COMPENSATED DENSITY/NEUTRON LOG

Company L.D. DRILLING, INC.
Well TERRY #1-24
Field WILDCAT
County ROOKS State KANSAS
Location: API # : 15-163-24386-00-00
2310' FNL & 360' FWL
SEC 24 TWP 6S RGE 18W

Other Services: DIL/MEL

Permanent Datum GROUND LEVEL Elevation 1983
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1988
D.F. 1986
G.L. 1983

Date	04/04/19		
Run Number	ONE		
Depth Driller	3610		
Depth Logger	3608		
Bottom Logged Interval	3588		
Top Log Interval	2800		
Casing Driller	8 5/8" @ 257		
Casing Logger	257		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.2/52		
pH / Fluid Loss	10.0/7.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80@65		
Rmf @ Meas. Temp	.60@65		
Rmc @ Meas. Temp	.96@65		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.46@112		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	////		
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	KIM SHOEMAKER		

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Comments

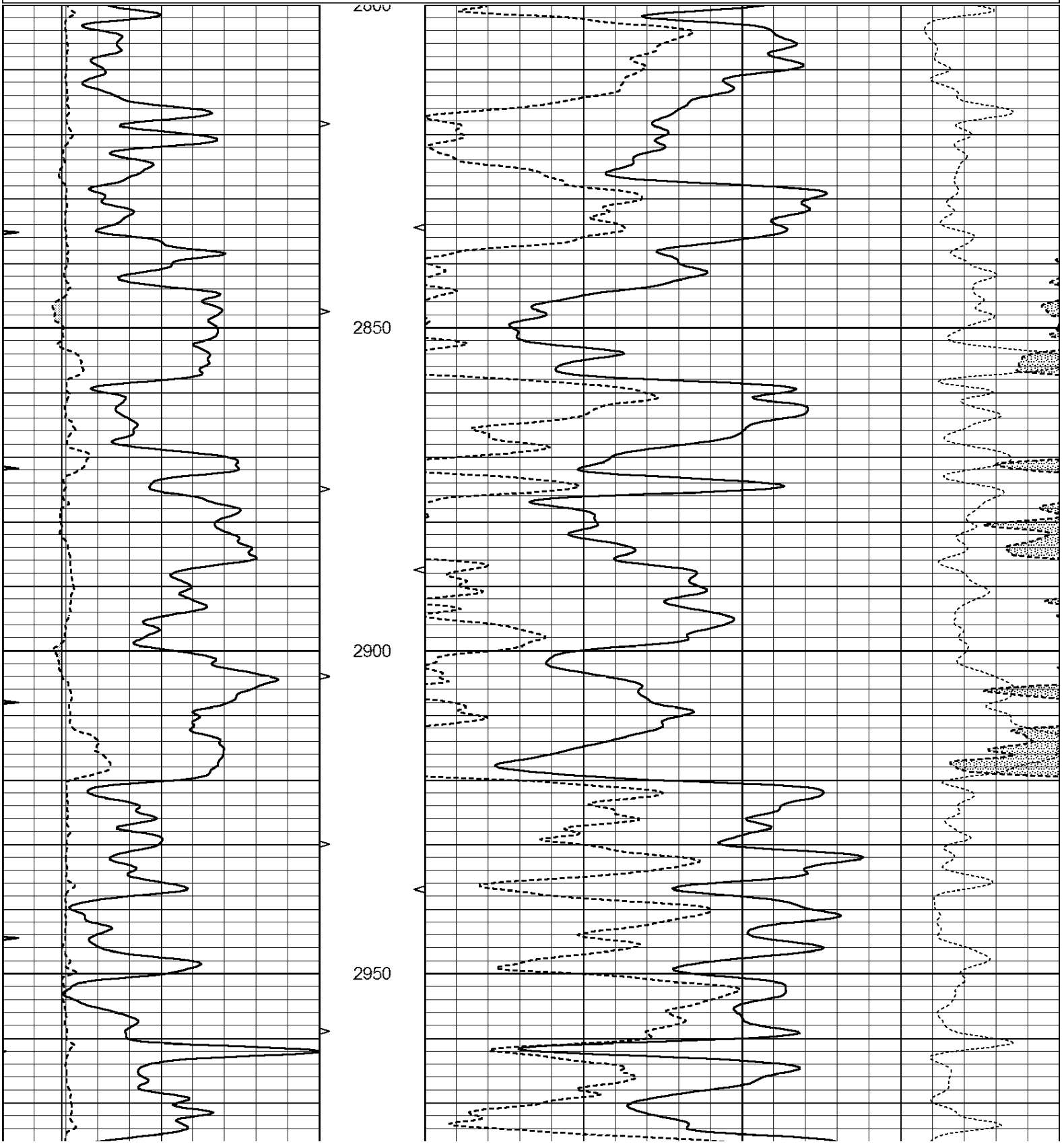
THANK YOU FOR USING ELI WIRELINE, HAYS, KS. (785) 628-6395

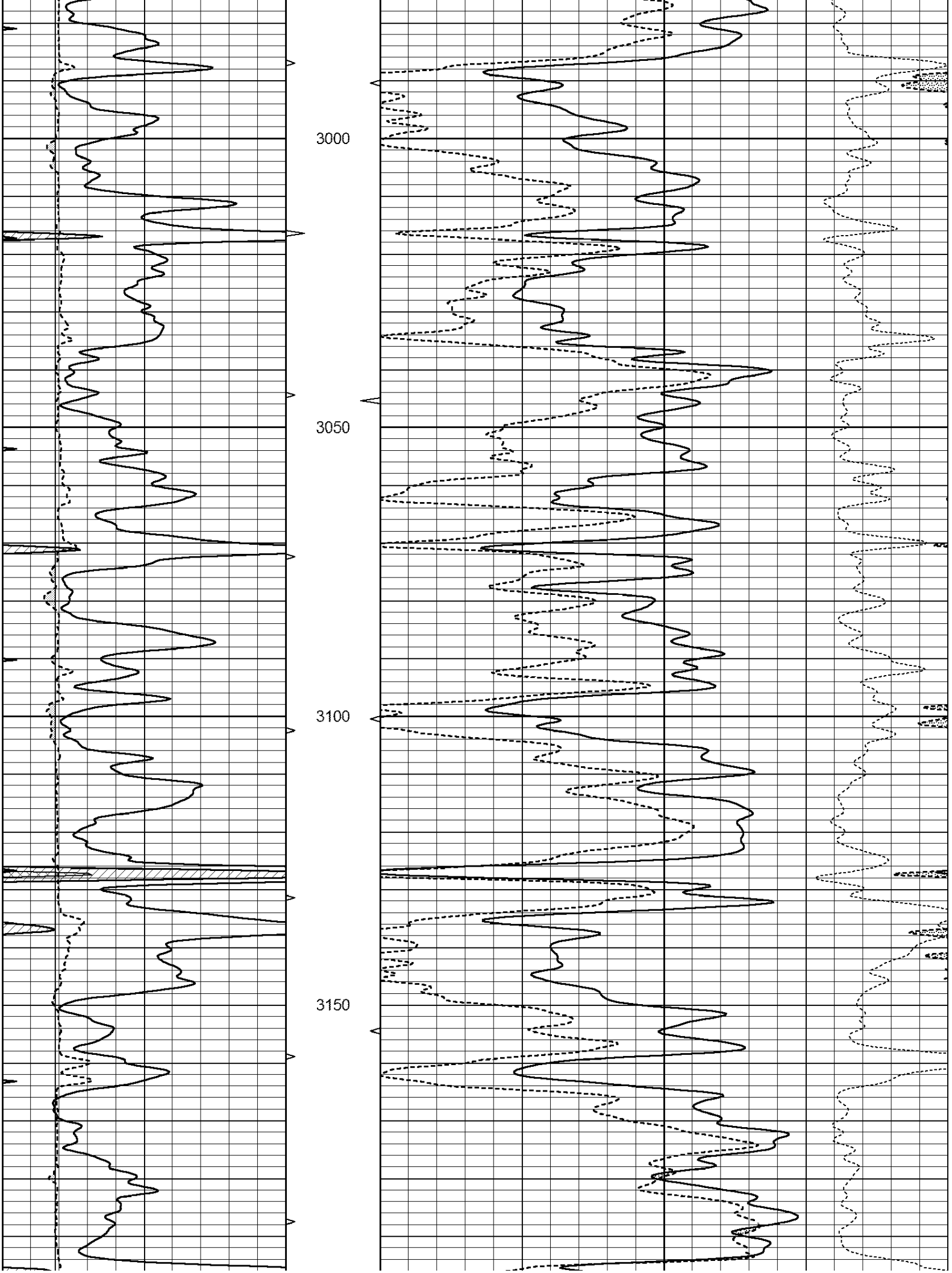
DIRECTIONS
STOCKTON NORTH 5 MILES, EAST INTO.

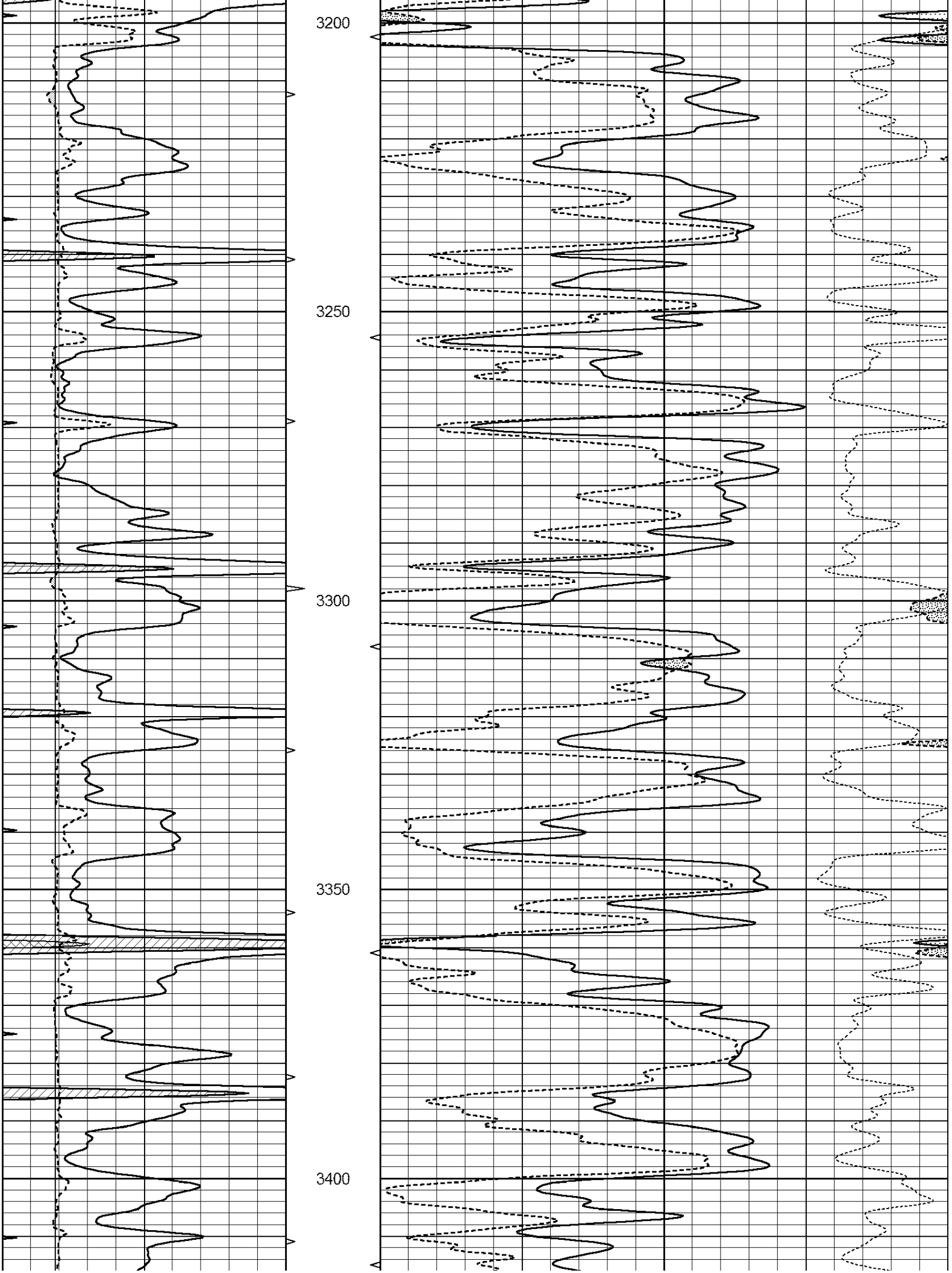
MAIN PASS

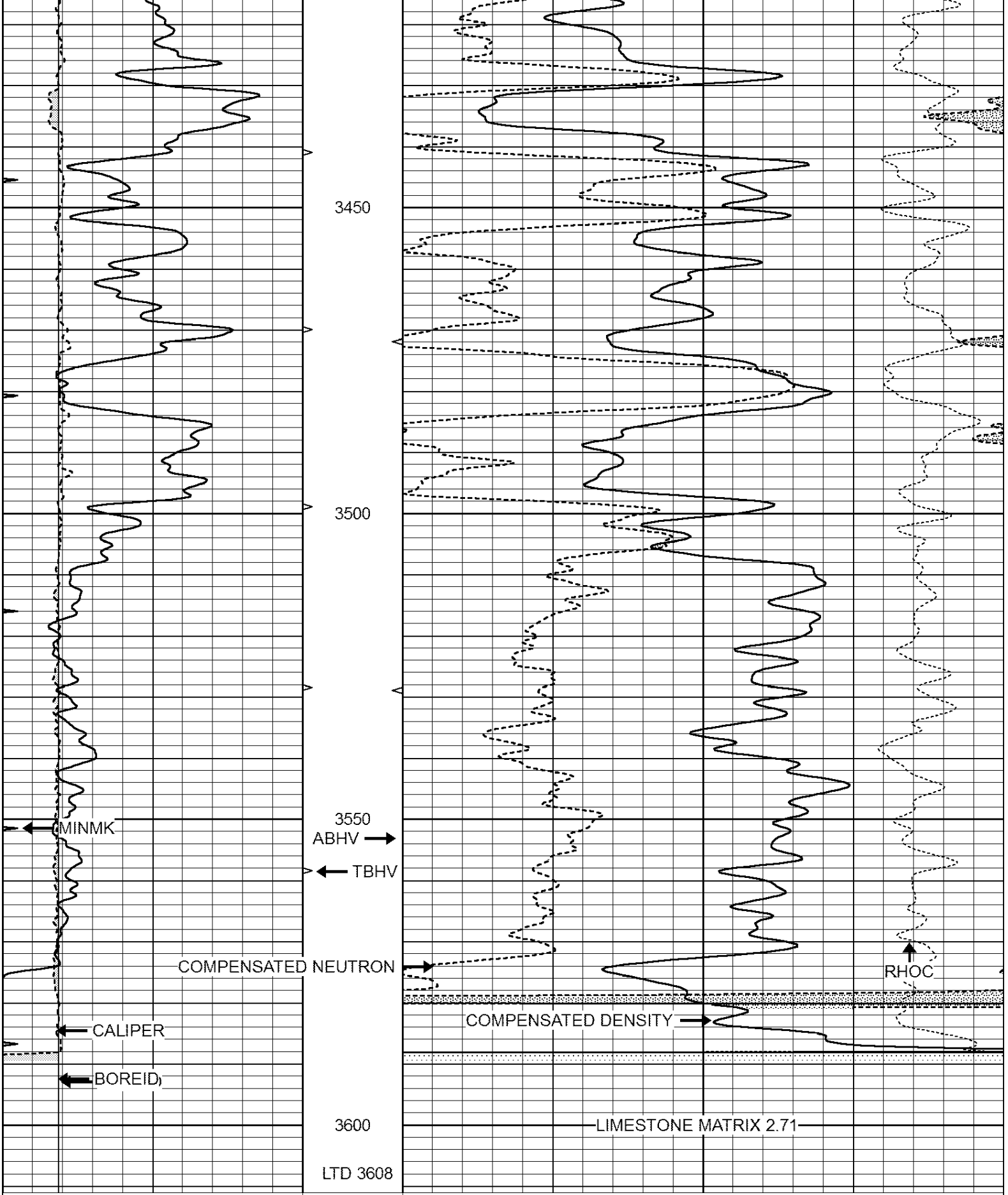
Database File: 3493ddn.db
Dataset Pathname: pass3.1
Presentation Format: den_neu
Dataset Creation: Thu Apr 04 15:05:17 2019 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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			




