JW WIRELINE COMPANY

CEMENT BOND
GAMMA RAY
COLLAR CORRELATION LOG

Company	NOBLE ENERGY INC.
Well	BERNHARDT PC J 31-31D
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.
Well BERNHARDT PC J 31-31D
Field WATTENBERG
County WELD State COLORADO

Location: API # : 05-123-32816-00
SHL:886' FNL & 413' FWL NW/NW
BHL:1320' FNL & 75' FEL SE/NE
SEC. 31 TWP. 5N RGE. 66W
SEC TWP RGE

Other Services
NONE

Permanent Datum	GROUND LEVEL	Elevation	4900
Log Measured From	KELLY BUSHING		
Drilling Measured From	KELLY BUSHING		

Elevation
K.B. 4914
D.F. 4914
G.L. 4900

Date	01-FEBUARY-2012		
Run Number	ONE		
Depth Driller	7635		
Depth Logger	7542		
Bottom Logged Interval	7541		
Top Log Interval	1400		
Open Hole Size	7 7/8		
Type Fluid	WATER		
Density / Viscosity	--		
Max. Recorded Temp.	265		
Estimated Cement Top	1744		
Time Well Ready	--		
Time Logger on Bottom	--		
Equipment Number	2405/1 11/16 TECKO		
Location	BRIGHTON		
Recorded By	HAYES		
Witnessed By	MR. JOE BRNACK		

Borehole Record			Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8	24#	SURFACE	698
Prot. String				
Production String	4.5	11.6#	SURFACE	TOTAL DEPTH
Liner				

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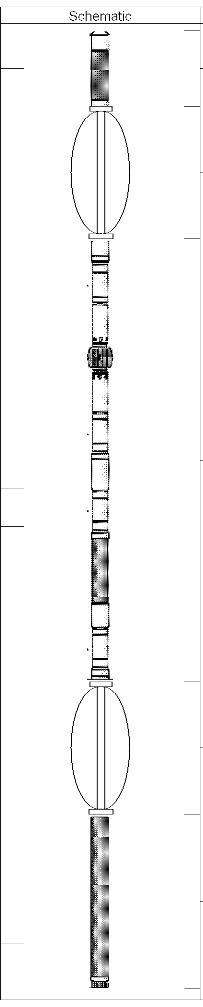
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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

