

COMPENSATED DENSITY/NEUTRON LOG

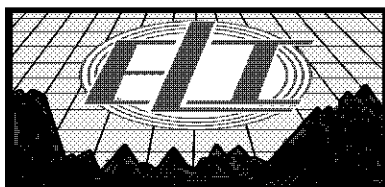
Company DEUTSCH OIL COMPANY		Company DEUTSCH OIL COMPANY	
Well	ZINK #2-4	Well ZINK #2-4	
Field	BAUMAN	Field BAUMAN	
County	PRATT	County PRATT	
State	KANSAS	State KANSAS	
Location:		API # : 15-151-22454-0000	
3630' FSL & 2310' FEL		Other Services DIL/MEL	
SEC 4 TWP 26S RGE 11W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	K.B. 1848
Log Measured From	KELLY BUSHING 7' A.G.L		D.F. 1846
Drilling Measured From	KELLY BUSHING		G.L. 1841
Date	12/12/16		
Run Number	ONE		
Depth Driller	4150		
Depth Logger	4154		
Bottom Logged Interval	4130		
Top Log Interval	3200		
Casing Driller	8 5/8" @ 294'		
Casing Logger	290		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5500 PPM	
Density / Viscosity	9.0/46		
pH / Fluid Loss	10.0/9.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.65 @ 74F		
Rmf @ Meas. Temp	.48 @ 74F		
Rmc @ Meas. Temp	.78 @ 74F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.41 @ 117F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	2.15 P.M.		
Maximum Recorded Temperature	117F		
Equipment Number	3802		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	AARON YOUNG		

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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

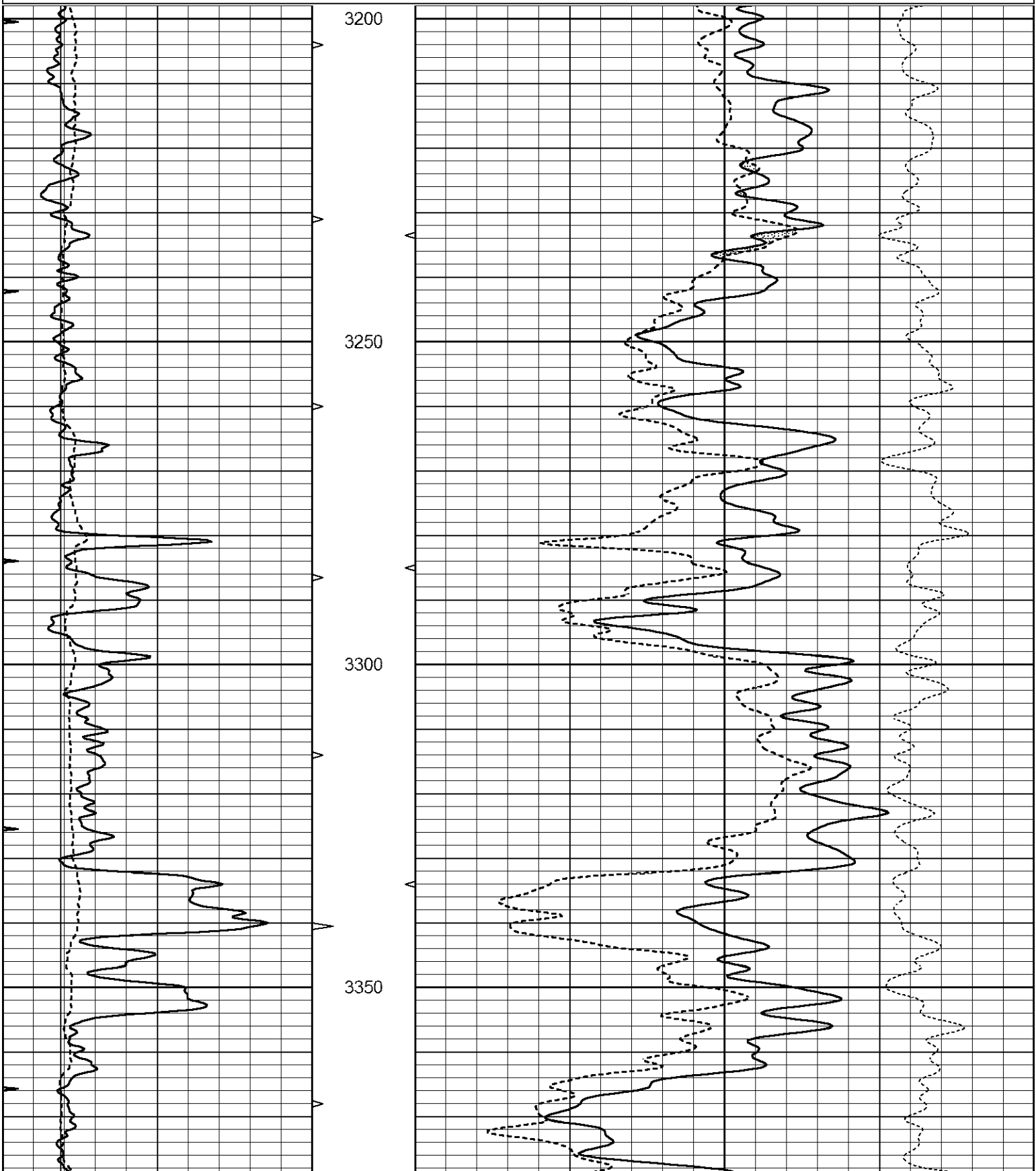
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
TURON, KS. - 4 WEST ON 110 RD. - 1/2 NORTH - WEST INTO

