NABORS COMPLETION & PRODUCTION SERVICES CO.

COMPENSATED DENSITY/NEUTRON LOG

Company	L.D. DRILLING, INC.
Well	POLZIN - FYLER UNIT #1-22
Field	LAUD SOUTHWEST
County	BARTON
State	KANSAS

Company L.D. DRILLING, INC.

Well POLZIN - FYLER UNIT #1-22

Field LAUD SOUTHWEST

County BARTON State KANSAS

Location: API # : 15-009-26088-0000

127' FSL & 1713' FWL
SE - SW - SE - SW
SEC 22 TWP 18S RGE 14W

Other Services
DIL/MEL
SONIC

Permanent Datum GROUND LEVEL Elevation 1907

Log Measured From KELLY BUSHING 5' A.G.L.

Drilling Measured From KELLY BUSHING

Elevation
K.B. 1912
D.F. 1910
G.L. 1907

Date	4/17/15		
Run Number	ONE		
Depth Driller	3535		
Depth Logger	3538		
Bottom Logged Interval	3514		
Top Log Interval	2800		
Casing Driller	8 5/8" @ 854		
Casing Logger	851		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8500 PPM	
Density / Viscosity	9.3/53		
pH / Fluid Loss	9.5/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50 @ 68F		
Rmf @ Meas. Temp	.37 @ 68F		
Rmc @ Meas. Temp	1..59 @ 68F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.30 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI	BLAKE WAGGONER	
Witnessed By	KURT TALBOTT		

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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:

FROM HWY 281 & HWY 4 GO 4 MILES SOUTH TO CURVE - 1 WEST - 1 SOUTH - 1/2 EAST - NORTH INTO

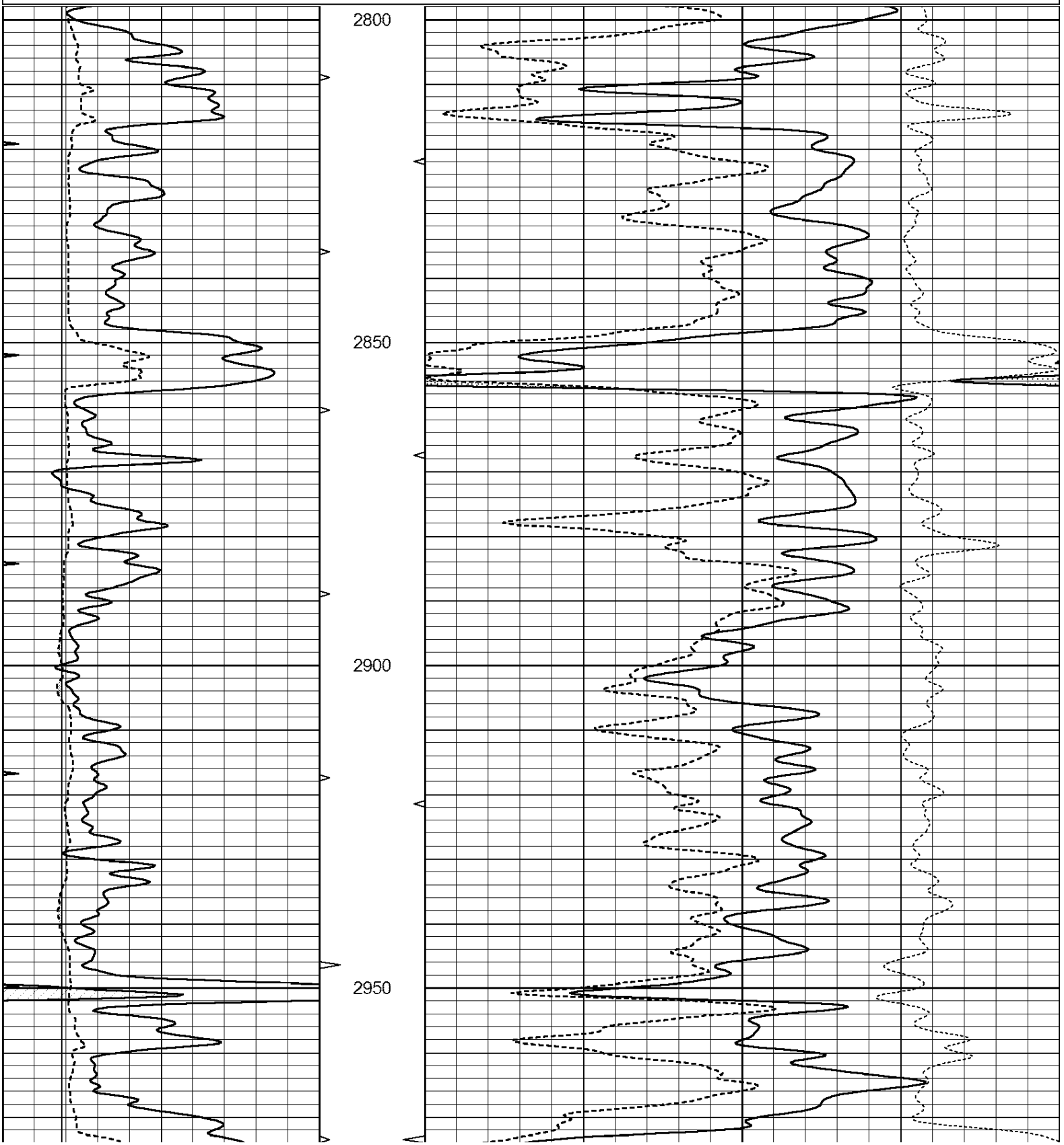
NABORS COMPLETION & PRODUCTION SERVICES CO.

