NABORS COMPLETION & PRODUCTION SERVICES CO.

COMPENSATED DENSITY/NEUTRON LOG

Company	MAI OIL OPERATIONS, INC.
Well	BARNGROVER #1
Field	TRAPP
County	BARTON
State	KANSAS

Company MAI OIL OPERATIONS, INC.
Well BARNGROVER #1
Field TRAPP
County BARTON State KANSAS
Location: API # : 15-009-25968-0000
2200' FSL & 725' FWL
SW NE NW SW
SEC 4 TWP 17S RGE 13W

Other Services: DIL/MEL

Permanent Datum: GROUND LEVEL Elevation 1893
Log Measured From: KELLY BUSHING 8' A.G.L.
Drilling Measured From: KELLY BUSHING

Elevation
K.B. 1901
D.F. 1899
G.L. 1893

Date	5/6/14		
Run Number	ONE		
Depth Driller	3423		
Depth Logger	3425		
Bottom Logged Interval	3401		
Top Log Interval	2900		
Casing Driller	8 5/8" @ 516		
Casing Logger	514		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6000 PPM	
Density / Viscosity	9.4/68		
pH / Fluid Loss	9.0/8.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.60 @ 79F		
Rmf @ Meas. Temp	.45 @ 79F		
Rmc @ Meas. Temp	.72 @ 79F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.42 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	WYATT URBAN		

<<< Fold Here >>>

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:
SUSANK, KS. - SOUTH 2 1/2 MILES ON BLKTOP - EAST INTO JUST PAST FARM HOUSE

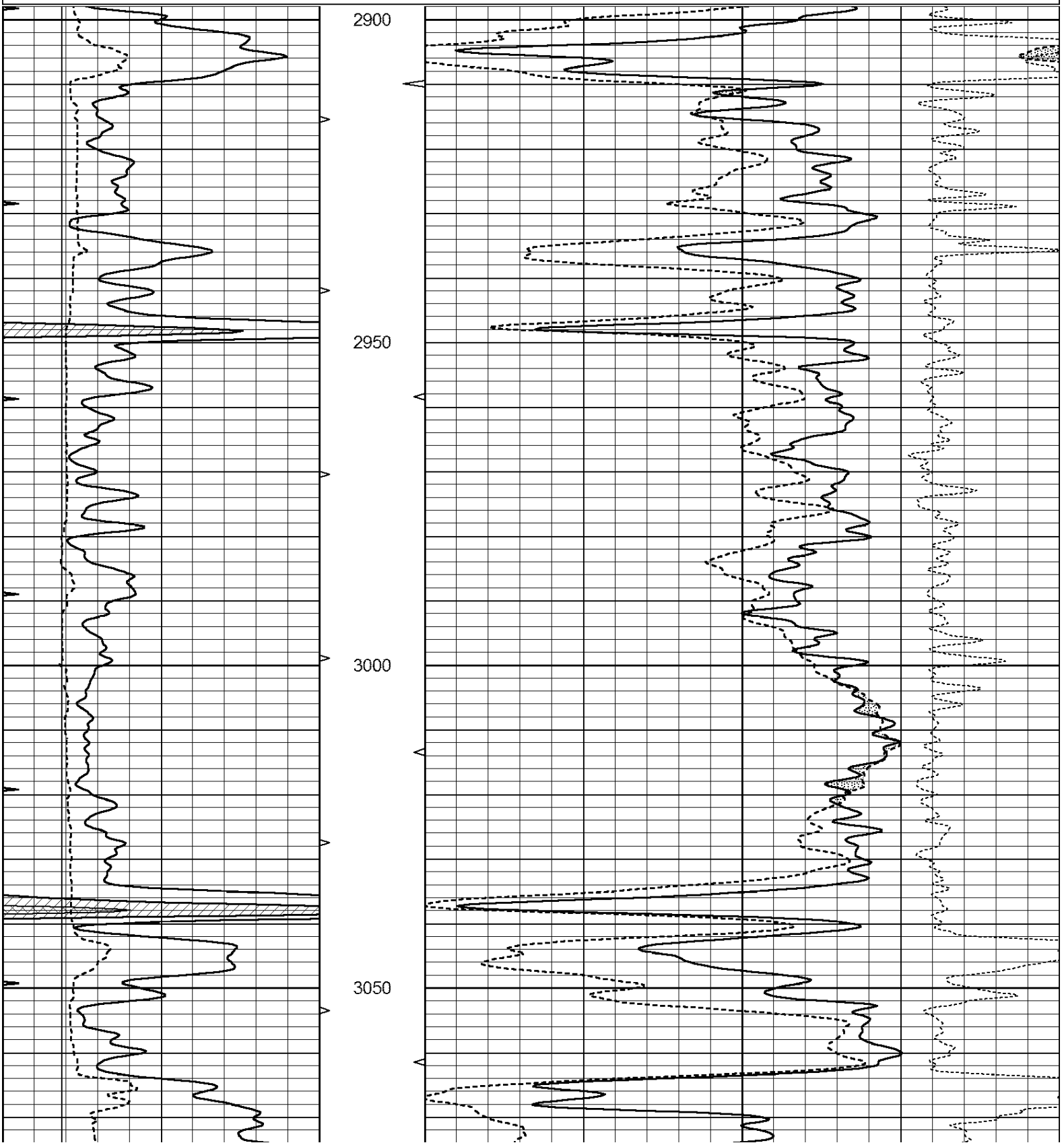
NABORS COMPLETION & PRODUCTION SERVICES CO.

