J-W WIRELINE COMPANY

CEMENT BOND GAMMA RAY COLLAR CORRELAION LOG

Company	NOBLE ENERGY INC.
Well	BICKLING PC E 03-21D
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.
Well BICKLING PC E 03-21D
Field WATTENBERG
County WELD State COLORADO

Location: API #: 05-123-34968-00
SHL: 2397' FNL & 242' FELSE NE
BHL: 2490' FNL& 2393' FEL SW NE
SEC. 3 TWP. 6N RGE. 65W
SEC TWP RGE

Other Services
NONE

Permanent Datum	GROUND LEVEL	Elevation	4838	Elevation
Log Measured From	KELLY BUSHING			K.B. 4851
Drilling Measured From	KELLY BUSHING			D.F. 4850
				G.L. 4838

Date	12-APRIL-2012
Run Number	ONE
Depth Driller	7746
Depth Logger	7677
Bottom Logged Interval	7676
Top Log Interval	1150
Open Hole Size	7 7/8
Type Fluid	WAER
Density / Viscosity	---
Max. Recorded Temp.	250
Estimated Cement Top	1262
Time Well Ready	---
Time Logger on Bottom	---
Equipment Number	2405/1 11/16 TECKO
Location	BRIGHTON
Recorded By	HAYES
Witnessed By	MR.TROY SETTLE

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8	24#	SURFACE	650
Prot. String				
Production String	4.5	11.6#	SURFACE	7734
Liner				

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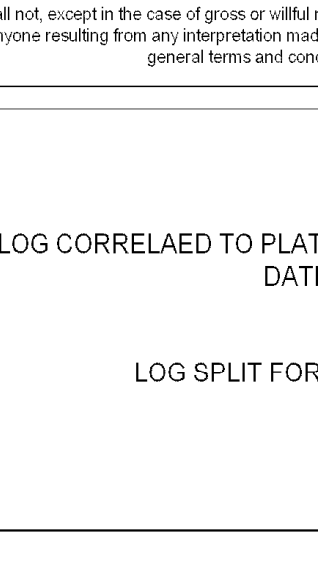
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 CORRELAED TO PLATFORM EXSPRESS TRIPLE COMBO LOG
DATED 01-APRIL-2012