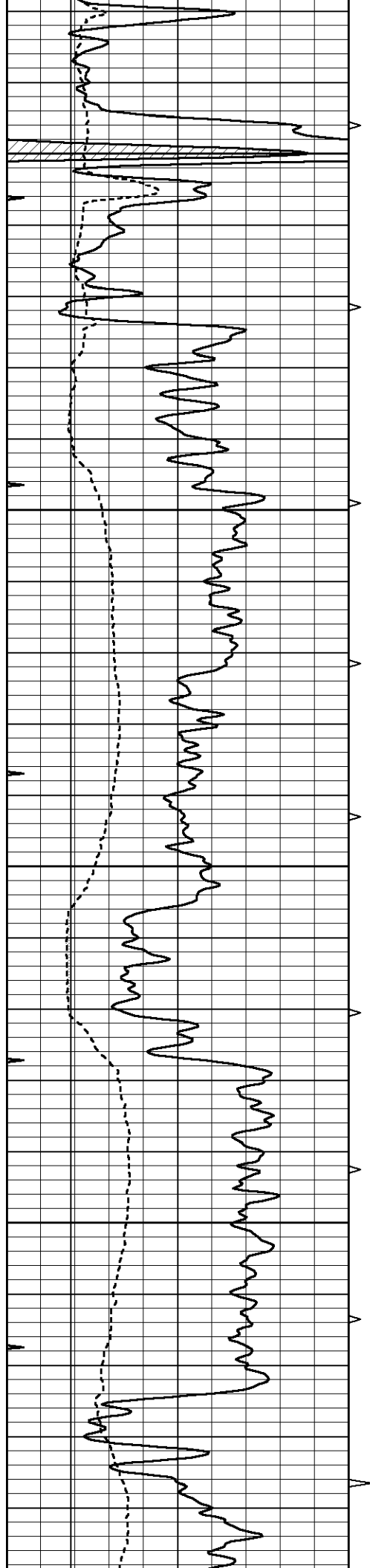


MAIN SECTION

Database File	1109ddn8.db
Dataset Pathname	pass4.1
Presentation Format	_den_neu
Dataset Creation	Mon Dec 12 14:56:49 2016
Charted by	Depth in Feet scaled 1:240

