



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

COMPENSATED DENSITY/NEUTRON LOG

Company		MULL DRILLING CO., INC.	
Well		NEWBERRY FARMS #1-36	
Field		SPIVEY-GRABS-BASIL	
County		HARPER	
State		KANSAS	
Location:		APL # : 15-077-22112-00-00 575' FNL & 1675' FWL	
Permanent Datum		GROUND LEVEL Elevation 1574	
Log Measured From		KELLY BUSHING 10' A.G.L.	
Drilling Measured From		KELLY BUSHING	
SEC 36 TWP 31S RGE 9W		Elevation K.B. 1584 D.F. 1582 G.L. 1574	
Date	11/6/14		
Run Number	ONE		
Depth Driller	4600		
Depth Logger	4601		
Bottom Logged Interval	4577		
Top Log Interval	3100		
Casing Driller	8 5/8" @ 225		
Casing Logger	218		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5000 PPM	
Density / Viscosity	9.4/45		
pH / Fluid Loss	10.0/9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.75 @ 70F		
Rmt @ Meas. Temp	0.56 @ 70F		
Rmc @ Meas. Temp	0.90 @ 70F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.43 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	IAN MABB		
Witnessed By	JERRY A. SMITH		

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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.

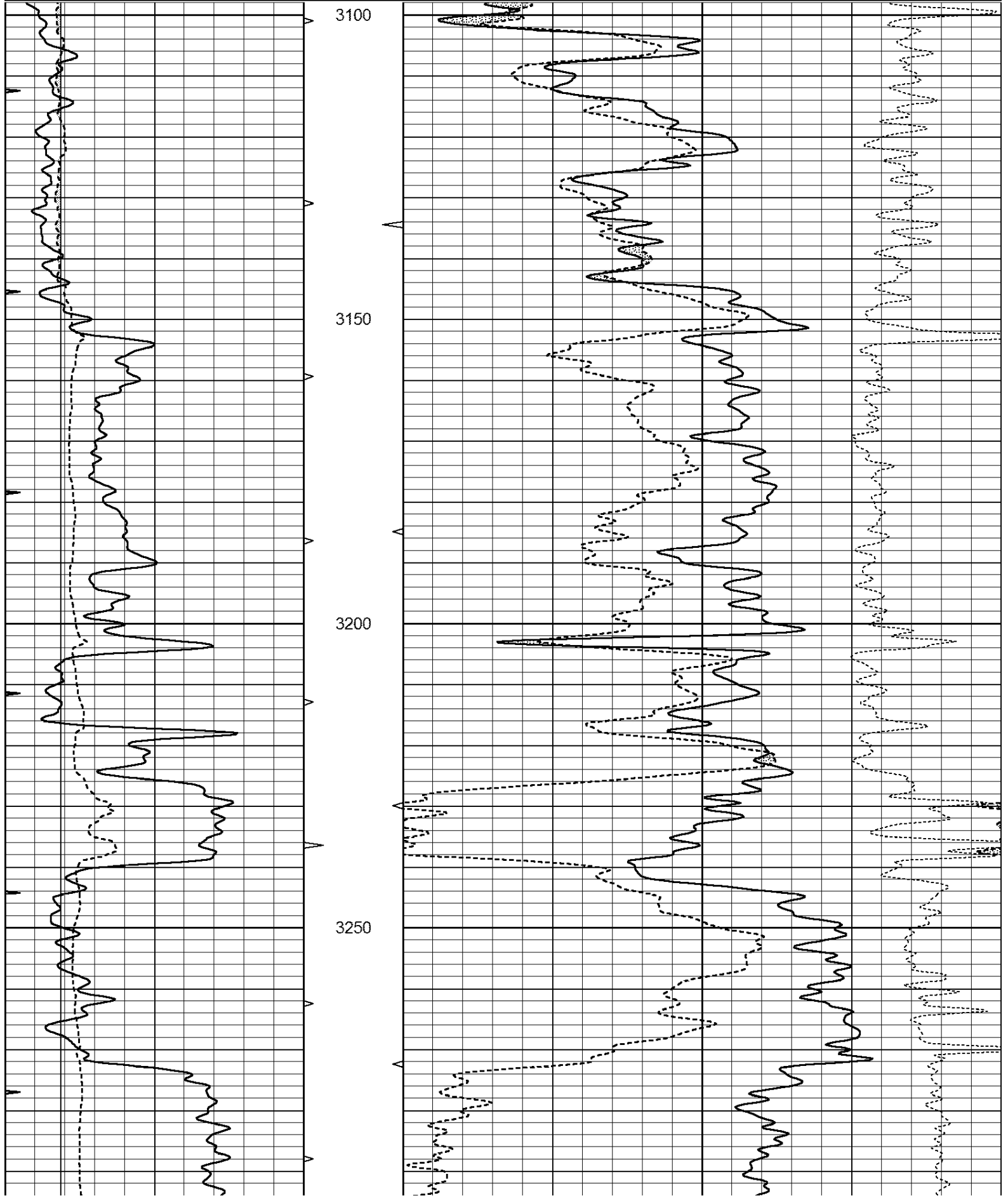
Comments

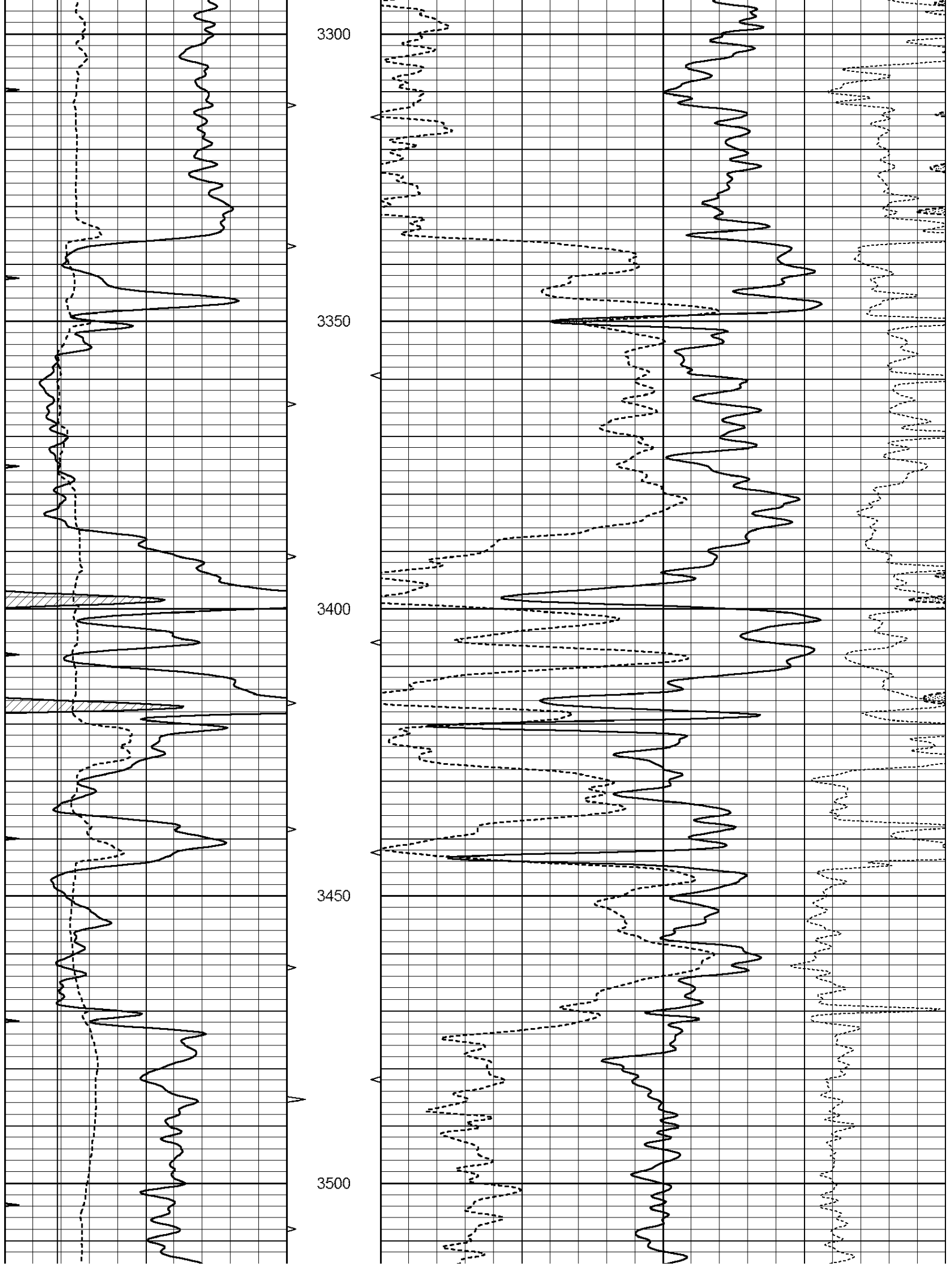
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:

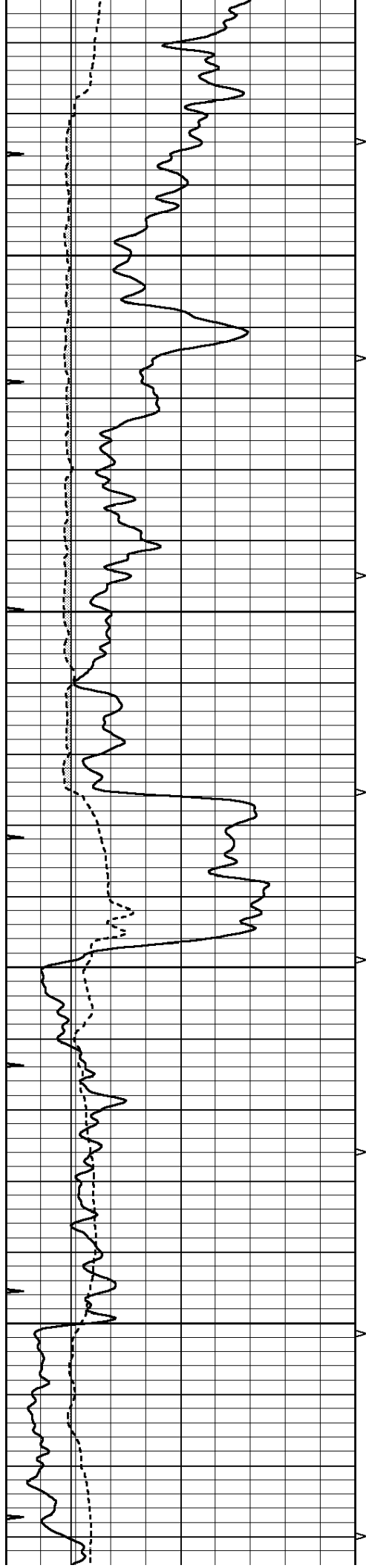
ZENDA, KS. - SOUTH TO NW 150 RD - EAST TO 1 MILE TO NW 120 AVE - SOUTH 4 1/4 - EAST INTO