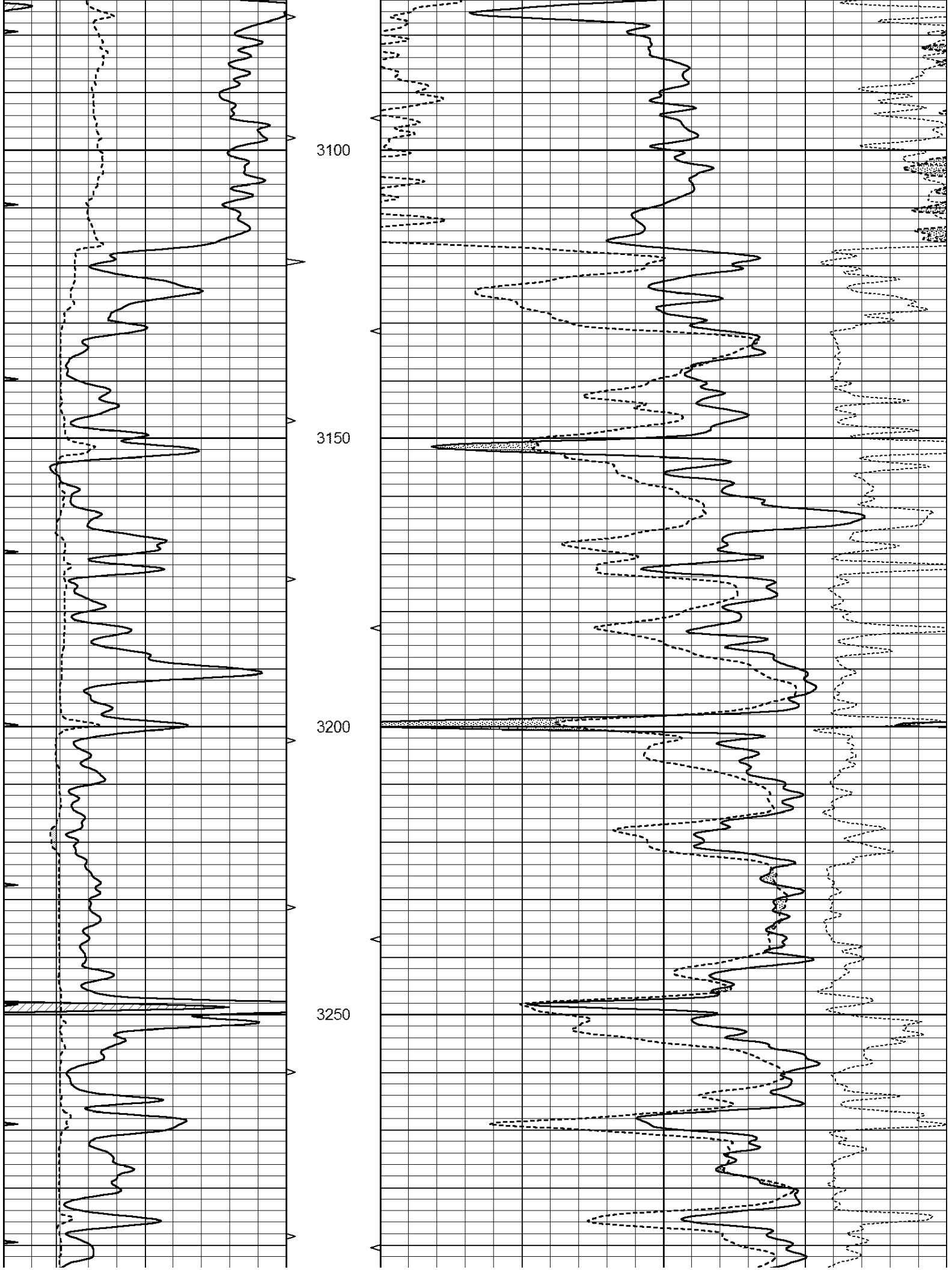
MAIN SECTION

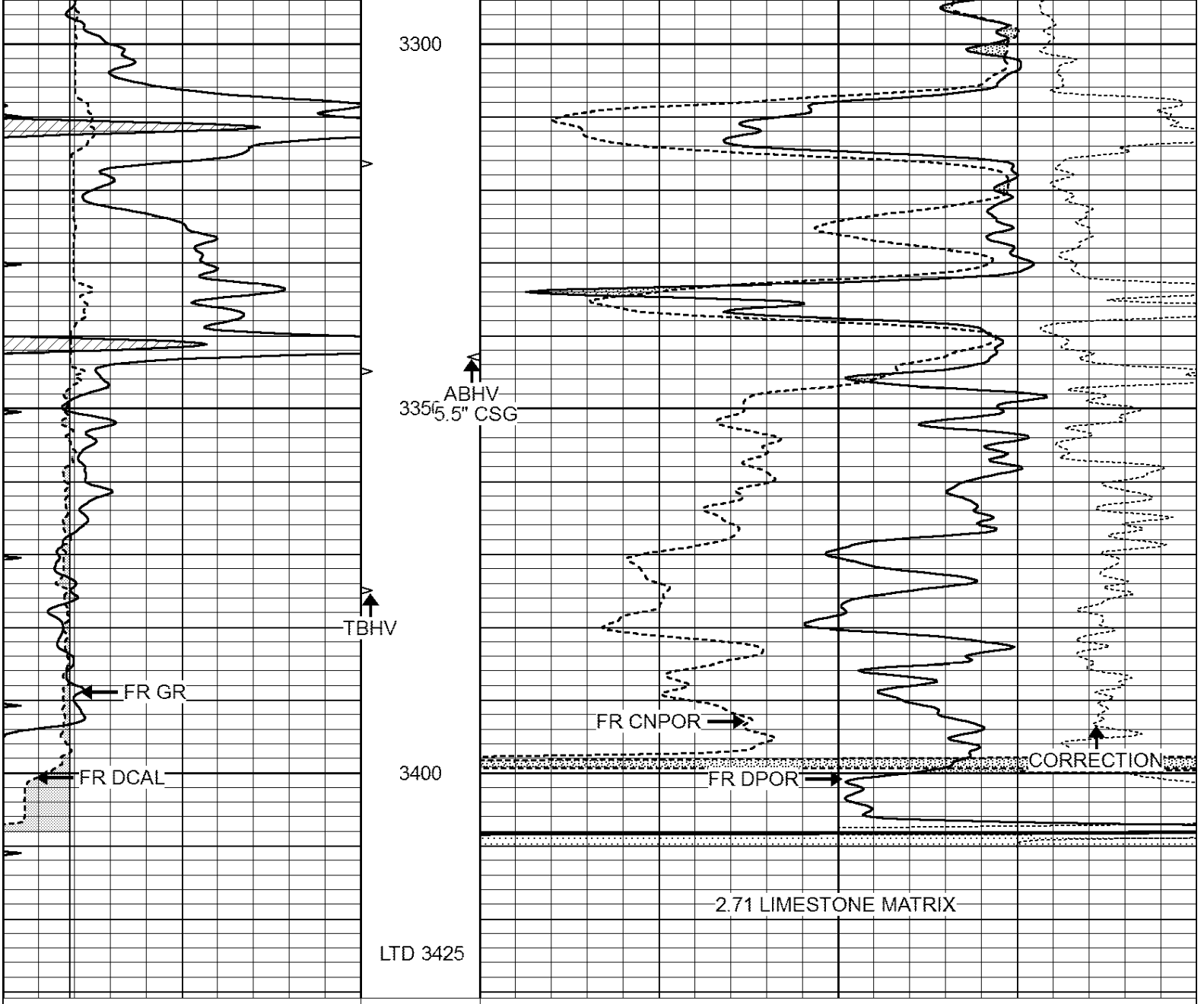
SERVICES CO.