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



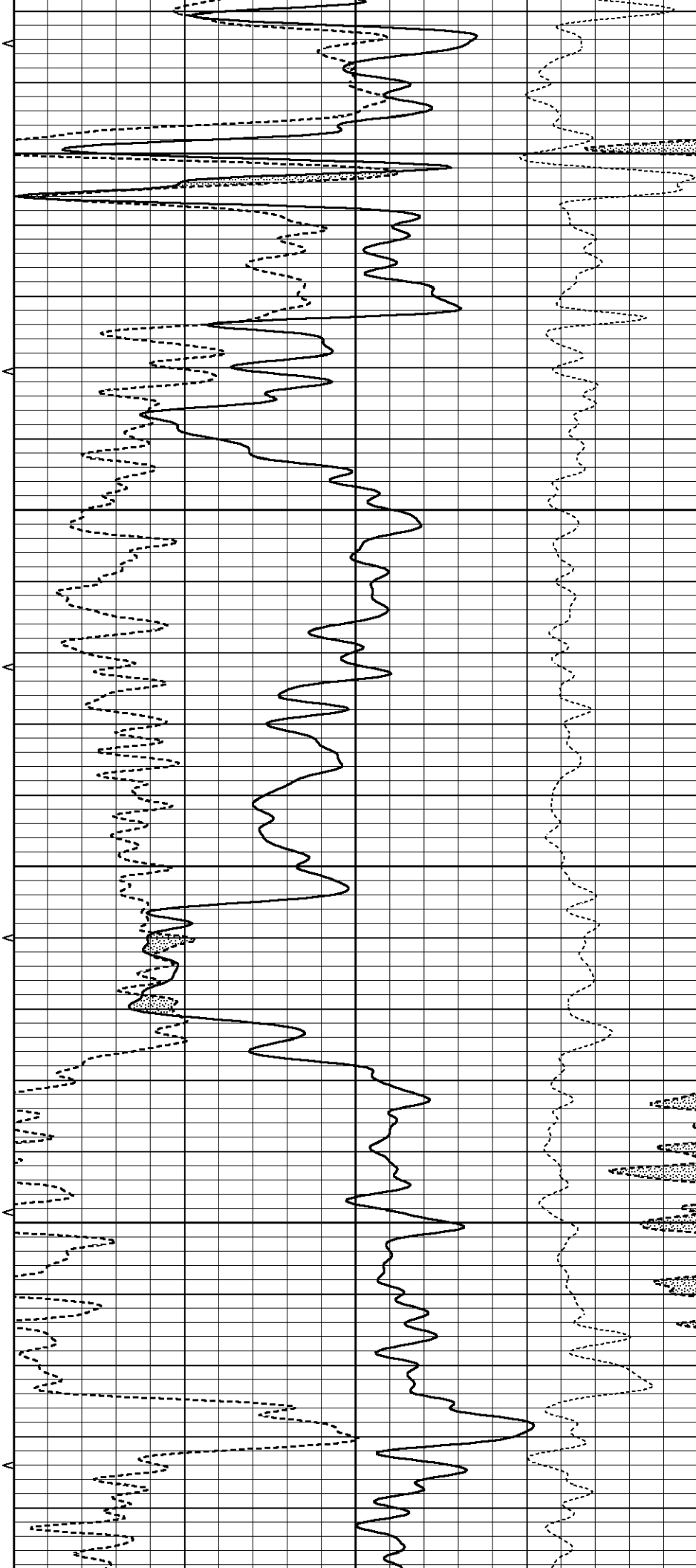


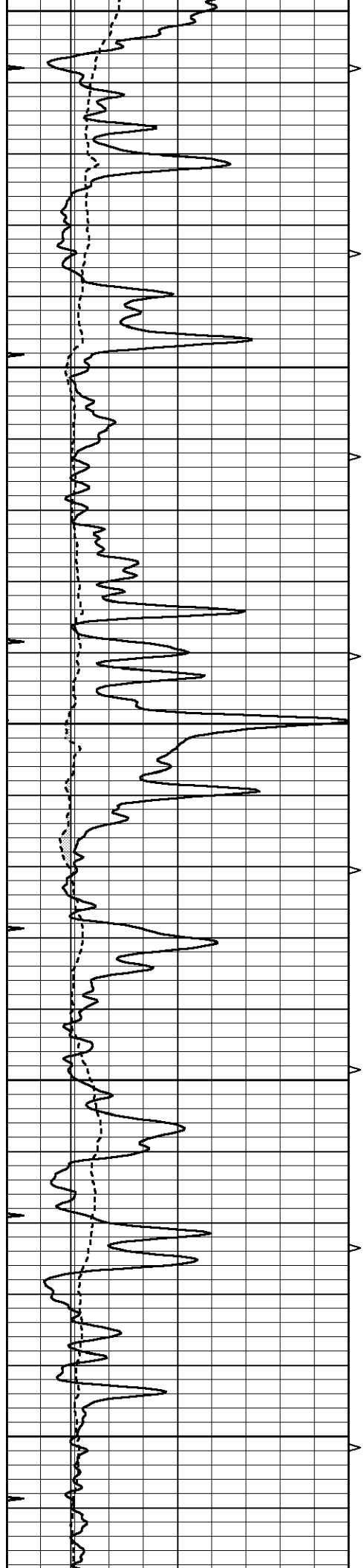
3400

3450

3500

3550





