



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
LOG

Company	PHILLIPS EXPLORATION CO.		
Well	SANDIFORD #1-25		
Field			
County	COWLEY		
State	KANSAS		
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Well	SANDIFORD #1-25		
Field			
County	COWLEY		
State	KANSAS		
Location:	API # : 15-035-24455-0000		
	990' FNL & 1650' FEL		
	SEC 25 TWP 32S RGE 5E		
Permanent Datum	GROUND LEVEL	Elevation	1292
Log Measured From	KELLY BUSHING 10' A.G.L.		
Drilling Measured From	KELLY BUSHING	Elevation	K.B. 1302 D.F. 1300 G.L. 1292
Date	3/24/12		
Run Number	ONE		
Depth Driller	3600		
Depth Logger	3600		
Bottom Logged Interval	3576		
Top Log Interval	1800		
Casing Driller	8 5/8"@214'		
Casing Logger	214'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 700 PPM	
Density / Viscosity	9.4/50		
pH / Fluid Loss	9.5/7.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	2.20@74F		
Rmt @ Meas. Temp	1.65@74F		
Rmc @ Meas. Temp	2.64@74F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	1.45@112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	JOE BAKER		

<<< Fold Here >>>

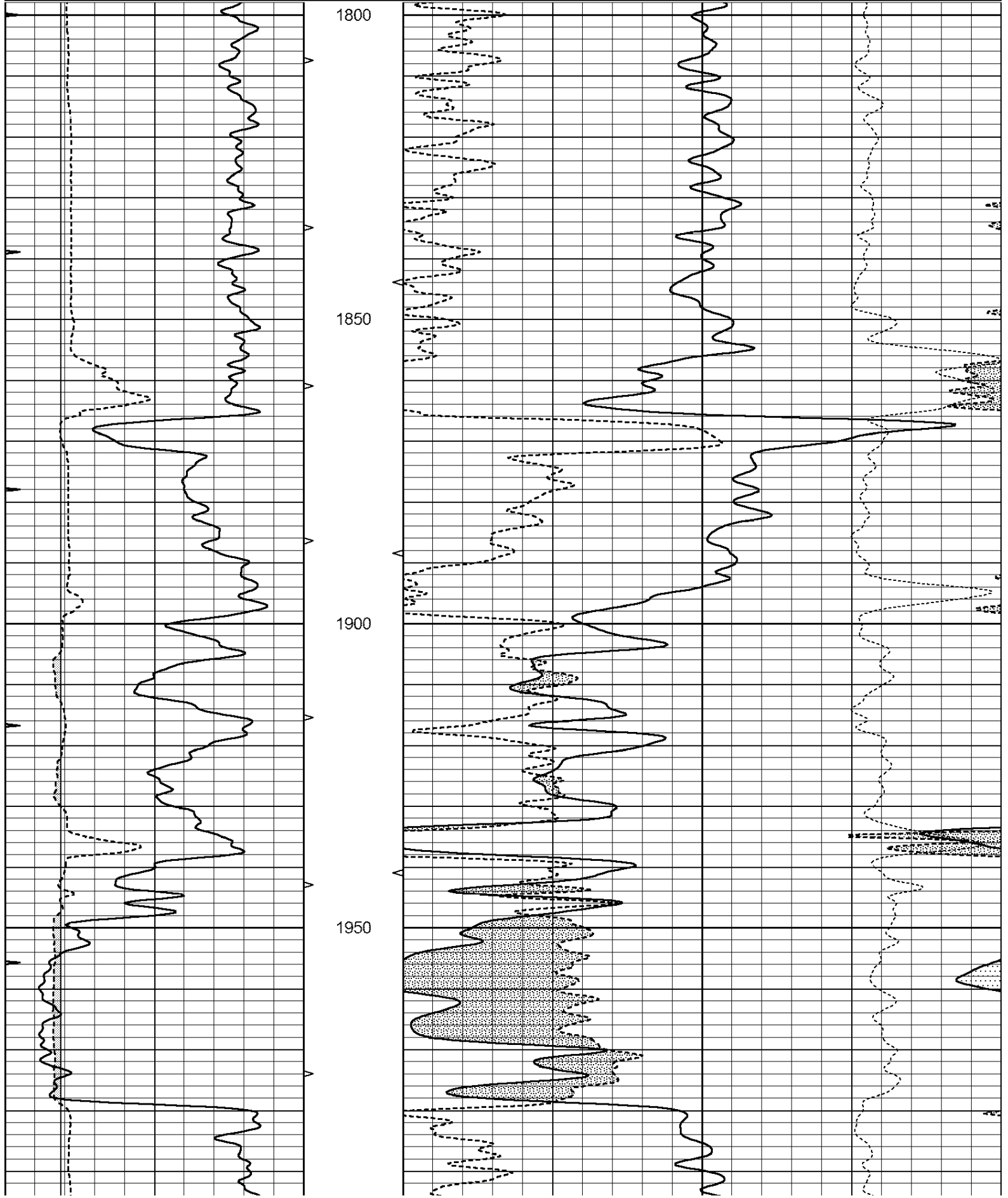
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

