



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company	L.D. DRILLING, INC.		
Well	APPLEBEE - SCHLESSIGER CATTLE #3		
Field	HALL - GURNEY		
County	RUSSELL	State	KANSAS
Location:	APL # : 15-167-23894-0000 1500' FWL & 2040' FEL		Other Services DIL/MEL
Permanent Datum	SEC 21 TWP 15S RGE 12W	GROUND LEVEL	Elevation 1847
Log Measured From		KELLY BUSHING 5' A.G.L.	K.B. 1852
Drilling Measured From		KELLY BUSHING	D.F. 1850 G.L. 1847
Date	9/4/13		
Run Number	ONE		
Depth Driller	3375		
Depth Logger	3375		
Bottom Logged Interval	3351		
Top Log Interval	2600		
Casing Driller	8 5/8" @ 382		
Casing Logger	385		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7000 PPM	
Density / Viscosity	9.4/54		
pH / Fluid Loss	9.5/10.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80 @ 88F		
Rmt @ Meas. Temp	.60 @ 88F		
Rmc @ Meas. Temp	.96 @ 88F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.64 @ 110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	RANDALL KILIAN		

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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 NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
I 70 & BUNKER HILL EXIT - 5 S. TO T. - 3 E. TO 196 RD. - 3 1/2 S. - W. INTO

Database File:

011599ddn.db

Dataset Pathname:

pass3.1

Presentation Format:

den_neu

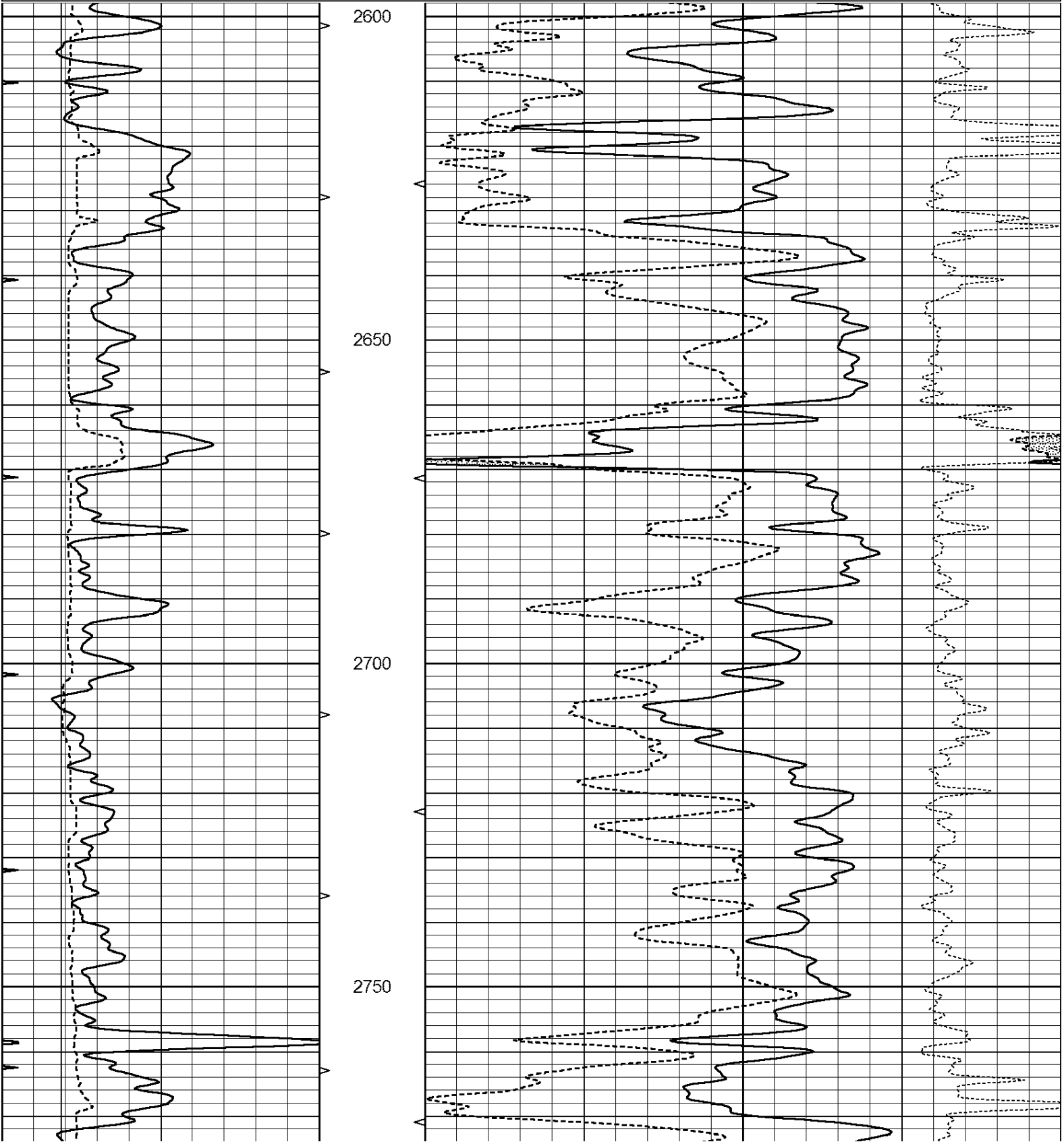
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