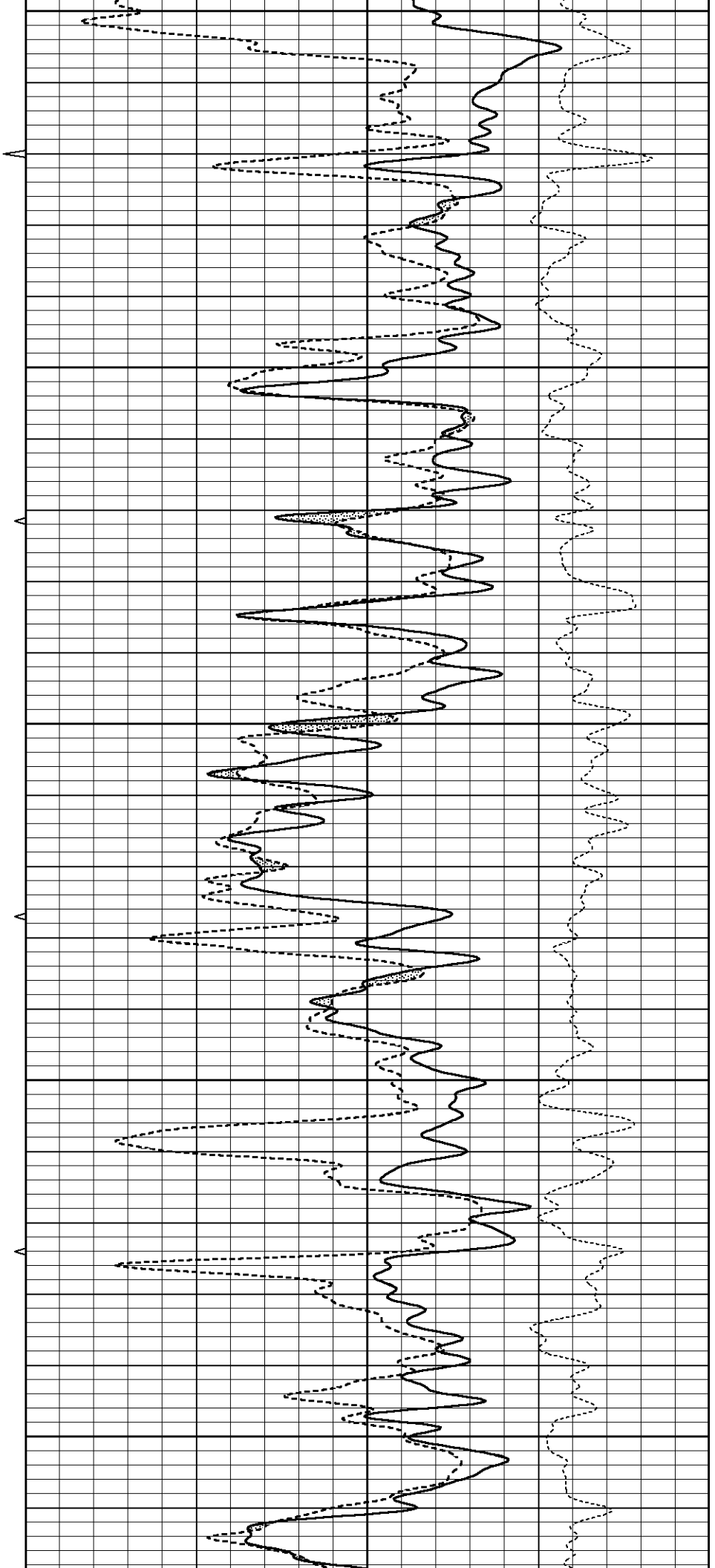
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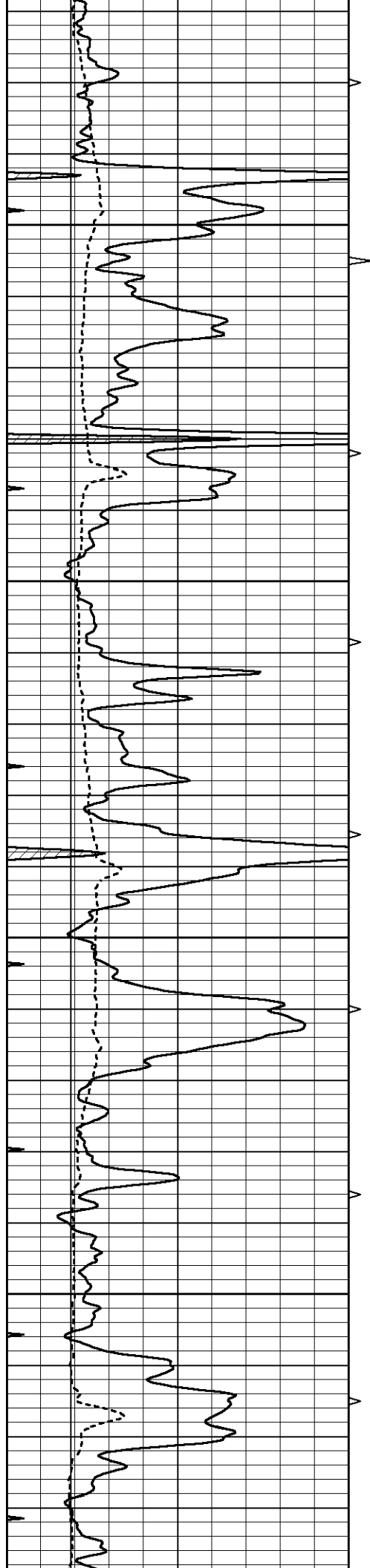
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3700