LOG CORRELATED TO SD, DSN, SC, TR LOG
DATED14-JANUARY-2012

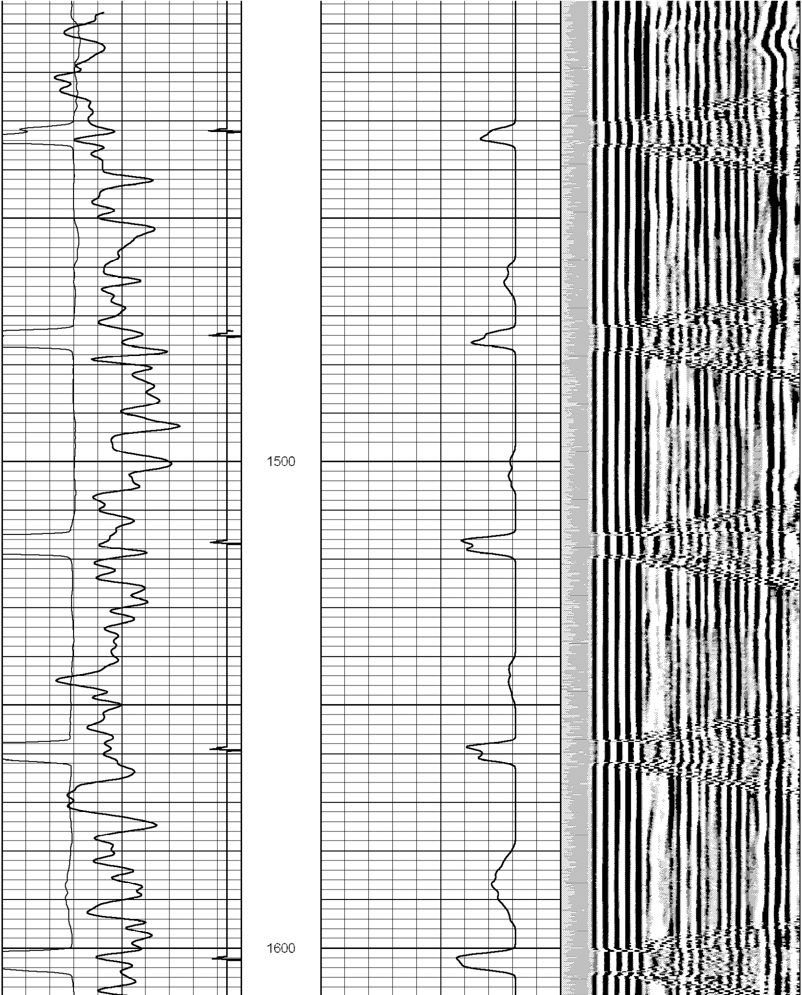
LOG SPLIT FOR CORRELATION PURPOSES

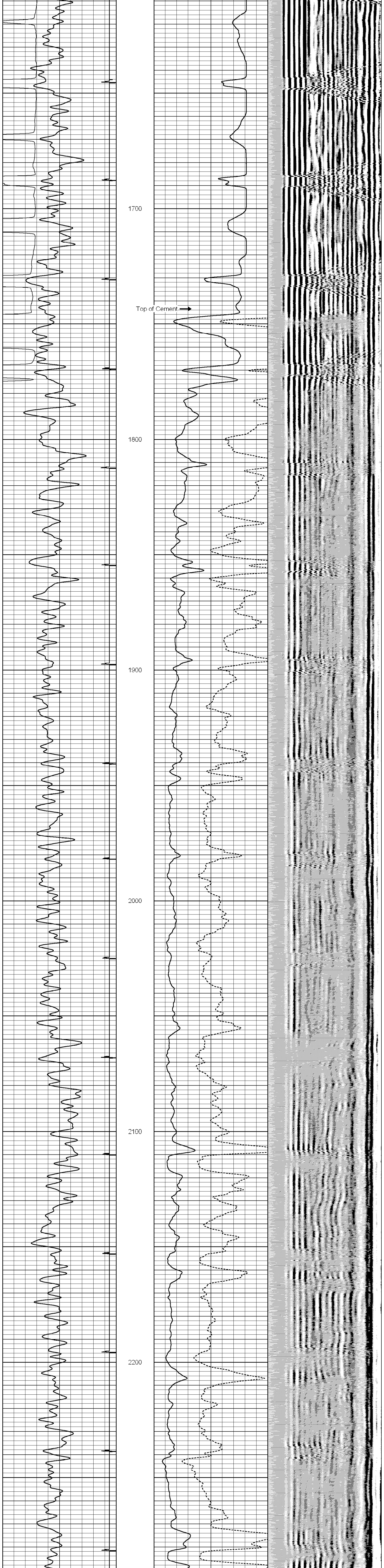
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	20.25		CCL-169TEKCO (169) 1 11/16" Tekco Logging	1.67	1.69	20.00
			CENT-TekCo (1 11/16 Adj.) (001) 1 11/16" Tekco Cent	2.92	1.69	10.00
WVF3 WVF5	11.00 10.17		CBL-3-5tekco169 (1) 1 11/16 Tekco w/o Temp	9.75	1.69	70.00
			CENT-TekCo (1 11/16 Adj.) (002) 1 11/16" Tekco Cent	2.92	1.69	10.00
			GR-1.69TEKCO (576) 1 11/16 Tekco Logging GR	3.83	1.69	50.00
GR	1.00					