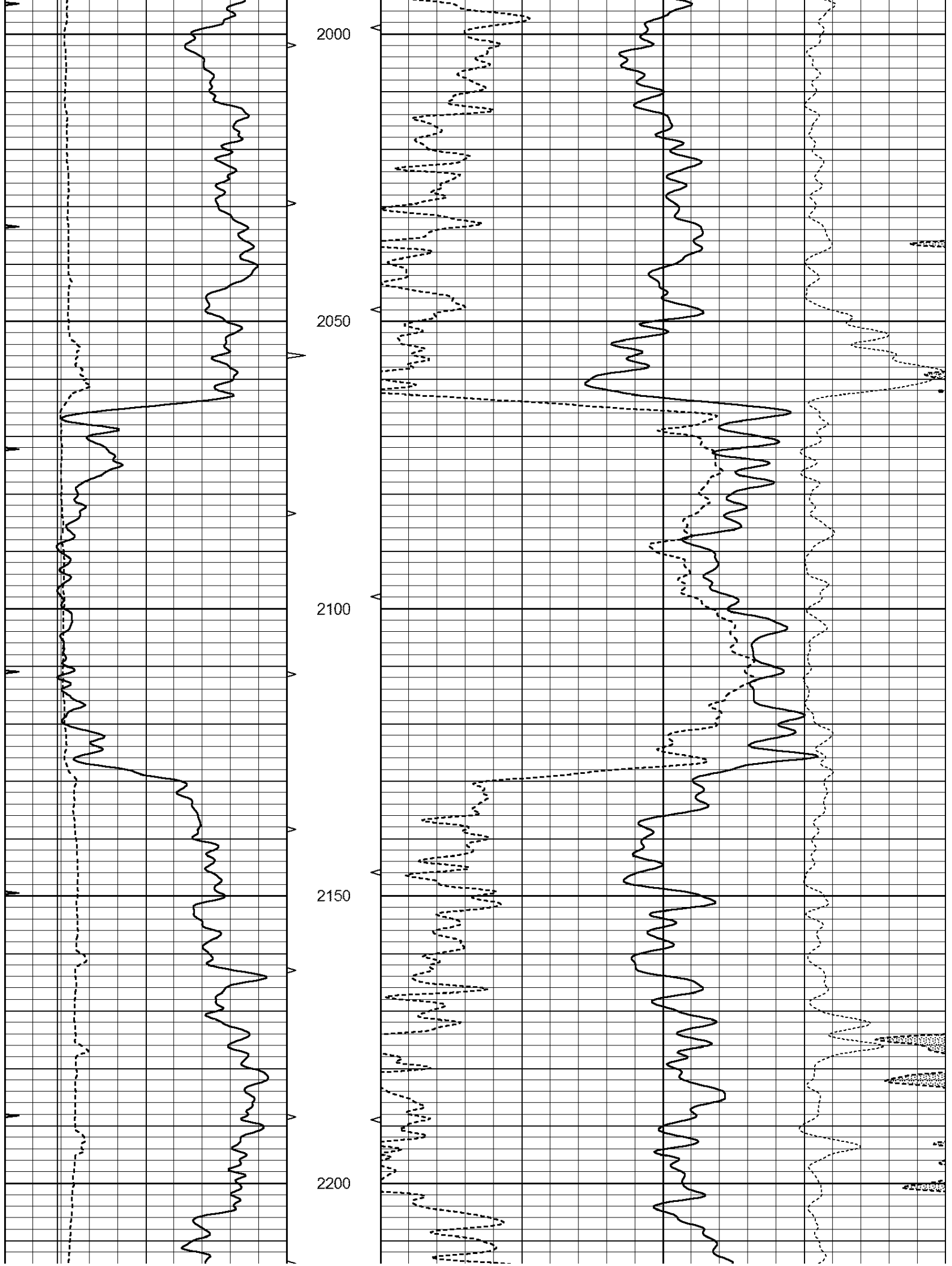
Comments

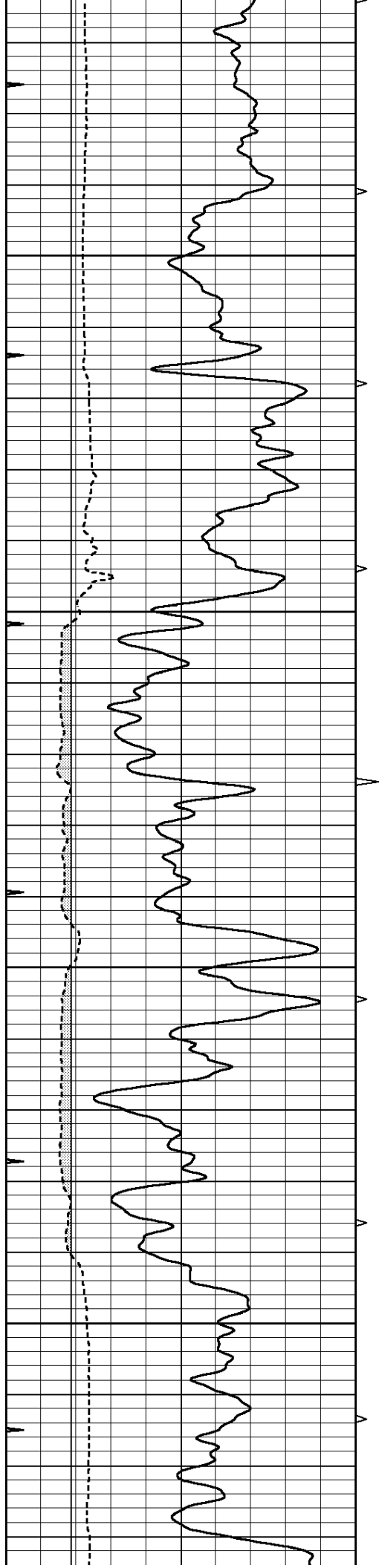
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
WINFIELD, KS - EAST TO RD 181 - 1/4 MILE SOUTH
WEST INTO

Database File: 408611pe.db
Dataset Pathname: pass4.2
Presentation Format: den_neu
Dataset Creation: Sat Mar 24 00:28:52 2012 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

Charted by:		Depth in Feet scaled 1:2.10			
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		-0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10		