Database File: 26224ddn.db
Dataset Pathname: pass3.2
Presentation Format: den_neu
Dataset Creation: Thu Nov 06 07:26:21 2014 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

Charted by:		Depth in Feet scaled 1:2.10			
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		





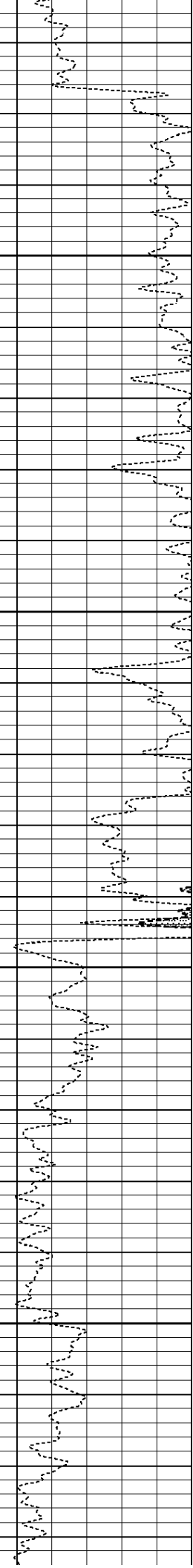
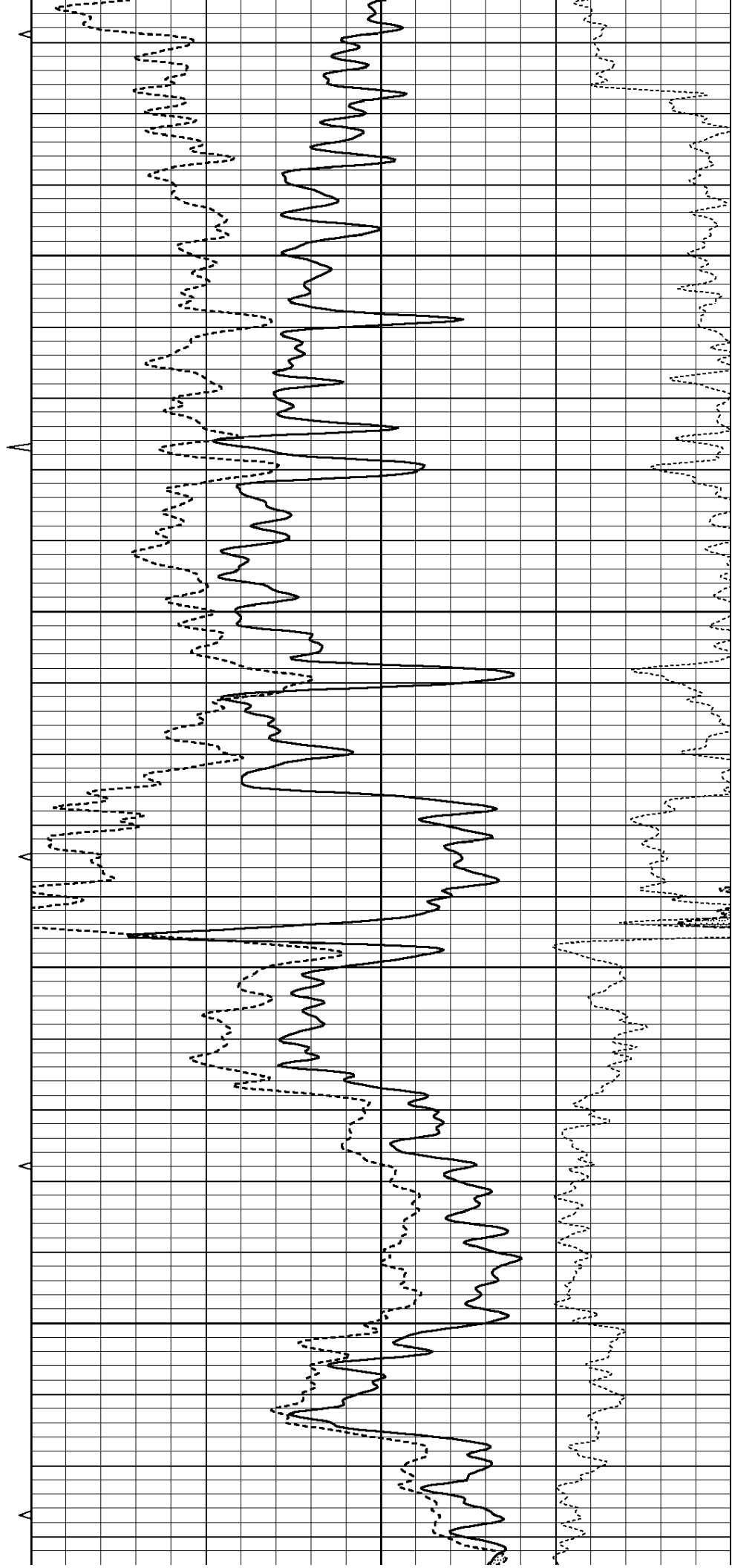


