NABORS
COMPLETION & PRODUCTION SERVICES CO.

GAMMA RAY CCL
CEMENT SECTOR BOND VDL
LOGGED @4000 PSI

Company	NOBLE ENERGY INC.
Well	LONGS AC 02-15
Field	WATTENBERG
County	WELD
State	COLORADO

Company NOBLE ENERGY INC.

Well LONGS AC 02-15

Field WATTENBERG

County WELD **State** COLORADO

Location: API #: 0512335817

SHL: 660' FSL & 1920' FEL
SW/SE

SEC 2 TWP 7N RGE 63W

Other Services

Permanent Datum	GL	Elevation	4837
Log Measured From	KB		
Drilling Measured From	KB		

Elevation
K.B. 4850
D.F. 4850
G.L. 4837

Date	MAY 23, 2013		
Run Number	ONE		
Depth Driller	8912		
Depth Logger	8485		
Bottom Logged Interval	8485		
Top Log Interval	5000		
Open Hole Size	8-3/4		
Type Fluid	WATER		
Density / Viscosity	N/A		
Max. Recorded Temp.	246°F		
Estimated Cement Top	5596		
Time Well Ready	LEED RIG		
Time Logger on Bottom	2-3/4 PROBE 101020		
Equipment Number	4838		
Location	45		
Recorded By	GREG NOLAN		
Witnessed By	BRIAN MURRAY		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	9-5/8	36# J-55	13	754
Prot. String				
Production String	7	26# L-80	13	8896
Liner				

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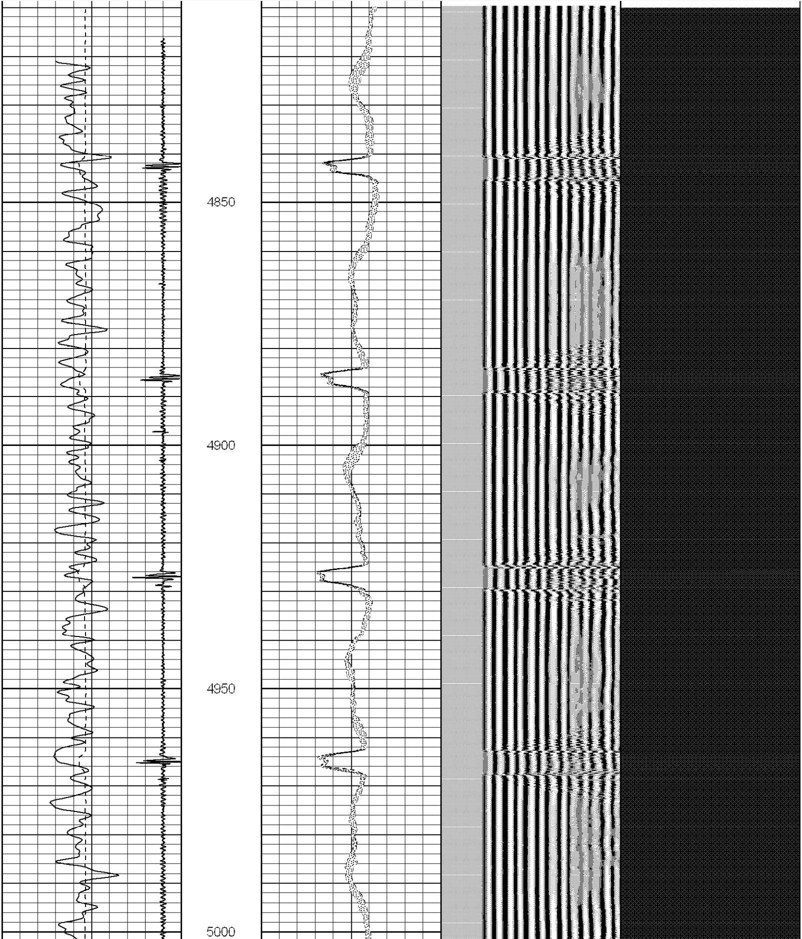
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

