NABORS
COMPLETION
& PRODUCTION
SERVICES CO.

GAMMA RAY CCL
CEMENT BOND SECTOR VDL

Company	NOBLE ENERGY INC.
Well	CROW CREEK STATE AC36-78-1HN
Field	WATTENBERG
County	WELD
State	COLORADO

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Well CROW CREEK STATE AC36-78-1HN
Field WATTENBERG
County WELD State COLORADO

Location: API #: 0512337274
BHL: 535' FNL & 990' FWL
SW/SW
SEC 36 TWP 7N RGE 63W

Other Services

				Elevation
Permanent Datum	GL	Elevation	4775	K.B. 4791
Log Measured From	KB			D.F.
Drilling Measured From	KB			G.L. 4775

Date	NOVEMBER 8, 2013		
Run Number	ONE		
Depth Driller	11182		
Depth Logger	6664		
Bottom Logged Interval	6664		
Top Log Interval	SURFACE		
Open Hole Size	8-3/4		
Type Fluid	WATER		
Density / Viscosity	N/A		
Max. Recorded Temp.	231°F		
Estimated Cement Top	568		
Time Well Ready	PORTABLE MAST		
Time Logger on Bottom	2-3/4 PROBE 101020/785		
Equipment Number	4838		
Location	45		
Recorded By	GREG NOLAN		
Witnessed By	BILL MANSFIELD		

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	16	594.6
Prot. String				
Production String	7	26# P-110	16	7095
Liner	4-1/2	11.6# P-110	7030.3	11167

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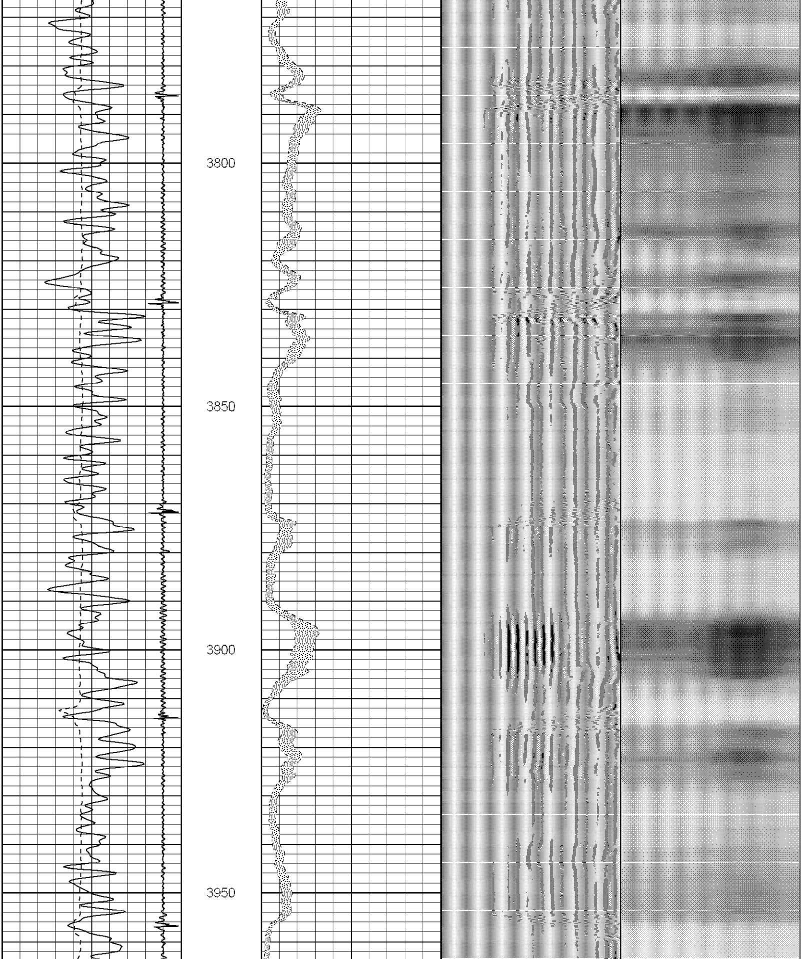
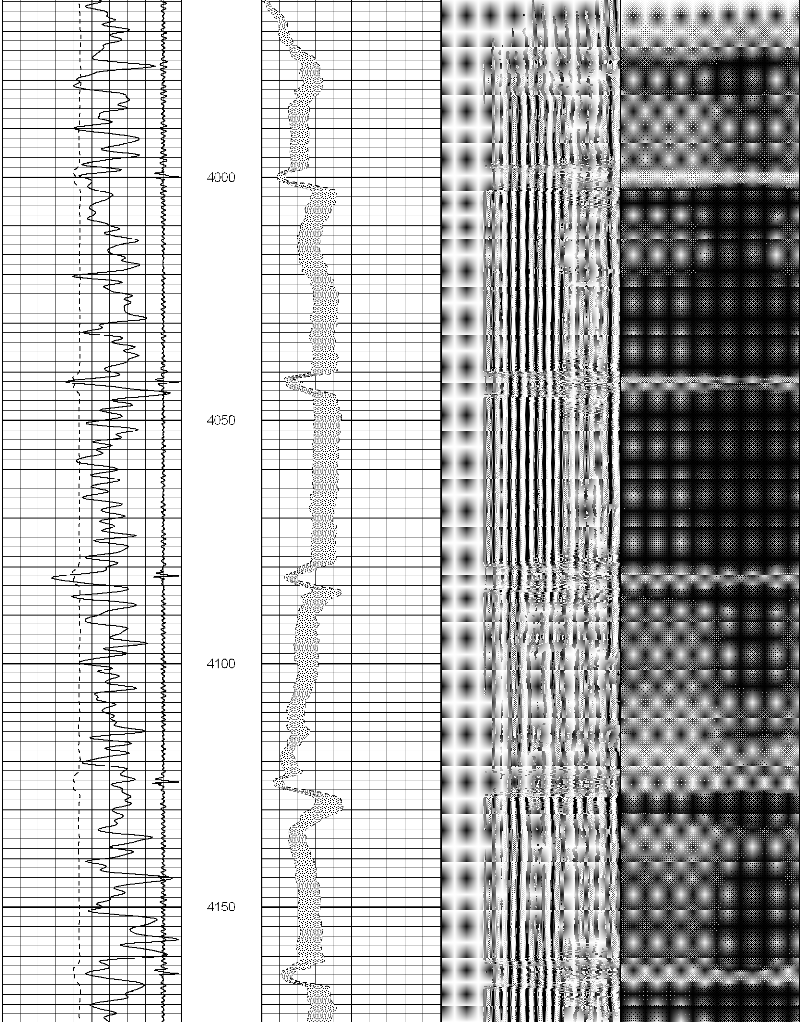
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

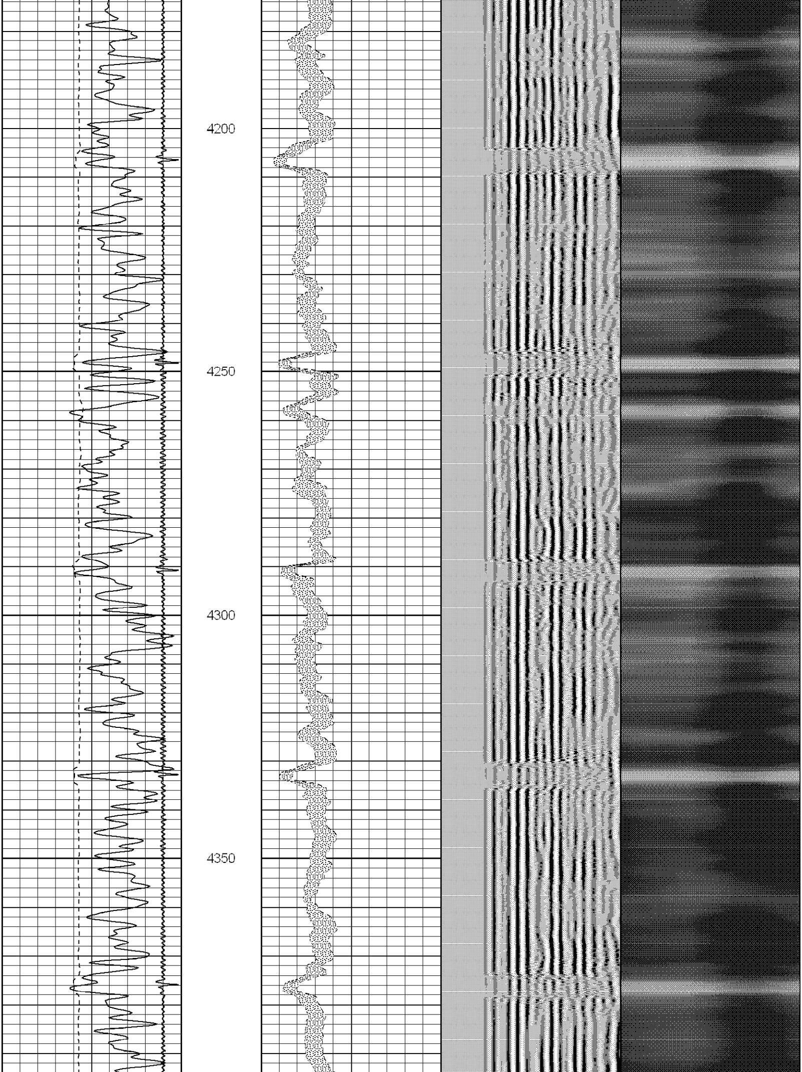
Comments

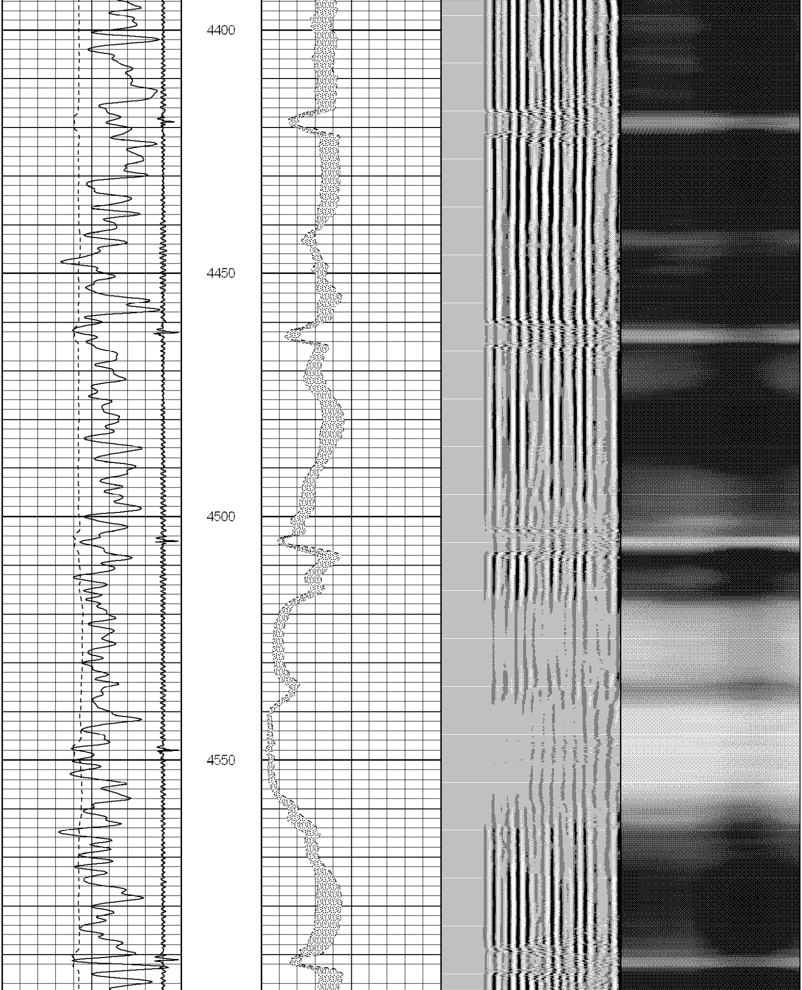
THANK YOU FOR CHOOSING NCPS!!!!!
LOG NOT CORRELATED
WCR 69 & WCR 74, E1.1, N INTO
EASTERNMOST WELL OF A 3 WELL PAD

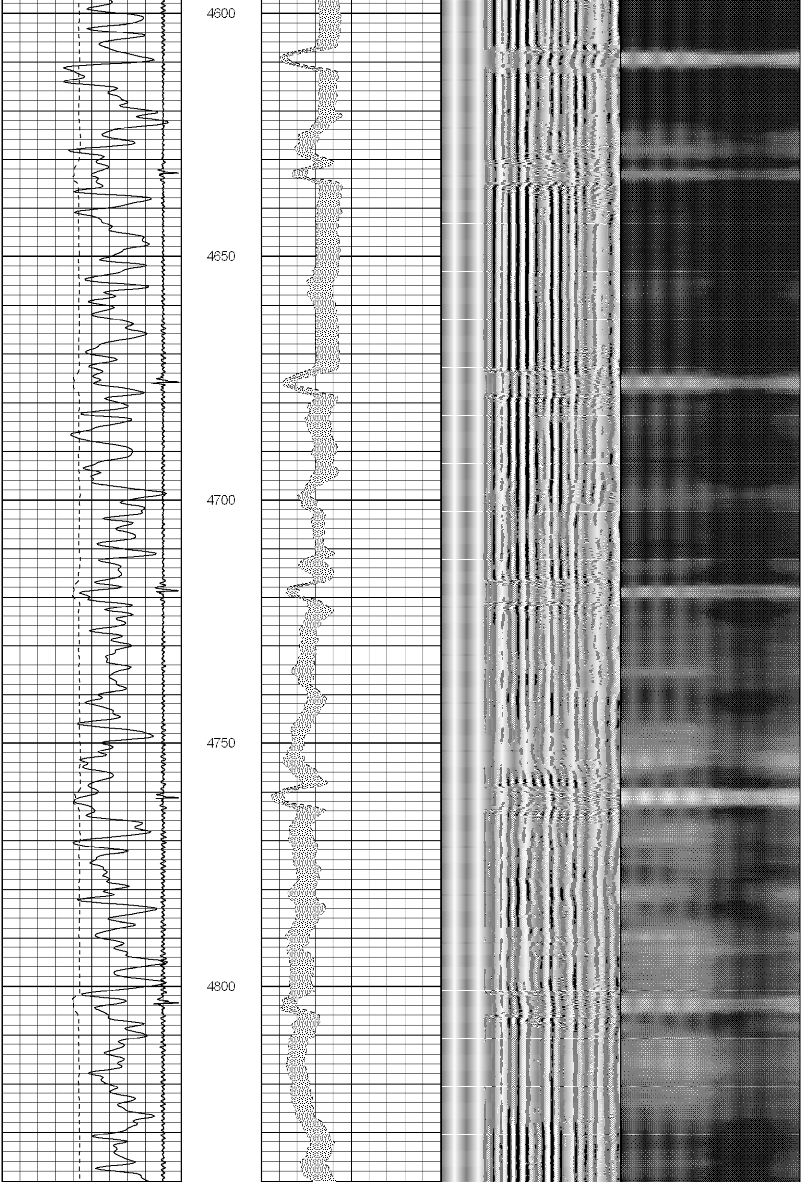
Database File: cbl noble crow creek state ac36-78-1hn.db
Dataset Pathname: pass4
Presentation Format: sector2
Dataset Creation: Fri Nov 08 11:36:54 2013 by Log SCH 120430
Charted by: Depth in Feet scaled 1:240

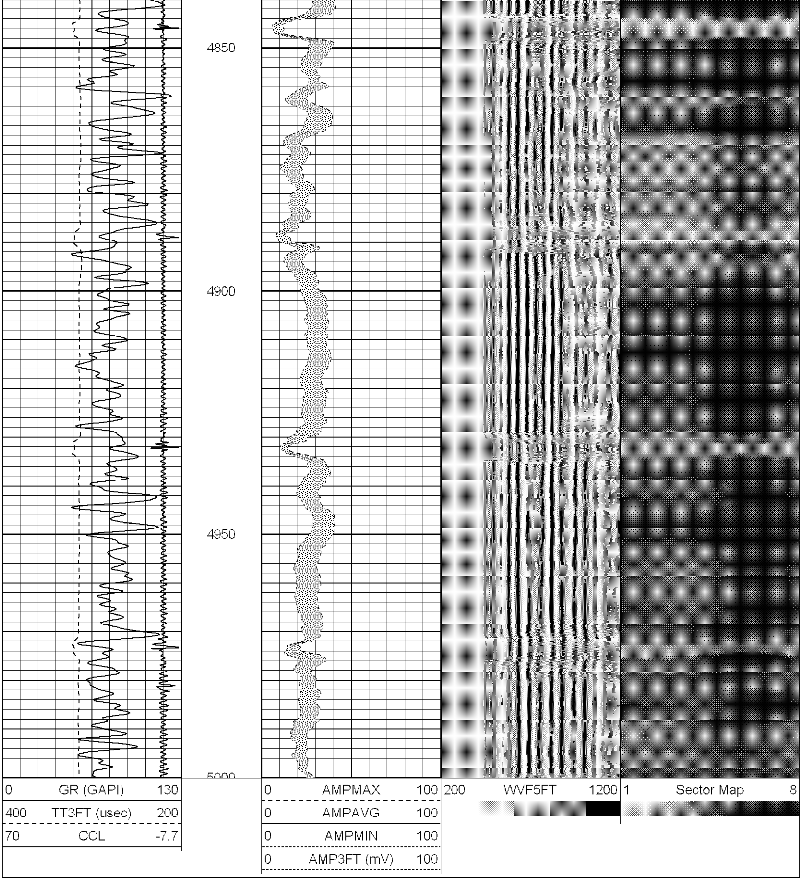




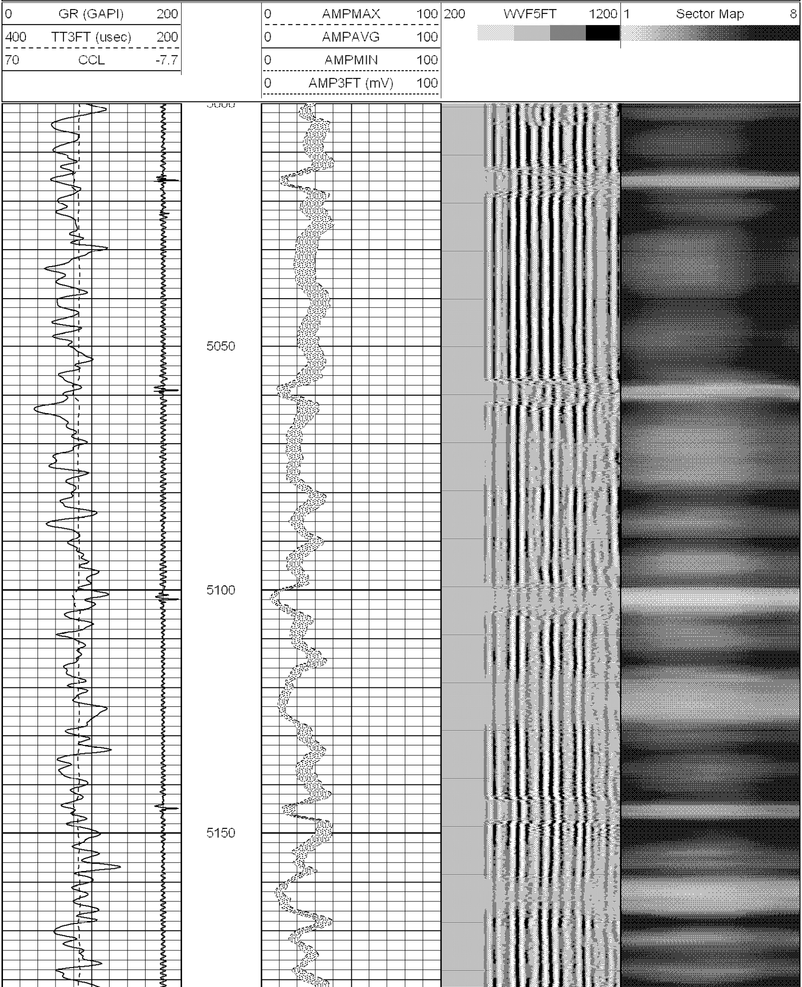


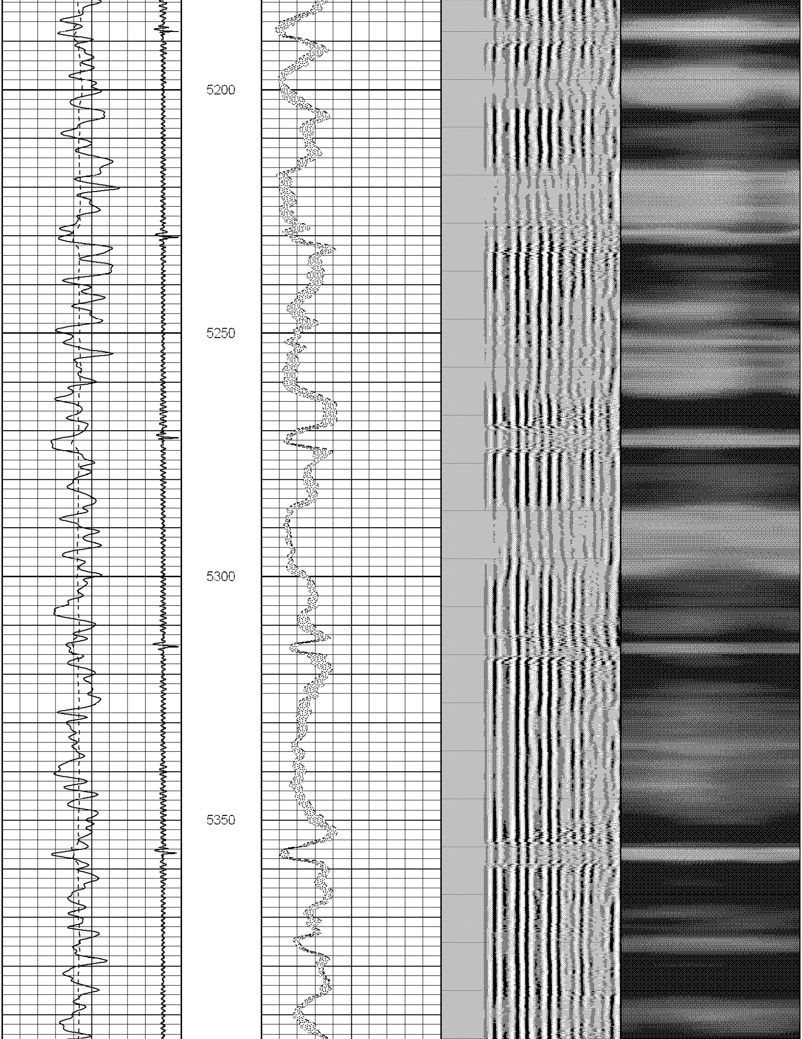


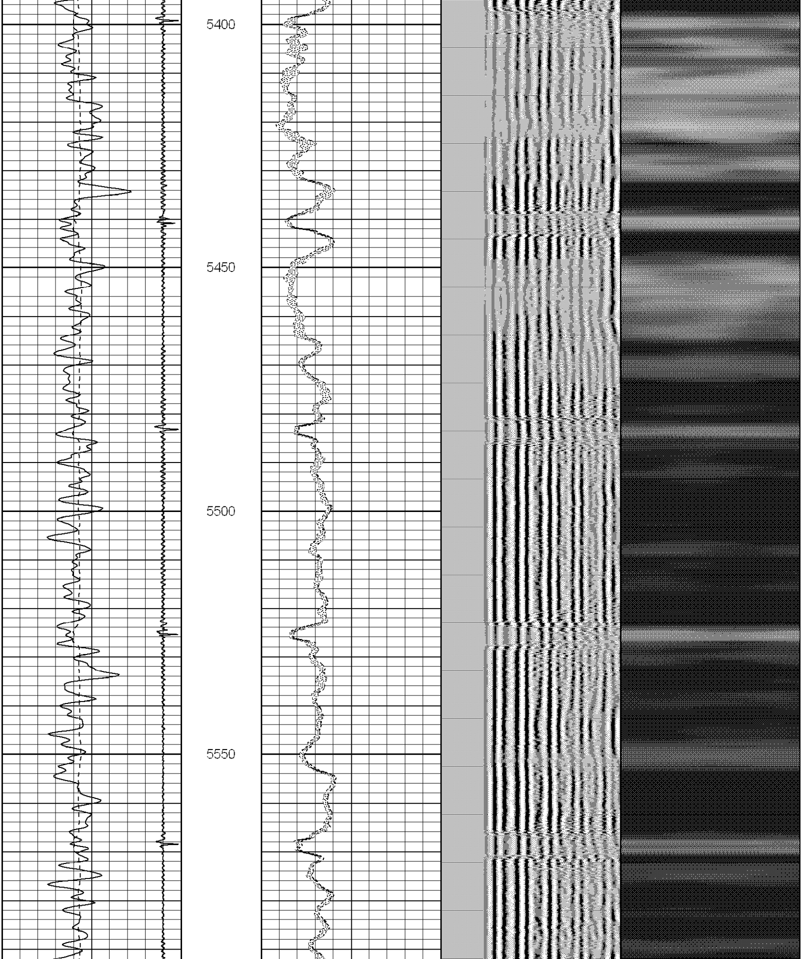


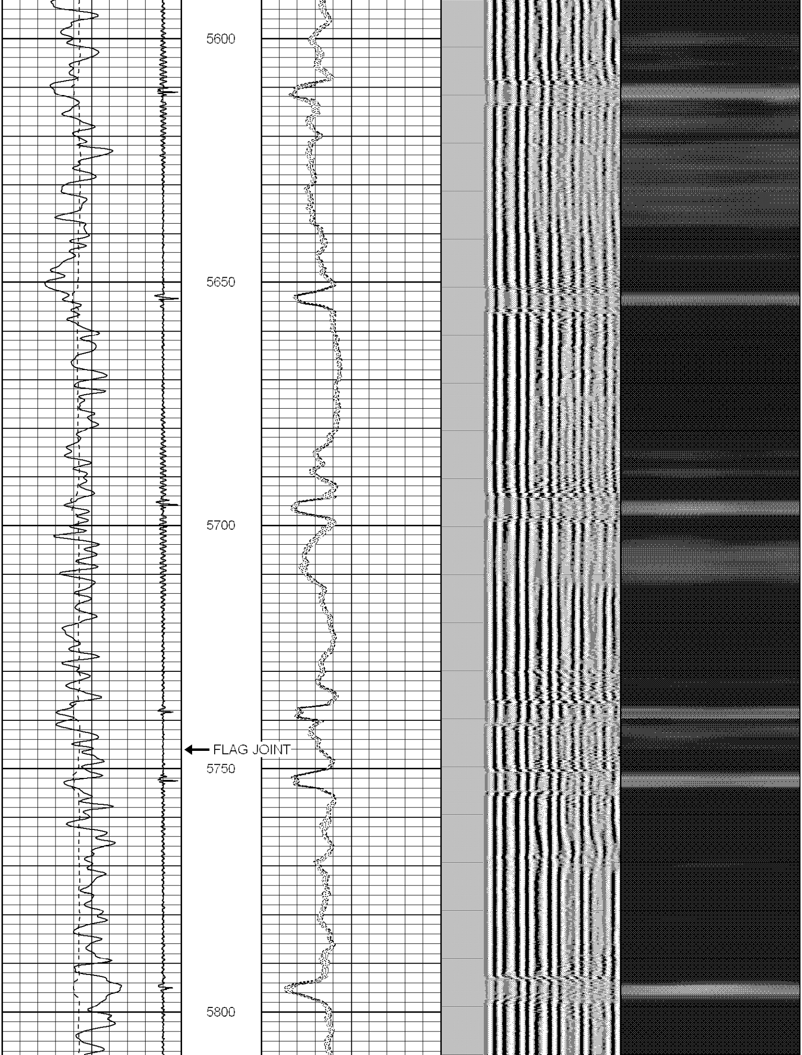


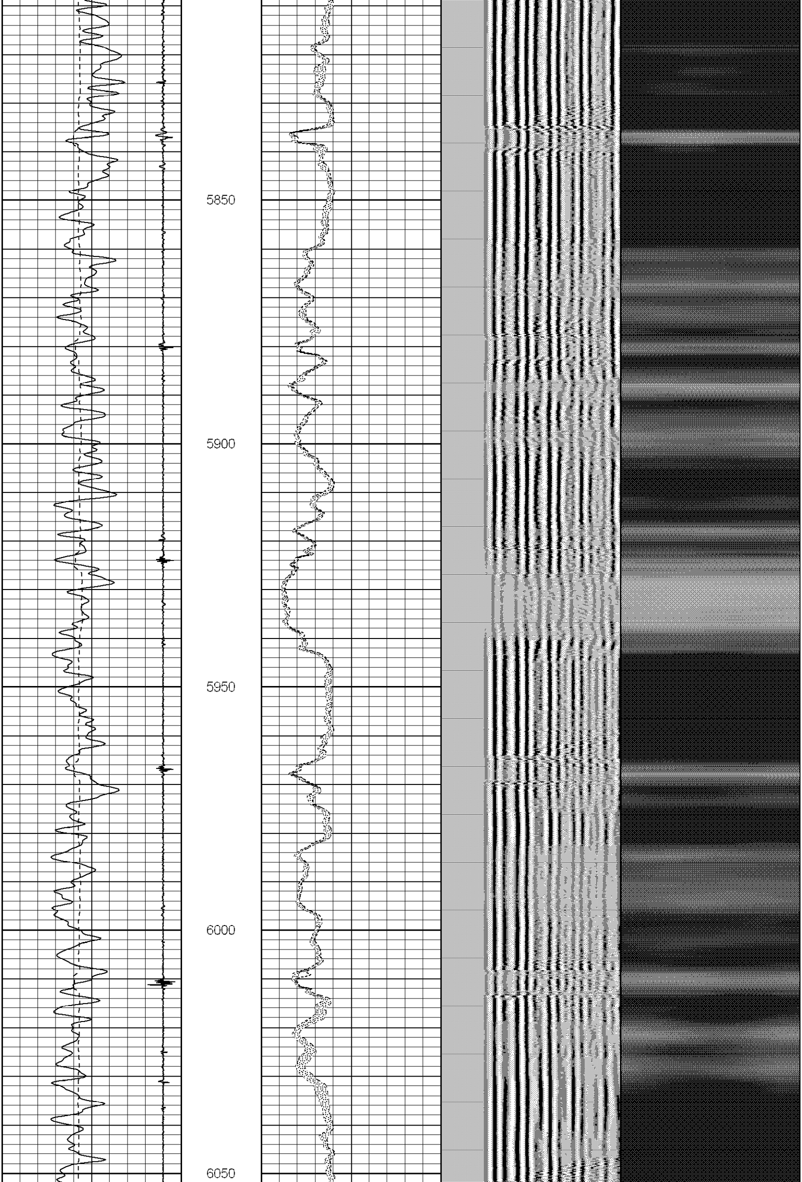
Database File:	cbl noble crow creek state ac36-78-1hn.db
Dataset Pathname:	pass2
Presentation Format:	sector2
Dataset Creation:	Fri Nov 08 11:19:56 2013 by Log SCH 120430
Charted by:	Depth in Feet scaled 1:240

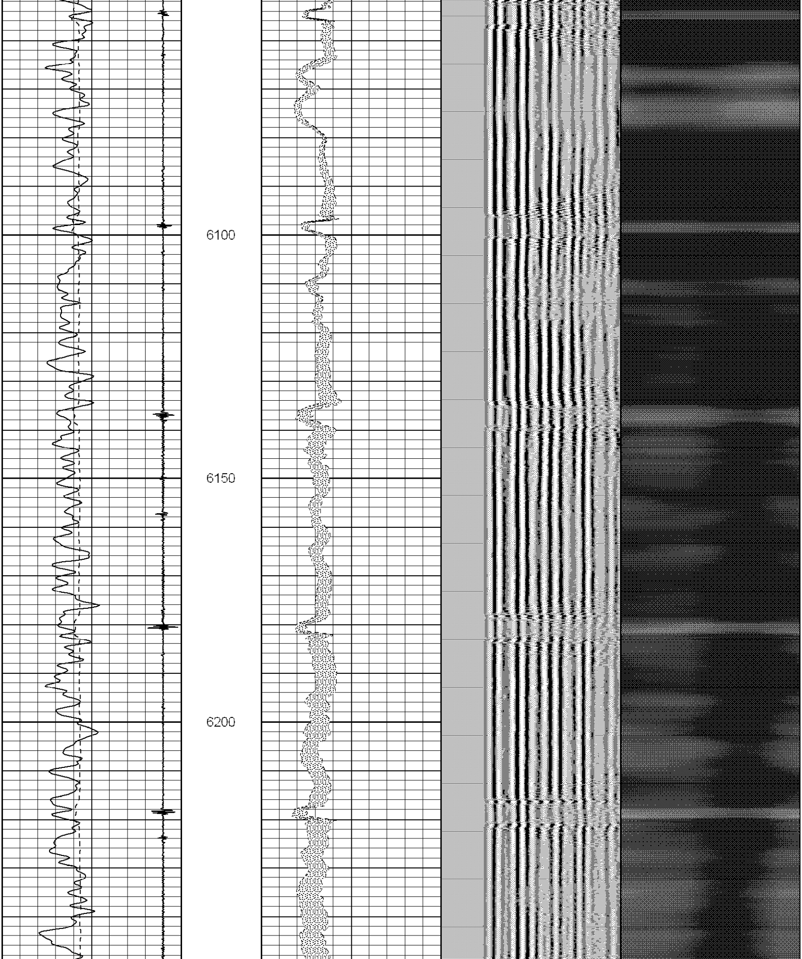


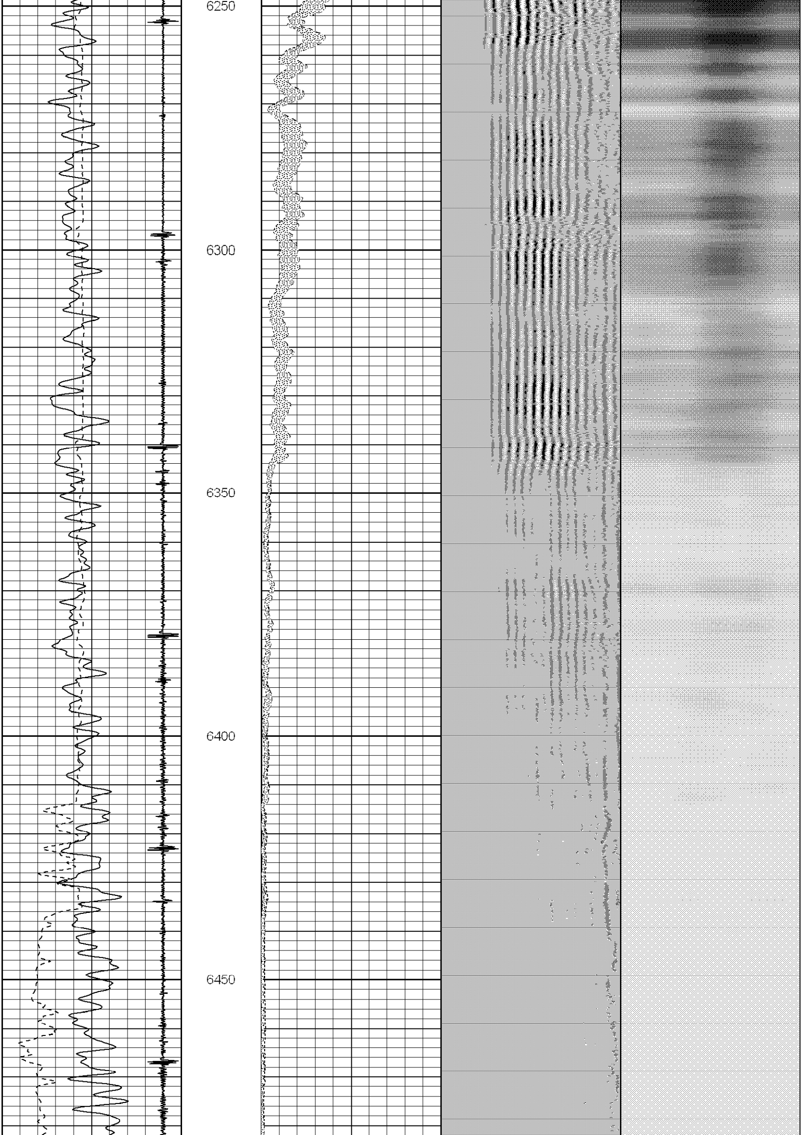


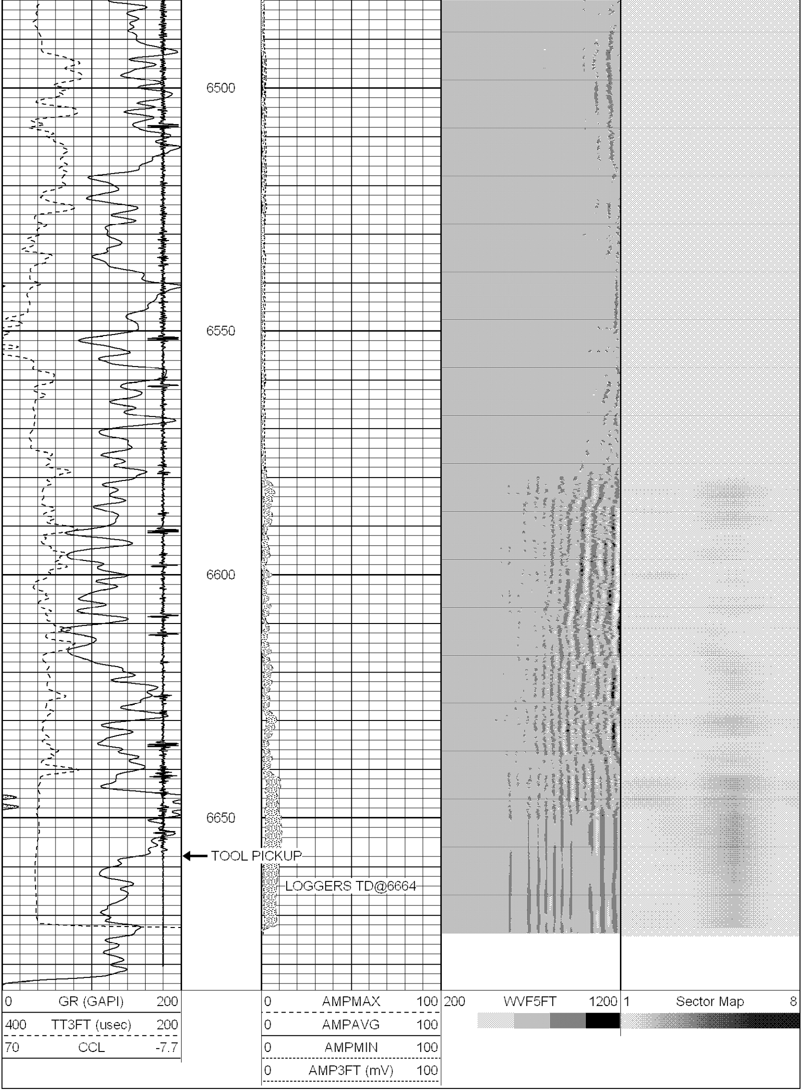












Calibration Report

Database File: cbl noble crow creek state ac36-78-1hn.db
Dataset Pathname: pass2
Dataset Creation: Fri Nov 08 11:19:56 2013 by Log SCH 120430

Gamma Ray Calibration Report

Type / Serial: Probe275dig / 110785

SHOP CALIBRATION

Fri Nov 08 09:38:30 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	1.0				cps
		0.4400			GAPI/cps

PRIMARY VERIFICATION

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

BEFORE SURVEY VERIFICATION

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

AFTER SURVEY VERIFICATION

	Counts/Sec.	Gain	Offset	Jig	Units
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:	272.750	ft

Master Calibration, performed Fri Nov 08 11:02:51 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.007	1.028	1.500	62.165	59.435	1.068
CAL	0.008	1.269				
5'	0.008	1.135	1.500	62.165	53.832	1.090
SUM						
S1	0.008	1.154	0.000	62.165	54.219	-0.409
S2	0.008	1.104	0.000	62.165	56.721	-0.431
S3	0.007	1.048	0.000	62.165	59.726	-0.448
S4	0.008	0.965	0.000	62.165	64.946	-0.492
S5	0.008	0.876	0.000	62.165	71.593	-0.551
S6	0.007	0.884	0.000	62.165	70.931	-0.532
S7	0.008	1.022	0.000	62.165	61.262	-0.468
S8	0.007	1.156	0.000	62.165	54.125	-0.391

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	0.008	1.269	1.000	0.000

Air Zero Calibration, performed Fri Nov 08 09:32:01 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