



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company	GRADY BOLDING CORPORATION		
Well	GRIZZELL #27		
Field	BLOOMER		
County	ELLSWORTH	State	KANSAS
Location:	API # : 15-053-21308-0000 1996' FNL & 1131' FEL NW - SW - SE -NE		Other Services
Permanent Datum	SEC 31	TWP 17S	RGE 10W
Log Measured From	GROUND LEVEL		Elevation
Drilling Measured From	KELLY BUSHING 10' A.G.L.		K.B. 1798 D.F. 1796 G.L. 1788
Date	4/2/14		
Run Number	ONE		
Depth Driller	3312		
Depth Logger	3312		
Bottom Logged Interval	3288		
Top Log Interval	2700		
Casing Driller	8 5/8" @ 312		
Casing Logger	311		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5700 PPM	
Density / Viscosity	9.3/5.1		
pH / Fluid Loss	9.5/7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.75 @ 72F		
Rmt @ Meas. Temp	.56 @ 72F		
Rmc @ Meas. Temp	.90 @ 72F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.53 @ 102F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	102F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	WYATT URBAN		

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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:
 CLAFLIN, KS. - 4 EAST TO 160 RD - 3/4 NORTH - 1/2 EAST INTO

Database File:

24018ddn.db

Dataset Pathname:

pass3.1

Presentation Format:

