

COMPENSATED
DENSITY/NEUTRON
PE/LOG

Company	IA OPERATING, INC.	
Well	KELLER #28-1	
Field	CROMB SOUTH	
County	ELLIS	State KANSAS
Location:	APL # : 15-051-26941-00-00	
422' FNL & 1607' FEL		Other Services DIL/MEL
SEC 28 TWP 11S RGE 20W		
Permanent Datum	GROUND LEVEL	Elevation 2131
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B. 2139
Drilling Measured From	KELLY BUSHING	D.F. 2137
		G.L. 2131
Date	12/01/18	
Run Number	ONE	
Depth Driller	3850	
Depth Logger	3852	
Bottom Logged Interval	3832	
Top Log Interval	2500	
Casing Driller	8 5/8" @ 221	
Casing Logger	221	
Bit Size	7 7/8"	
Type Fluid in Hole	CHEMICAL MUD	
Density / Viscosity	9.0/45	
pH / Fluid Loss	10.0/8.8	
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	1.1@66	
Rmt @ Meas. Temp	.83@66	
Rmc @ Meas. Temp	1.32@66	
Source of Rmt / Rmc	MEASURED	
Rm @ BHT	.63@115	
Time Circulation Stopped	2 HOURS	
Time Logger on Bottom	///	
Maximum Recorded Temperature	115F	
Equipment Number	1523	
Location	HAYS, KANSAS	
Recorded By	GUS PFANENSTIEL	
Witnessed By	JEFF LAWLER	

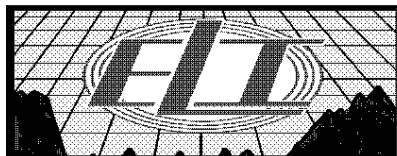
<<< Fold Here >>>

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, HAYS, KS. (785) 628-6395

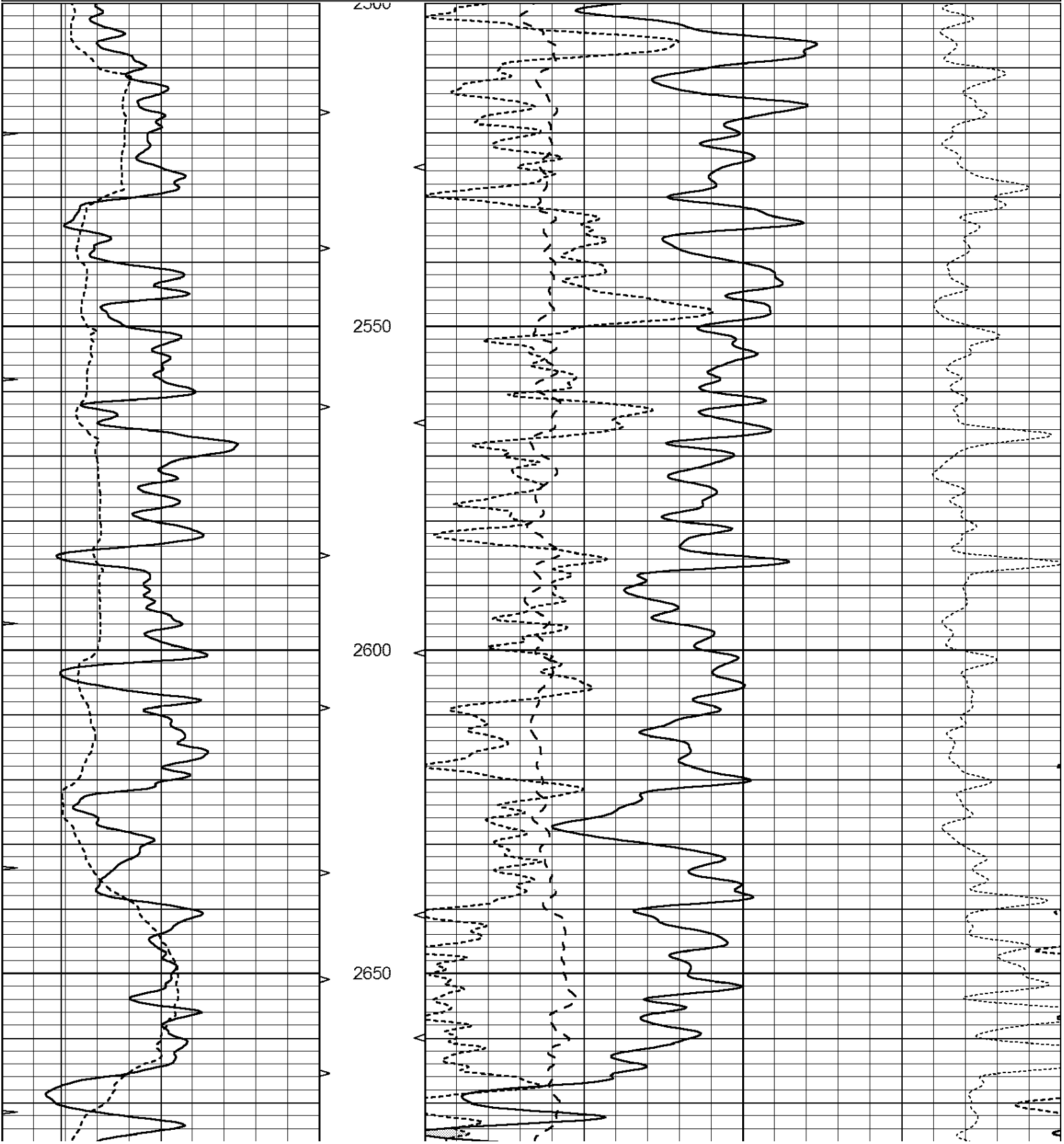
DIRECTIONS
NORTH OF ELLIS TO WILES RD. 1/4 WEST,
SOUTH INTO.