3000
3050
3100
3150

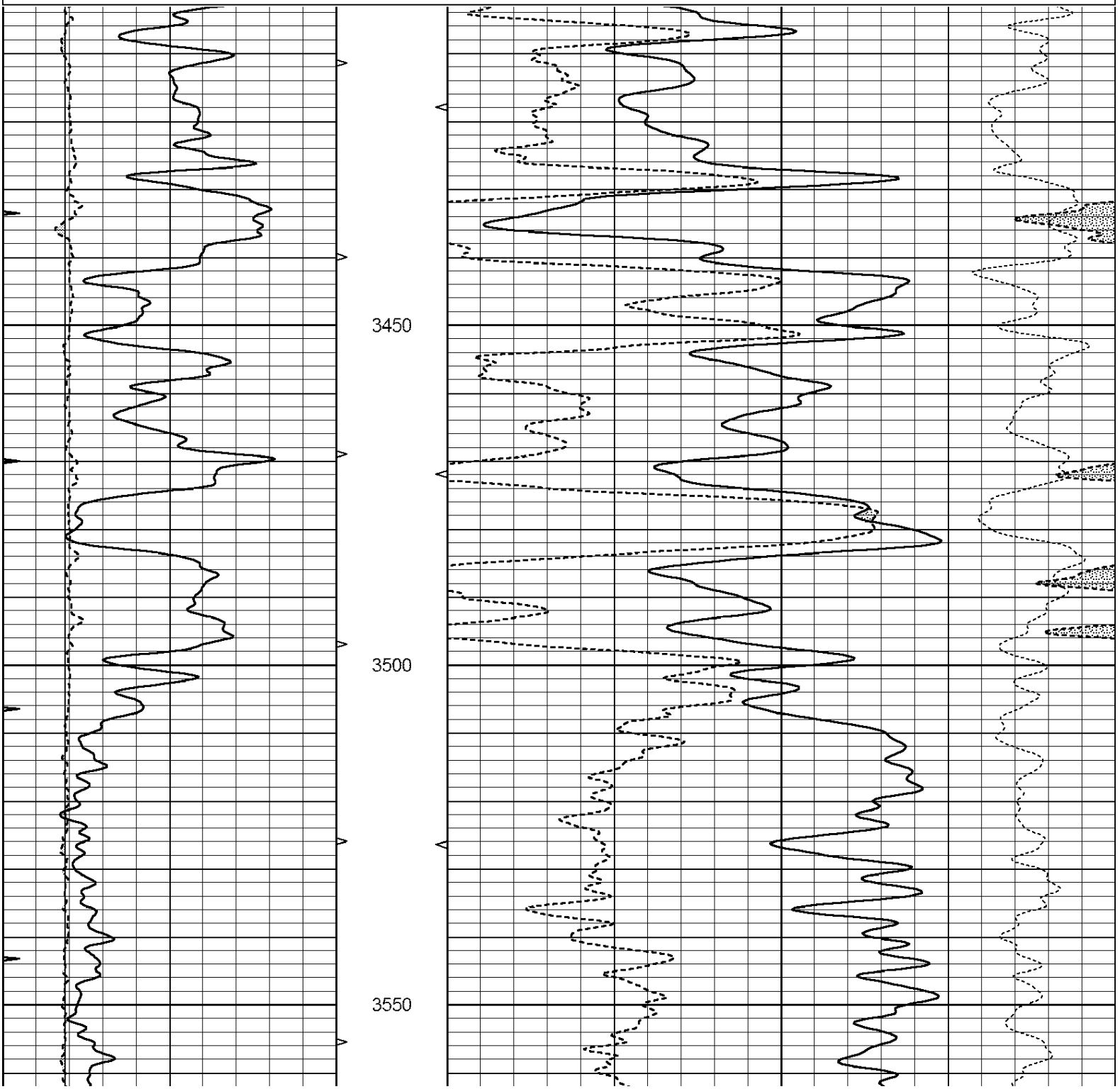

3200
3250
3300
3350
3400

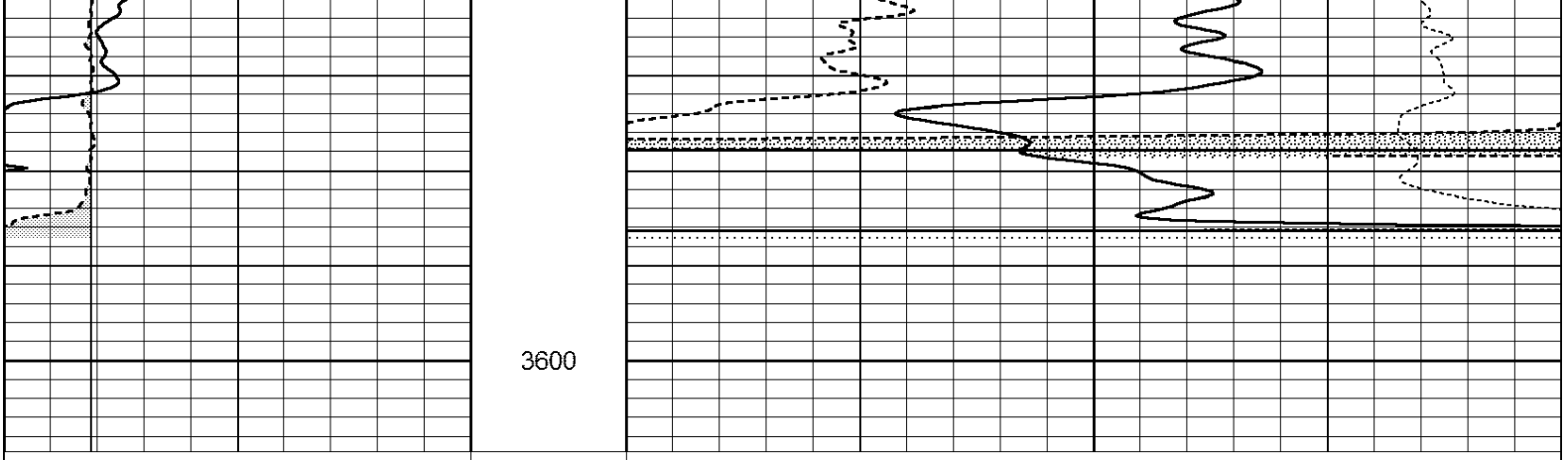

3450
3500
3550
3600
LTD 3608
MINMK
ABHV
TBHV
COMPENSATED NEUTRON
CALIPER
BOREID
RHOC
COMPENSATED DENSITY
LIMESTONE MATRIX 2.71
0 GAMMA RAY (GAPI) 150
6 CALIPER (in) 16
0 MINMK 20
ABHV
10 (ft3) 0
TBHV
0 (ft3) 10
30 COMPENSATED DENSITY (pu) -10
30 COMPENSATED NEUTRON (pu) -10
-0.25 CORRECTION (g/cc) 0.25

REPEAT SECTION

Database File:	3493ddn.db
Dataset Pathname:	pass2.1
Presentation Format:	den_neu
Dataset Creation:	Thu Apr 04 14:40:34 2019 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			





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: 3493ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Thu Apr 04 14:40:34 2019 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Mon Sep 10 14:28:35 2018
Downhole Cal Performed:	Mon Sep 10 14:28:38 2018
After Survey Verification Performed:	Mon Sep 10 14:28:40 2018

Surface Calibration

	Readings			References			Results	
Loop:	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		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		

Litho Density Calibration Report

Serial: 001N Model: PRB

Master Calibration — Performed Fri Feb 22 10:21:38 2019

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1650.2	7609.7	2906.5	8386.5	cps
Window 2	1538.2	6635.9	2614.4	7212.4	cps
Window 3	1257.0	3718.7	1765.8	3927.1	cps
Window 4	376.8	375.6	373.4	374.5	cps
Long Space	0.0	5097.7	1076.2	5674.2	cps
Short Space	2.8	1704.3	1106.3	1723.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 44.5	Rib Slope	: 0.982	Density/Spine Ratio	: 0.545
Spine Angle	: 74.5	Spine Slope	: 3.599	Spine Intercept	: -18.2

Before Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

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

	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:	Mon Sep 10 14:29:23 2018	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5500	GAPI/cps