



**COMPENSATED
DENSITY/NEUTRON
LOG**

Company ELK ENERGY HOLDINGS, LLC.
Well LEROY BRAUN #2
Field HERZOG W
County ELLIS
State KANSAS

Company	ELK ENERGY HOLDINGS, LLC.	Location:	API # : 15-051-26868-00-00	Other Services
Well	LEROY BRAUN #2		1720' FSL & 160' FEL	DIL/MEL
Field	HERZOG W			
County	ELLIS	State	KANSAS	

Permanent Datum	GROUND LEVEL	Elevation	1979'
Log Measured From	KELLY BUSHING 8' A.G.L.		
Drilling Measured From	KELLY BUSHING		

Date	03/04/17
Run Number	ONE
Depth Driller	3660
Depth Logger	3661
Bottom Logged Interval	3637
Top Log Interval	2800
Casing Driller	8 5/8" @ 221
Casing Logger	221
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.2/53
pH / Fluid Loss	10.5/7.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.70@62
Rmt @ Meas. Temp	.52@62
Rmc @ Meas. Temp	.84@62
Source of Rmf / Rmc	MEASURED
Rm @ BHT	20@113
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	113F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	GUS PFANENSTIEL
Witnessed By	SEAN DEENIHAN

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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 ELI WIRELINE, HAYS, KS. (785) 628-6395

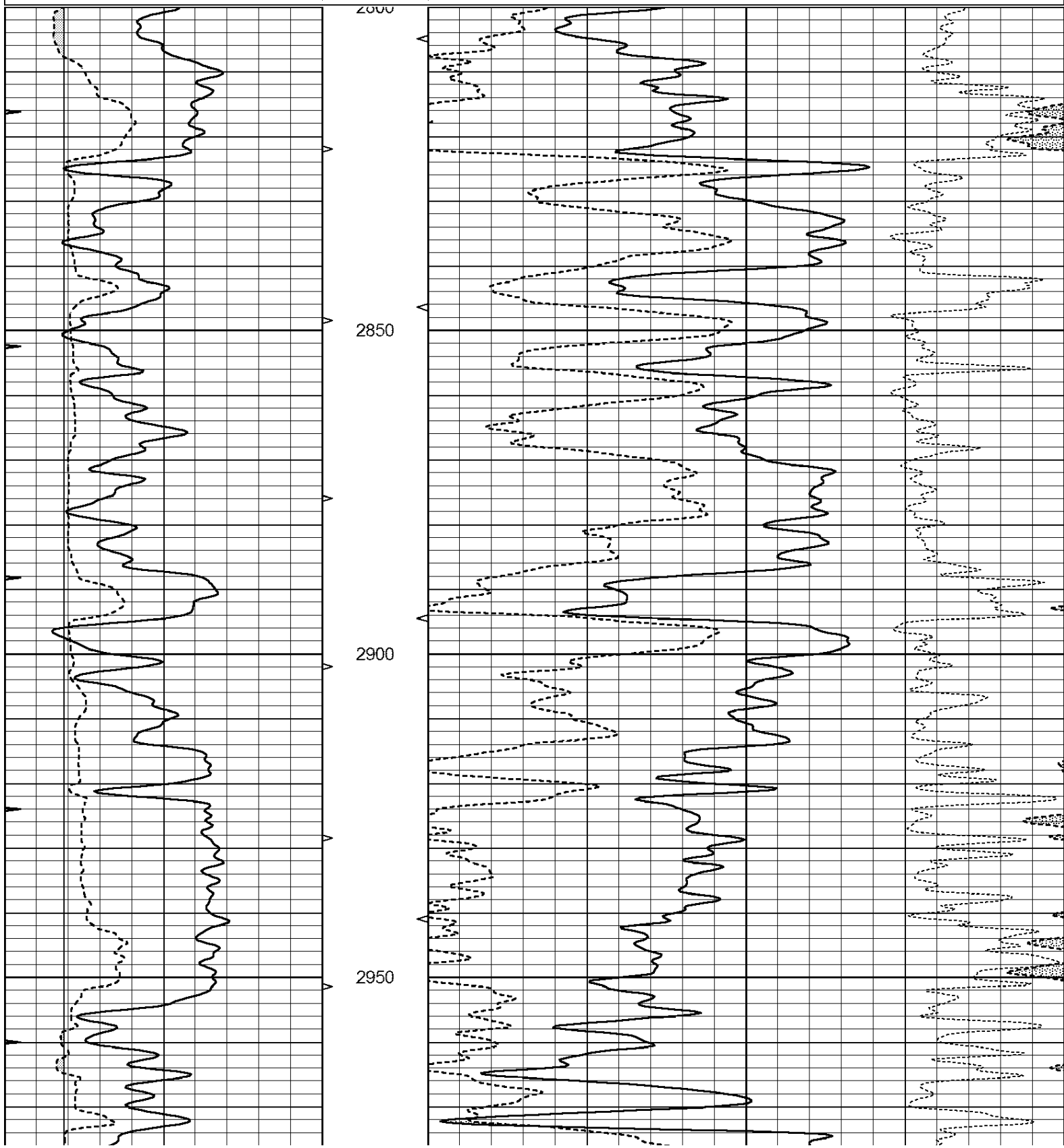
DIRECTIONS
VICTORIA I70 EXIT 1/2 NORTH TO AIRBASE RD.
1 WEST, NORTH 1/2
WEST INTO

