



Casedhole Solutions

COMPENSATED DENSITY/NEUTRON LOG

Company L.D. DRILLING, INC.
Well #1-15 DOWD
Field WILDCAT
County LANE
State KANSAS

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Field WILDCAT
County LANE State KANSAS

Location: 795' FSL & 1050' FEL
API #: 15-101-22578-0000
Other Services DIL/MEL
Permanent Datum GROUND LEVEL Elevation 2679
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Elevation K.B. 2684
D.F. 2682
G.L. 2679

Date	2/8/16		
Run Number	ONE		
Depth Driller	4704		
Depth Logger	4706		
Bottom Logged Interval	4682		
Top Log Interval	3400		
Casing Driller	8 5/8" @ 305'		
Casing Logger	304		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3900 PPM	
Density / Viscosity	9.5/46		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80 @ 55F		
Rmt @ Meas. Temp	.60 @ 55F		
Rmc @ Meas. Temp	.96 @ 55F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.36 @ 122F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	122F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	KIM SHOEMAKER		

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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

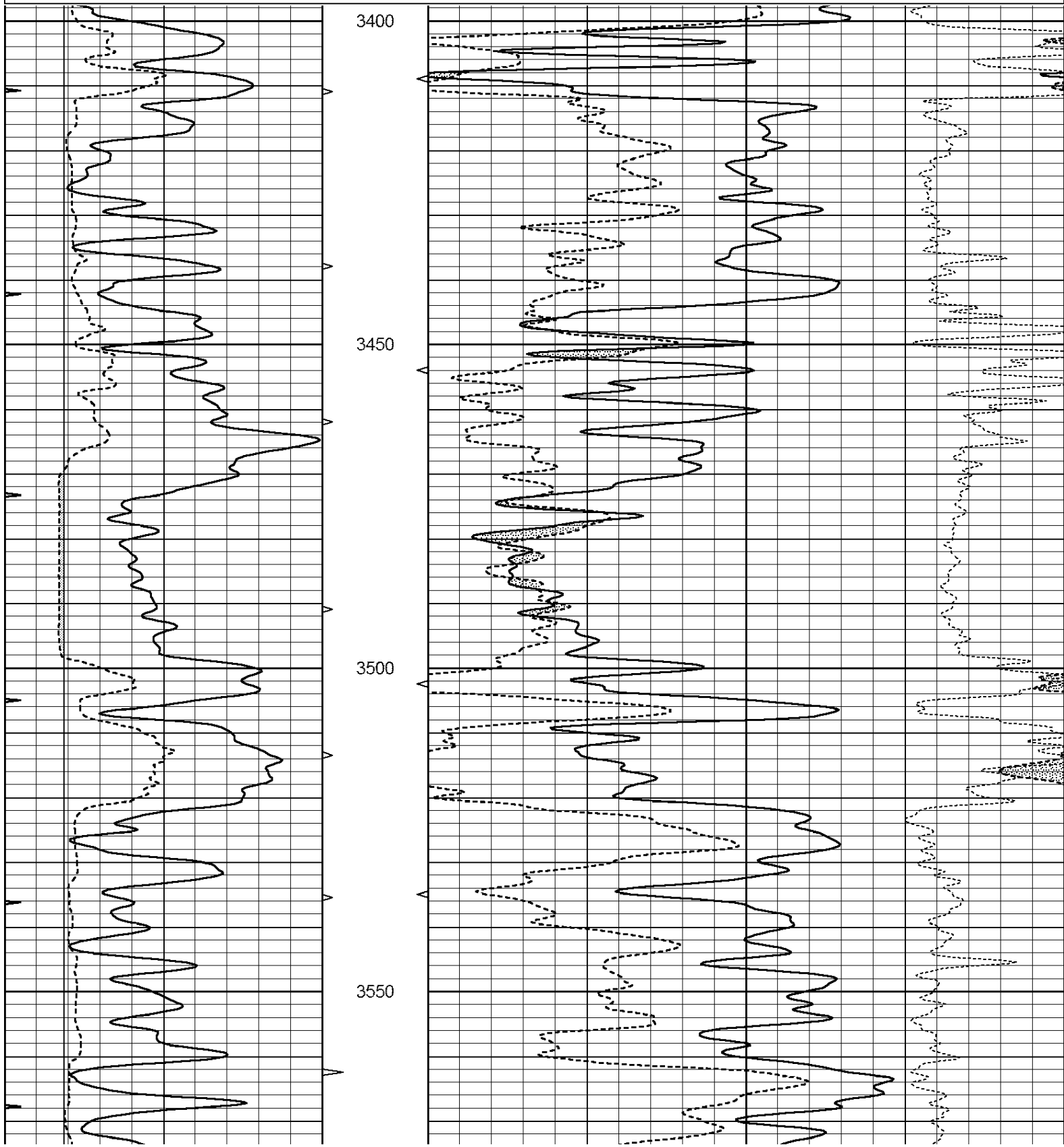
THANK YOU FOR USING CASED HOLE SOLUTIONS, HAYS, KS. (785) 628-6395
DIRECTIONS:
NESS CITY, KS. - WEST TO COUNTY LINE - 2 MILES WEST TO MILE MARKER
96 - 1/4 MORE WEST - NORTH & WEST INTO

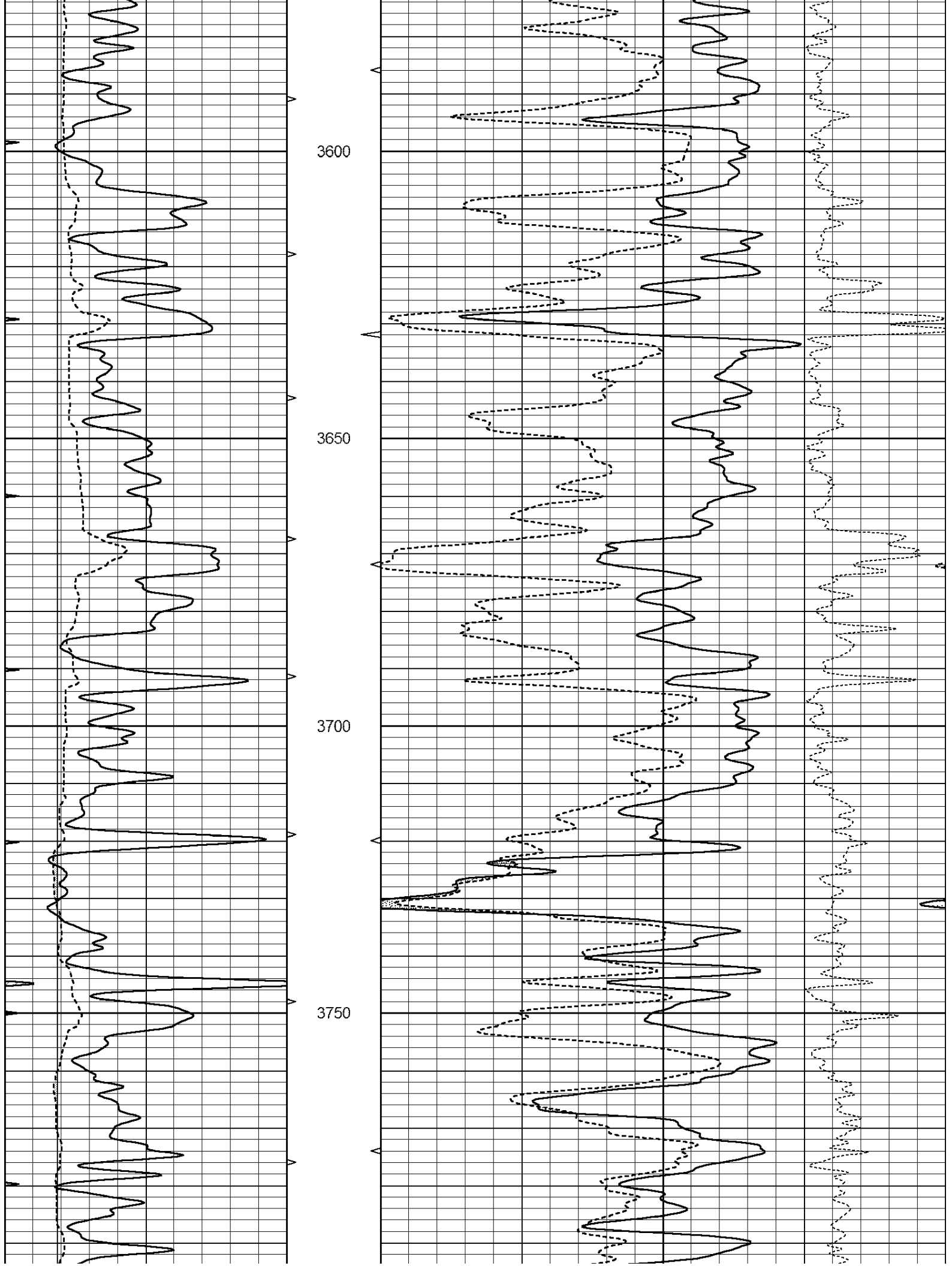


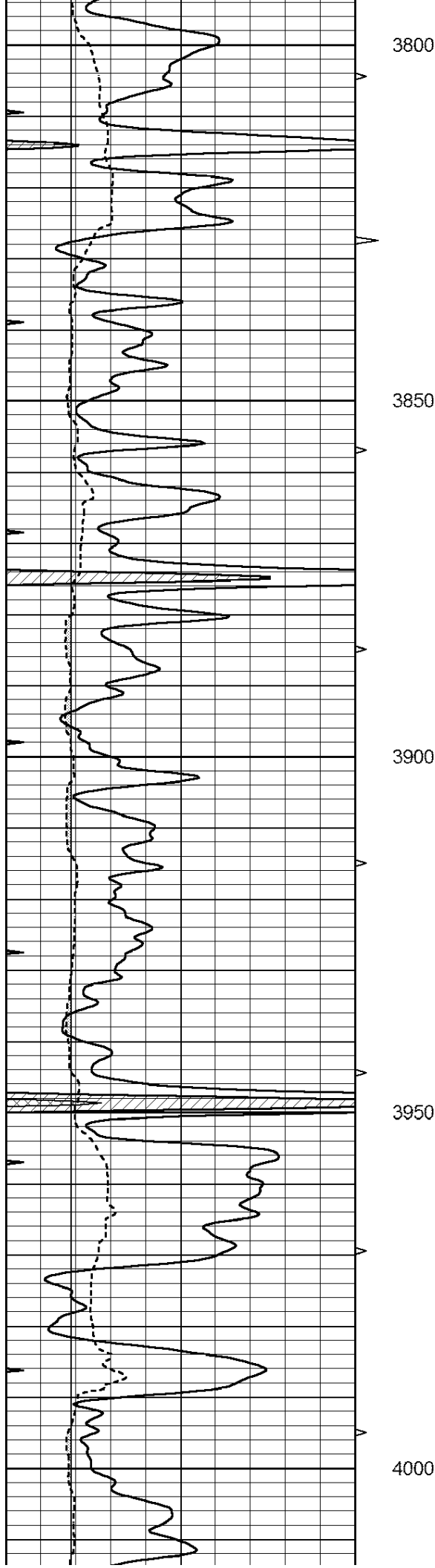
MAIN SECTION

Database File: 30892ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: den_neu
 Dataset Creation: Tue Feb 09 00:00:23 2016 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 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		







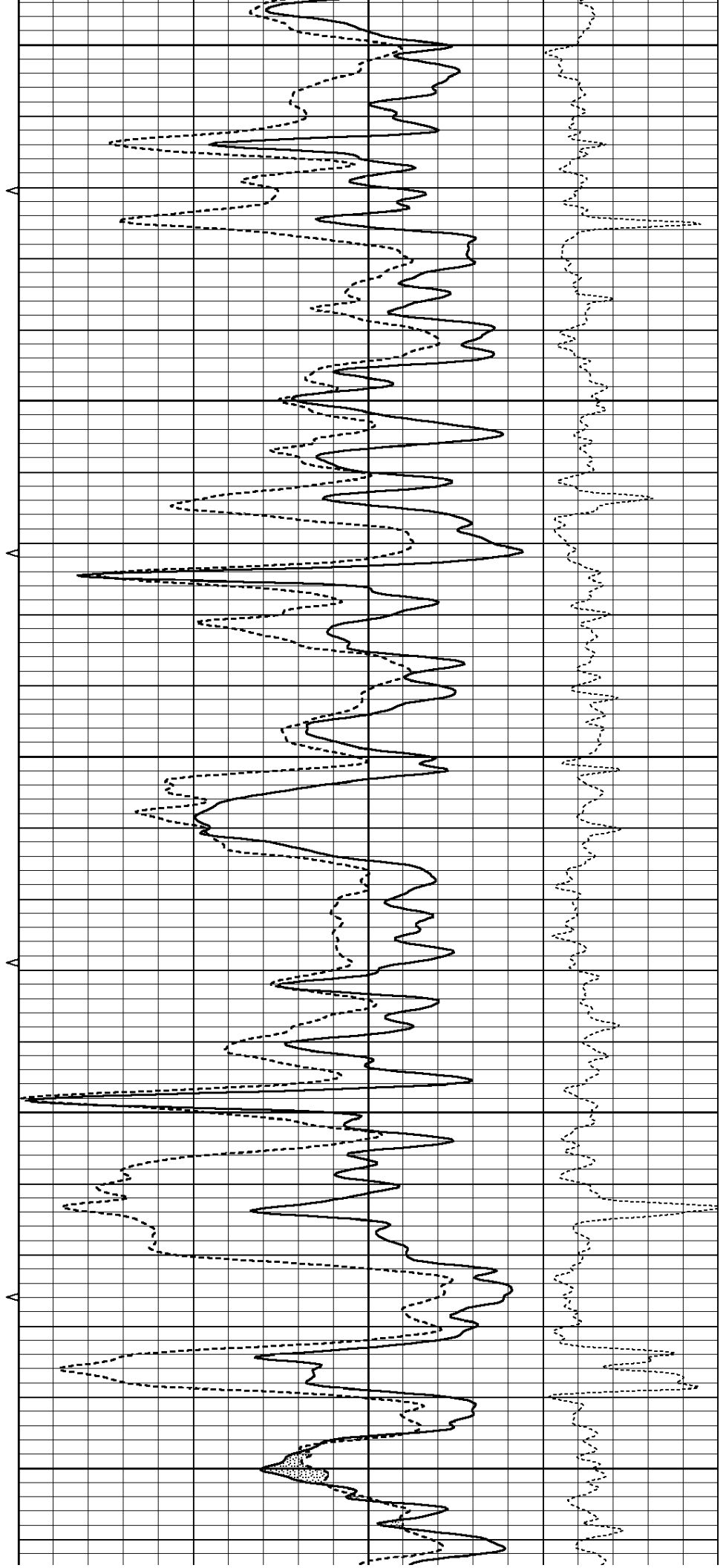
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3850

3900

3950

4000



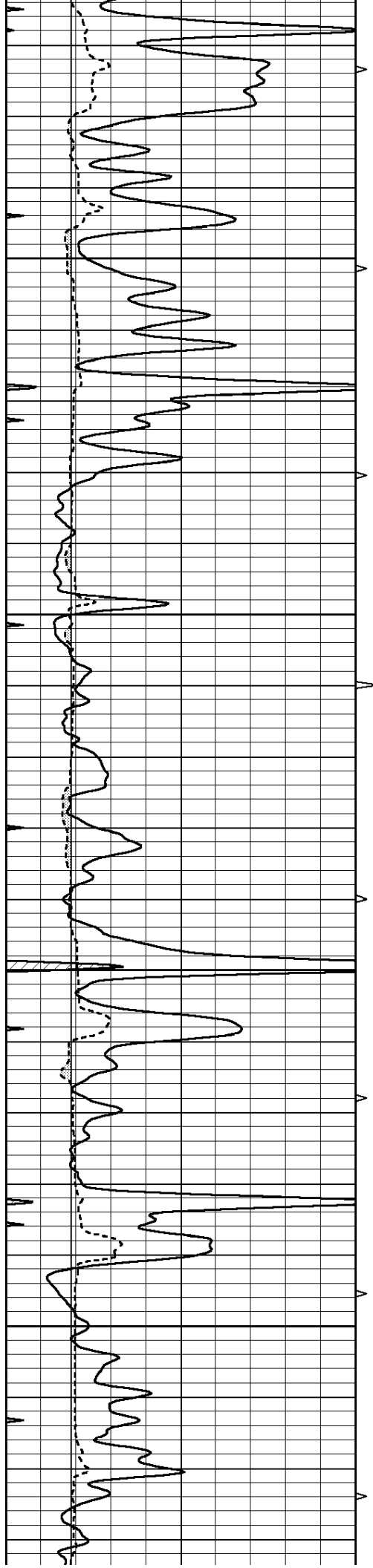
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3900

3950

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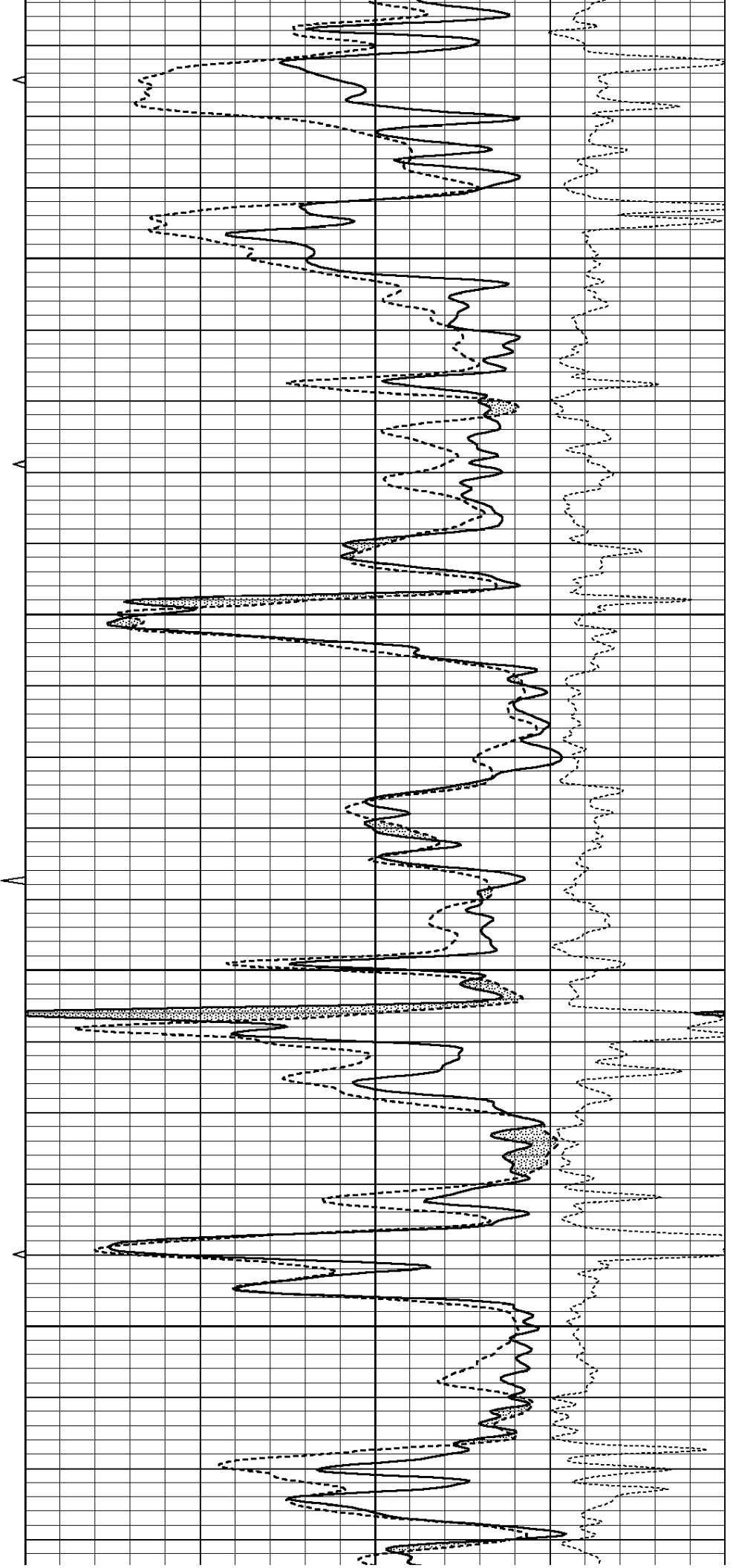


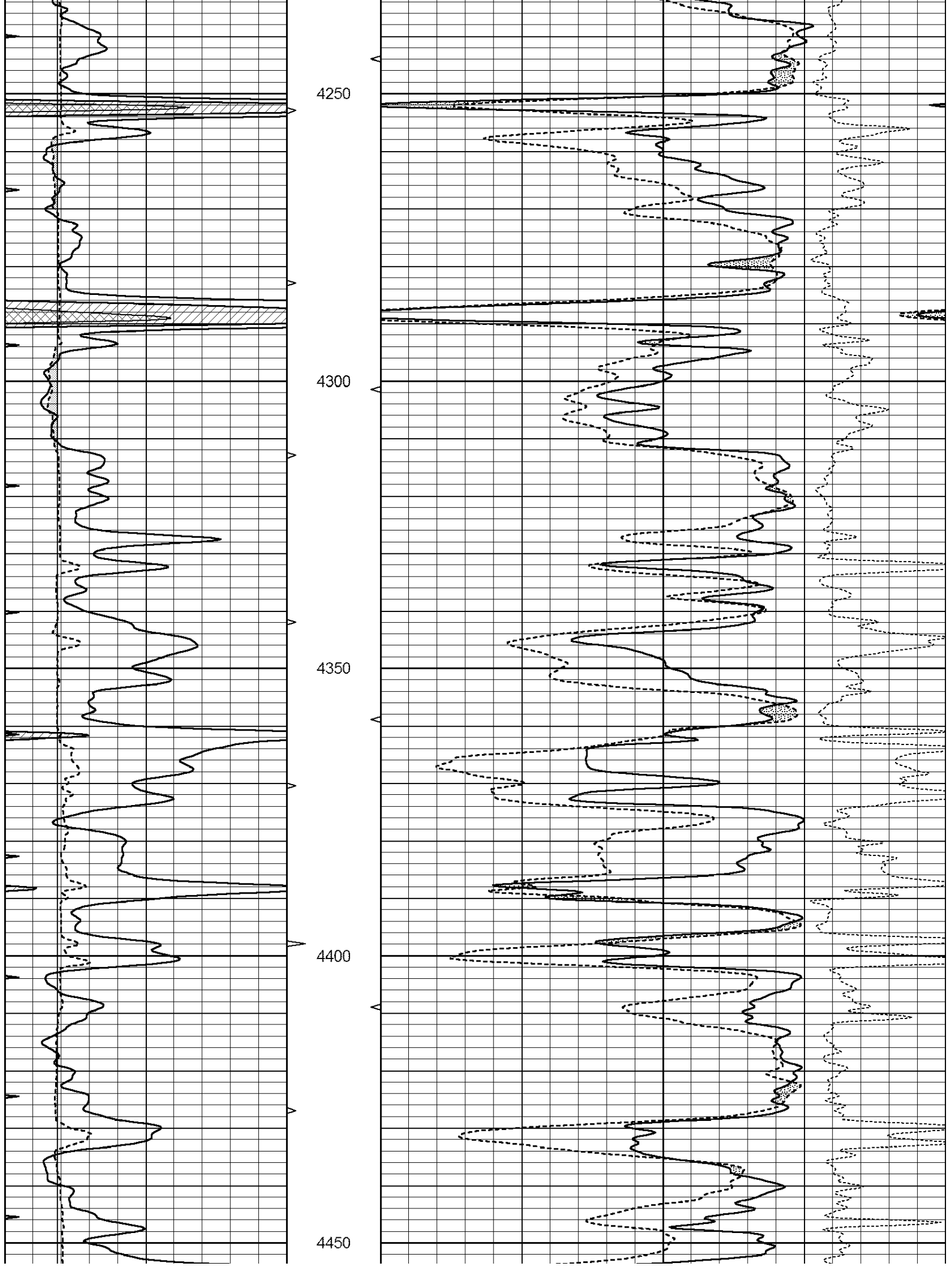
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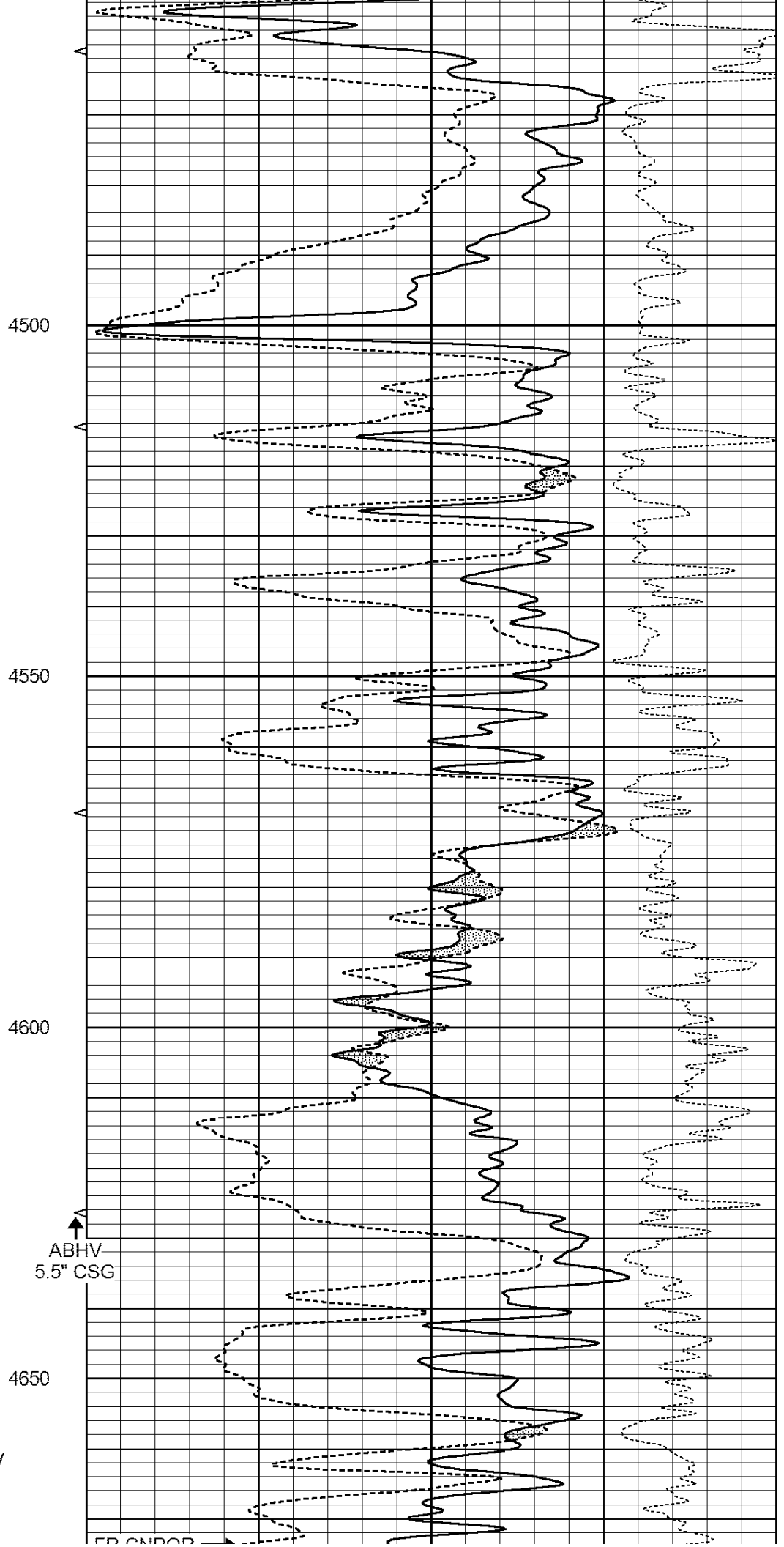
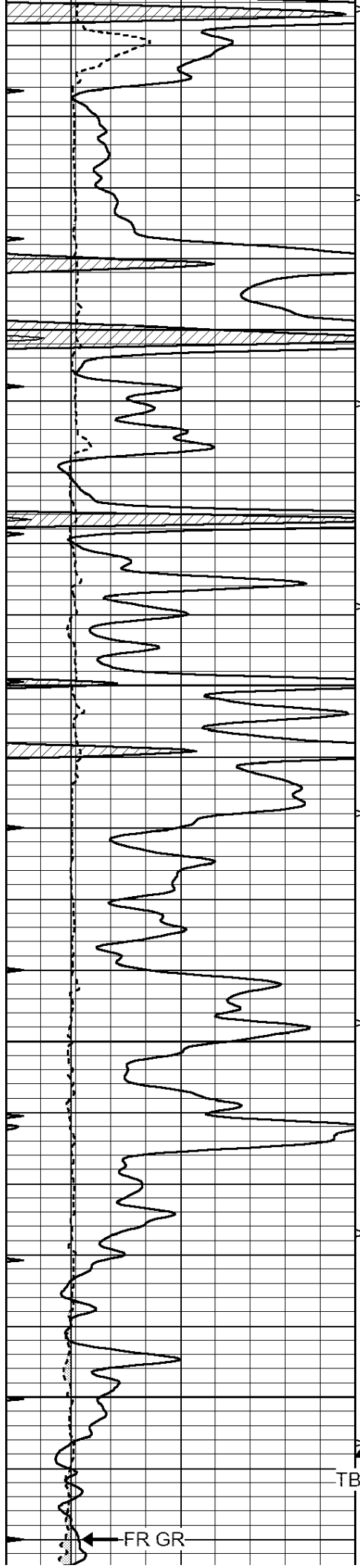
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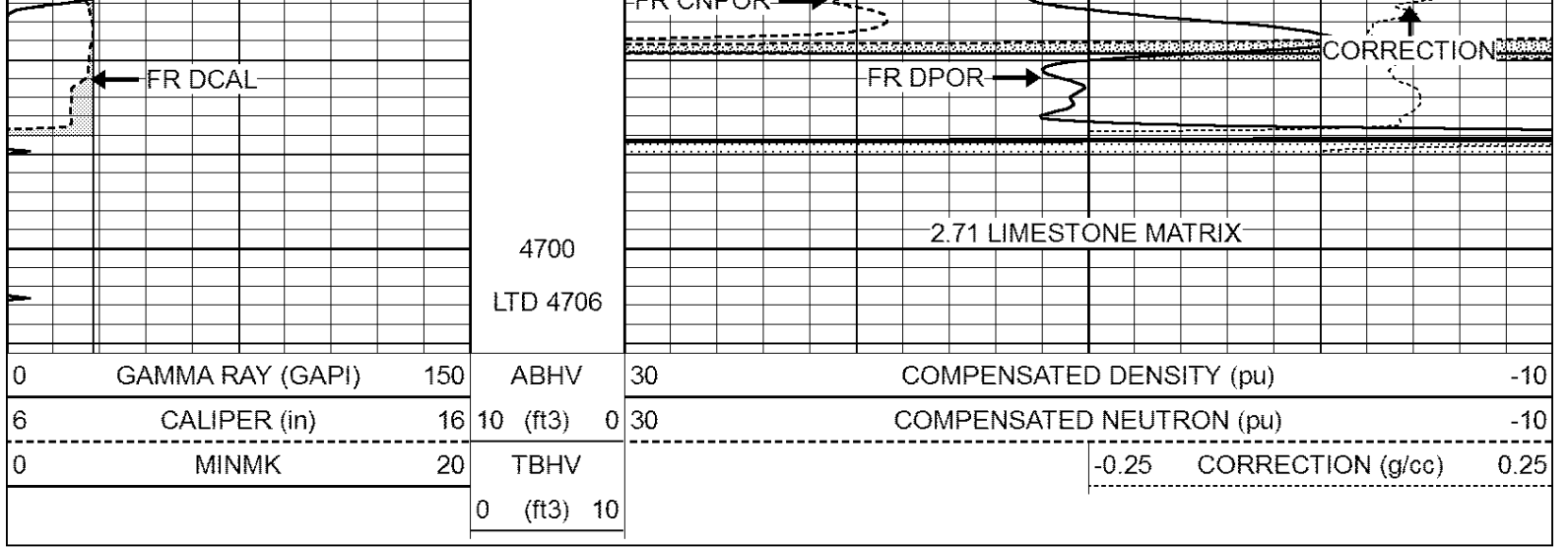
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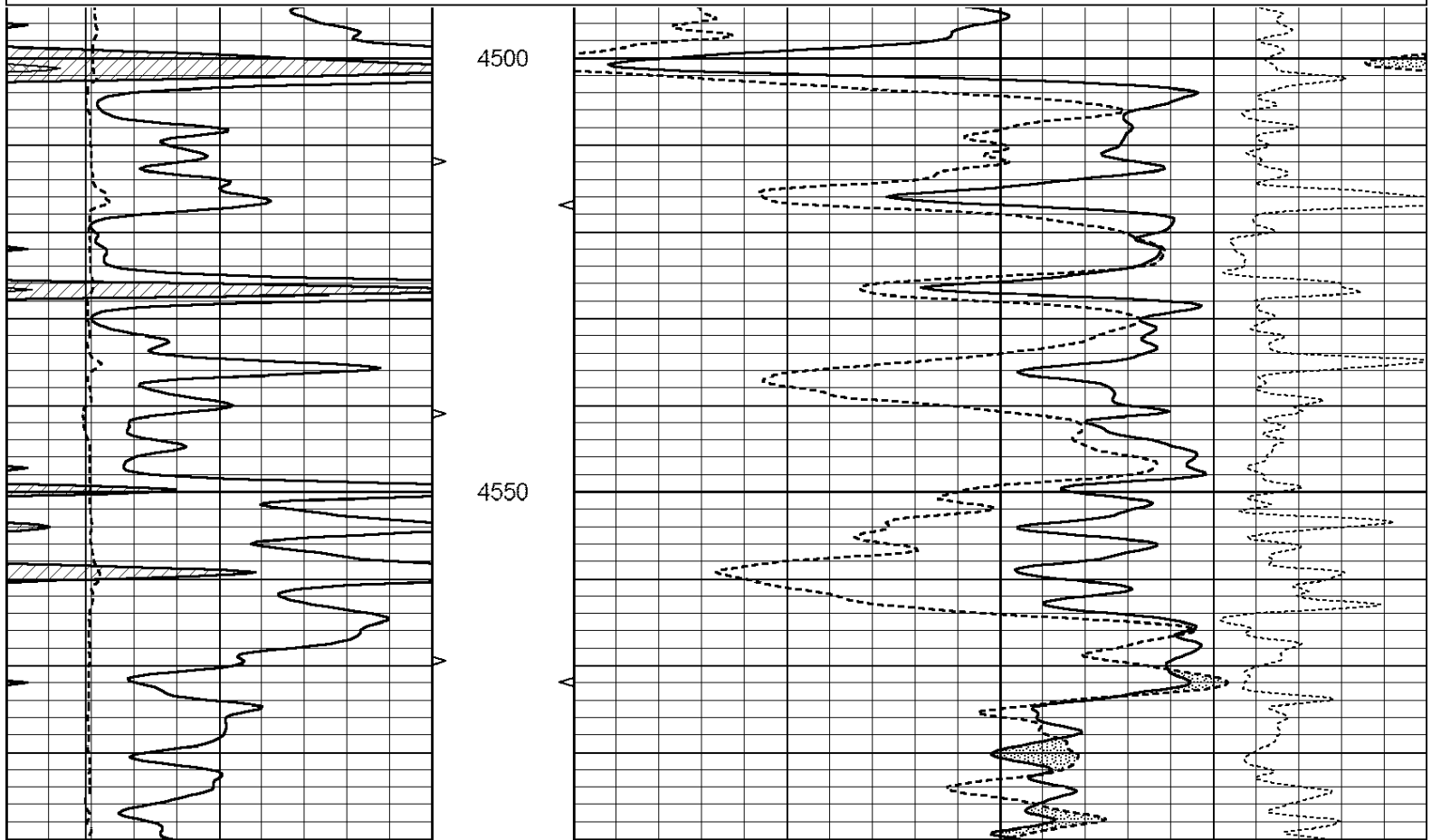


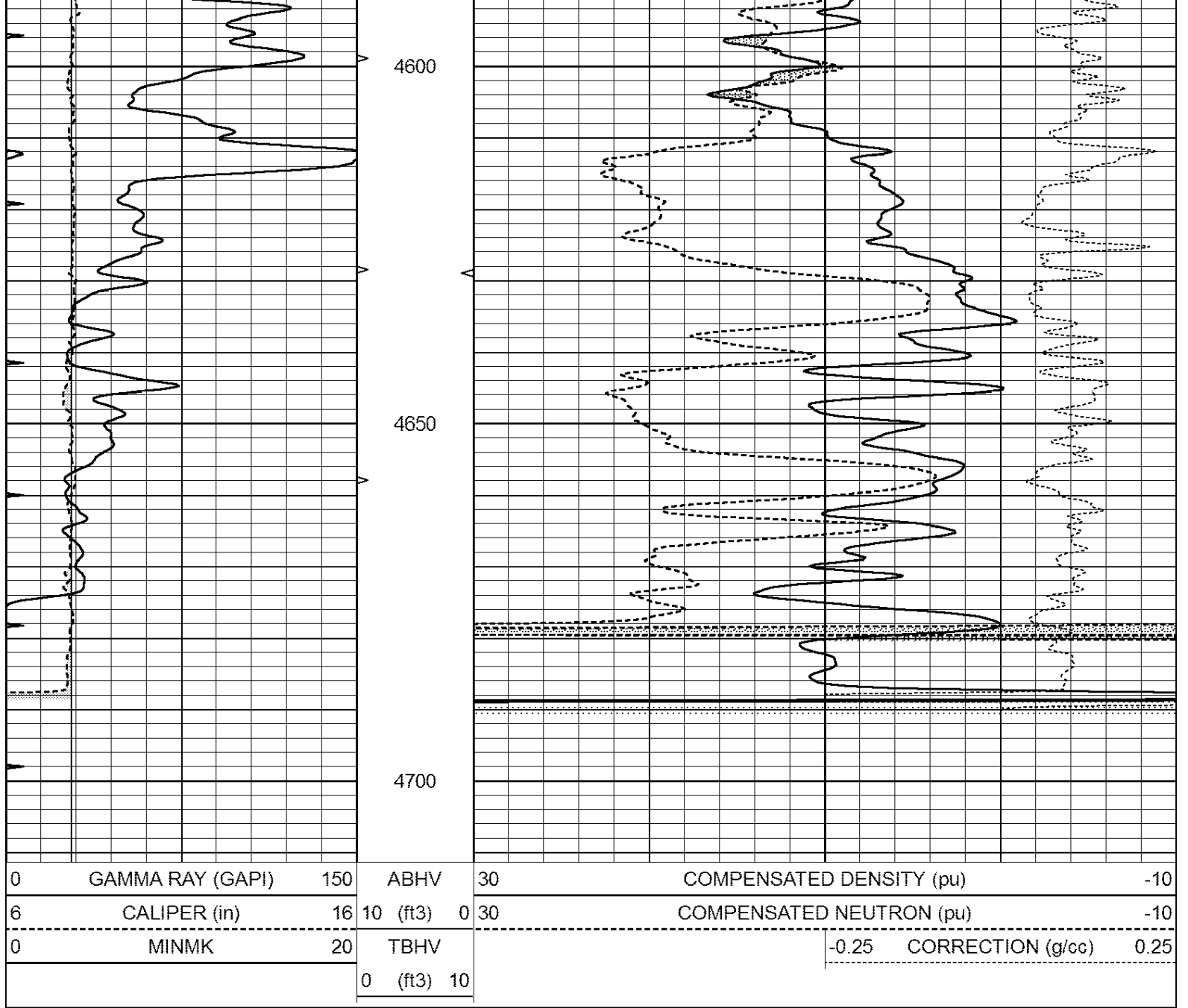
**Casedhole
Solutions**

REPEAT SECTION

Database File: 30892ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: den_neu
 Dataset Creation: Mon Feb 08 23:40:03 2016 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		-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10			





Calibration Report

Database File: 30892ddn.db
 Dataset Pathname: pass2.1
 Dataset Creation: Mon Feb 08 23:40:03 2016 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Sun May 10 19:54:09 2015
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

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	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
Internal:	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
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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		

Compensated Density Calibration Report

Serial-Model:	GEAR5-GEARHART
Source / Verifier:	/
Master Calibration Performed:	Sun Dec 06 13:45:22 2015
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration						
	Density		Far Detector	Near Detector		
	Magnesium	1.710	g/cc	798.83	465.02	cps
Aluminum	2.570	g/cc	178.16	323.19	cps	
Spine Angle = 76.37			Density/Spine Ratio = 0.557			
	Size		Reading			
Small Ring	7.00	in	1.47	V		
Large Ring	14.00	in	3.01	V		

Before Survey Verification						
	Target		Measured			
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

After Survey Verification						
	Target		Measured			
		g/cc			g/cc	
		g/cc			g/cc	
		g/cc			g/cc	

Compensated Neutron Calibration Report

Serial Number:	6I
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:		Thu Nov 12 05:47:01 2015					
Calibrator Value:		150.0		GAPI			
Background Reading:		0.0		cps			
Calibrator Reading:		276.0		cps			
Sensitivity:		0.4500		GAPI/cps			