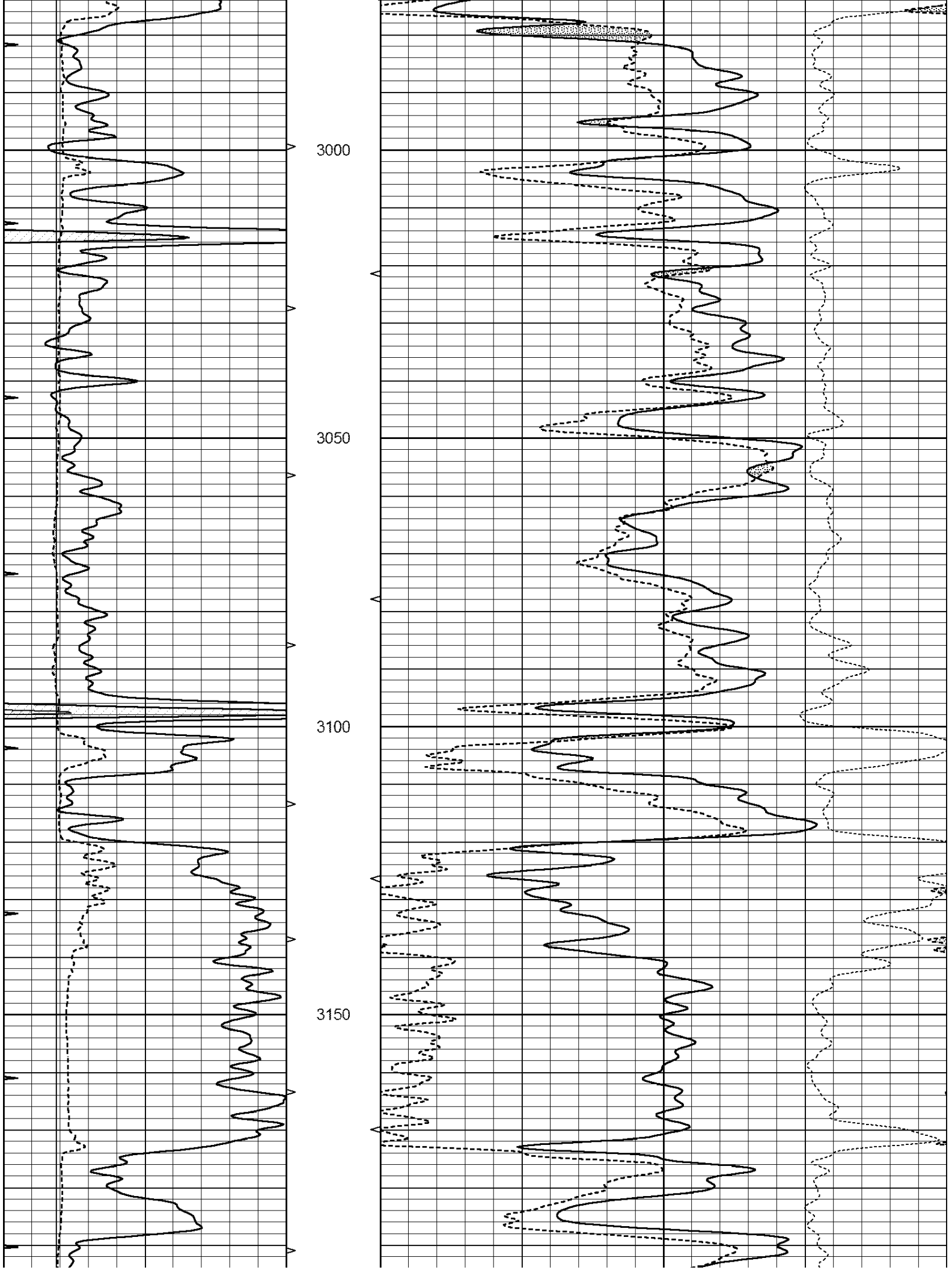
MAIN SECTION

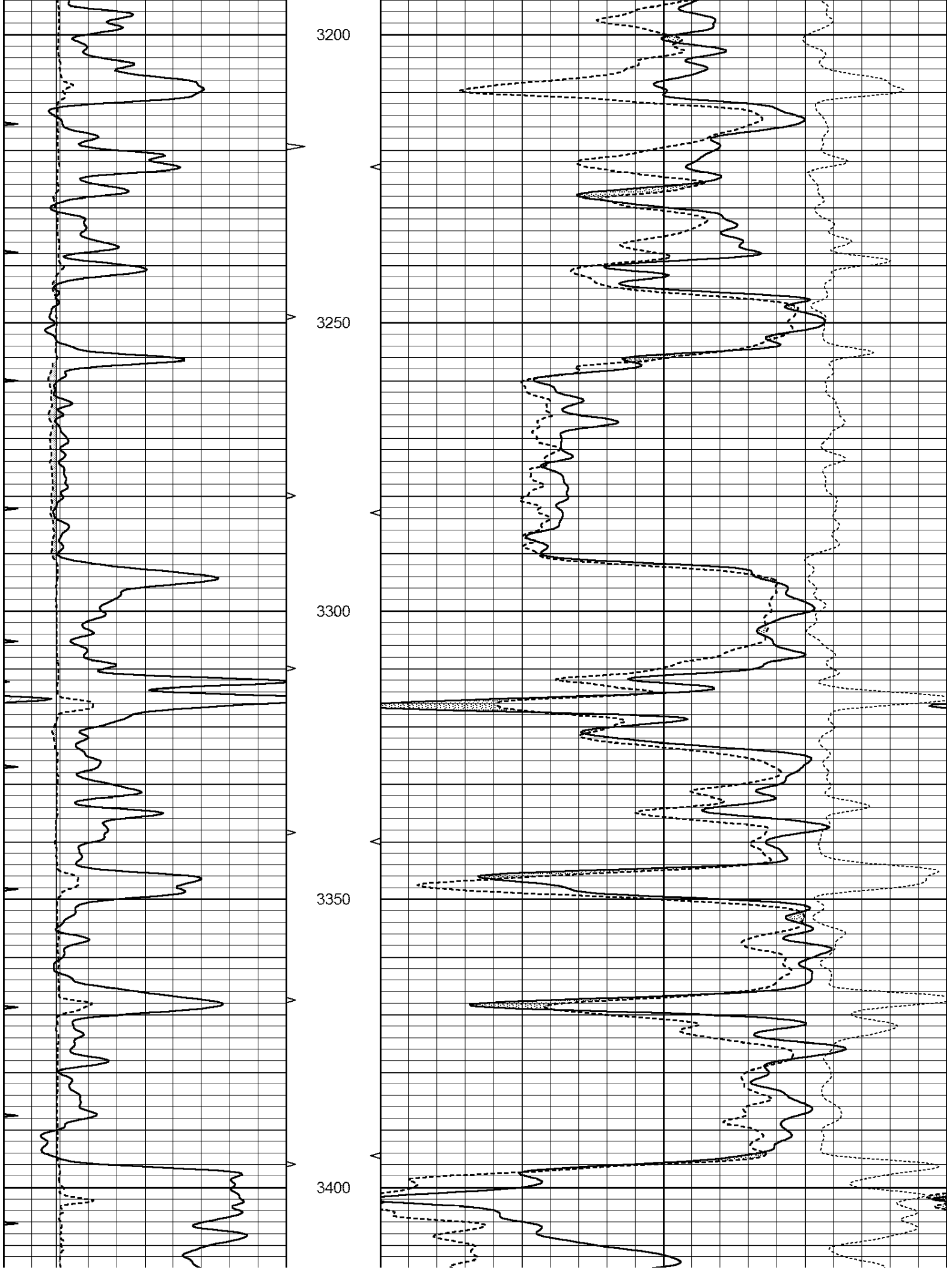
SERVICES CO.