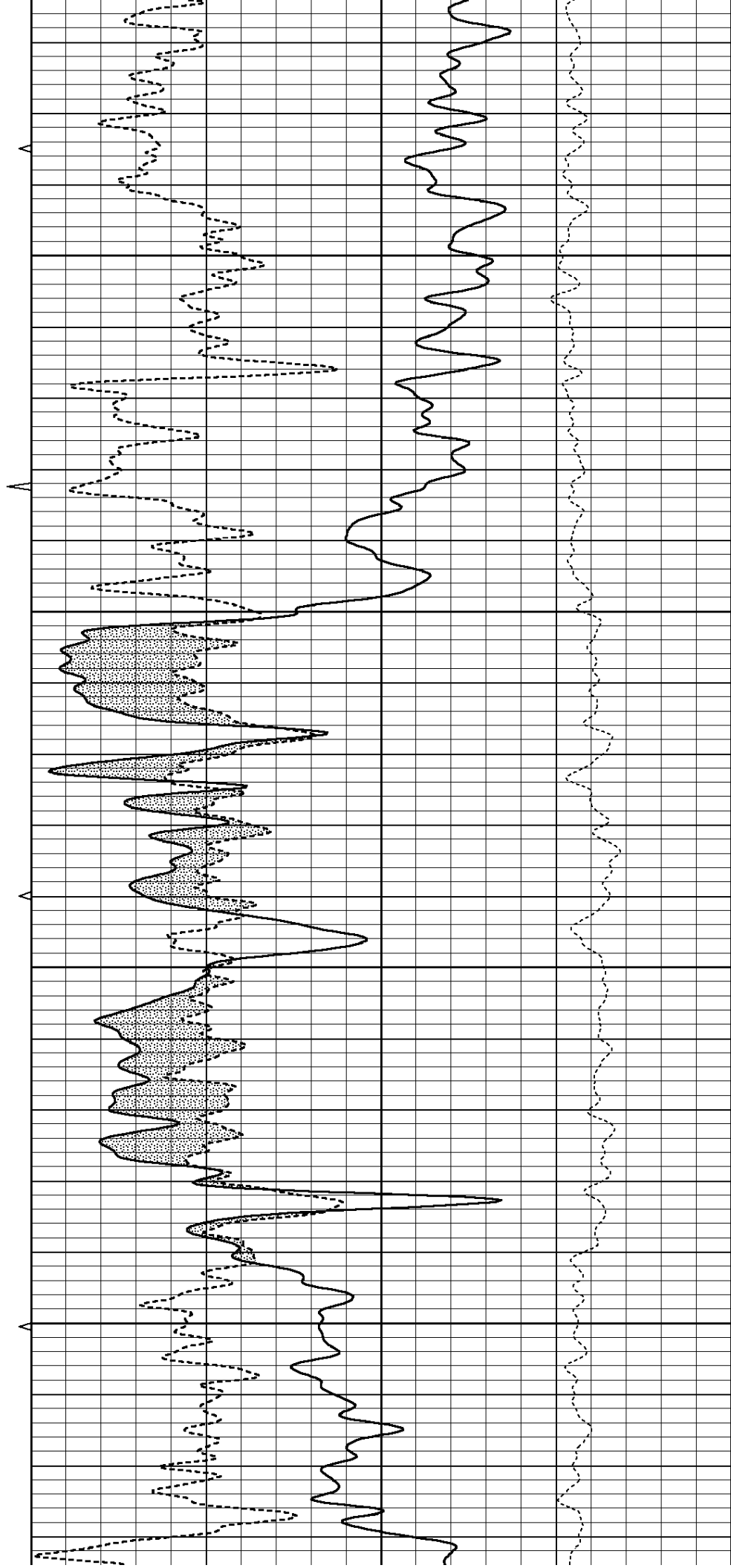


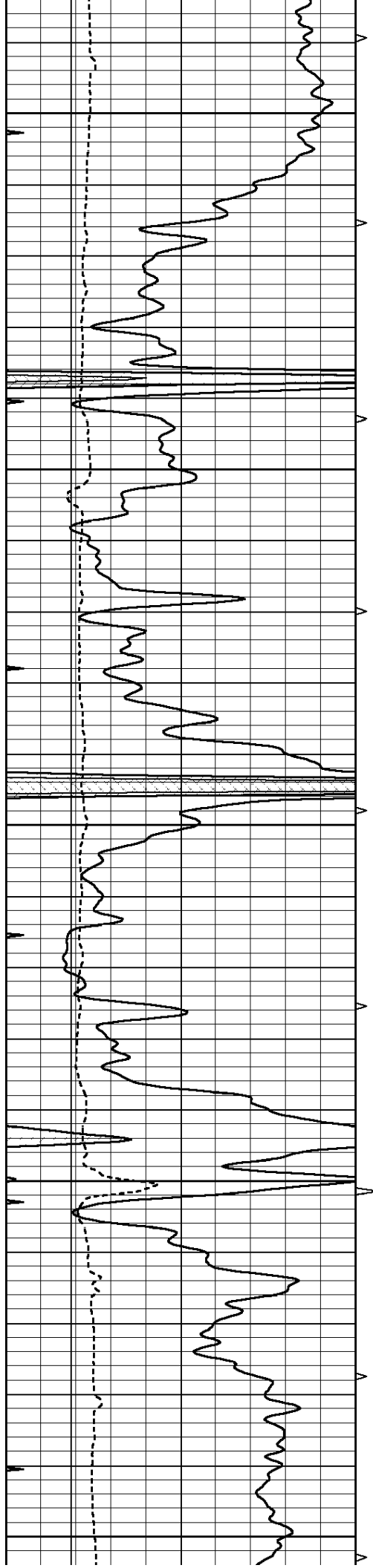
2250

2300

2350

2400





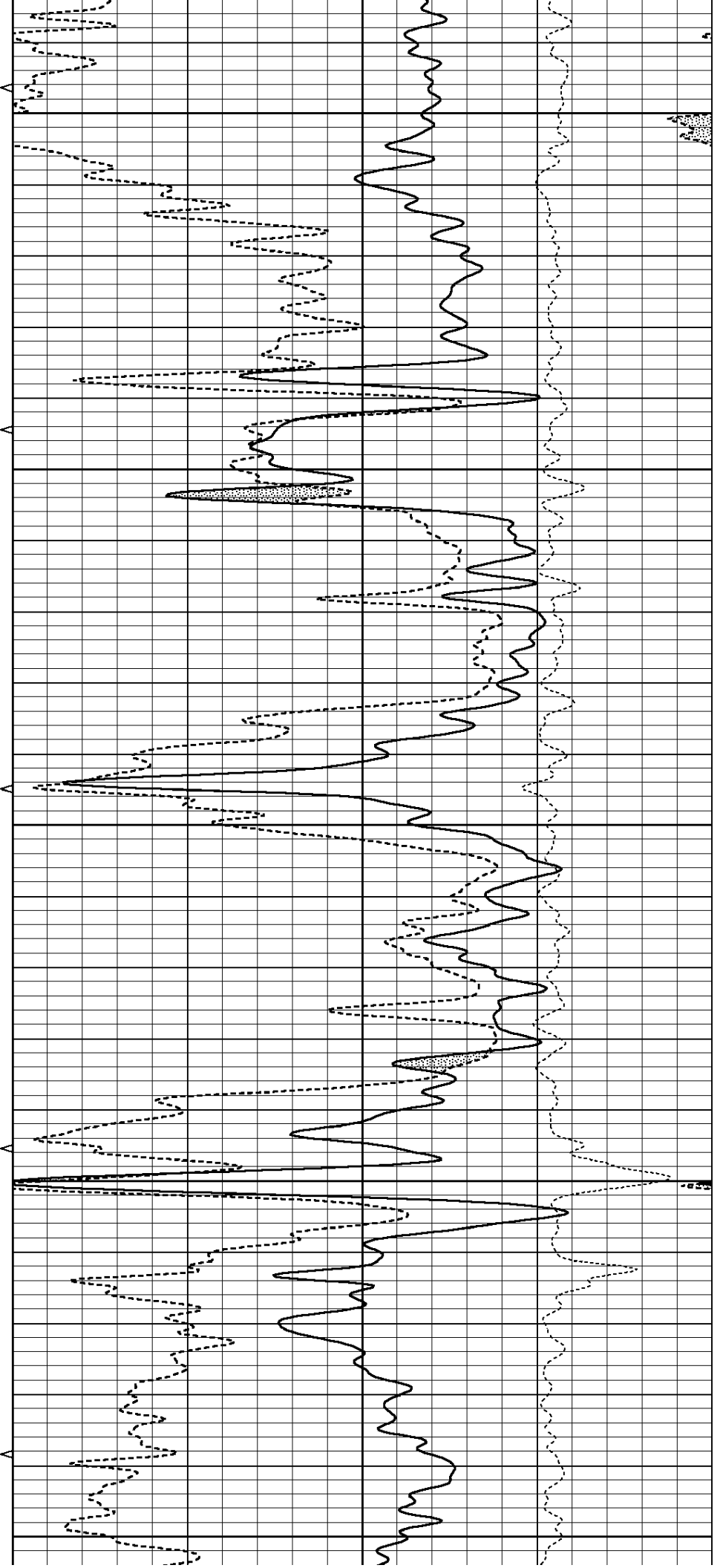
