Company	LARAMIE ENERGY
Well	KNOX 03-09B
Field	RULISON
County	GARFIELD State CO

HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company	LARAMIE ENERGY
Well	KNOX 03-09B
Field	RULISON
County	GARFIELD State CO

API No.: 05045185100 Serv #: 7396663

Other Services

Location: SURFACE HOLE:
2171' FSL & 658' FEL

JUNK BASKET

Sec:3 Twp:8S Rge: 96W

Permanent Datum	GROUND LEVEL	Elevation 5446'	Elevation
Log Measured From	KB , 21 Ft. above perm. datum		K.B. 5467' D.F. 5466' G.L. 5446'
Drilling Measured From	KB		

Date @ Time Logged	3/JUNE/2010 @ 1300 HRS	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	8.34 PPG
Depth - Driller	5445'	Fluid Level	FULL
Depth - Logger	5378'	Cement Top Est. Logged	LOGGED
Bottom - Logged Interval	5370'	Equipment / Location	10971659 / GJ
Top - Log Interval	SURFACE	Recorded by	J. GILBERT
Max. Recorded Temp.	177	Witnessed by	M. ROBERTS

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Date / Time Cemented				
Primary / Squeeze				
Expected Compressive Strength	psi@ hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume				
Cement Type / Weight	/	/	/	/
Formulation				
Mud Type / Mud Wgt.	/	/	/	/

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	7.875"	SURFACE	5445'	4.5"	11.6#	SURFACE	5445'

<<< Fold Here >>>

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHCIH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

Comments

HES CBL LOG CORRELATED TO HES OPEN HOLE LOG DATED 14/DEC/2009

CCL - CBL - GR RAN IN COMBINATION

SHORT JOINTS LOCATED @ 2311' - 2332' & 4394' - 4415'

LOGGED INTERVALS PER CUSTOMER REQUEST

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES GRAND JUNCTION, CO

Service Ticket No.	7396663	API No.	050451885100	PGM Ver	WARRIOR 7.0

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

CBL		GR-CCL					
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	061115	Serial No.	051003	Serial No.		Serial No.	
Model No.	PROBE CBL	Model No.	PROBE GAMMA	Model No.		Model No.	
Diameter	2.75"	Diameter	2.75"	Diameter		Diameter	

LOGGING DATA

General Data

Pass No.	Depths From	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ONE	5414'	100'	0 PSI	60	MAIN LOG SECTION

	GAMMA RAY		CCL		AMPLITUDE			
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	200	9	-1	0	100		

DIRECTIONAL INFORMATION

Maximum Deviation		deg. @		KOP		

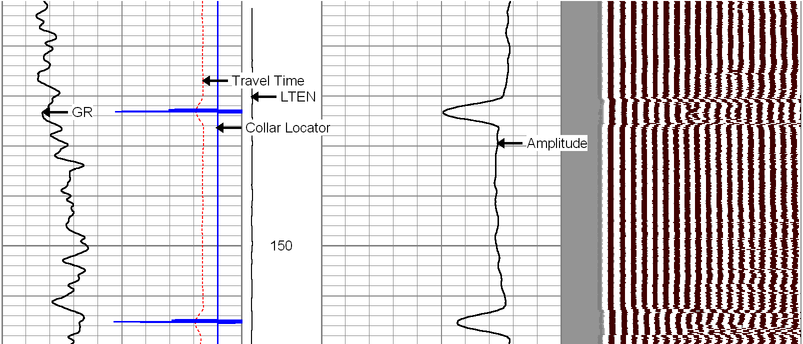
HALLIBURTON

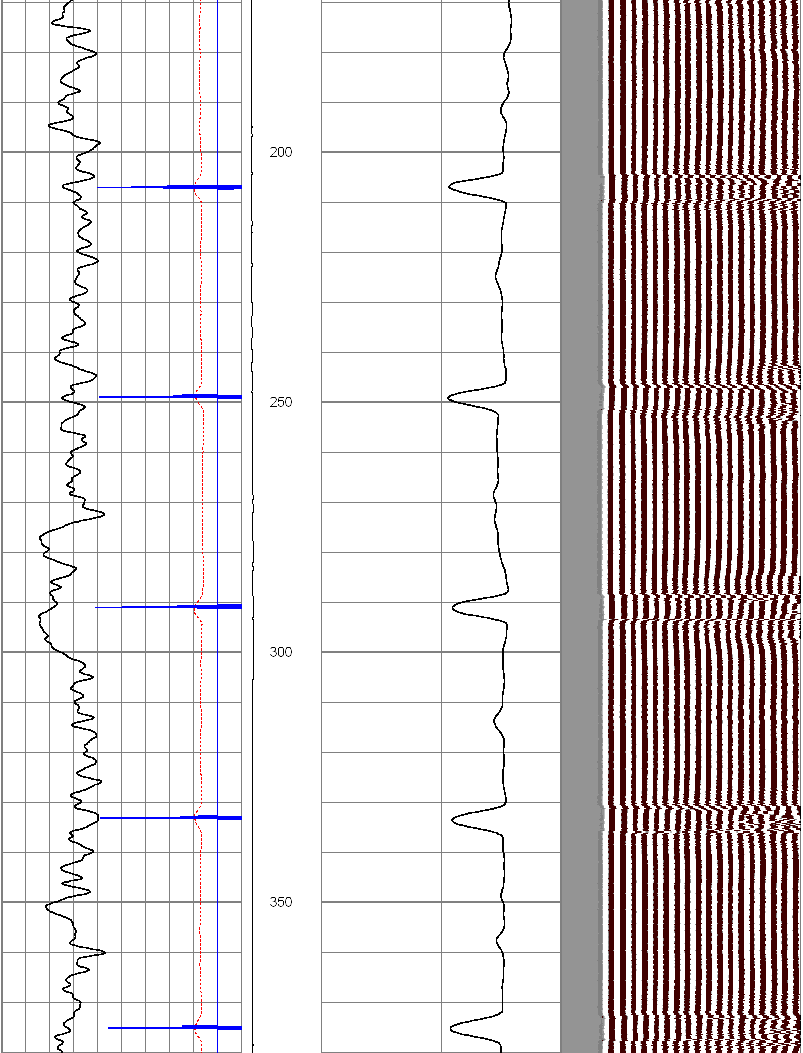
MAIN LOG SECTION

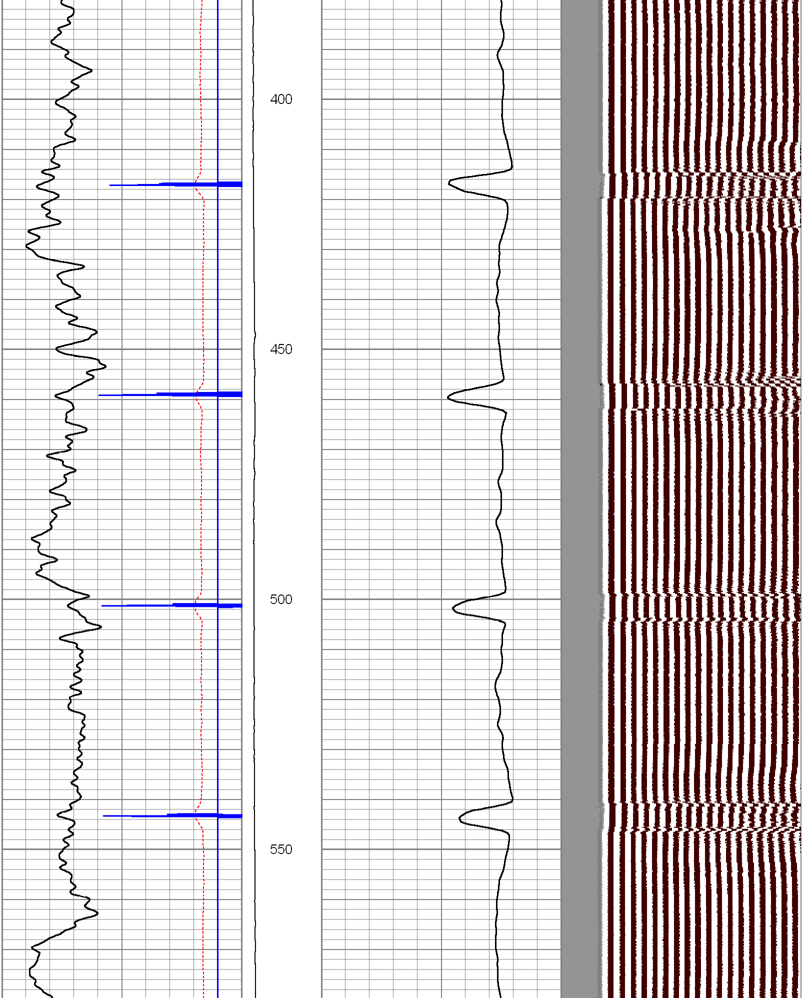
5" = 100'