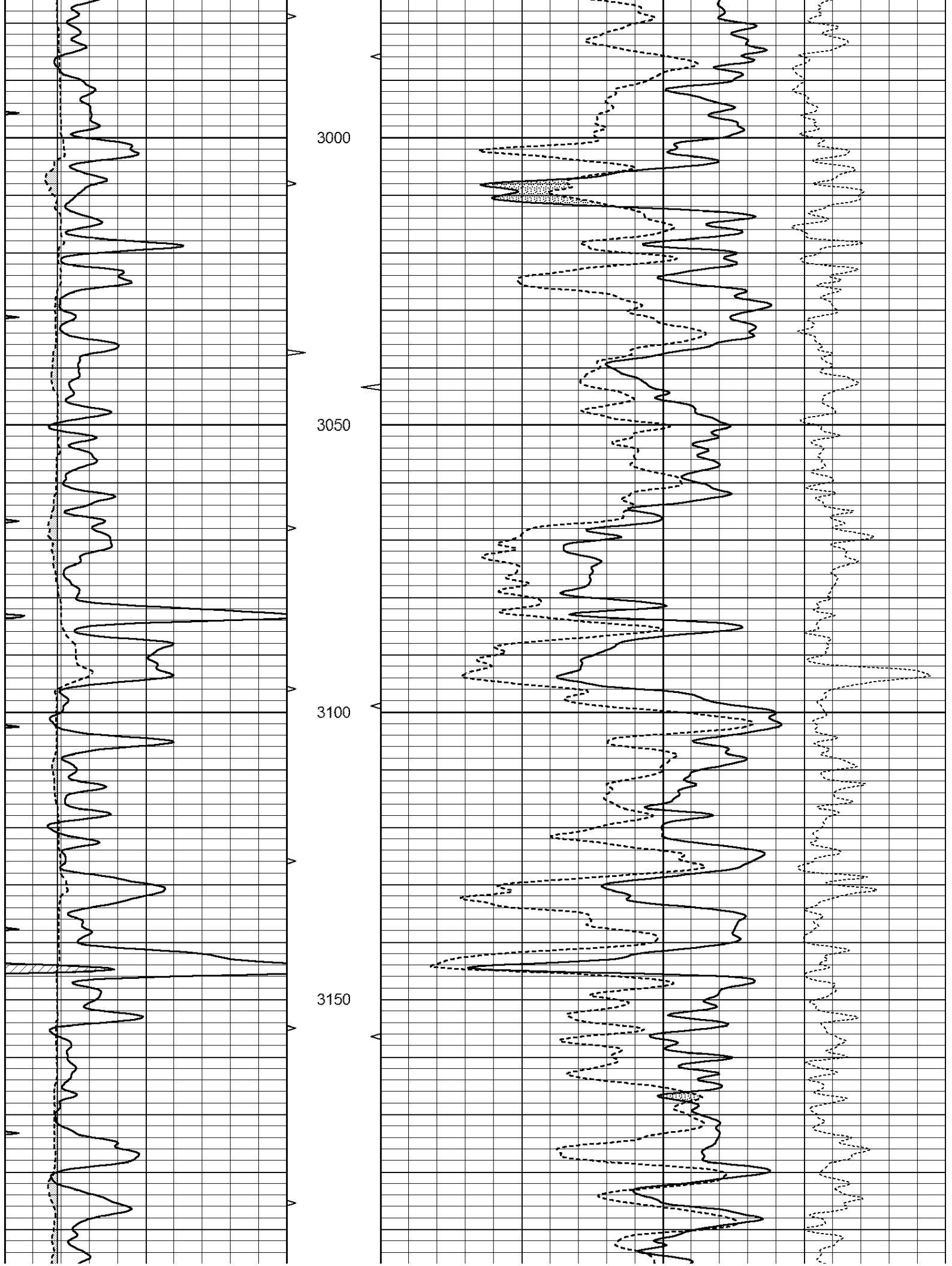


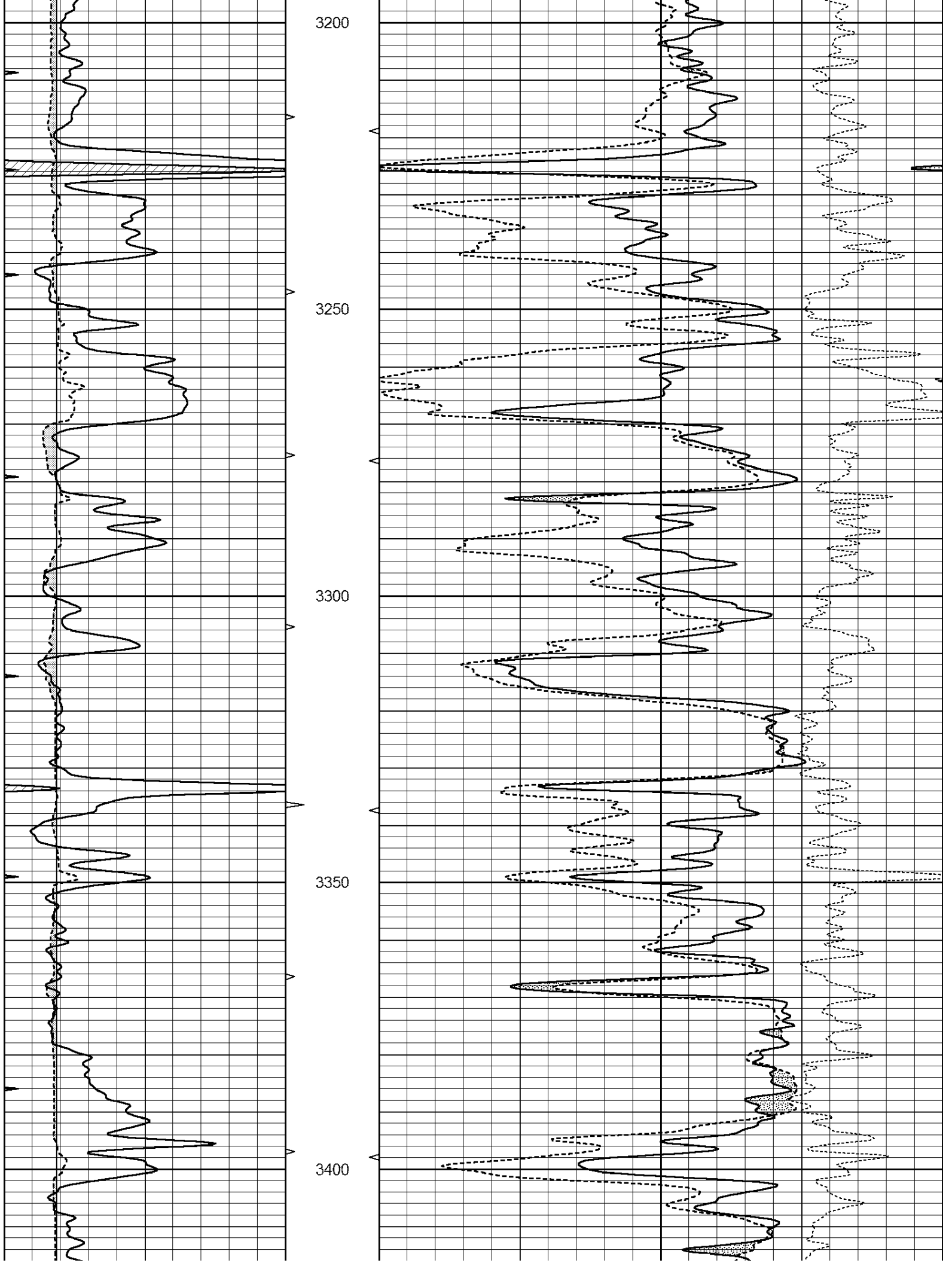
MAIN PASS

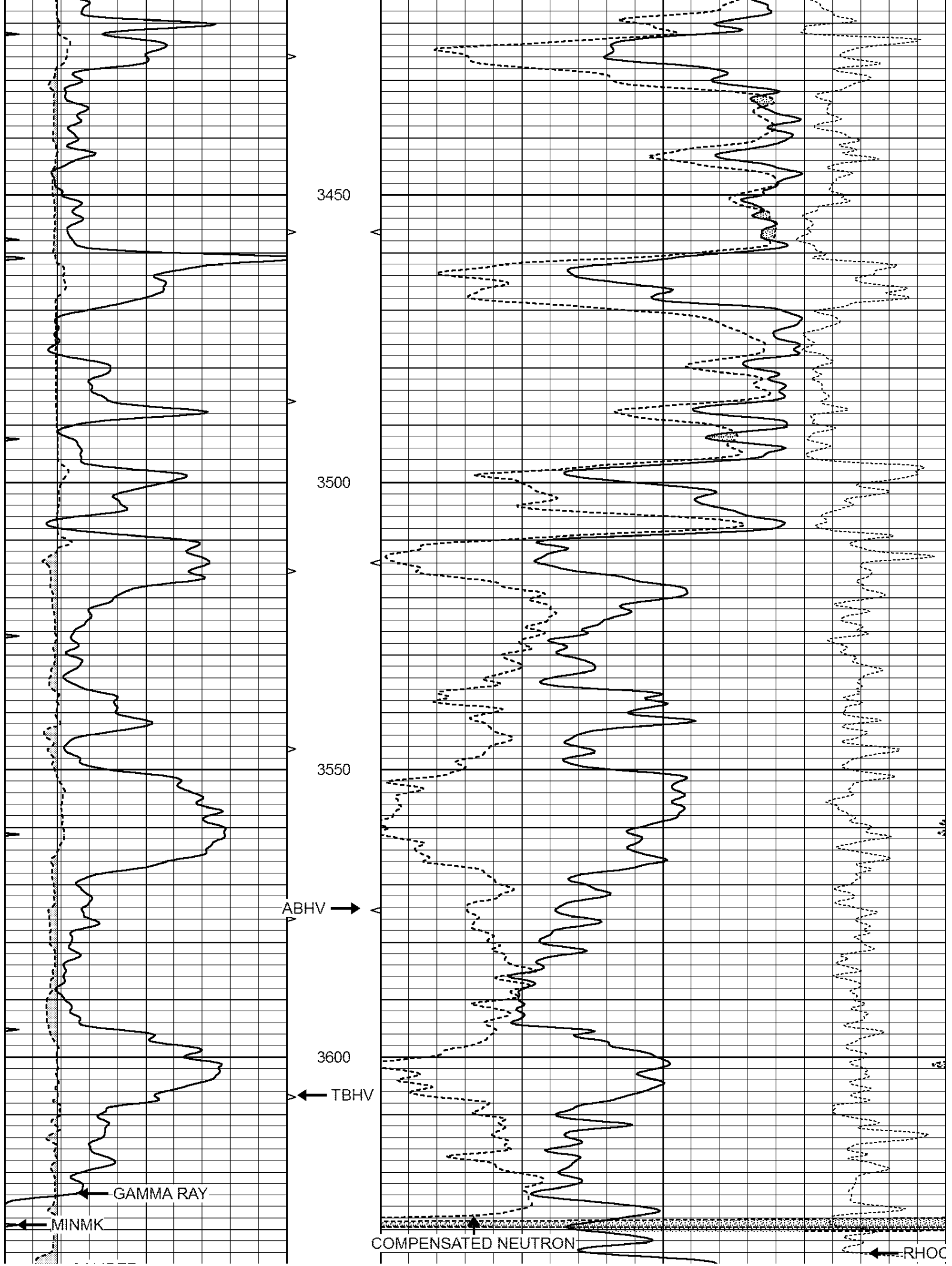
Database File: 1453ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: den_neu
 Dataset Creation: Sat Mar 04 18:23:22 2017 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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		