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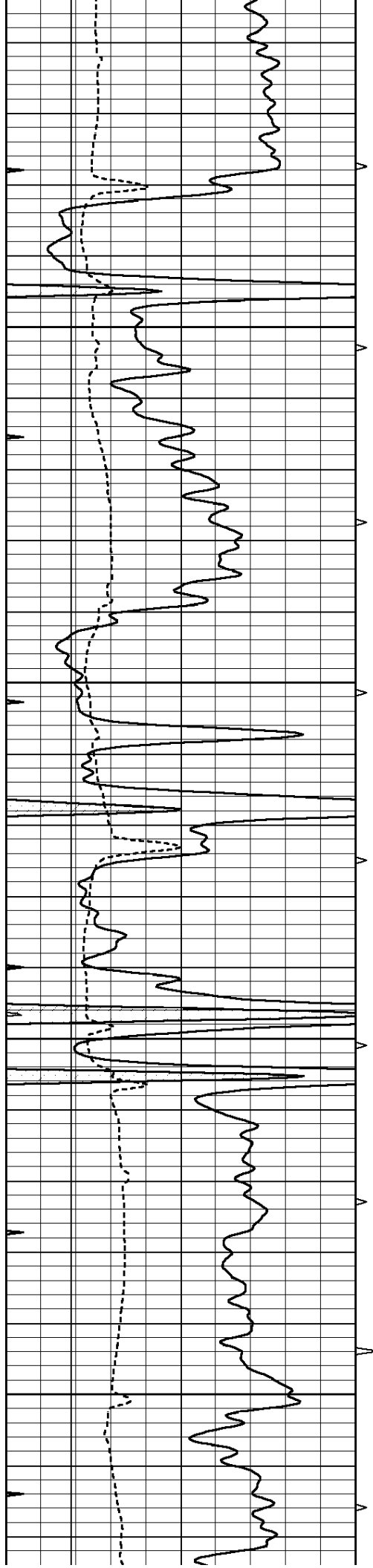
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2550