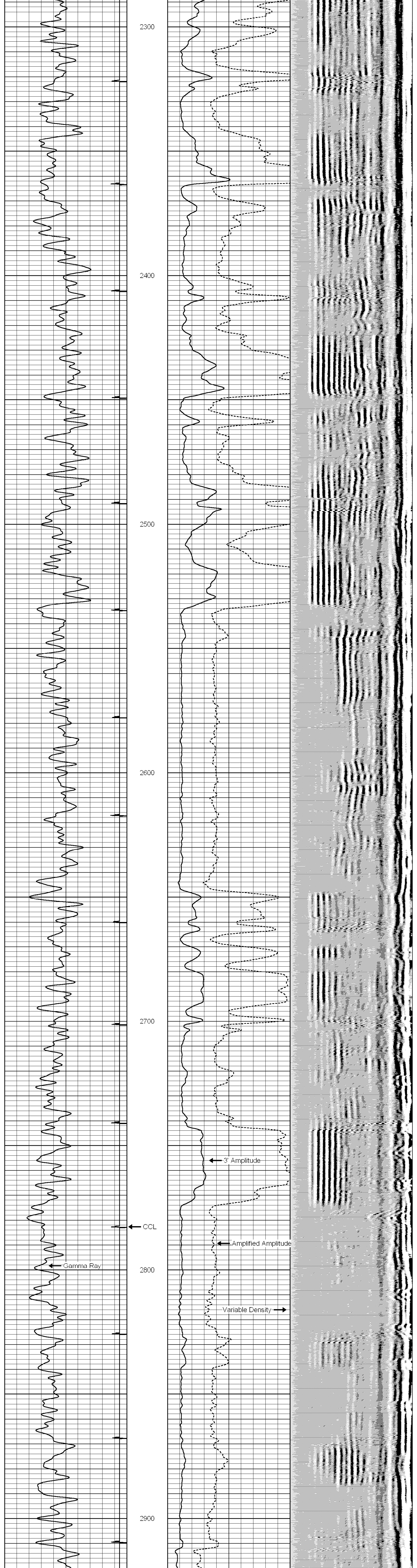
Dataset: bernhardt pc j 31-31d.db: field/well/run1/pass2
Total Length: 21.08 ft
Total Weight: 160.00 lb
O.D. 1.69 in

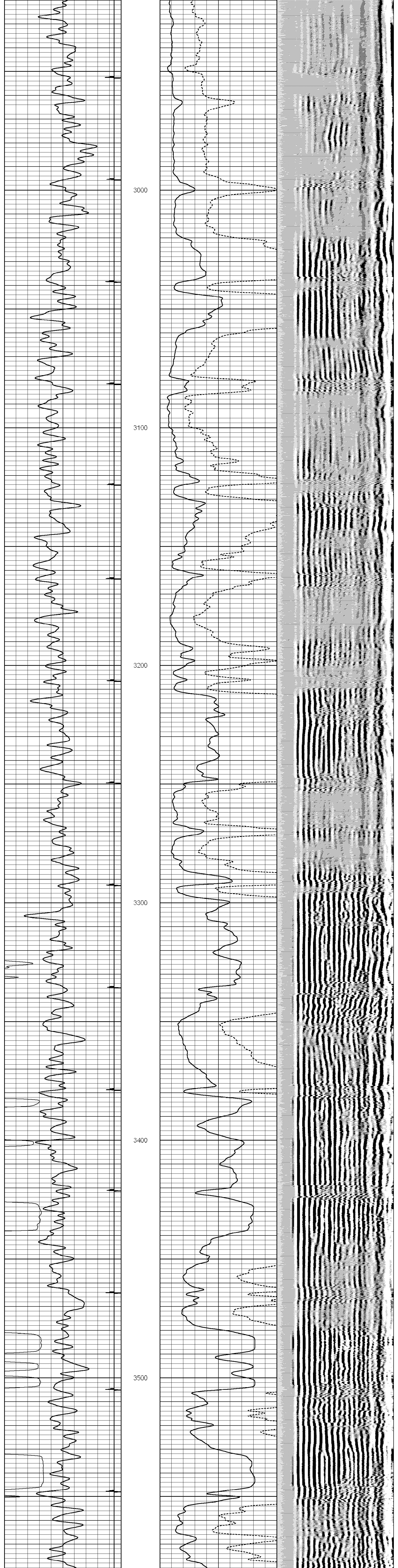
Database File:	bernhardt pc j 31-31d.db
Dataset Pathname:	pass2
Presentation Format:	cblx
Dataset Creation:	Wed Feb 01 13:32:12 2012 by Log Std Casedhole 10121
Charted by:	Depth in Feet scaled 1:240