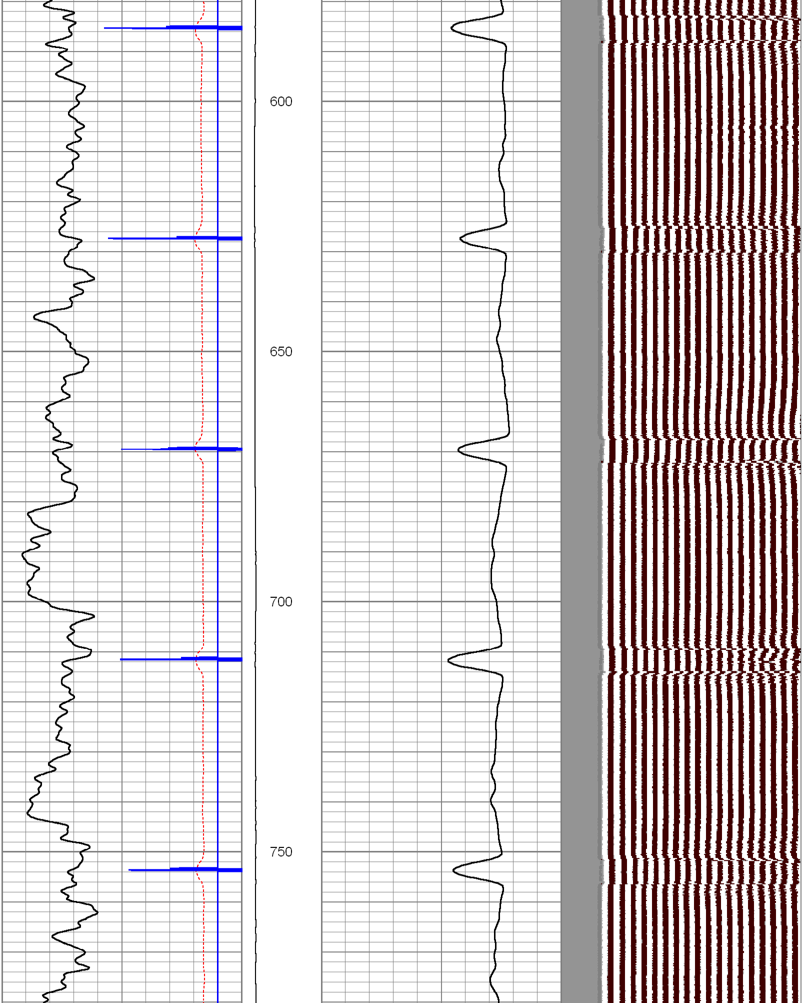
Database File: laramie_knox_03_09b_cbl.db
Dataset Pathname: MAIN1
Presentation Format: cbldig
Dataset Creation: Thu Jun 03 16:10:39 2010 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

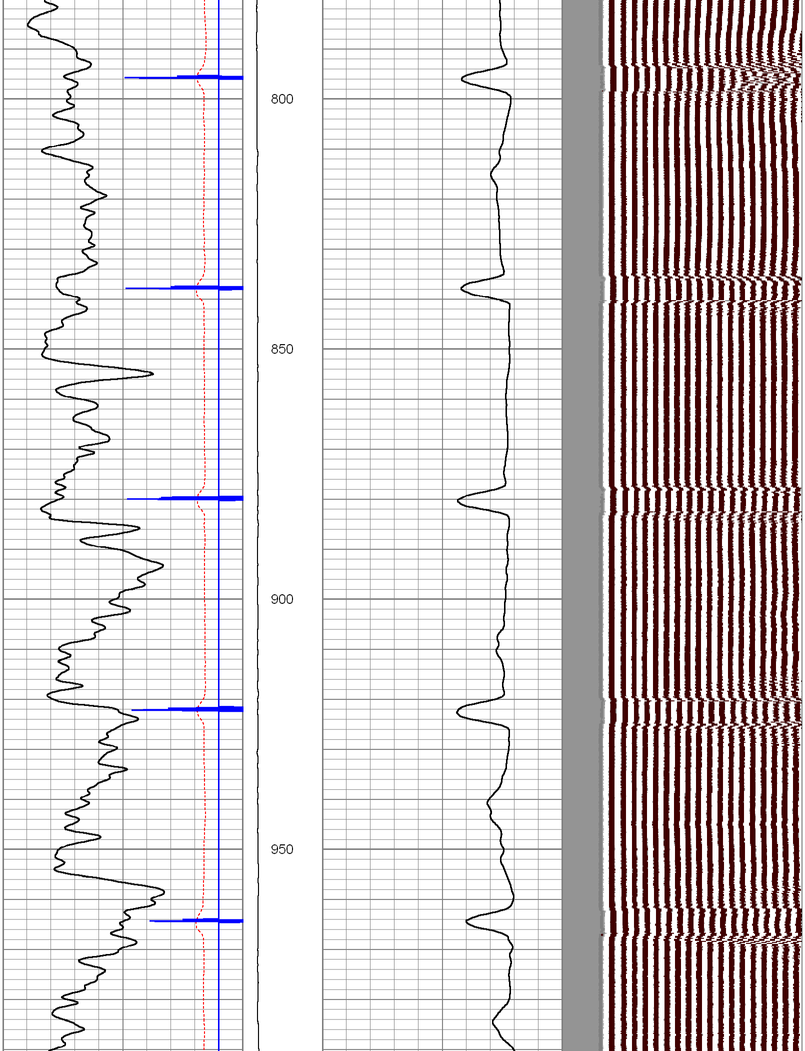
450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			