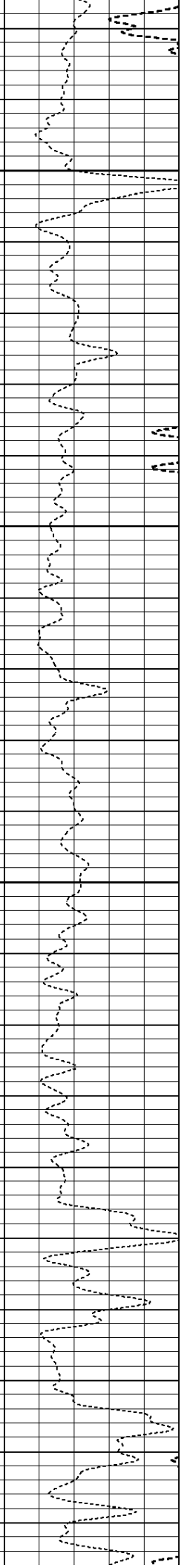
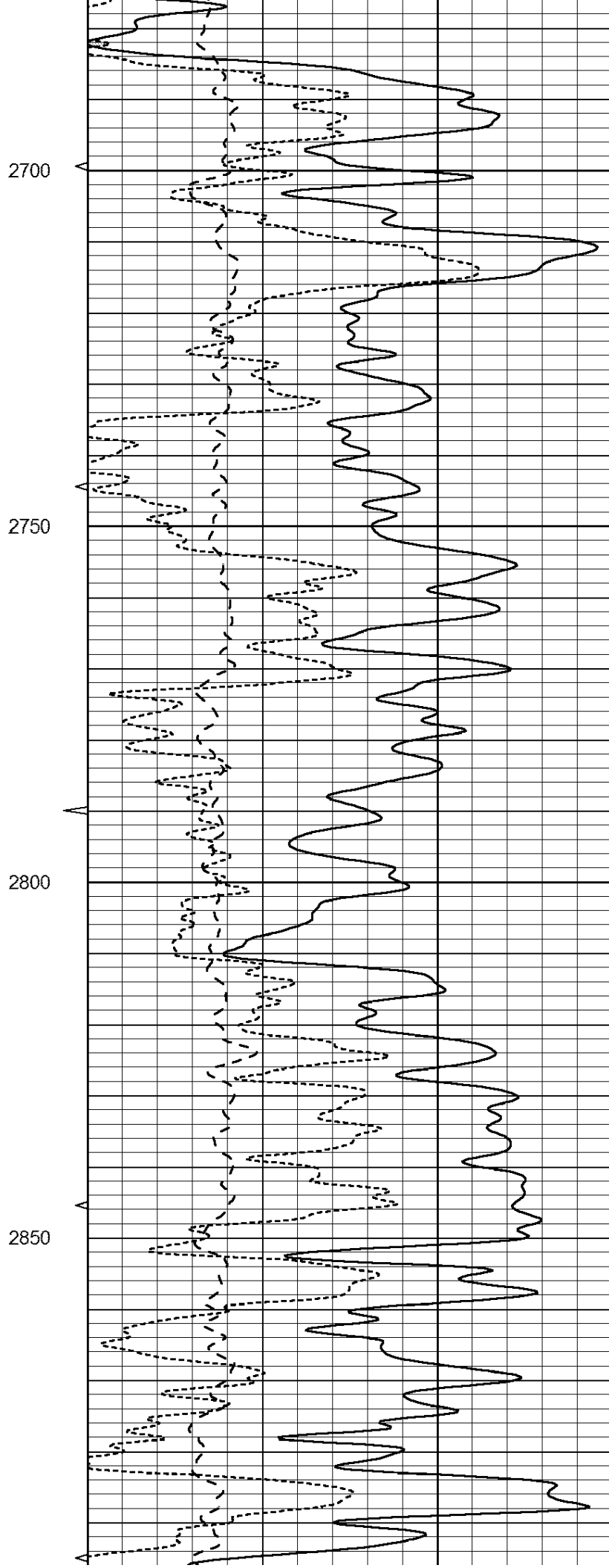
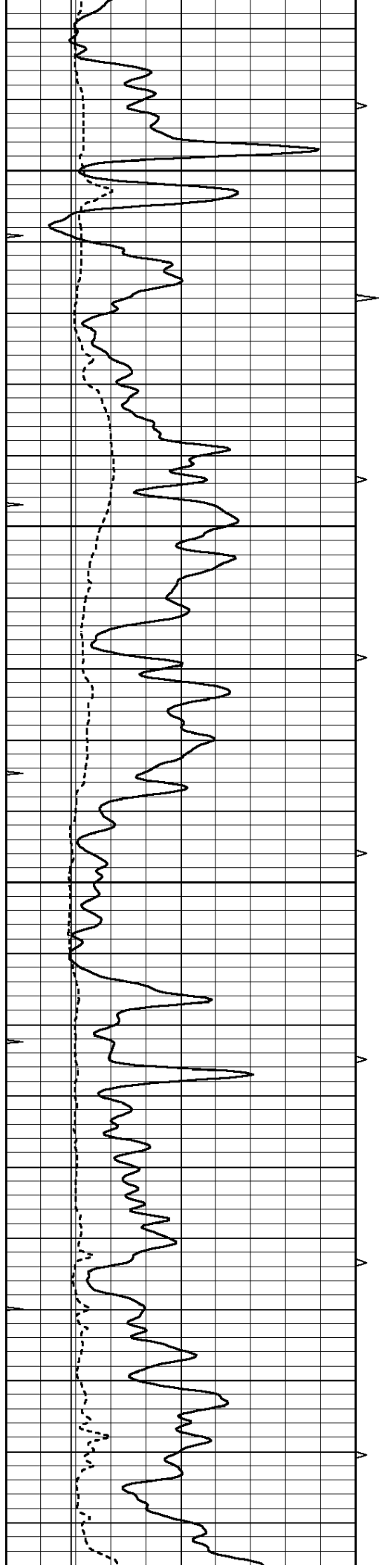


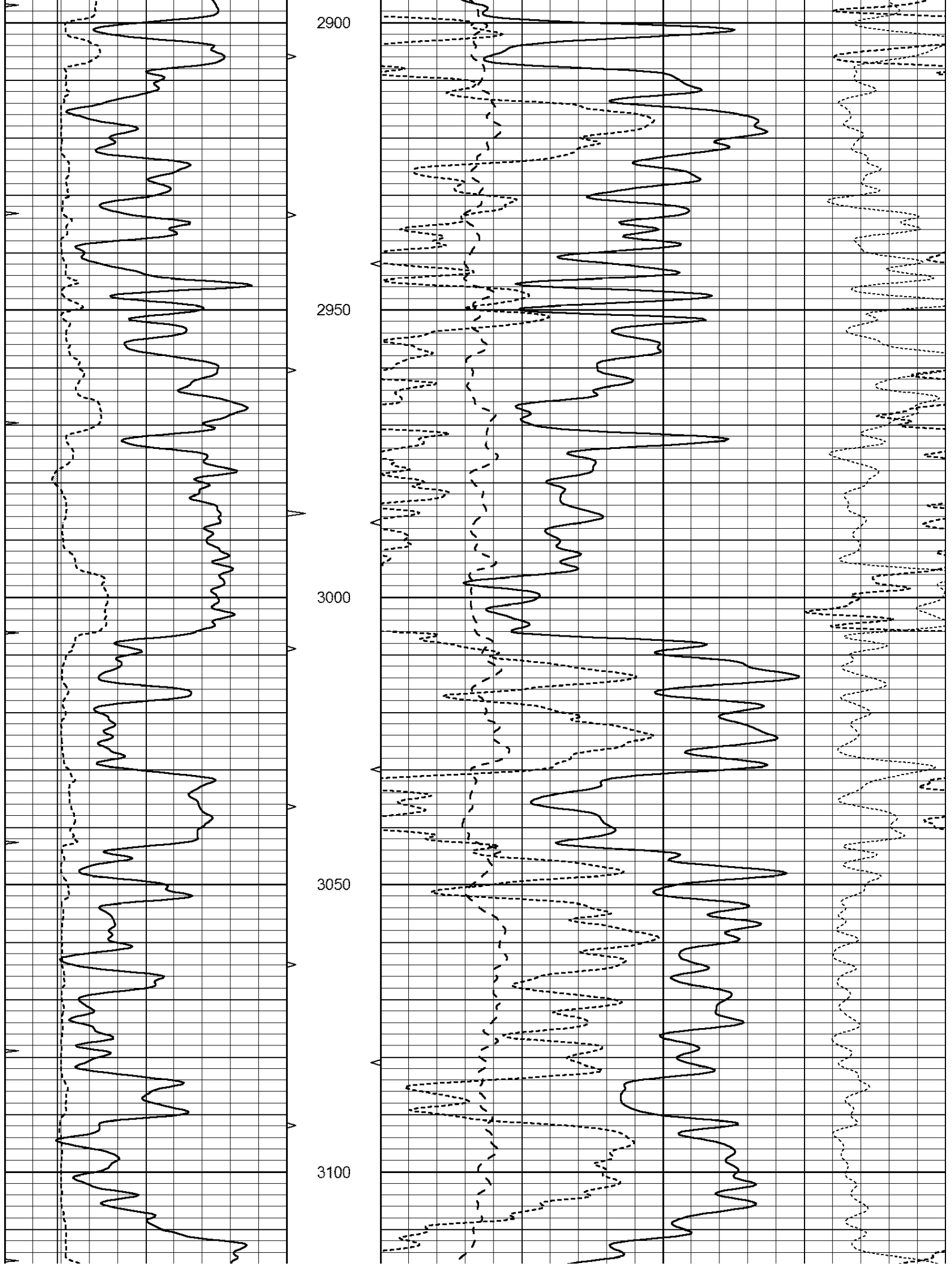
MAIN PASS

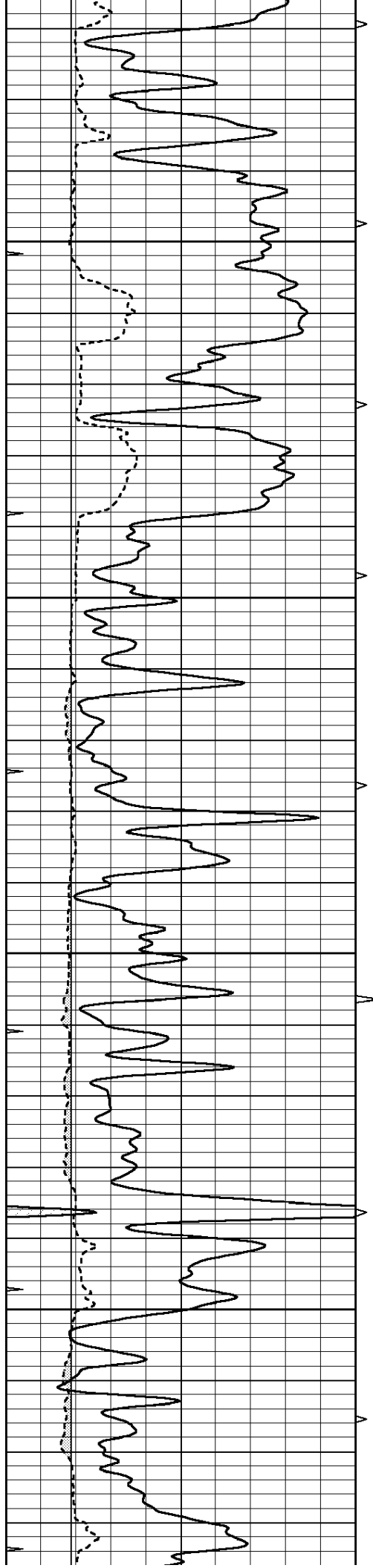
Database File: 3163pe.db
Dataset Pathname: pass3MAIN
Presentation Format: _ldt_neu
Dataset Creation: Sat Dec 01 06:24:21 2018
Charted by: Depth in Feet scaled 1:240

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







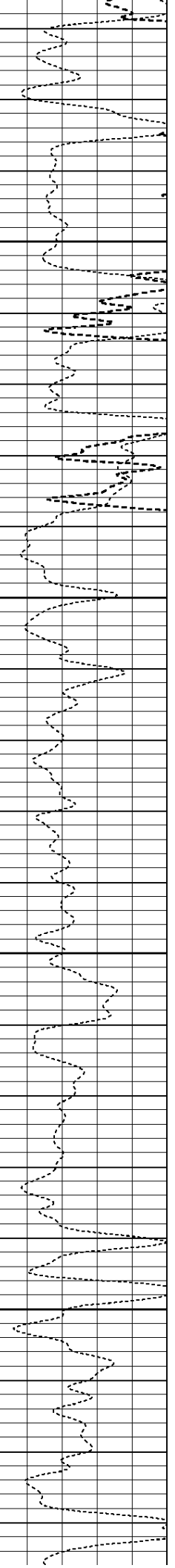
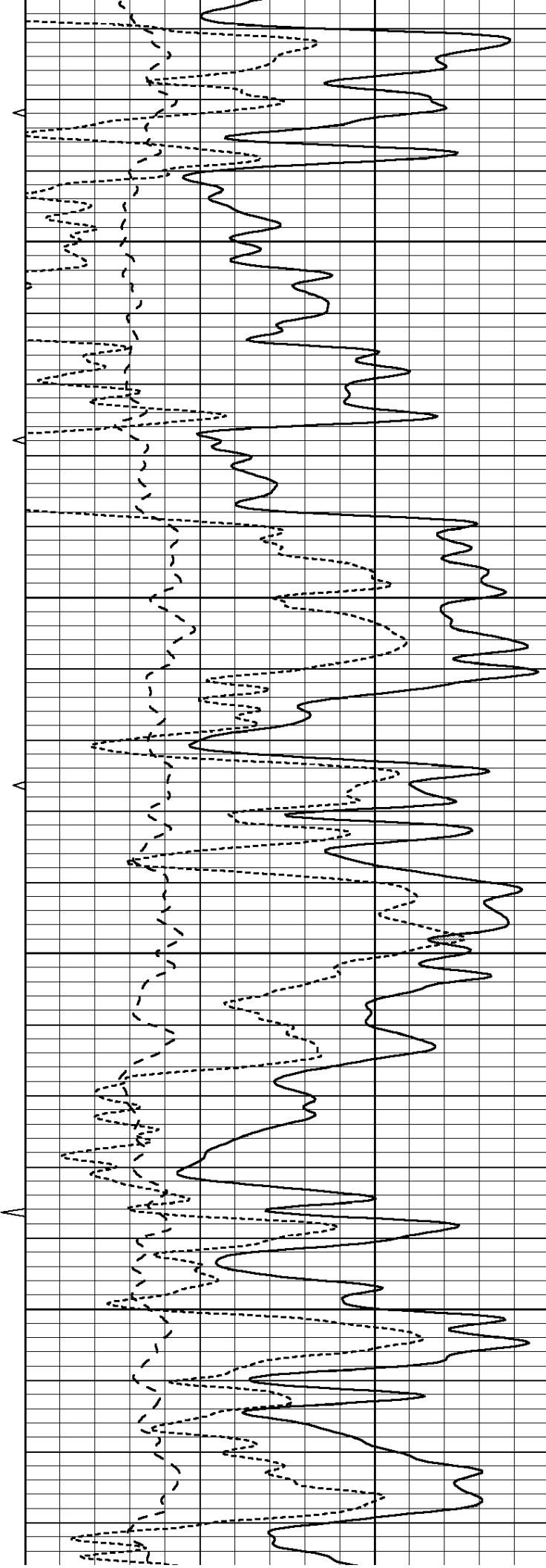


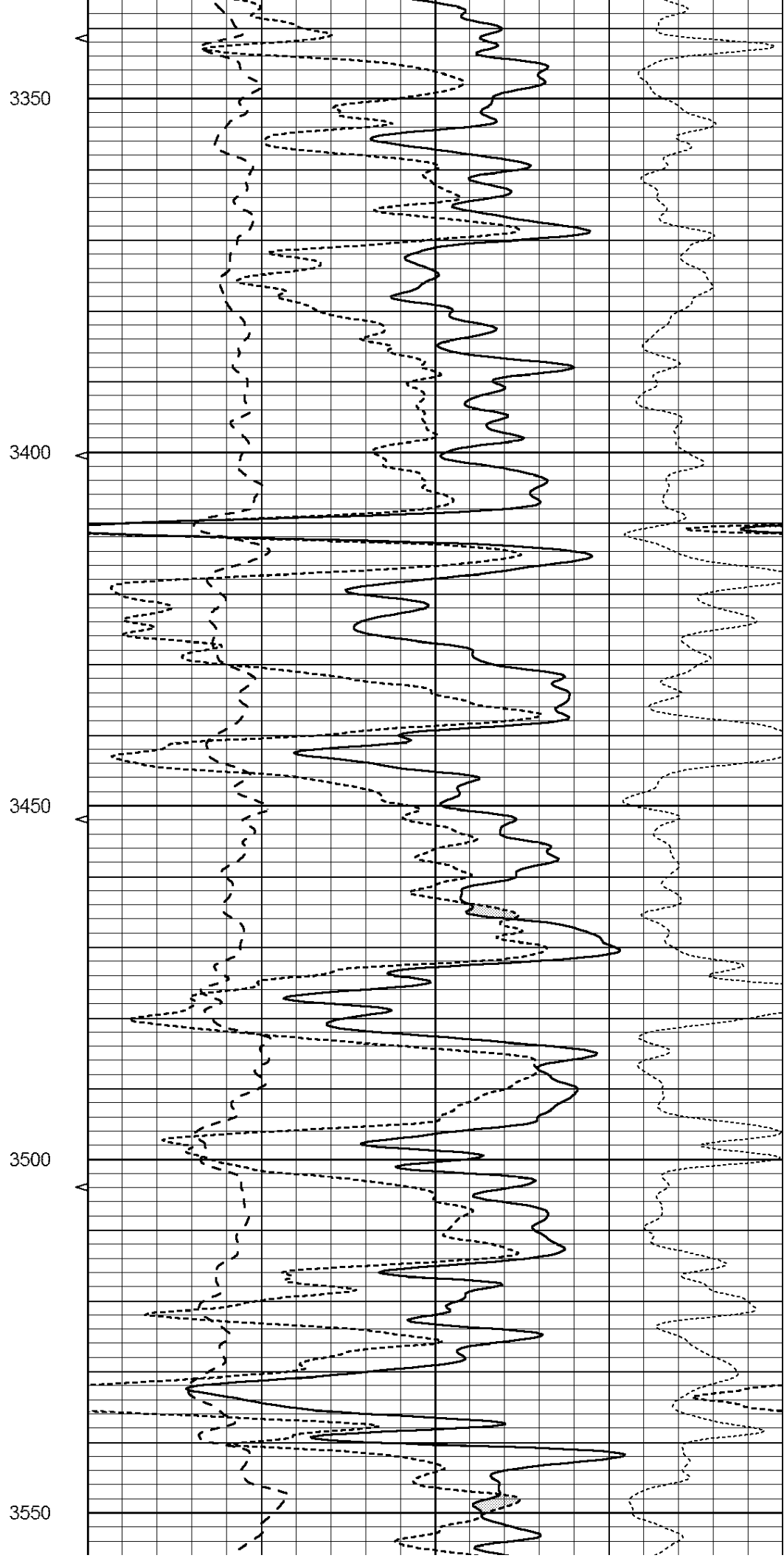
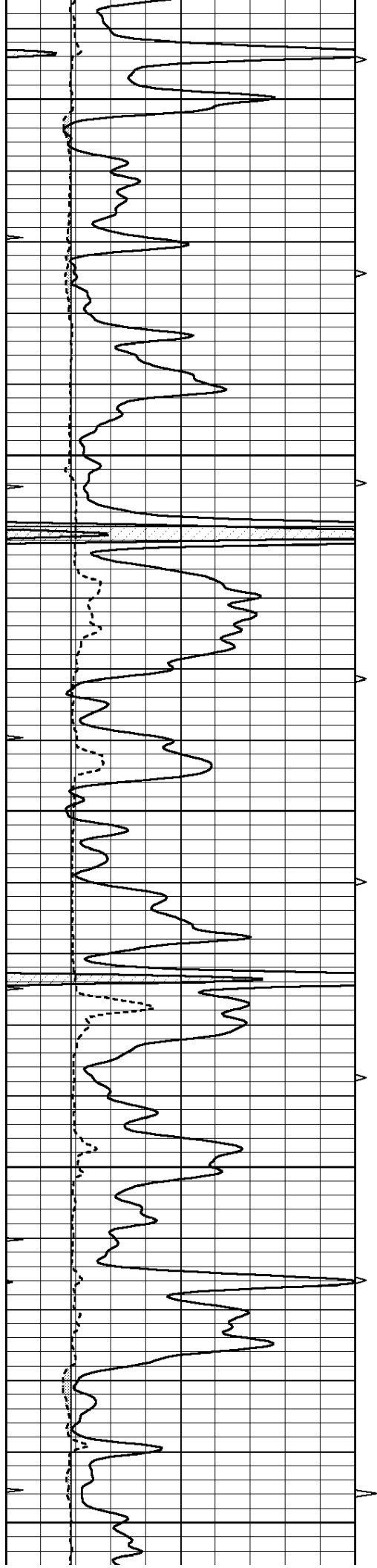
3150

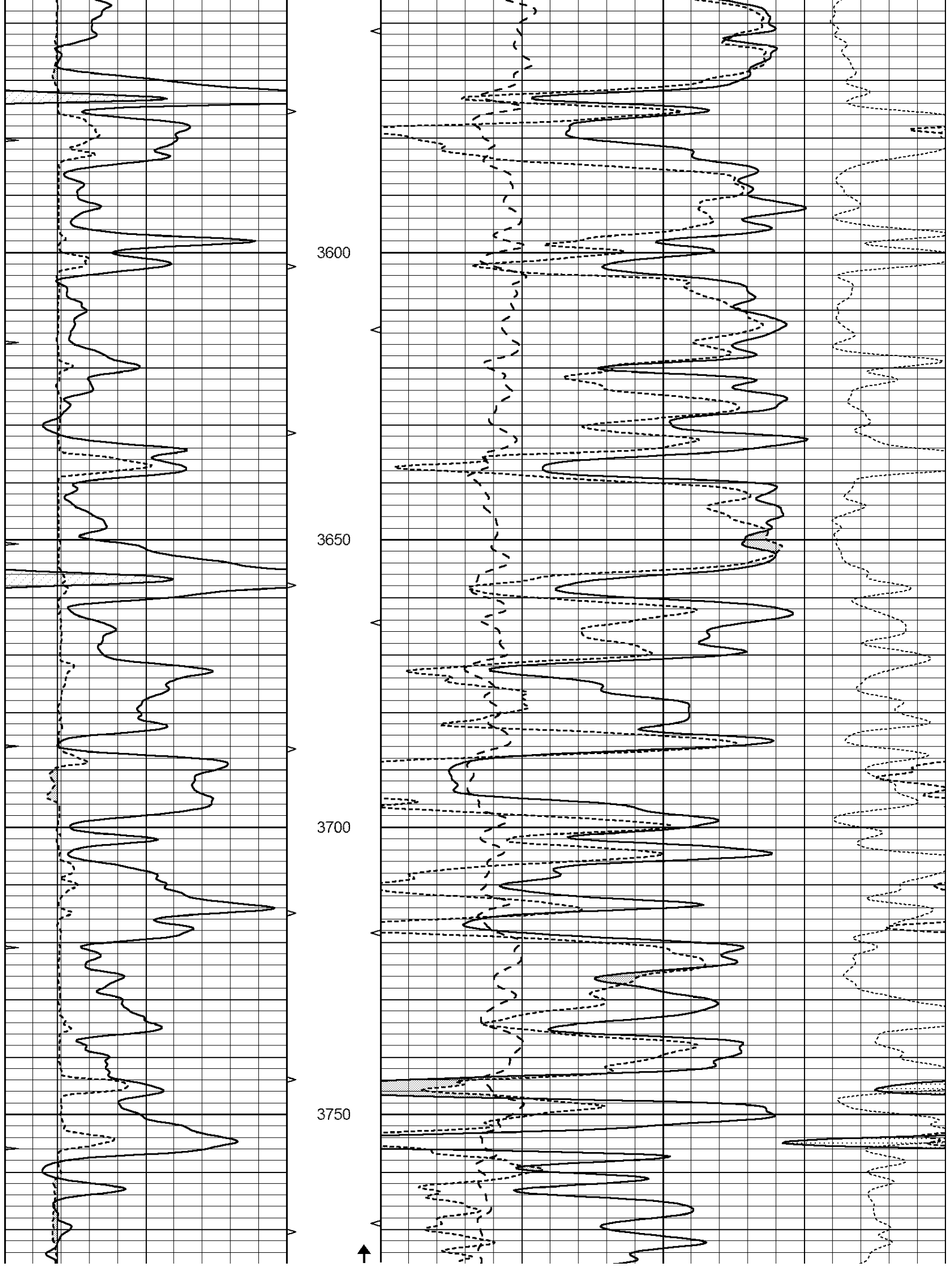
3200

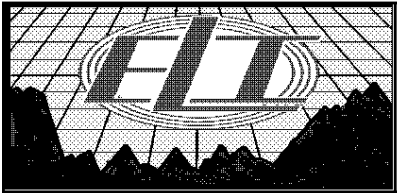
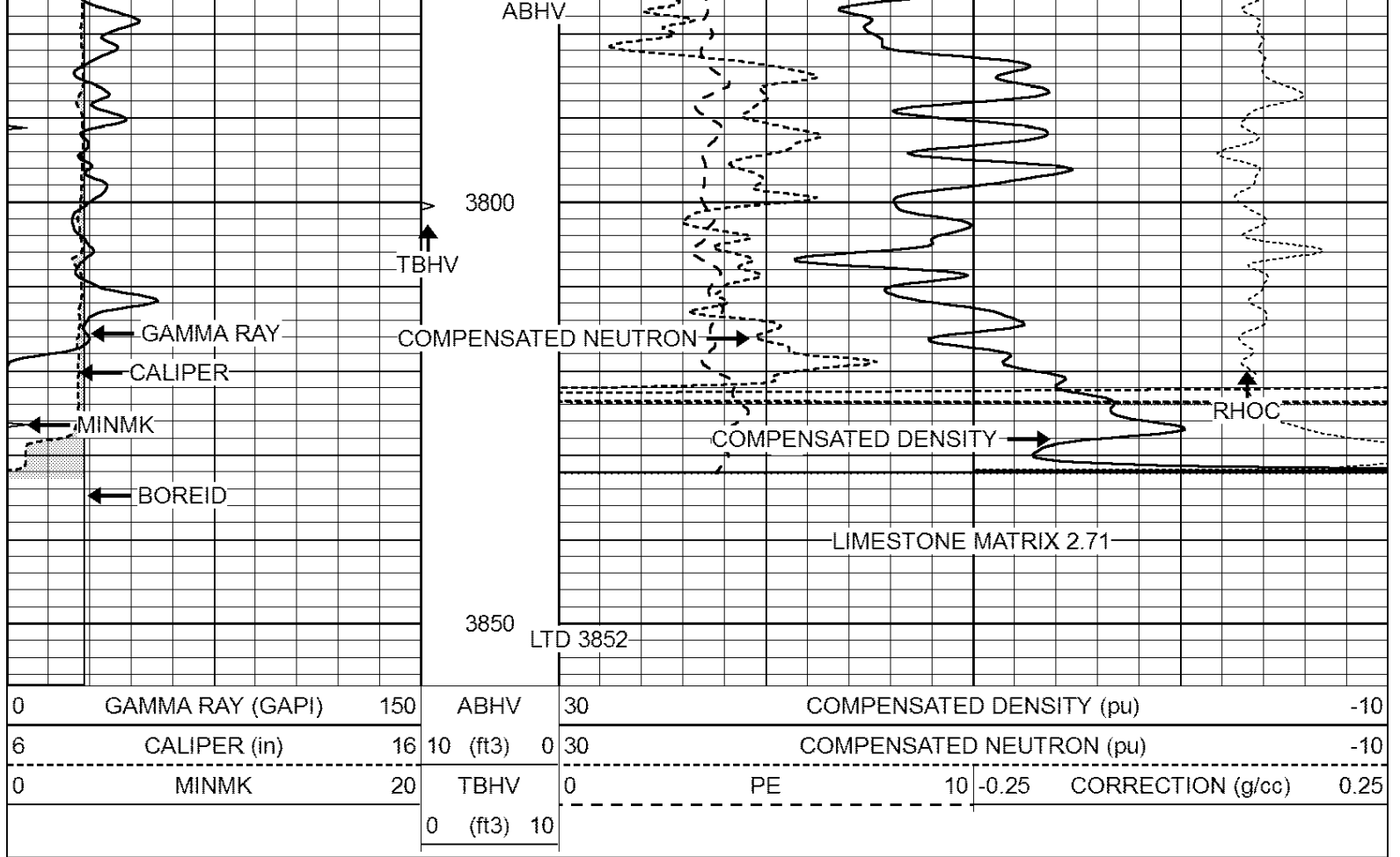
3250

3300





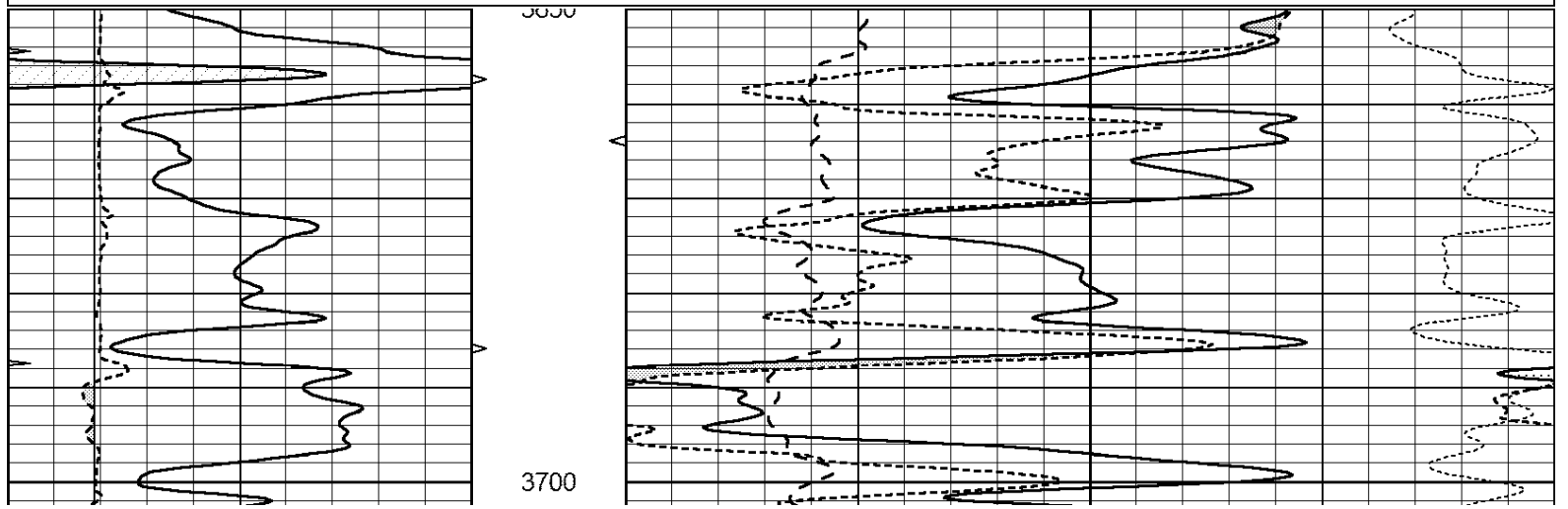


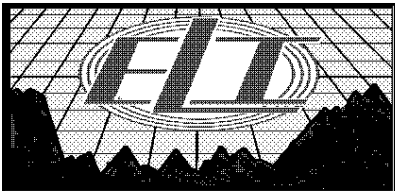
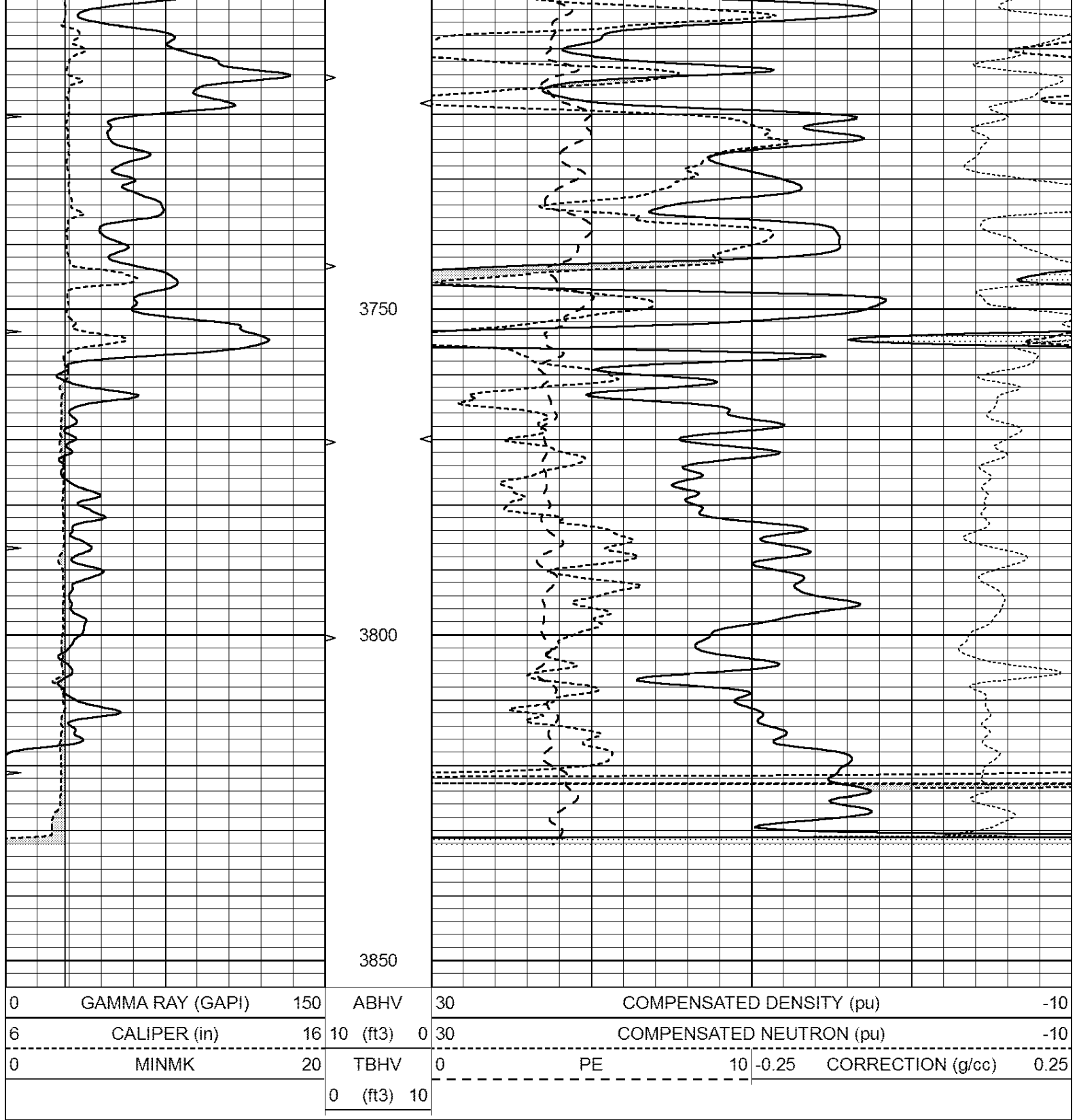


REPEAT SECTION

Database File: 3163pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _ldt_neu
 Dataset Creation: Sat Dec 01 05:42:48 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

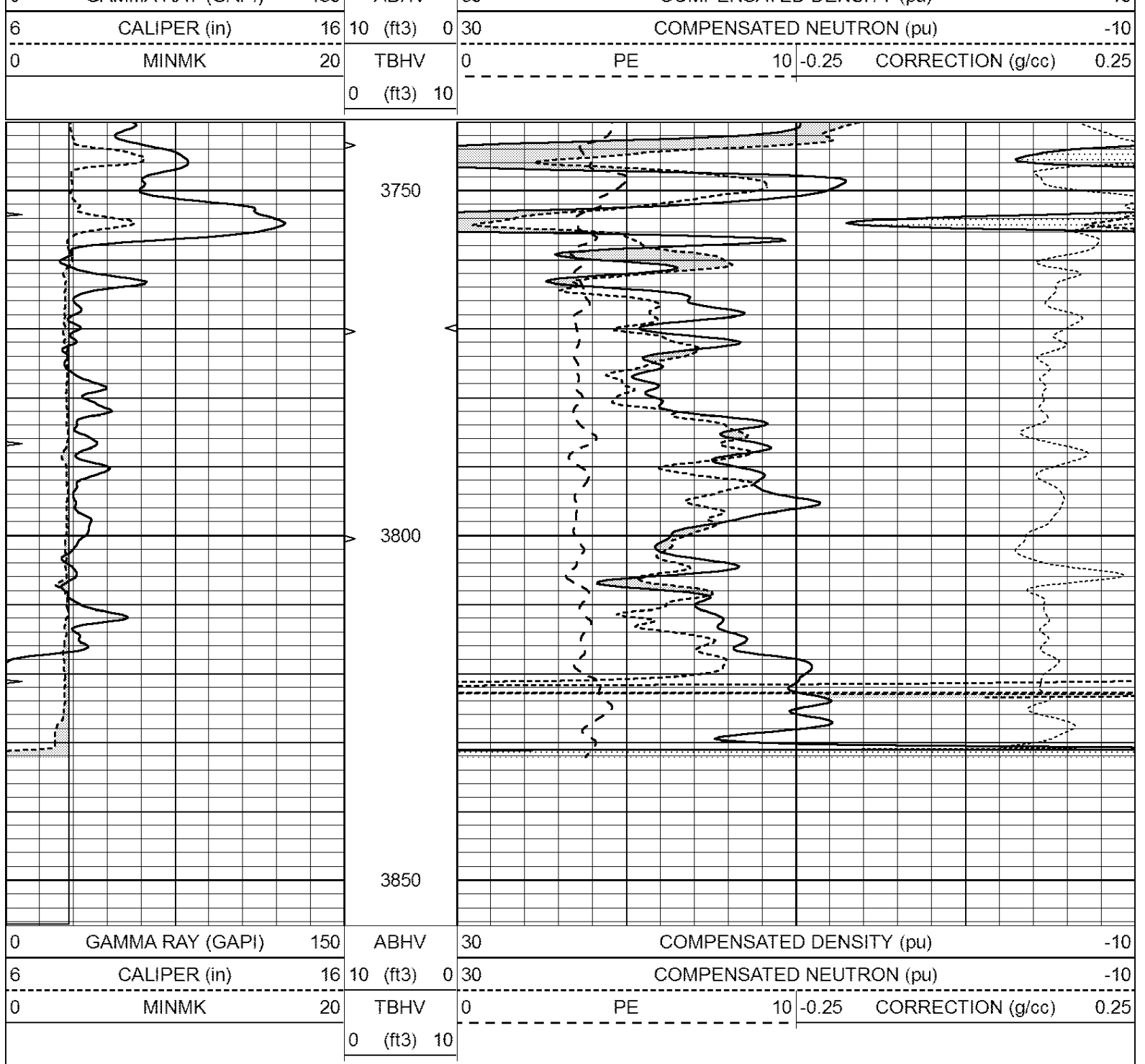
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		





DOLOMITE MATIX 2.81

Database File: 3163pe.db
Dataset Pathname: pass2DOL
Presentation Format: _ldt_neu
Dataset Creation: Sat Dec 01 06:35:03 2018
Charted by: Depth in Feet scaled 1:240



Calibration Report

Database File: 3163pe.db
 Dataset Pathname: pass2.1
 Dataset Creation: Sat Dec 01 05:42:48 2018 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Sep 10 14:28:35 2018
 Downhole Cal Performed: Mon Sep 10 14:28:38 2018
 After Survey Verification Performed: Mon Sep 10 14:28:40 2018

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.020	0.700	V	0.000	400.000	mmho/m	500.000	10.000

Medium	0.029	0.790	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739
Downhole Calibration								
	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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		
		1.000	mmho-m		1.000	mmho-m		
Litho Density Calibration Report								
Serial: 006			Model: PRB					
Master Calibration				Performed Thu Sep 27 12:07:11 2018				
	Background	Magnesium		Aluminum		Sandstone		
Window 1	1185.6	7077.4		2520.9		8182.4		cps
Window 2	1116.8	5910.1		2163.2		6739.4		cps
Window 3	880.1	3145.8		1325.0		3461.2		cps
Window 4	289.5	295.8		290.8		295.3		cps
Long Space	0.0	4793.3		1046.5		5622.7		cps
Short Space	2.9	1608.0		1038.9		1622.7		cps
Rho		1.7100		2.5960		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 44.0	Rib Slope	: 0.965	Density/Spine Ratio			: 0.560	
Spine Angle	: 74.0	Spine Slope	: 3.484	Spine Intercept			: -17.2	
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:	6l
Tool Model:	G

CALIBRATION						
	Detector	Readings		Target		Normalization
	Short Space	1.00	cps	1.00	cps	1.0000
	Long Space	1.00	cps	1.00	cps	1.0000

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps		pu	pu
2)	Short Space		cps			
	Long Space		cps		pu	
3)	Short Space		cps			
	Long Space		cps		pu	

POST-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps		pu	pu
2)	Short Space		cps			
	Long Space		cps		pu	pu
3)	Short Space		cps			
	Long Space		cps		pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6
Tool Model:	OPEN
Performed:	Mon Sep 10 14:29:23 2018
Calibrator Value:	150.0
	GAPI
Background Reading:	0.0
Calibrator Reading:	276.0
	cps
Sensitivity:	0.5500
	GAPI/cps