Database File: 24239ddn.db
Dataset Pathname: pass3.1
Presentation Format: den_neu
Dataset Creation: Tue May 06 06:56:06 2014 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		




3100
3150
3200
3250



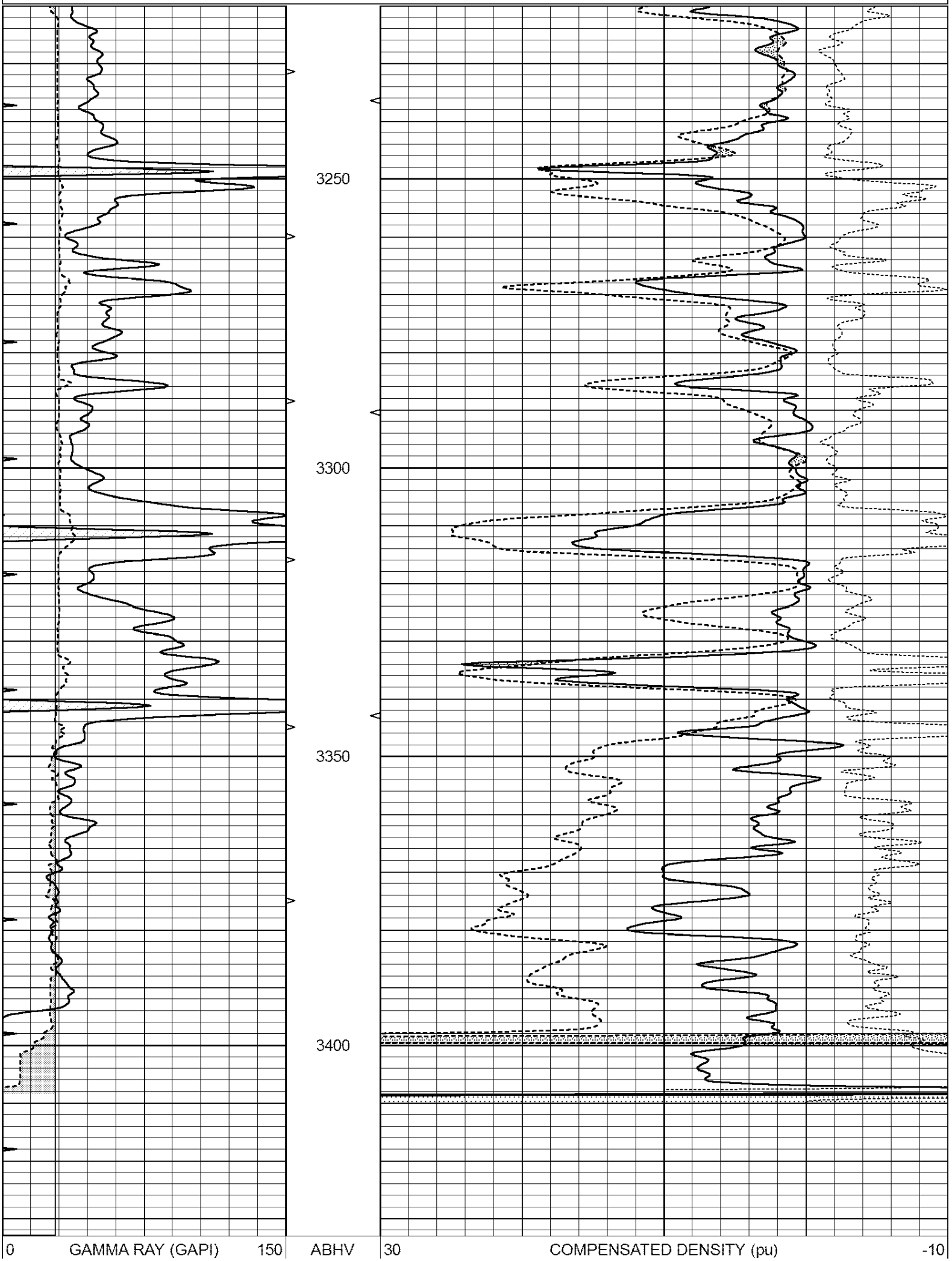
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV		-0.25	CORRECTION (g/cc)	0.25
			0 (ft3) 10				

NABORS
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 24239ddn.db
Dataset Pathname: pass2.2
Presentation Format: den_neu
Dataset Creation: Tue May 06 07:01:54 2014
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				


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			

Calibration Report

Database File: 24239ddn.db
Dataset Pathname: pass2.2
Dataset Creation: Tue May 06 07:01:54 2014

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: GR6
Tool Model: OPEN
Performed: Tue May 06 06:07:07 2014

Calibrator Value: 150.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading:	276.0	cps
Sensitivity:	0.8035	GAPI/cps