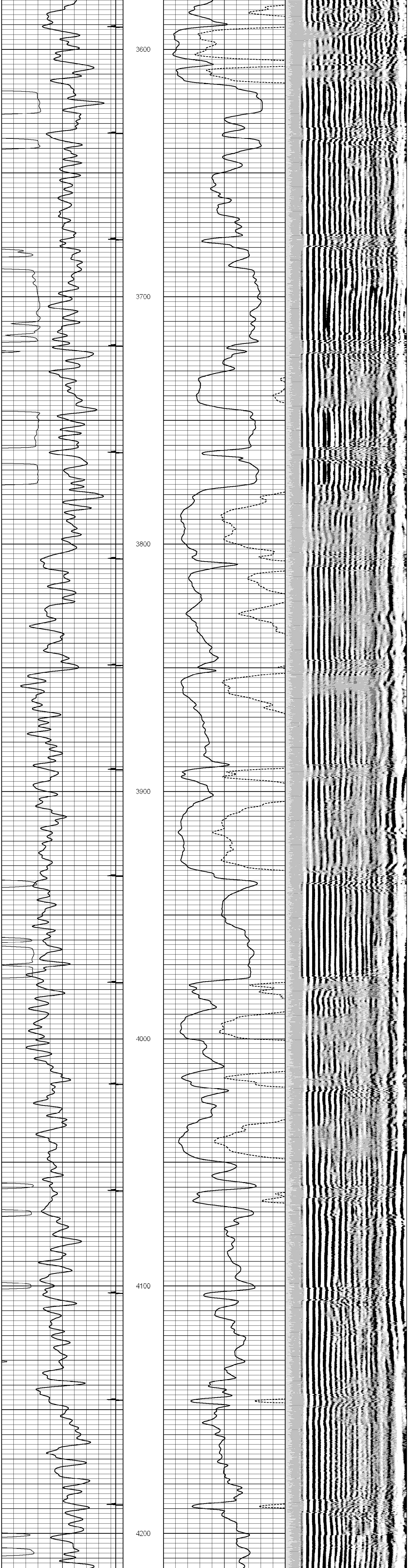
Min	Curve	Max
30	Gamma Ray (GAPI)	130
4	CCL	-0.25
300	TT3 (usec)	200
0	3' Amplitude (mV)	100
0	Amplified Amplitude (mV)	30
200	Variable Density	1200