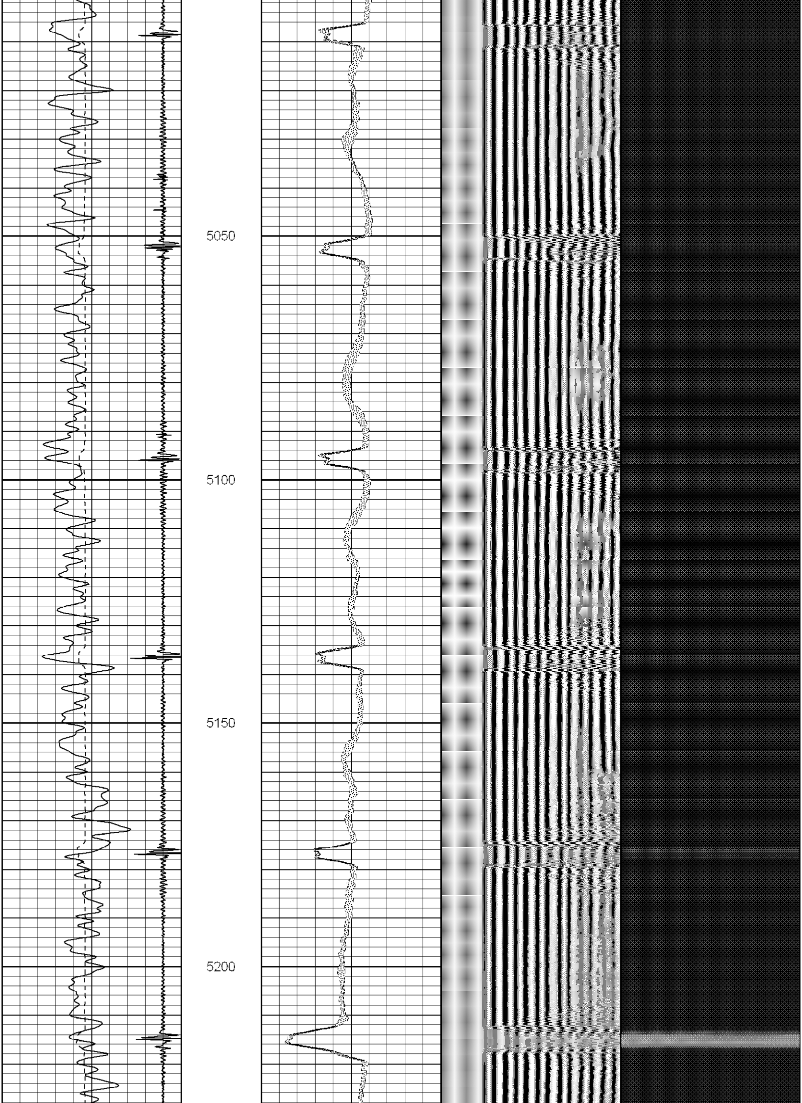
Comments

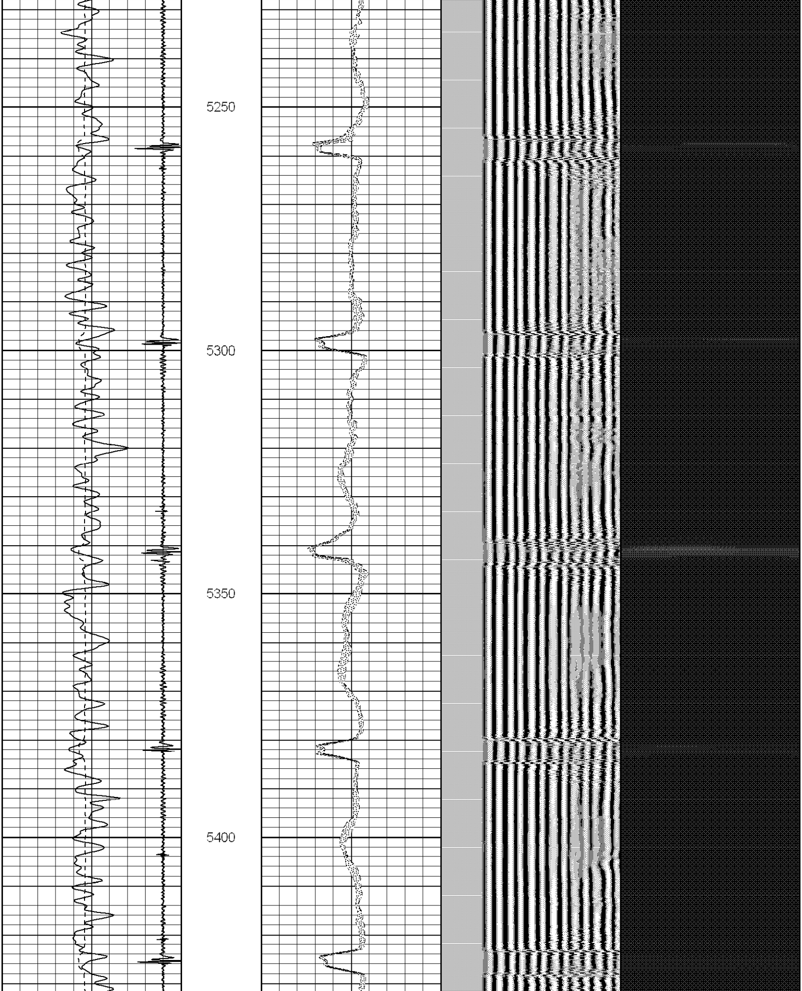
THANK YOU FOR CHOOSING NCPS!!!!!
LOG CORRELATED TO SCHLUMBERGER TRIPPLE COMBO LOG DATED 01-AUG-2012
STAGE TOOL @7772
WCR 71 & WCR 80, N1, W.4, N INTO

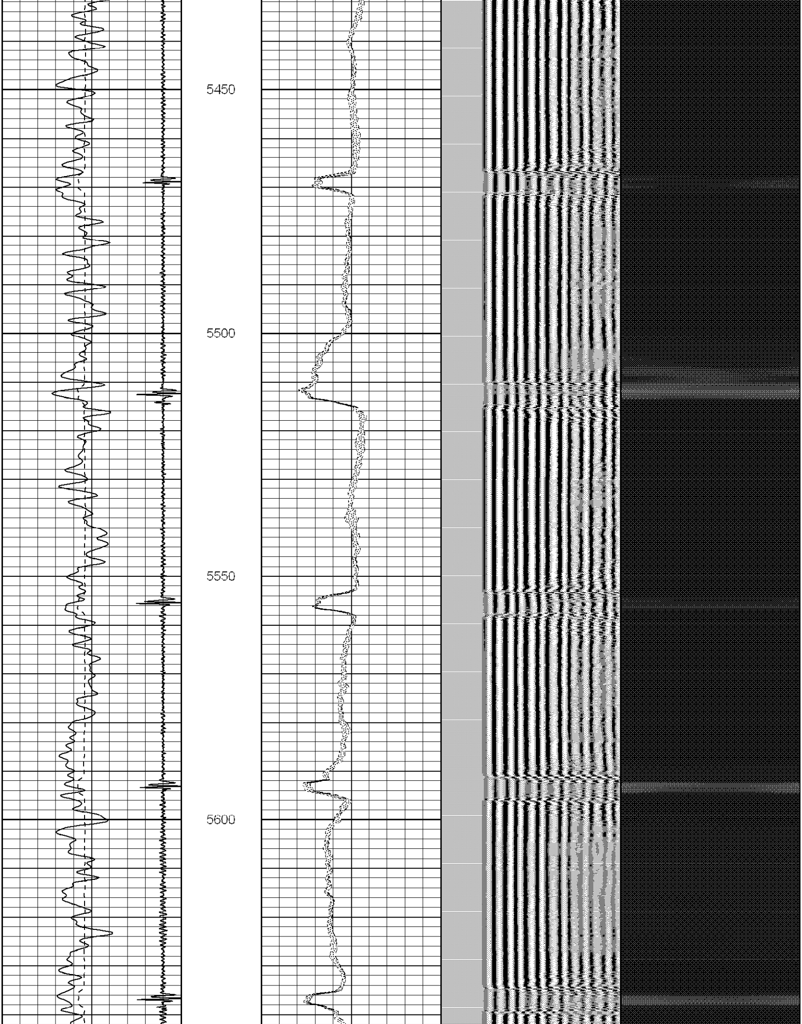
Database File: cbl noble longs ac 02-15.db
Dataset Pathname: pass5
Presentation Format: sector2
Dataset Creation: Thu May 23 09:47:45 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