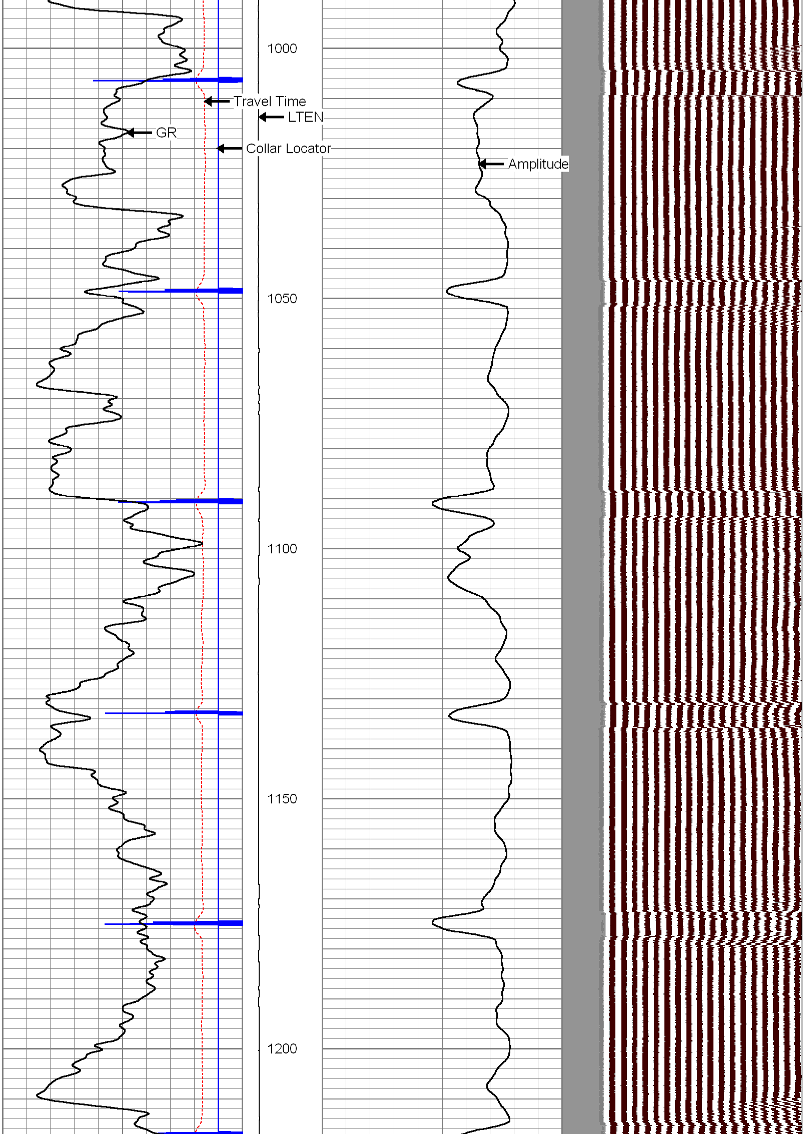


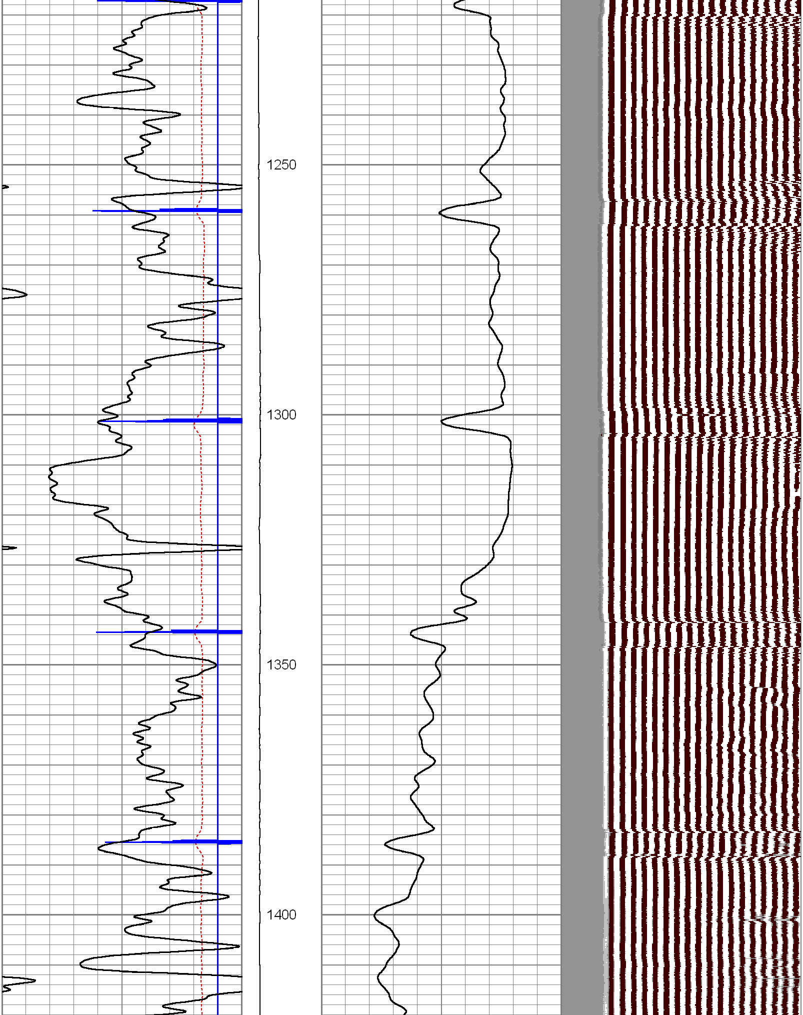


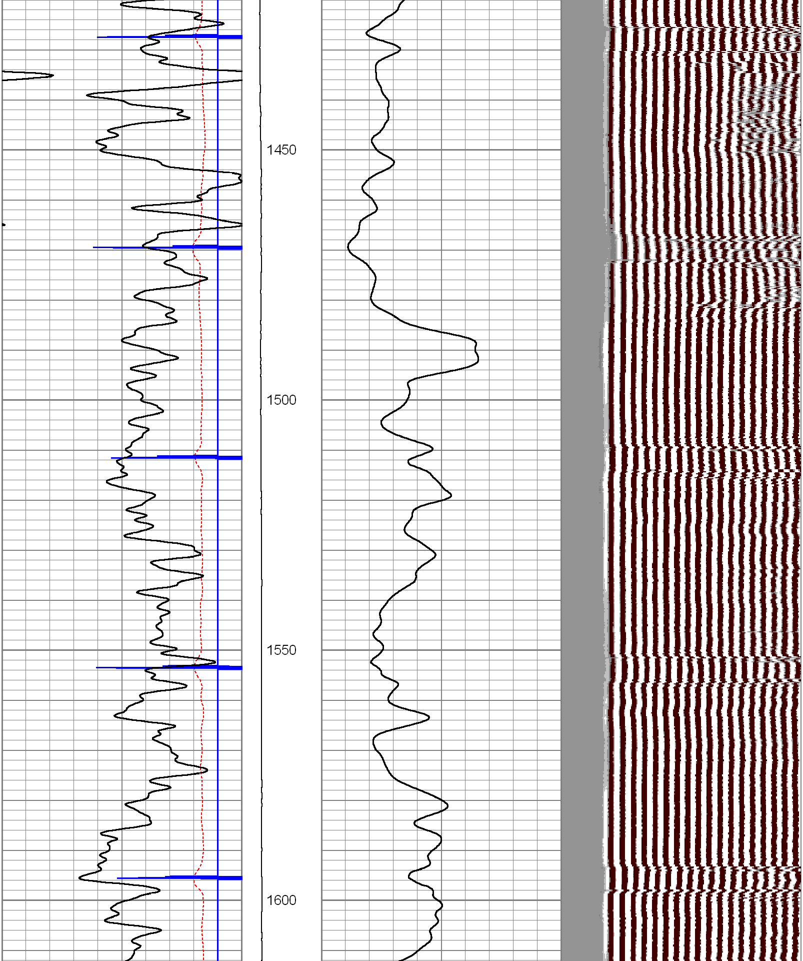


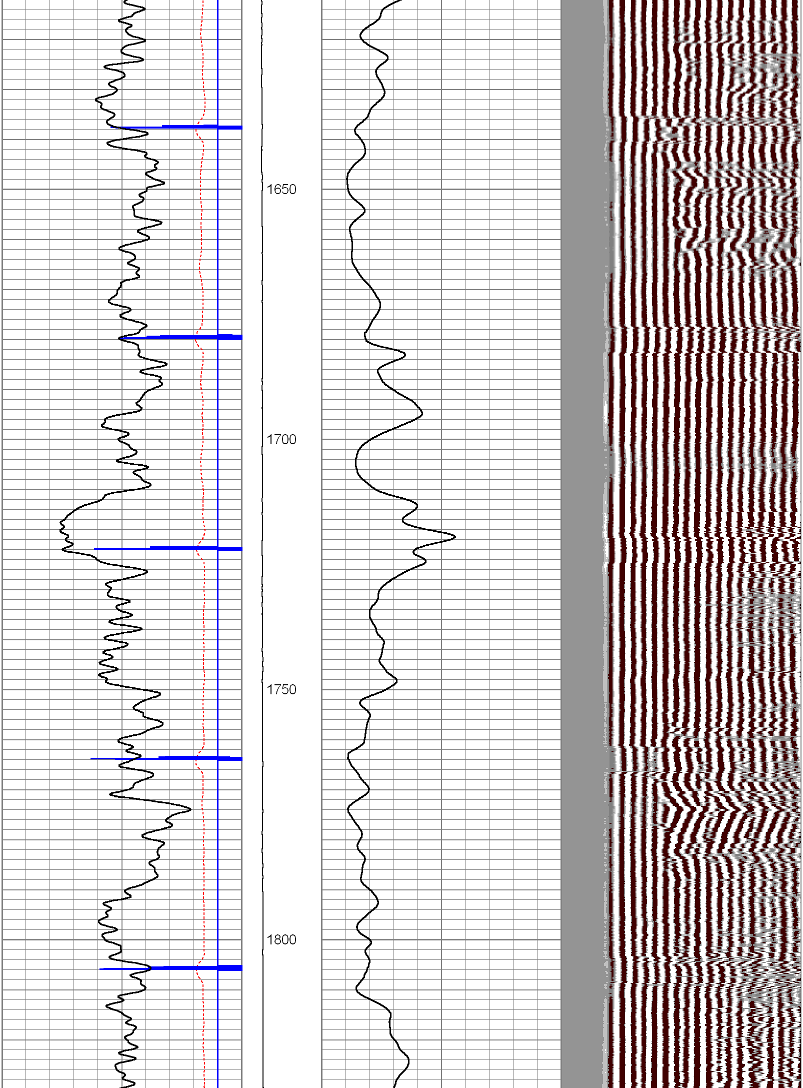


