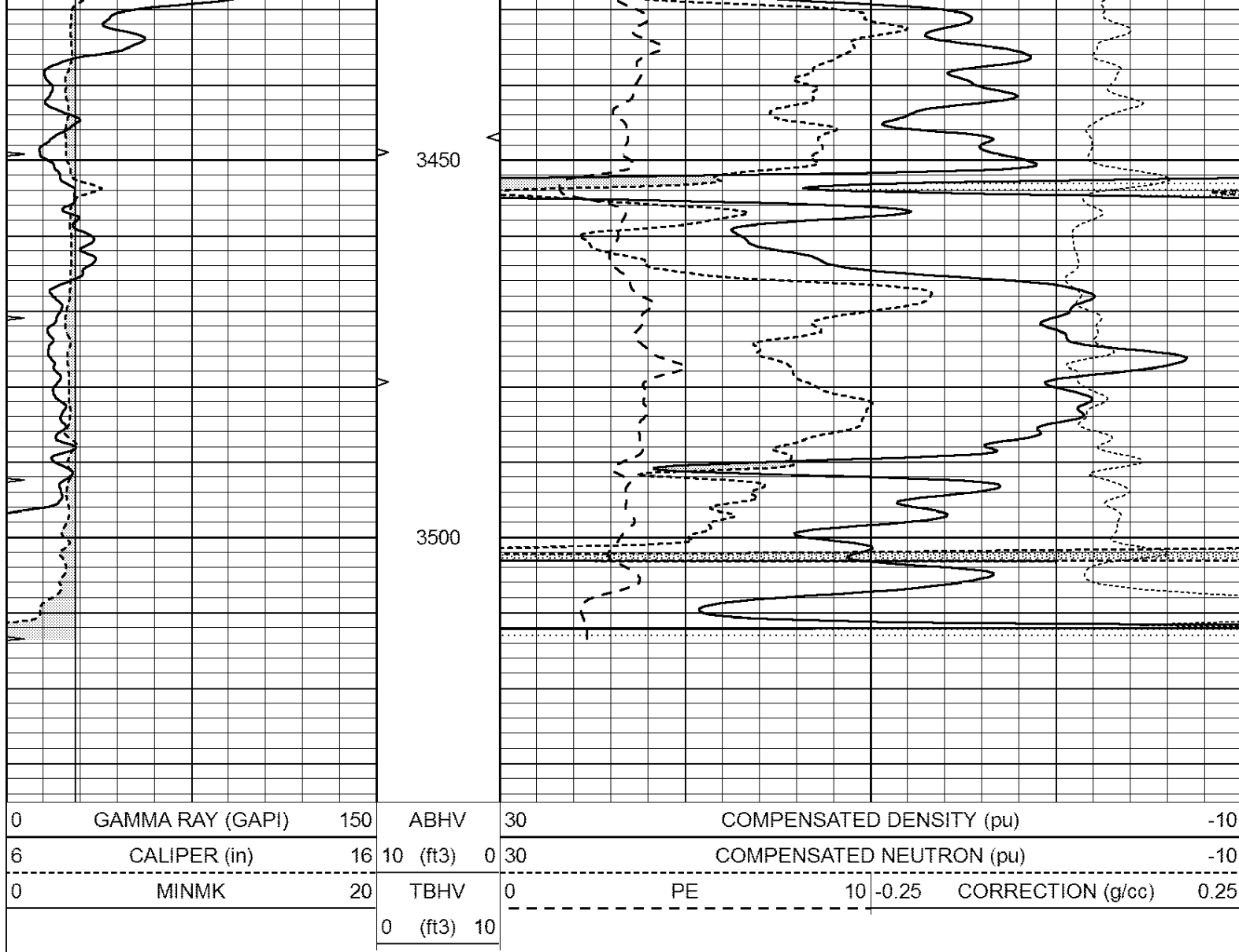
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REPEAT SECTION