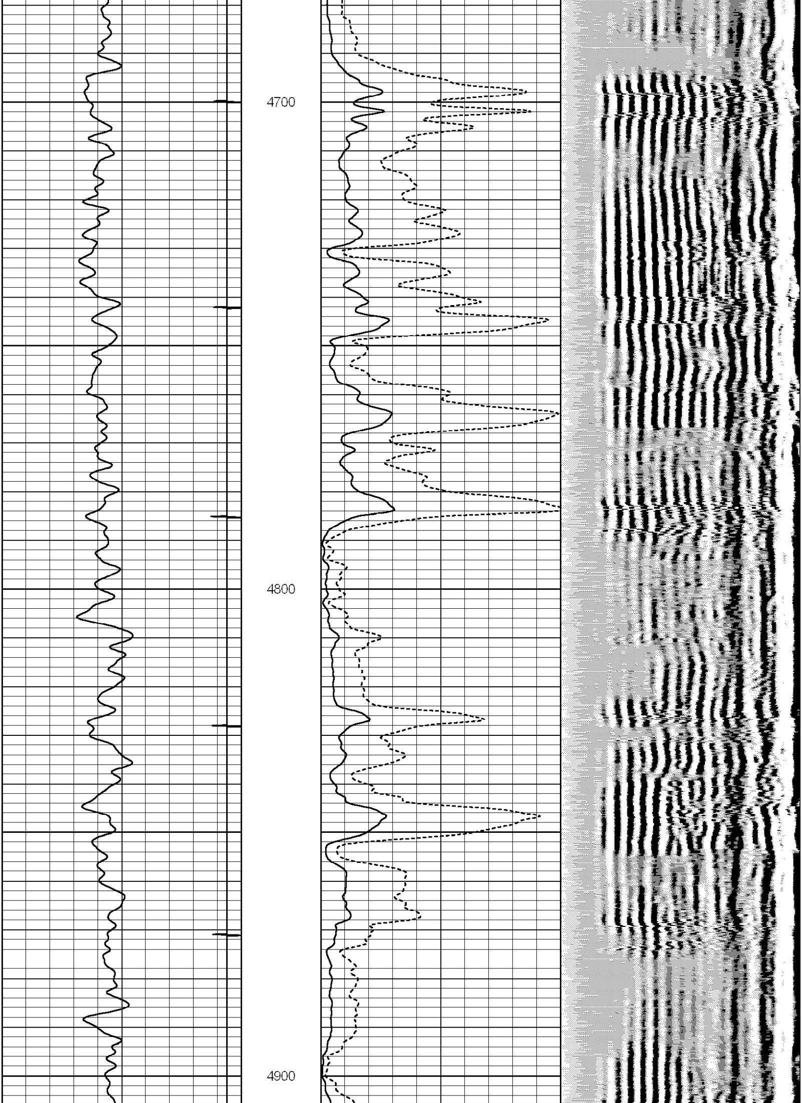
LOG SPLIT FOR CORRELATION PURPOSES

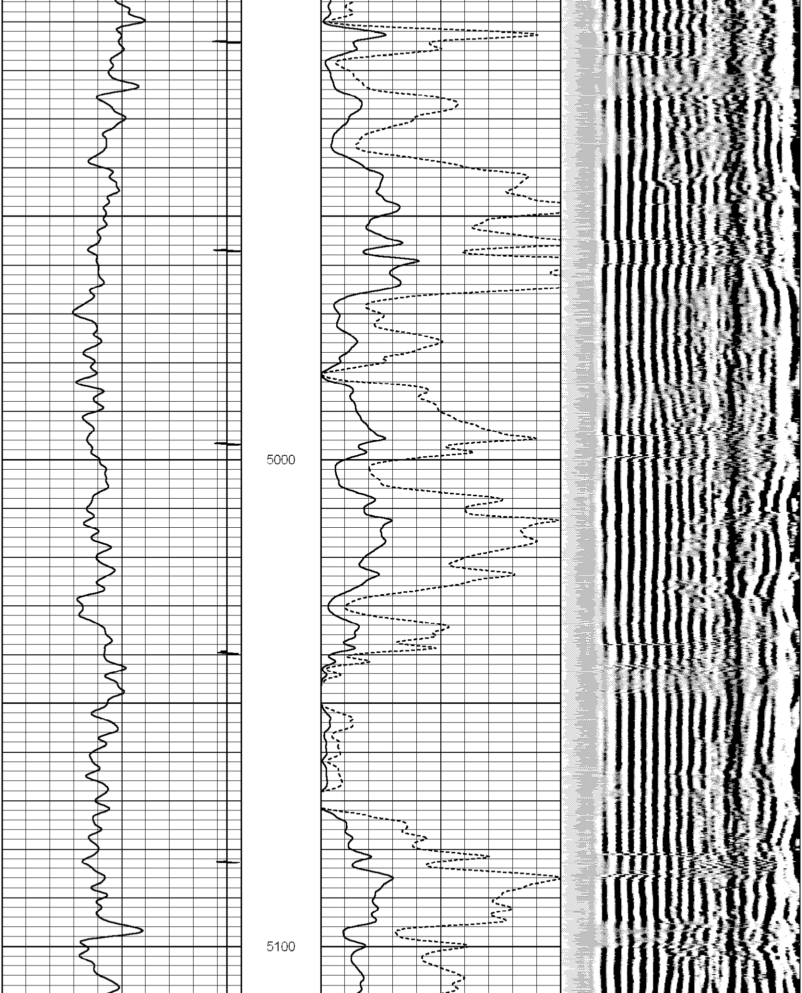
Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	20.25		CCL-169TEKCO (169) 1 11/16" Tekco Logging	1.67	1.69	20.00
			CENT-TekCo (1 11/16 Adj.) (001) 1 11/16" Tekco Cent	2.92	1.69	10.00
WVF3 WVF5	11.00 10.17		CBL-3-5tekco169 (1) 1 11/16 Tekco w/o Temp	9.75	1.69	70.00
			CENT-TekCo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

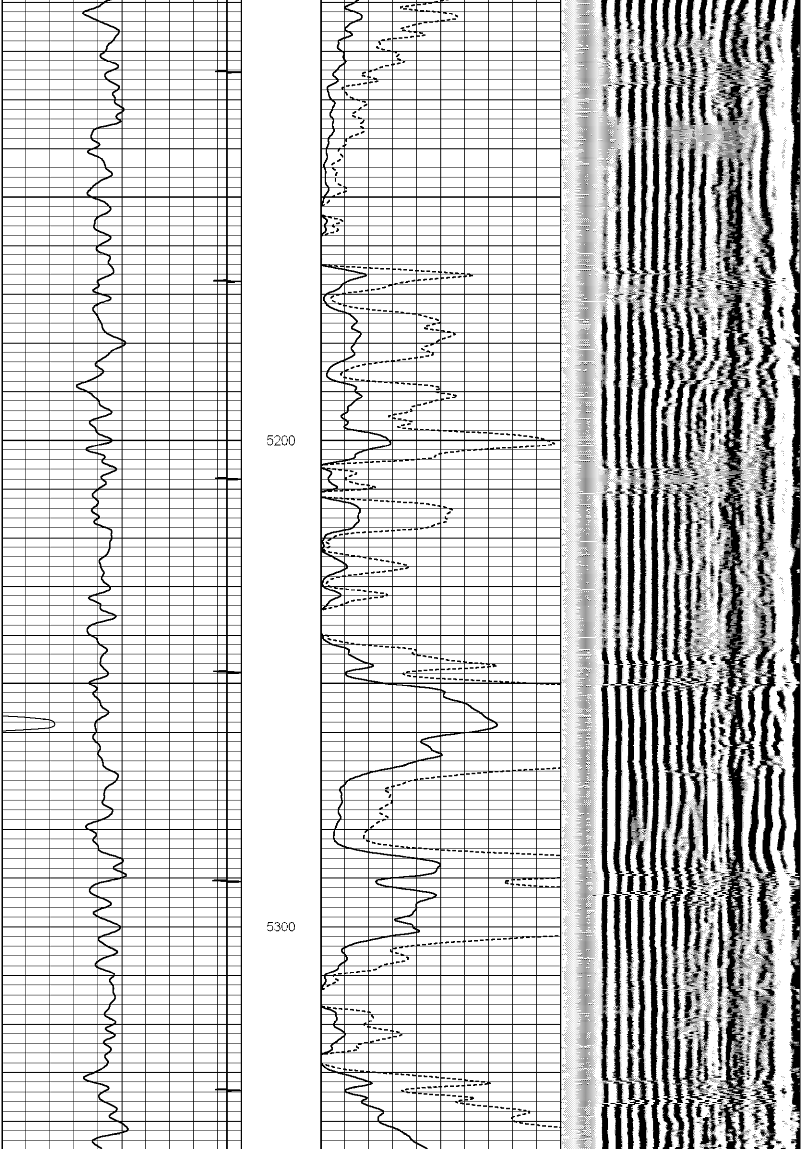
Dataset: bickling pc e 3-21d.db: field/well/run1/pass3
Total Length: 21.08 ft
Total Weight: 160.00 lb
O.D. 1.69 in