2600

2650



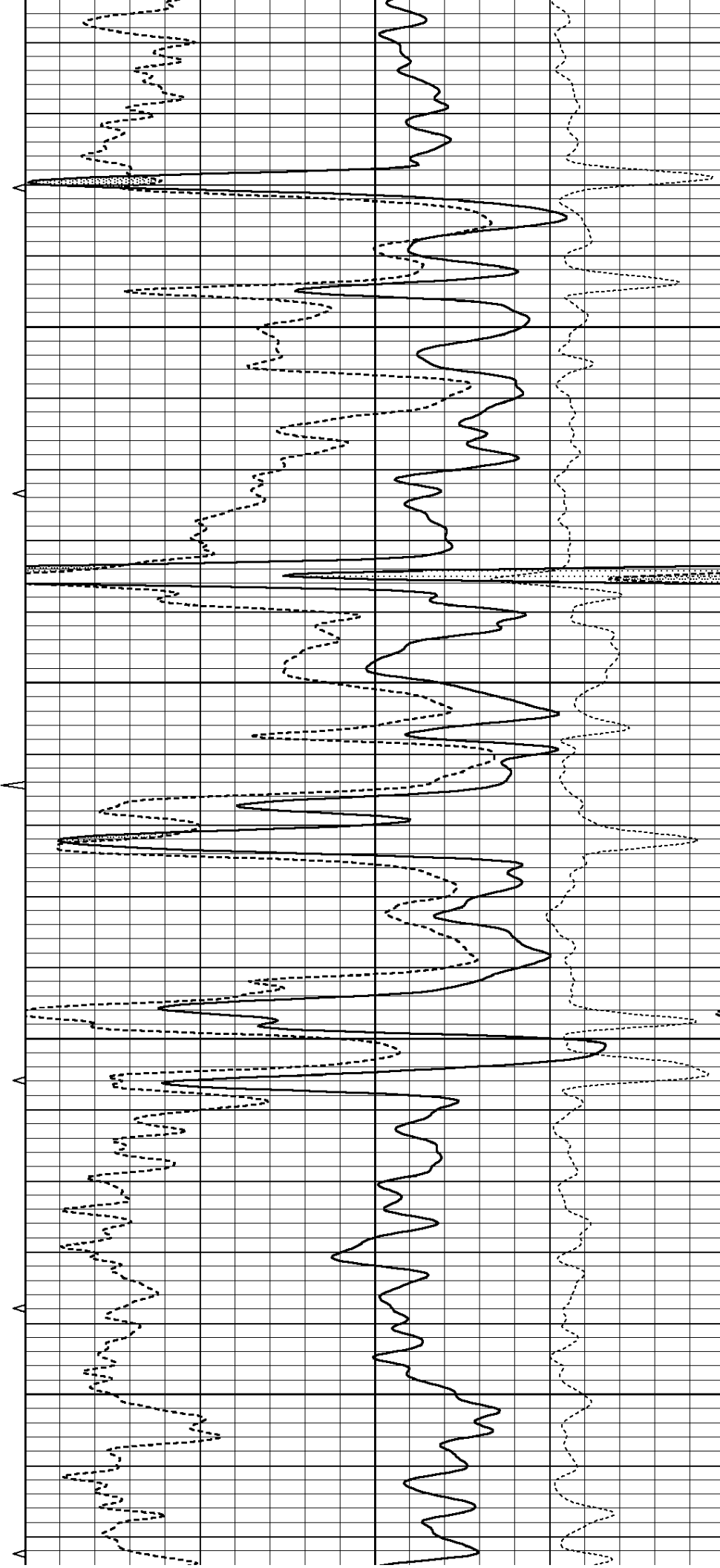


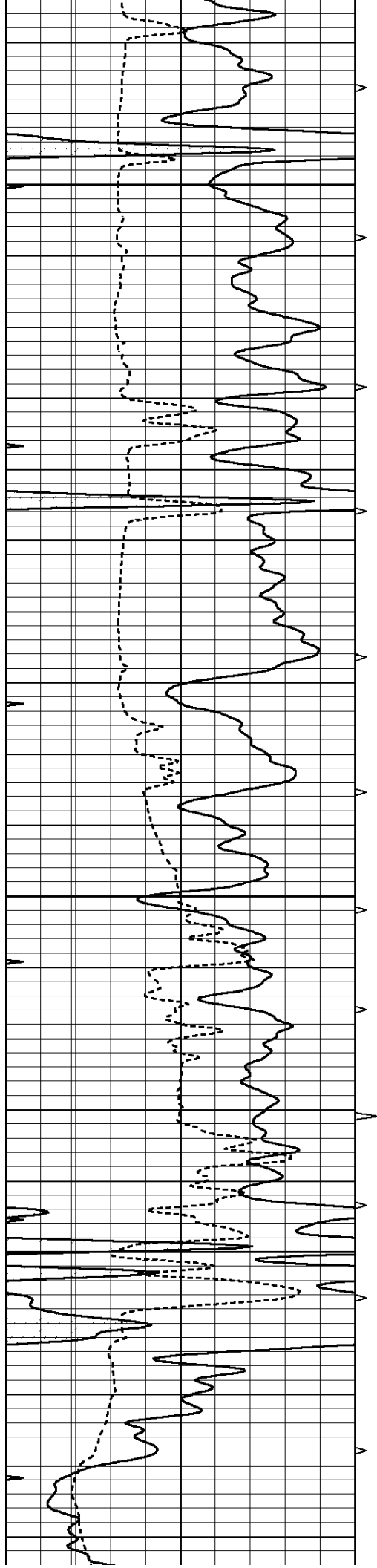
2700

2750

2800

2850



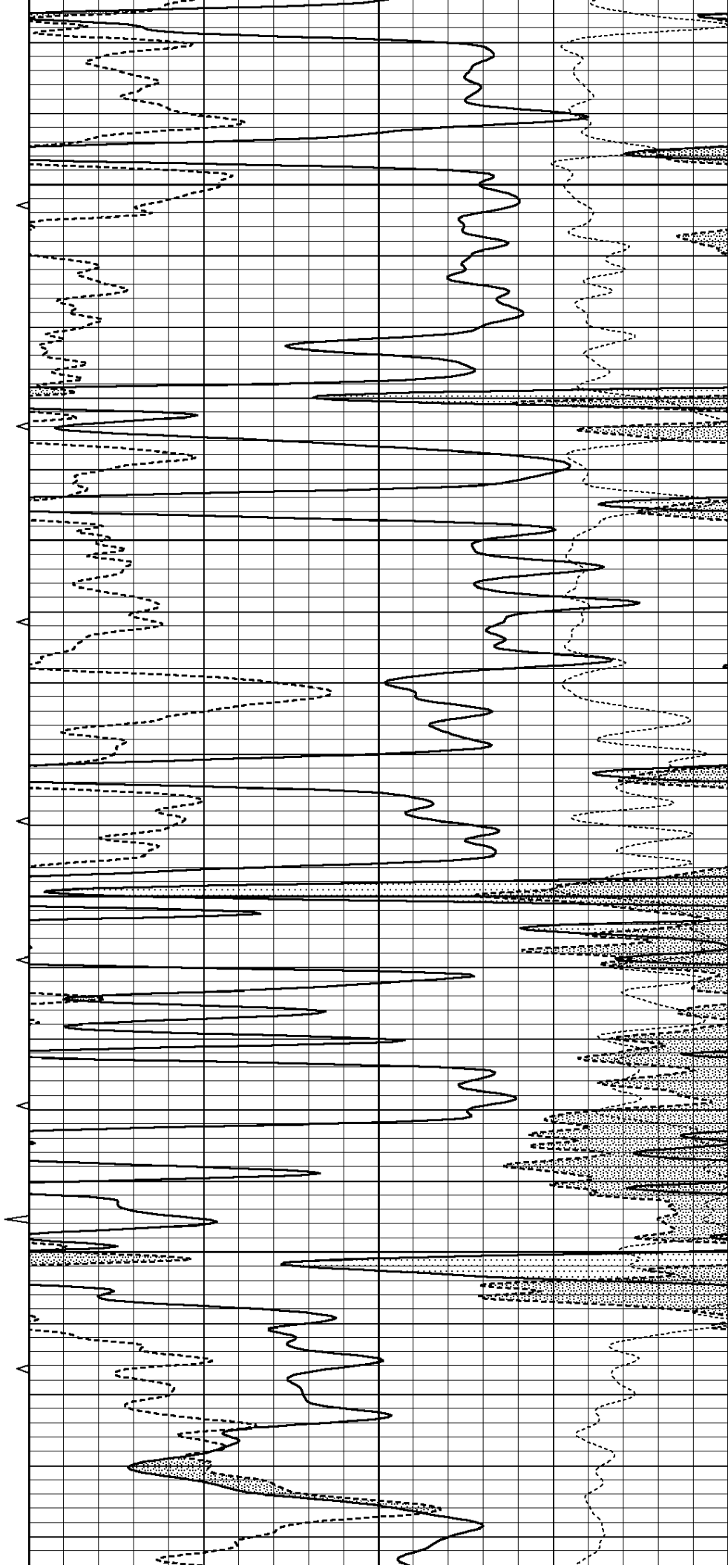