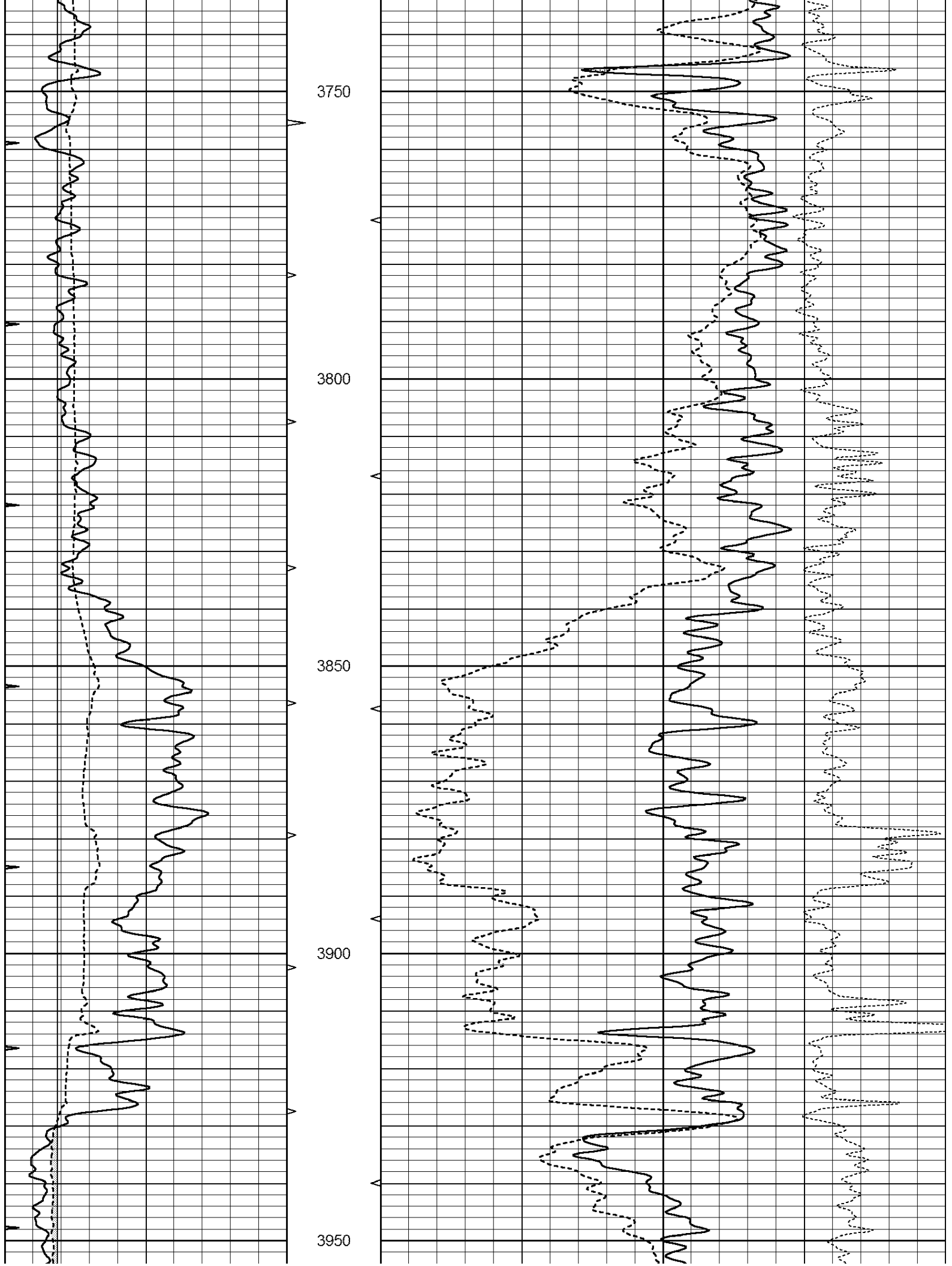
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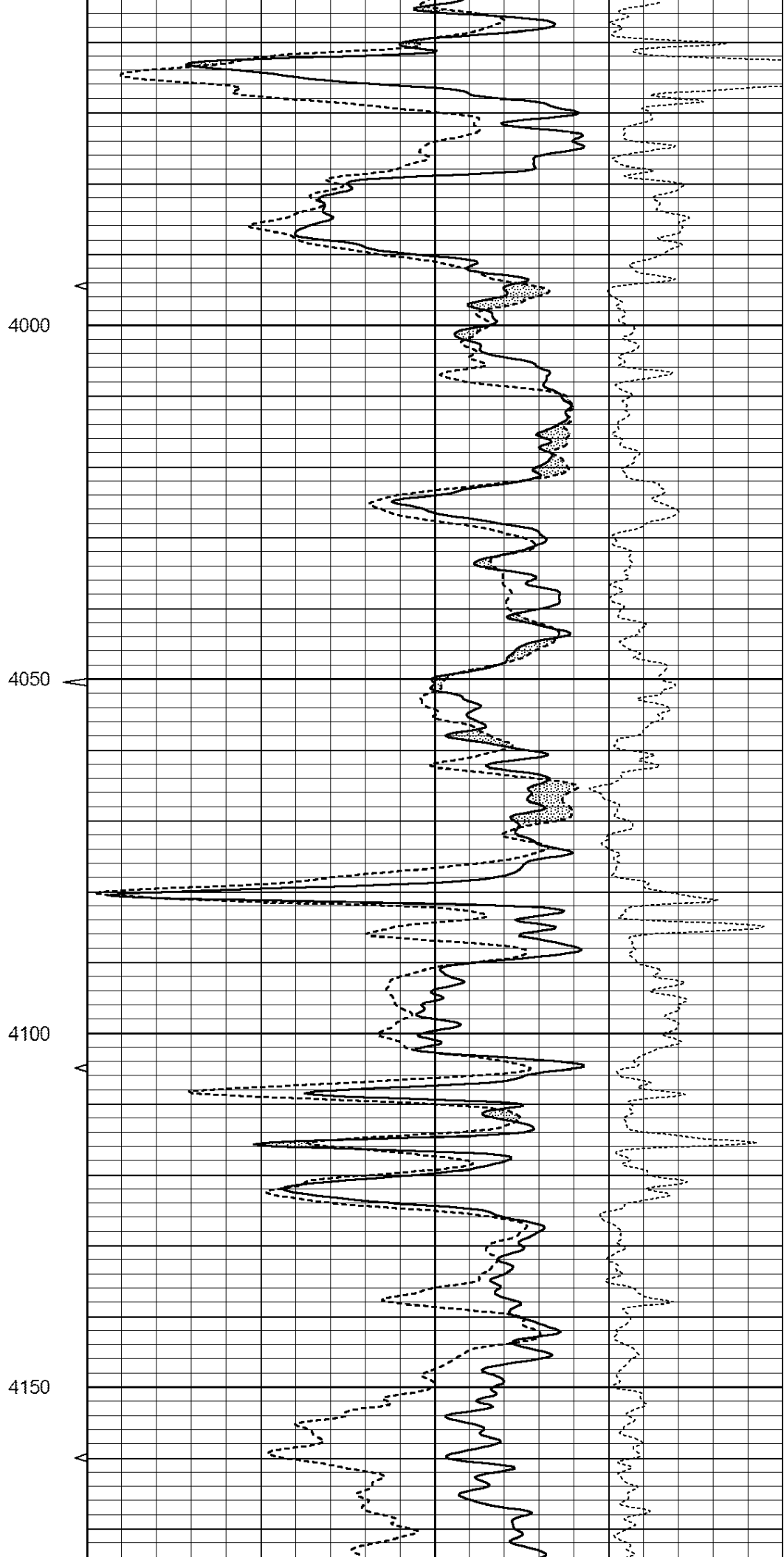