3750

3800



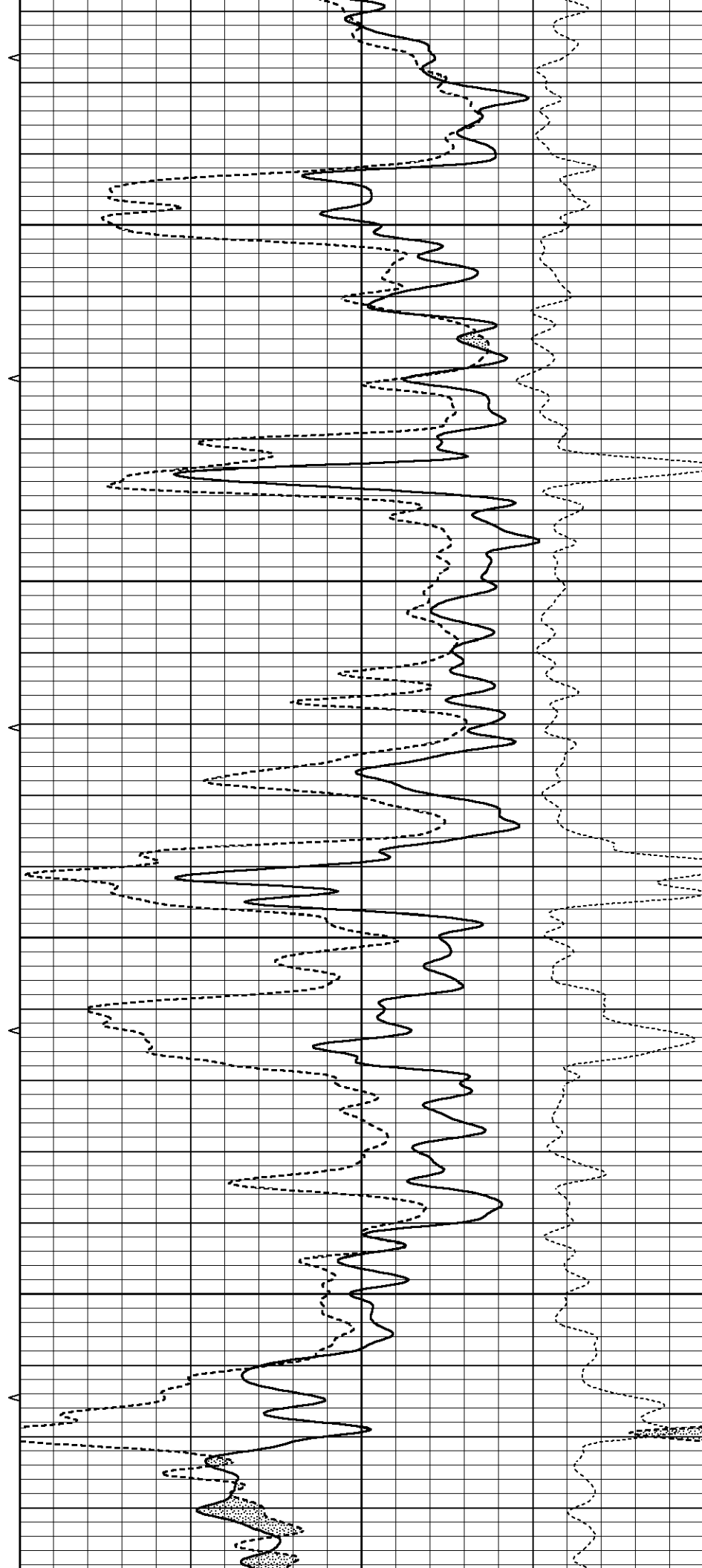


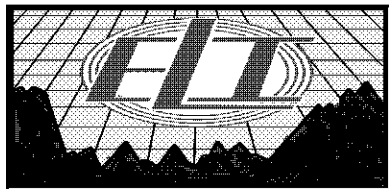