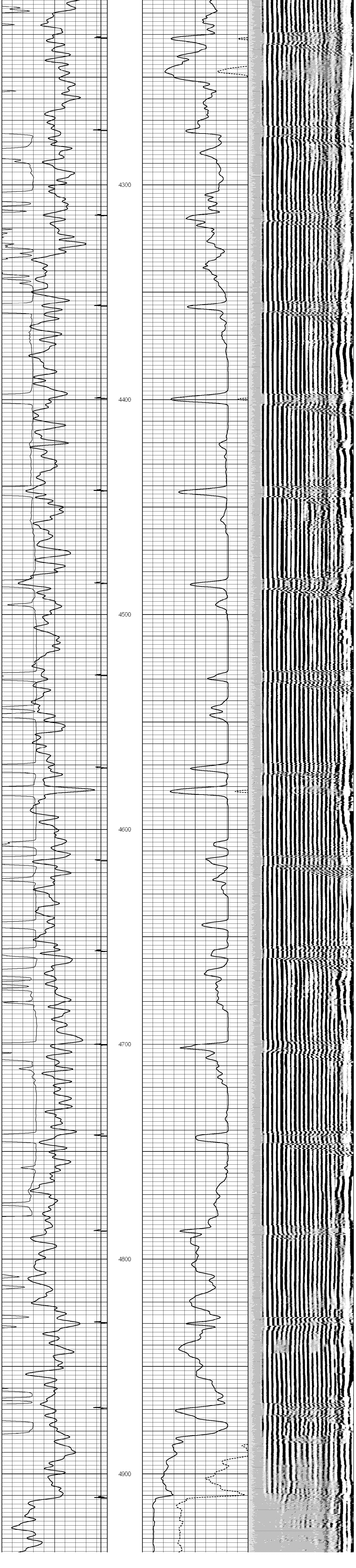


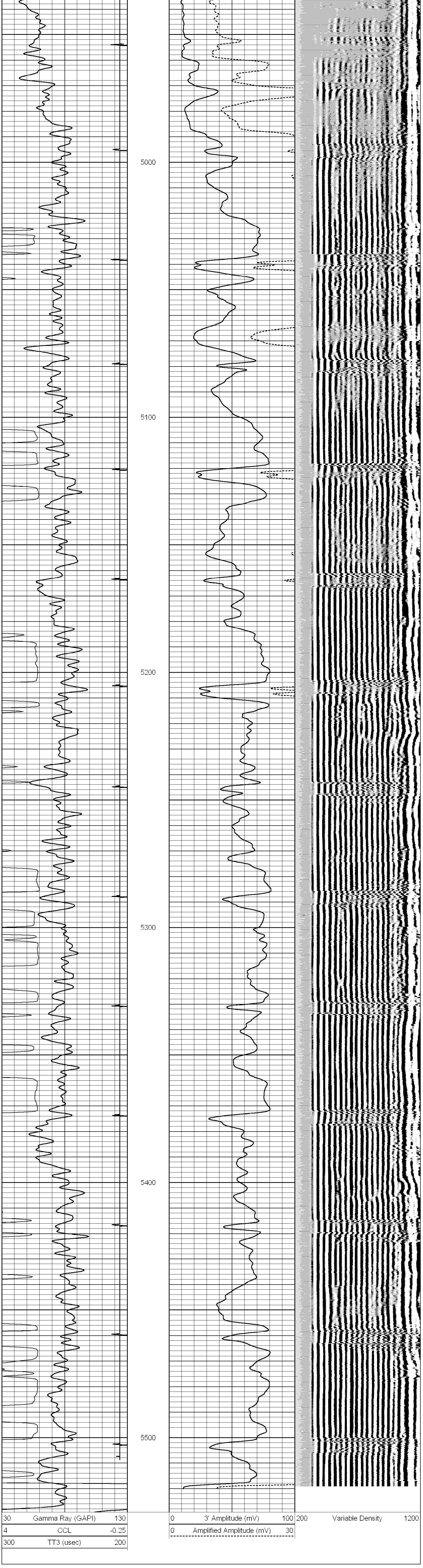




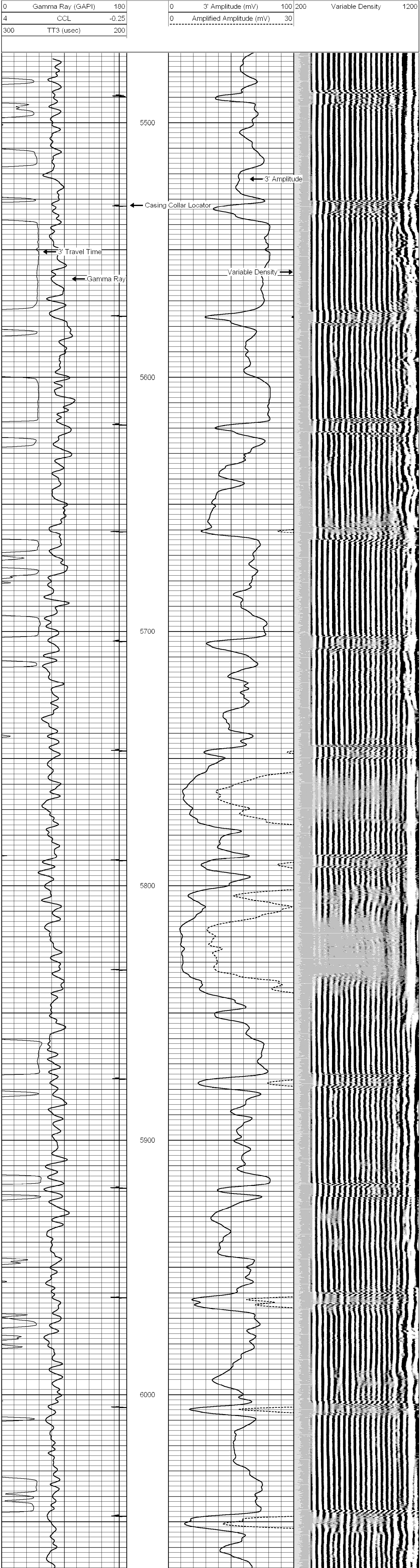


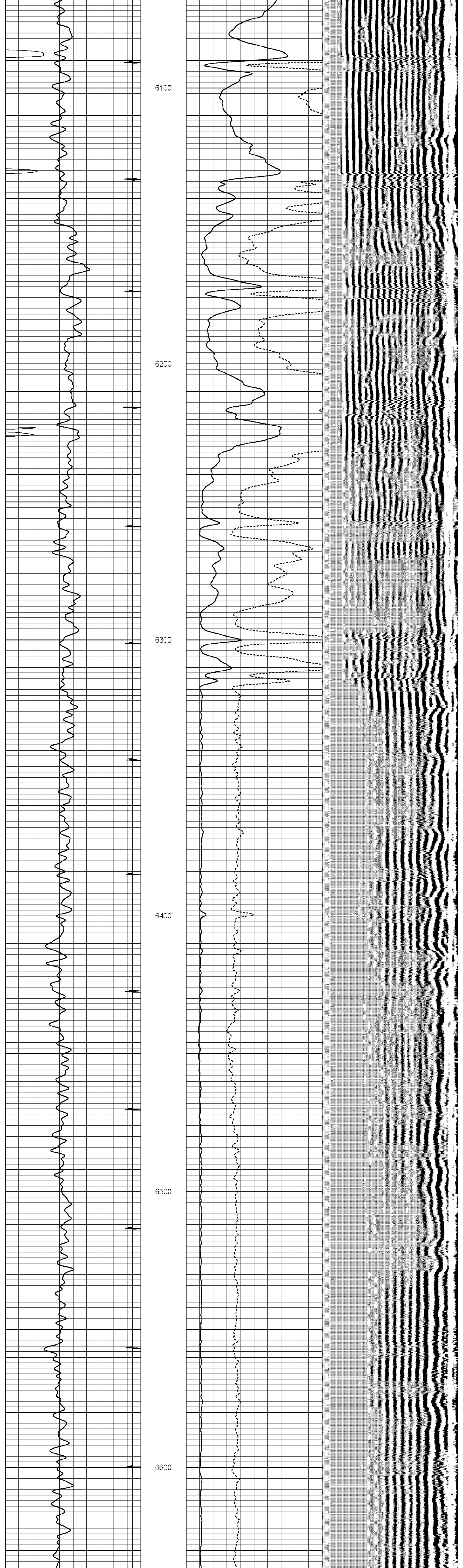


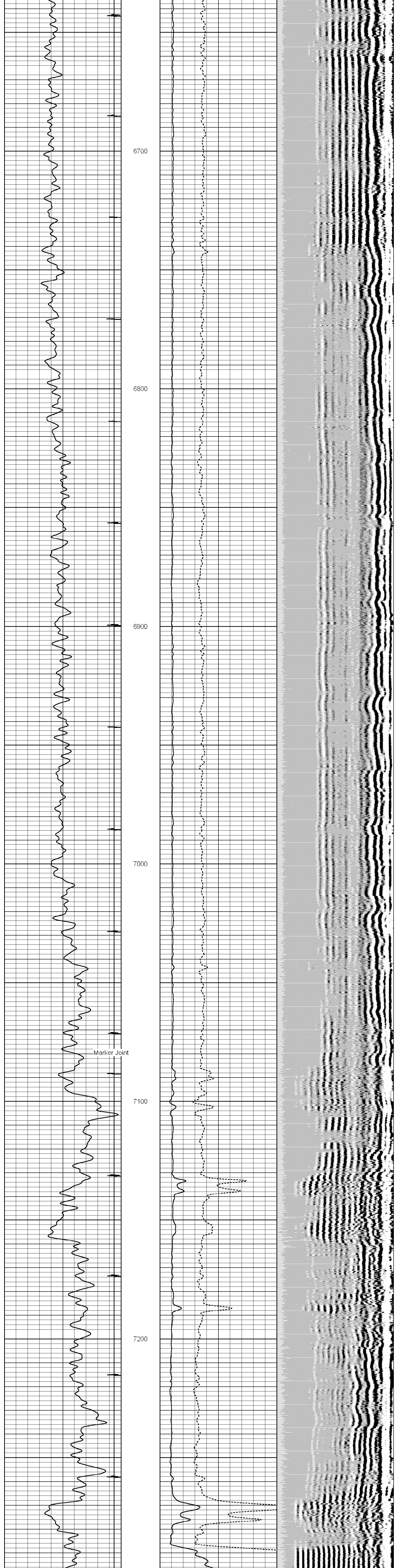


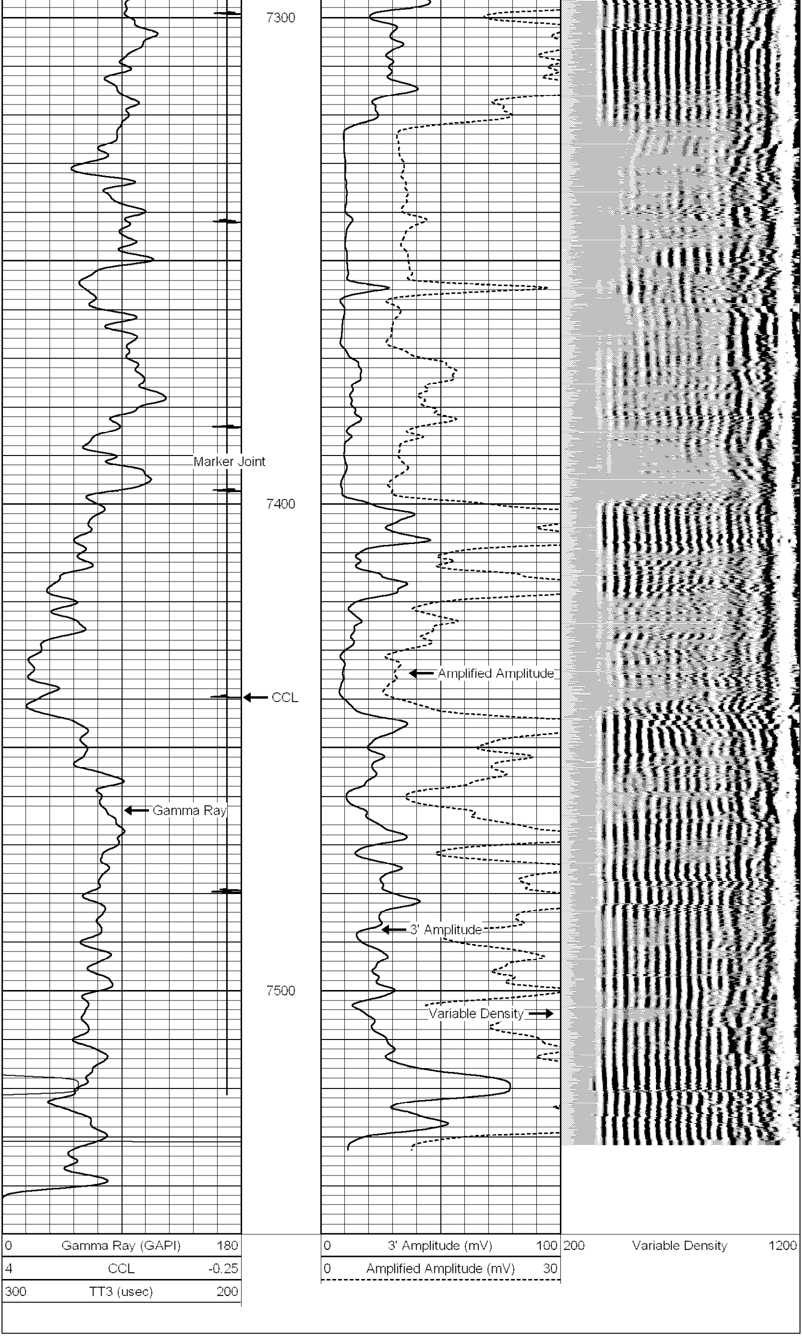


Database File:	bernhardt pc j 31-31d.db
Dataset Pathname:	pass1
Presentation Format:	cblx
Dataset Creation:	Wed Feb 01 13:03:16 2012 by Log Std Casedhole 10121
Charted by:	Depth in Feet scaled 1:240









Calibration Report

Database File:	bernhardt pc j 31-31d.db
Dataset Pathname:	pass2
Dataset Creation:	Wed Feb 01 13:32:12 2012 by Log Std Casedhole 10121

Gamma Ray Calibration Report

Serial Number:	576	
Tool Model:	1.69TEKCO	
Performed:	Thu Jan 12 13:03:35 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps

Cement Bond Log Calibration Report

Serial Number:	1		
Tool Model:	3-5tekco169		
Performed:	Wed Feb 01 12:44:22 2012		
Depth:	1237.57	ft	
Casing Diameter:	4.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	3	3	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	-0.3	0	V
Reading in Free Pipe:	2.5	2.5	V
Gain:	27.9272	31.2784	
Offset:	11.3782	3	