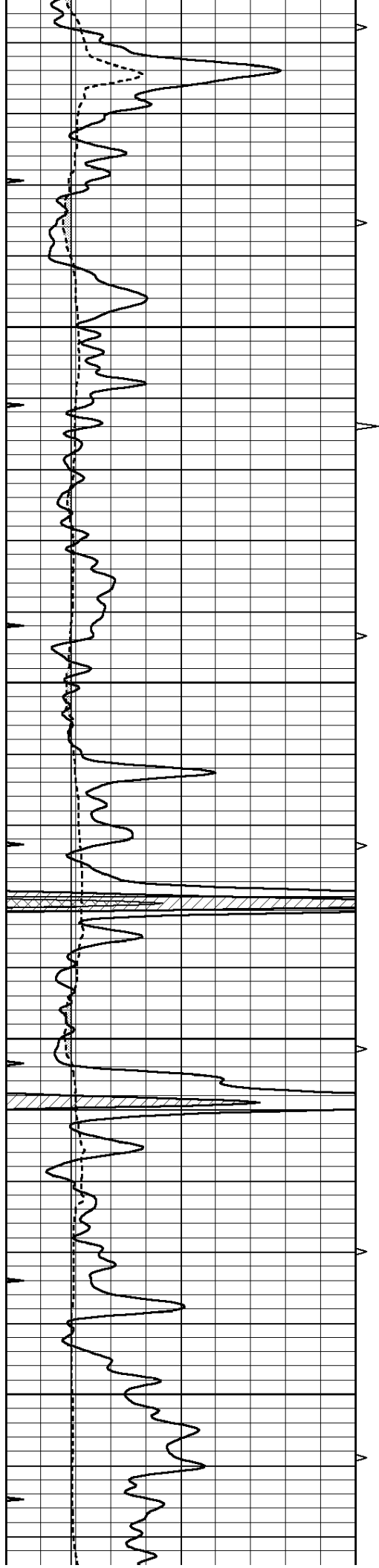
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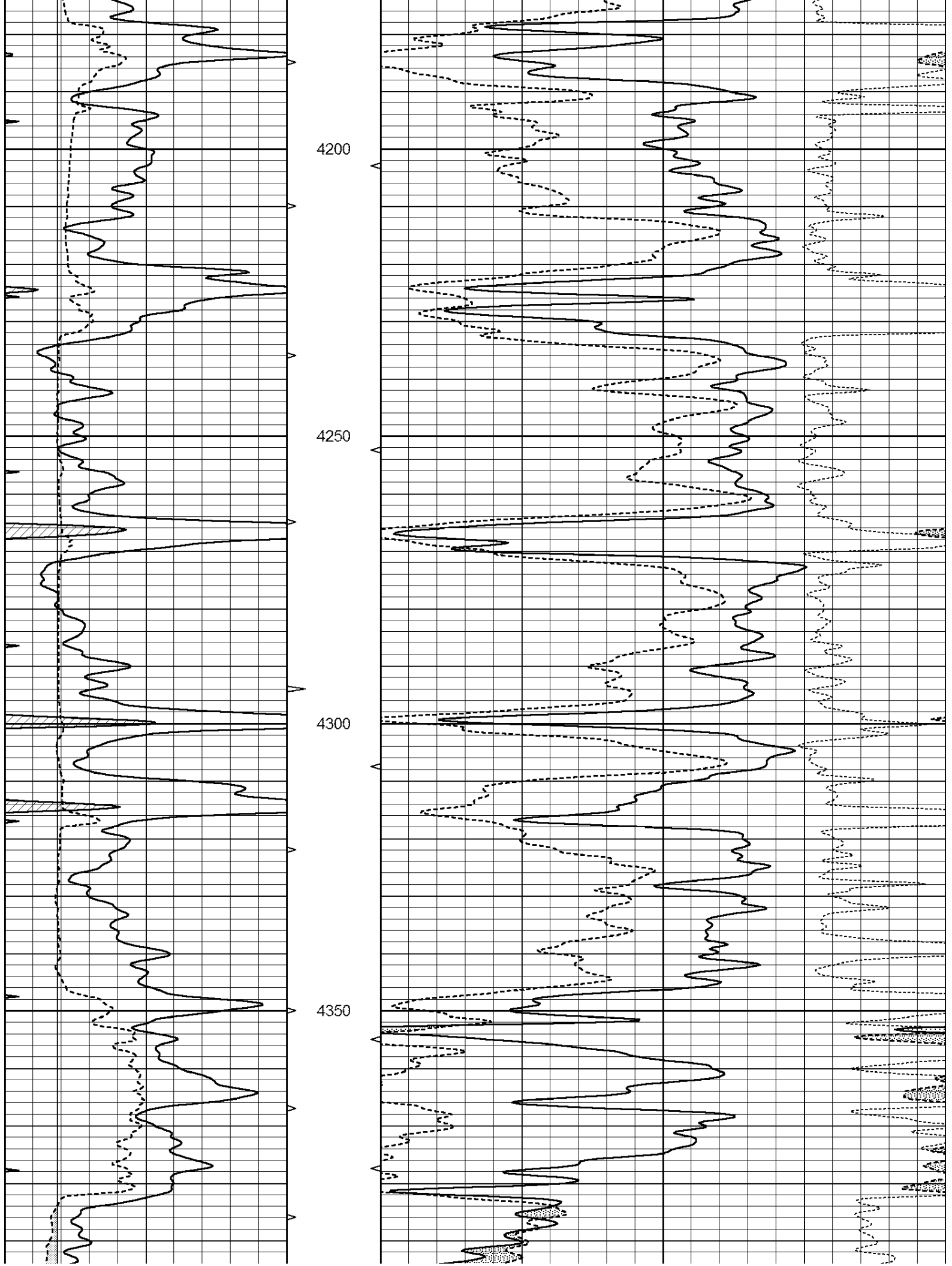