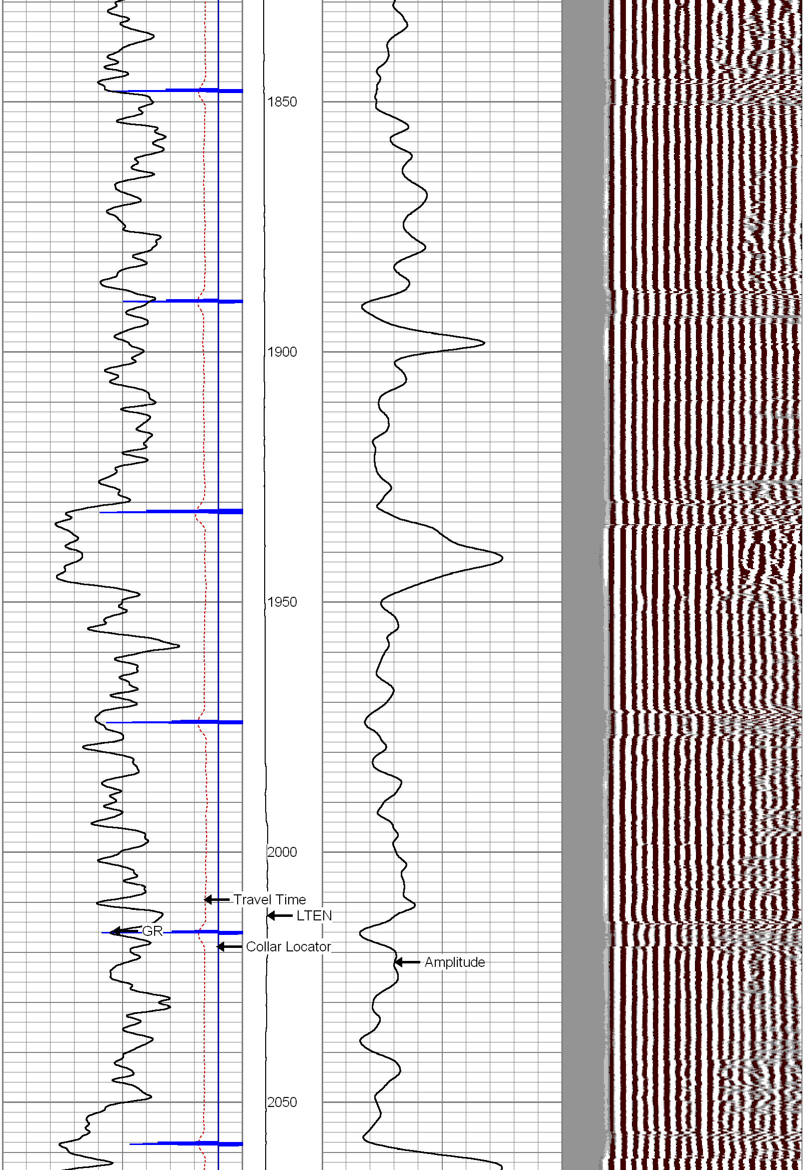


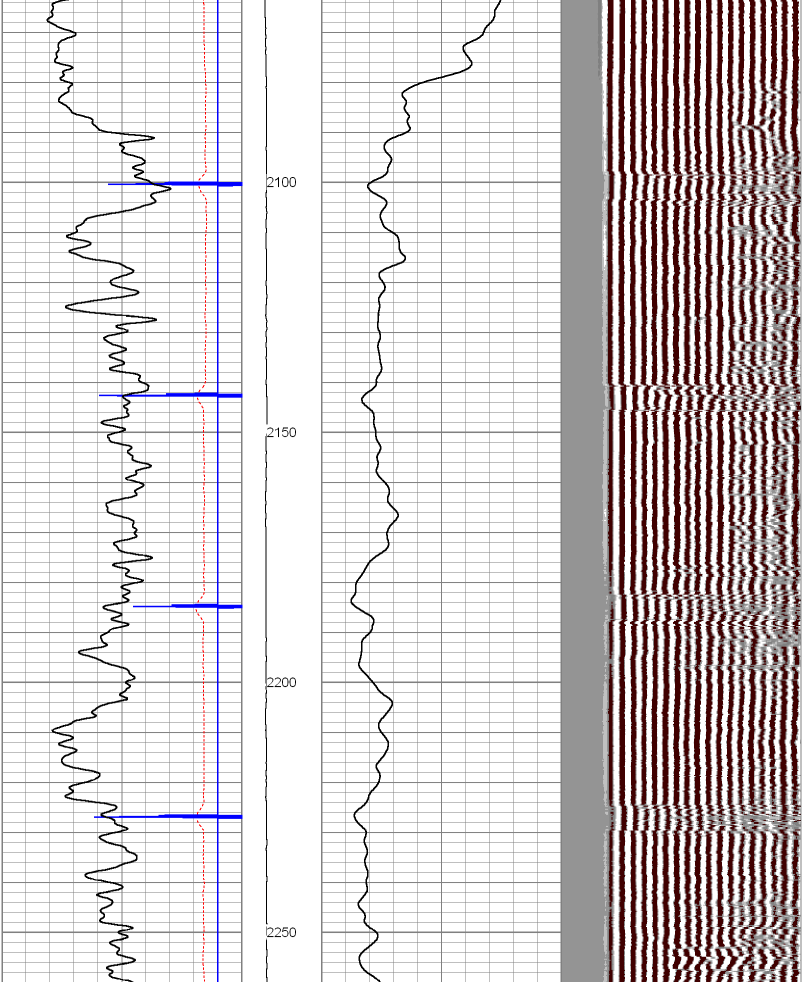


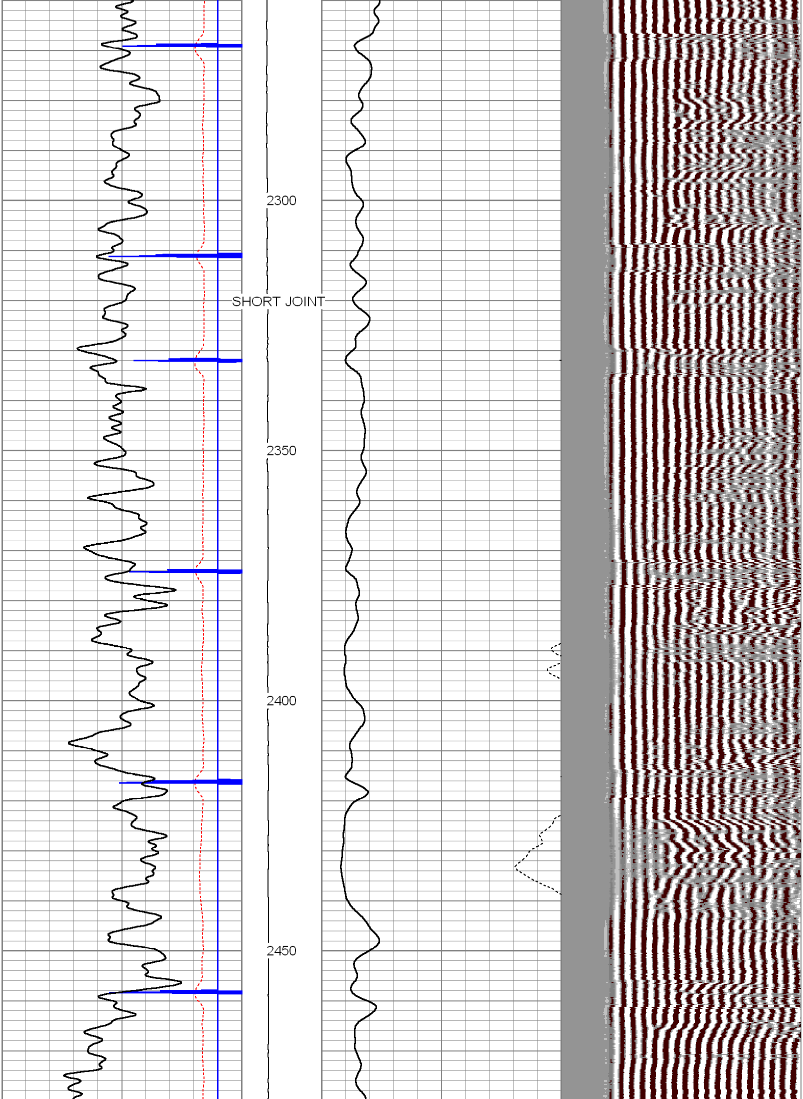


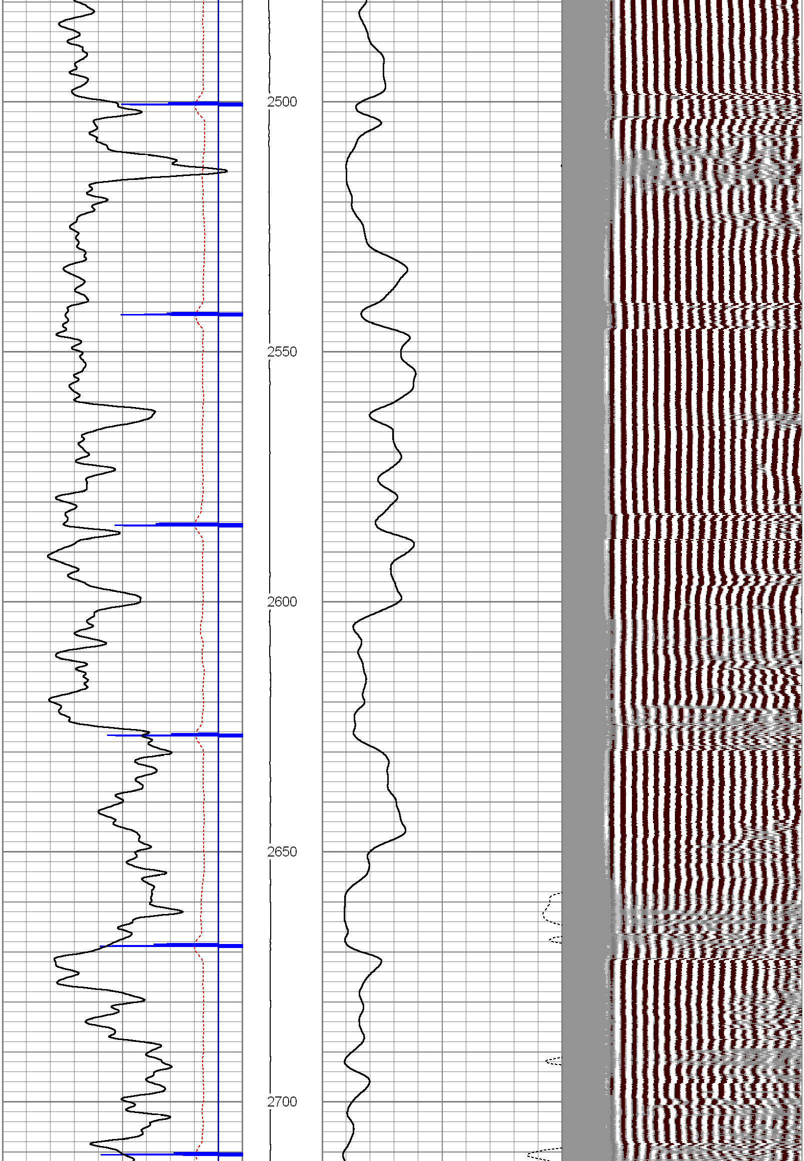


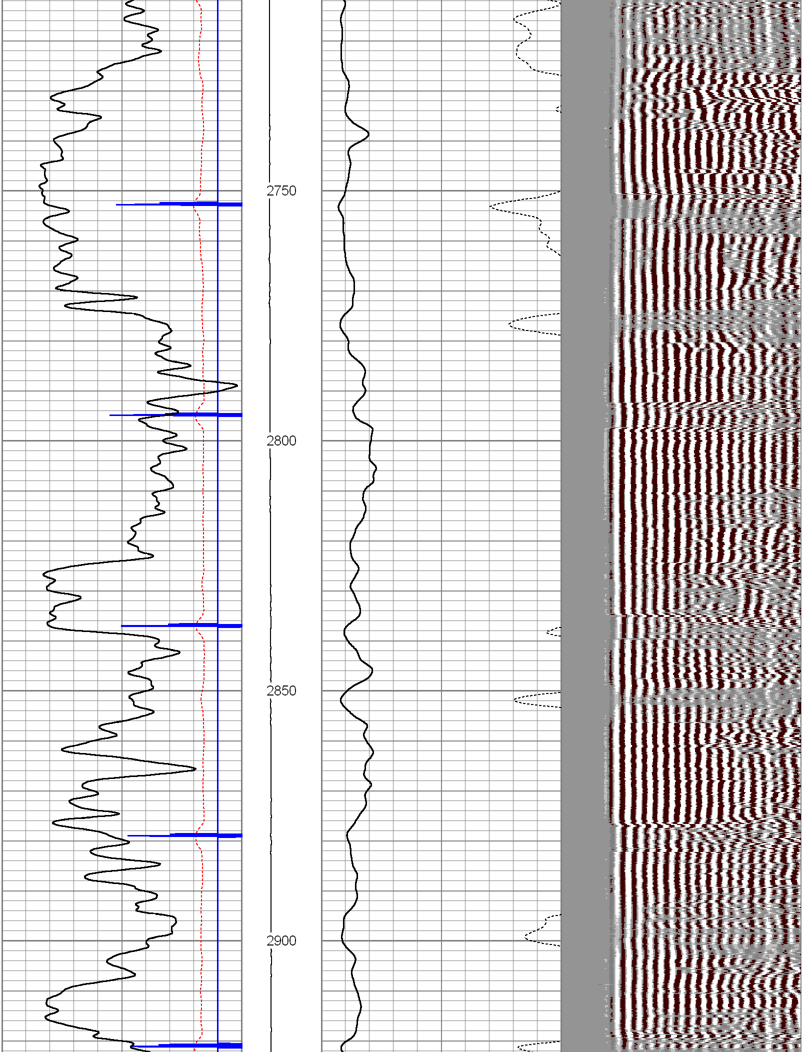