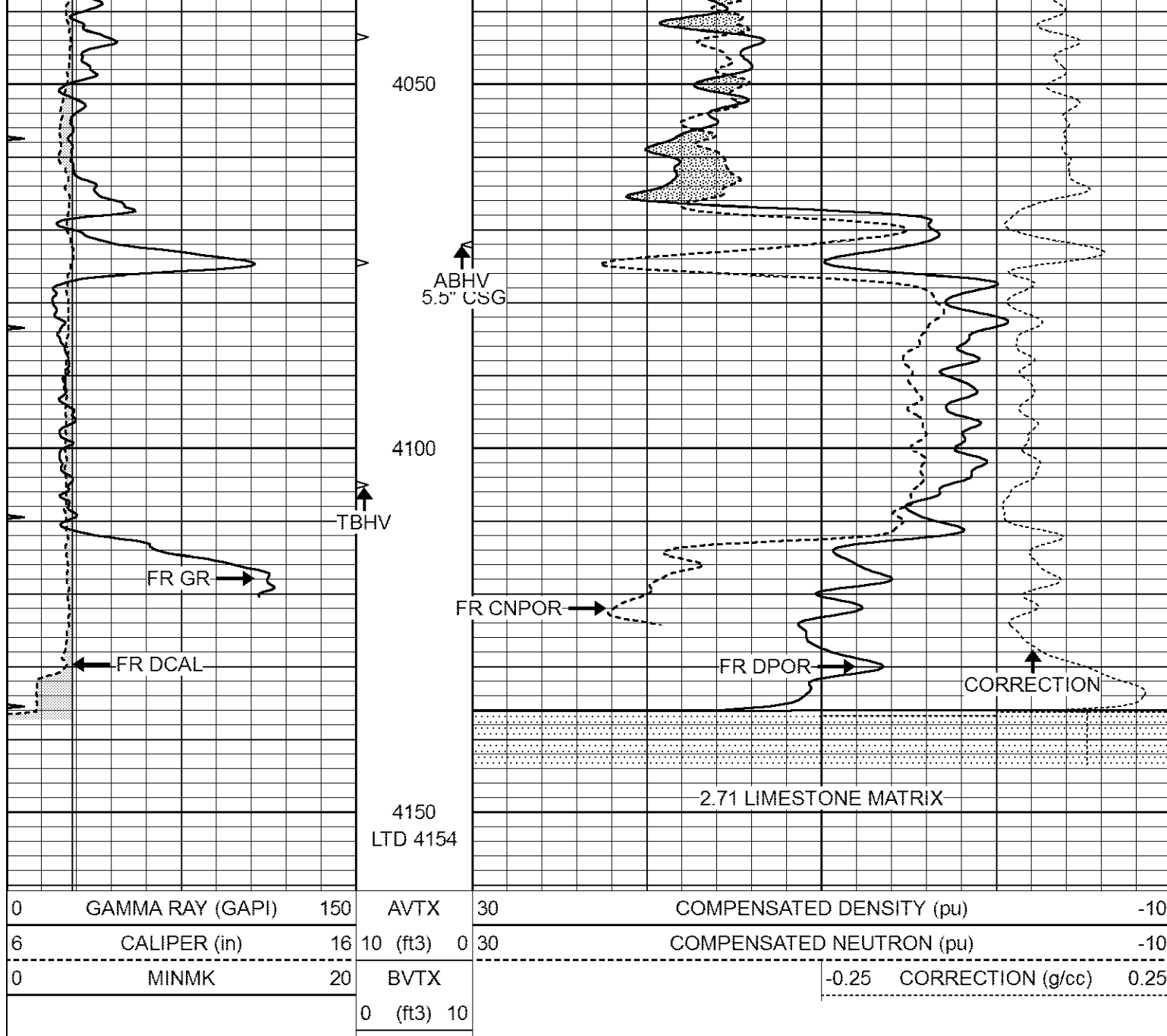
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3900