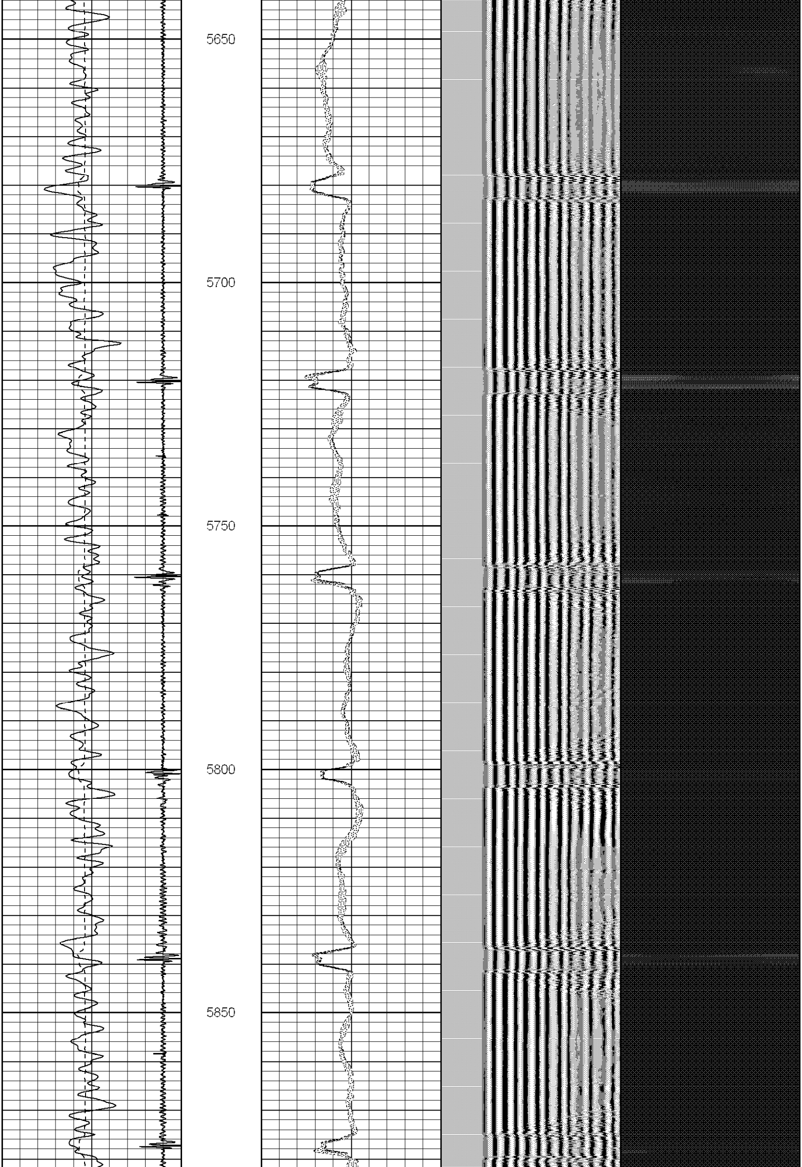
0	GR (GAPI)	200	0	AMPMAX	100	200	WVF5FT	1200	1	Sector Map	8
400	TT3FT (usec)	200	0	AMPAVG	100						
30	CCL	-3.3	0	AMPMIN	100						
			0	AMP3FT (mV)	100						

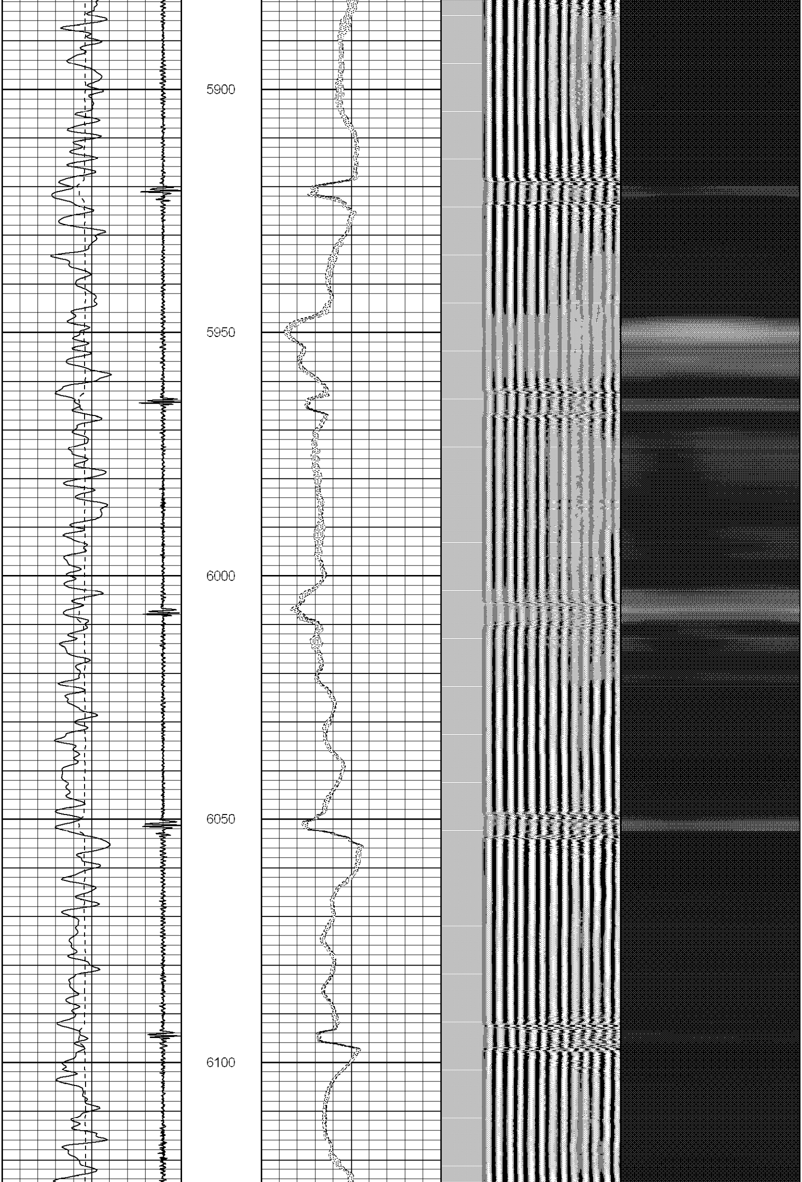


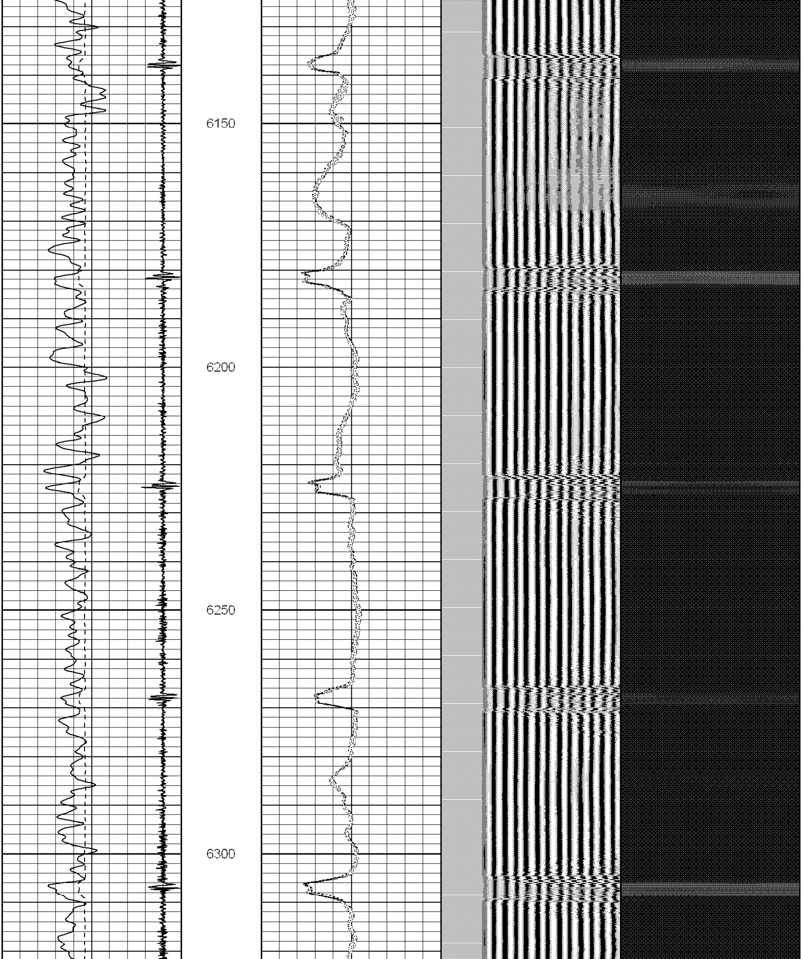


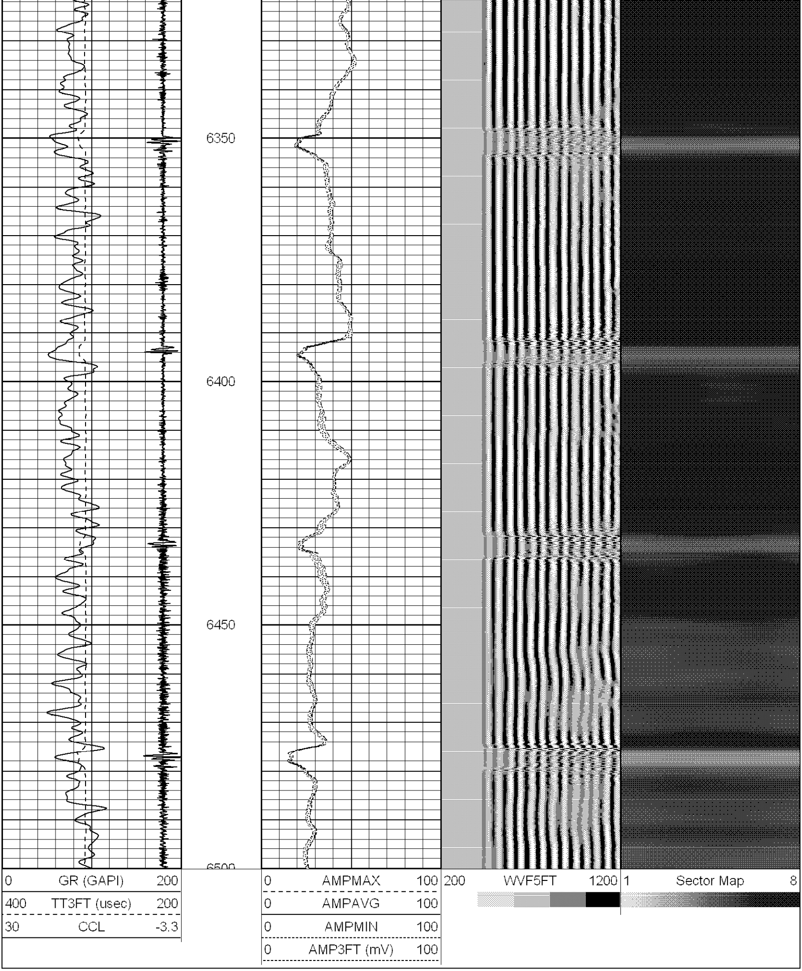






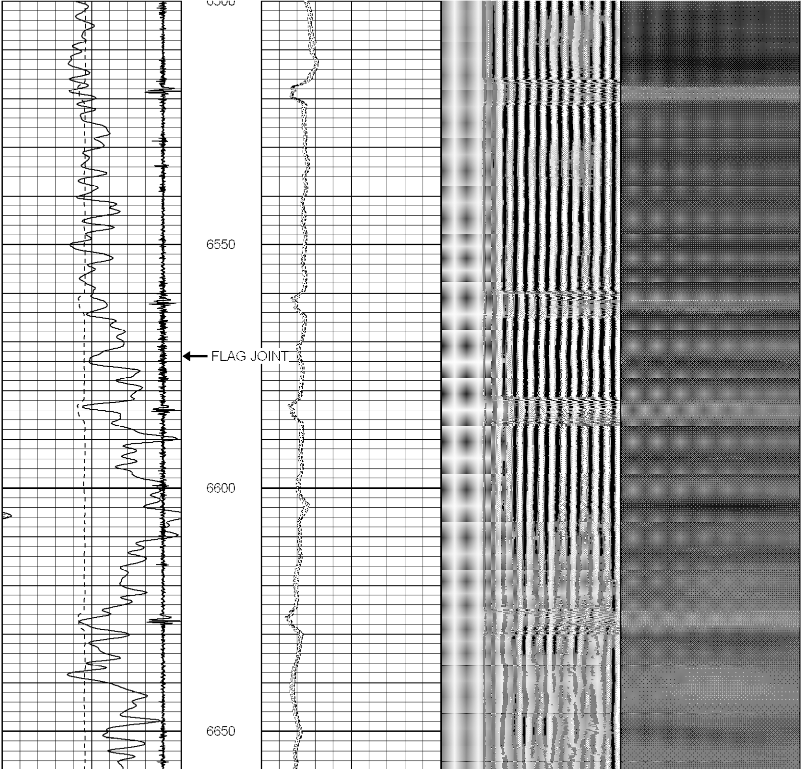


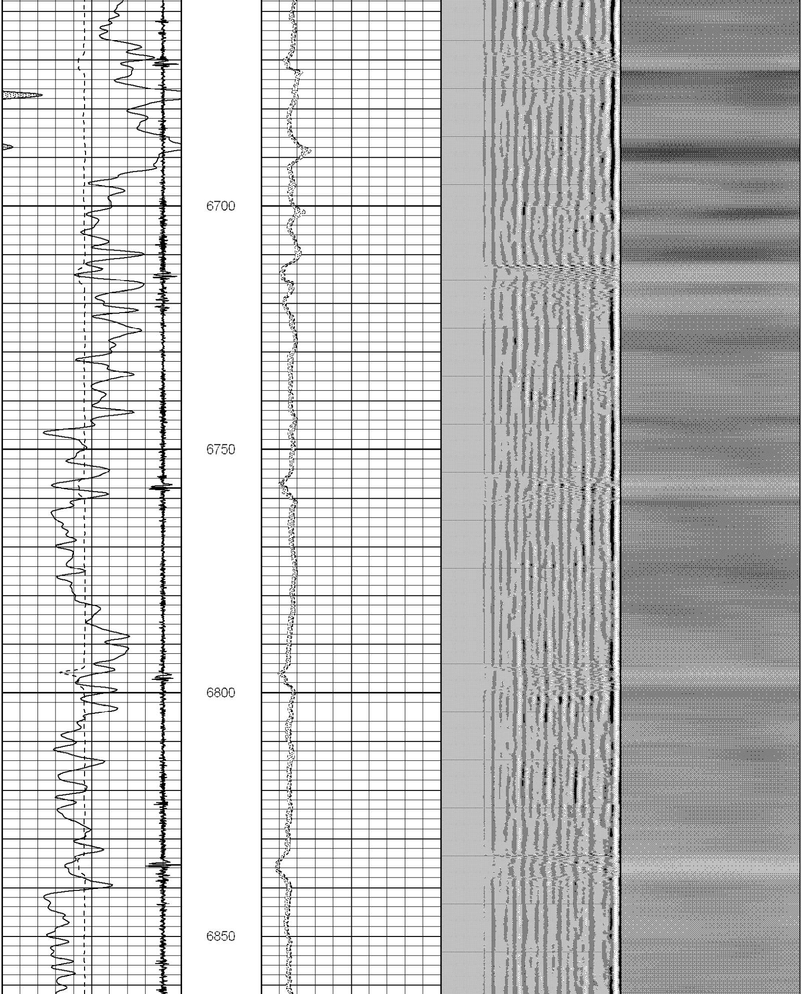


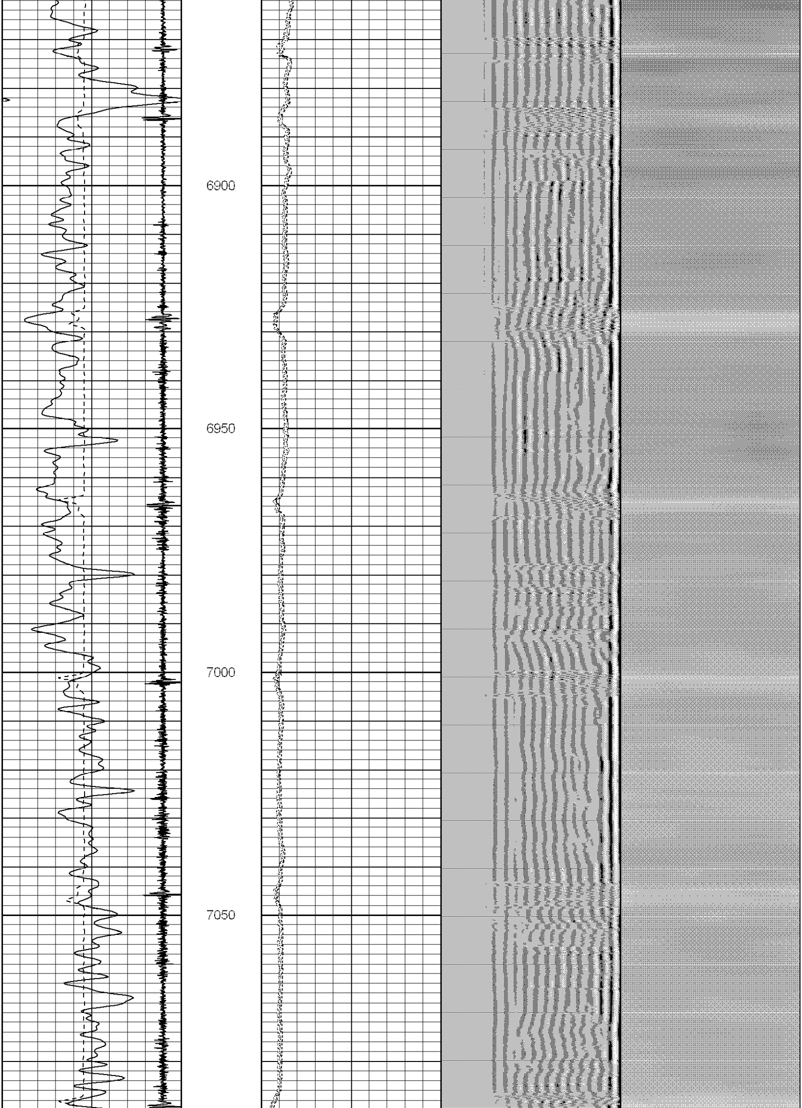


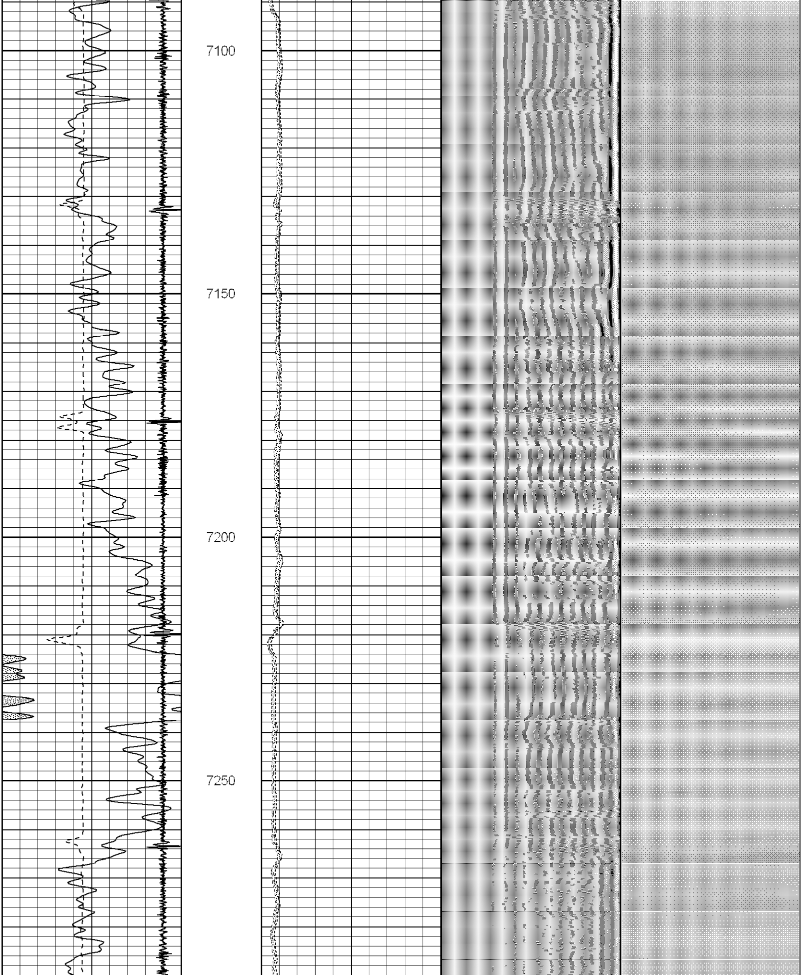
Database File: cbl noble longs ac 02-15.db
Dataset Pathname: pass4
Presentation Format: sector2
Dataset Creation: Thu May 23 09:33:32 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

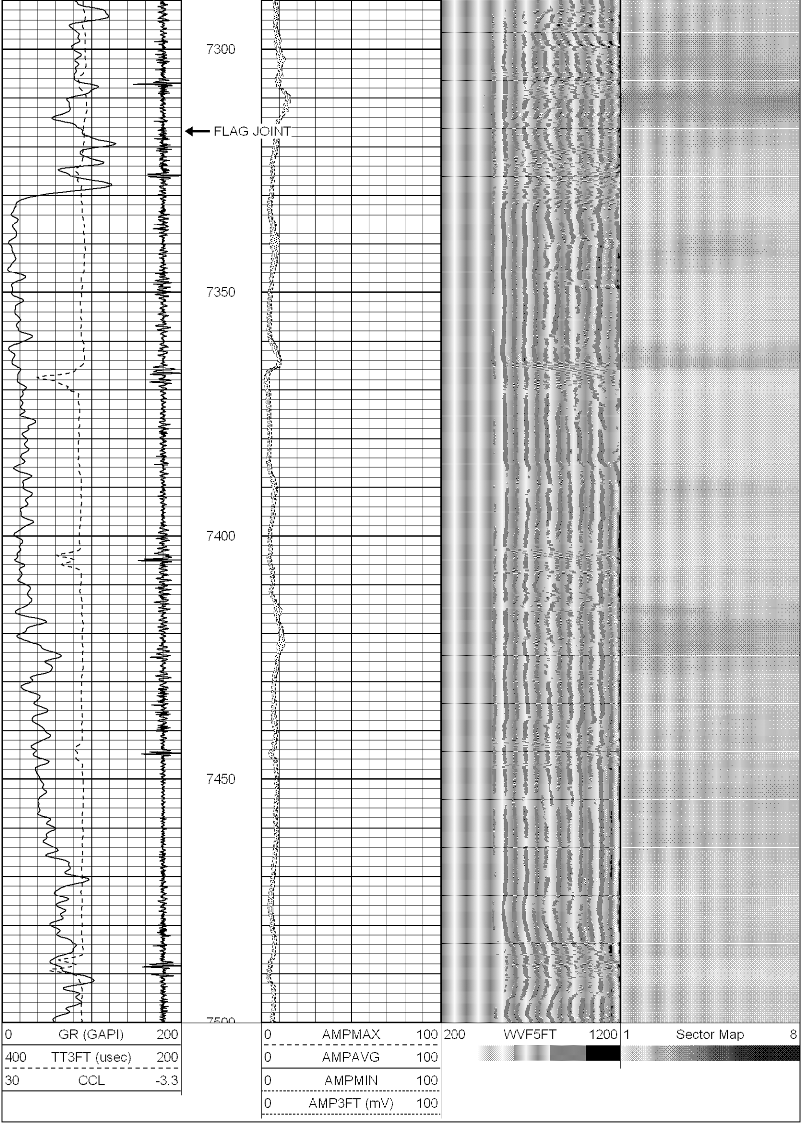
0	GR (GAPI)	200	0	AMPMAX	100	200	WVF5FT	1200	1	Sector Map	8
400	TT3FT (usec)	200	0	AMPAVG	100						
30	CCL	-3.3	0	AMPMIN	100						
			0	AMP3FT (mV)	100						



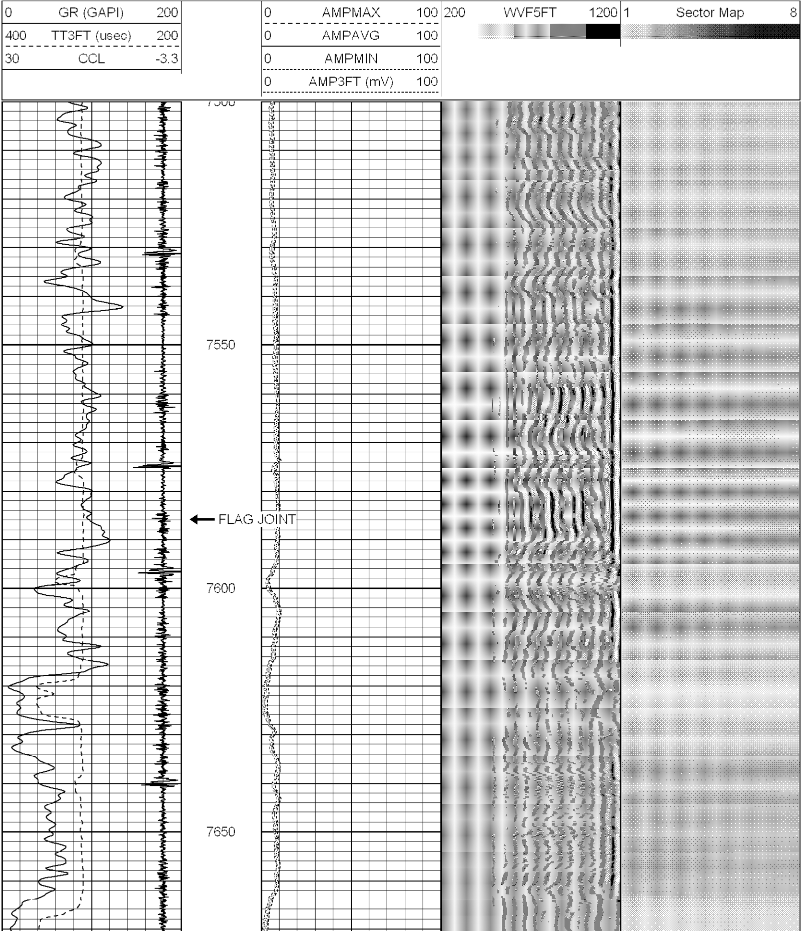


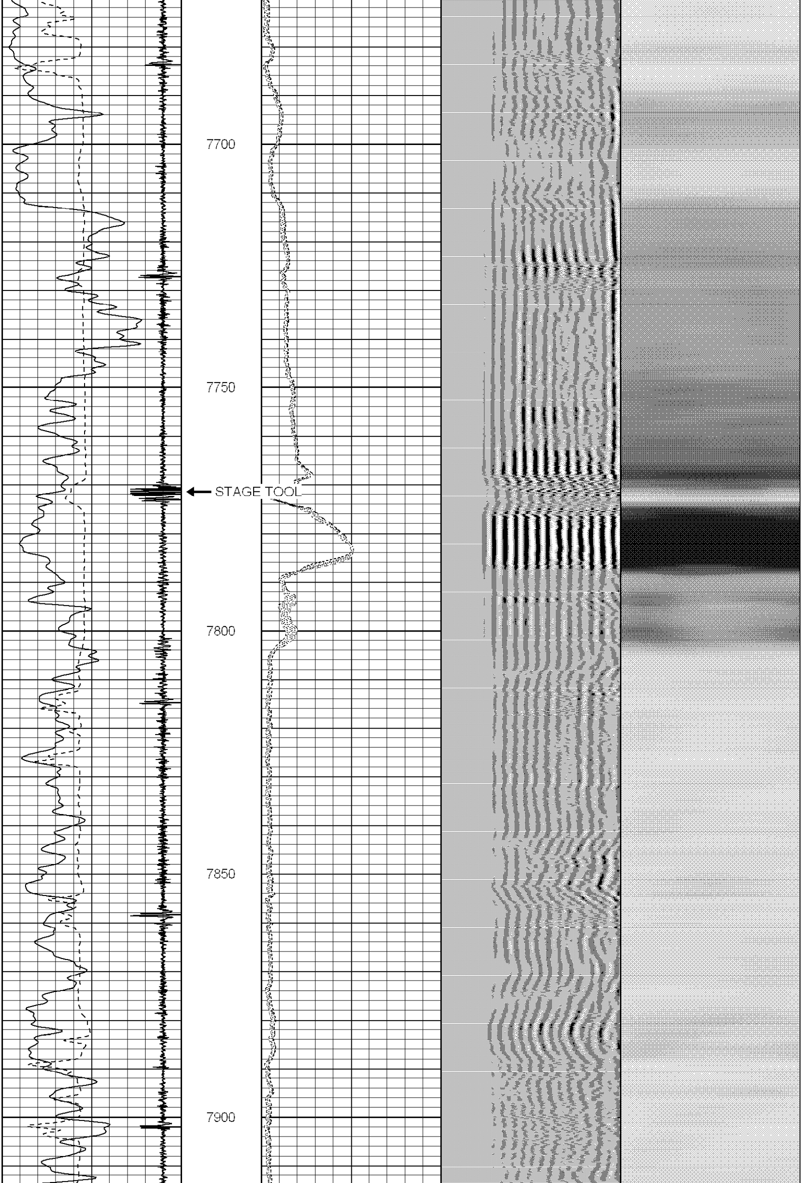


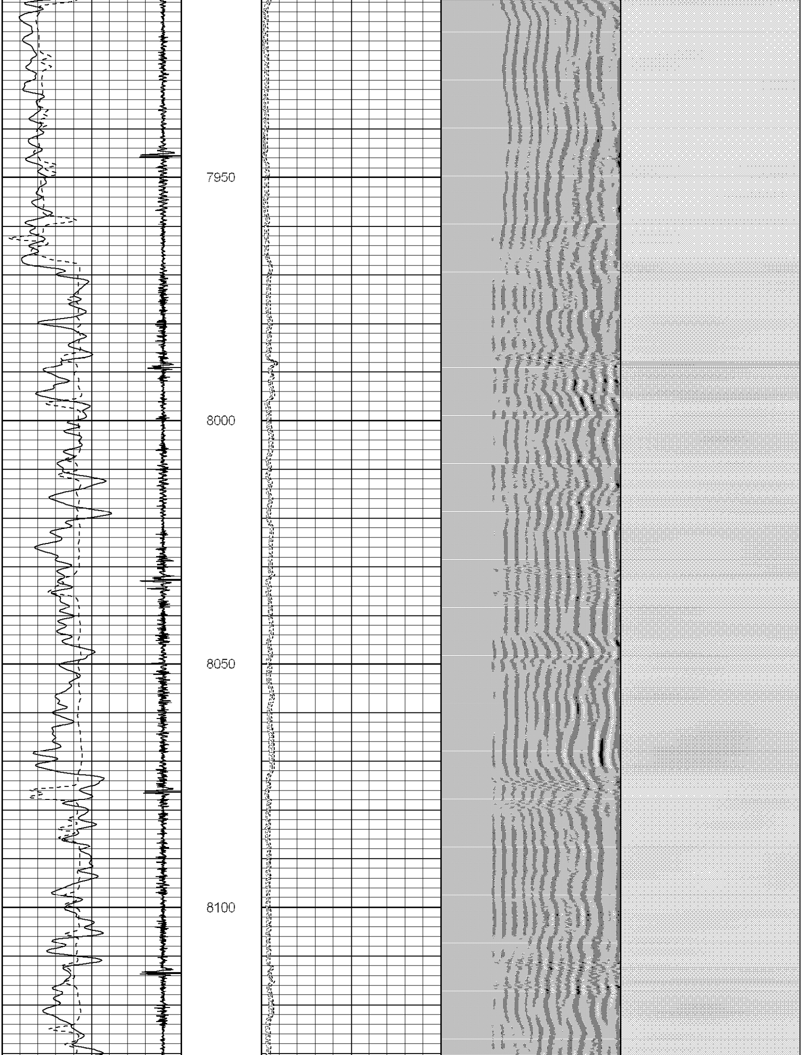


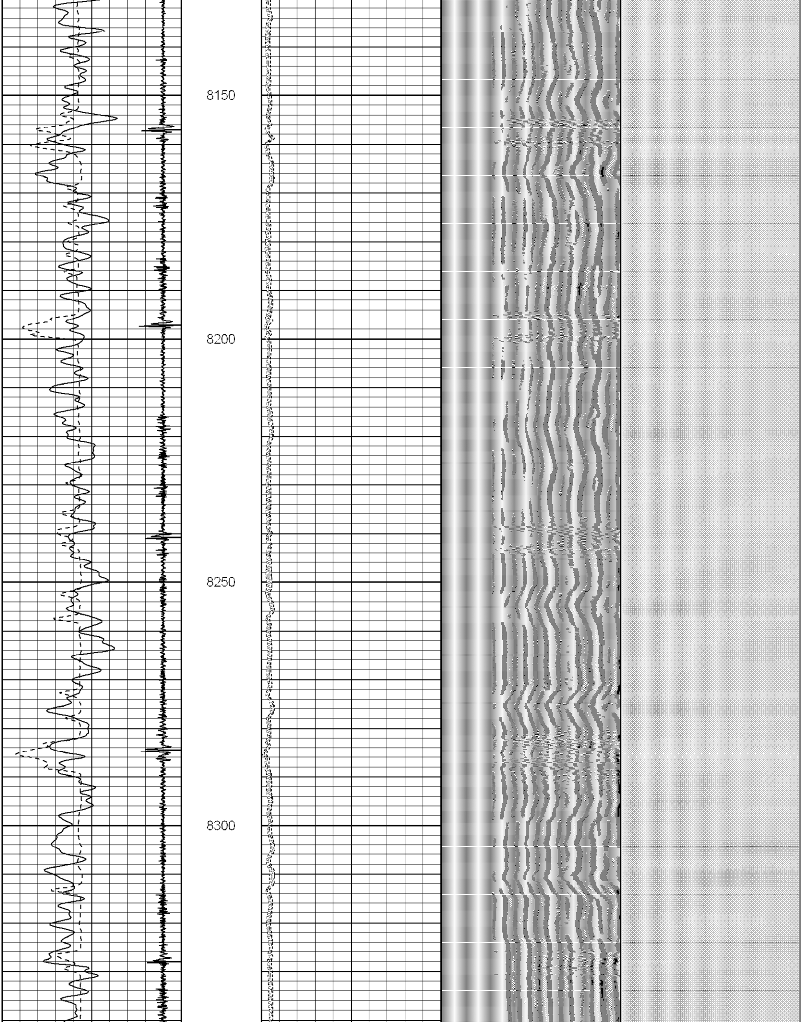


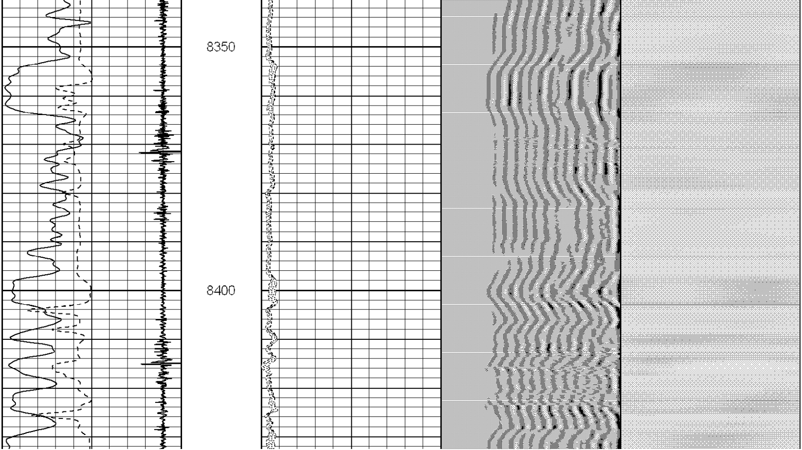
Database File: cbl noble longs ac 02-15.db
Dataset Pathname: pass3
Presentation Format: sector2
Dataset Creation: Thu May 23 09:03:54 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

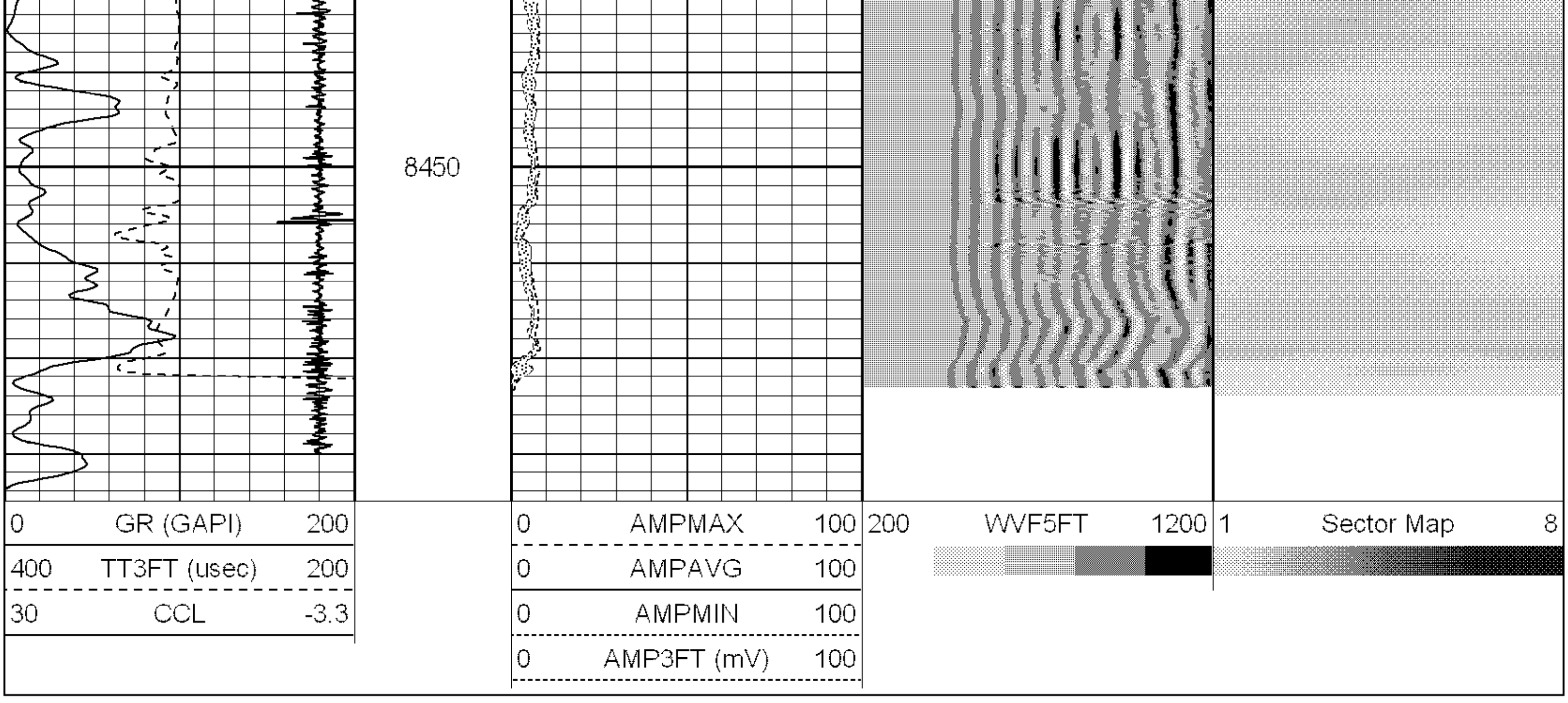












Calibration Report

Database File: cbl noble longs ac 02-15.db
Dataset Pathname: pass3
Dataset Creation: Thu May 23 09:03:54 2013 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION Mon May 13 11:26:24 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.8200			GAPI/cps

PRIMARY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Segmented Cement Bond Log Calibration Report

Serial Number: 101020
Tool Model: Probe

Calibration Casing Diameter: 7.000 in
Calibration Depth: 1184.492 ft

Master Calibration, performed Thu May 23 08:36:20 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	0.993	1.500	62.165	61.530	1.047
CAL	0.007	1.392				
5'	0.008	1.136	1.500	62.165	53.757	1.094
SUM						
S1	0.007	1.158	0.000	62.165	54.029	-0.394
S2	0.007	1.123	0.000	62.165	55.714	-0.413
S3	0.007	1.032	0.000	62.165	60.694	-0.453
S4	0.007	0.922	0.000	62.165	67.981	-0.501
S5	0.007	0.829	0.000	62.165	75.676	-0.560
S6	0.007	0.818	0.000	62.165	76.655	-0.561
S7	0.007	0.937	0.000	62.165	66.890	-0.501
S8	0.007	1.099	0.000	62.165	56.942	-0.416

Internal Reference Calibration, performed Fri Jan 13 14:30:16 2012:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.007	1.392	1.000	0.000

Air Zero Calibration, performed Thu May 23 08:36:03 2013:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1	0.000	0.000	0.000
S2	0.000	0.000	0.000
S3	0.000	0.000	0.000
S4	0.000	0.000	0.000
S5	0.000	0.000	0.000
S6	0.000	0.000	0.000
S7	0.000	0.000	0.000
S8	0.000	0.000	0.000