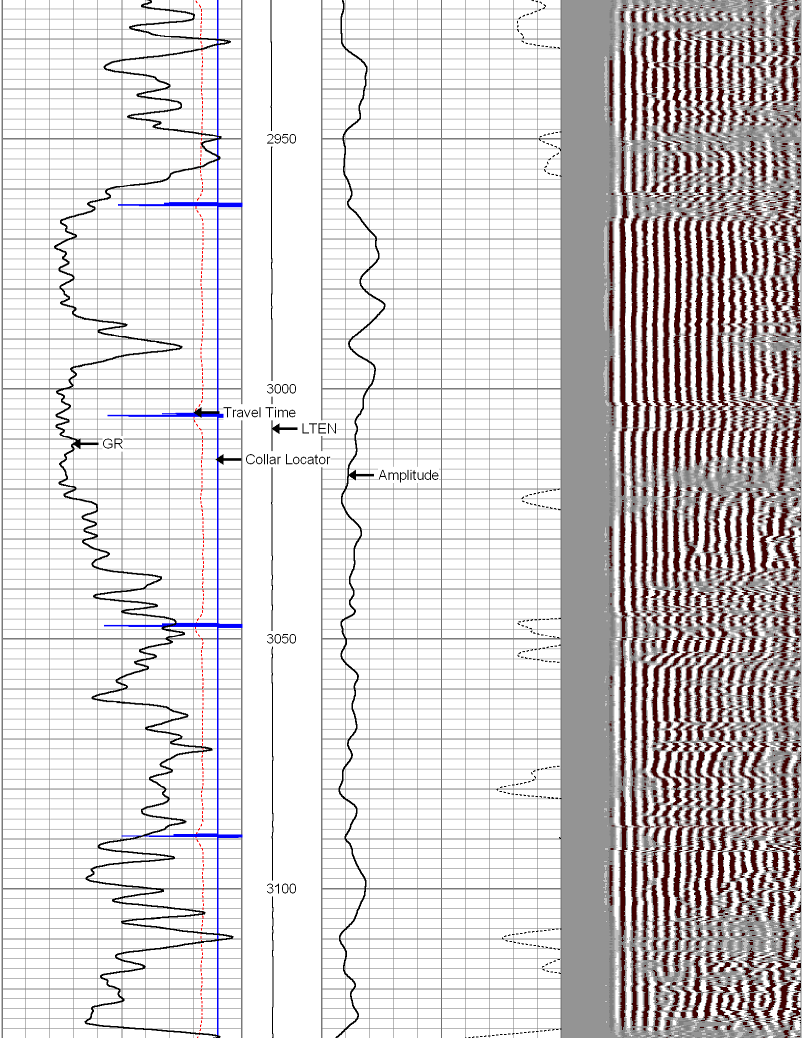


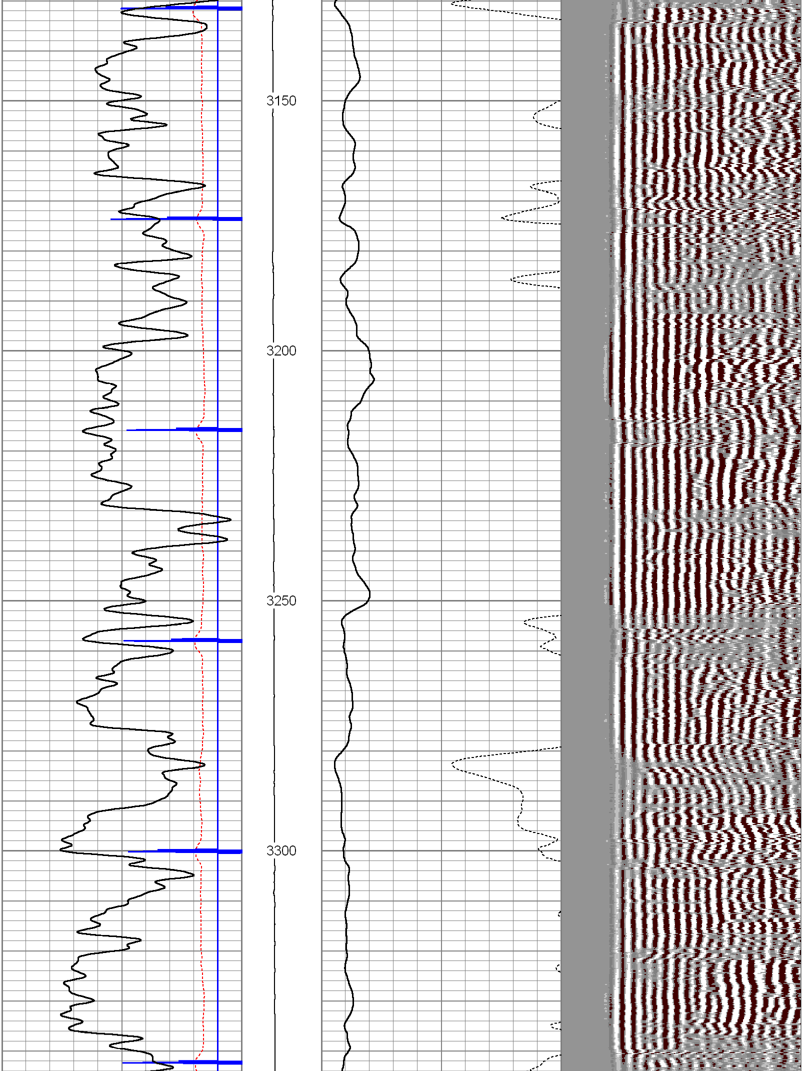


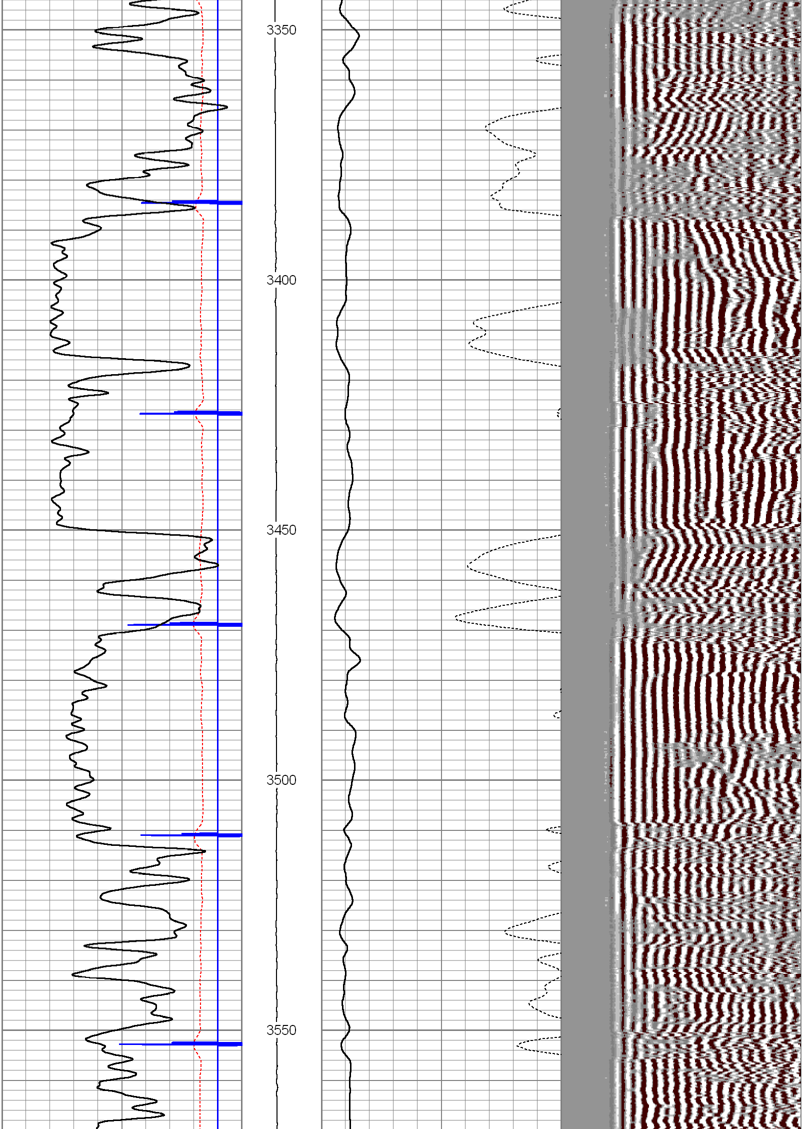


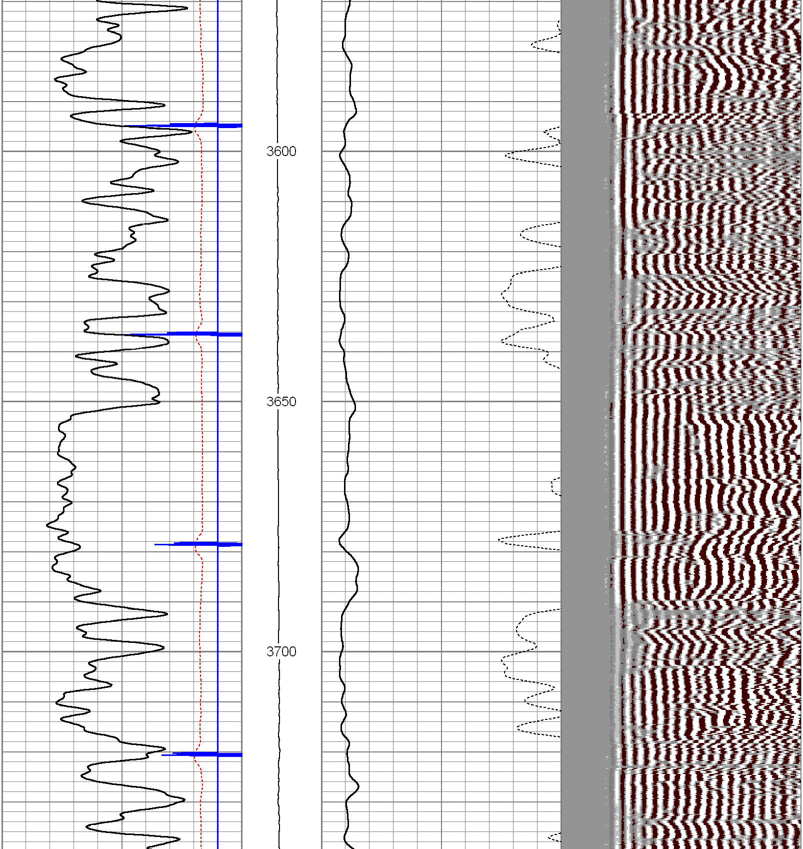