den_neu

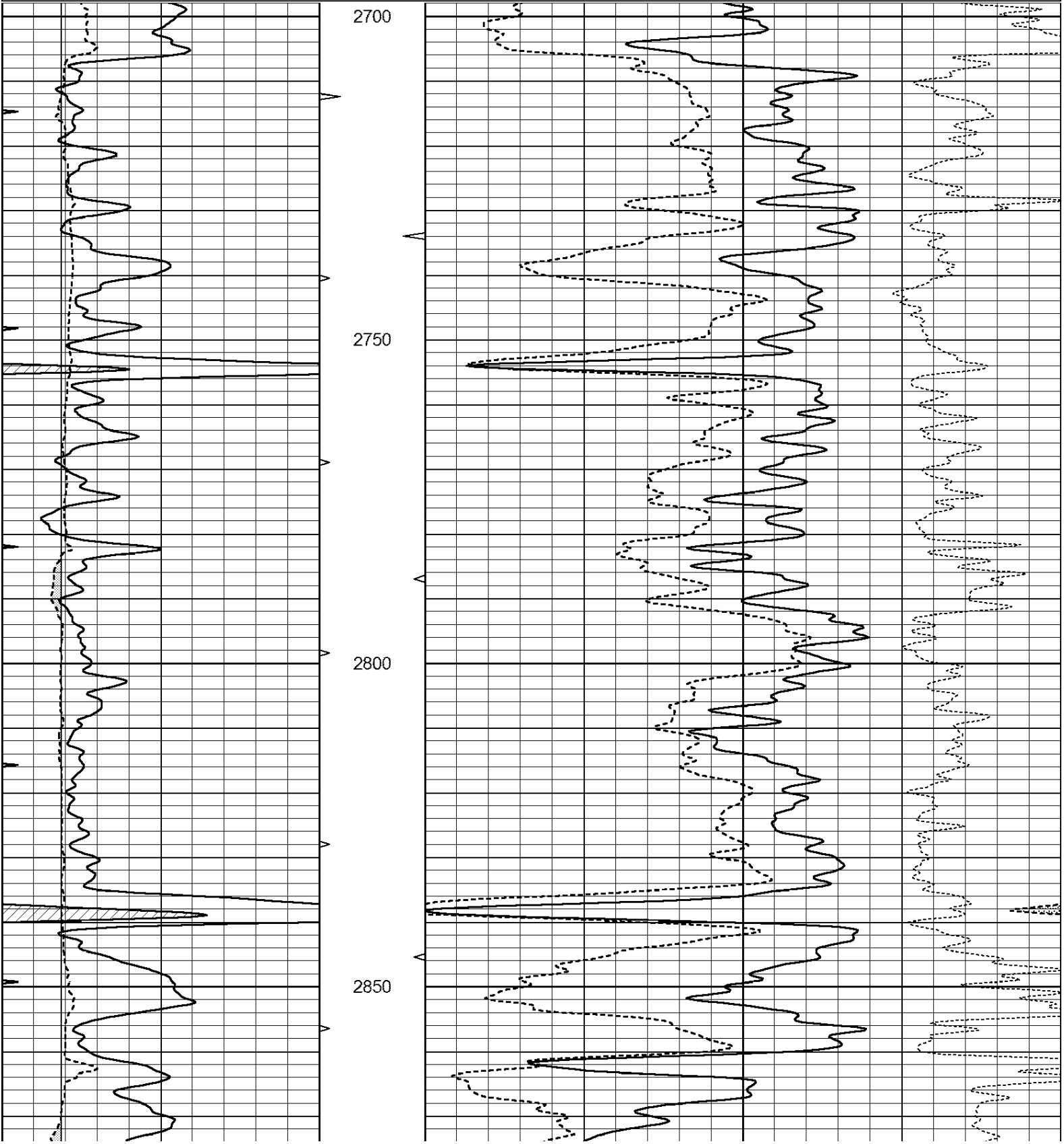
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