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4000

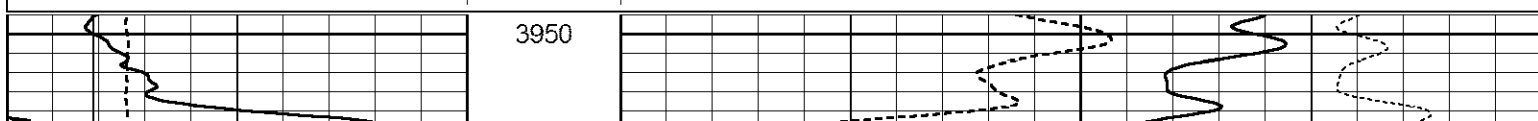


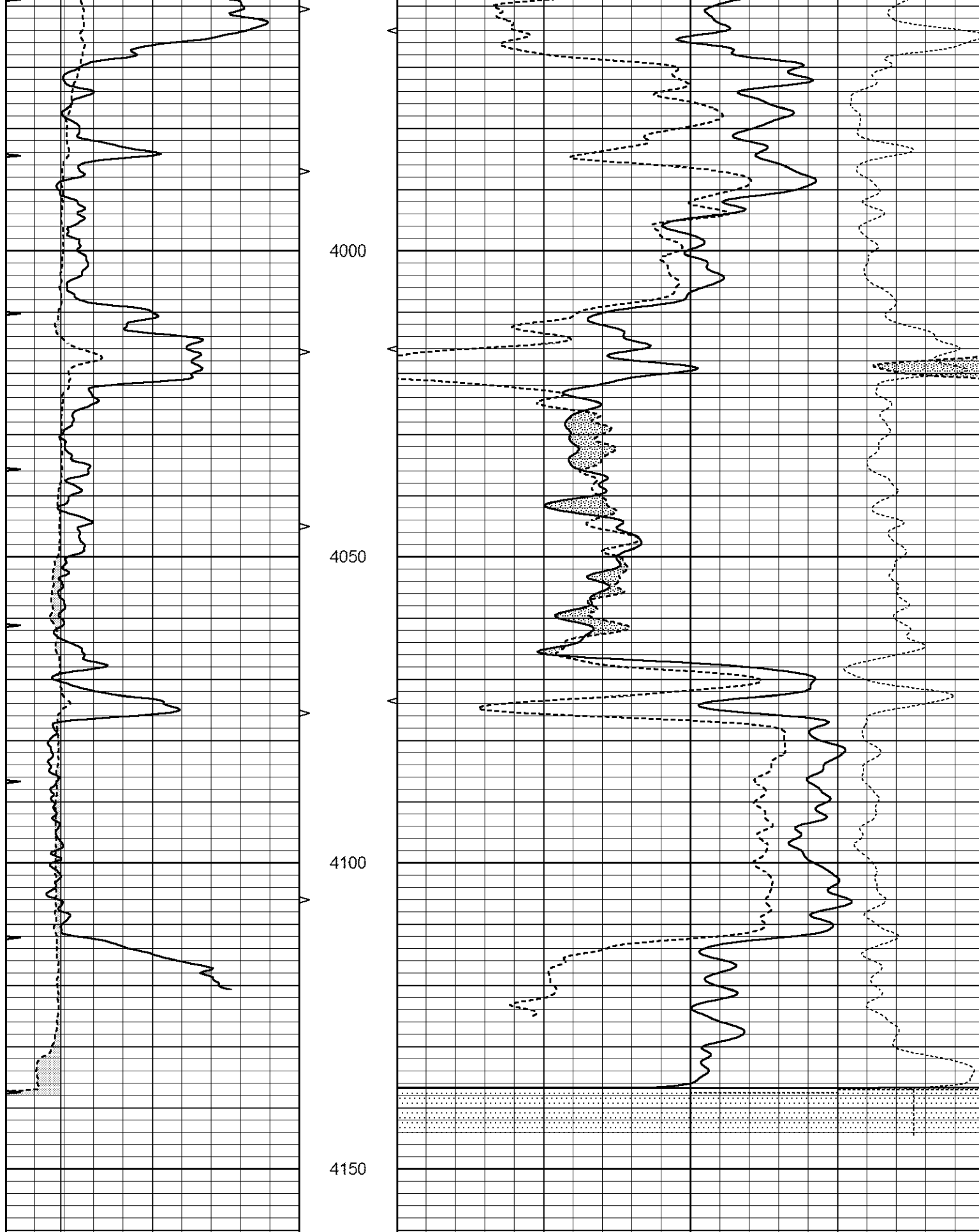


REPEAT SECTION

Database File 1109ddn8.db
 Dataset Pathname pass3.1
 Presentation Format _den_neu
 Dataset Creation Mon Dec 12 14:43:30 2016
 Charted by Depth in Feet scaled 1:240

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





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

Calibration Report

Database File 1109ddn8.db
Dataset Pathname pass3.1
Dataset Creation Mon Dec 12 14:43:30 2016

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
Surface Cal Performed: Thu Mar 12 09:27:11 2015
Downhole Cal Performed: Thu Mar 12 09:29:20 2015
After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

Litho Density Calibration Report

Serial: 140704
Model: V4_10P
Source Number: 74GBq-19

Master Calibration

Performed: Wed Feb 11 18:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	613.01	6027.40	27508.60	cps
Window 2	48.21	1424.77	7132.66	cps
Window 4	266.48	1373.19	5767.15	cps
Window 5	622.07	10090.30	18937.90	cps
Window 6	49.07	1682.84	3271.18	cps
Window 8	298.04	3248.38	5980.58	cps
Bulk Density	-	2.6020	1.6830	g/cc

Pe		3.0000		2.5070		b/e	
LS Alpha: : -1.8451		SS Alpha: : -0.7542		LS CPE: : 1.0882			
LS Beta: : 138648.8473		SS Beta: : 21960.9250		SS CPE: : 1.5181			