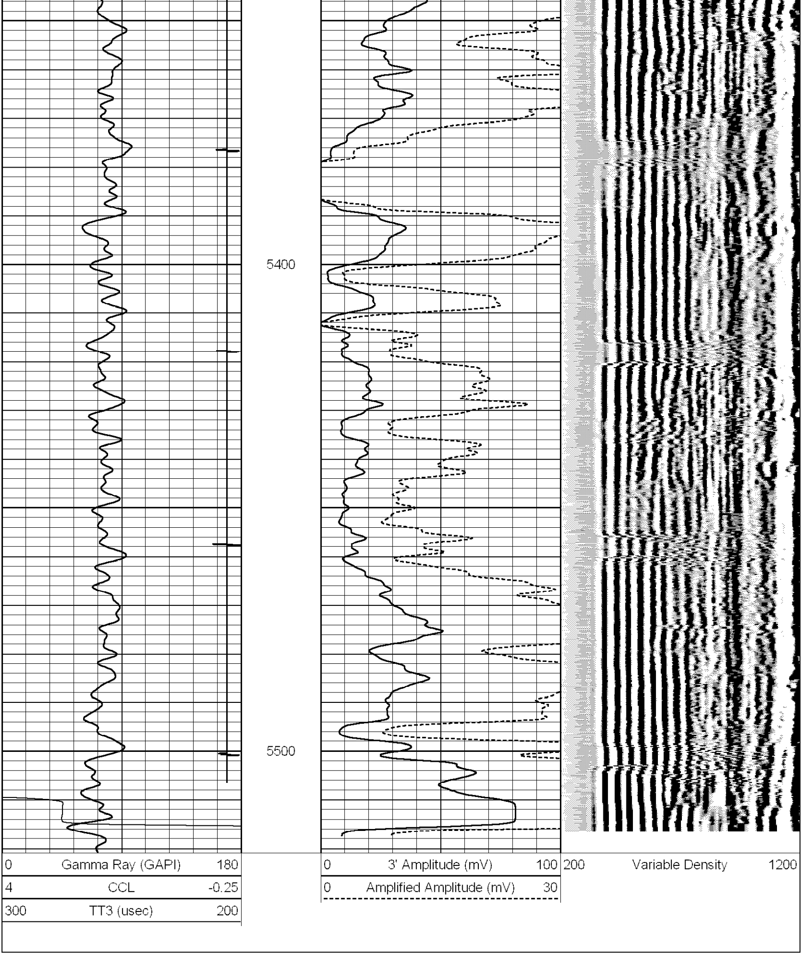
Database File: bickling pc e 3-21d.db
Dataset Pathname: pass3
Presentation Format: cblx
Dataset Creation: Thu Apr 12 20:27:06 2012 by Log Std Casedhole 10121
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	180	0	3' Amplitude (mV)	100	200	Variable Density	1200
4	CCL	-0.25	0	Amplified Amplitude (mV)	30			
300	TT3 (usec)	200						