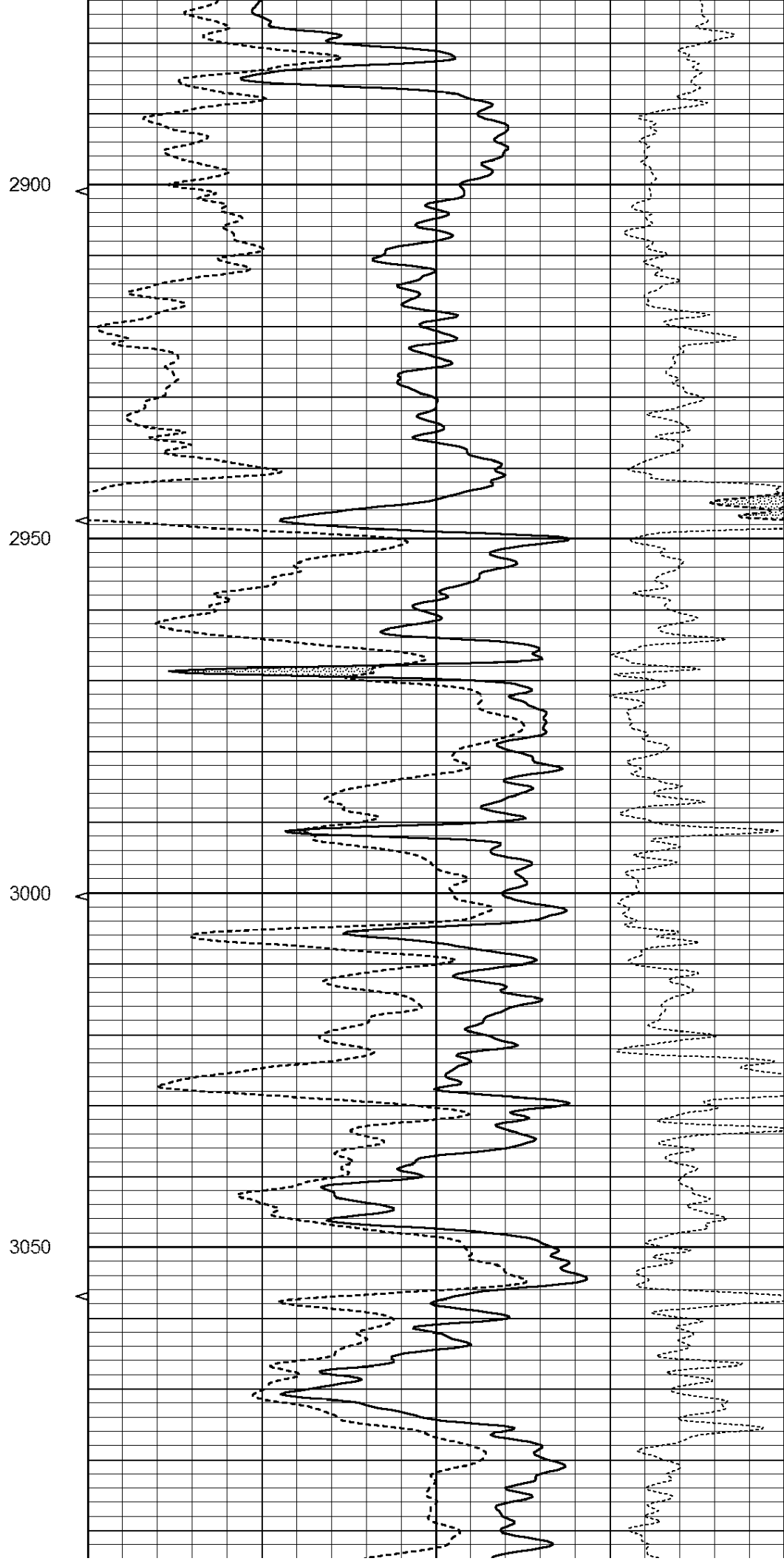
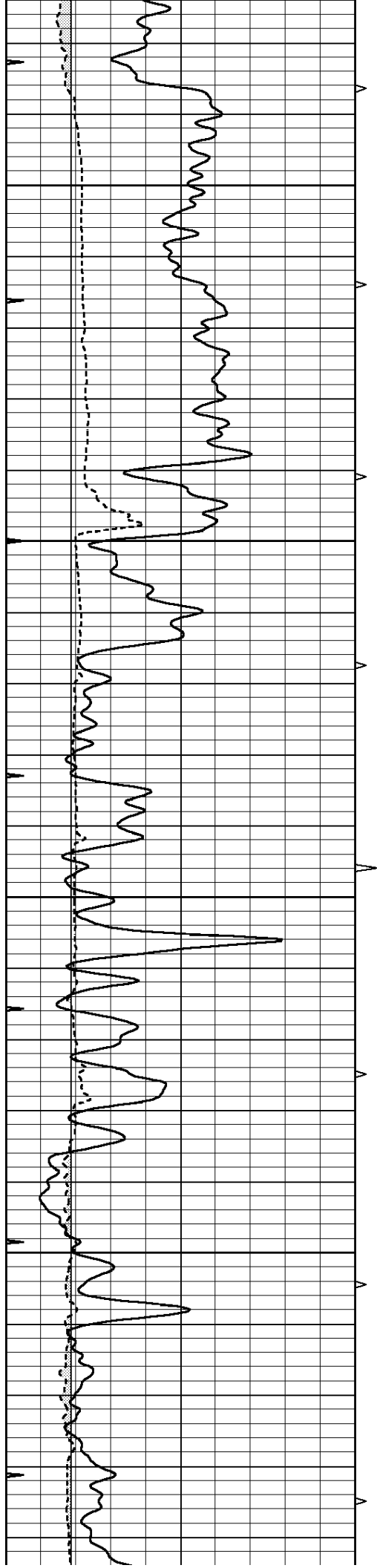
Wed Apr 02 23:32:06 2014 by Calc Open-Cased 090629