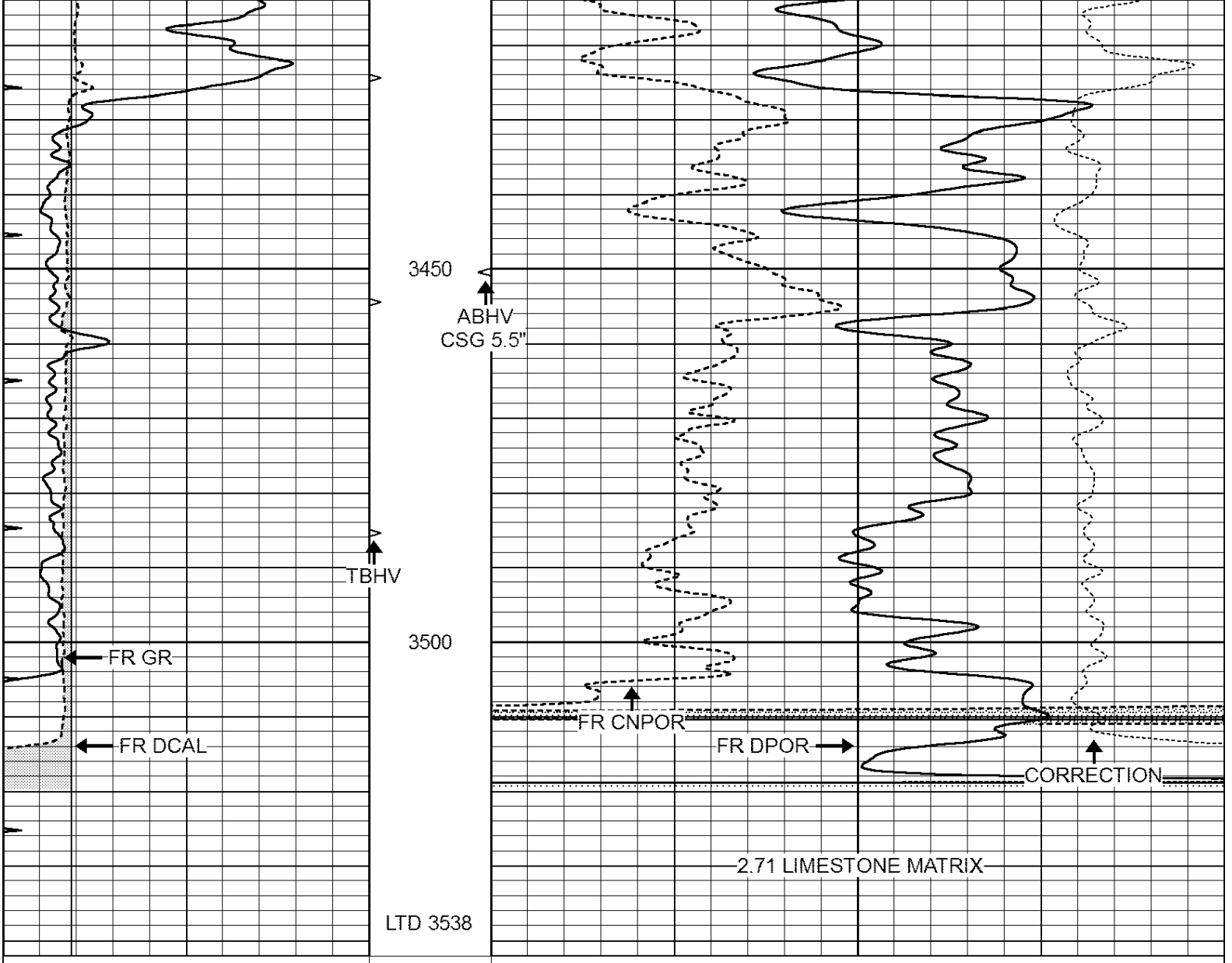
Database File: 30500ddn.db
Dataset Pathname: pass3.1
Presentation Format: den_neu
Dataset Creation: Fri Apr 17 09:31:56 2015 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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			