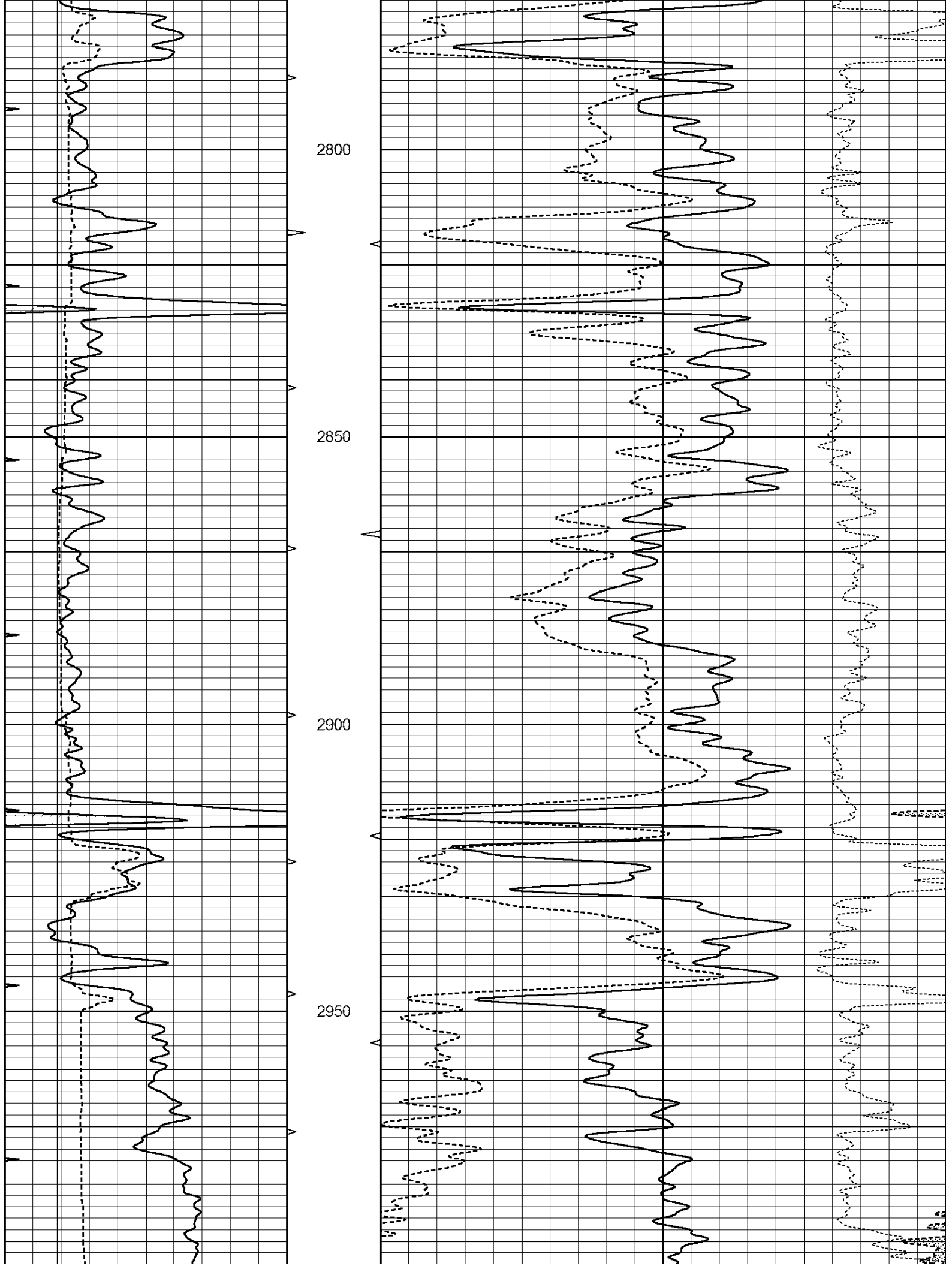
Wed Sep 04 23:42:33 2013 by Calc Open-Cased 090629