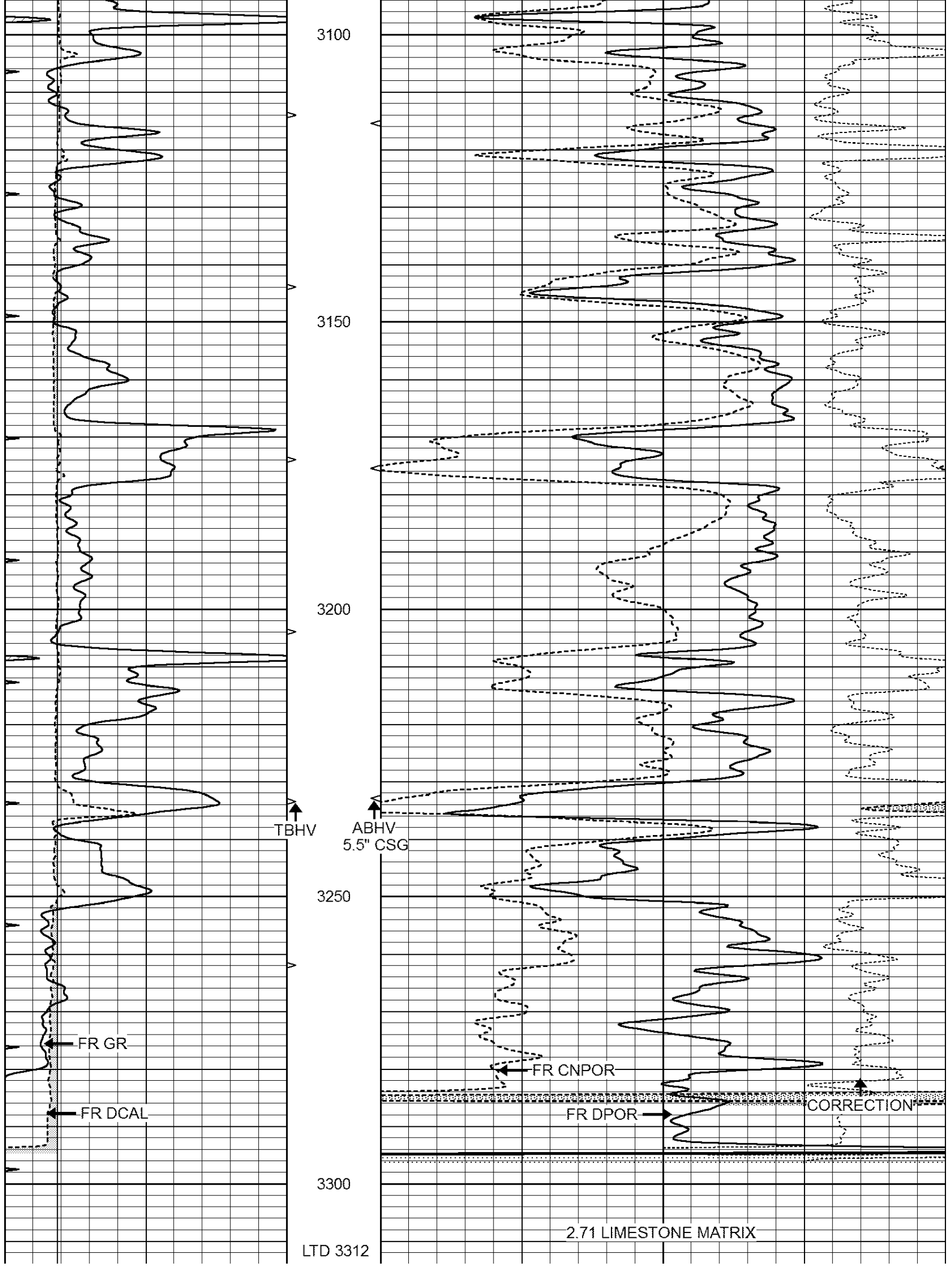
Charted by:

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		







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			

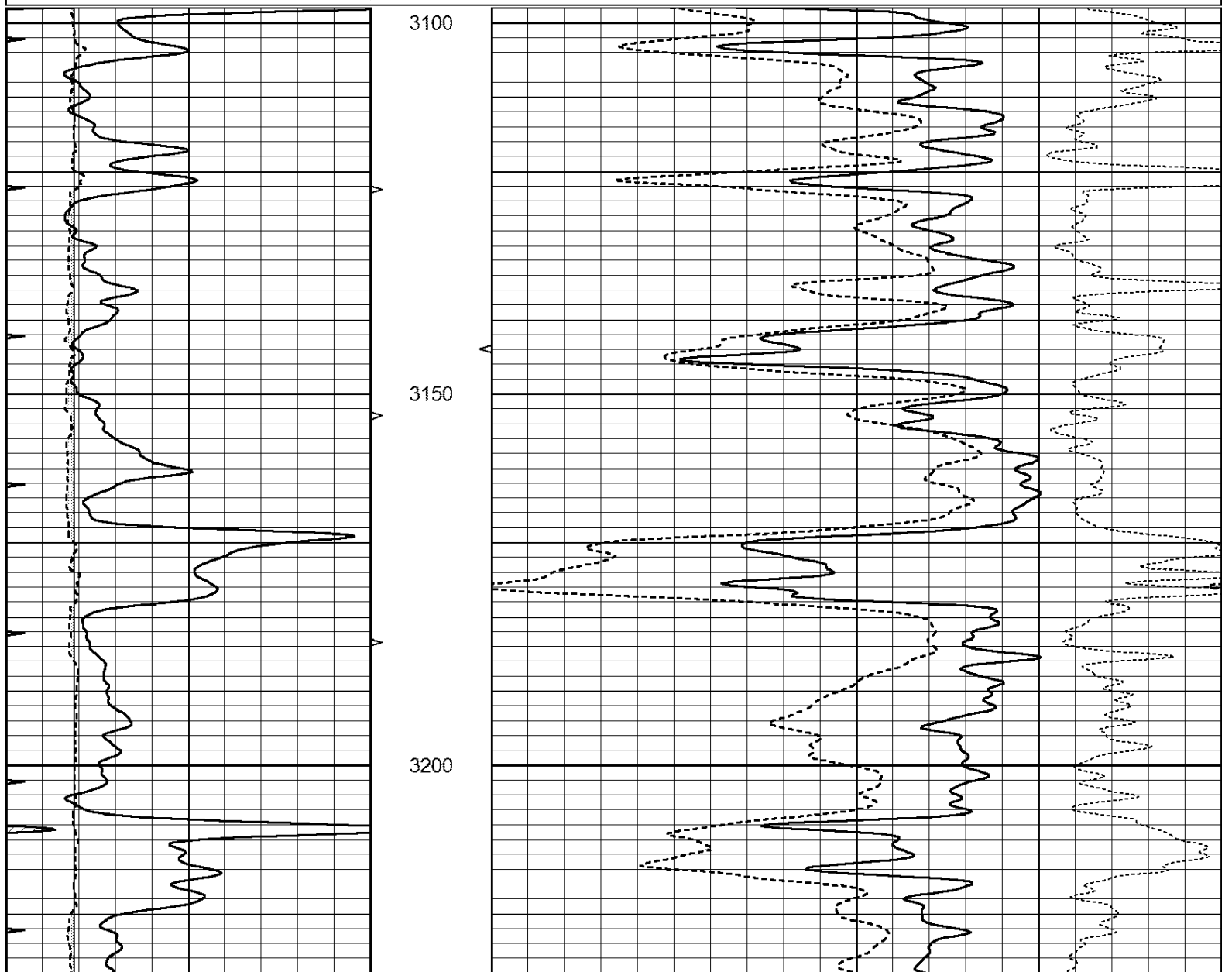


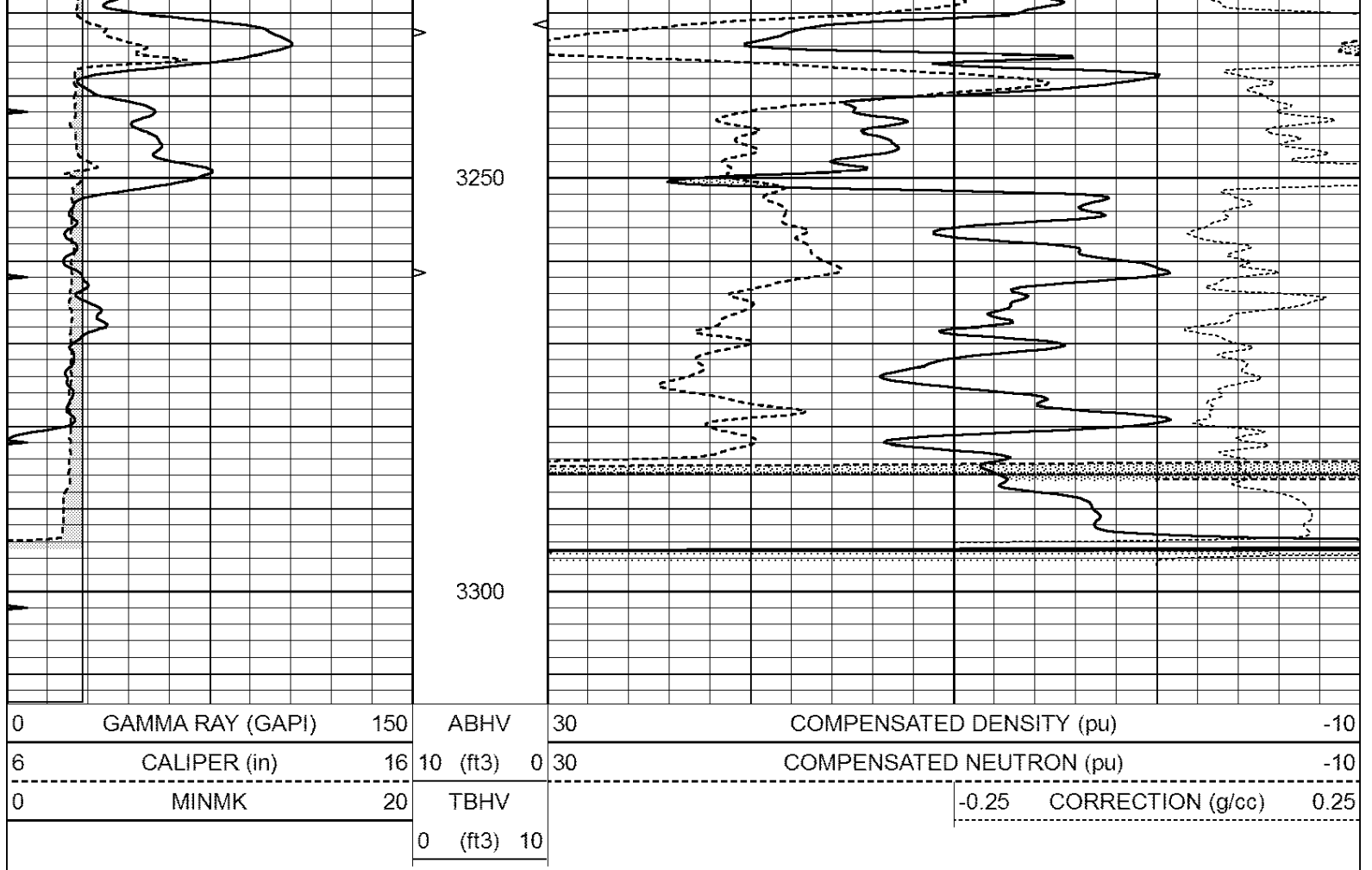
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REPEAT SECTION

Database File: 24018ddn.db
Dataset Pathname: pass2.1
Presentation Format: den_neu
Dataset Creation: Wed Apr 02 23:28:40 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			





Calibration Report

Database File: 24018ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Wed Apr 02 23:28:40 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		

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
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	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:				GEAR4-GEARHART			
Source / Verifier:				143 / 143			
Master Calibration Performed:				Wed Sep 18 03:03:09 2013			
Before Survey Verification Performed:							
After Survey Verification Performed:							

Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.710	g/cc		1075.98		532.39	cps
Aluminum	2.560	g/cc		286.51		422.88	cps
Spine Angle = 80.13				Density/Spine Ratio = 0.633			
	Size			Reading			
Small Ring	8.00	in		3.21	V		
Large Ring	14.00	in		5.46	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 Long Space	cps cps	pu
3)	Short Space Long Space	cps cps	pu
POST-SURVEY VERIFICATION			
	Detector	Readings	Measured Target
1)	Short Space Long Space	cps cps	pu pu
2)	Short Space Long Space	cps cps	pu pu
3)	Short Space Long Space	cps cps	pu pu
Gamma Ray Calibration Report			
Serial Number:		GR6	
Tool Model:		OPEN	
Performed:		Fri Nov 29 08:34:37 2013	
Calibrator Value:		150.0	GAPI
Background Reading:		0.0	cps
Calibrator Reading:		276.0	cps
Sensitivity:		0.6035	GAPI/cps