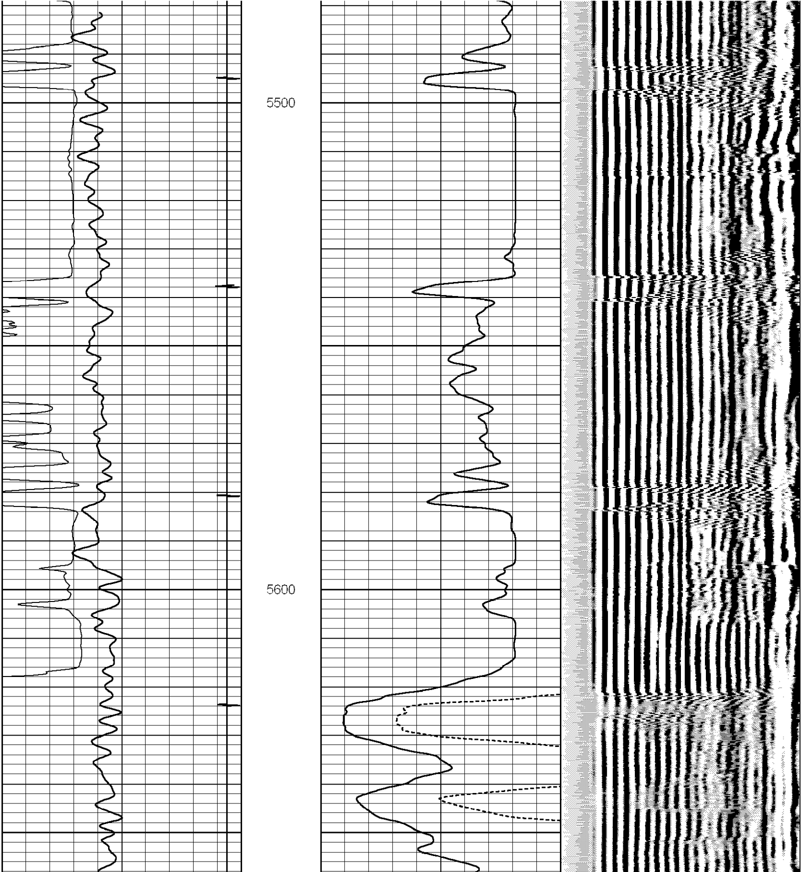


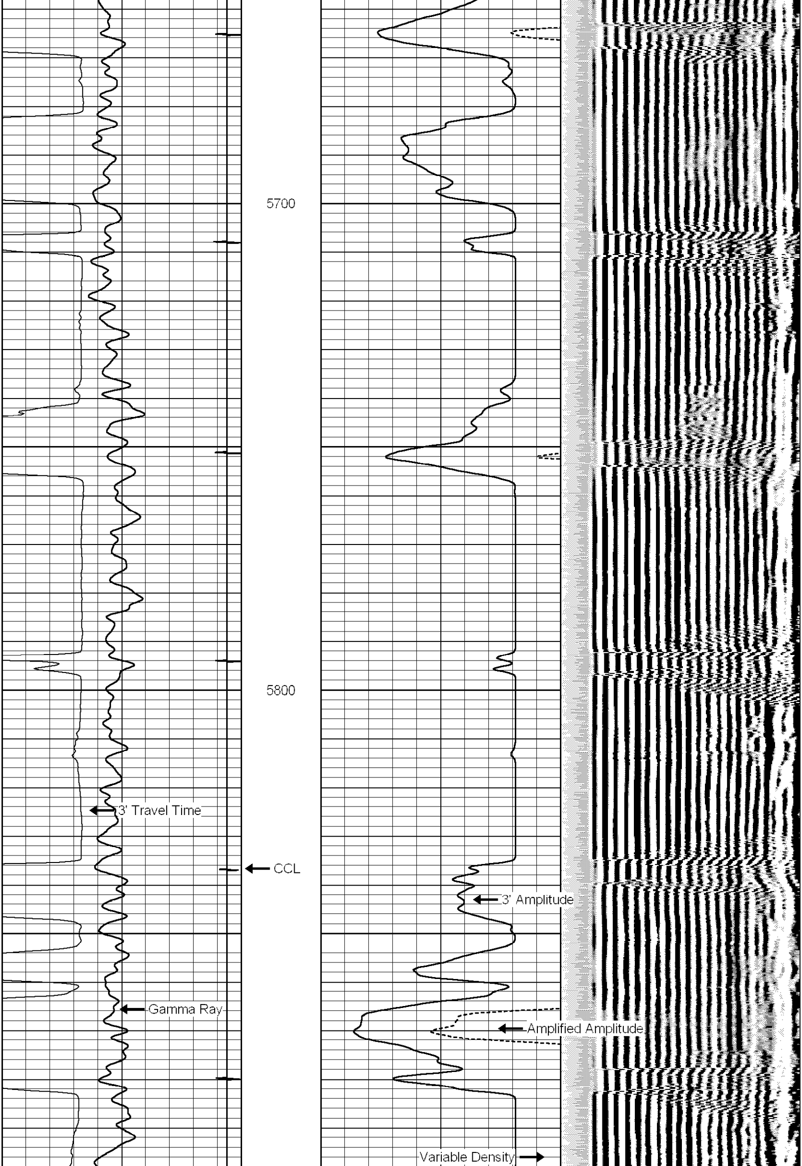
Database File:	bickling pc e 3-21d.db
Dataset Pathname:	pass2
Presentation Format:	cblx
Dataset Creation:	Thu Apr 12 19:55:22 2012 by Log Std Casedhole 10121
Charted by:	Depth in Feet scaled 1:240

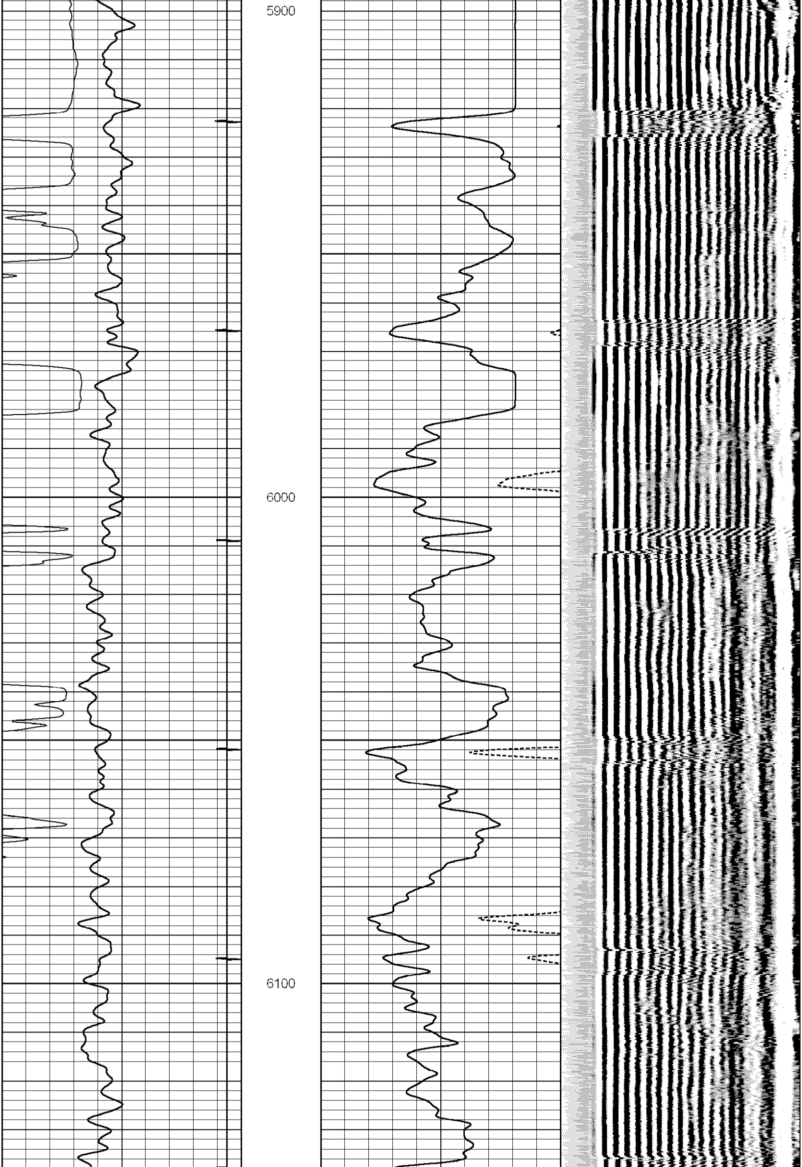
0	Gamma Ray (GAPI)	180
4	CCL	-0.25
300	TT3 (usec)	200