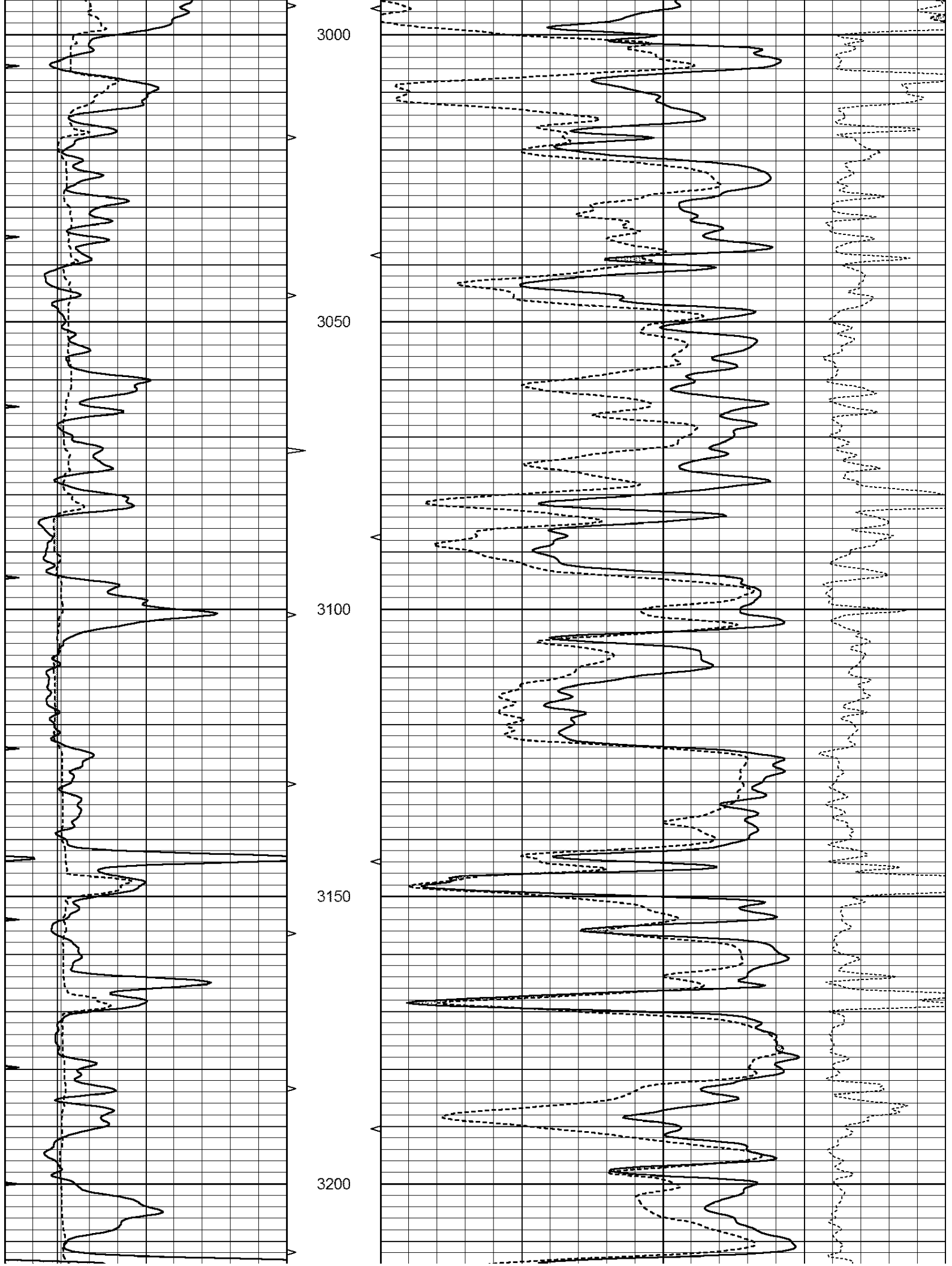
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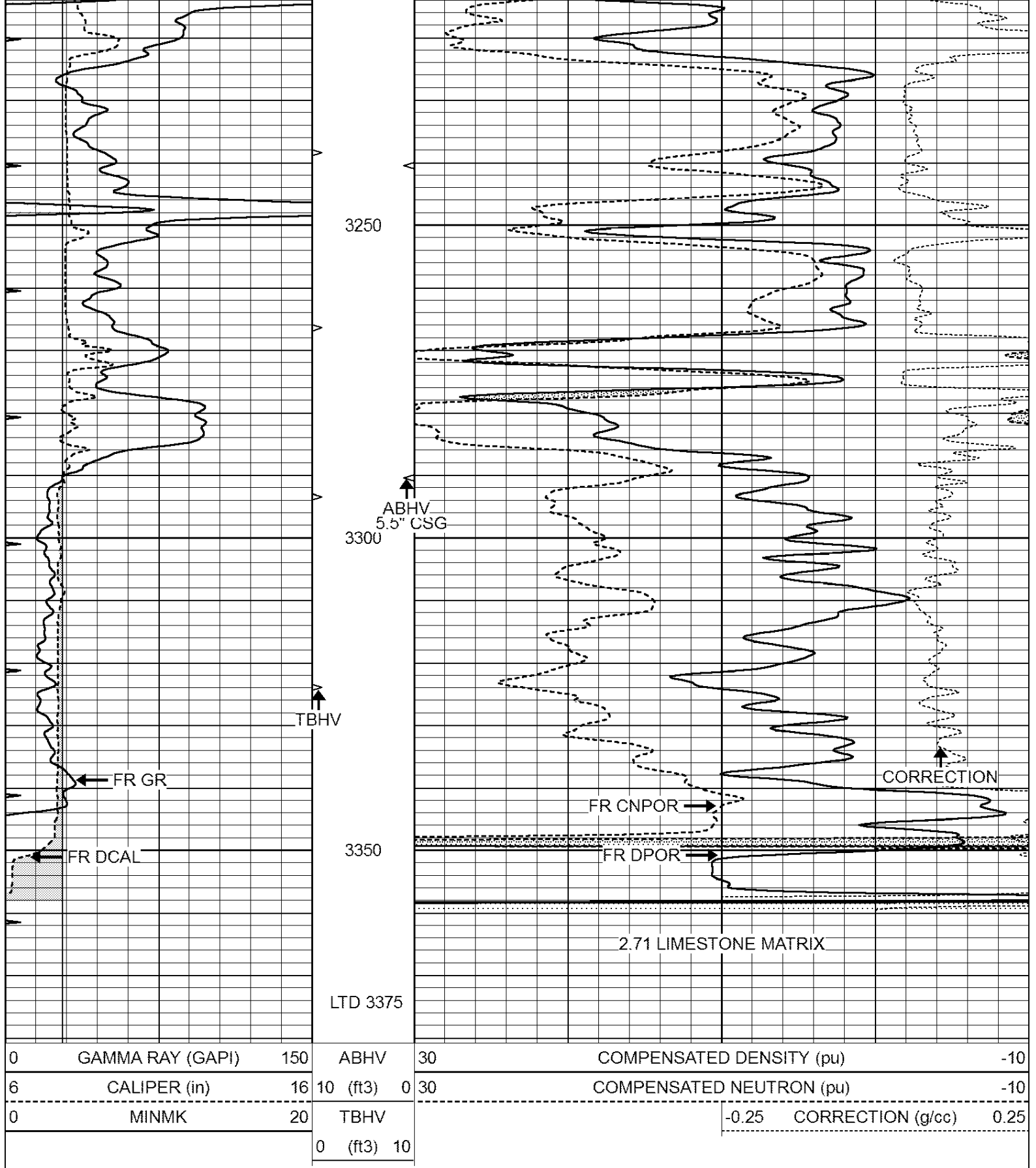
Depth in Feet scaled 1:240

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		

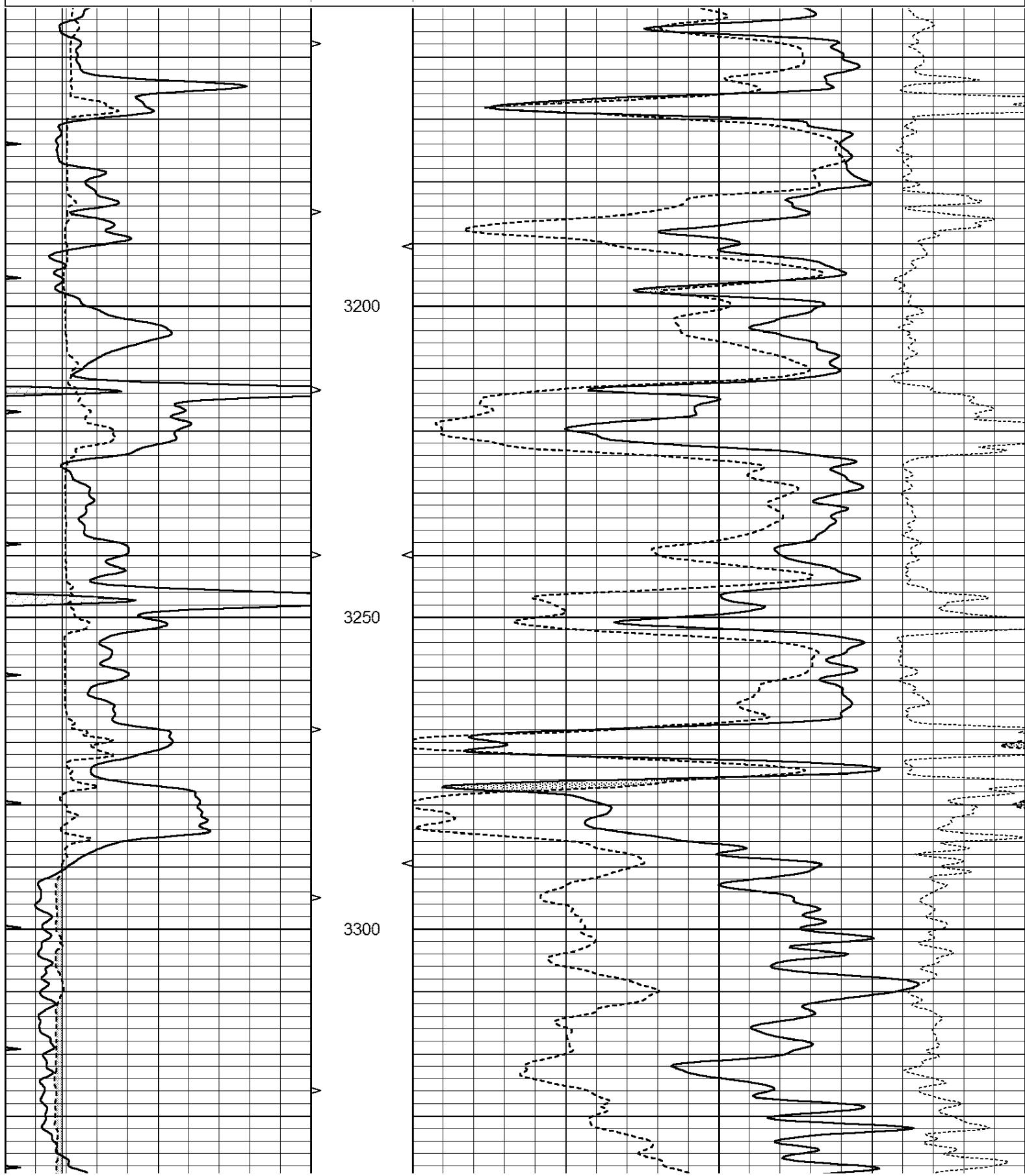


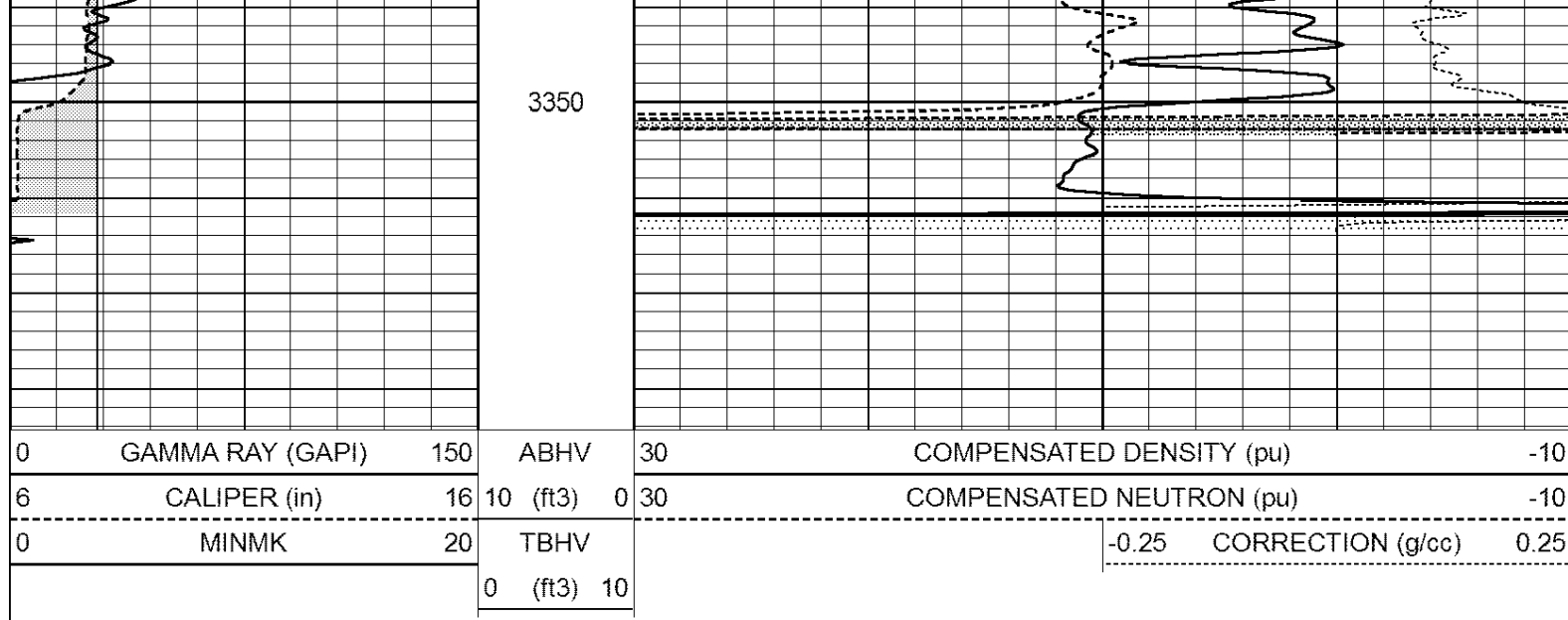






0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			





Calibration Report

Database File: 011599ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Wed Sep 04 23:41:19 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
Surface Cal Performed: Fri Aug 01 06:33:19 2008
Downhole Cal Performed: Mon Jul 28 11:08:27 2008
After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
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:	GEAR3-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 04 15:48:16 2013
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	935.36	501.55	cps
Aluminum	2.580	g/cc	209.32	357.01	cps
Spine Angle = 77.21			Density/Spine Ratio = 0.567		
	Size		Reading		
Small Ring	8.00	in	4.29	V	
Large Ring	14.00	in	6.24	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:	#8			
Tool Model:	OPEN			
Performed:	Tue Jun 18 19:34:11 2013			
Calibrator Value:	150.0	GAPI		
Background Reading:	0.0	cps		
Calibrator Reading:	175.0	cps		
Sensitivity:	0.8371	GAPI/cps		