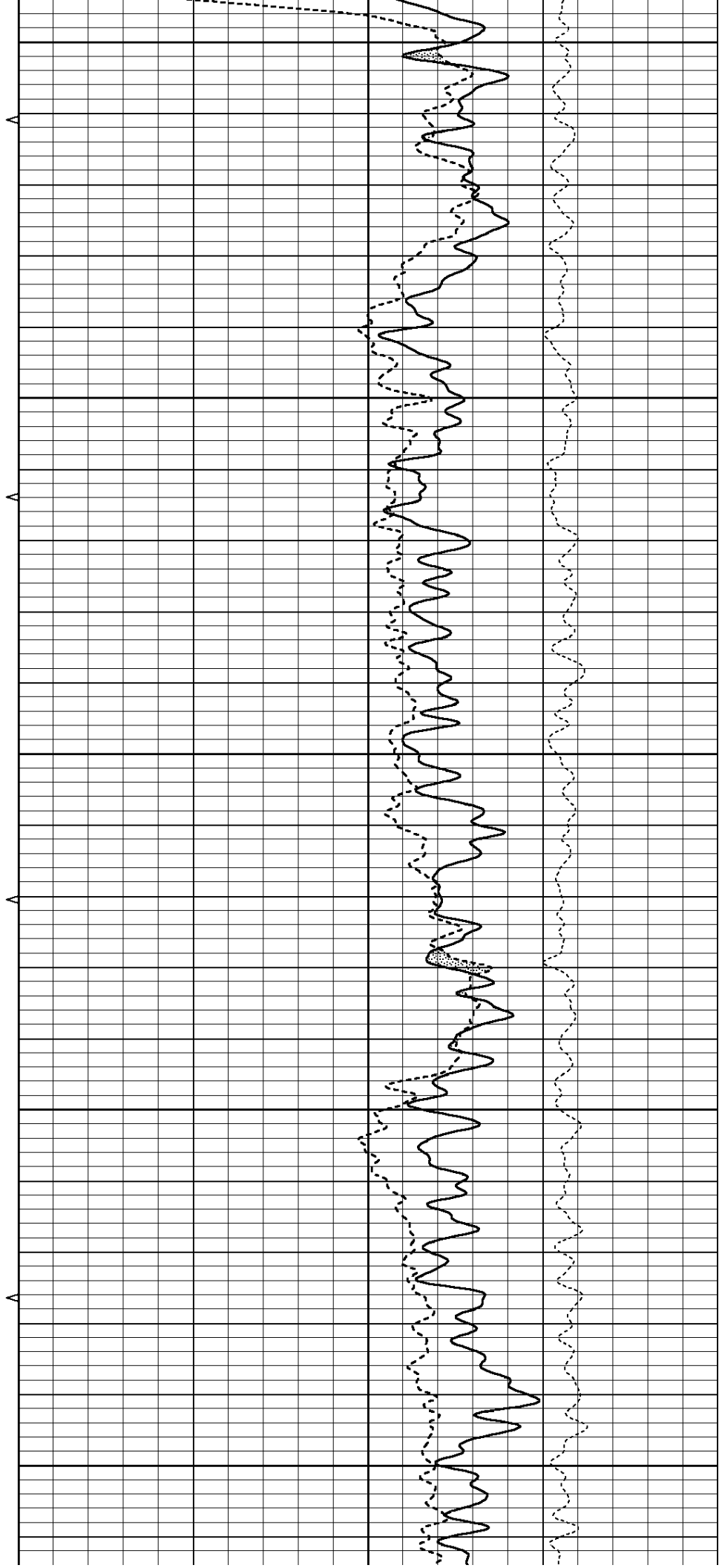
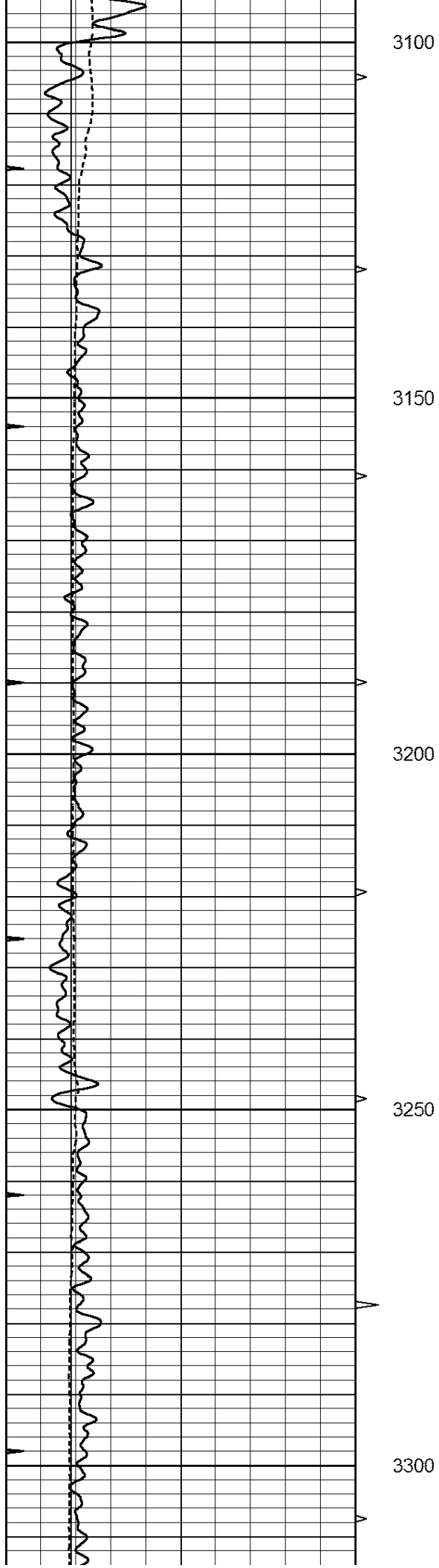
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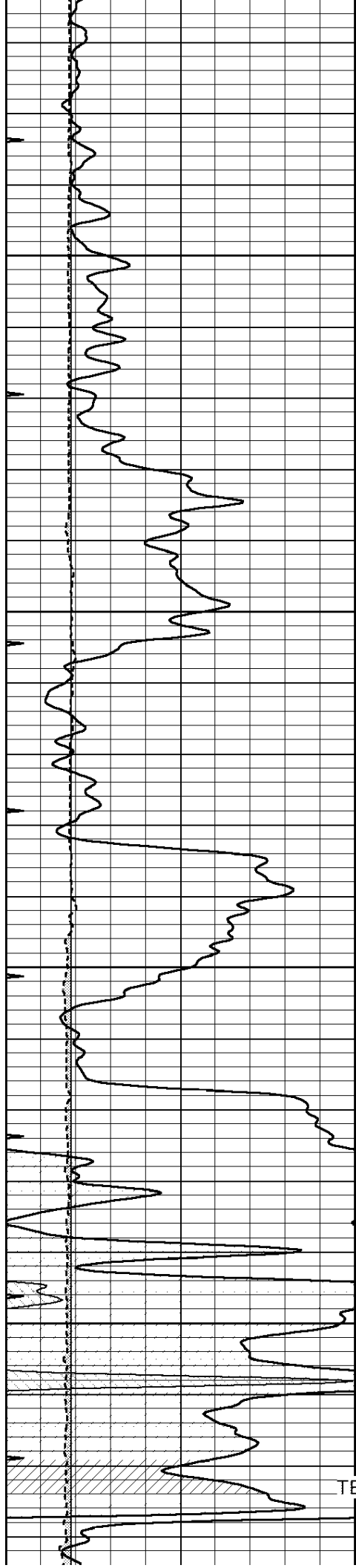
2950