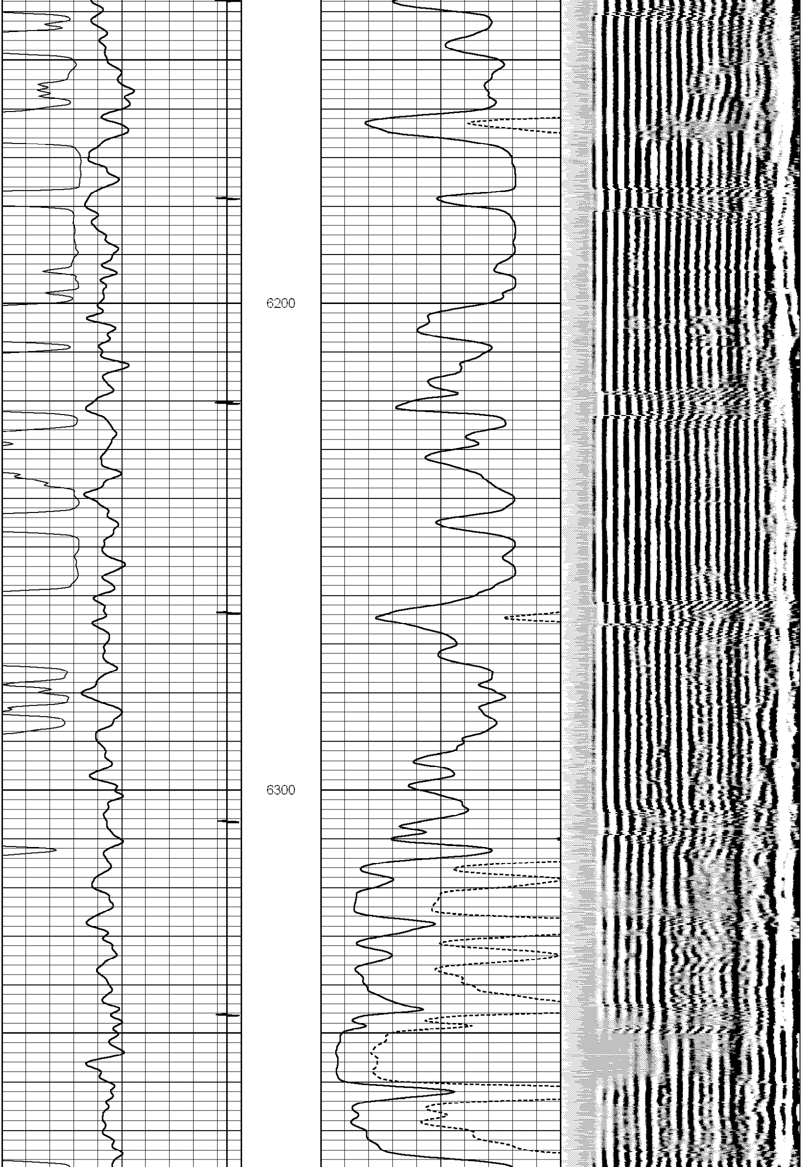
0	3' Amplitude (mV)	100
0	Amplified Amplitude (mV)	30