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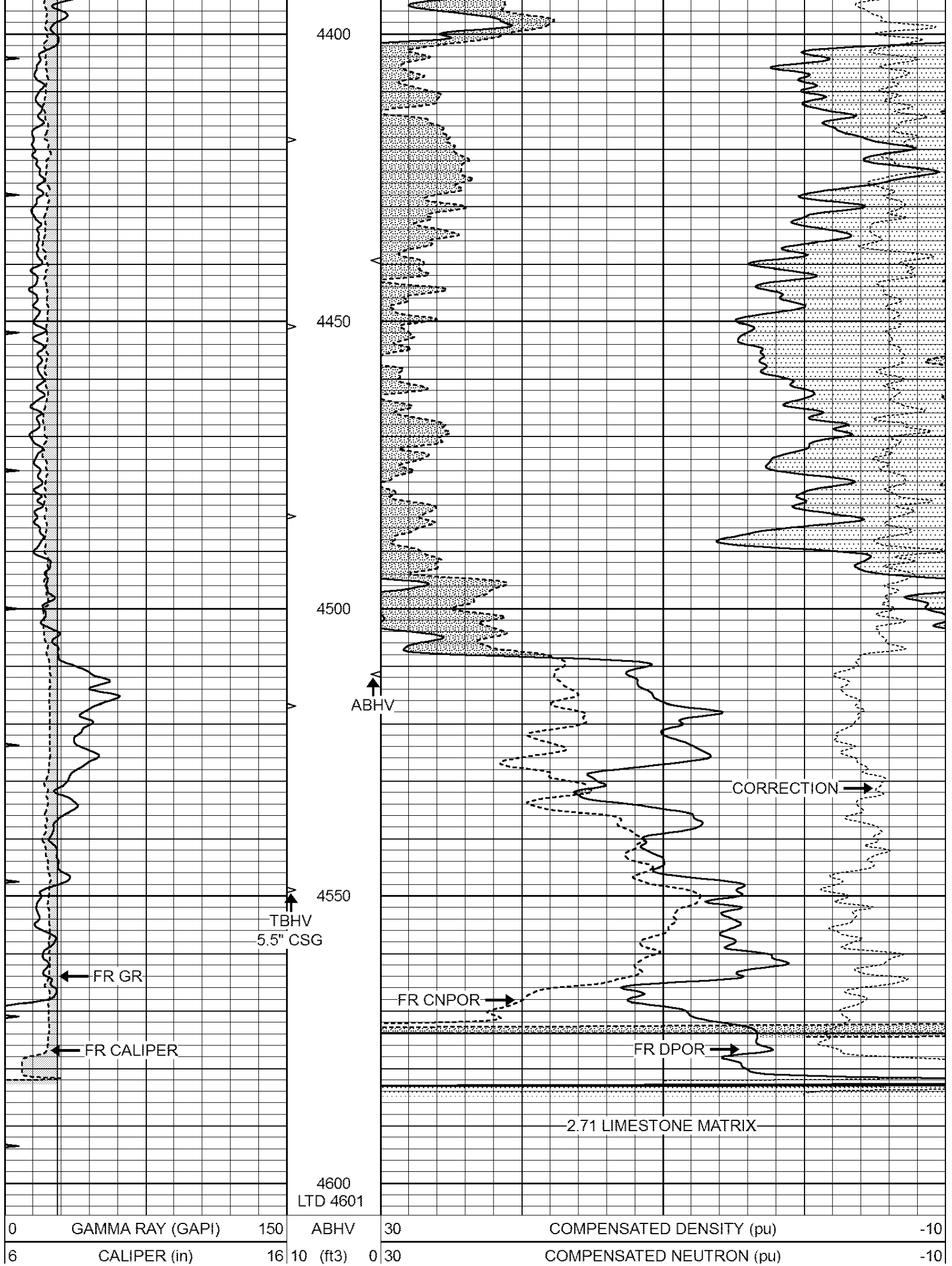
