



Casedhole Solutions

COMPENSATED DENSITY/NEUTRON LOG

Company	YOUNGER ENERGY COMPANY	Company	YOUNGER ENERGY COMPANY
Well	SHARTZ #2-34	Well	SHARTZ #2-34
Field	HURRAY	Field	HURRAY
County	PAWNEE	County	PAWNEE
State	KANSAS	State	KANSAS
Location:	1450' FSL & 1100' FEL	API # :	15-145-21814-0000
Permanent Datum	GROUND LEVEL	Elevation	1970
Log Measured From	KELLY BUSHING 8' A.G.L.	Other Services	DIL/MEL
Drilling Measured From	KELLY BUSHING	Elevation	K.B. 1978 D.F. 1976 G.L. 1970
	SEC 34 TWP 21S RGE 15W		

Date	12/8/15
Run Number	ONE
Depth Driller	4000
Depth Logger	3993
Bottom Logged Interval	3969
Top Log Interval	3200
Casing Driller	8 5/8" @ 945
Casing Logger	936
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/47
pH / Fluid Loss	10.0/9.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.50 @ 60F
Rmt @ Meas. Temp	.37 @ 60F
Rmc @ Meas. Temp	.60 @ 60F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.25 @ 116F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	7:00 P.M.
Maximum Recorded Temperature	116F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	KEITH REAVIS

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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

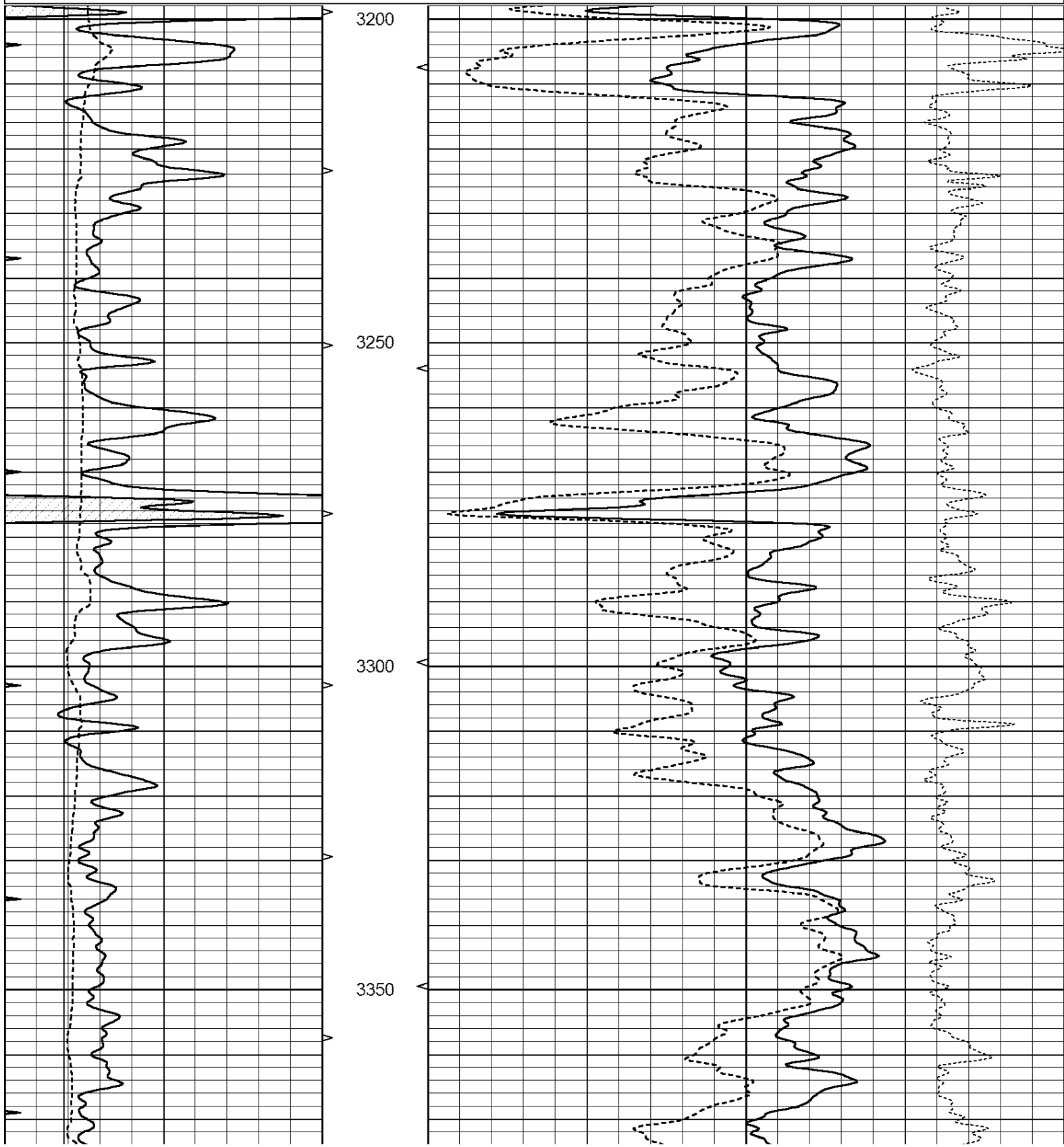
THANK YOU FOR USING CASED HOLE SOLUTIONS, HAYS, KS. (785) 628-6395
DIRECTIONS:
LARNED, KS. - 8 EAST ON HWY 19 TO RD. 30 - 1 NORTH - 1/4 WEST - NORTH INTO
THRU ELECTRIC GATE

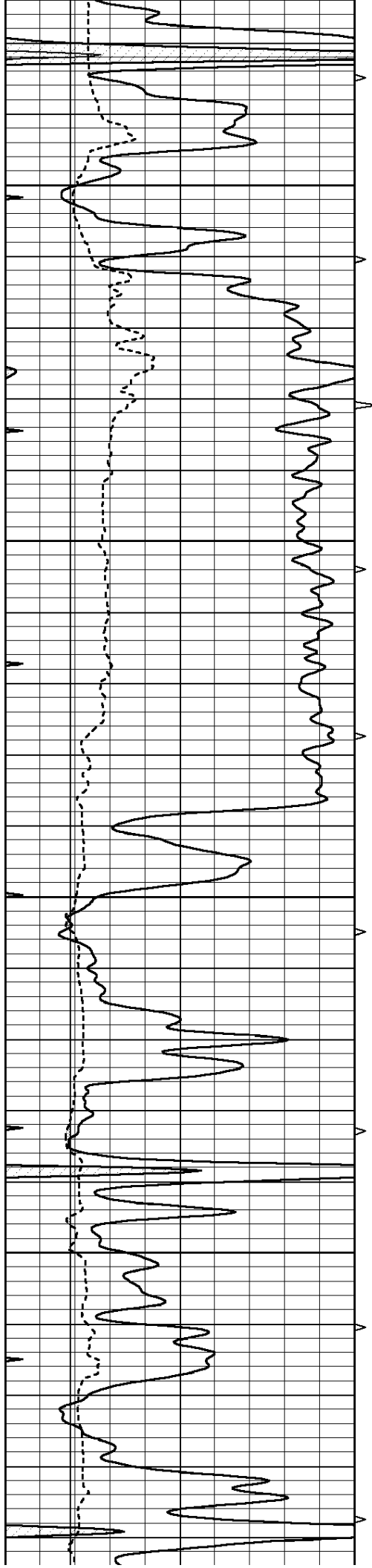


MAIN SECTION

Database File: 30887ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: den_neu
 Dataset Creation: Tue Dec 08 19:41:48 2015 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		



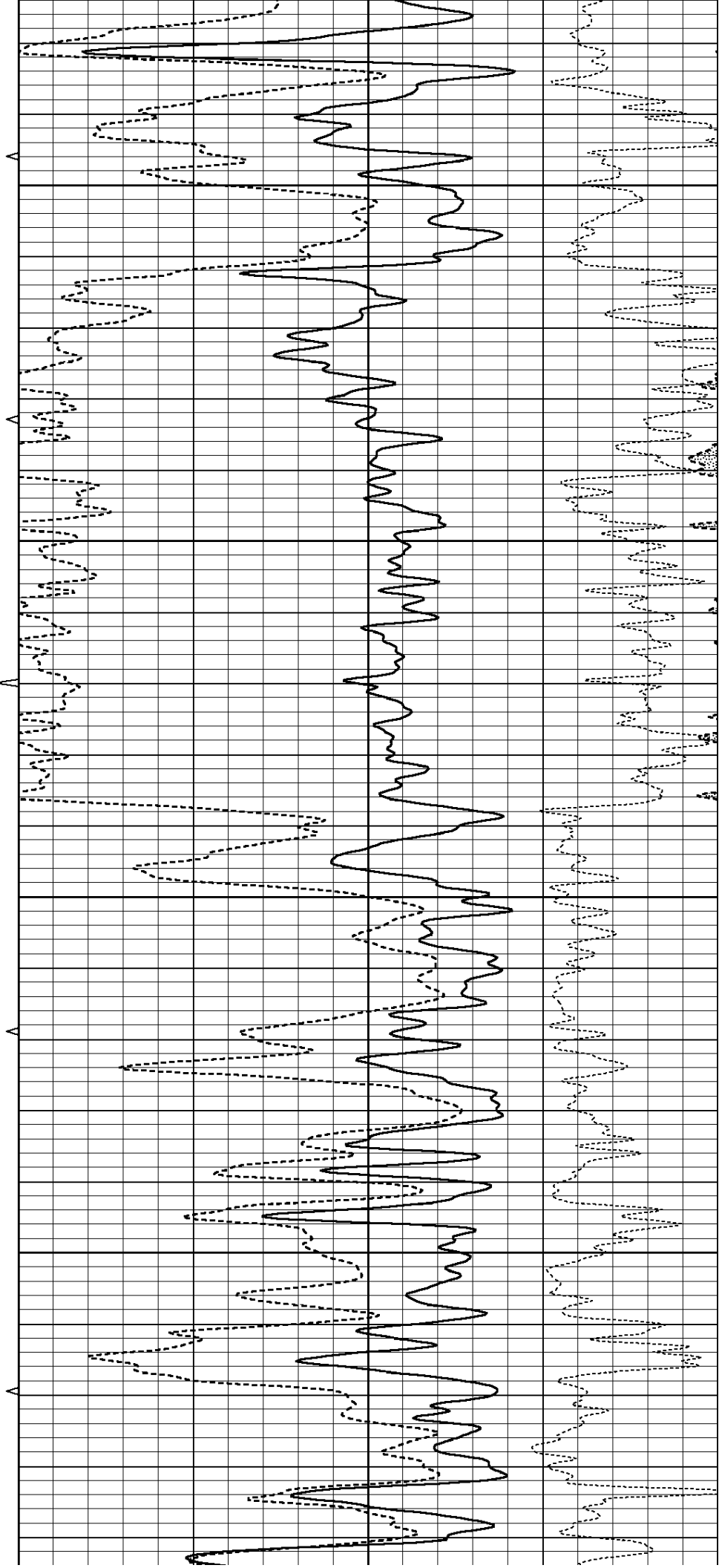


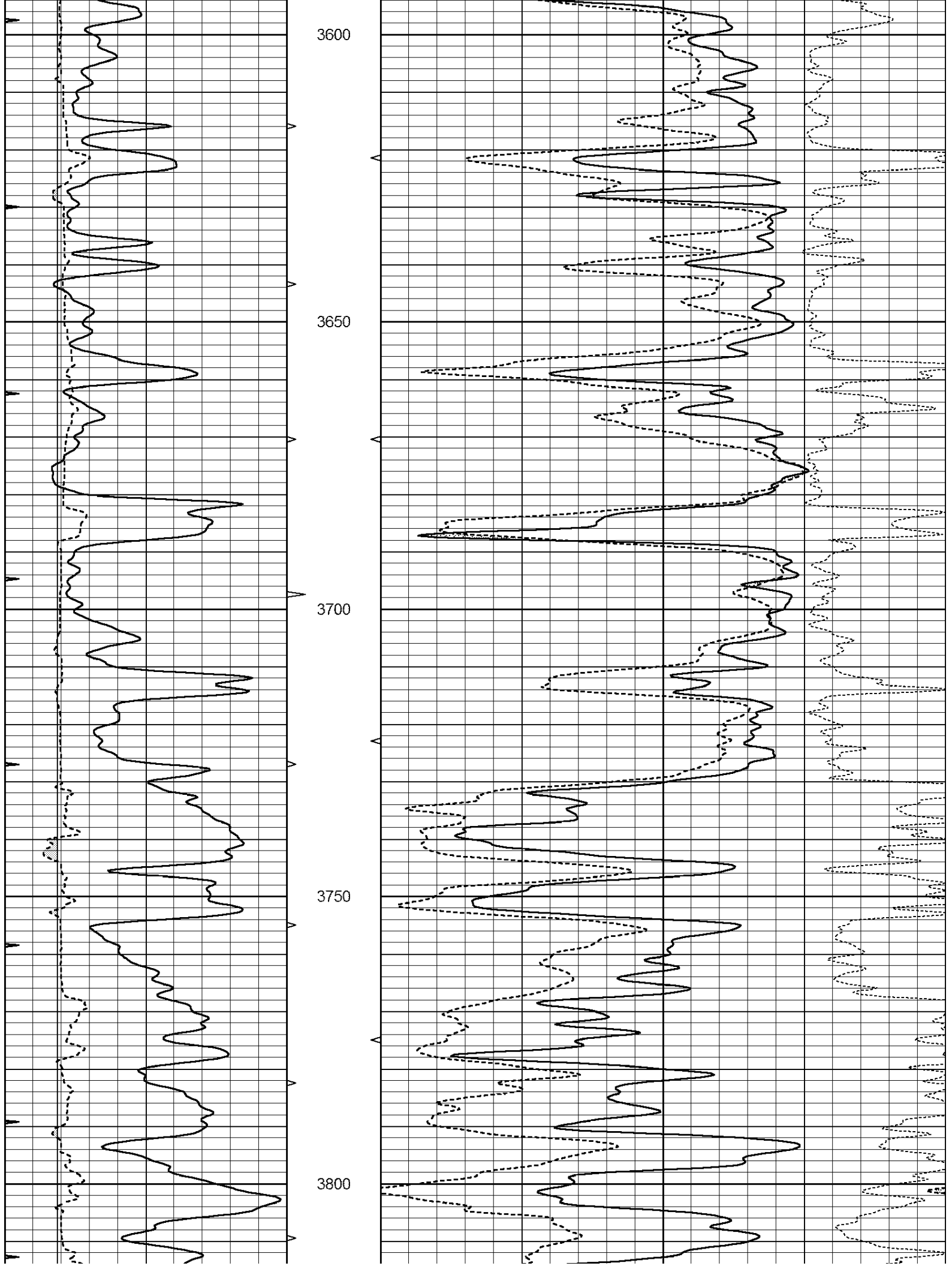
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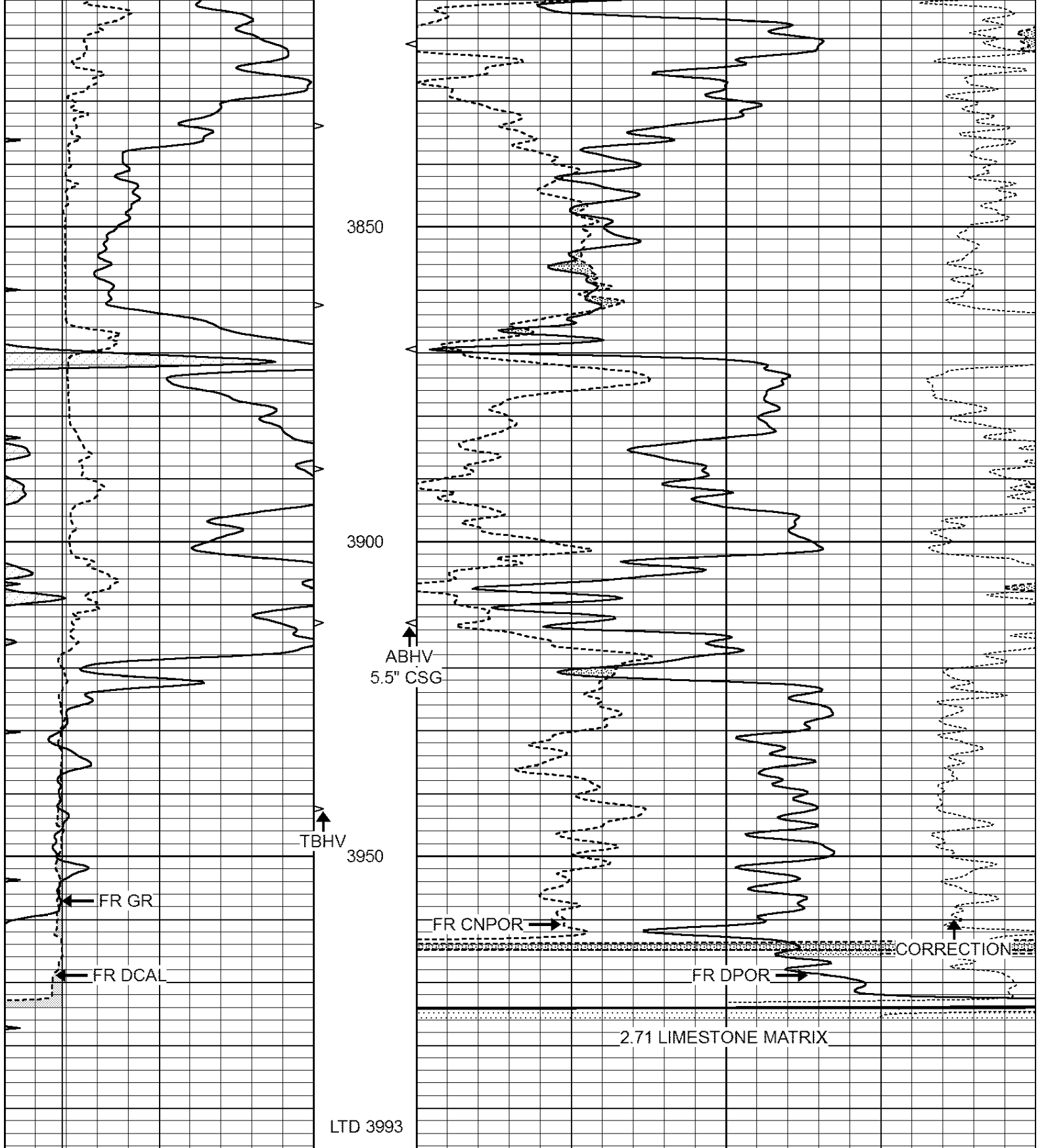
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3500

3550







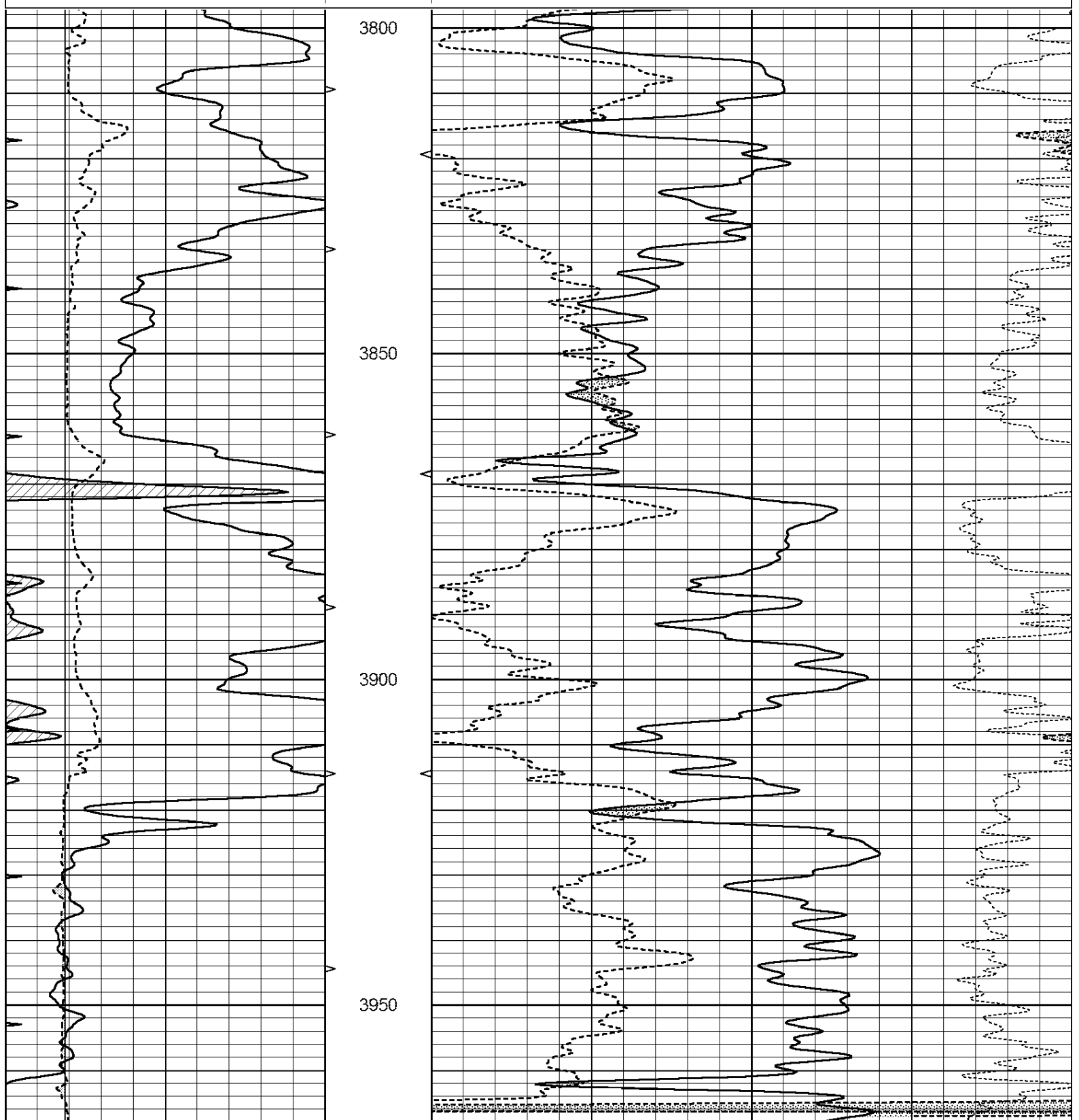
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10	
6	CALIPER (in)	16	10 (ft3)	0	COMPENSATED NEUTRON (pu)	-10	
0	MINMK	20	TBHV		-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10			



REPEAT SECTION

Database File: 30887ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: den_neu
 Dataset Creation: Tue Dec 08 19:31:51 2015 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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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		



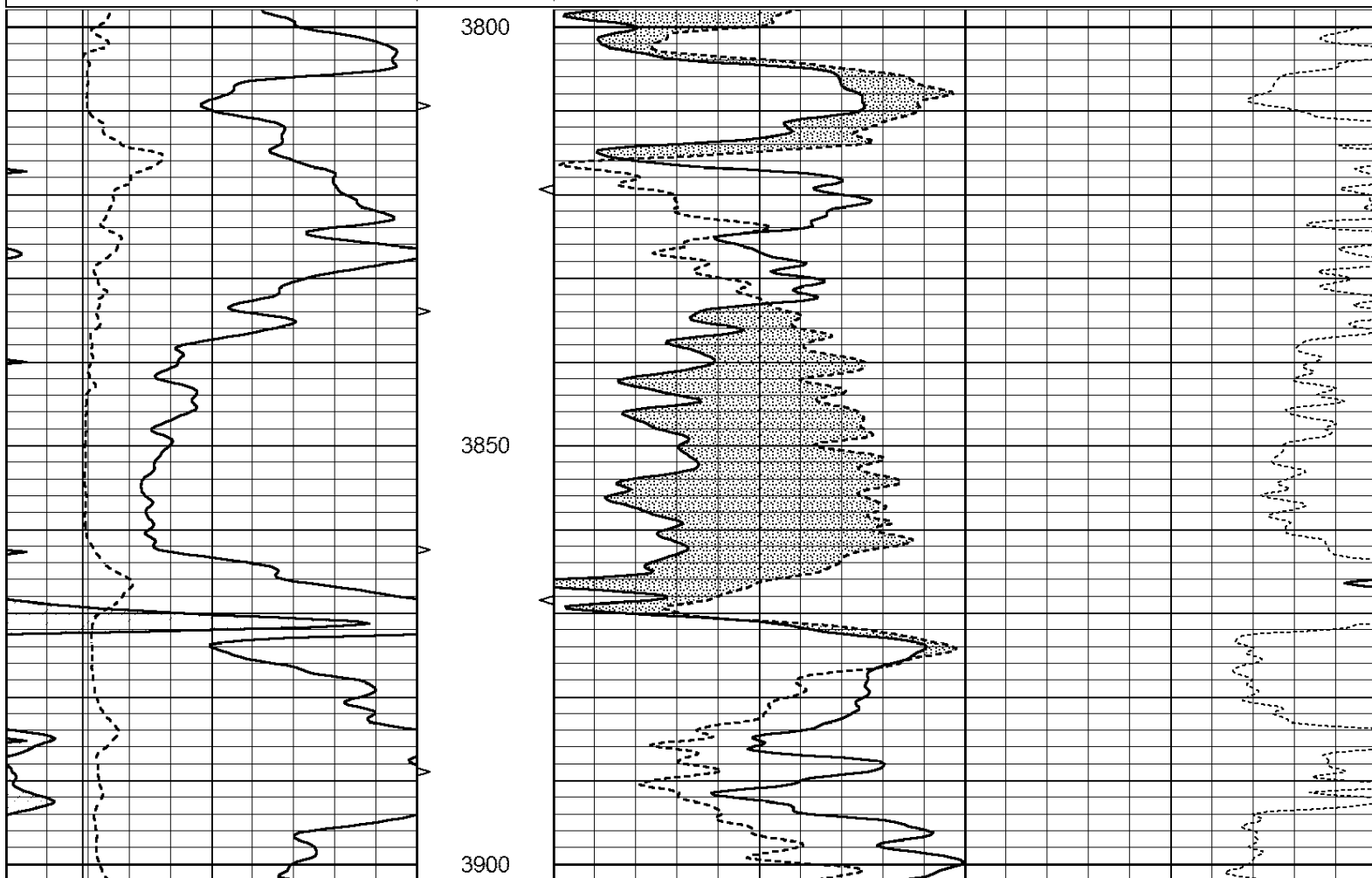
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6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

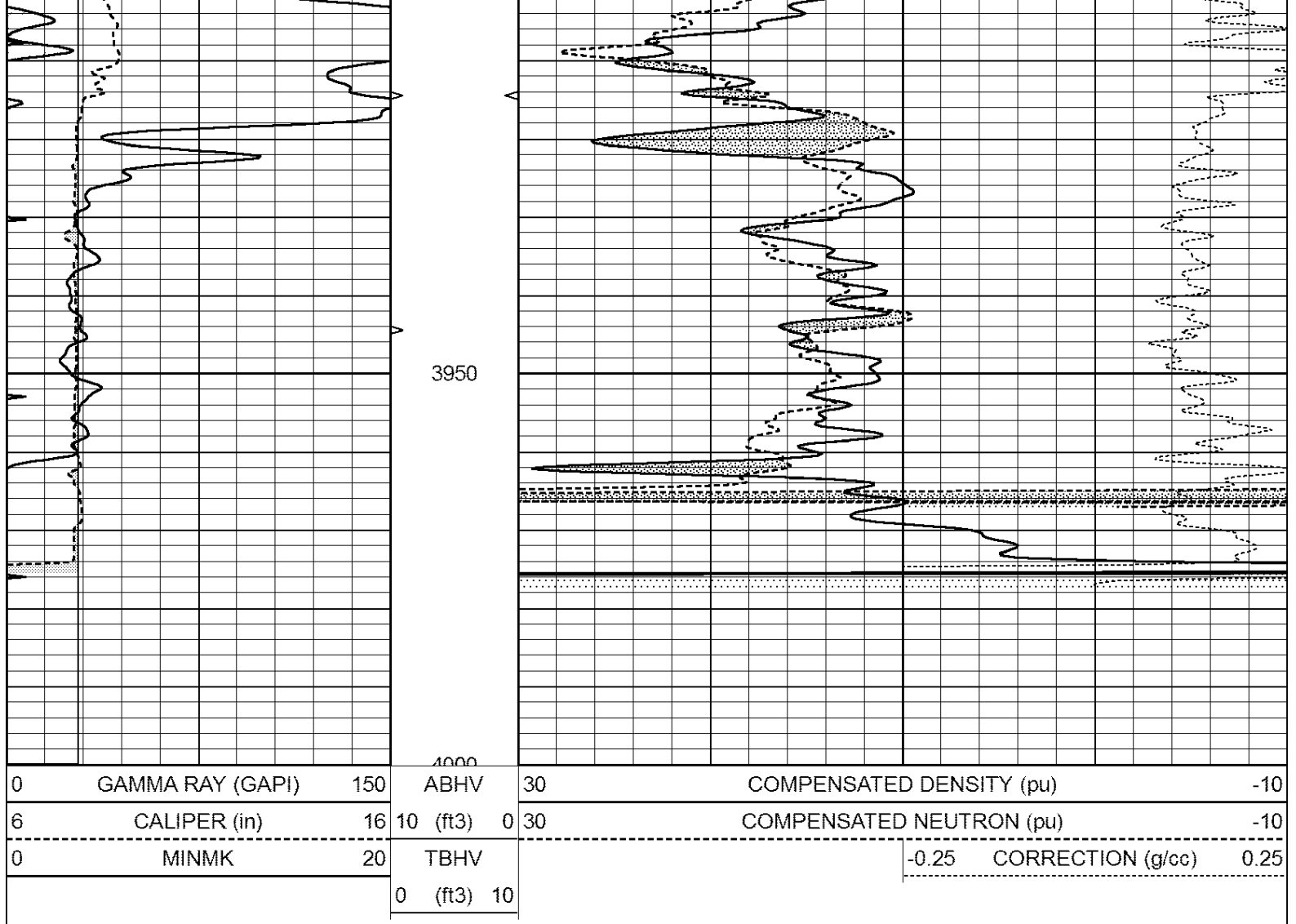


DOLOMITE MATRIX

Database File: 30887ddn.db
 Dataset Pathname: pass2.2
 Presentation Format: den_neu
 Dataset Creation: Tue Dec 08 19:49:57 2015
 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: 30887ddn.db
 Dataset Pathname: pass3.1
 Dataset Creation: Tue Dec 08 19:41:48 2015 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			V	References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.015	0.648		0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796		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		

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	

	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	
3)	Short Space Long Space	cps cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps 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