3000
3050
3100
3150


3200
3250
3300
3350
3400



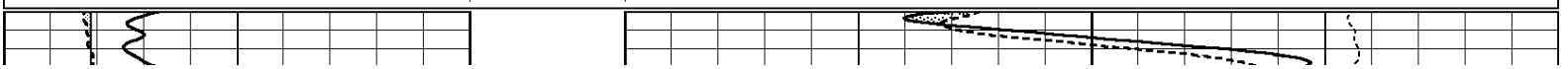
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV		-0.25	CORRECTION (g/cc)	0.25
			0 (ft3) 10				

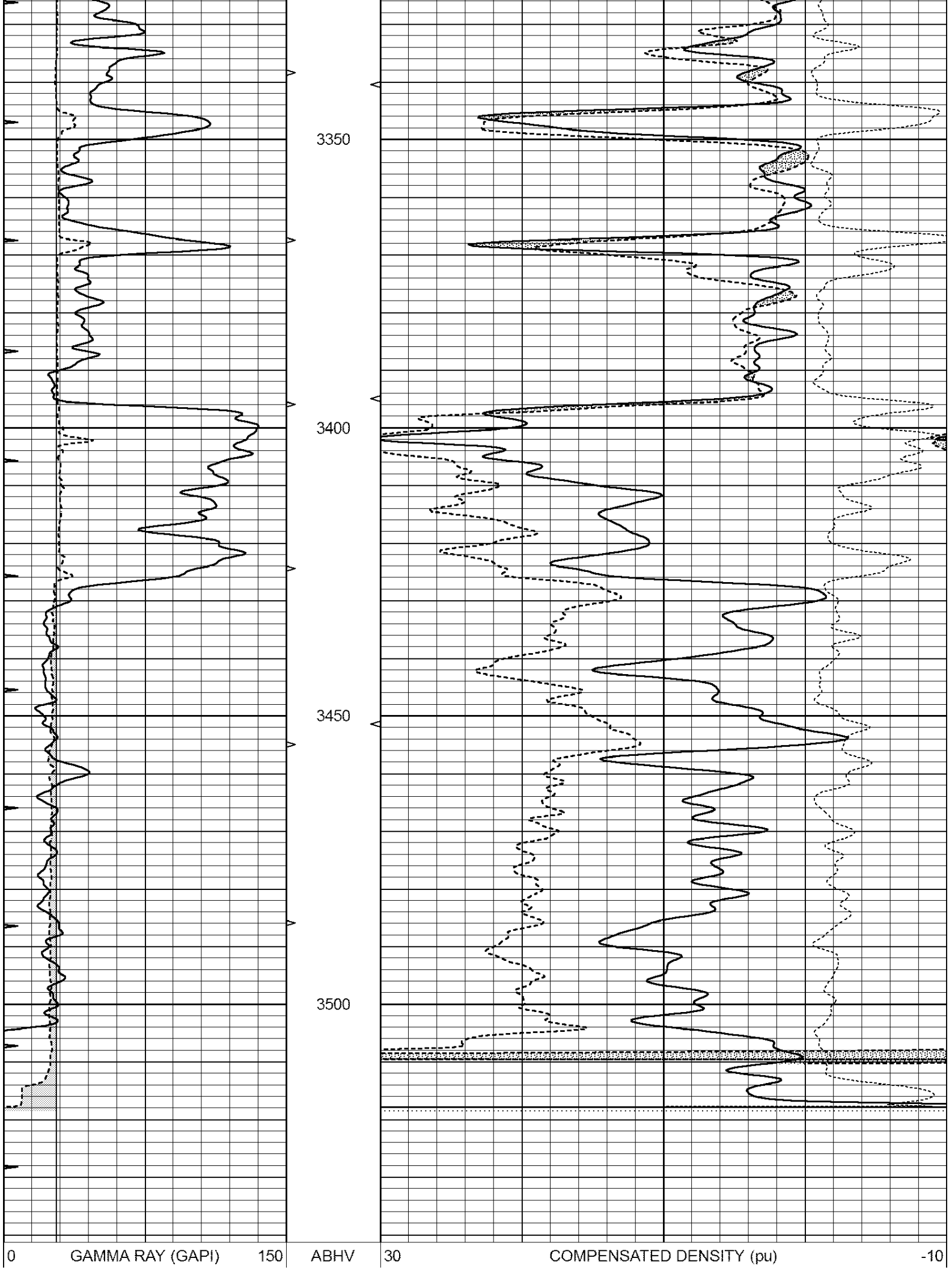
NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 30500ddn.db
Dataset Pathname: pass2.1
Presentation Format: den_neu
Dataset Creation: Fri Apr 17 08:58:48 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				




3350
3400
3450
3500
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: 30500ddn.db
Dataset Pathname: pass3.1
Dataset Creation: Fri Apr 17 09:31:56 2015 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Sun Aug 17 08:09:53 2014
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	620.000	-2.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-16.000
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: 006 Model: PRB

Master Calibration

Performed Wed Mar 12 14:26:38 2014

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1296.6	7199.0	2625.4	7833.2	cps
Window 2	1218.8	5956.6	2257.8	6372.0	cps
Window 3	926.7	2990.0	1318.7	3107.7	cps
Window 4	314.3	319.6	320.3	326.2	cps
Long Space	0.0	4737.9	1039.0	5153.3	cps
Short Space	1.3	1655.6	1074.2	1728.4	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 44.1	Rib Slope	: 0.969	Density/Spine Ratio	: 0.562
Spine Angle	: 74.1	Spine Slope	: 3.507	Spine Intercept	: -17.5

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
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:	Sun Mar 08 22:55:40 2015	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.8000	GAPI/cps