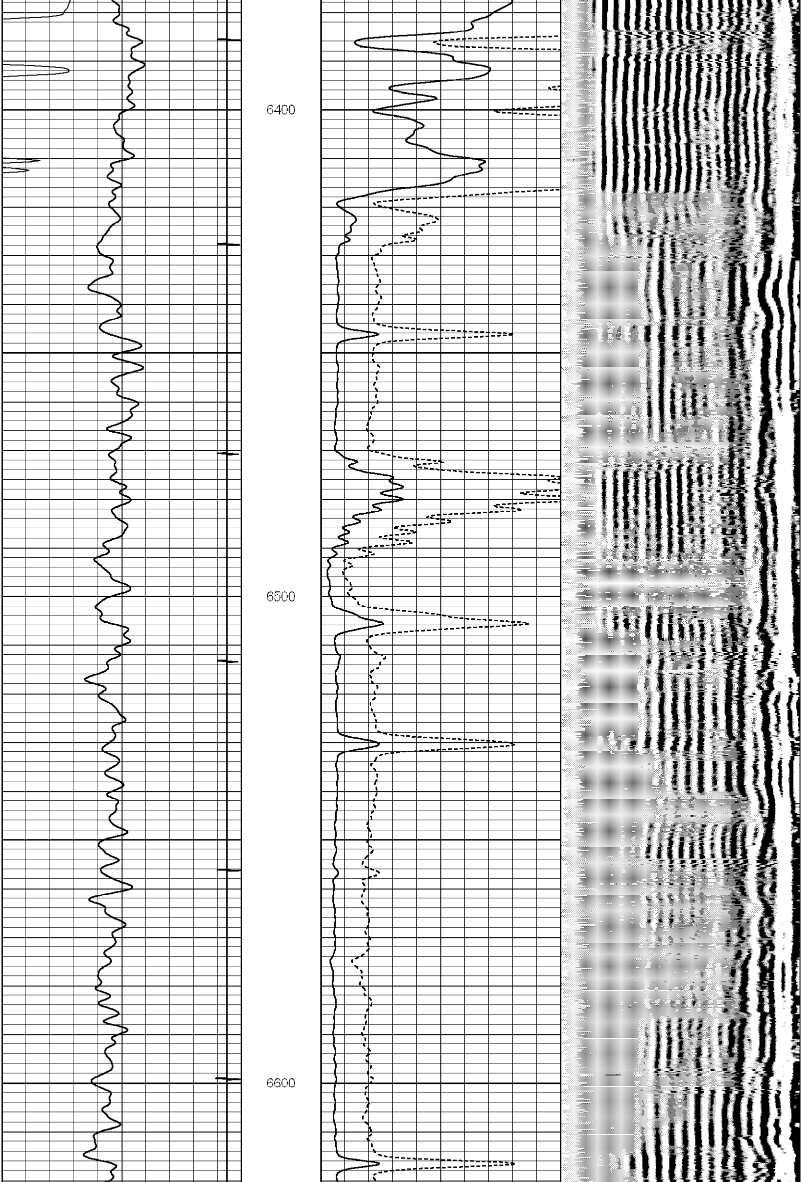
200	Variable Density	1200

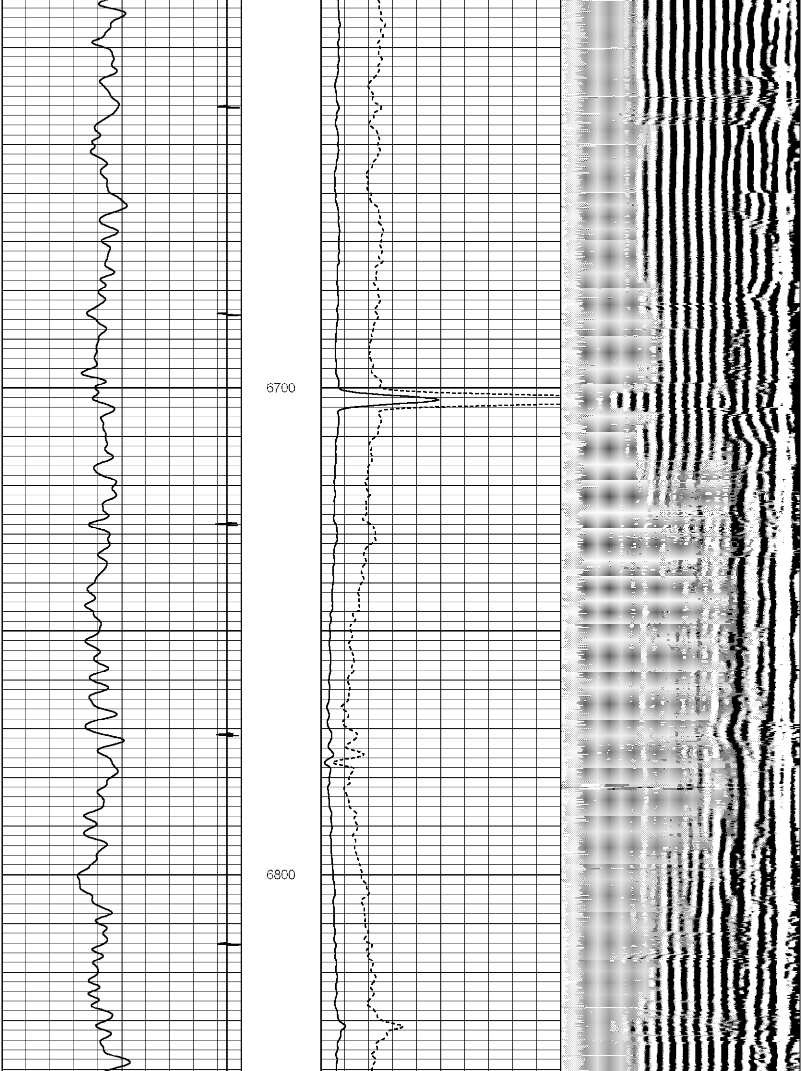


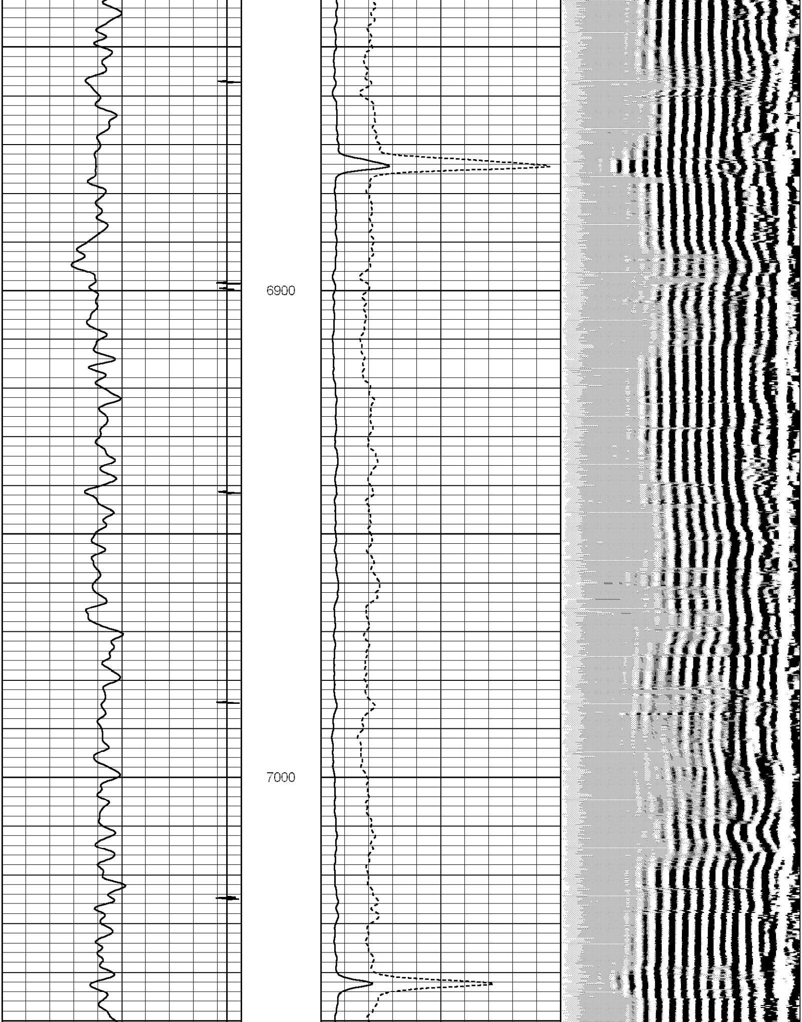


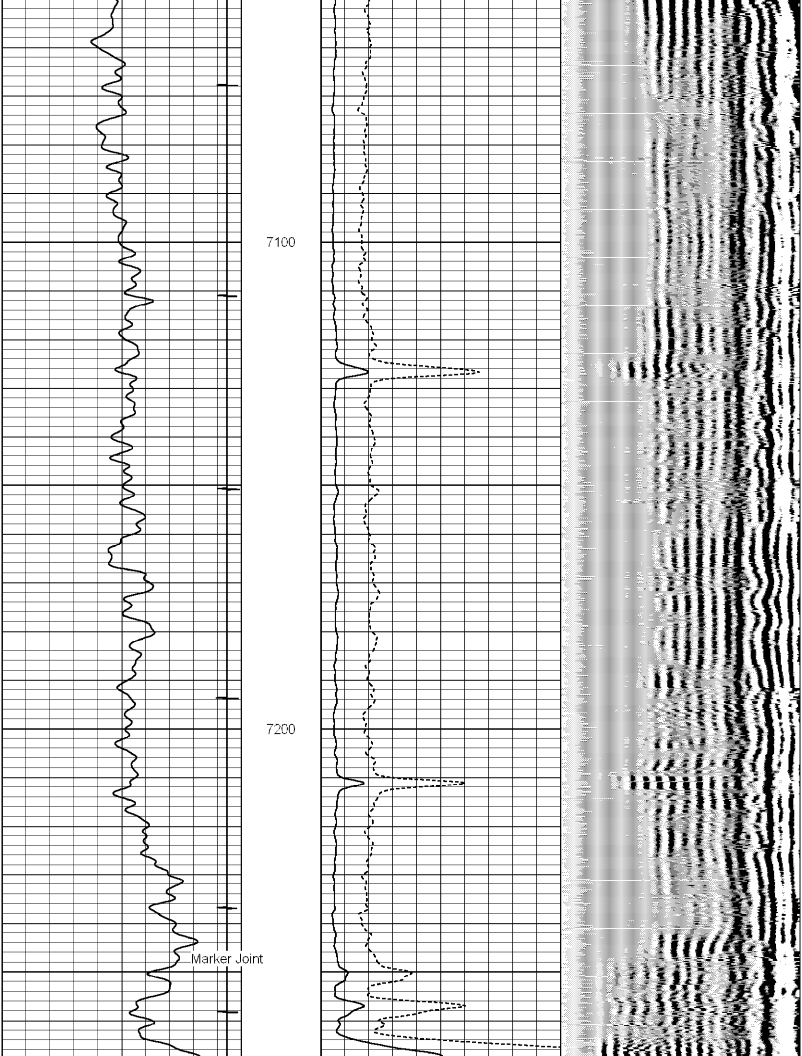


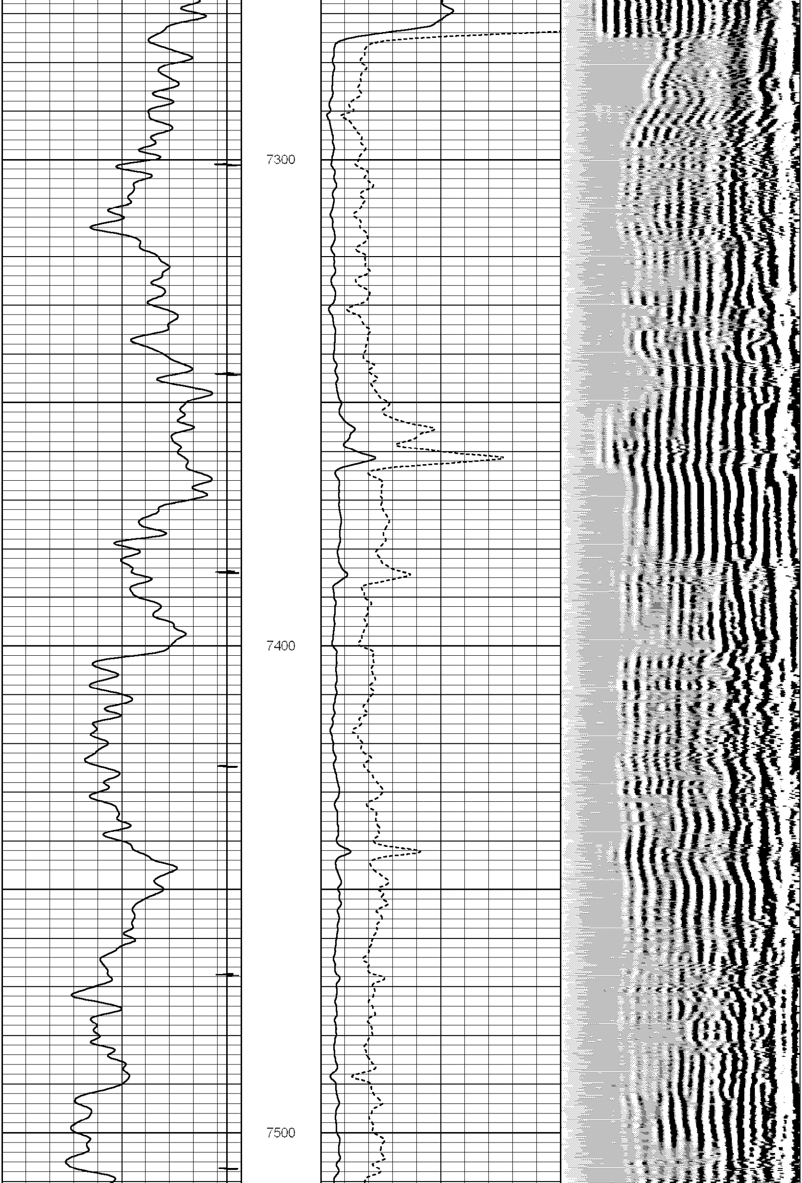


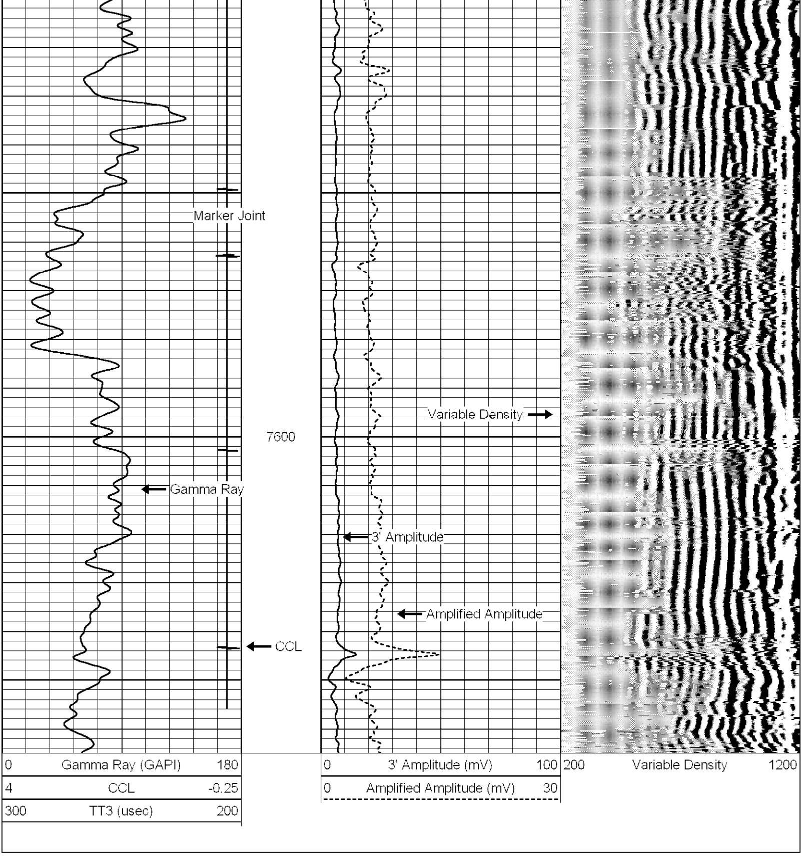












Calibration Report

Database File: bickling pc e 3-21d.db
Dataset Pathname: pass3
Dataset Creation: Thu Apr 12 20:27:06 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: Thu Apr 12 19:36:46 2012

Depth: 1155.5 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:	-0.2	0	V
Reading in Free Pipe:	2.5	2.5	V
Gain:	28.9615	31.2784	
Offset:	8.7923	3	