Database File: 408621pe.db
Dataset Pathname: pass2.5
Presentation Format: ldt_neu
Dataset Creation: Sat Apr 07 14:38:26 2012 by Calc Open-Cased 110302
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			

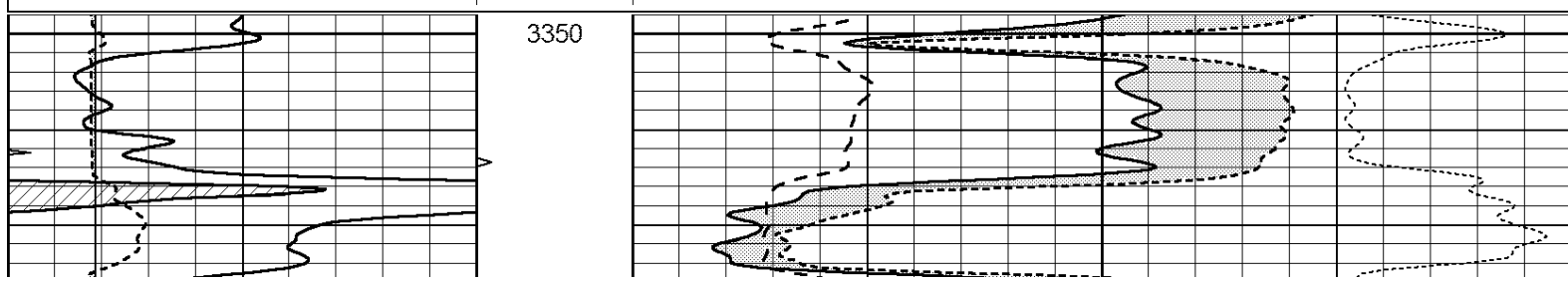
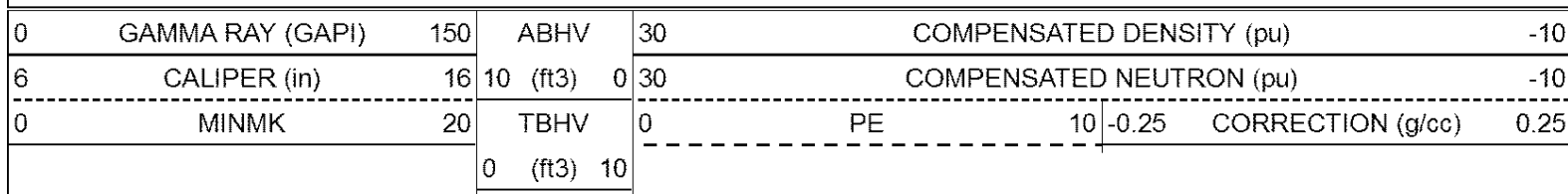