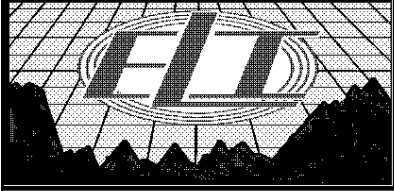








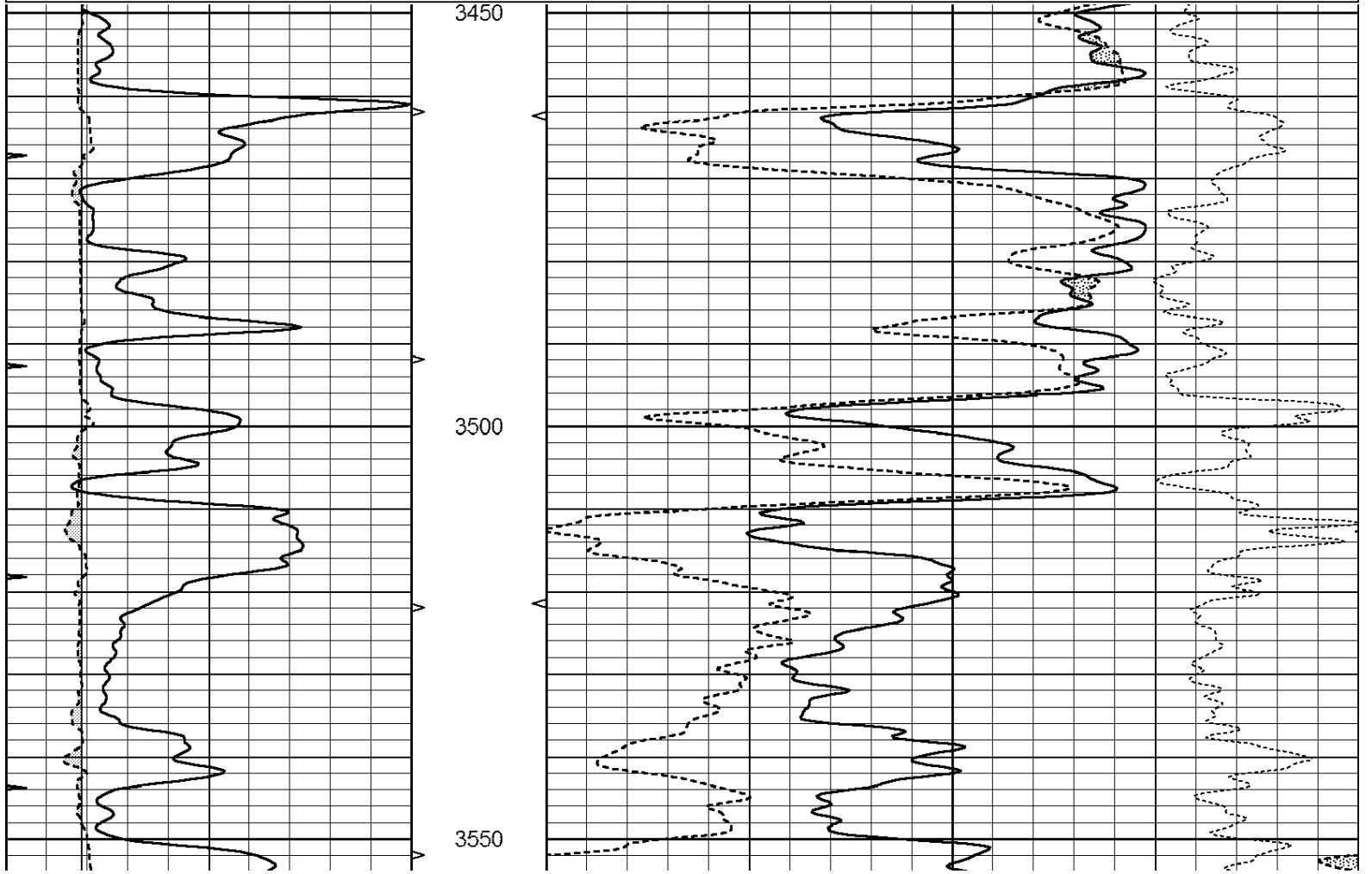
← CALIPER				COMPENSATED DENSITY	
← BOREID					
		3650			
		LTD 3661			
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu) -10
6	CALIPER (in)	16	10 (ft3)	0	30 COMPENSATED NEUTRON (pu) -10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10	