450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			

HALLIBURTON

MAIN LOG SECTION

5" = 100'

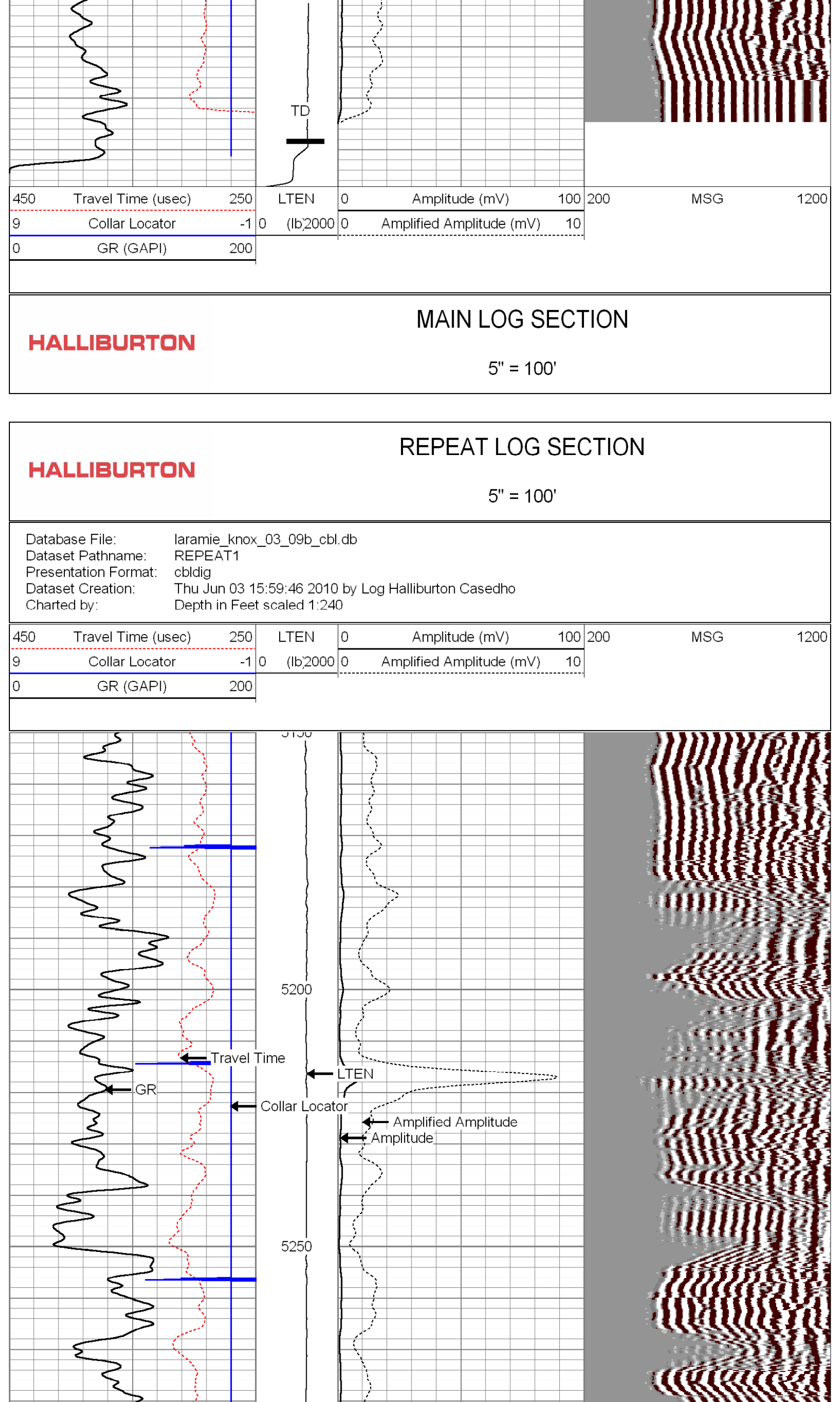
HALLIBURTON

REPEAT LOG SECTION

5" = 100'

Database File: laramie_knox_03_09b_cbl.db
Dataset Pathname: REPEAT1
Presentation Format: cbldig
Dataset Creation: Thu Jun 03 15:59:46 2010 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			



450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			

HALLIBURTON

REPEAT LOG SECTION

5" = 100'

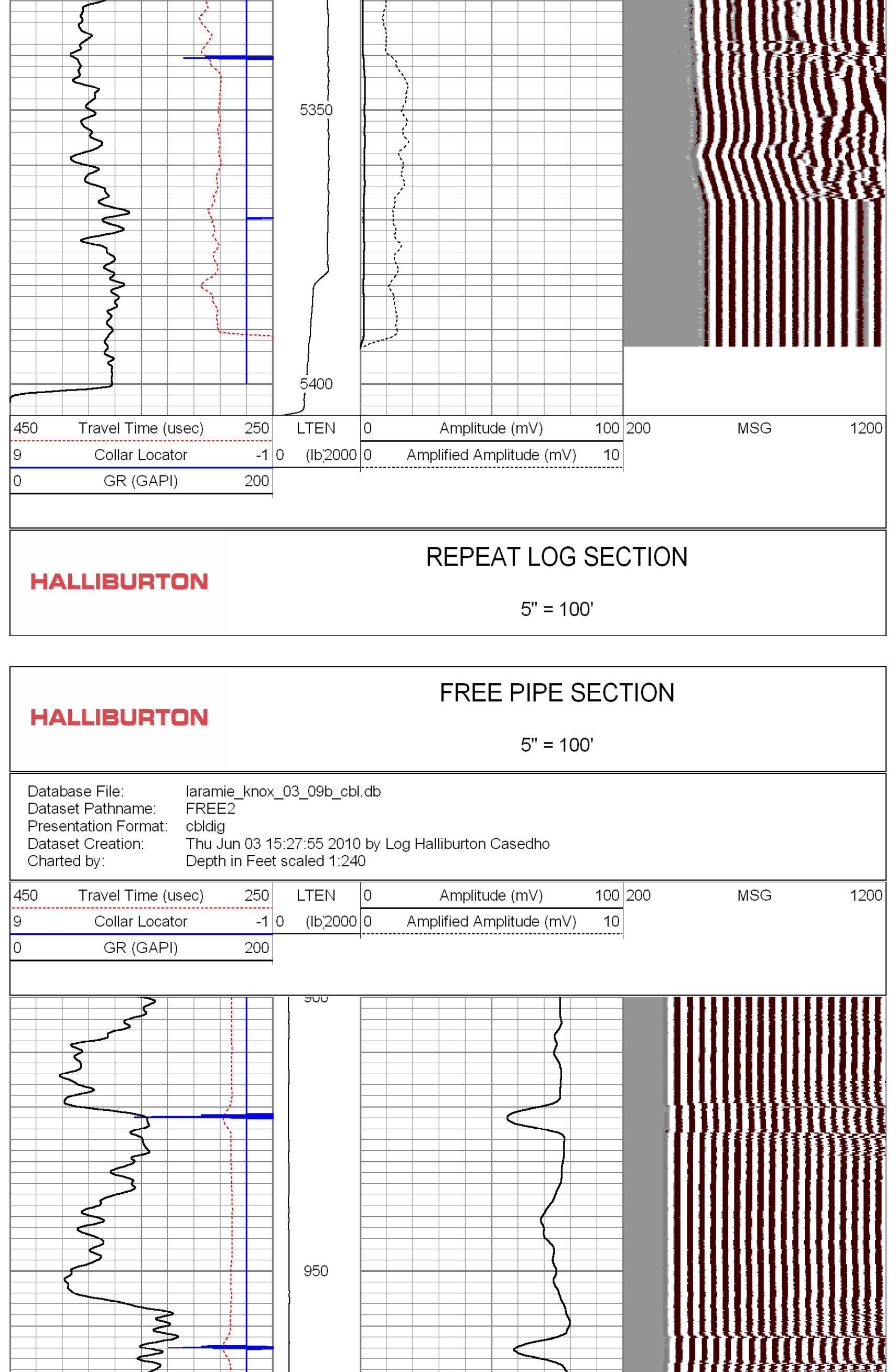
HALLIBURTON

FREE PIPE SECTION

5" = 100'

Database File: laramie_knox_03_09b_cbl.db
Dataset Pathname: FREE2
Presentation Format: cbldig
Dataset Creation: Thu Jun 03 15:27:55 2010 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			



450 Travel Time (usec) 250	LTEN	0 Amplitude (mV) 100	200 MSG 1200
9 Collar Locator -1	0 (lb)2000	0 Amplified Amplitude (mV) 10	
0 GR (GAPI) 200			

HALLIBURTON

FREE PIPE SECTION

5" = 100'

Calibration Report

Database File laramie_knox_03_09b_cbl.db
Dataset Pathname MAIN1
Dataset Creation Thu Jun 03 16:10:39 2010 by Log Halliburton Casedho

Temperature Calibration Report

Serial Number: 0001
Tool Model: 1.375TEMP
Performed: Fri Jul 05 02:18:21 1996

	Reference		Reading	
Low Reference:	0.00	degF	0.00	cps
High Reference:	1.00	degF	1.00	cps

Gain: 0.10
Offset: 0.00
Delta Spacing 1

Gamma Ray Calibration Report

Type / Serial: Probe275dig / pr051003

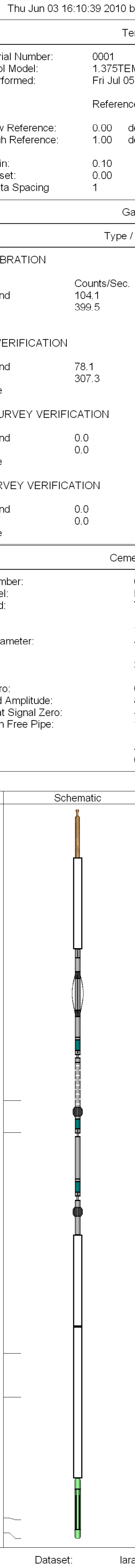
	Counts/Sec.	Gain	Offset	Jig	Units
SHOP CALIBRATION	Thu Jun 03 11:09:41 2010				
Background	104.1				cps
Calibrator	399.5				cps
		0.7787			GAPI/cps
PRIMARY VERIFICATION	Thu Jun 03 11:12:07 2010				
Background	78.1				cps
Calibrator	307.3				cps
Difference				229.1	GAPI
BEFORE SURVEY VERIFICATION					
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

Cement Bond Log Calibration Report

Serial Number: 061115
Tool Model: Probe
Performed: Thu Jun 03 15:26:49 2010

Depth: 1000.57 ft
Casing Diameter: 4.5 in

	3' Spacing	5' Spacing	
Signal Zero:	0	0	mV
Calibrated Amplitude:	81.1961	81.1961	mV
Reading at Signal Zero:	-0.00136719	0.000341797	V
Reading in Free Pipe:	1.63259	1.54231	V
Gain:	49.6928	52.6575	
Offset:	0.0679394	-0.0179982	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
			CENT-Probe (PTS_MONO) Probe 2 3/4 Centralizer	2.88	2.75	35.00
WVF3 WVF5	13.70 12.70		CBL-Probe (061115) Probe 2.75" Dual Receiver Bond	8.92	2.75	60.00
			CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
CCL GR	5.79 4.42		GR-Probe275dig (pr051003) Probe Digital Gamma CCL	4.75	2.75	57.00
TEMP LLMTEN	0.58 0.00		TEMP-1.375TEMP (0001) Temperature Tool	1.88	1.38	30.00

Dataset: laramie_knox_03_09b_cbl.db: field/well/run1/MAIN1
Total Length: 22.81 ft
Total Weight: 218.00 lb
O.D.: 2.75 in

Company	LARAMIE ENERGY		
Well	KNOX 03-09B		
Field	RULISON		
County	GARFIELD	State	CO

HALLIBURTON

ACOUSTIC CEMENT BOND LOG