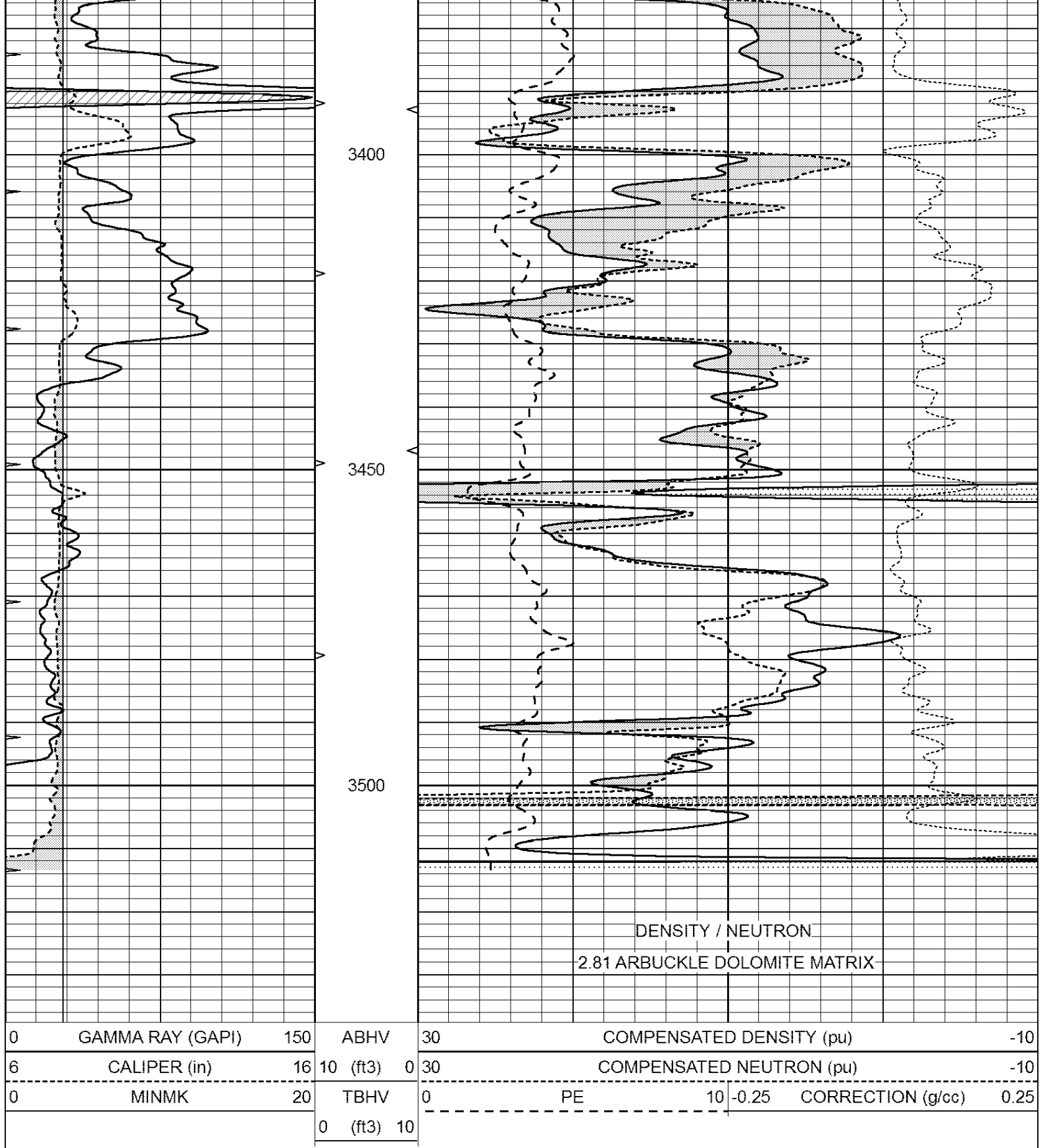


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DOLOMITE MATRIX

Database File: 408621pe.db
 Dataset Pathname: pass2.4
 Presentation Format: ldt_neu
 Dataset Creation: Sat Apr 07 13:26:25 2012 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: 408621pe.db
 Dataset Pathname: pass3.5
 Dataset Creation: Sat Apr 07 14:27:44 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model:
 Performed:

DIL4-GEAR
 Wed Apr 04 10:04:38 2012

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	4.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	5.500
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.013	0.651	V	0.000	400.000	mmho/m	627.541	-8.365
Medium	0.020	0.754	V	0.000	462.500	mmho/m	630.311	-12.549

Litho Density Calibration Report Serial: 003N Model: PRB Performed Tue Sep 08 14:14:44 2009								
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Litho Density Calibration					
	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps
Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper		
	Readings	Reference
Low Ref	2.0	7.6
High Ref	4.0	15.0
	Gain: 3.6	Offset: 0.5

Compensated Neutron Calibration Report	
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Serial Number:	070808
Tool Model:	Probe

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	
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Serial Number:	070559
Tool Model:	OPEN_GR
Performed:	Sat Mar 24 18:51:25 2012
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps

Sensitivity:

0.3000

GAP/cps