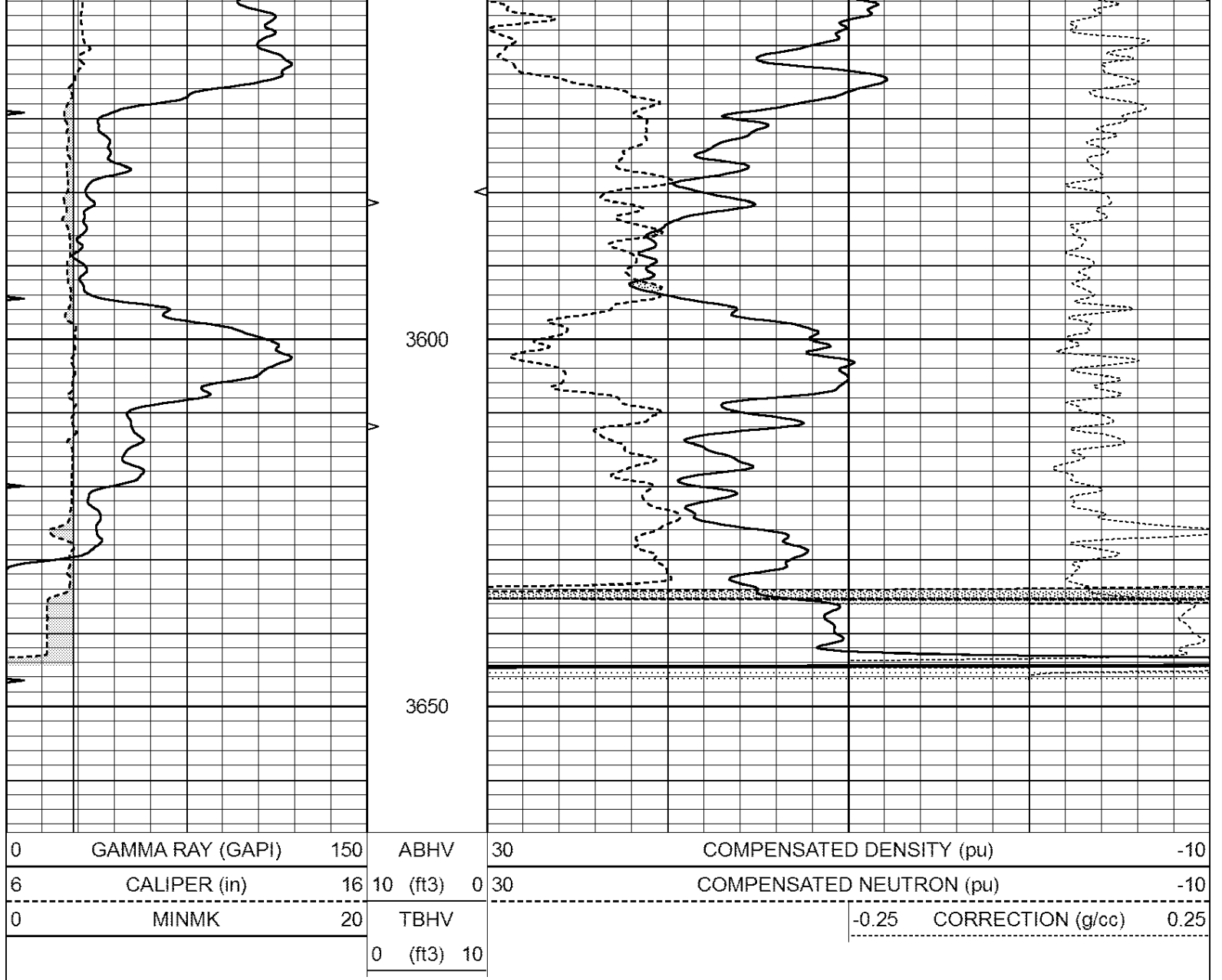


REPEAT SECTION

Database File: 1453ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: den_neu
 Dataset Creation: Sat Mar 04 18:35:20 2017 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	





Calibration Report

Database File: 1453ddn.db
 Dataset Pathname: pass2.1
 Dataset Creation: Sat Mar 04 18:35:20 2017 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		0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757		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	7.15	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: 61
 Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	1.00 cps	1.00 cps	1.0000

Short Space	1.00	cps	1.00	cps	1.0000
Long Space					

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