PEAK WIRELINE SERVICES, INC.

RADIAL CEMENT BOND LOG

Company	NIGHTHAWK PRODUCTION, LLC.
Well	BIG SKY 22-11
Field	ARIKAREE CREEK
County	LINCOLN
State	COLORADO

Company NIGHTHAWK PRODUCTION, LLC.
Well BIG SKY 12-11
Field ARIKAREE CREEK
County LINCOLN State COLORADO

Location
NW SW
2096' FSL & 629' FWL
SEC 11 TWP 6S RGE 54W

Other Services

Elevation
K.B. 5234
D.F. 5233
G.L. 5222

Permanent Datum GROUND LEVEL Elevation 5222
Log Measured From KELLY BUSHING 12' AGL
Drilling Measured From KELLY BUSHING

Date	10-30-2013		
Run Number	ONE		
Depth Driller	8371		
Depth Logger	8282		
Bottom Logged Interval	8277		
Top Log Interval	2500		
Casing Size	5 1/2"		
Type Fluid	WATER		
Density / Viscosity			
Max. Recorded Temp.	220		
Estimated Cement Top	2654		
Time Well Ready			
Time Logger on Bottom			
Equipment Number	TR-7		
Location	CHEYENNE WELLS, CO.		
Recorded By	HENDERSON		
Witnessed By	STEVE WYSOCKI		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12 1/4"	0	338				
TWO	7 7/8"	338	8371				

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String	8 5/8"	24#	0	338
Prot. String				
Production String	5 1/2"	17#	0	8377
Liner				

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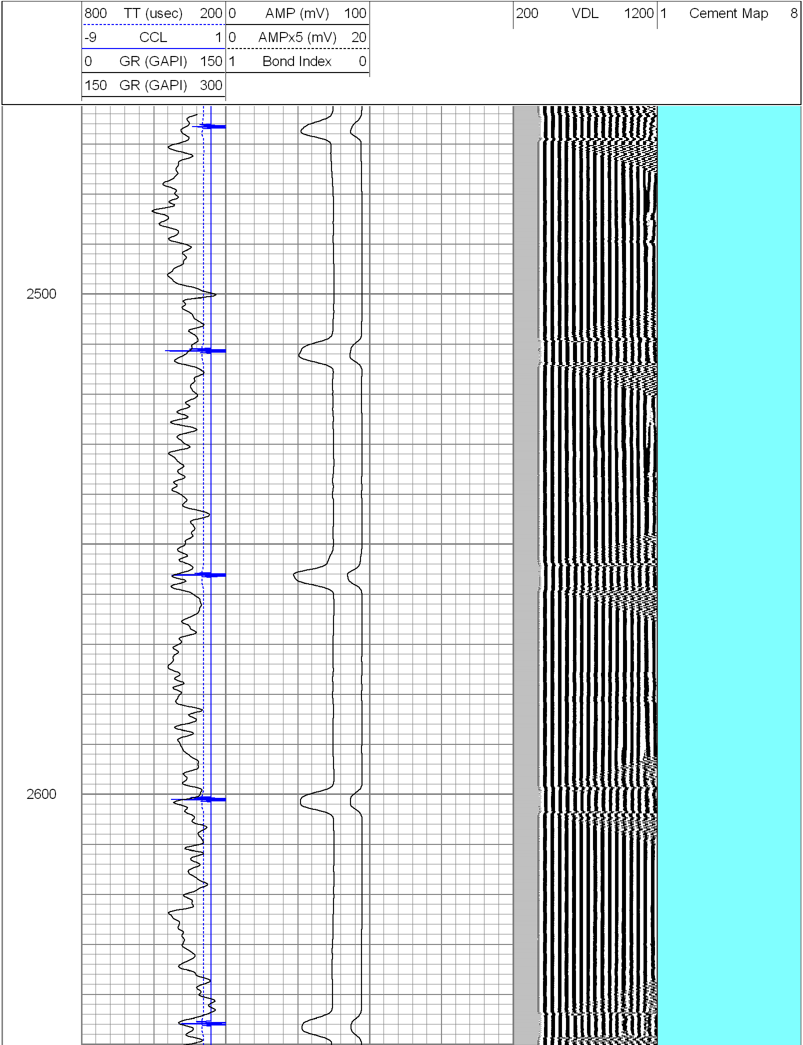
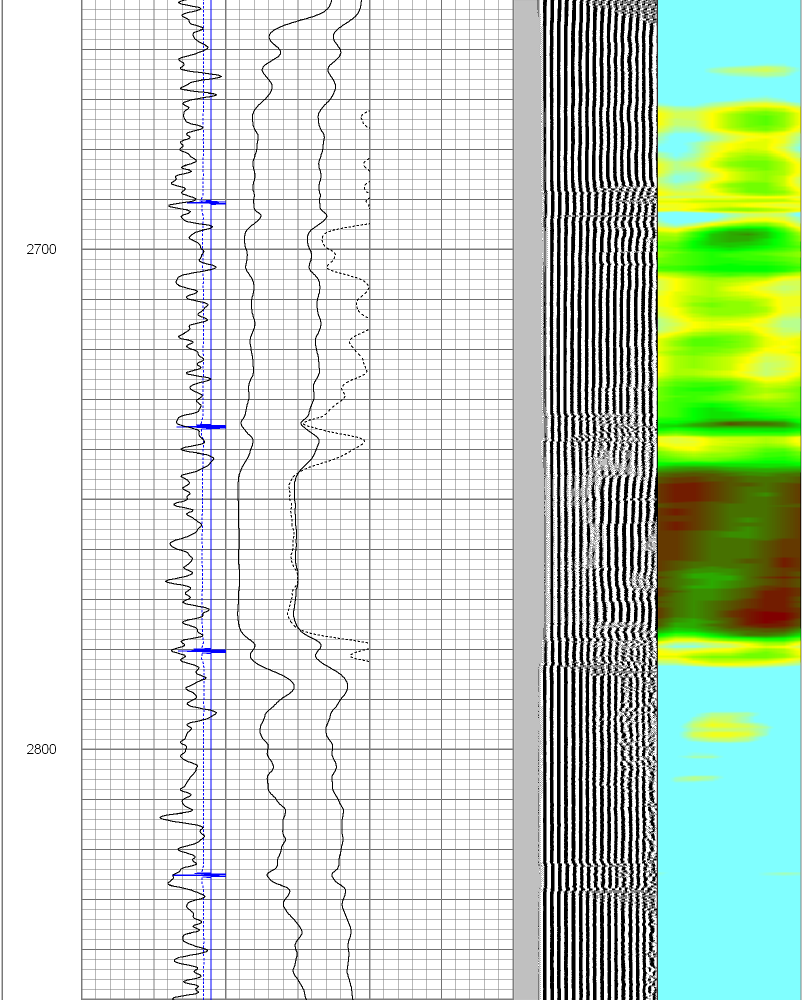
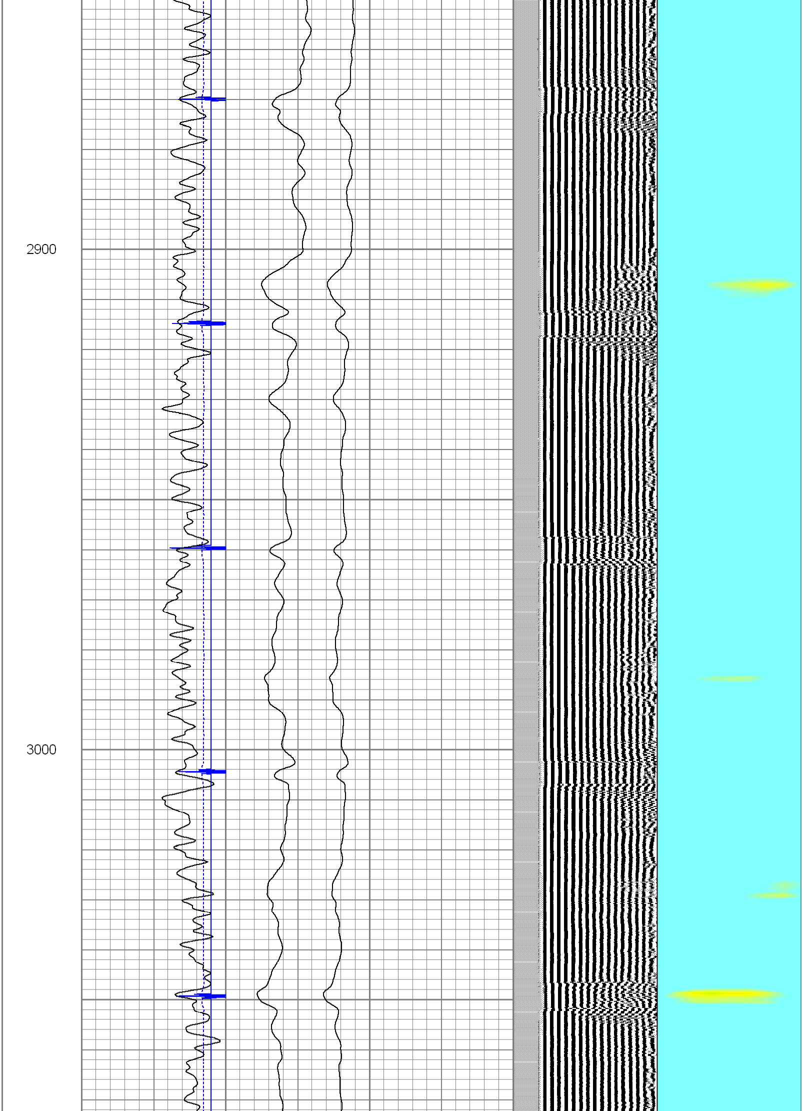
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

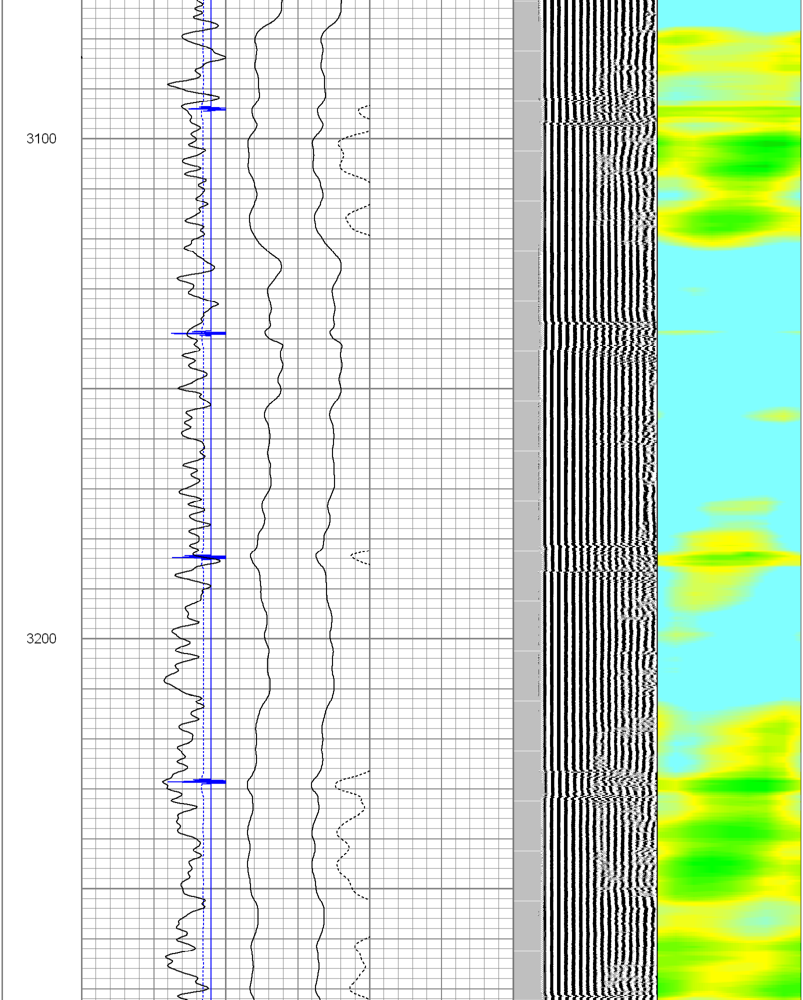
Comments

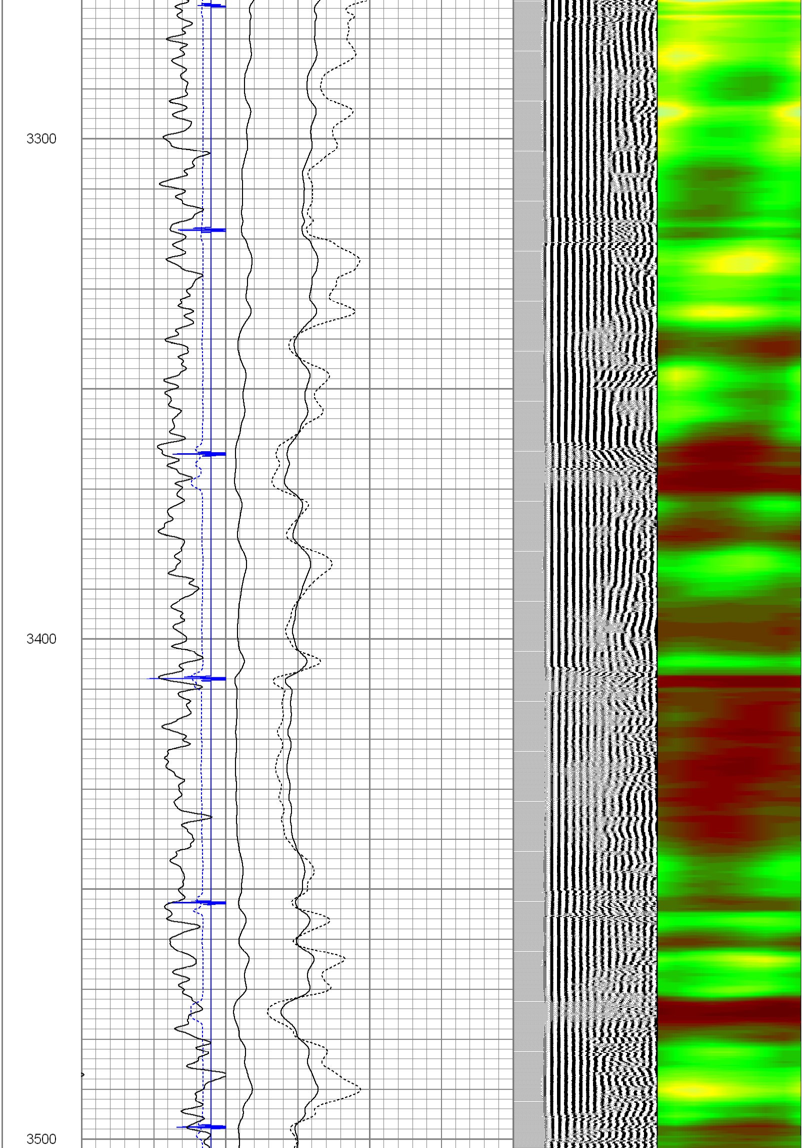
Database File: bigsky.db
Dataset Pathname: 12-11/run1/pass2
Presentation Format: scbl02
Dataset Creation: Wed Oct 30 16:49:47 2013 by Log Std Casedhole 07081
Charted by: Depth in Feet scaled 1:240

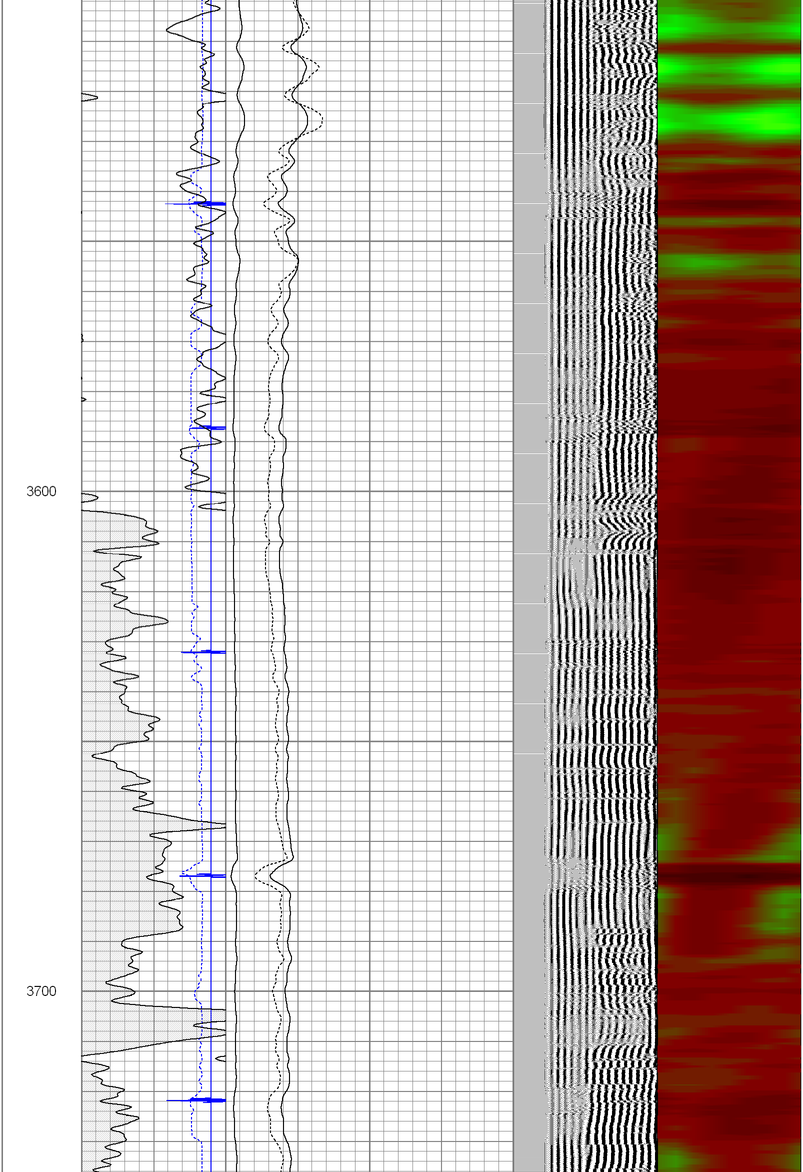


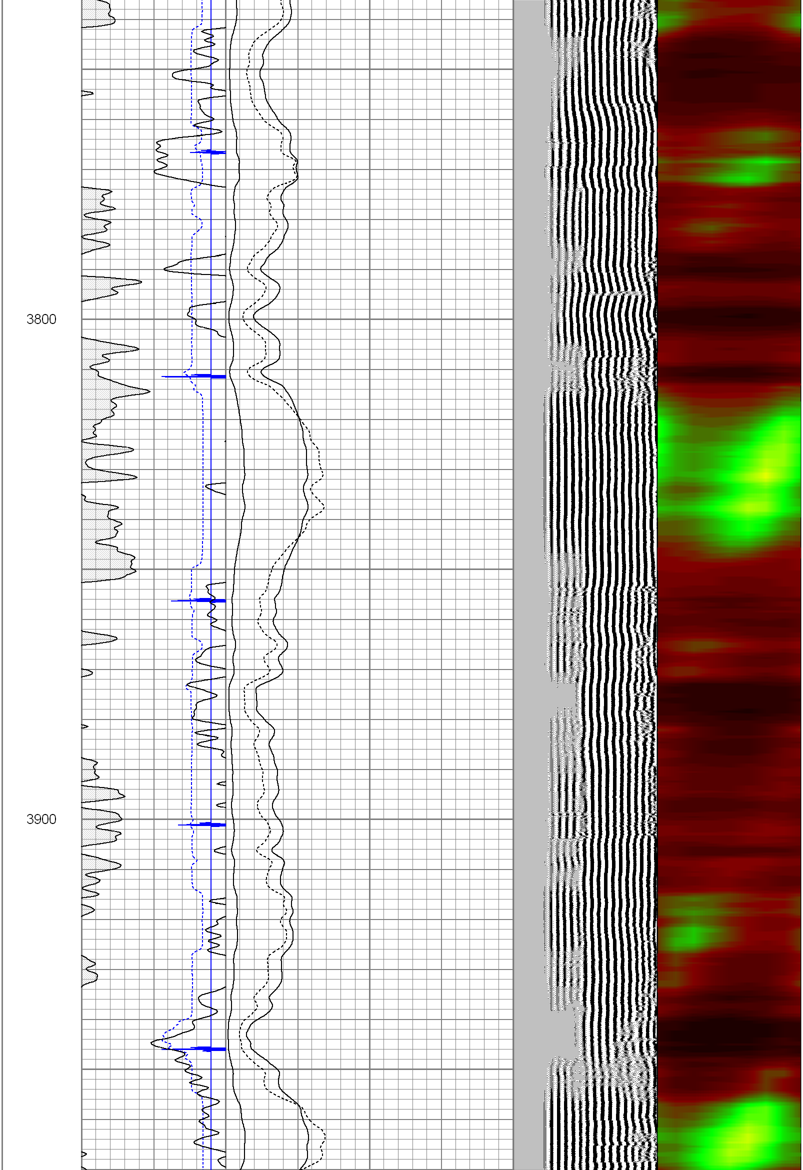


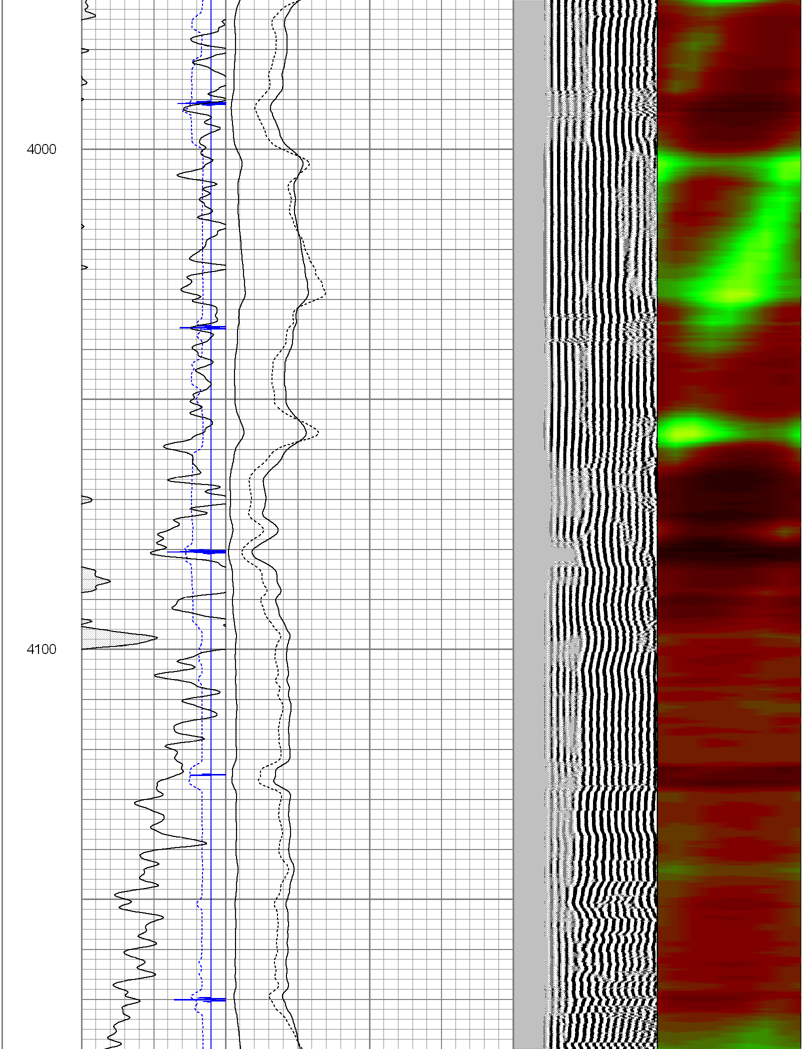


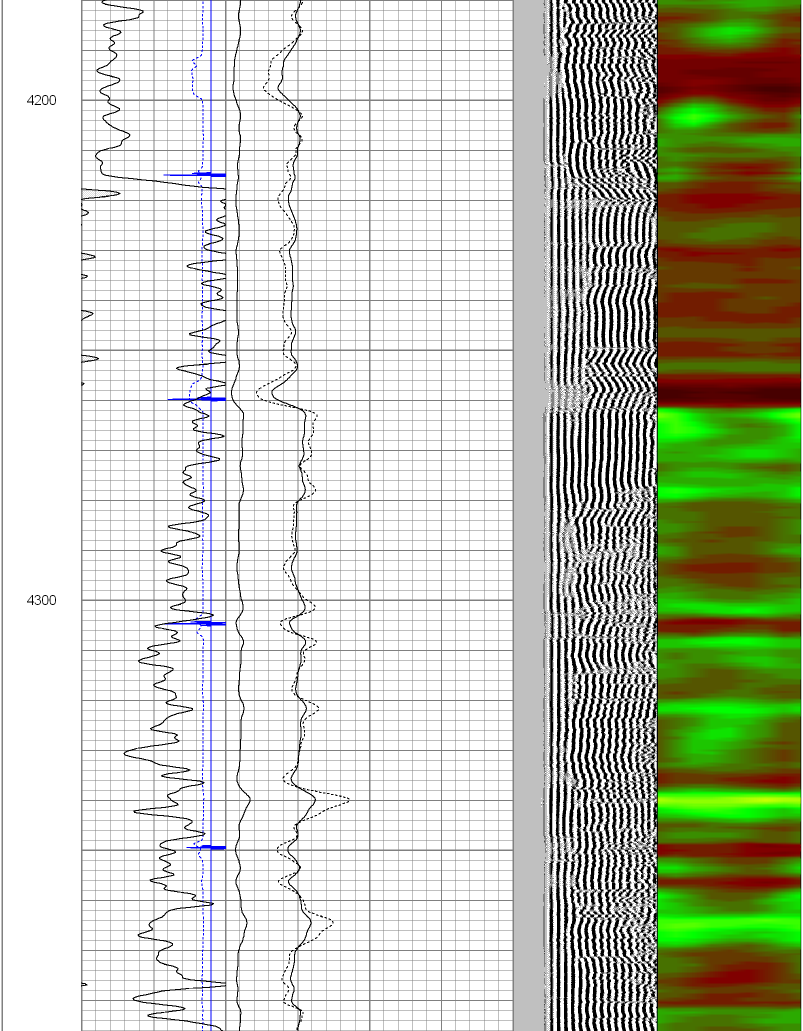


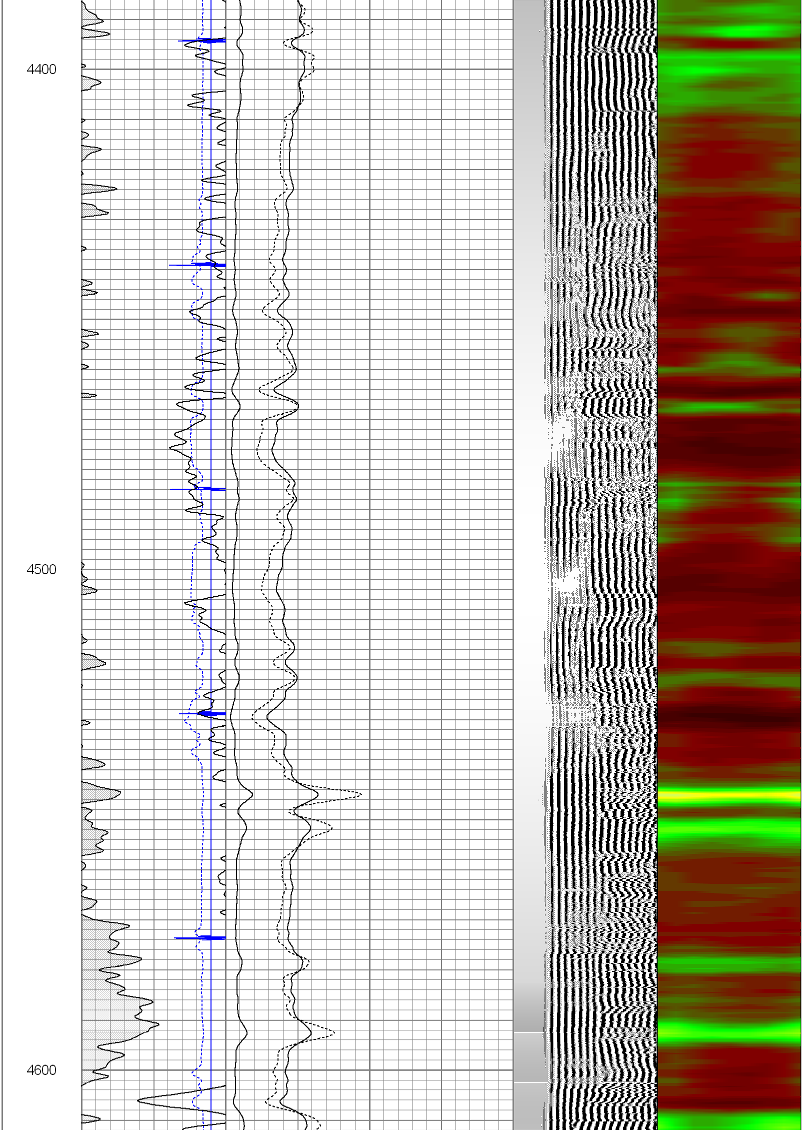


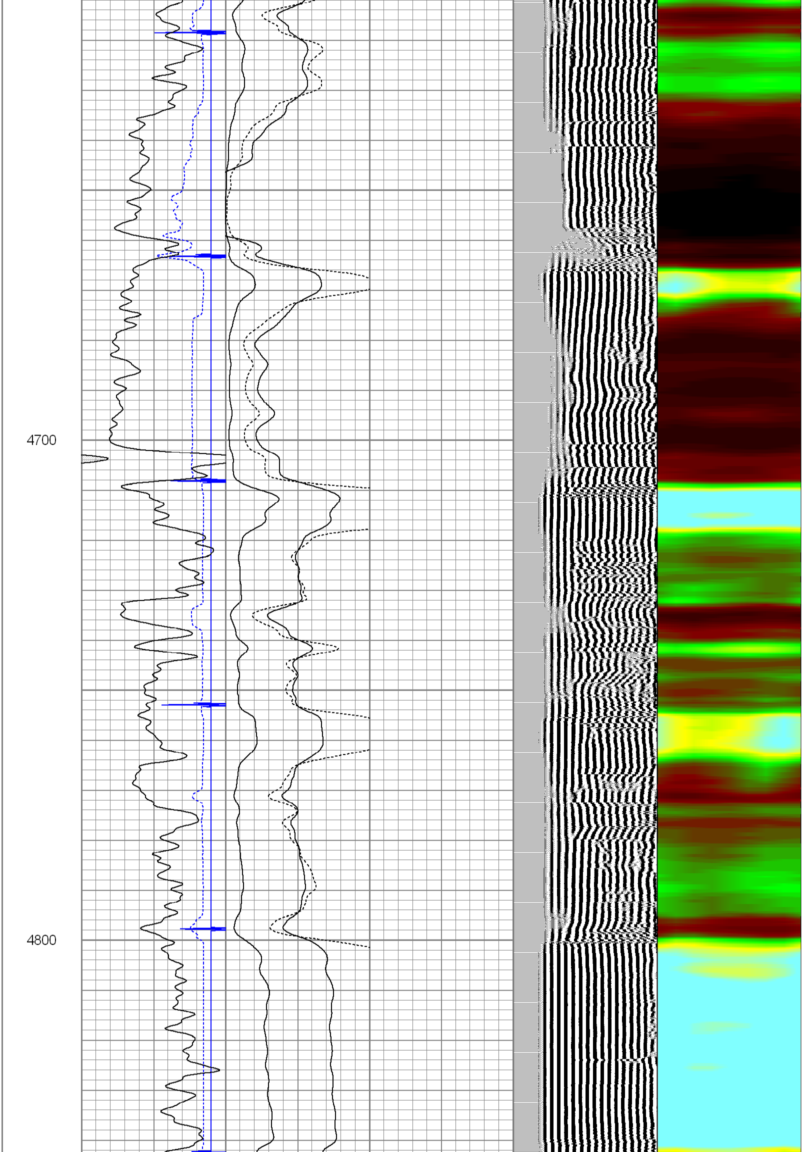


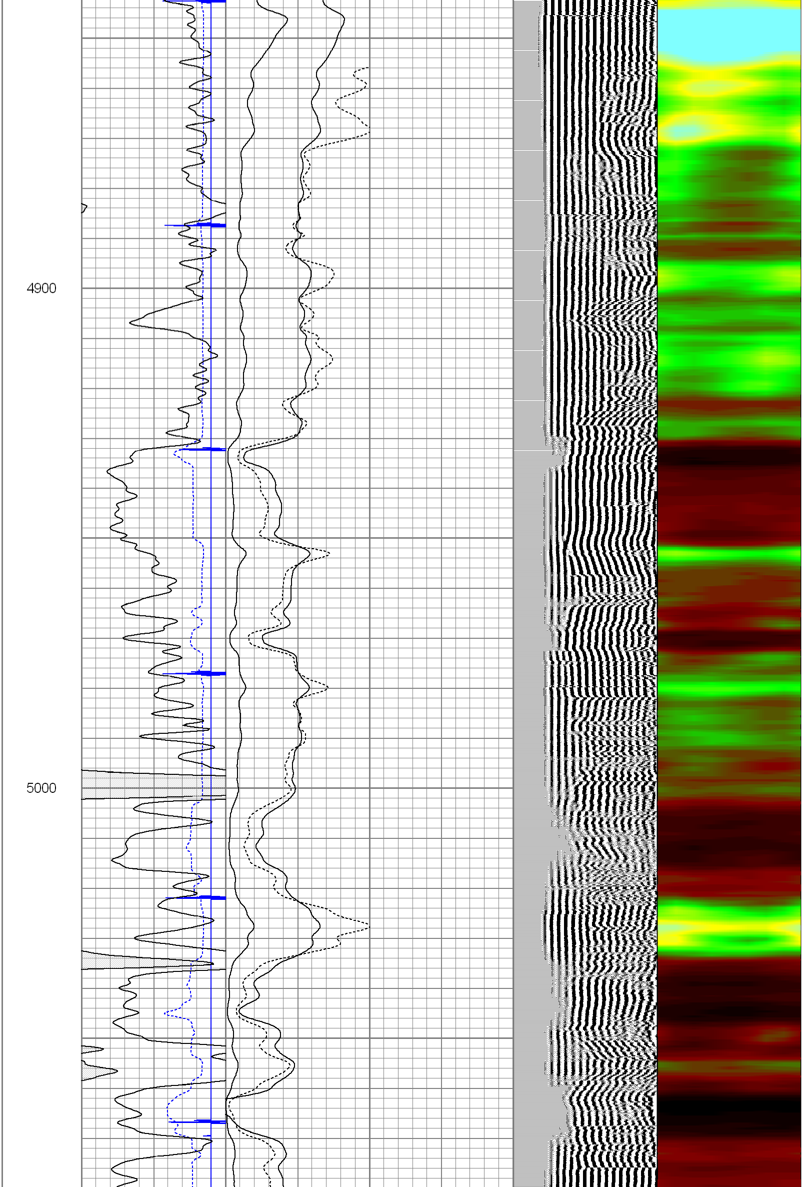


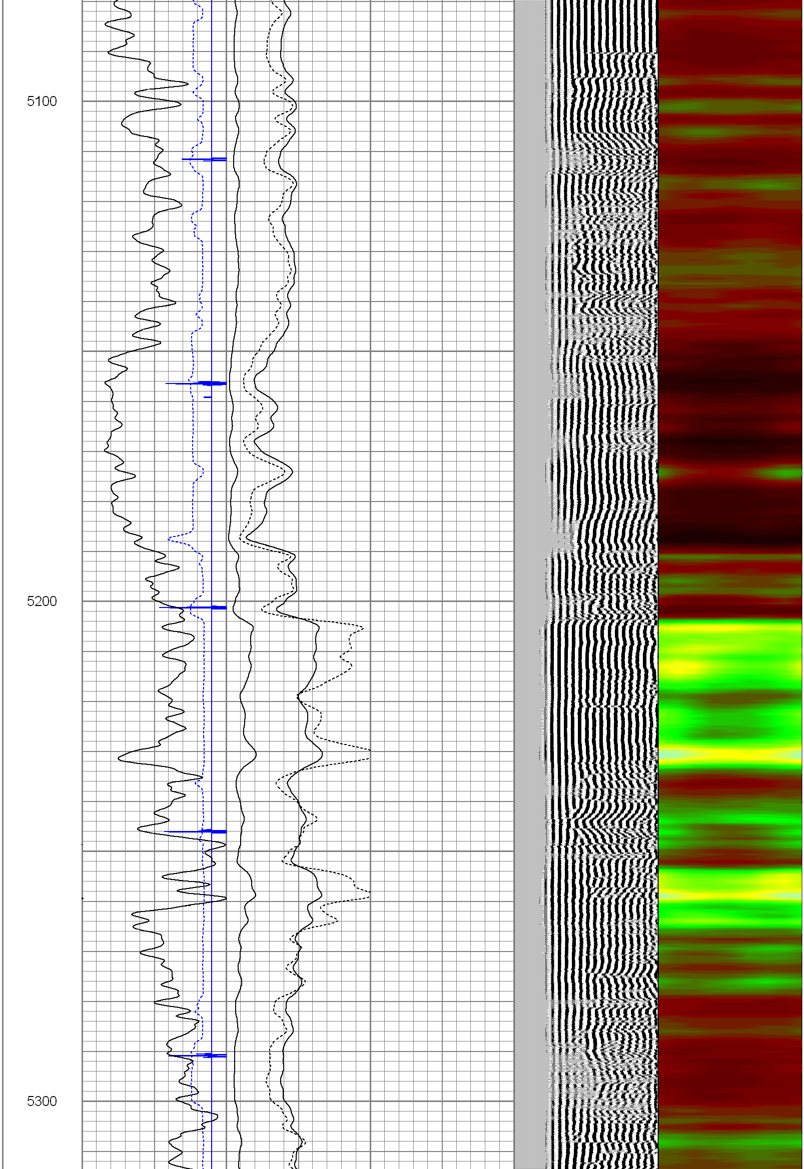


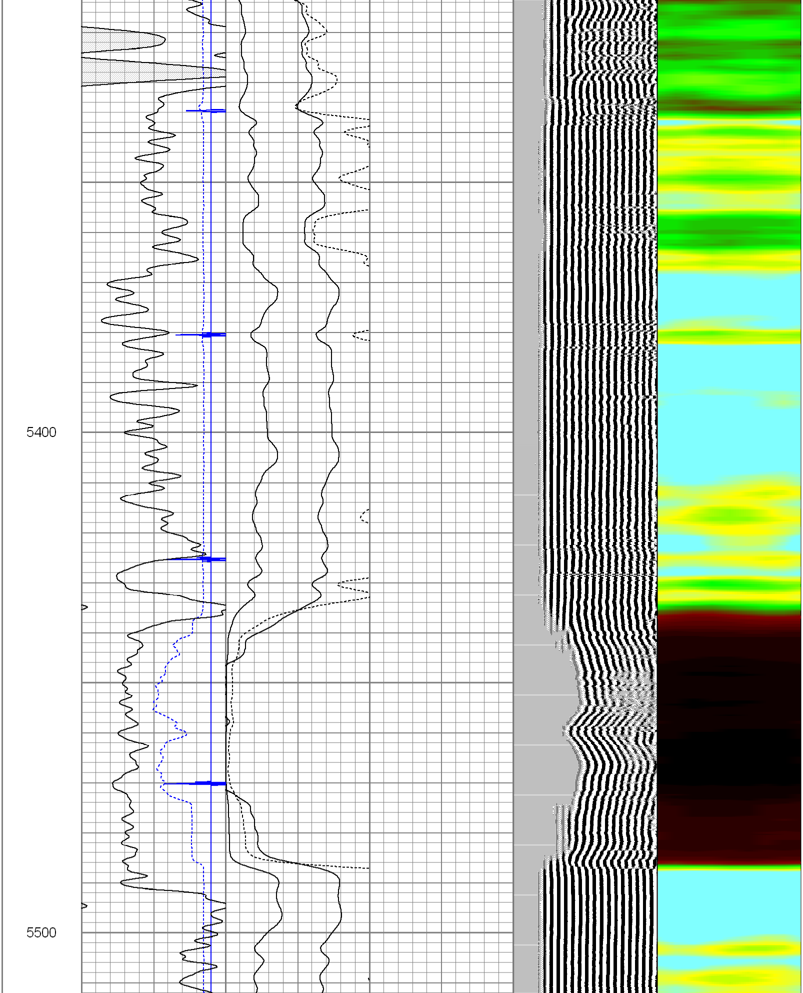


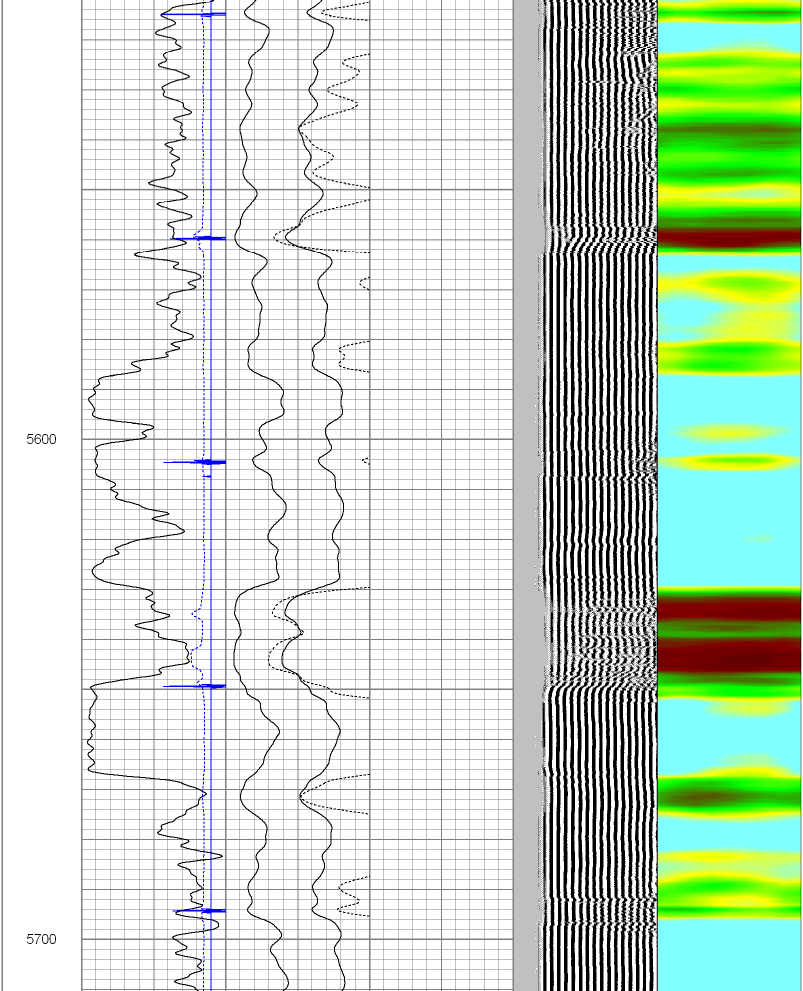


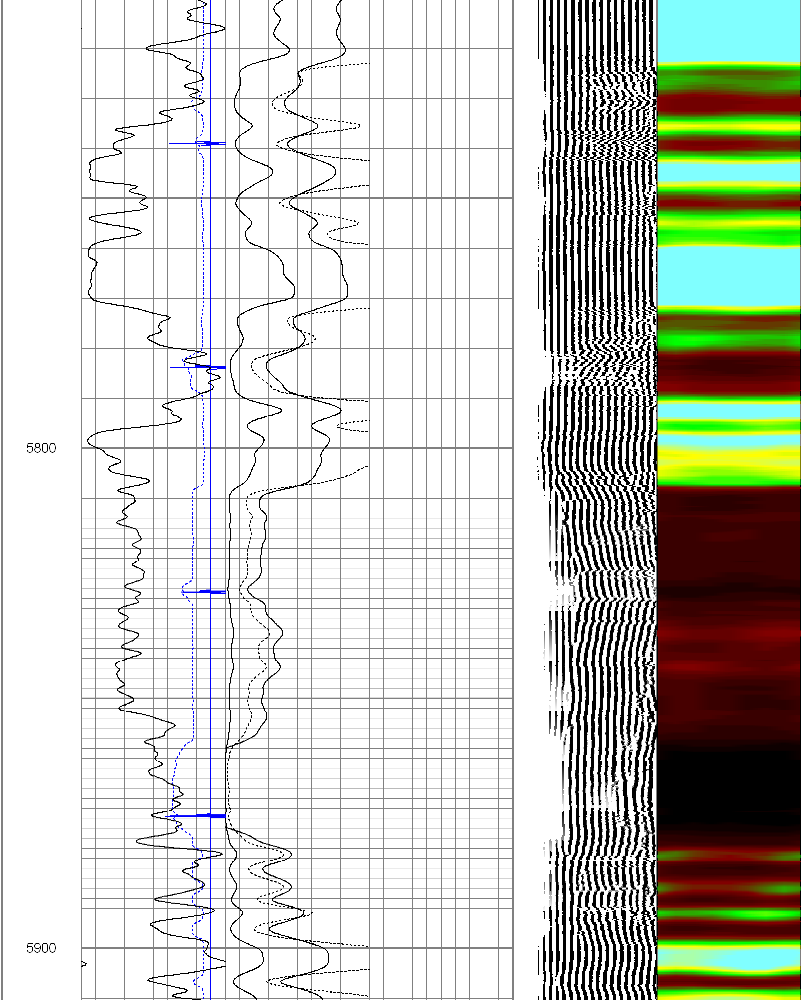


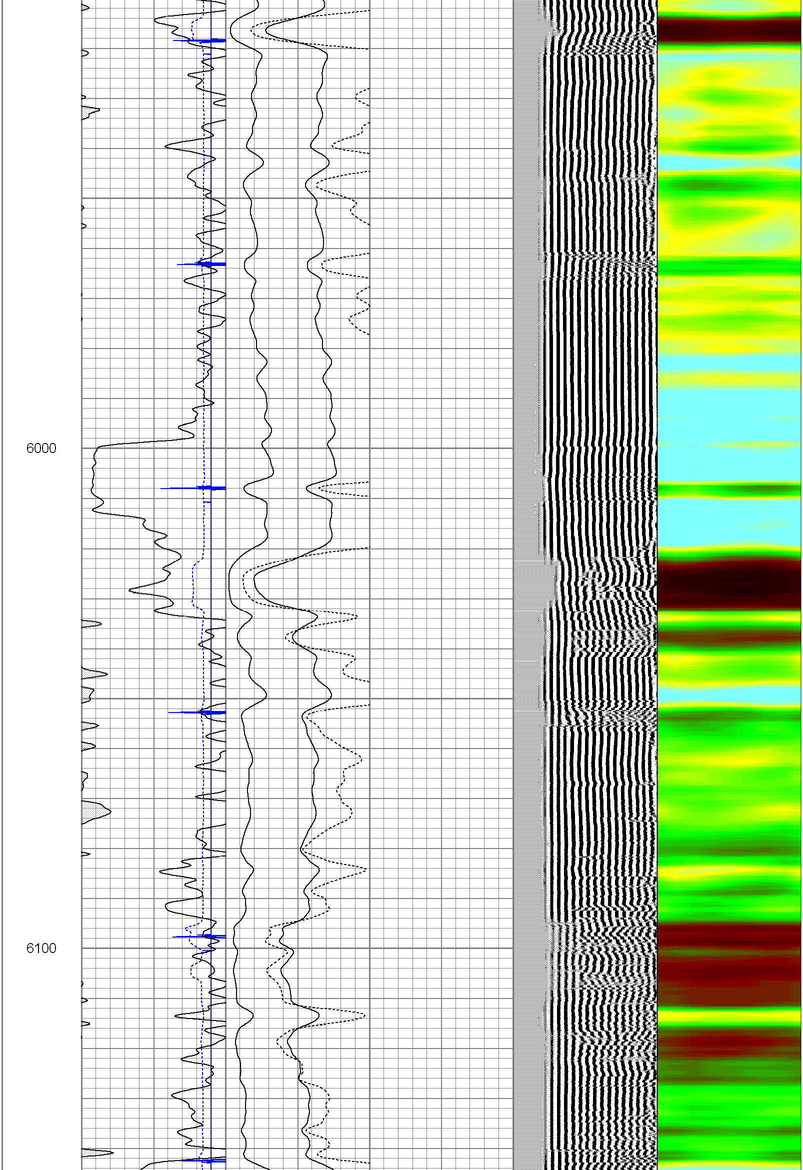


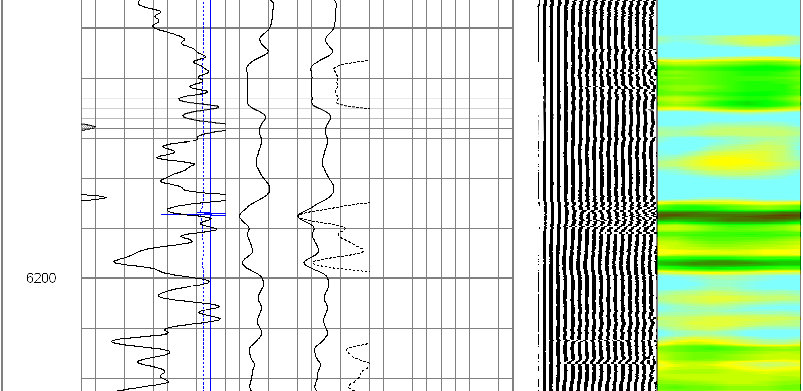


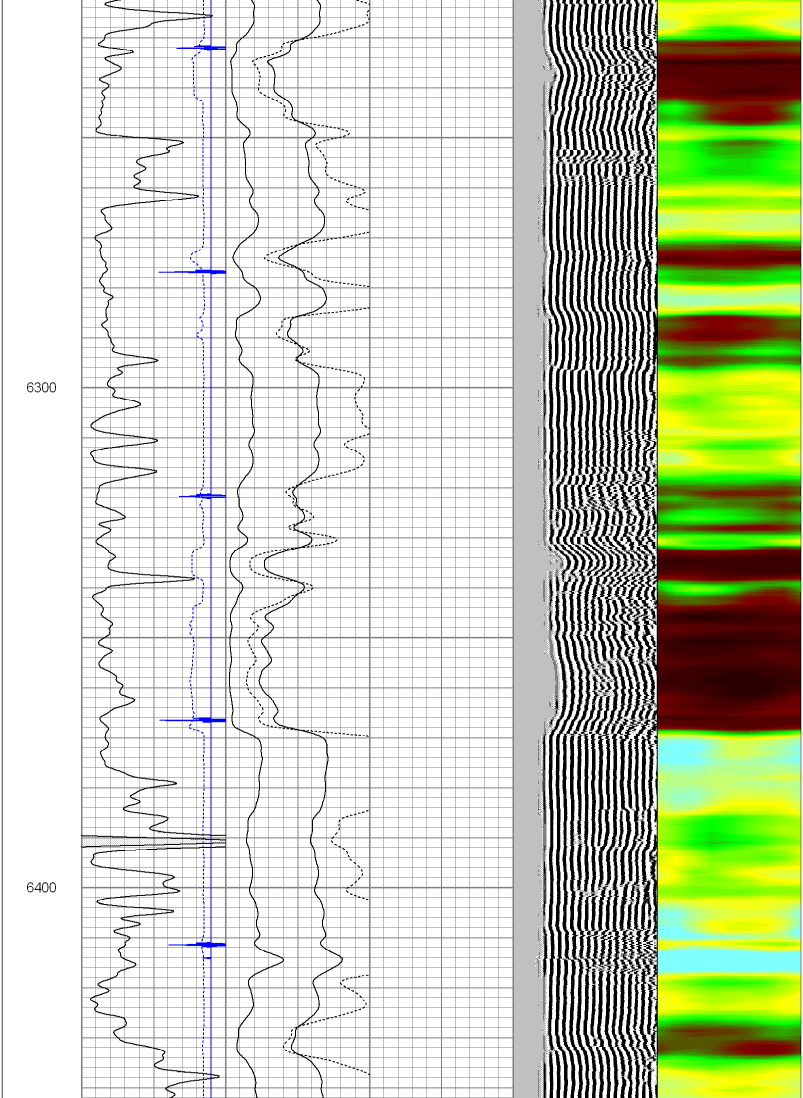


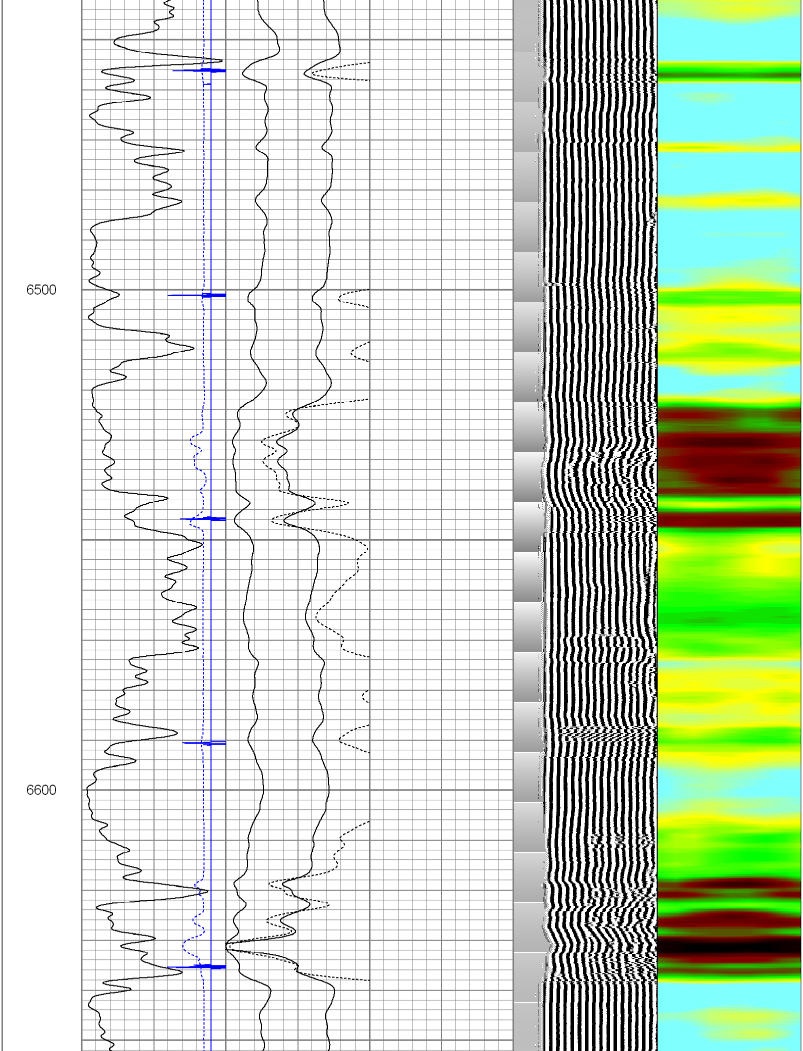


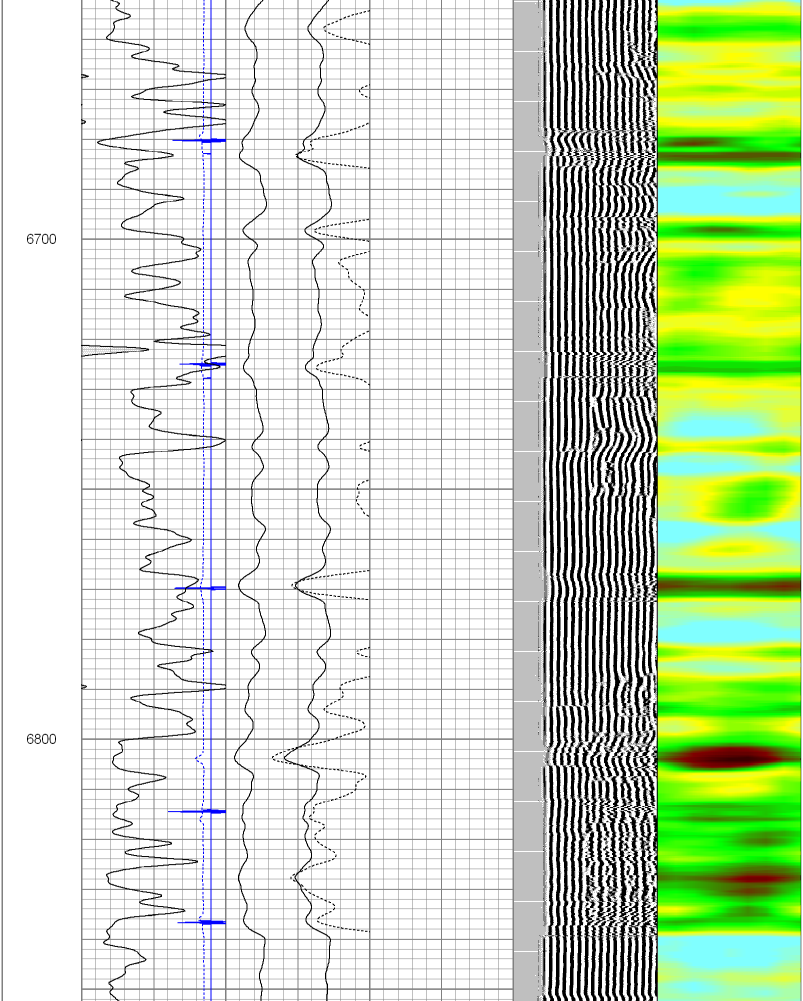


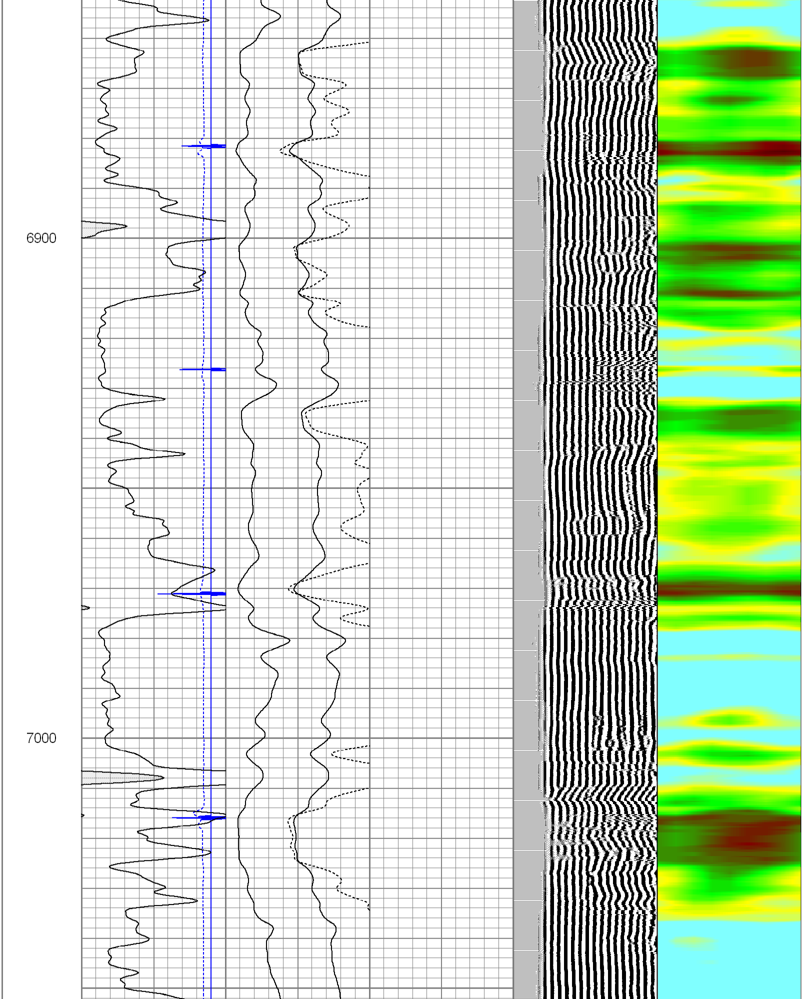


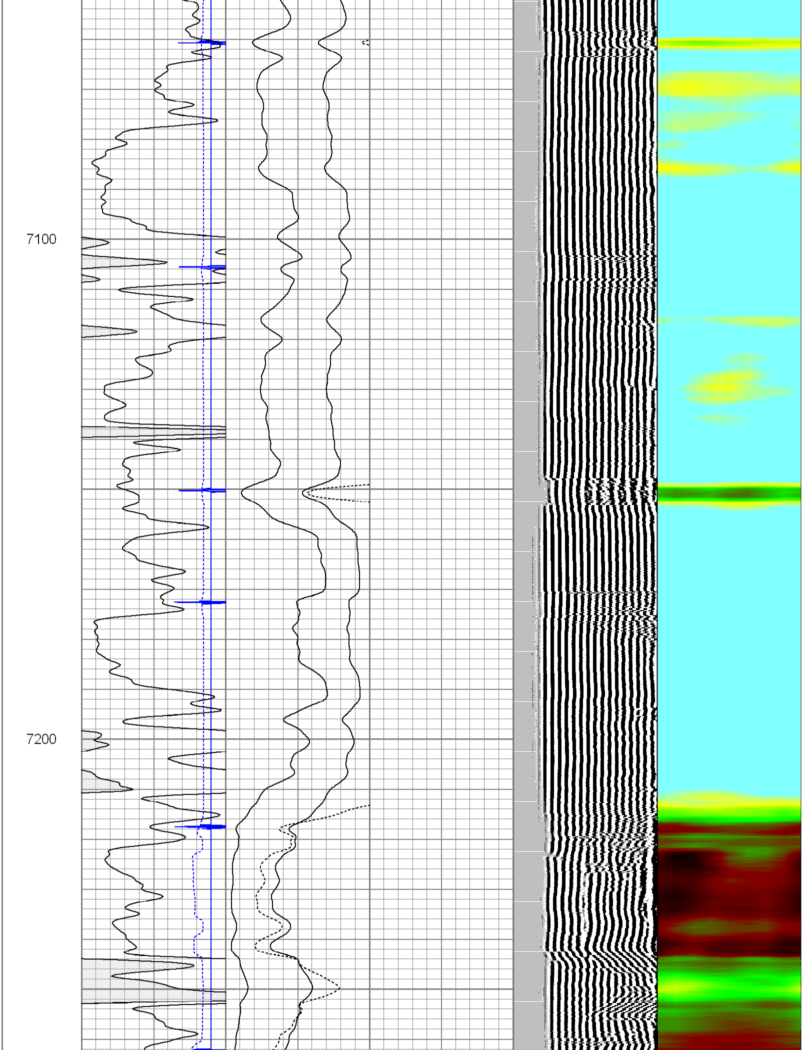


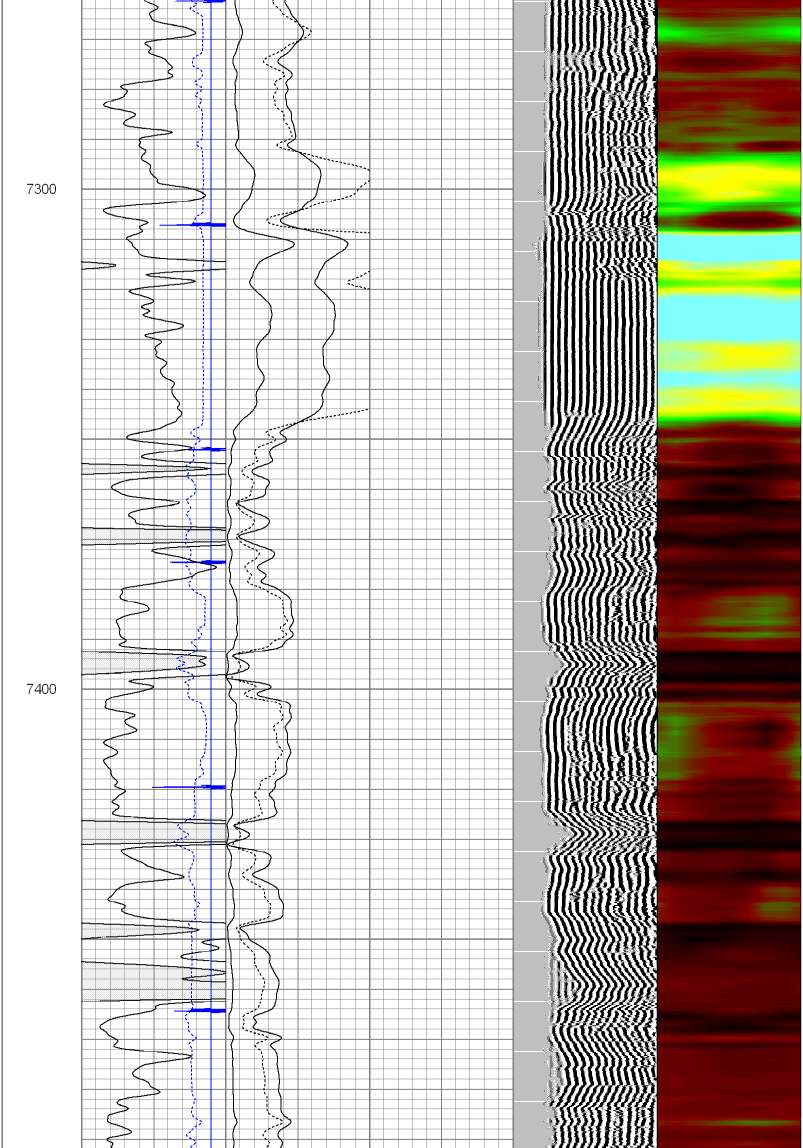


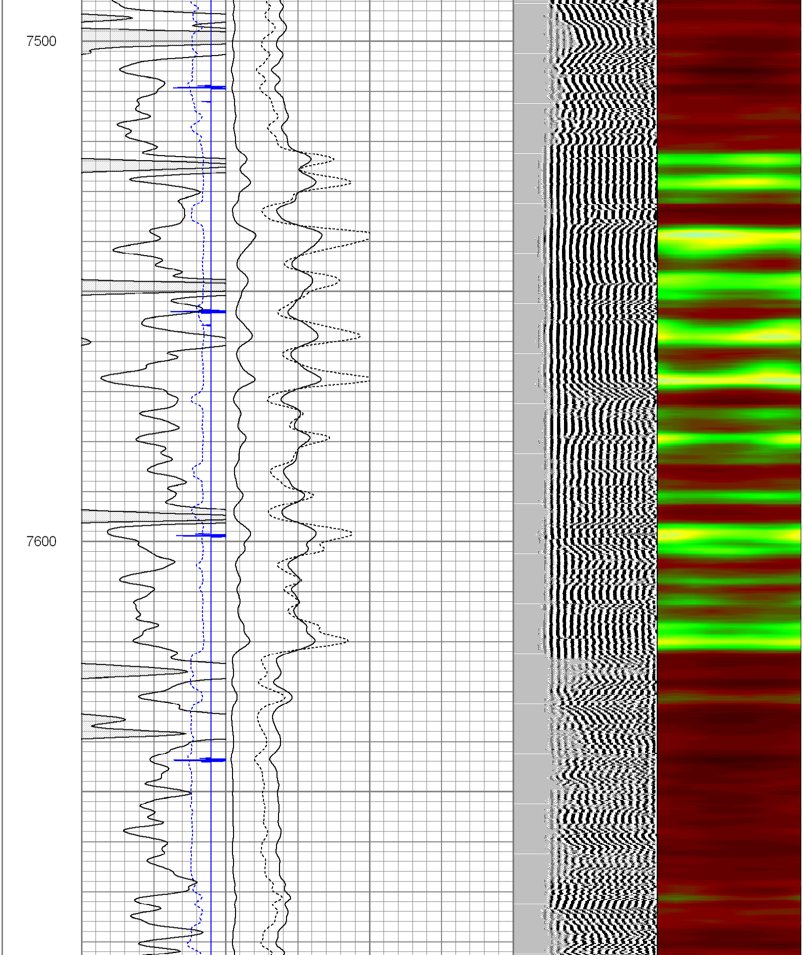


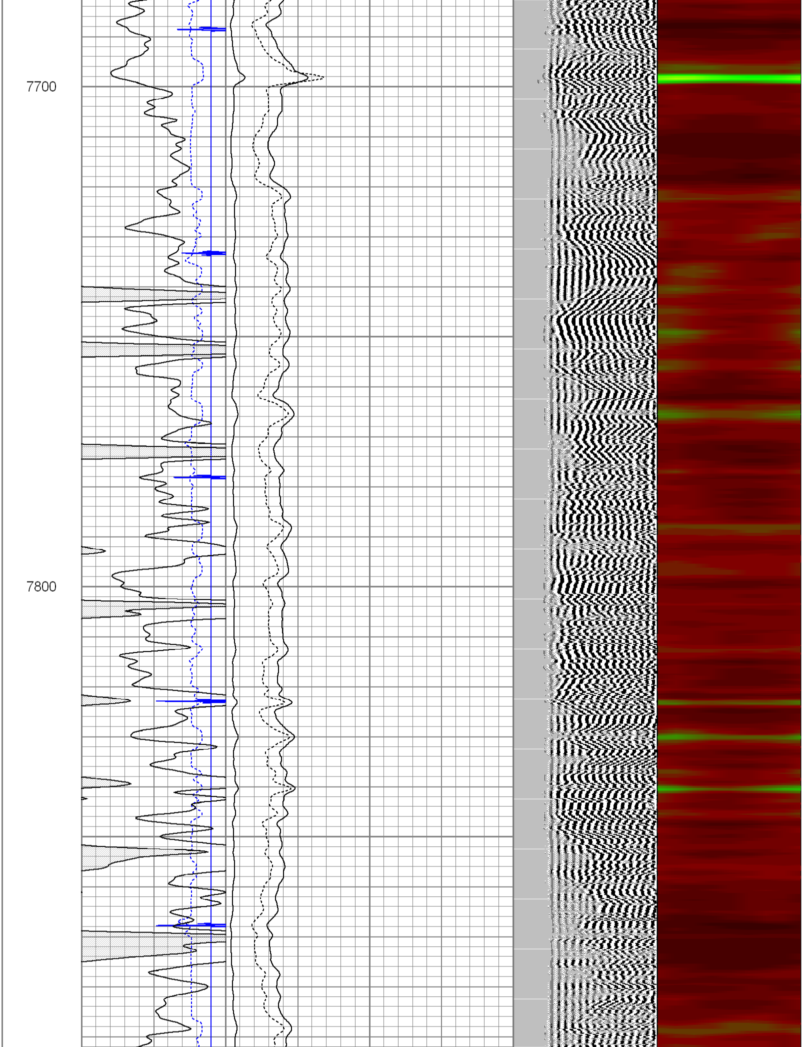


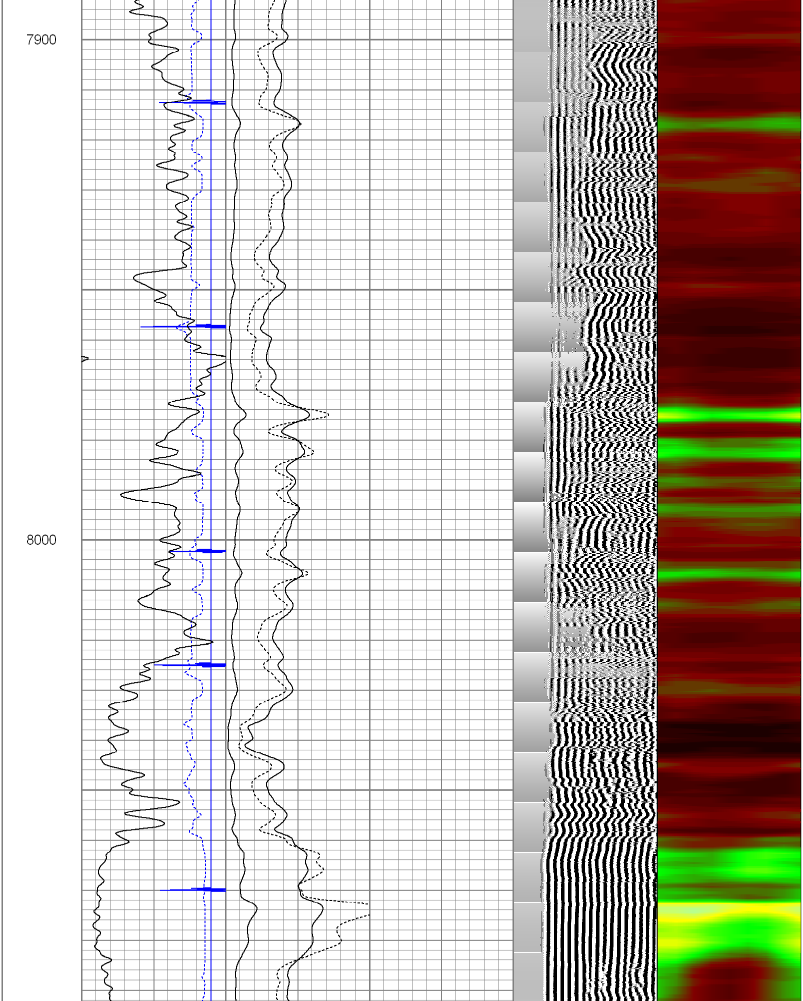


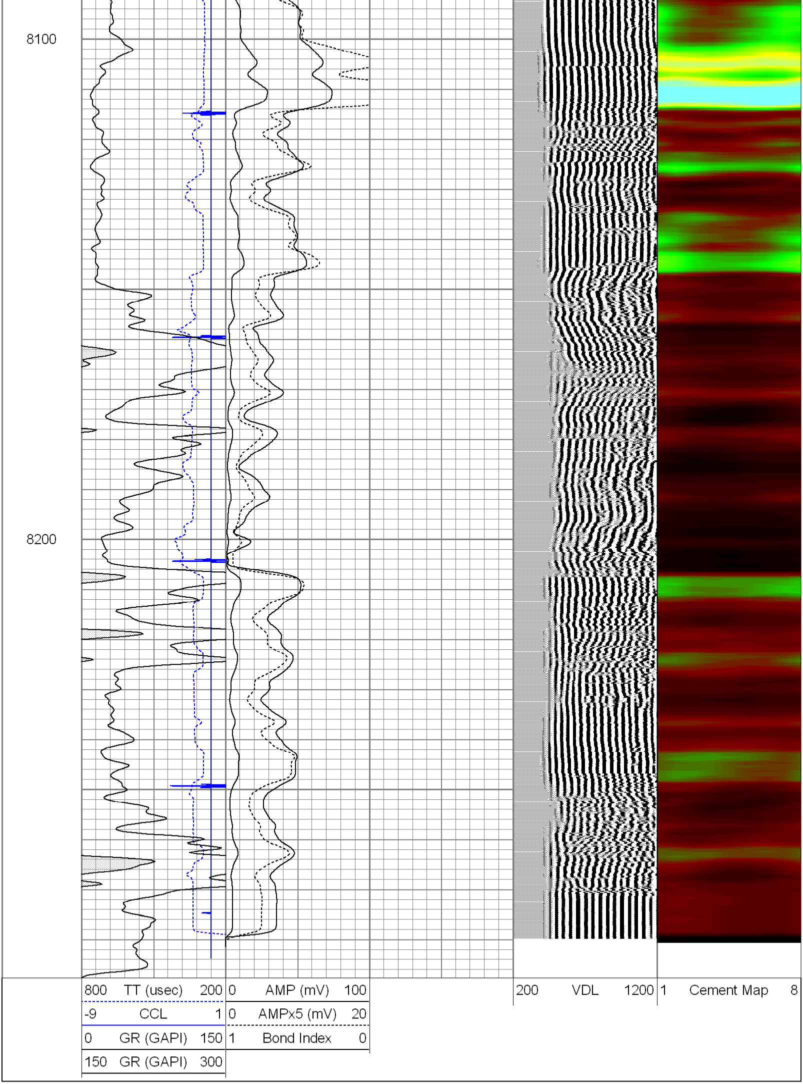




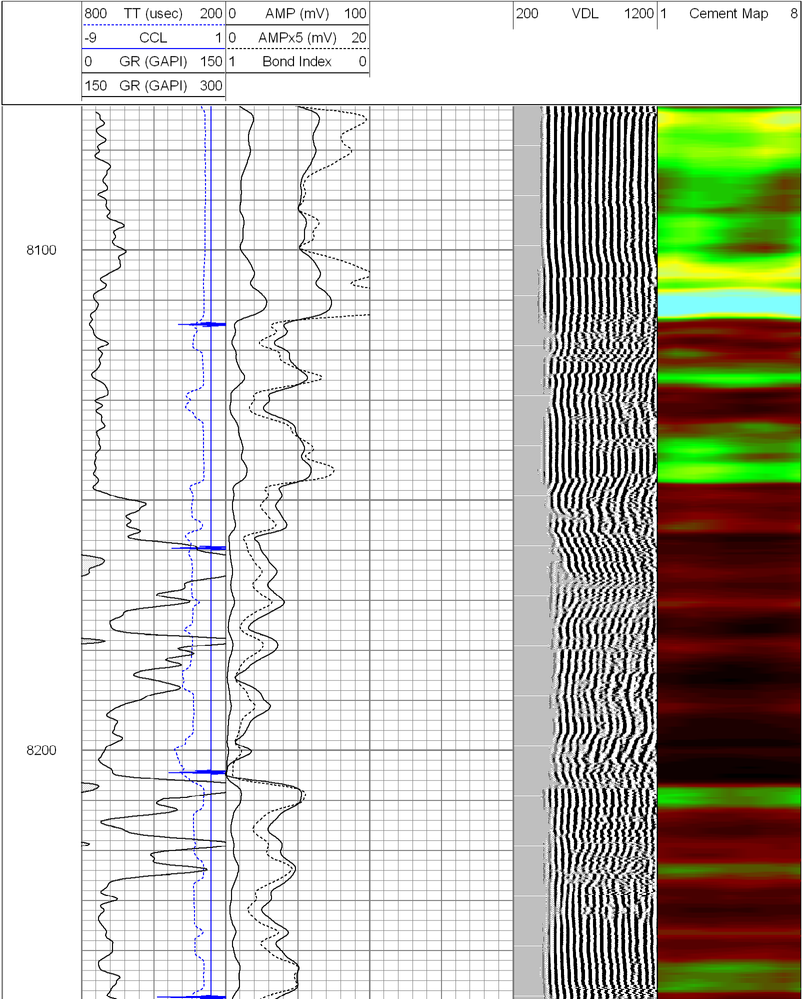


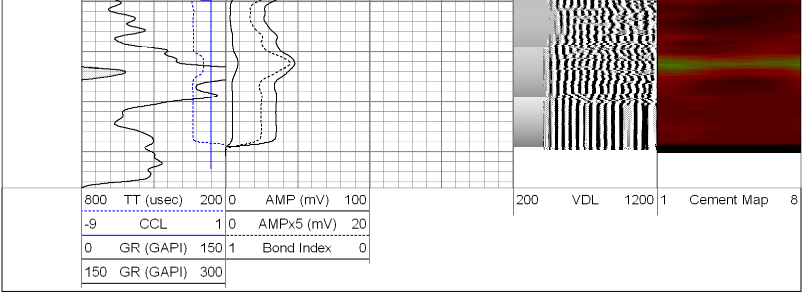






Database File:	bigsky.db
Dataset Pathname:	12-11/run1/pass1
Presentation Format:	scbl02
Dataset Creation:	Wed Oct 30 16:43:42 2013 by Log Std Casedhole 07081
Charted by:	Depth in Feet scaled 1:240





Calibration Report

Database File: bigsky.db
Dataset Pathname: 12-11/run1/pass1
Dataset Creation: Wed Oct 30 16:43:42 2013 by Log Std Casedhole 07081

Gamma Ray Calibration Report

Serial Number:	061120GR	
Tool Model:	PROBE	
Performed:	Wed Oct 30 16:45:21 2013	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.1000	GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:	4.5040904	
Tool Model:	Probe	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	1176.823	ft

Master Calibration, performed Wed Oct 30 16:26:13 2013:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.004	1.742	0.000	71.921	41.365	-0.152
CAL	2.113	2.108				
5'	0.007	1.787	0.000	71.921	40.413	-0.297
SUM						
S1	0.000	1.795	0.000	100.000	55.719	-0.002
S2	0.003	1.757	0.000	100.000	57.001	-0.161
S3	0.005	1.745	0.000	100.000	57.472	-0.276
S4	0.004	1.765	0.000	100.000	56.796	-0.250
S5	0.005	1.752	0.000	100.000	57.218	-0.258
S6	0.006	1.722	0.000	100.000	58.267	-0.324
S7	0.004	1.732	0.000	100.000	57.856	-0.228
S8	0.004	1.775	0.000	100.000	56.468	-0.252

Internal Reference Calibration, performed Wed Nov 30 12:15:10 2011:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	2.113	2.108	1.000	0.000

Air Zero Calibration, performed Wed Oct 30 16:17:53 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