Before Survey Background Counts Verification				Performed: Wed Dec 31 18:00:00 1969			
Window 1	0.00	cps					
Window 2	0.00	cps					
Window 4	0.00	cps					
Window 5	0.00	cps					
Window 6	0.00	cps					
Window 8	0.00	cps					
After Survey Background Counts Verification				Performed: Wed Dec 31 18:00:00 1969			
Window 1	0.00	cps					
Window 2	0.00	cps					
Window 4	0.00	cps					
Window 5	0.00	cps					
Window 6	0.00	cps					
Window 8	0.00	cps					
Lithodensity Caliper Calibration				Performed: Wed Feb 11 18:53:41 2015			
Results		Readings		References (in)			
Low	High	Low	High	Gain	Offset		
5123.0	9461.6	8.5	14.0	0.0	1.4		
Before Survey Caliper Verification				Performed:			
Reference		Reading					
_____		_____					
Caliper (in)							
After Survey Caliper Verification				Performed:			
Reference		Reading					
_____		_____					
Caliper (in)							
Compensated Neutron Calibration Report							
		Serial Number:		080621PMC			
		Tool Model:		NABORS			
PRE-SURVEY VERIFICATION							
Detector		Readings		Measured		Target	
Short Space		cps					
Long Space		cps		pu		pu	
POST-SURVEY VERIFICATION							
Detector		Readings		Measured		Target	
Short Space		cps					
Long Space		cps		pu		pu	

Gamma Ray Calibration Report

Serial Number:	070558	
Tool Model:	Probe1	
Performed:	Wed Jun 29 08:29:10 2016	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps