RMWS
ROCKY MOUNTAIN WIRELINE SERVICE

SECTOR BOND LOG
GAMMA RAY / CCL

Company	BLACK HILL PLATEAU PRODUCTION
Well	WINTER FLATS FEDERAL 11-43 100
Field	BRONCO
County	MESA
State	COLORADO
API # :	05-077-0938400

Location: SHL: 1296' FSL & 1074' FEL
BHL: 1296' FSL & 1074' FEL
SEC 11 TWP 9S RGE 100W

Other Services

Permanent Datum	G.L.	Elevation 6618'	Elevation K.B. 6635'
Log Measured From	K.B.	Ft Above PD 17'	D.F. 6634'
Drilling Measured From	K.B.		G.L. 6618'

Date	10-02-2008	
Run Number	ONE	
Depth Driller	6974'	
Present Depth Driller	6941'	
Depth Logger	6924'	
Bottom Logged Interval	6923'	
Top Log Interval	SURFACE	
Fluid Level	FULL	
Type Fluid	WATER	
Max. Recorded Temp.	N/A	
Estimated Cement Top	2630'	
Equipment Number	218	
Location	GRAND JCT.	
Recorded By	H. SPENCER	K. HARRIS
Witnessed By	MR. MIKE DECKER	

Run Number	Borehole Record Bit	From	To	Casing Record Size	Weight	From	To
ONE	9.625"	SURFACE	6974'	5 1/2"	17.0#	SURFACE	6974'
TWO				9.625"	36.0#	SURFACE	1160'
THREE							

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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.

WARRIOR 7.0 SOFTWARE - Comments

NOTE: LOG CORRELATED TO HLS OPEN HOLE LOG DATED22-SEPT-2008
TICKET #23074

Calibration Report

Database File: C:\Users\User\Desktop\b_h_winter_flats_11-43-100.db
Dataset Pathname: pass6
Dataset Creation: Thu Oct 02 11:19:41 2008 by Log Std Casedhole 07122

Gamma Ray Calibration Report

Serial Number: TEKCO234_315
Tool Model: TEKCO234
Performed: Thu Apr 24 14:57:35 2008

Calibrator Value: 1.0

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.9000 /cps

Segmented Cement Bond Log Calibration Report

Serial Number: TEKCO234_3025
Tool Model: TEKCO

Calibration Casing Diameter: 5.500 in
Calibration Depth: 698.600 ft

Master Calibration, performed Thu Oct 02 11:11:54 2008:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	0.446	1.000	71.921	159.048	1.992
CAL	0.269	0.270				
5'	0.003	0.664	1.000	71.921	107.302	0.636
SUM						
S1	0.002	0.380	0.000	100.000	264.437	1.600
S2	0.005	0.423	0.000	100.000	239.148	1.206
S3	0.015	0.523	0.000	100.000	196.682	1.948
S4	0.027	0.700	0.000	100.000	148.557	1.002
S5	0.028	0.694	0.000	100.000	150.213	1.250
S6	0.018	0.567	0.000	100.000	182.271	1.264
S7	0.006	0.455	0.000	100.000	222.796	1.422
S8	0.001	0.385	0.000	100.000	260.220	1.270

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.269	0.270	1.000	0.000

Air Zero Calibration, performed Thu Oct 02 09:30:55 2008:

	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

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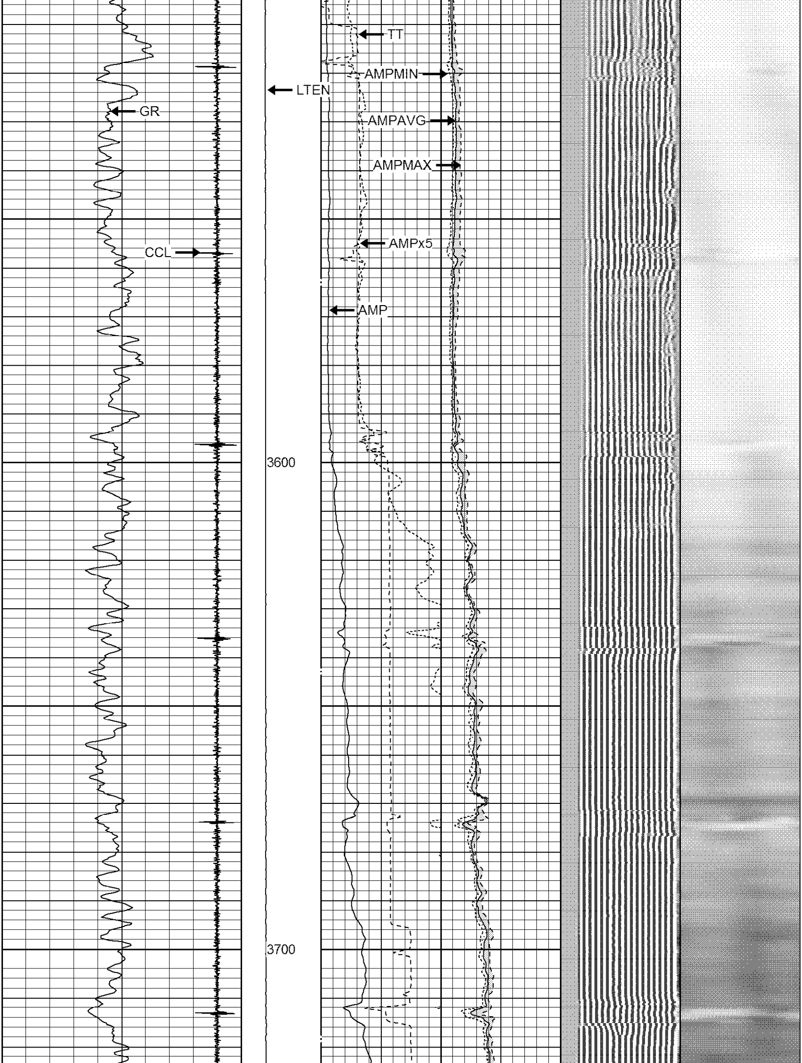
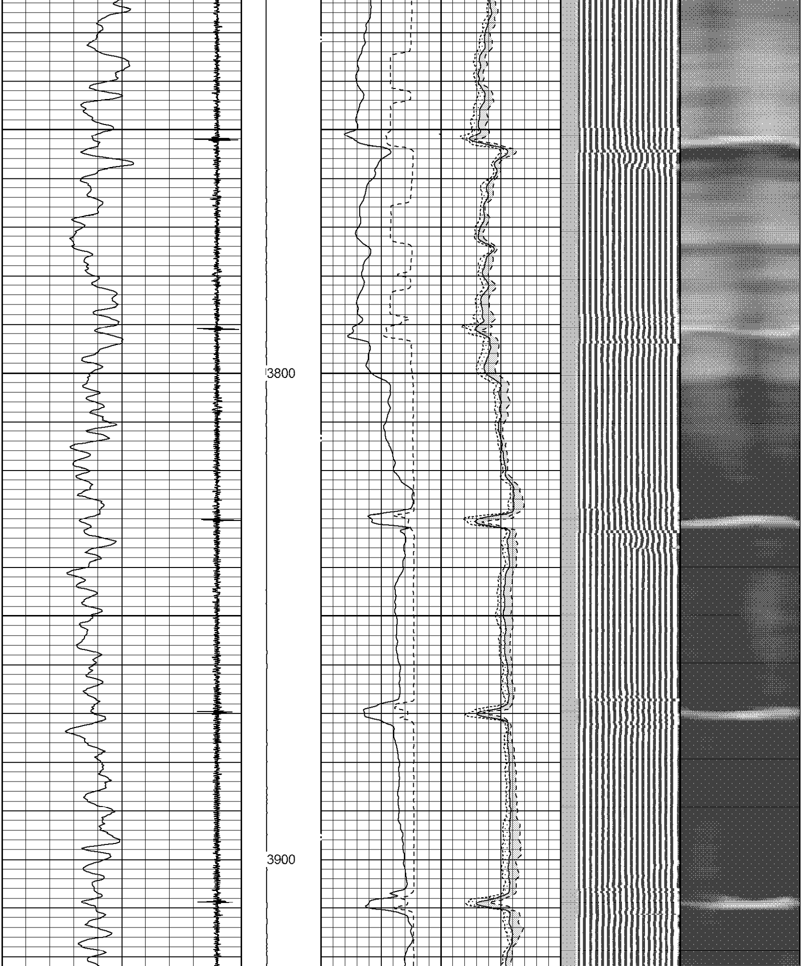
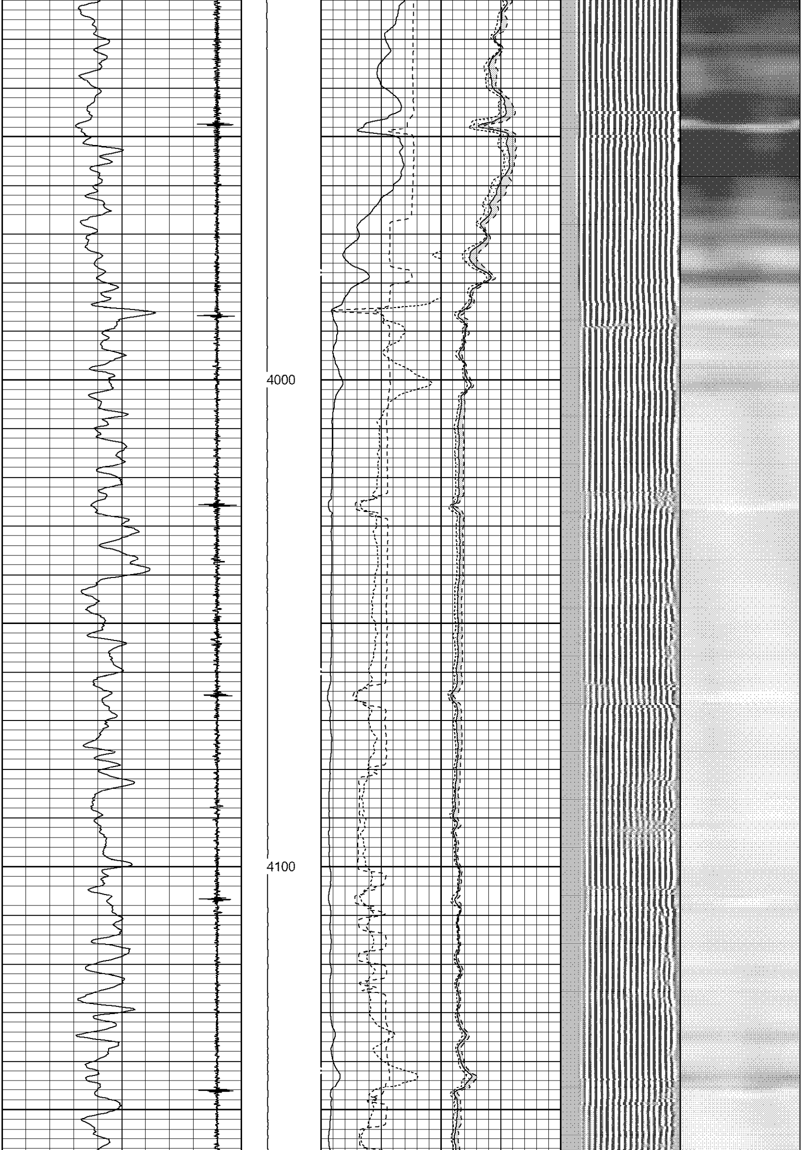
MAIN PASS 5" = 100'

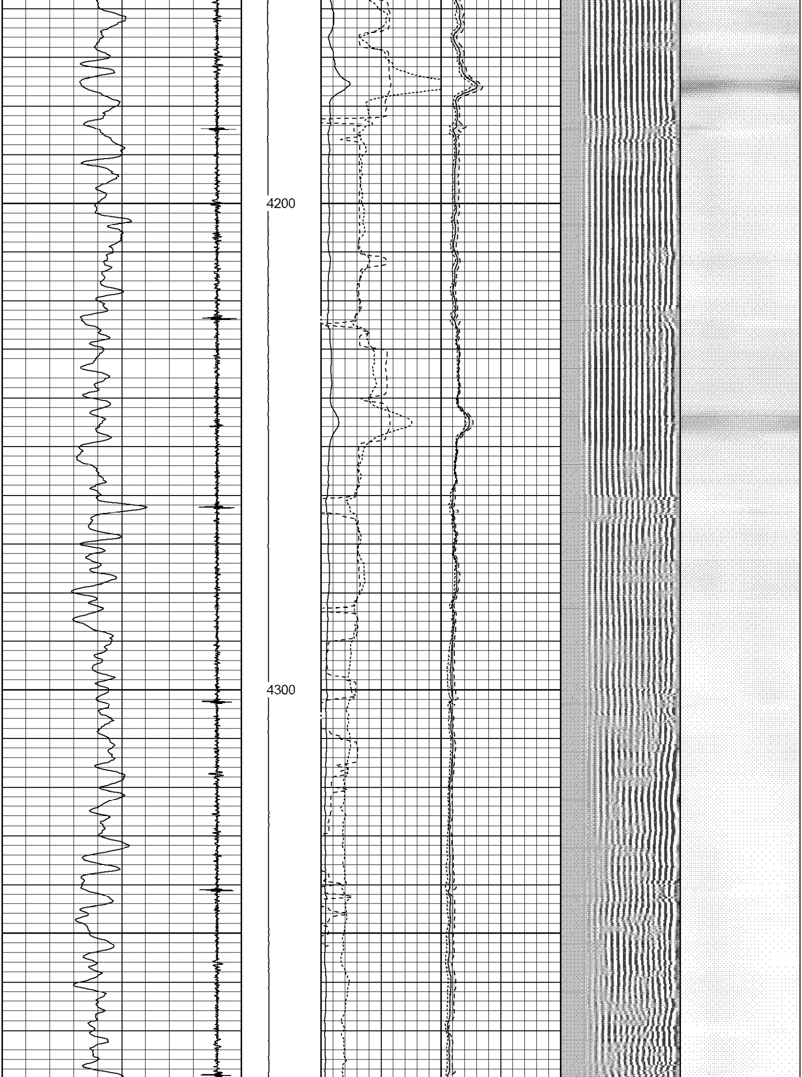
Database File: c:\users\user\desktop\b_h_winter_flats_11-43-100.db
Dataset Pathname: pass6
Presentation Format: rmws_scbl
Dataset Creation: Thu Oct 02 11:19:41 2008 by Log Std Casedhole 07122
Charted by: Depth in Feet scaled 1:240

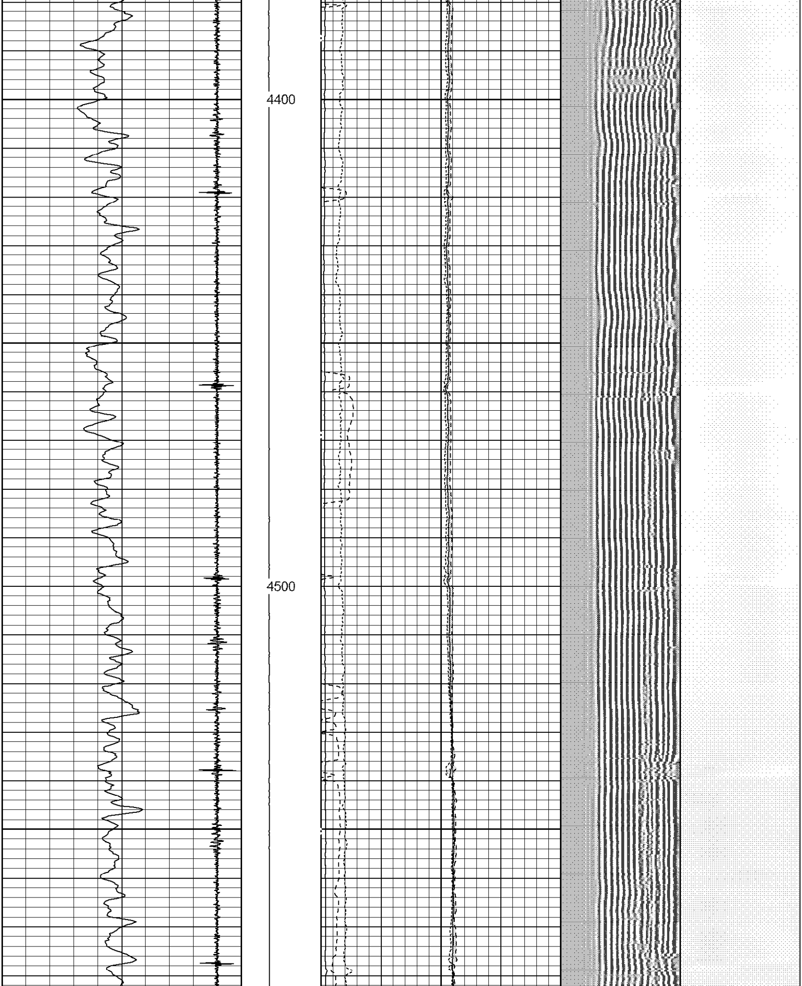
-27 CCL 3	LTEN	0 AMP (mV) 100	0 AMPAVG 150	200 VDL 1200	1 SECTOR MAP 8
0 GR 200	0 (lb) 2000	0 AMPx5 (mV) 20	0 AMPMAX 150		0 80
		380 TT (usec) 180	0 AMPMIN 150		

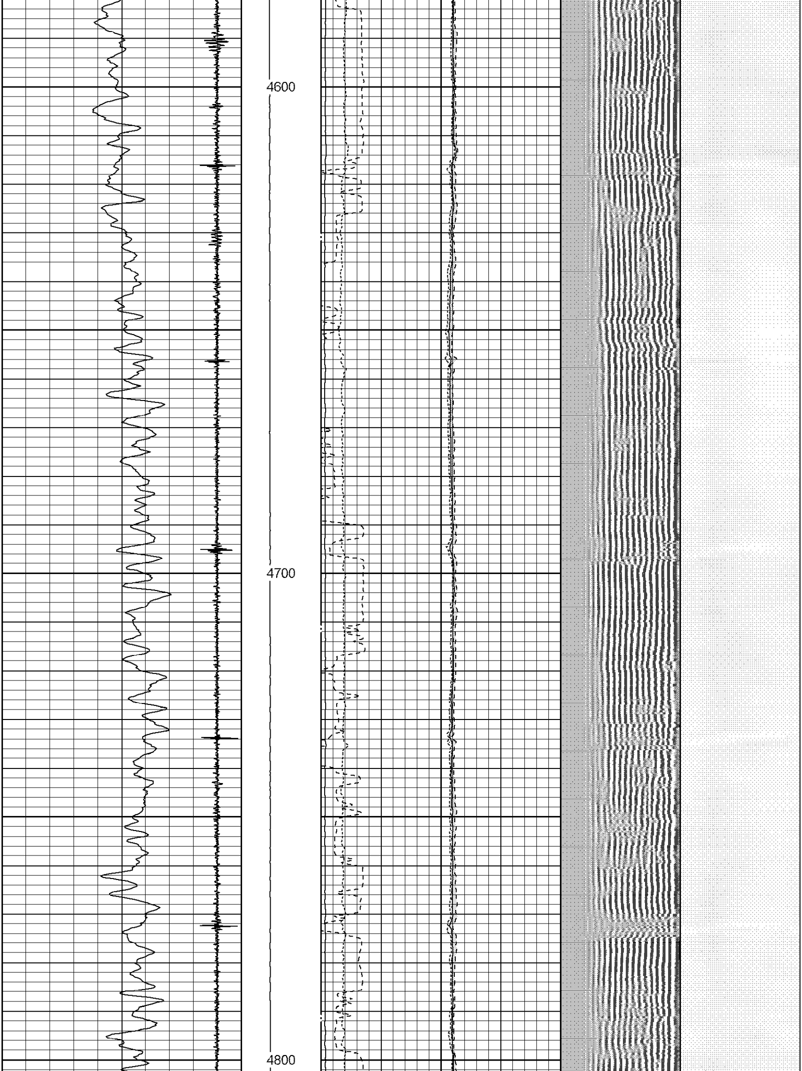


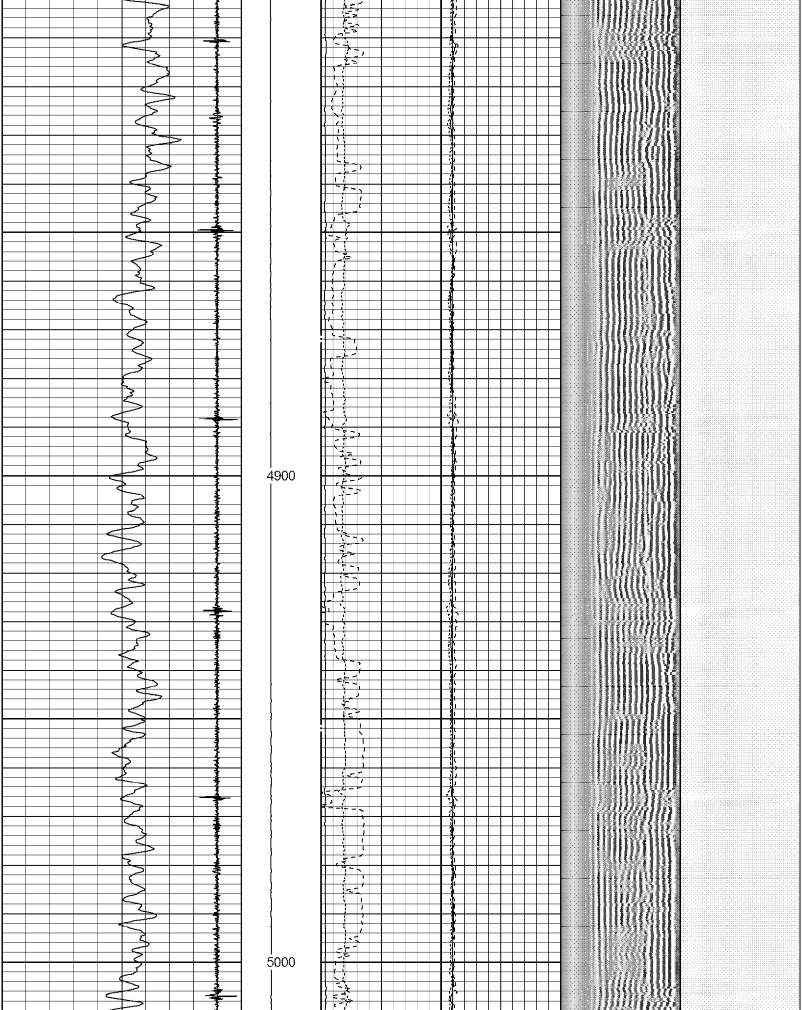


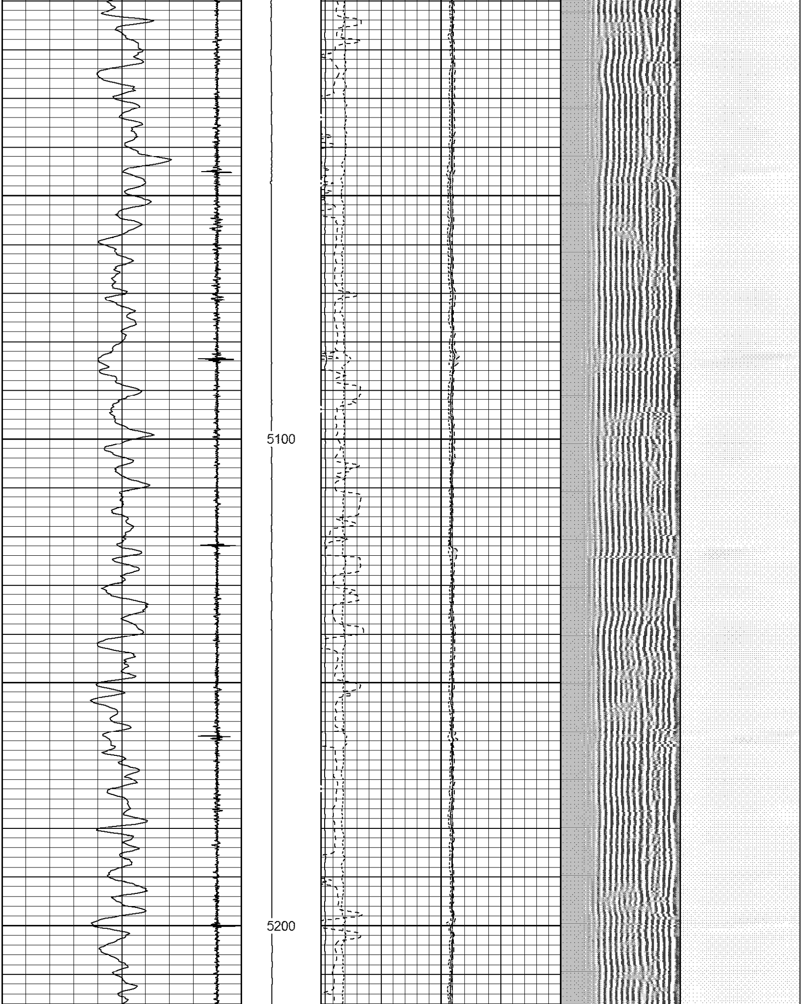


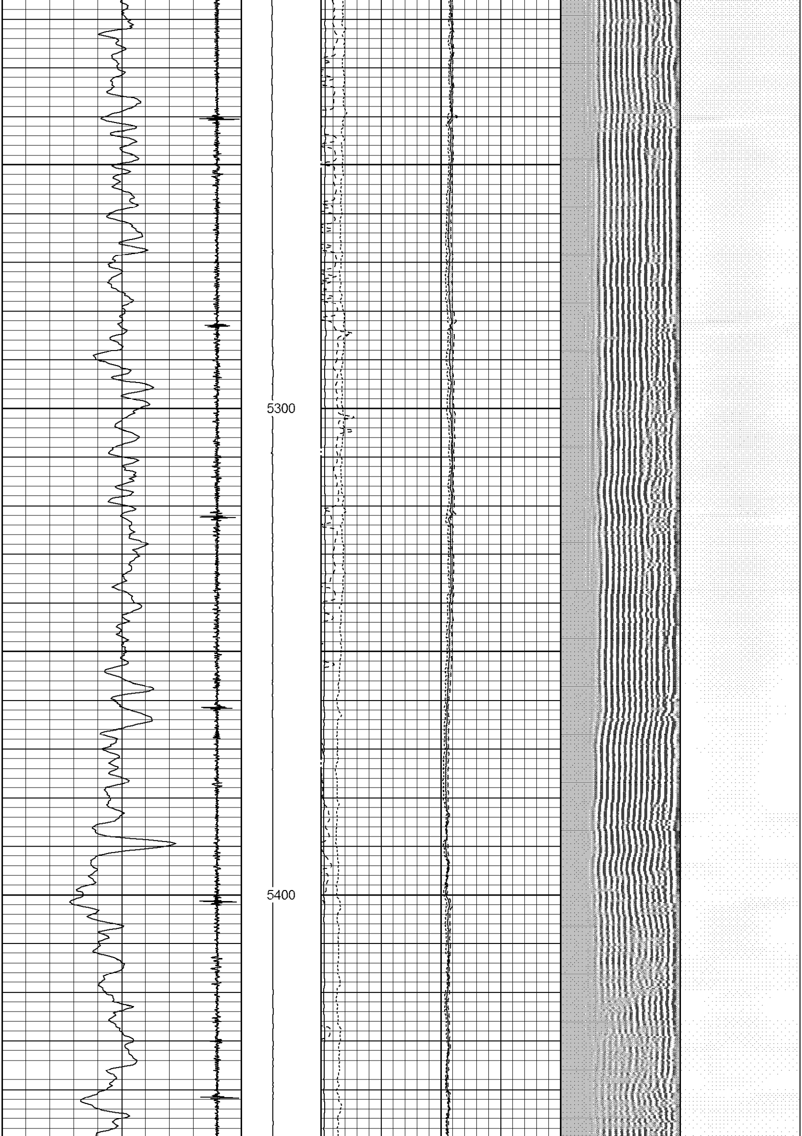


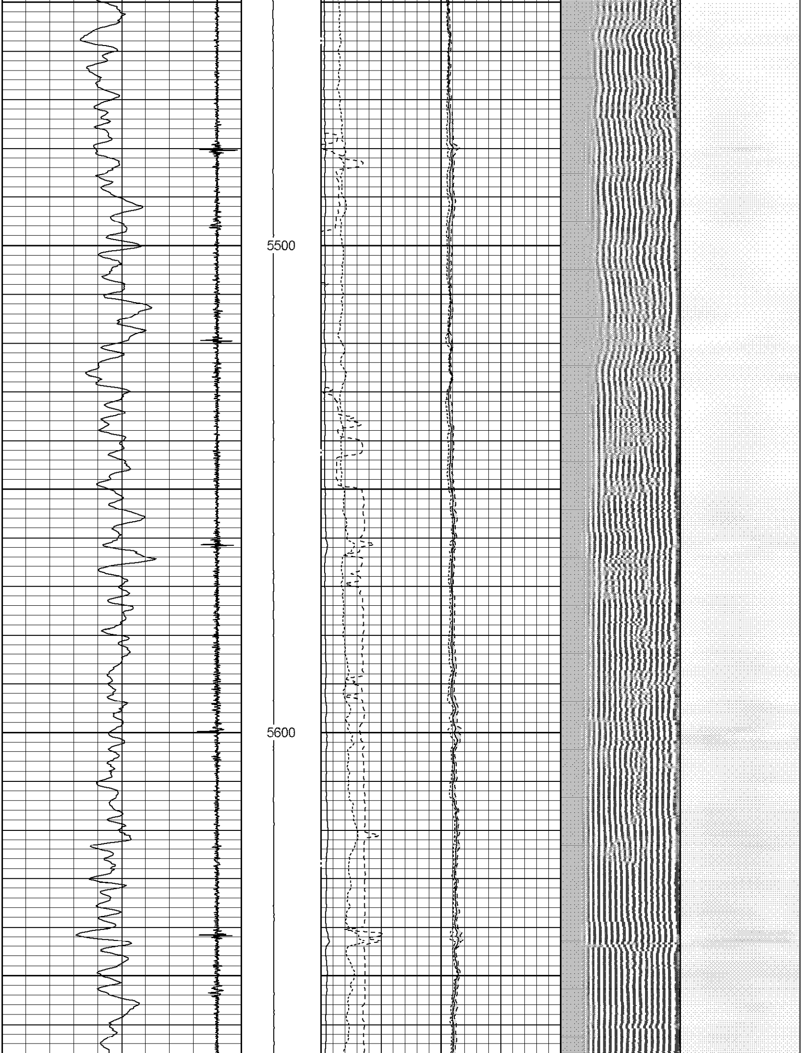


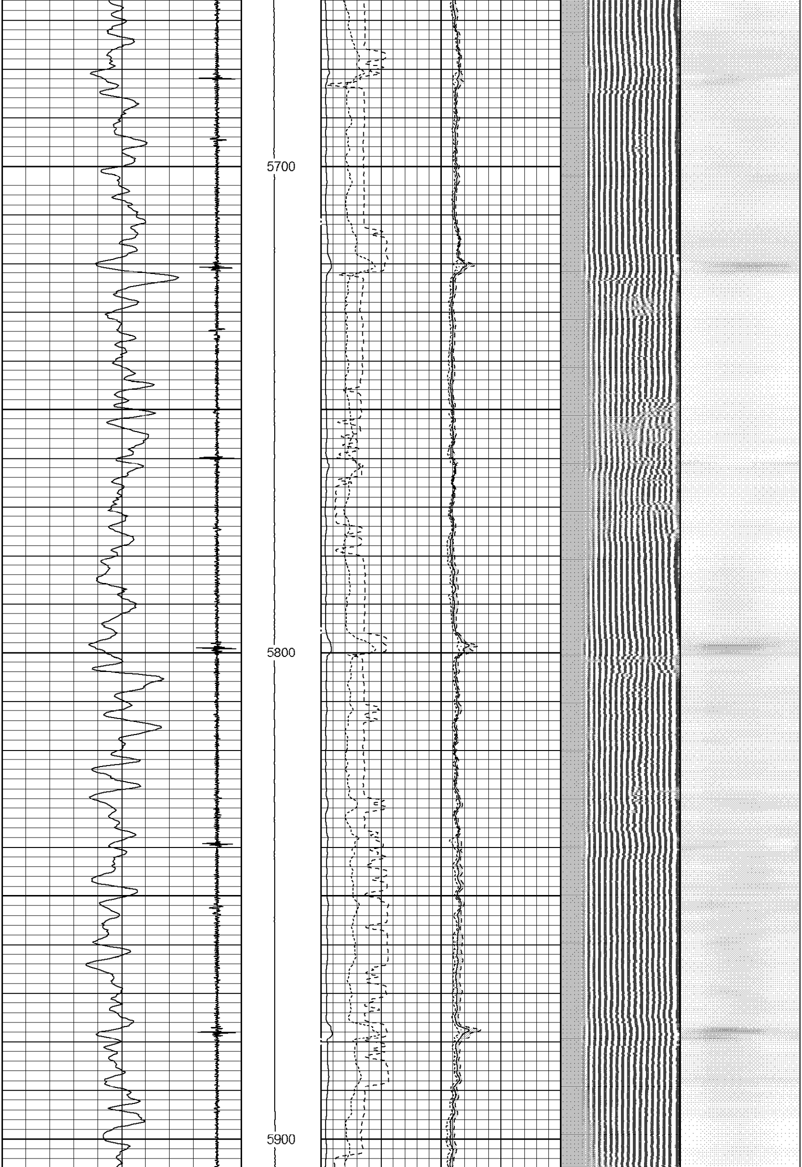


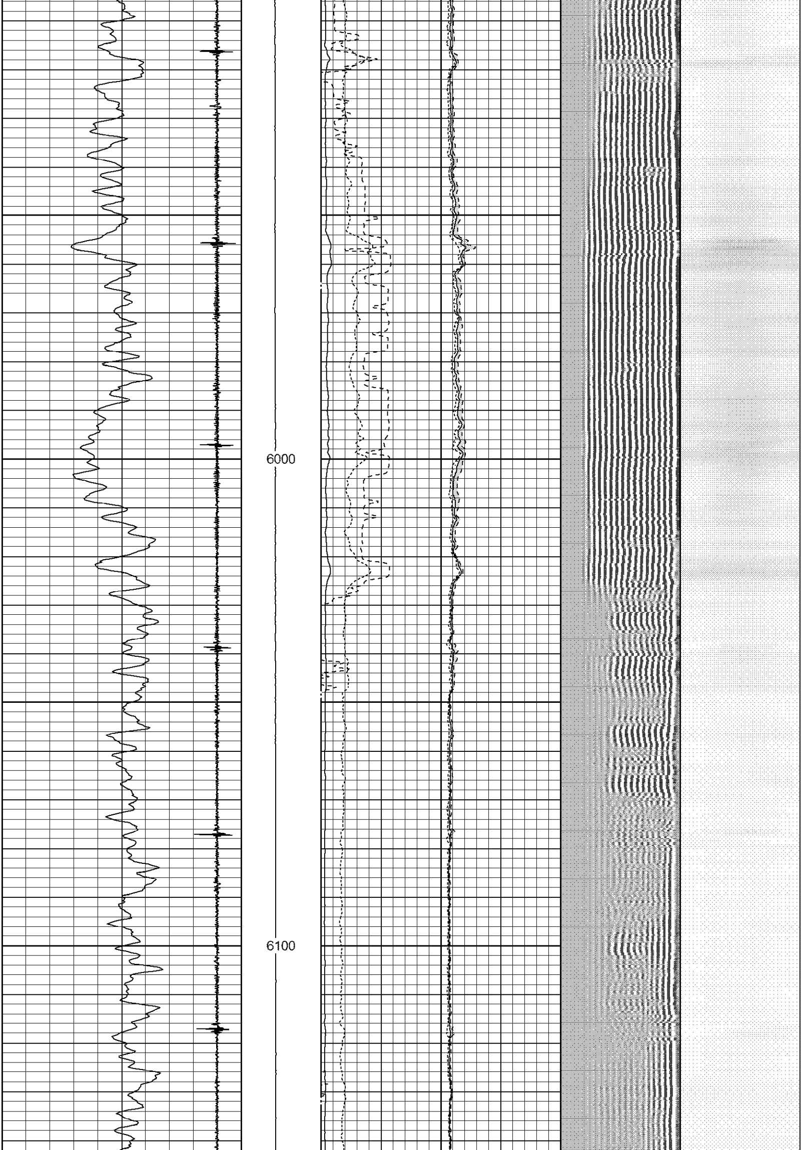


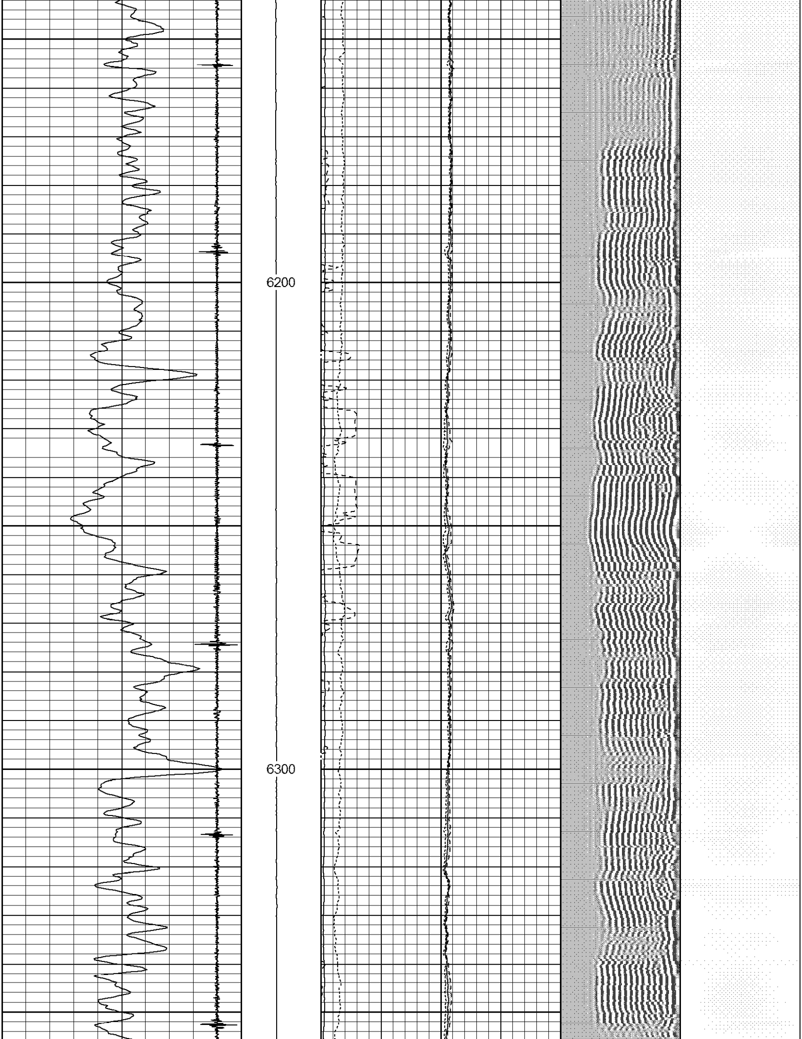


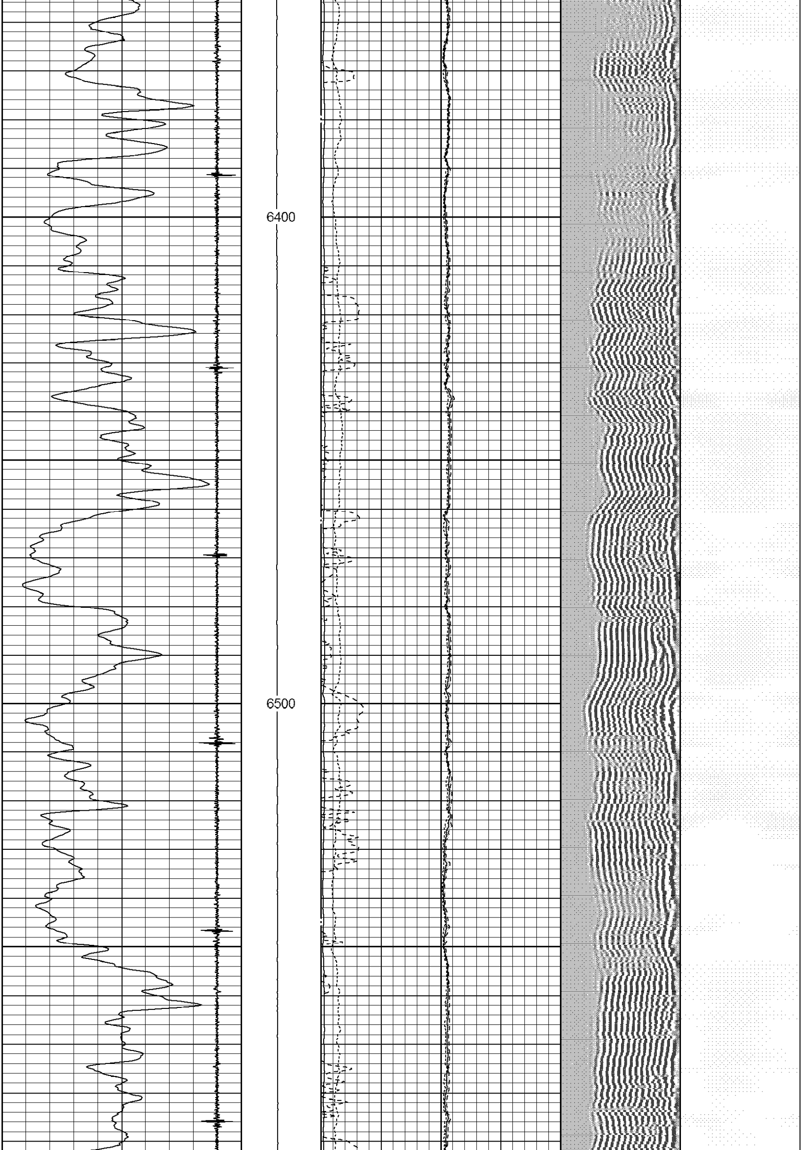


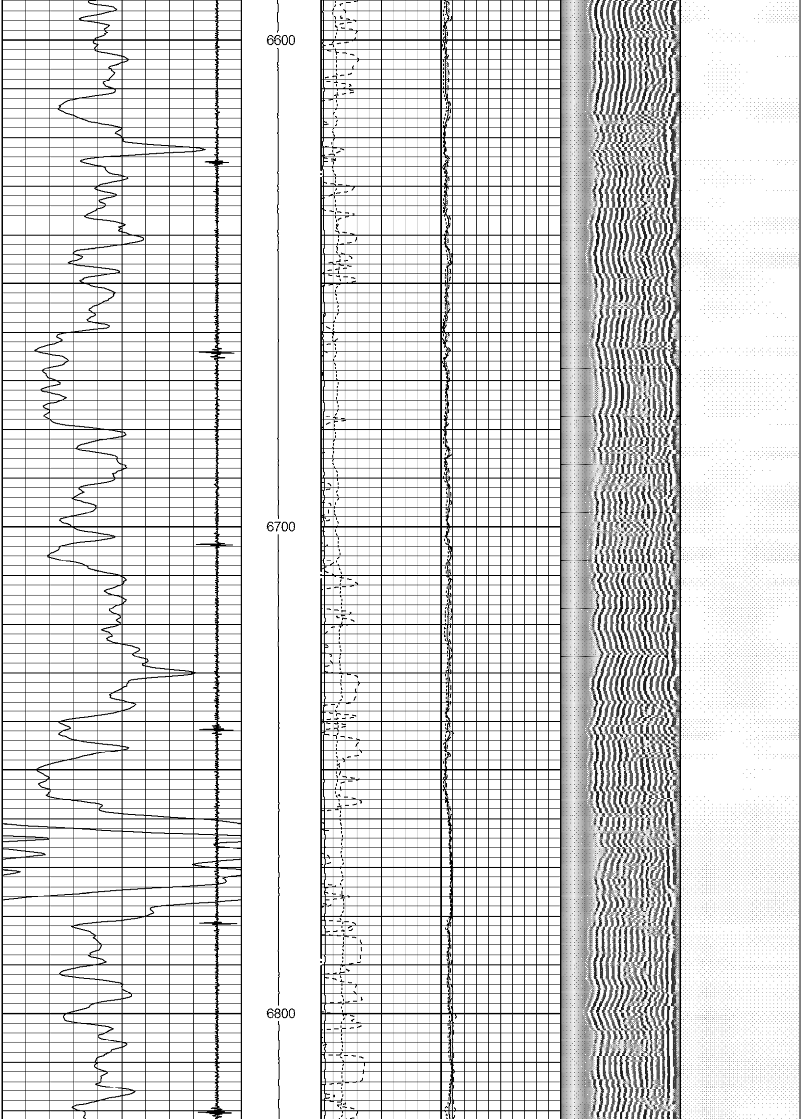


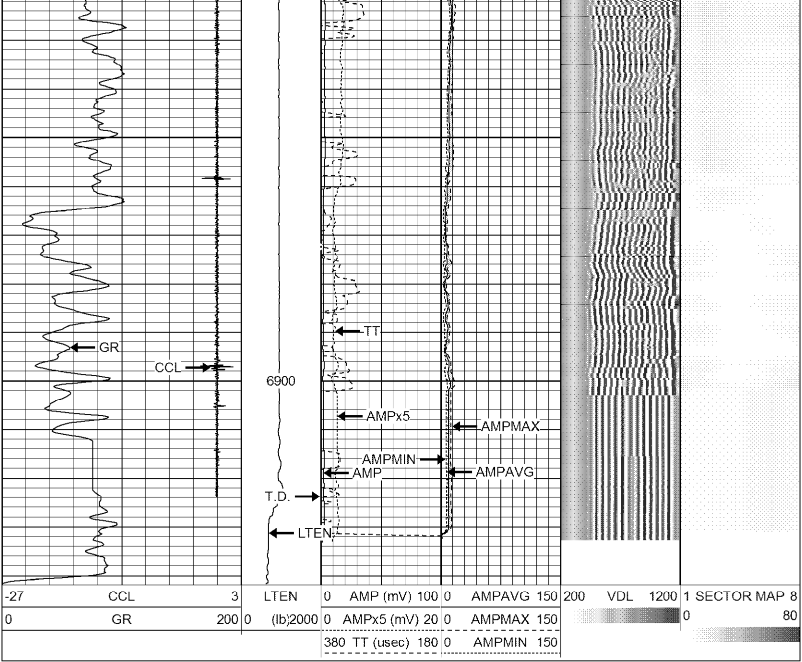












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MAIN PASS 5" = 100'

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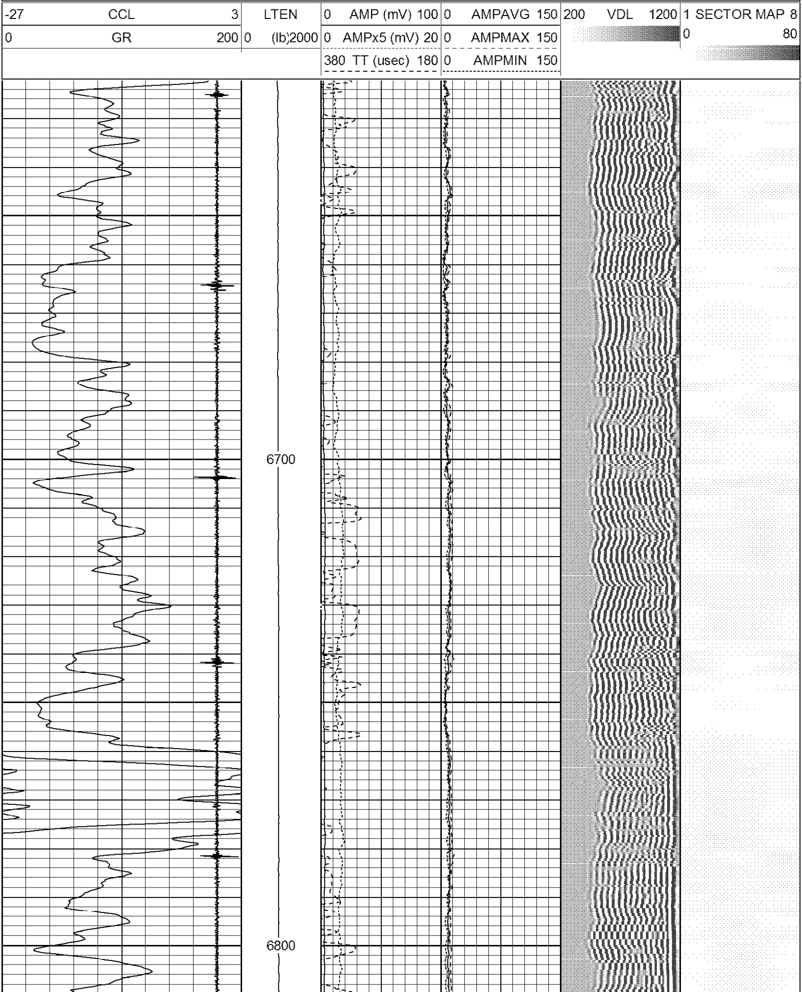
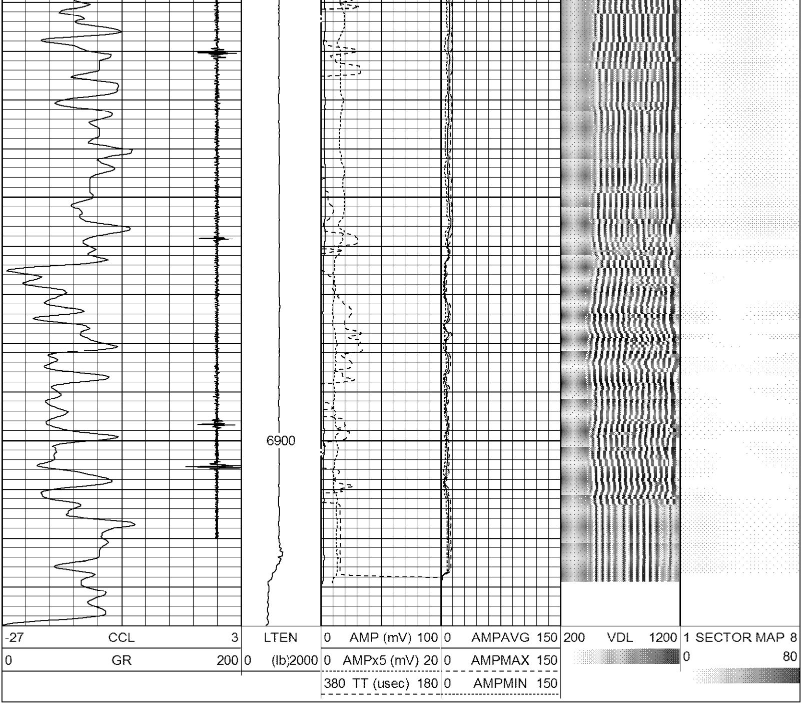
REPEAT SECTION 5" = 100'

Database File: c:\users\user\desktop\b_h_winter_flats_11-43-100.db
Dataset Pathname: pass5
Presentation Format: rmws_scbl
Dataset Creation: Thu Oct 02 11:12:51 2008 by Log Std Casedhole 07122
Charted by: Depth in Feet scaled 1:240





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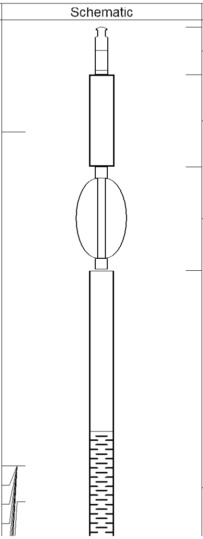
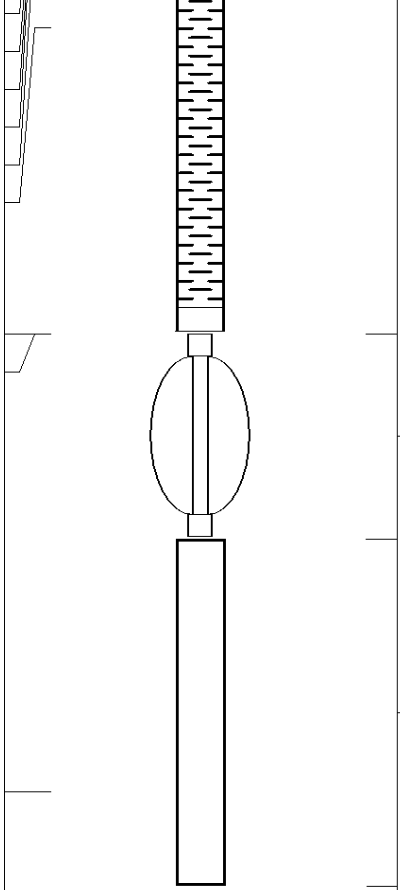
REPEAT SECTION 5" = 100'

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STNDRD Standard Cable Head	1.00	1.43	2.00
CCL	17.83		CCL-TITAN275 (TITAN275_01) Titan 2 3/4" CCL	1.92	2.75	10.00
			TITAN169 Titan 1 11/16" Centralizer	2.17	1.69	5.00
WVFS1 WVFS2 WVFS3 WVFS4	10.85 10.85 10.85 10.85		SCBLTEKCO-TEKCO (TEKCO234_3025) Tekco 2 3/4" Radial Bond	9.08	2.75	50.00

WVFS5	10.85
WVFS6	10.85
WVFS7	10.85
WVFS8	10.85
WVF3FT	10.10
WVF5FT	9.10
WVFCAL	5.85
WVFSYNC	5.85
GR	1.00



TITAN169 Titan 1 11/16" Centralizer	2.17	1.69	5.00
GR-TEKCO234 (TEKCO234_315) Tekco 2 3/4" Gamma Ray	3.69	2.75	20.00

Dataset: b_h_winter_flats_11-43-100.db: field/well/run1/pass6
Total Length: 20.02 ft
Total Weight: 92.00 lb
O.D. 2.75 in