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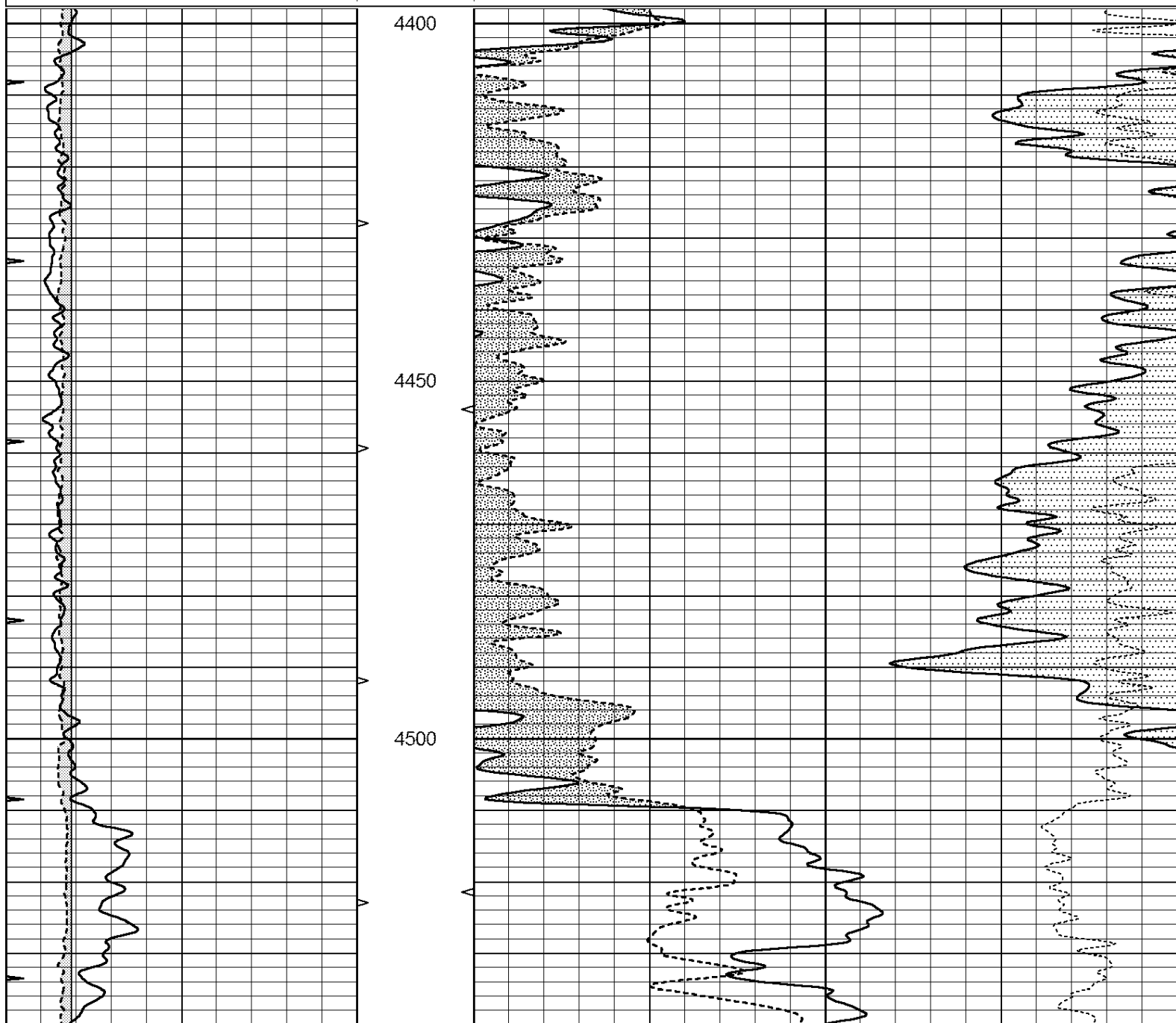
0	MINMK	20	TBHV	-0.25	CORRECTION (g/cc)	0.25
		0	(ft3) 10			

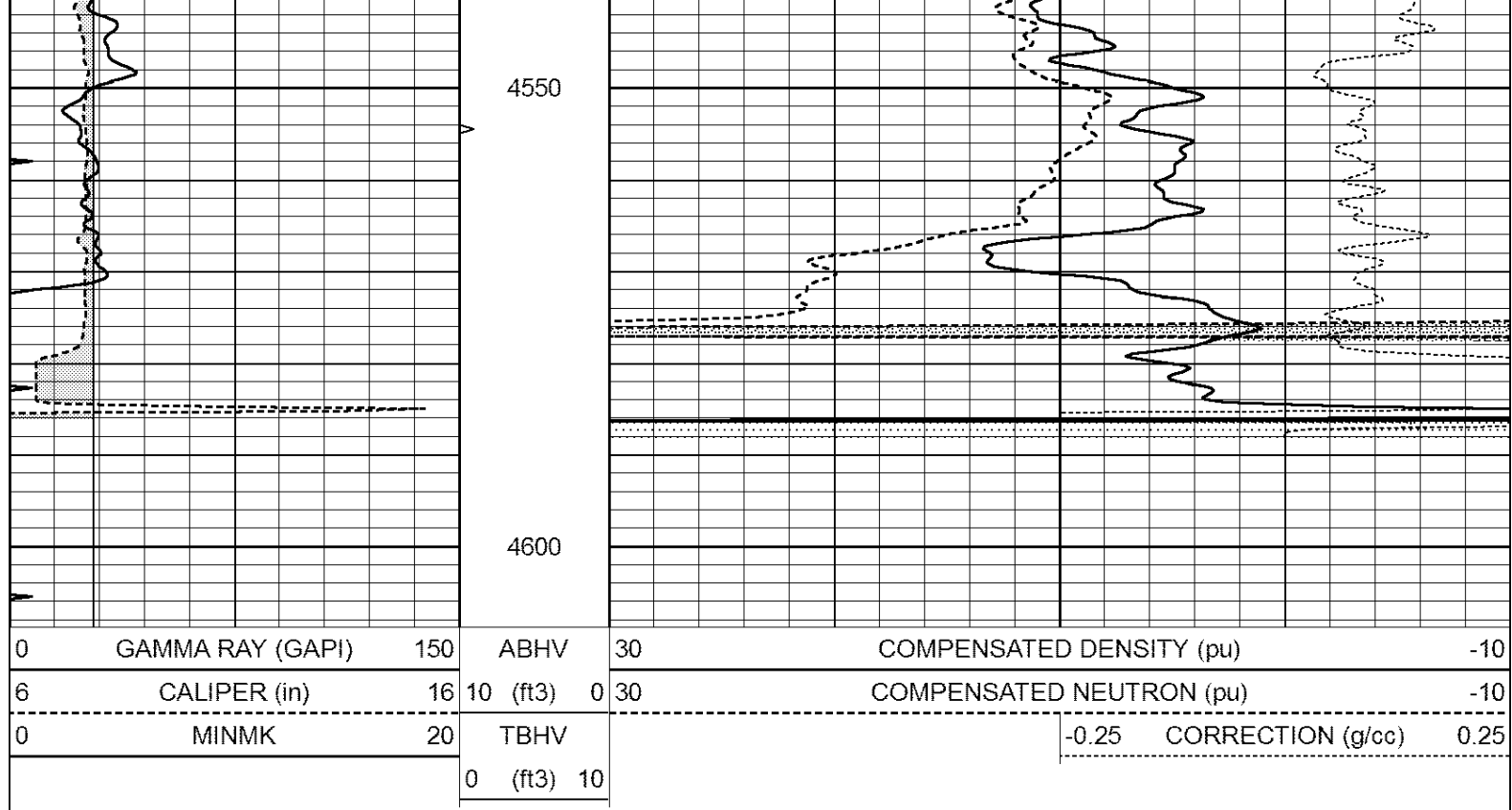


REPEAT SECTION

Database File: 26224ddn.db
 Dataset Pathname: pass2.2
 Presentation Format: den_neu
 Dataset Creation: Thu Nov 06 06:45:48 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			





Calibration Report

Database File: 26224ddn.db
 Dataset Pathname: pass3.2
 Dataset Creation: Thu Nov 06 07:26:21 2014 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

Loop:	Readings			References			Results	
	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		

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		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 Aug 17 15:23:09 2014		
Calibrator Value:		150.0	GAPI	
Background Reading:		0.0	cps	
Calibrator Reading:		276.0	cps	
Sensitivity:		0.7000	GAPI/cps	