3000

3050







3350

3400

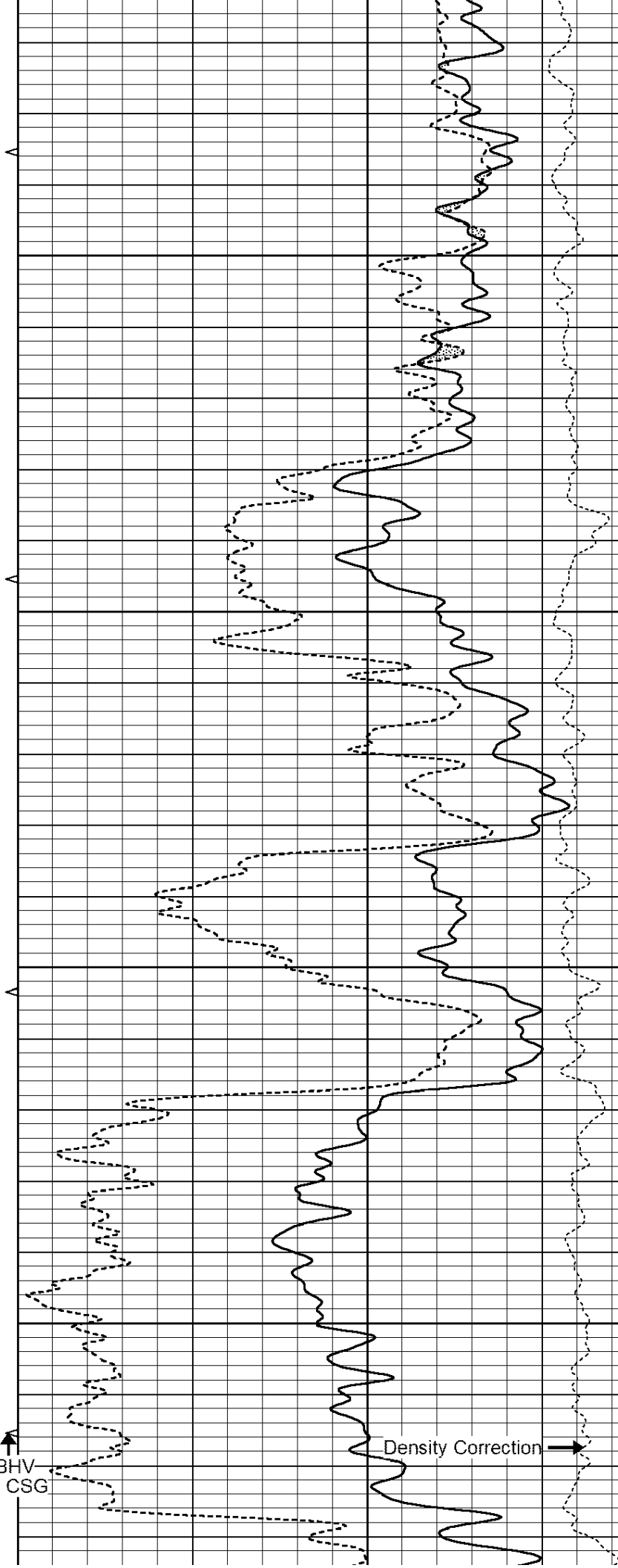
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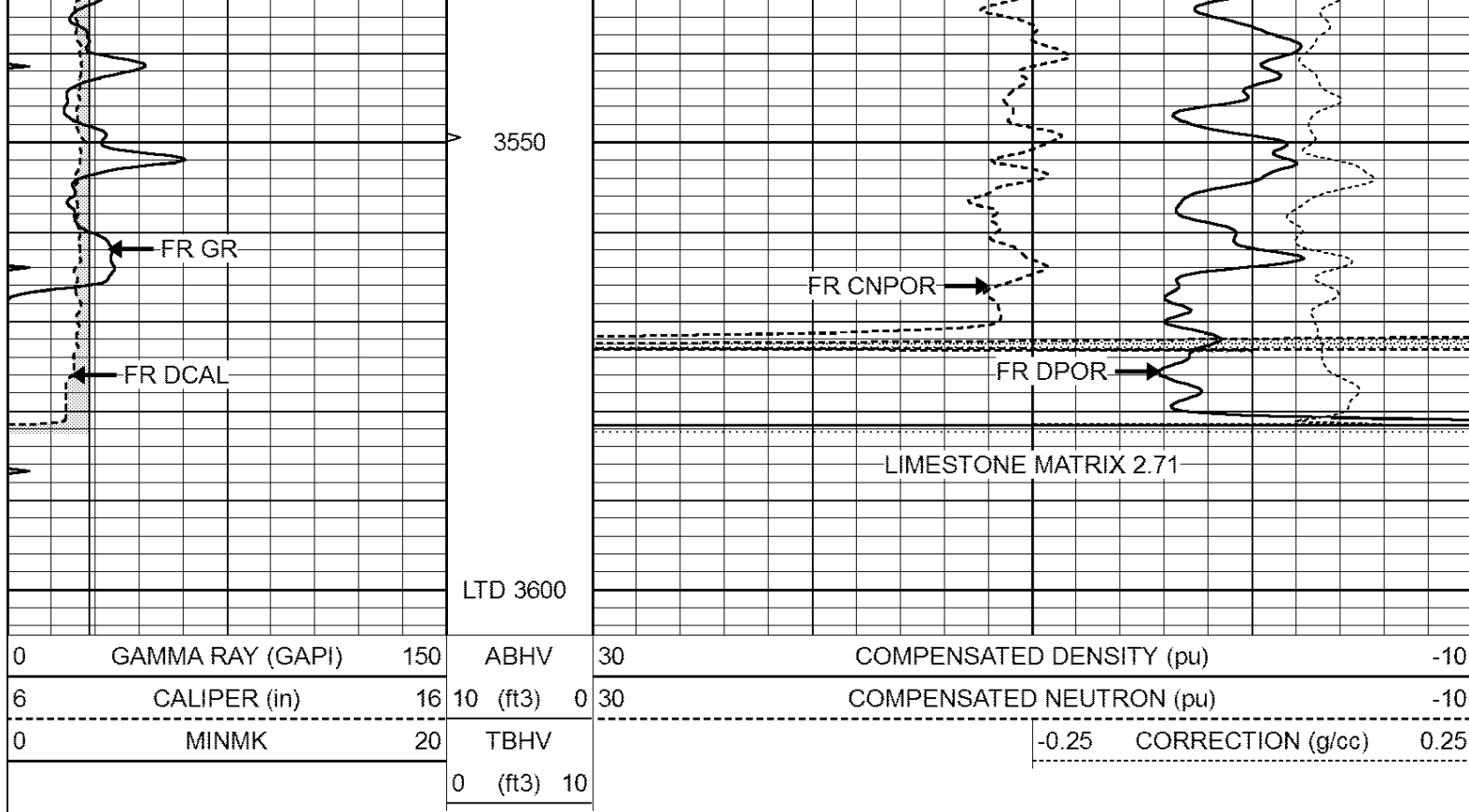
3500

TBHV

ABHV
5.5" CSG

Density Correction





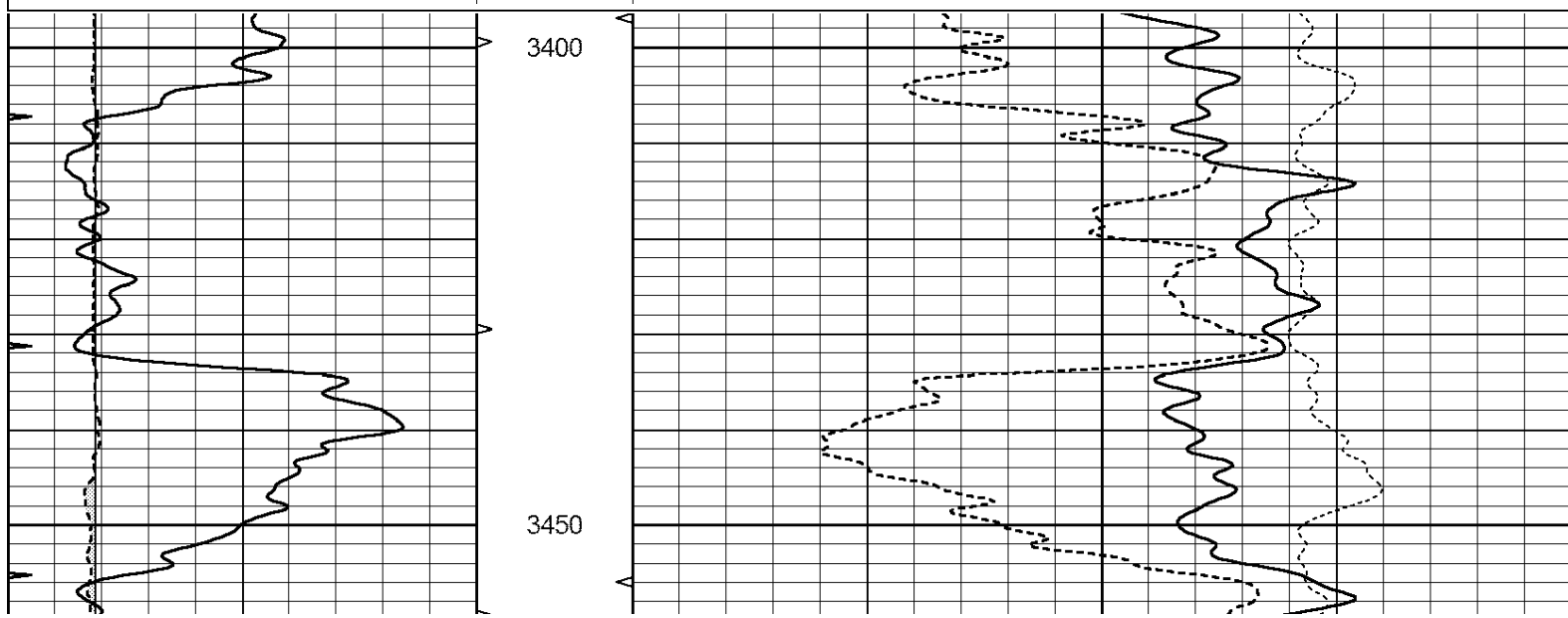
SUPERIOR

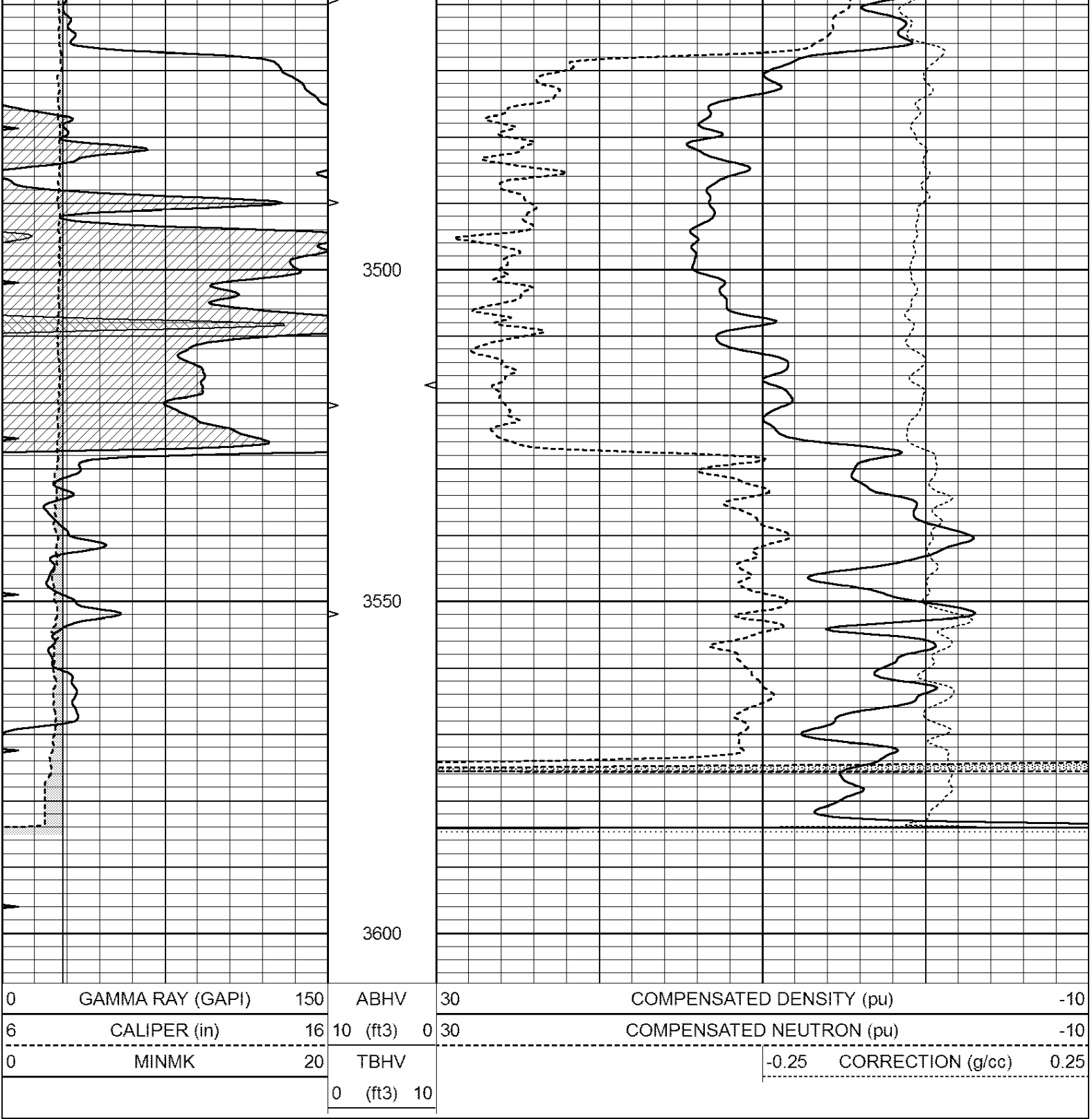
Hays,
Kansas

REPEAT SECTION

Database File: 408611pe.db
 Dataset Pathname: pass3
 Presentation Format: den_neu
 Dataset Creation: Fri Mar 23 23:22:18 2012 by Log 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			-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10					





Calibration Report					
Database File:		408611pe.db			
Dataset Pathname:		pass4.2			
Dataset Creation:		Sat Mar 24 00:28:52 2012 by Calc Open-Cased 110302			
Dual Induction Calibration Report					
Serial-Model:		DIL3-GEAR			
Performed:		Sun Mar 18 09:01:29 2012			
Readings		References		Results	
Loop:	Air	Loop	Air	Loop	m b

Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	7.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-7.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report
Serial: 006 Model: PRB
Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Caliper

	Readings	Reference	
Low Ref	4.0	8.3	
High Ref	5.9	15.0	
	Gain: 3.5		Offset: -5.5

Compensated Neutron Calibration Report

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

Serial Number: 070559
Tool Model: OPEN_GR
Performed: Wed Mar 14 16:09:52 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps