J-W WIRELINE COMPANY

CEMENT BOND
GAMMA RAY VDL
COLLAR CORRELATION LOG

Company BLACK RAVEN ENERGY INC.
Well HOUGH R M B-1
Field ADENA
County MORGAN
State COLORADO

Company	BLACK RAVEN ENERGY INC.
Well	HOUGH R M B-1
Field	ADENA
County	MORGAN	State	COLORADO

Location: API # : 05-087-05395-0000

990' FNL & 990' FWL
NW NW

SEC 7 TWP 1N RGE 57W

Other Services
PERF

Permanent Datum	KB	Elevation	4504
Log Measured From	GL		
Drilling Measured From	GL		

Elevation
K.B. 4513
D.F. 4512
G.L. 4504

Date	MAY 19, 2014		
Run Number	ONE		
Depth Driller	5685		
Depth Logger	5650'		
Bottom Logged Interval	5649'		
Top Log Interval	3350'		
Open Hole Size	7 7/8		
Type Fluid	WATER		
Density / Viscosity	---		
Max. Recorded Temp.	162 F		
Estimated Cement Top	4206'		
Time Well Ready	---		
Time Logger on Bottom	---		
Equipment Number	2400		
Location	STERLING, CO.		
Recorded By	PHIL LOPEZ		
Witnessed By	BILLY HATAWAY		

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

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	5.50			
Liner				

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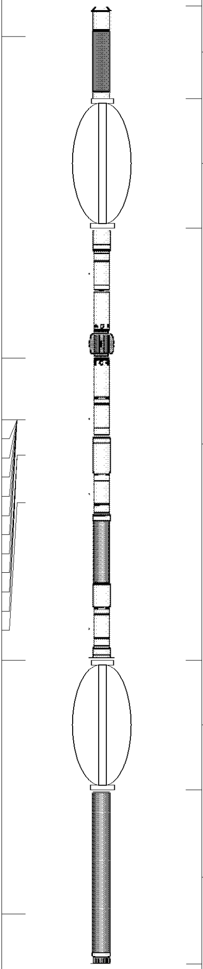
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

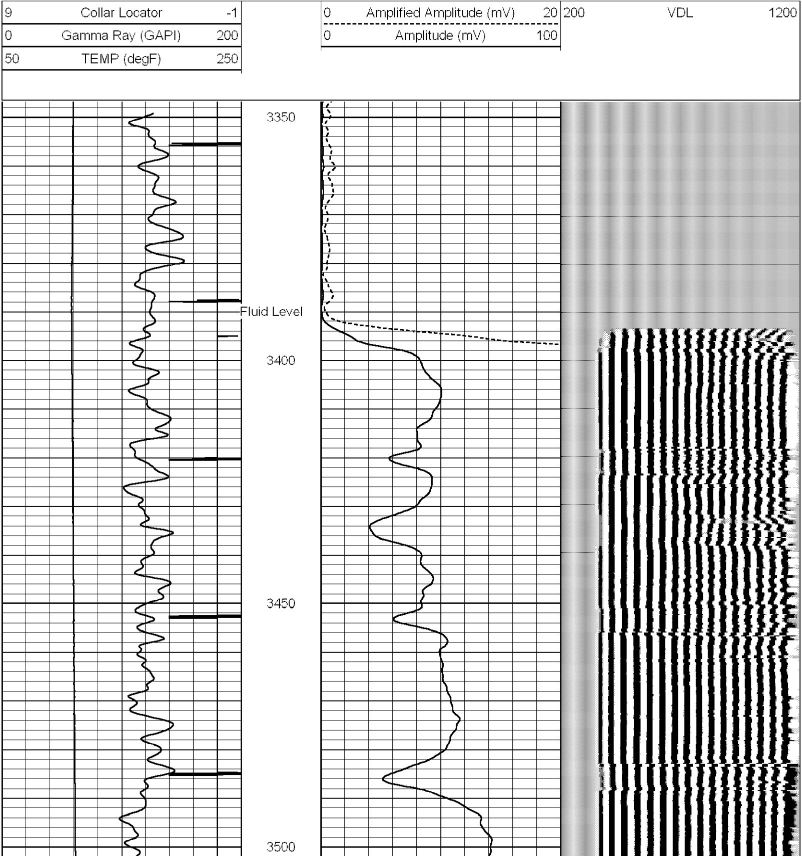
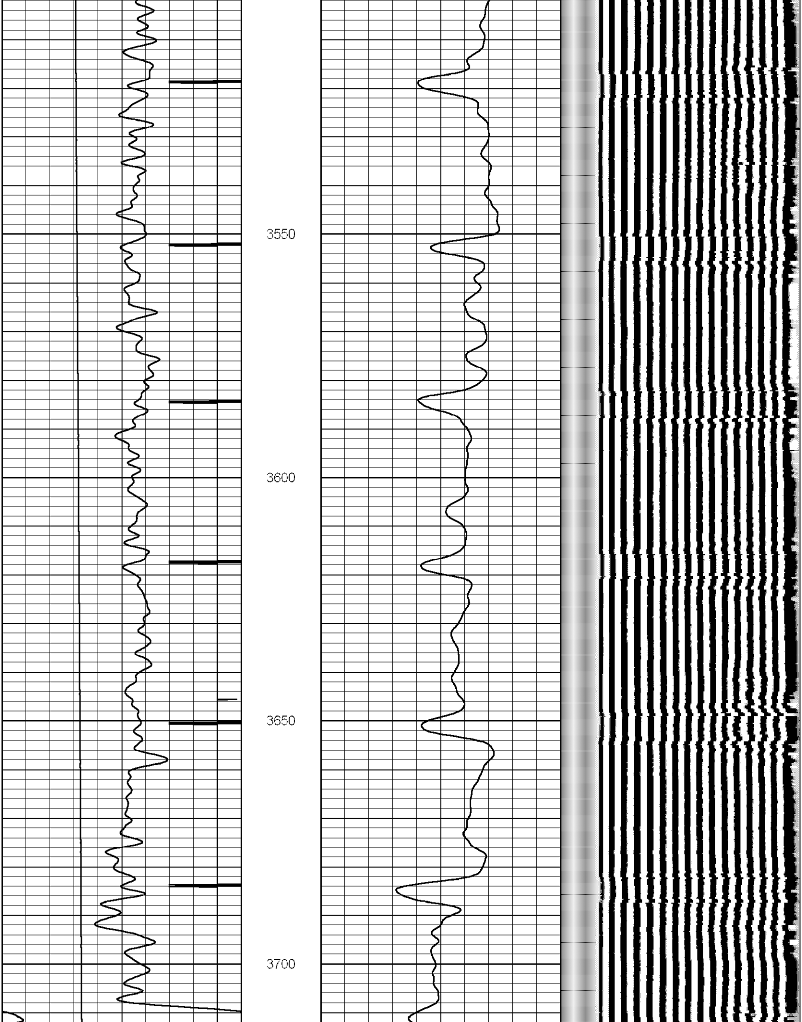
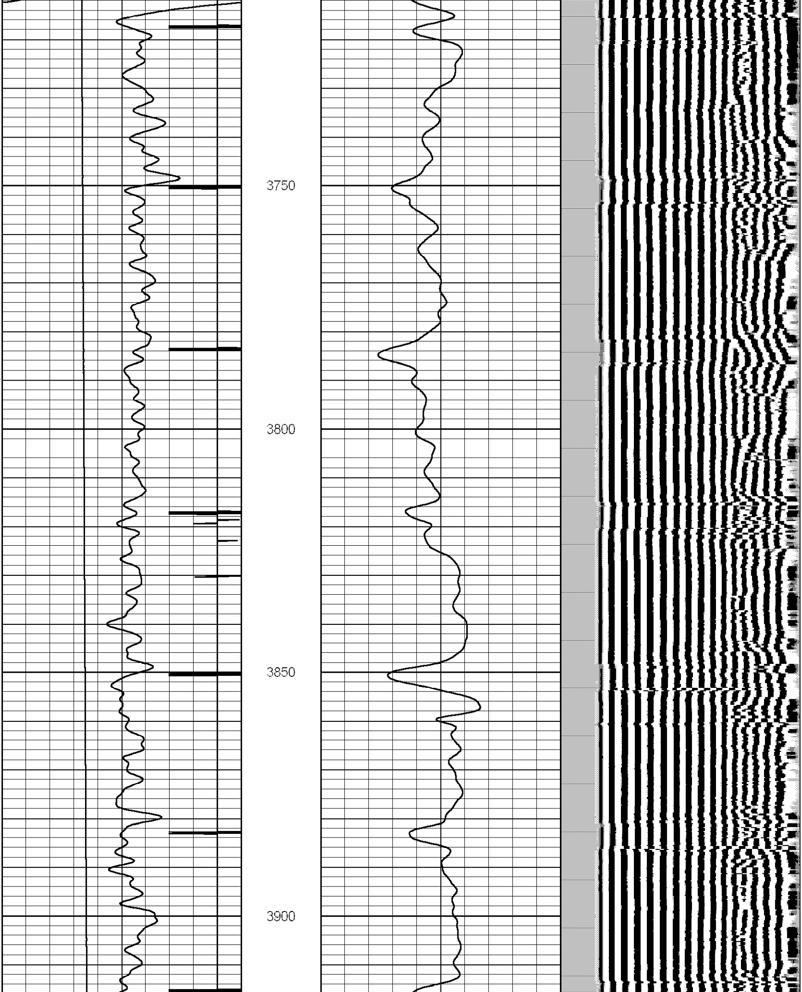
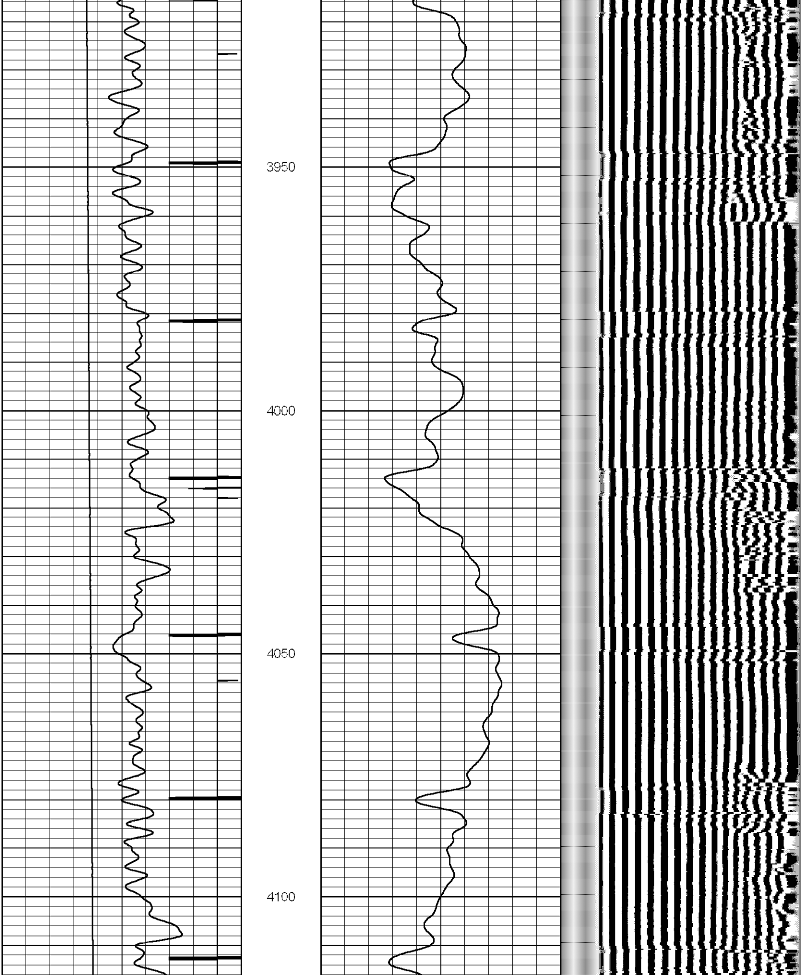
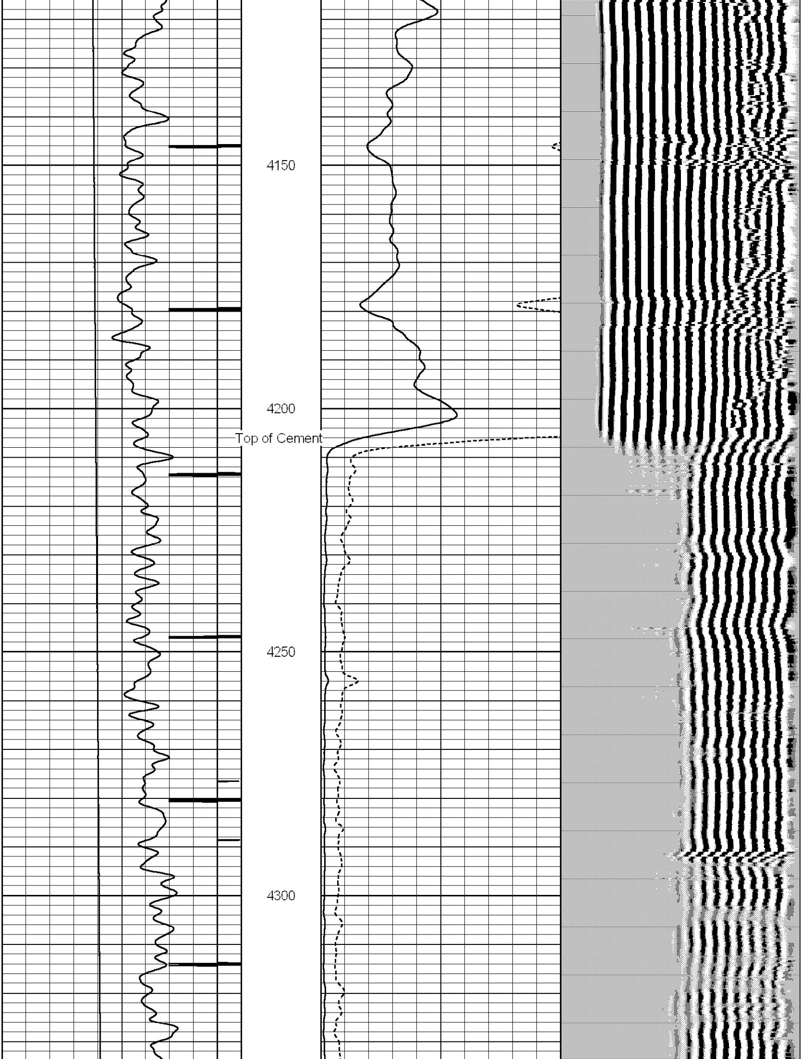
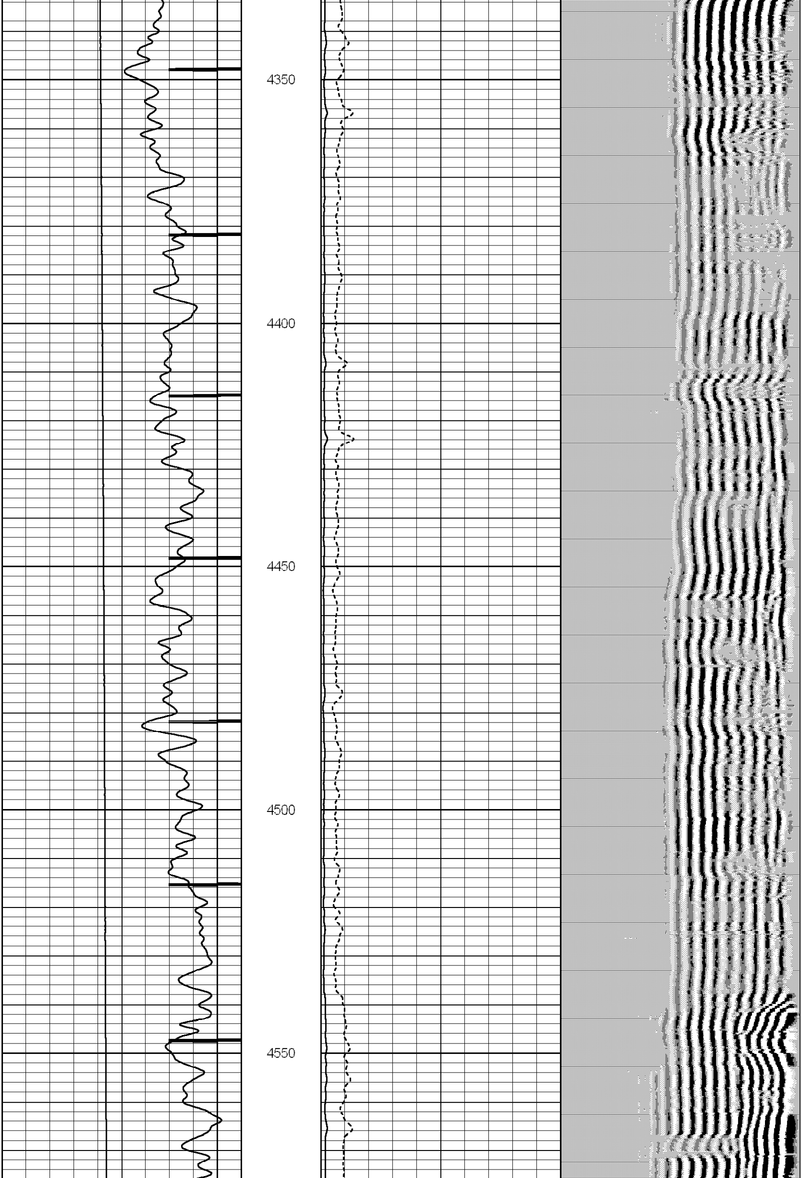
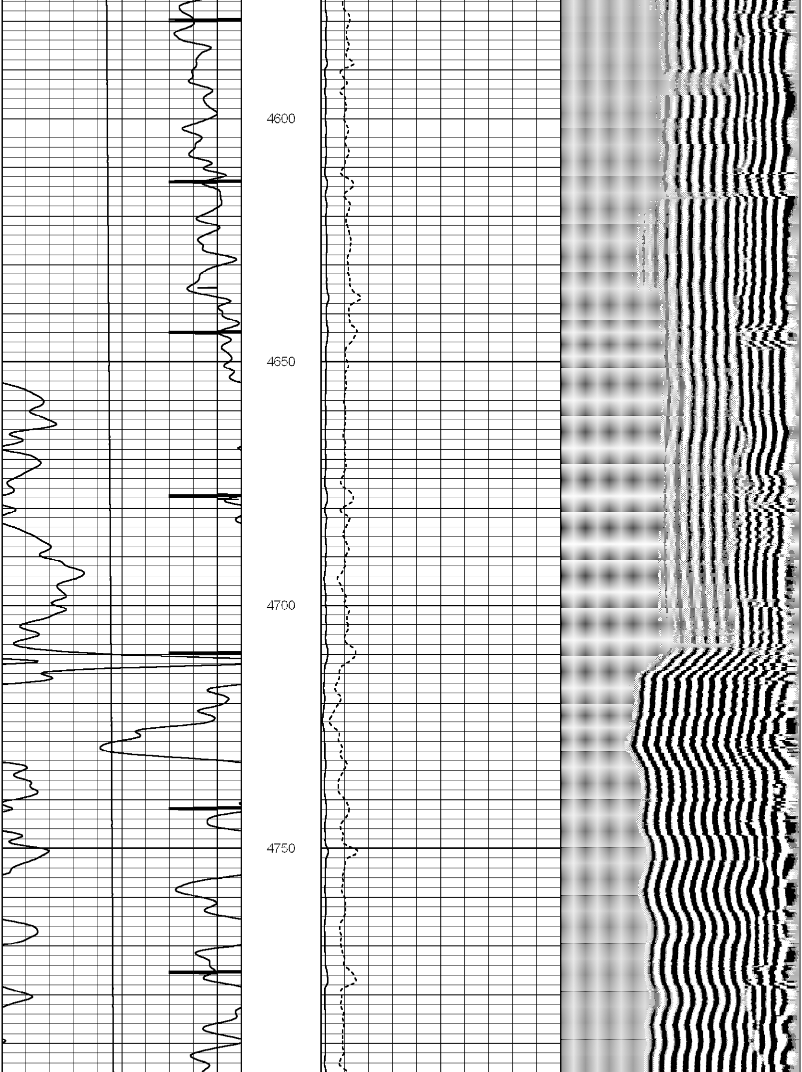
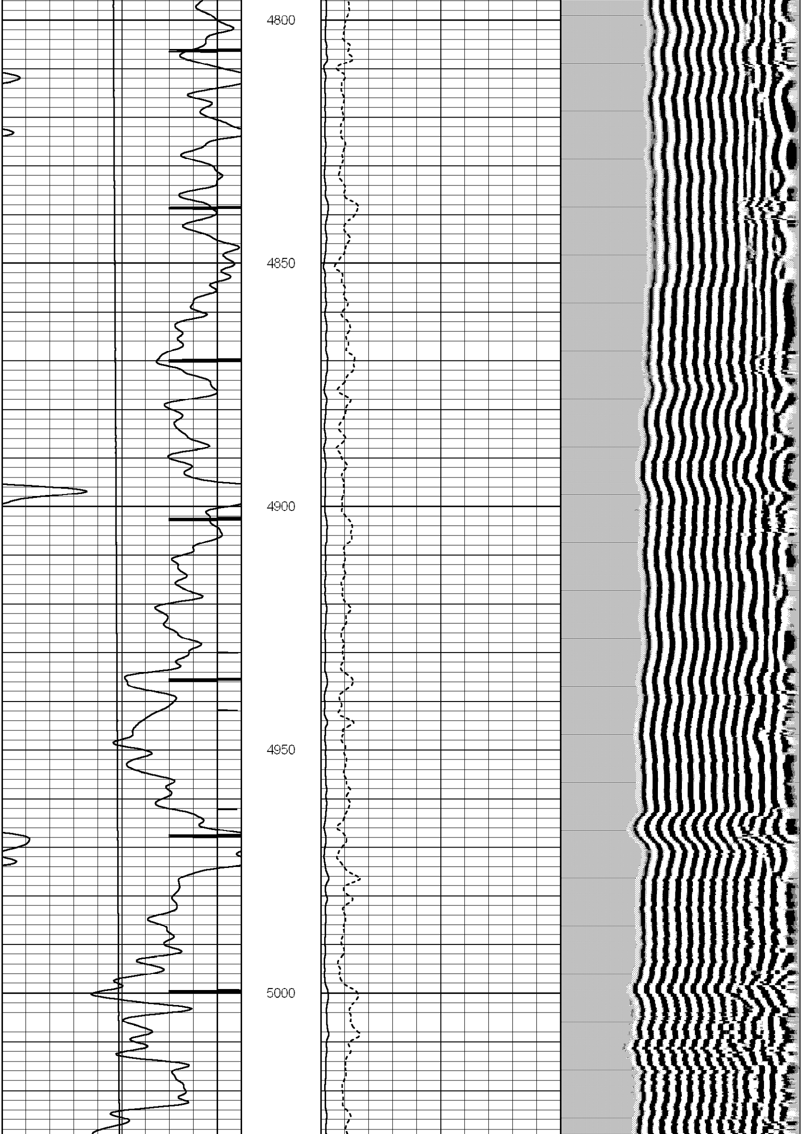
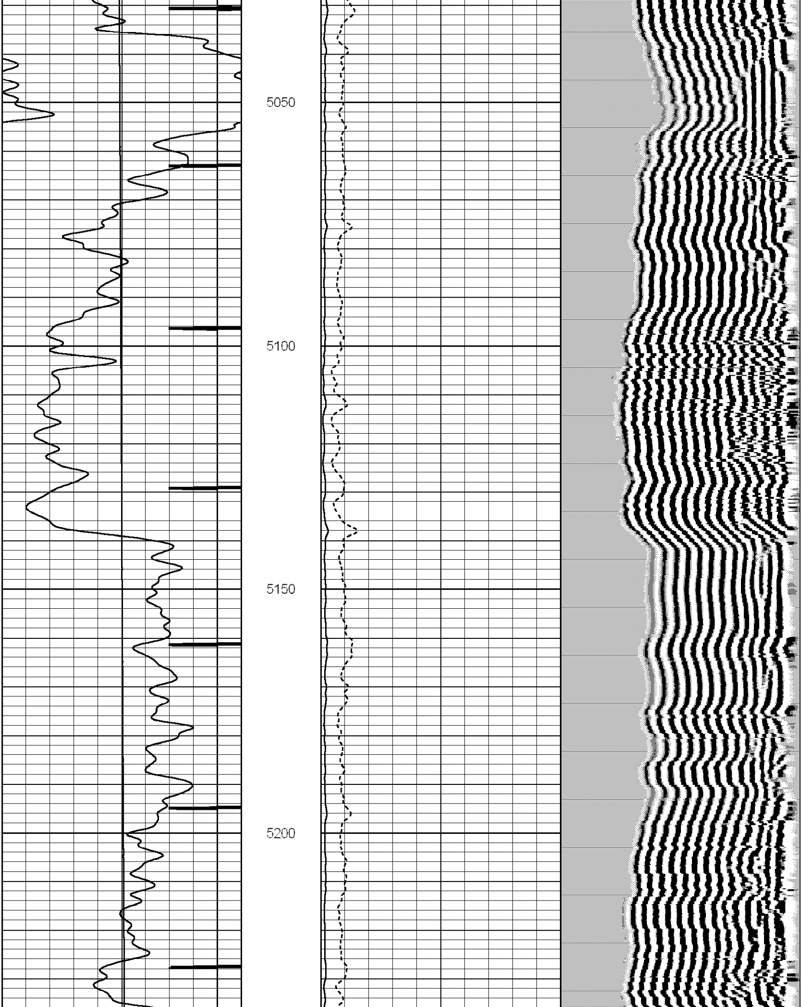
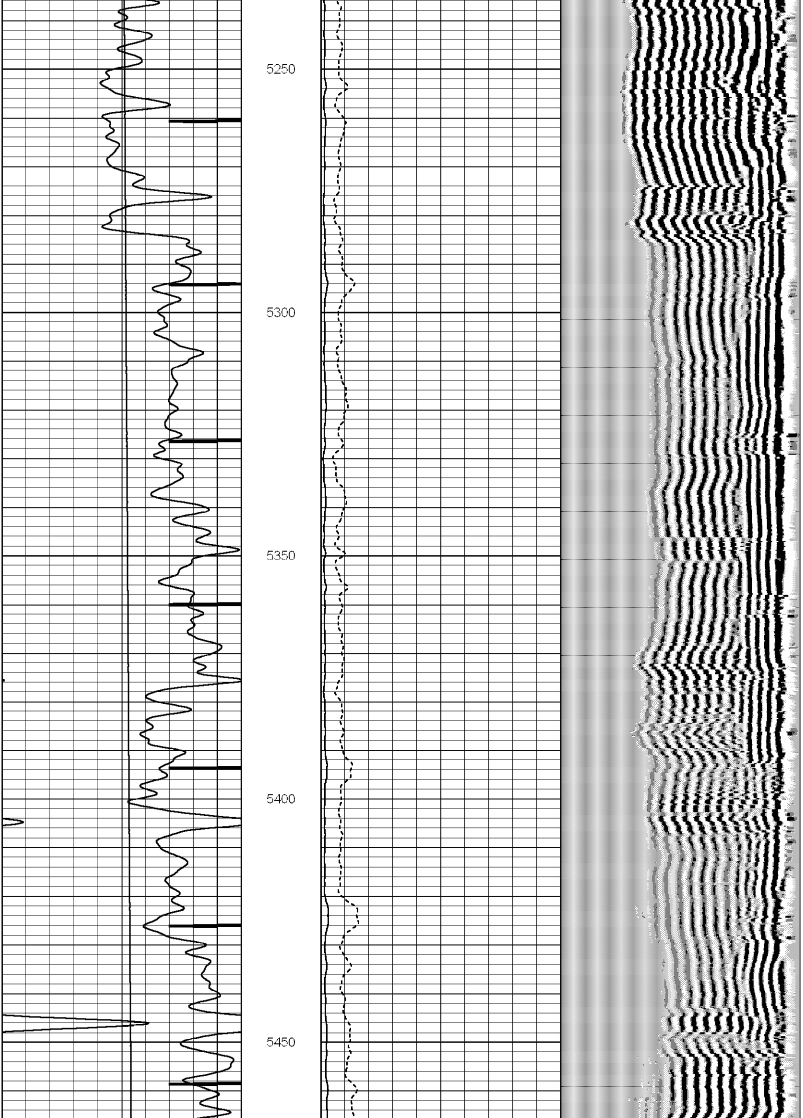
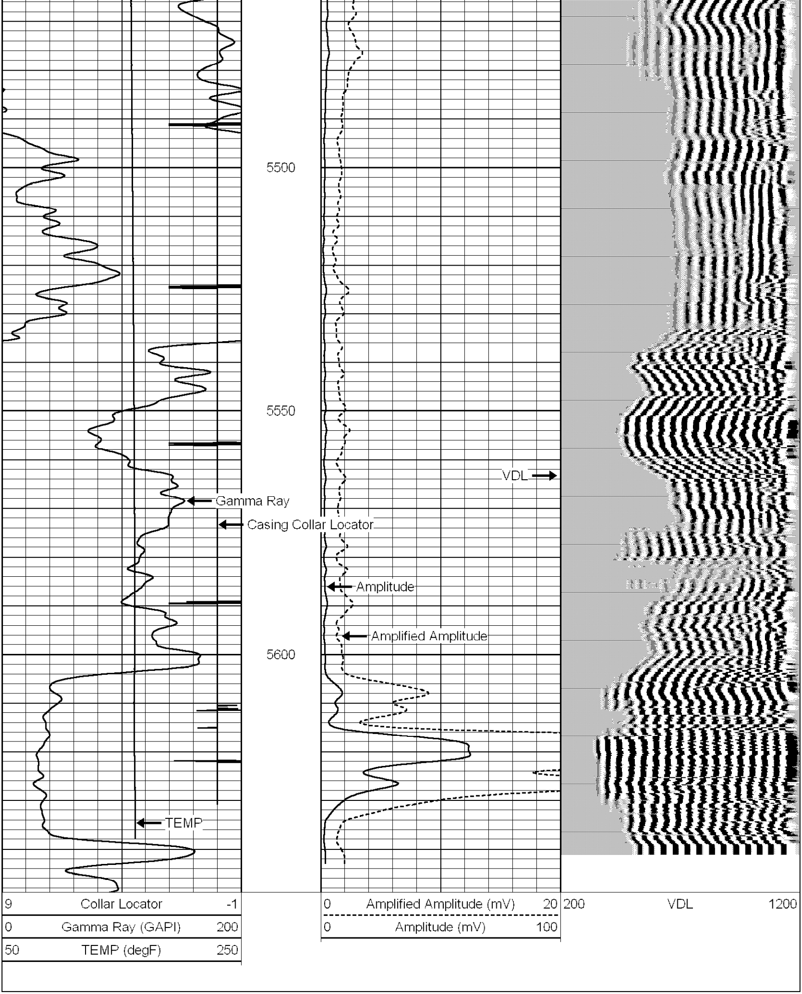
Sensor	Offset (ft)
CCL	19.57
TEMP	12.78
WVFS1	11.49
WVFS2	11.49
WVFS3	11.49
WVFS4	11.49
WVFS5	11.49
WVFS6	11.49
WVFS7	11.49
WVFS8	11.49
WVF3FT	10.74
WVFCAL	10.74
WVFSYNC	10.74
WVF5FT	9.74
WVFTEMP	6.41
GR	1.06

Schematic



Description	Len (ft)	OD (in)	Wt (lb)
CCL-275tekco (2.75TEKCO) 2 3/4 TEK CCL Earth Mag	1.96	2.75	20.00
CENT-TEKCO (101)	2.73	2.75	10.00
275CTEKSECWTWSLCANS-275RIB (123 2 3/4" (R.I.B.) TOOL 3FT, 5FT and 8EA RIB SIGNALS 400 DEG "F" @20K PSI With Sliding Cans For Pressure Ballance	9.13	2.75	102.00
CENT-TEKCO (101)	2.73	2.75	10.00
GR-TEKCO (101sgr)	3.68	2.75	30.00

Dataset:	hough r m b-1.db: field/well/run1/pass3
Total Length:	20.22 ft
Total Weight:	172.00 lb
O.D.	2.75 in

Database File:	hough r m b-1.db
Dataset Pathname:	pass3
Presentation Format:	scbl_sr
Dataset Creation:	Mon May 19 07:44:08 2014 by Log SCH 111116
Charted by:	Depth in Feet scaled 1:240