Company	CARRIZO OIL AND GAS
Well	TIMBRO RANCH 17-11-9-59
Field	WILDCAT
County	WELD State CO

HALLIBURTON

CEMENT BOND LOG

Company	CARRIZO OIL AND GAS
Well	TIMBRO RANCH 17-11-9-59
Field	WILDCAT
County	WELD State CO

API No.: 05123338010000 Serv #: 90056215
Location: LAT: 40.757040° LONG: -104.009970°
251' FNL & 466' FWL NWNW

Other Services
N/A

Sec: 17 Twp: 9N Rge: 59W

Permanent Datum	GL	Elevation 5021	Elevation
Log Measured From	KB , 17 Ft. above perm. datum		K.B. 5038
Drilling Measured From	KB		D.F. 5037 G.L. 5021

Date @ Time Logged	2-JUL-13	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.33
Depth - Driller	10718'	Fluid Level	0'
Depth - Logger	5974'	Cement Top Est. Logged	450'
Bottom - Logged Interval	5974'	Equipment / Location	11874896 / BRIGHTON
Top - Log Interval	SURFACE	Recorded by	C. CRADDOCK
Max. Recorded Temp.	125° F	Witnessed by	P. LINK

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Date / Time Cemented	N/A	N/A	N/A	N/A
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	12.25"	0	1400'	9.625"	36	0	1400'
ONE	8.75"	0	6765'	7"	23	0	5556'
ONE	6.125"	0	10718'	4.5"	11.6	5556'	10718'

<<< 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 WHICH 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

FIRST LOGS IN WELL
ESTIMATED TOP OF CEMENT@ 450'
LINER TOP @ 5556'
FREE PIPE IN 7" CALIBRATED @ 320'

THANL YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES
CREW: R. CRAWFORD, C. CRADDOCK, T. ANDERSON, B. SHUPE

Service Ticket No.	900562215	API No.	05123338010000	PGM Ver	WARRIOR 7.0

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

EQUIPMENT DATA

GR		CBL		N/A		TEMP	
Run No.	ONE	Run No.	ONE	Run No.		Run No.	ONE
Serial No.	GR275	Serial No.	CBL275	Serial No.		Serial No.	TIT1.3
Model No.	PROBE	Model No.	PROBE	Model No.		Model No.	TITAN
Diameter	2.75	Diameter	2.75	Diameter		Diameter	1.3875

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No.	From	To	Pressure	Ft/Min	
ONE	5974'	SURFACE	1000PSI	70	4.5" TO 7"

	GR		AMP		MSG		TEMP	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	150	0	100	200	1200	0	200
			0	10				

DIRECTIONAL INFORMATION

Maximum Deviation		deg. @		KOP		

HALLIBURTON

MAIN PASS 7"

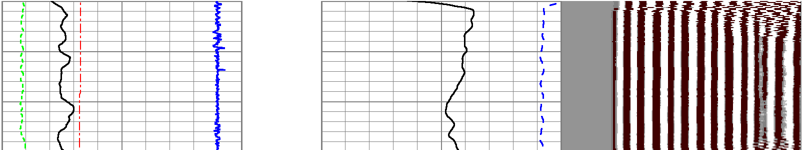
1000 PSI

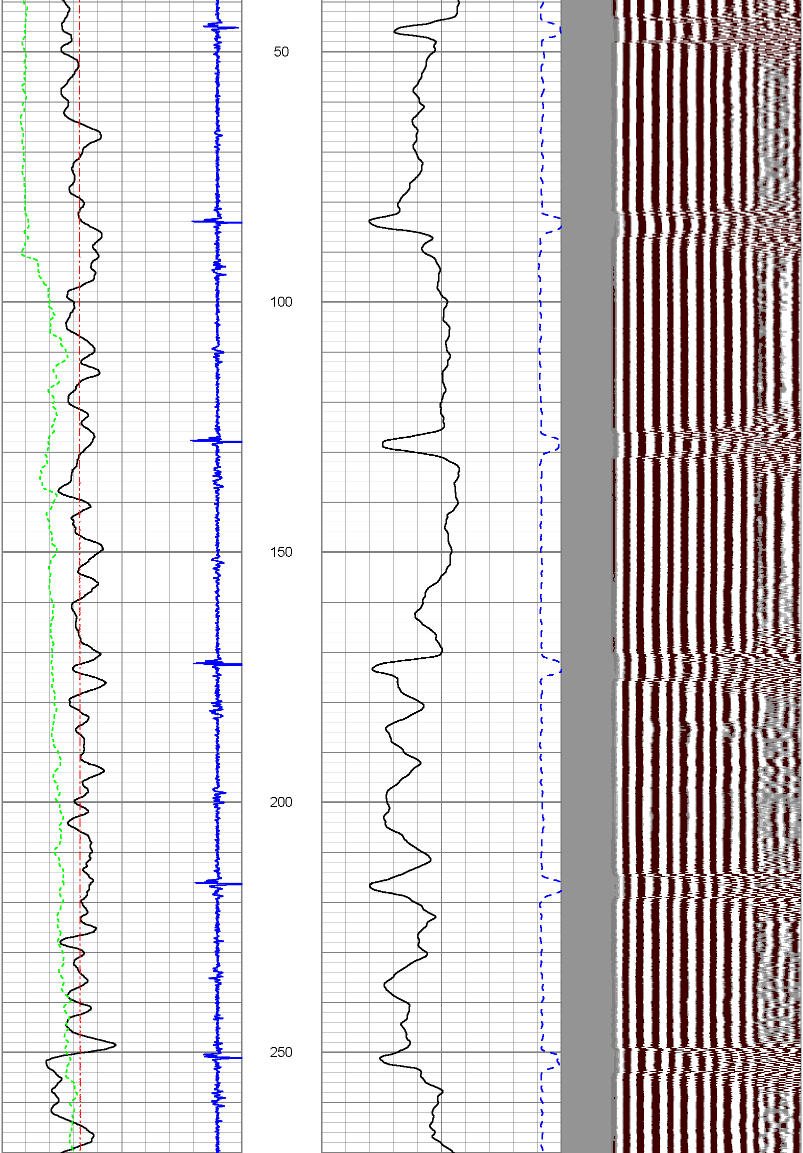
Database File:	carrizo_timbro_ranch_17_11_9_59.db
Dataset Pathname:	pass15
Presentation Format:	1cbl
Dataset Creation:	Tue Jul 02 12:56:27 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

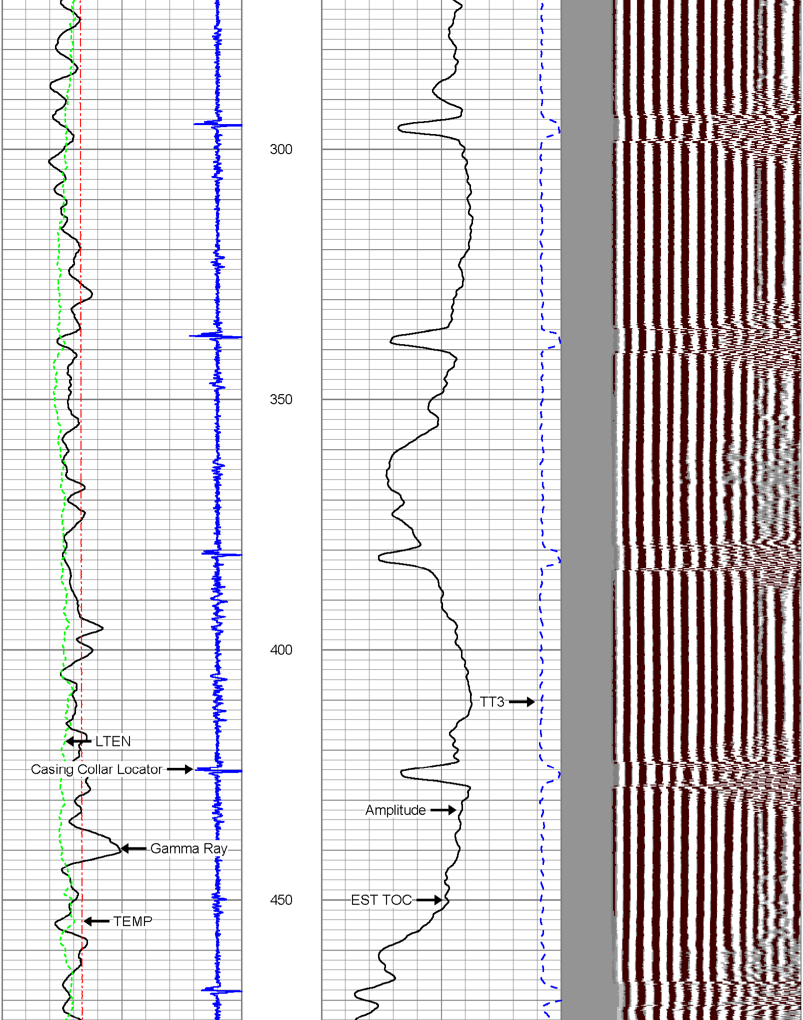
9	Collar Locator	-1
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500
0	TEMP (degF)	200

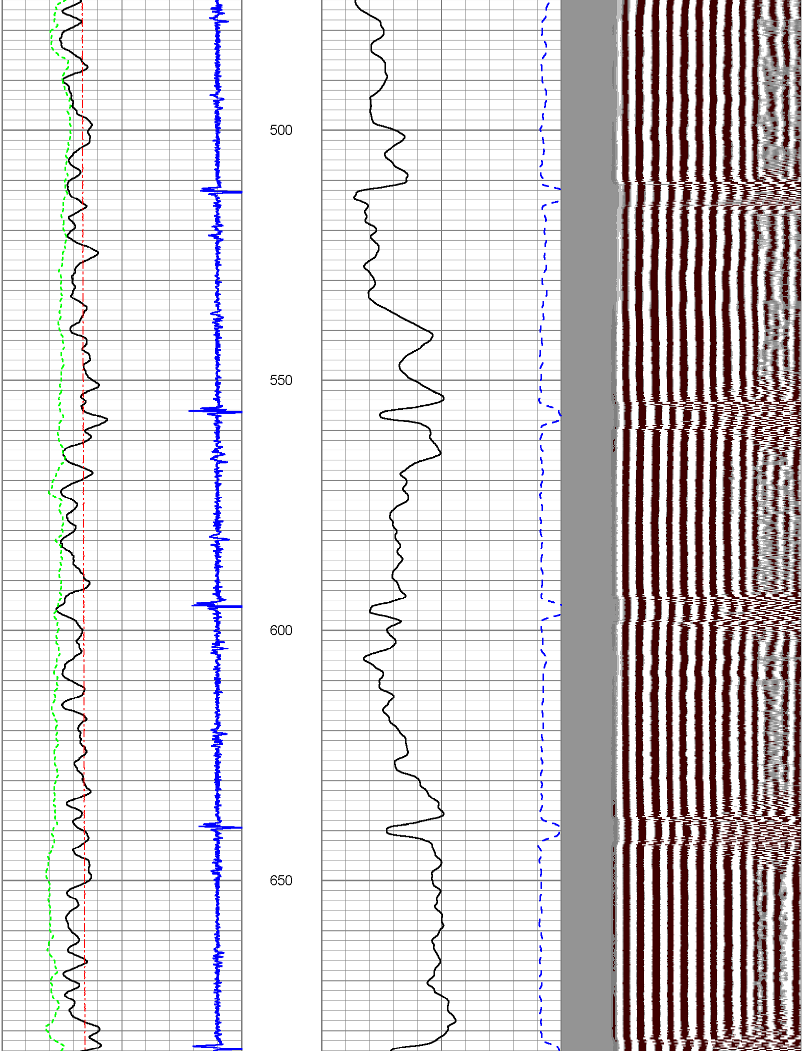
0	Amplified Amplitude (mV)	10
0	Amplitude (mV)	100
200	TRAVEL TIME (usec)	300

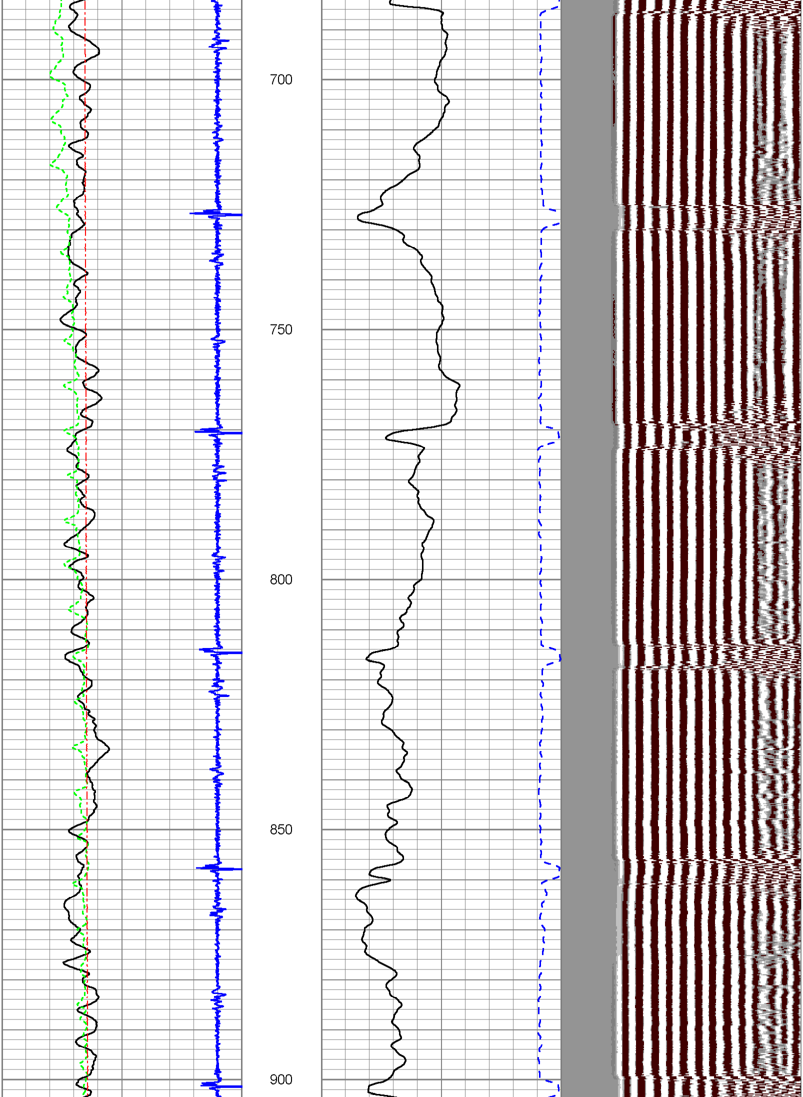
200	MSG	1200

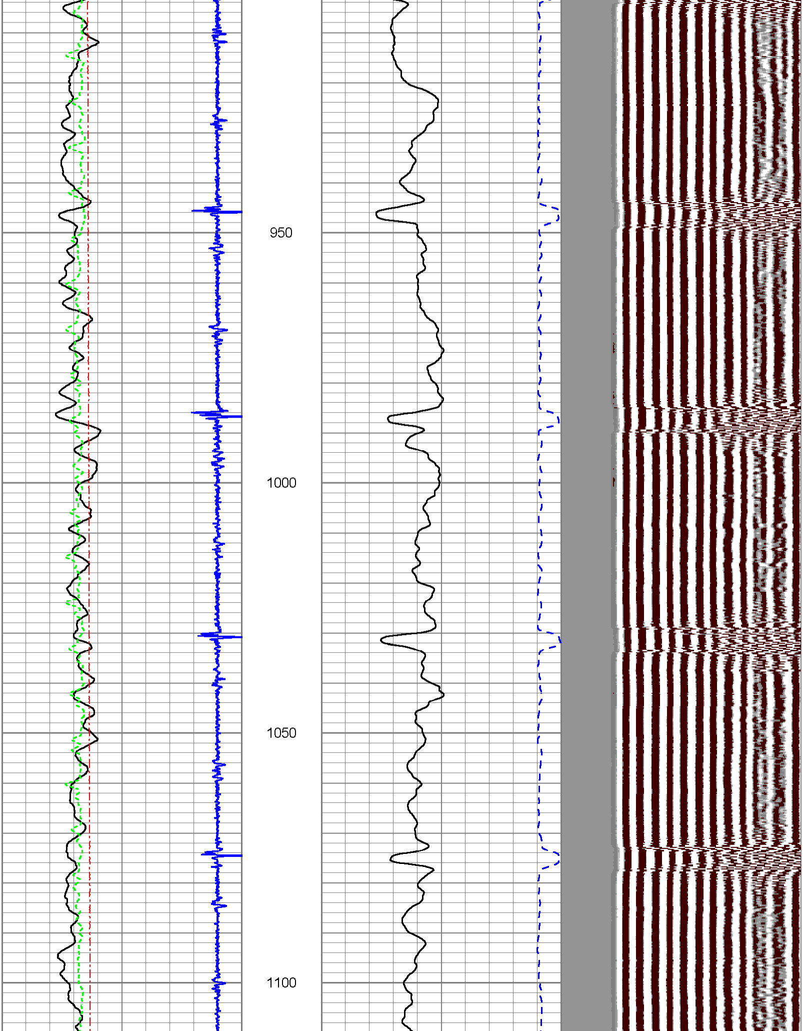


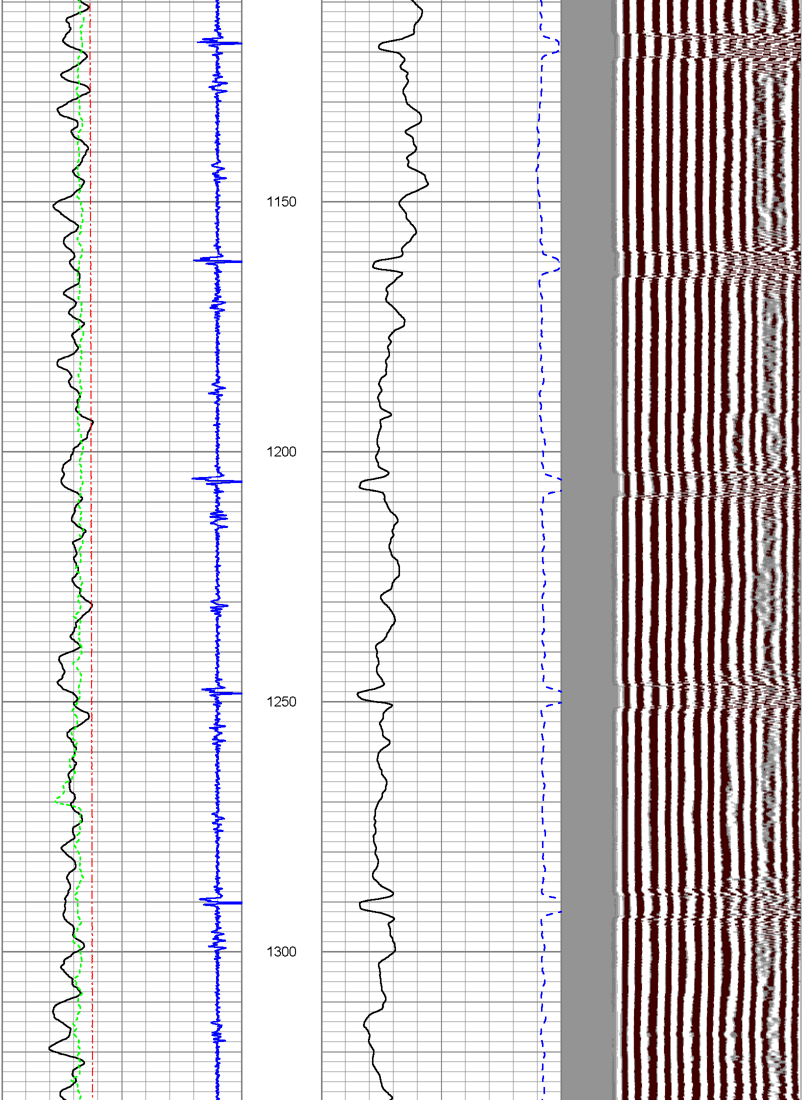


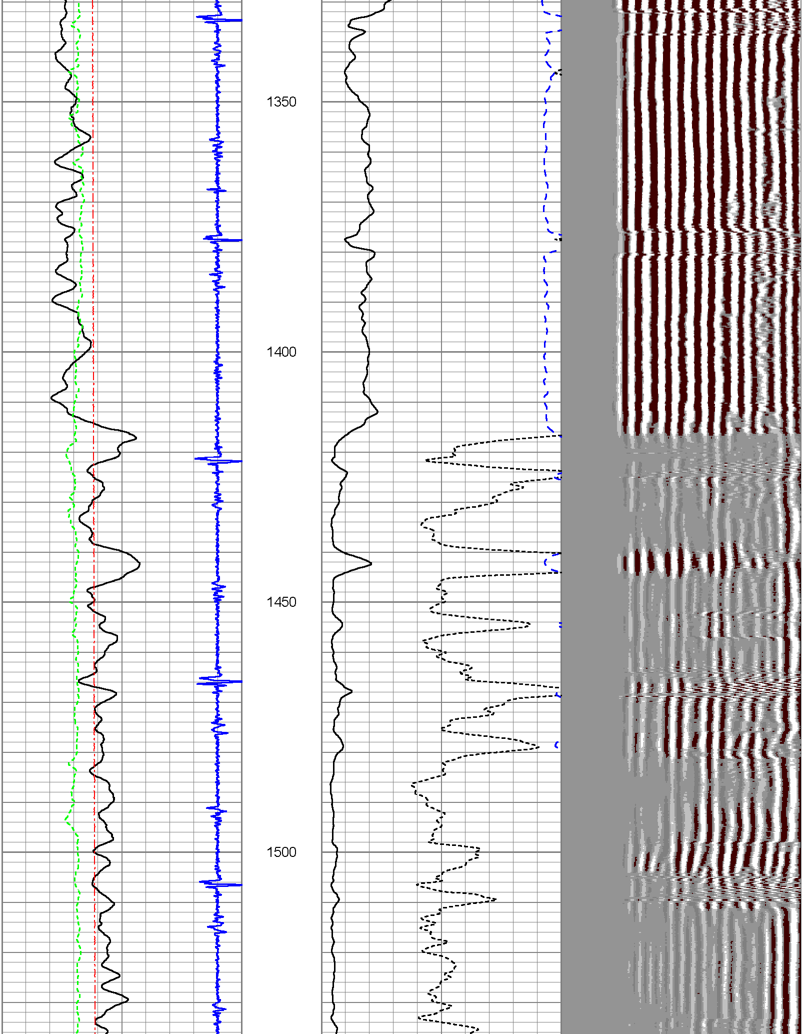


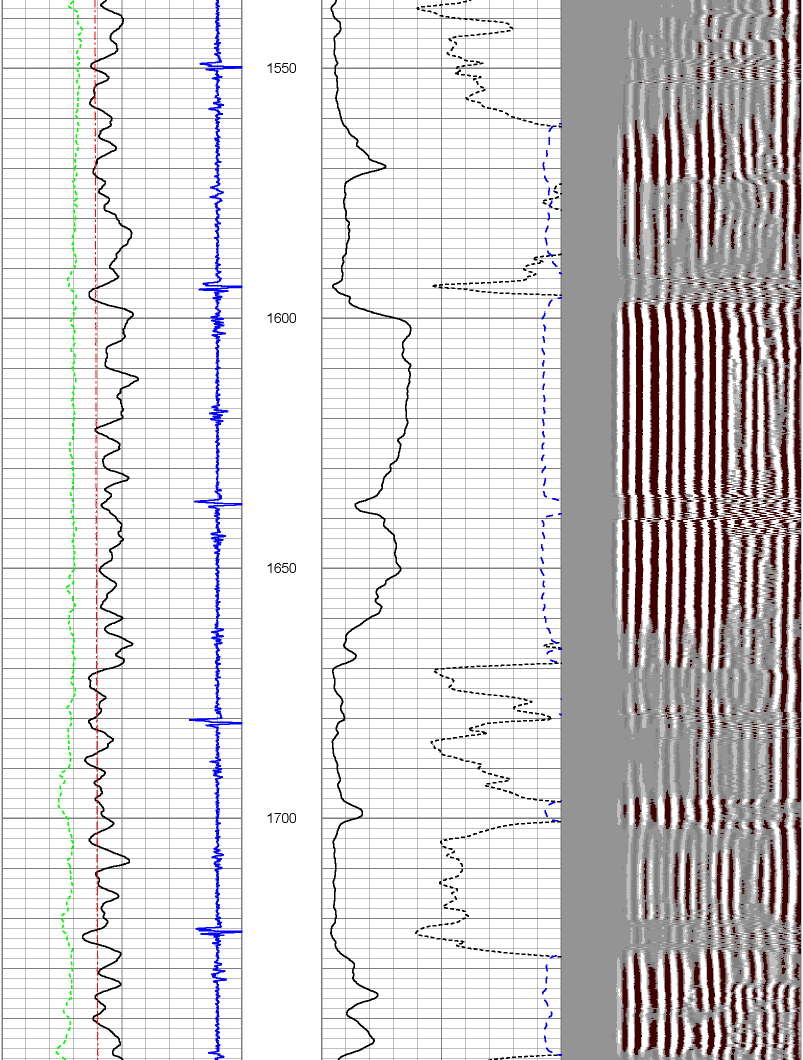


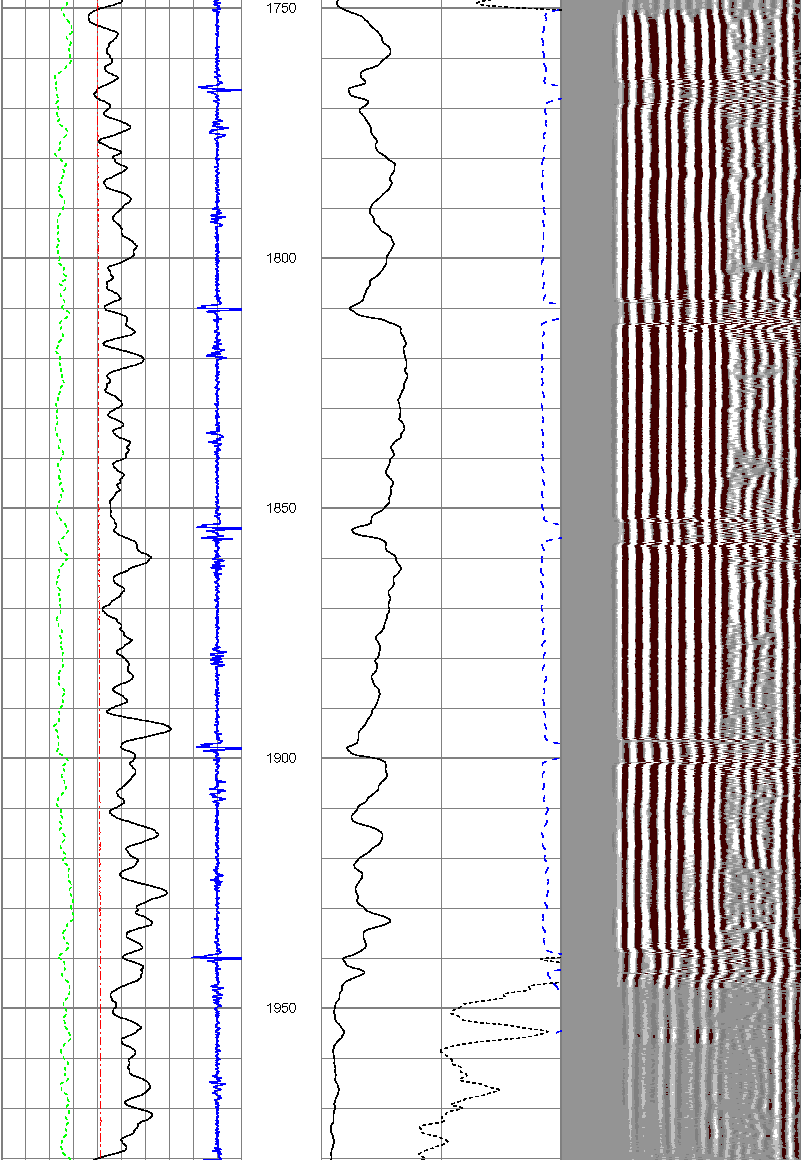


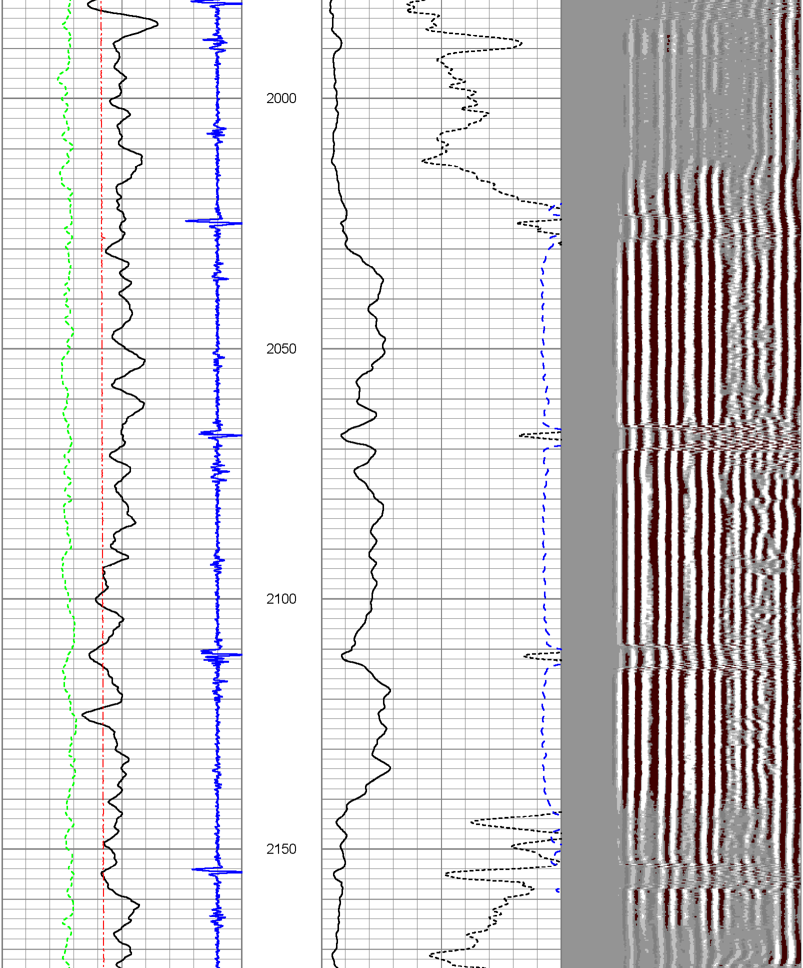


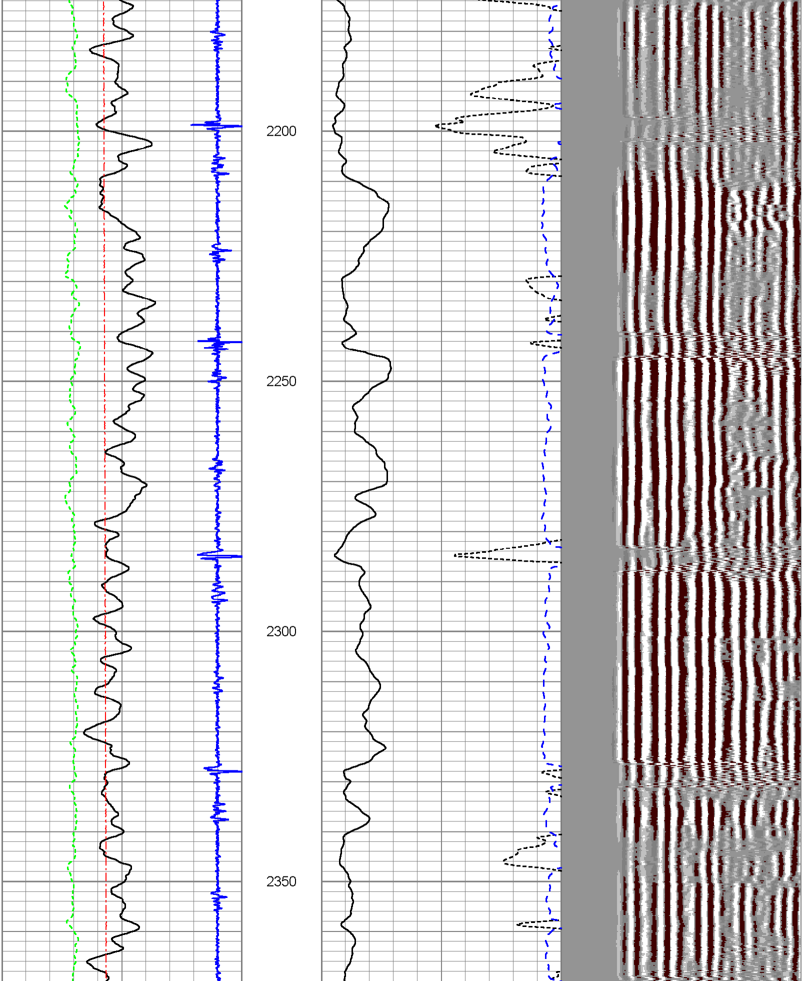


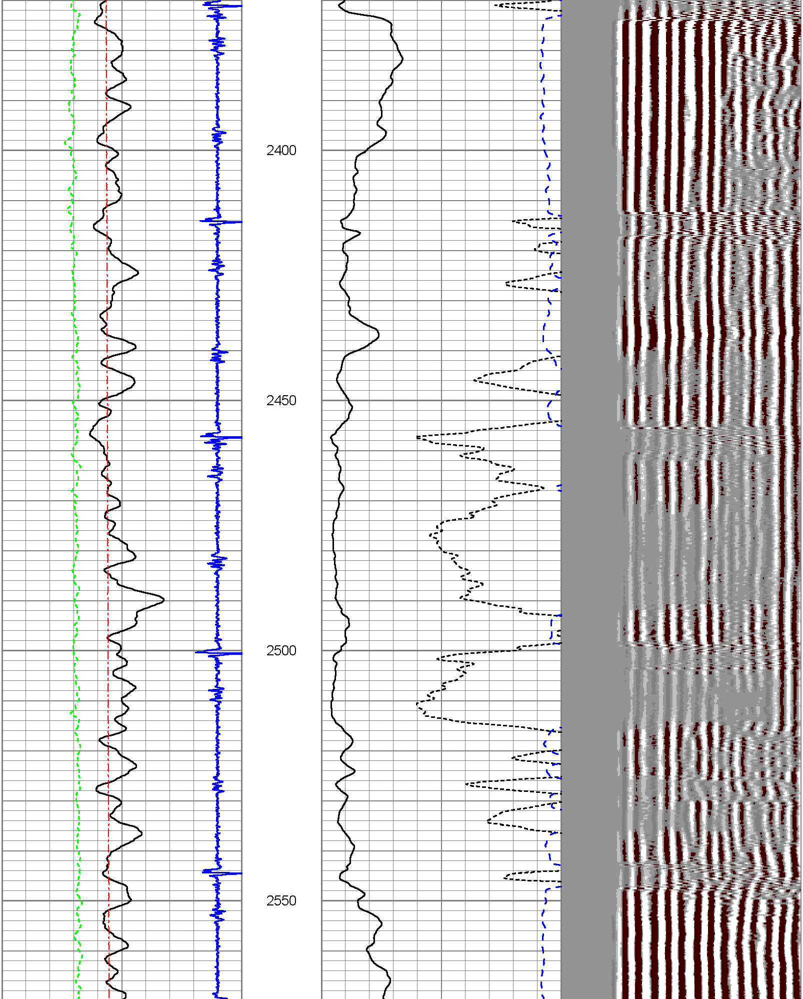


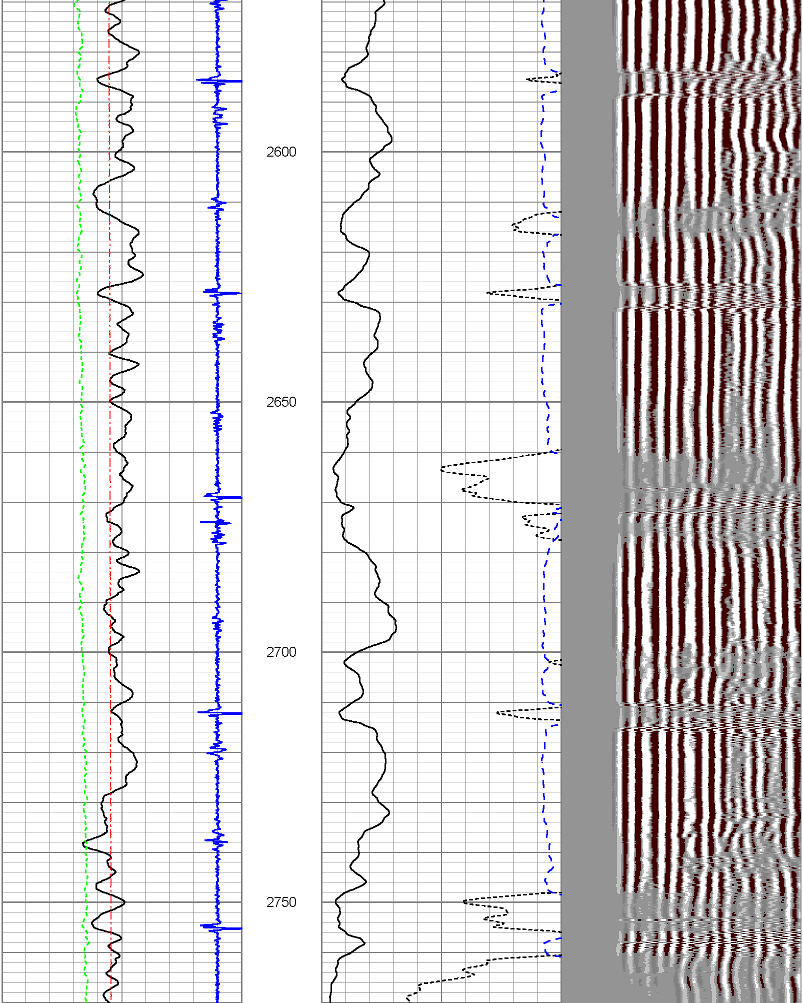


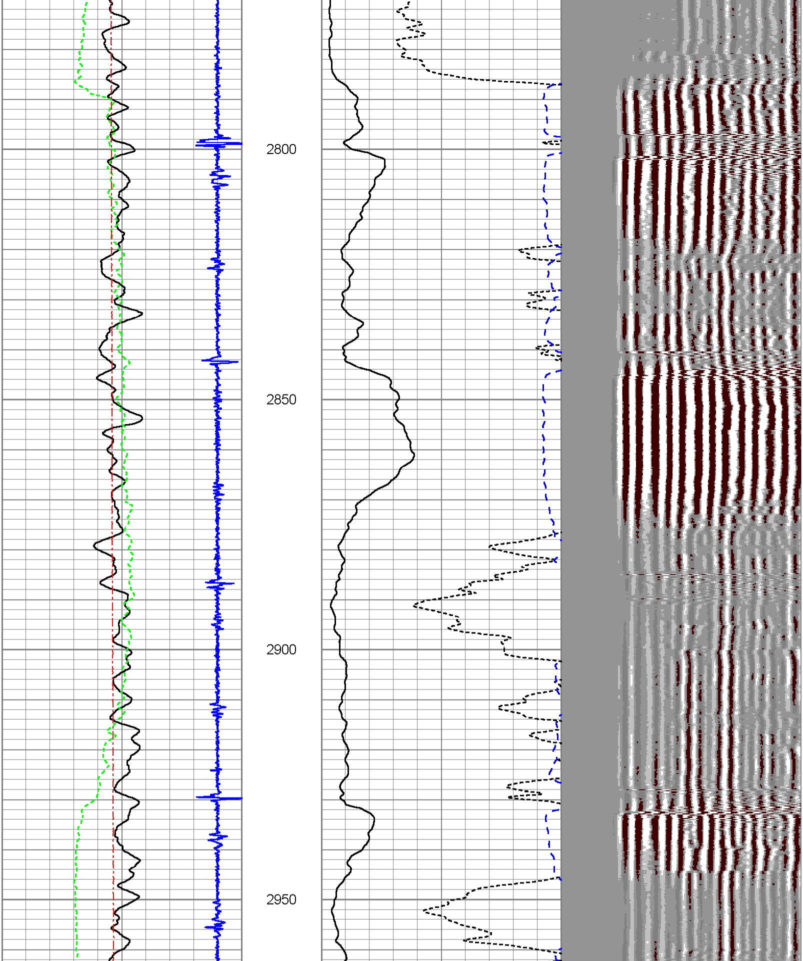


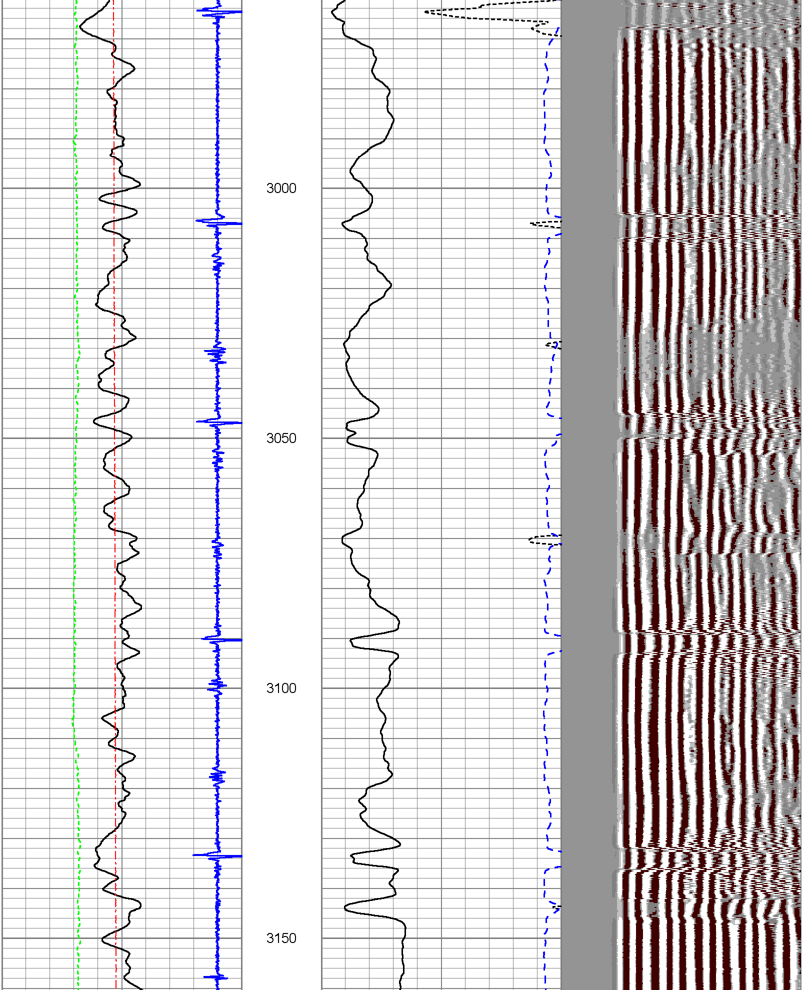


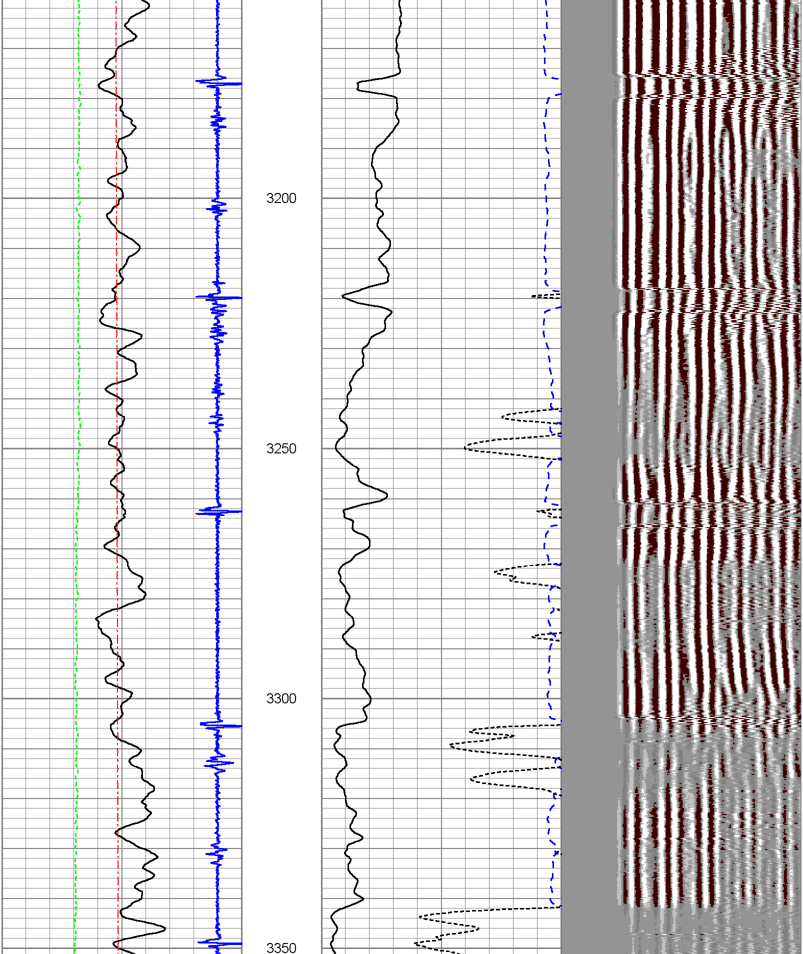


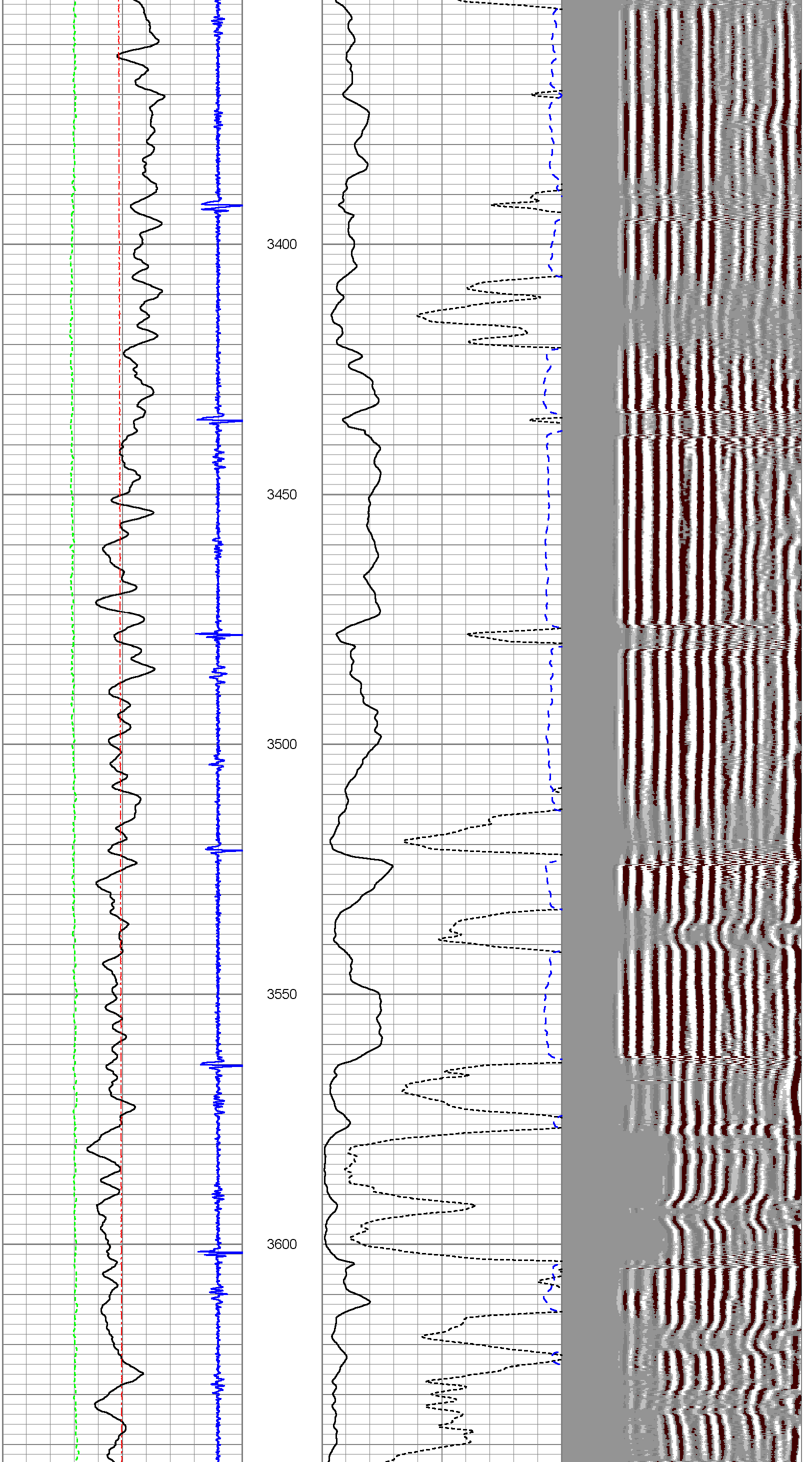


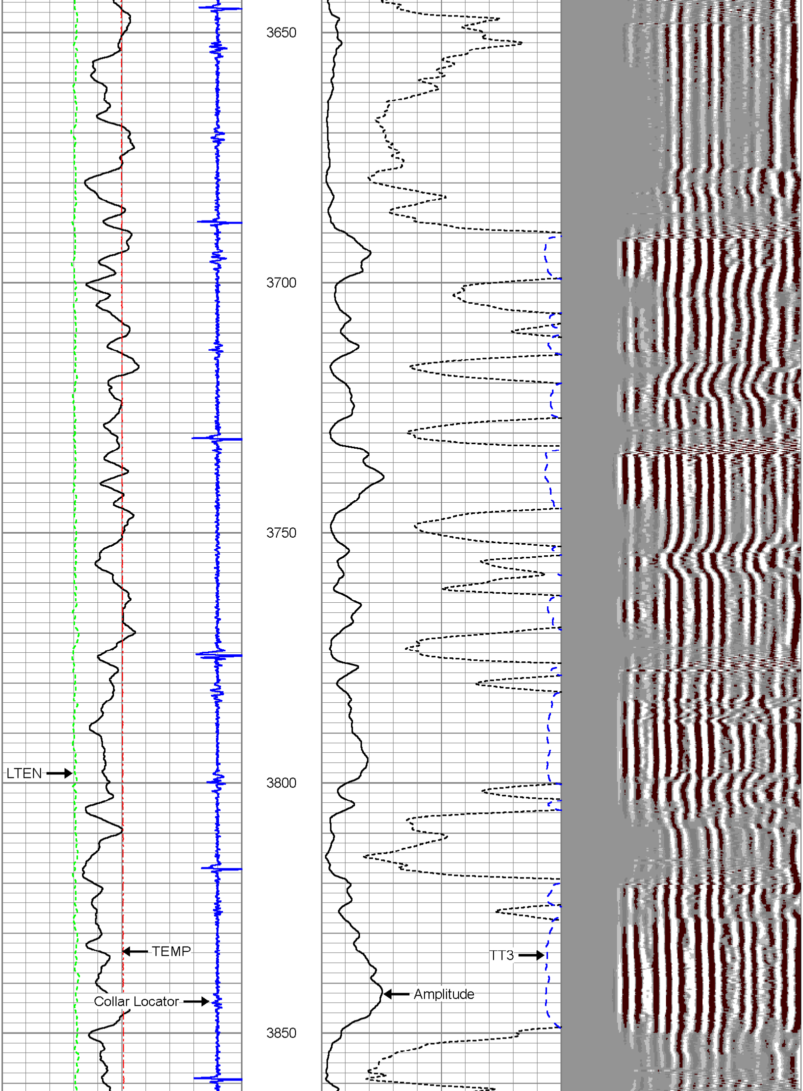


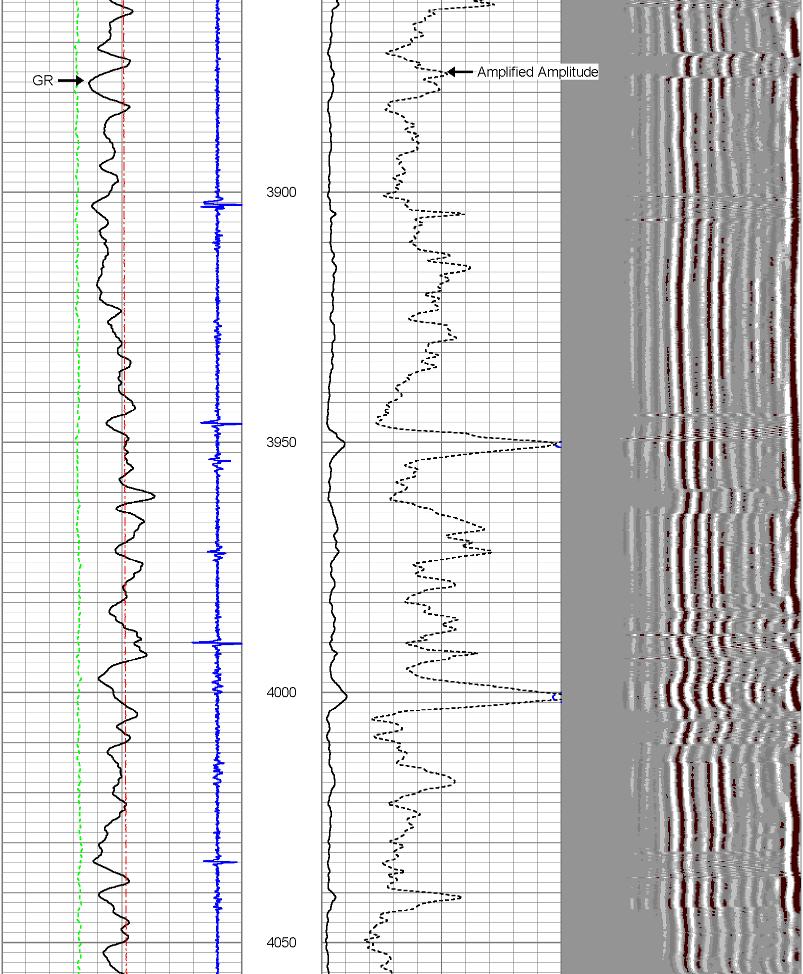


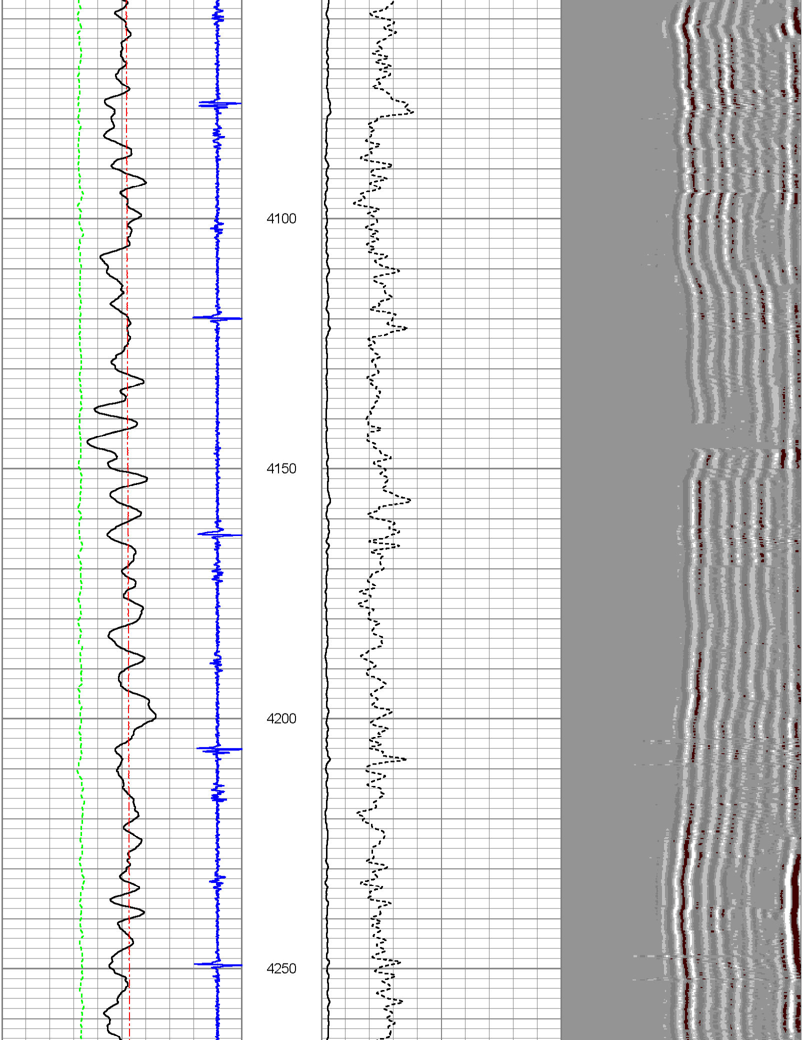


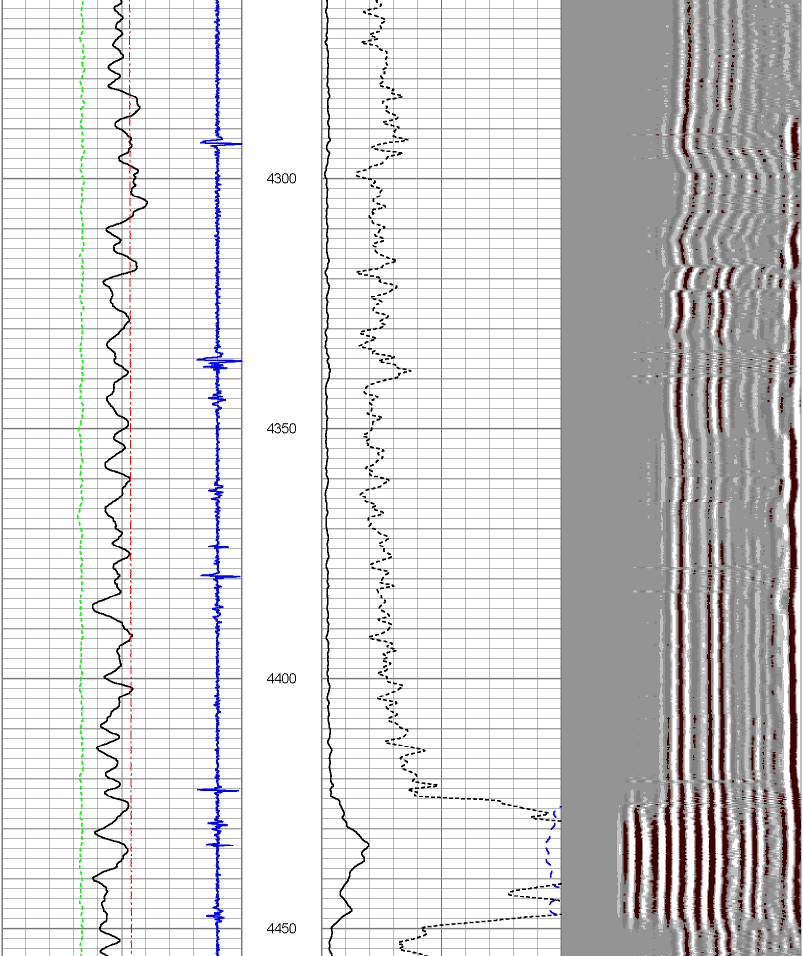


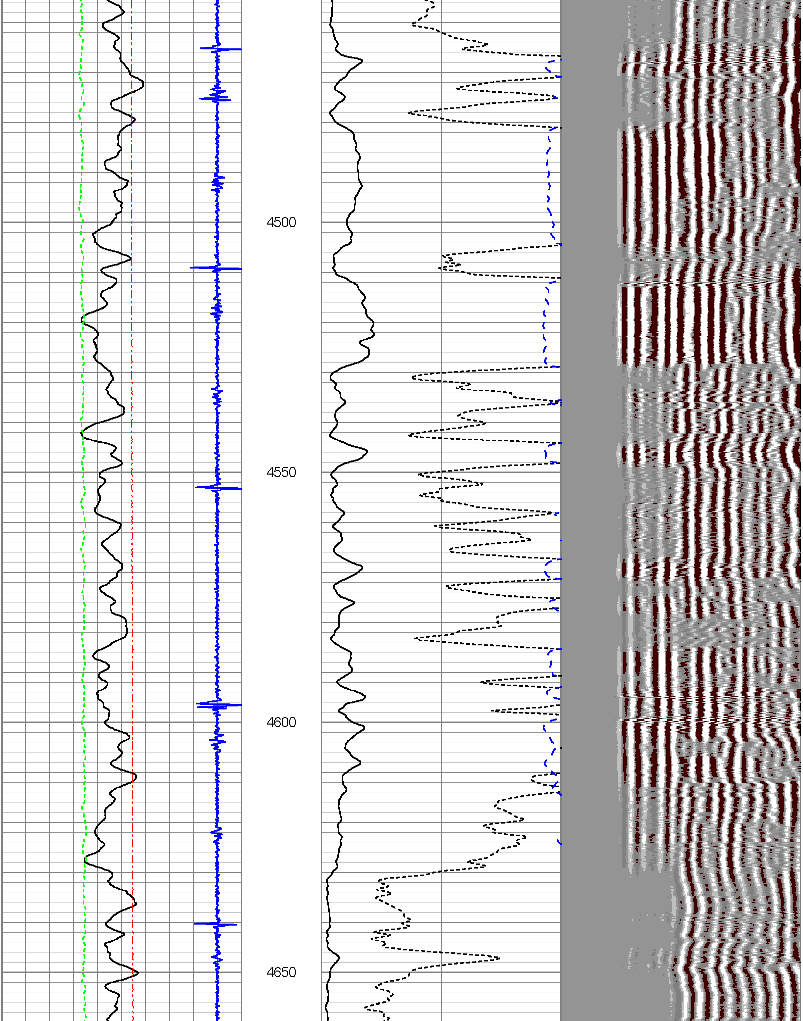


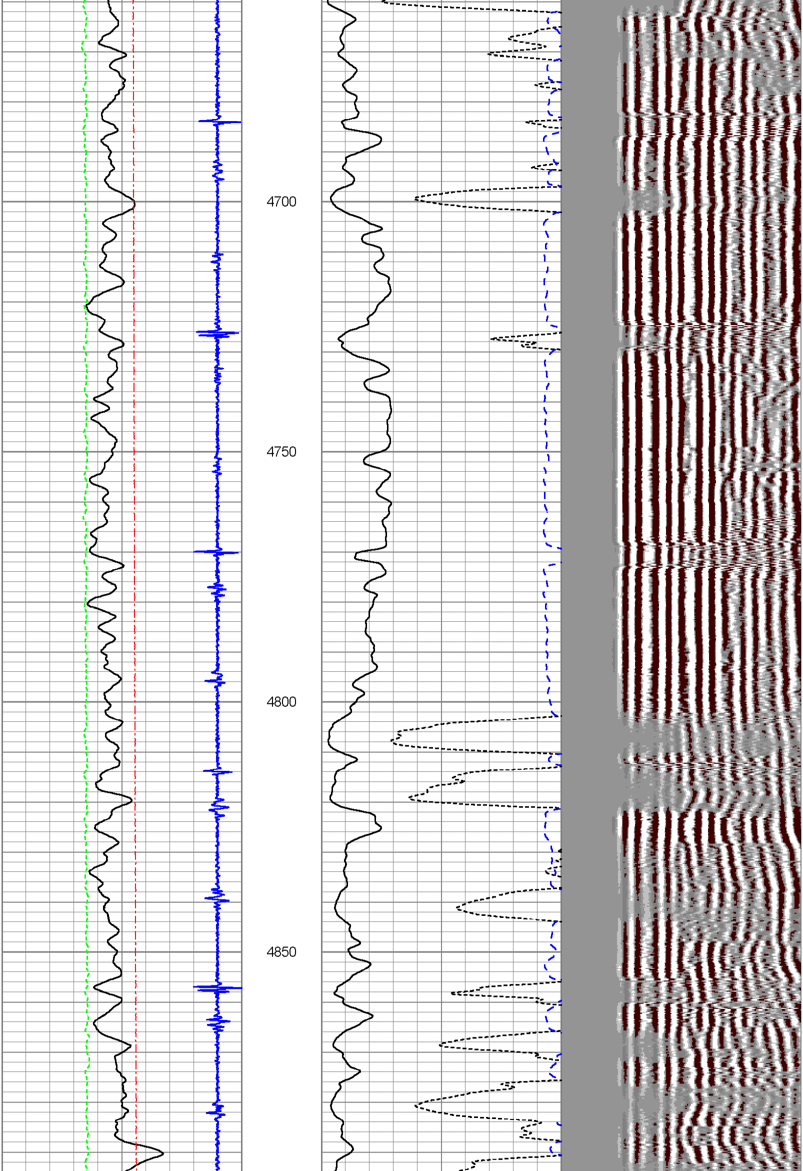


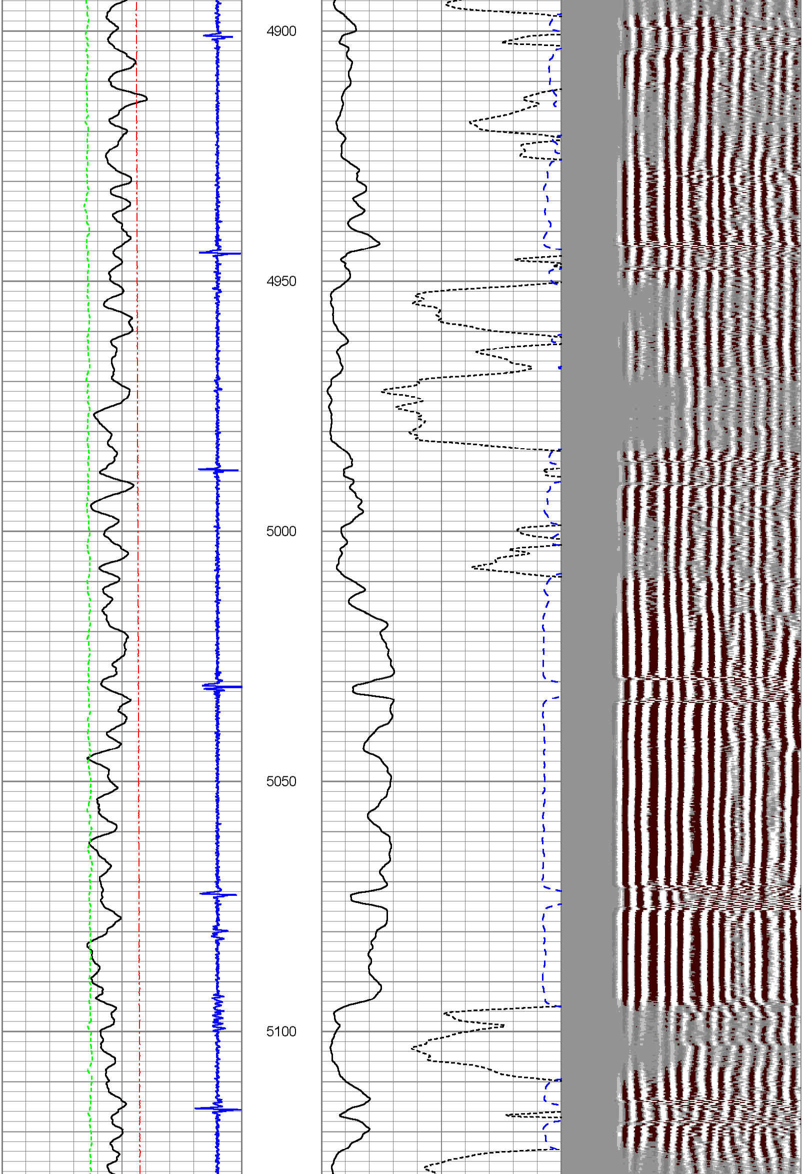


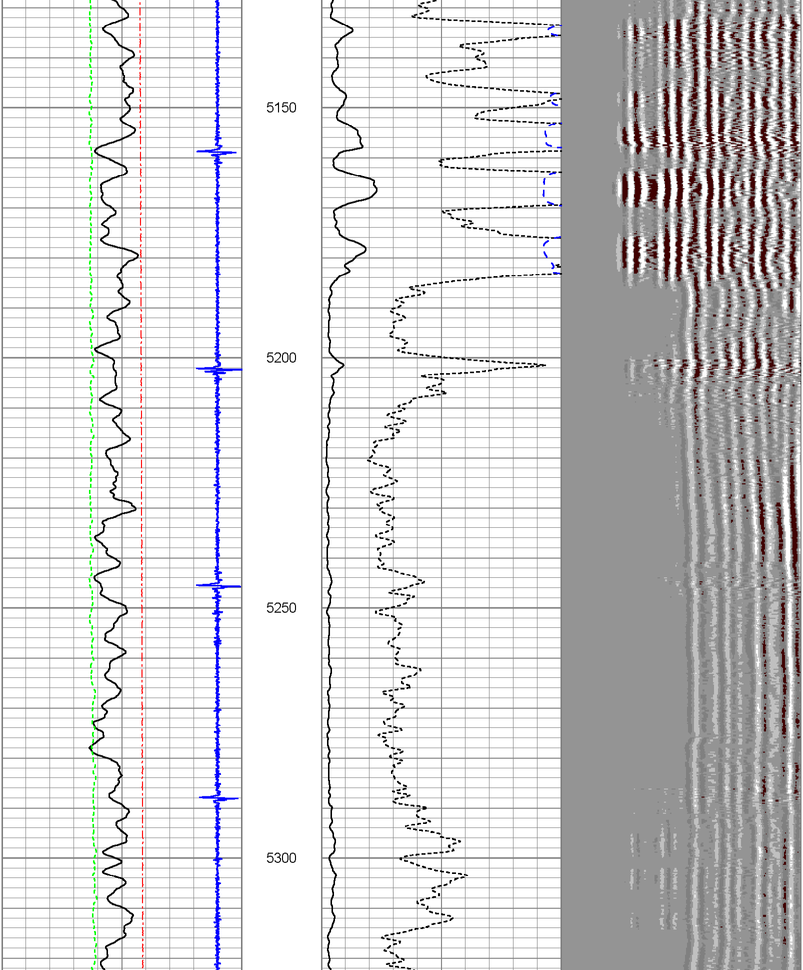


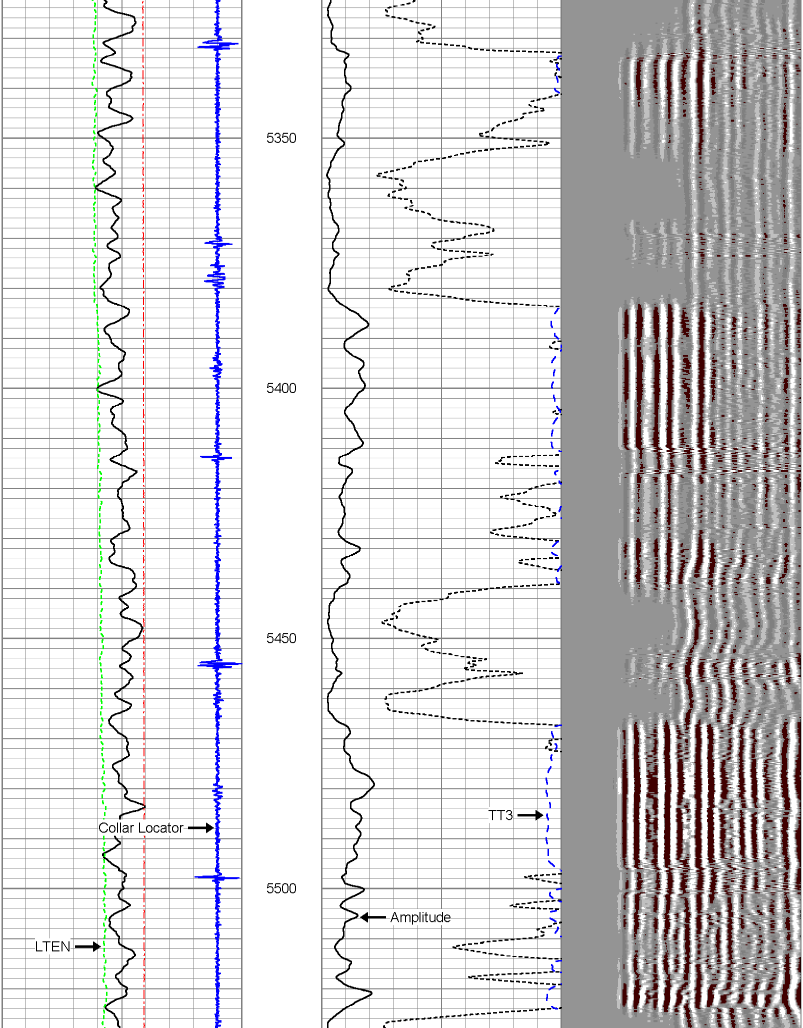


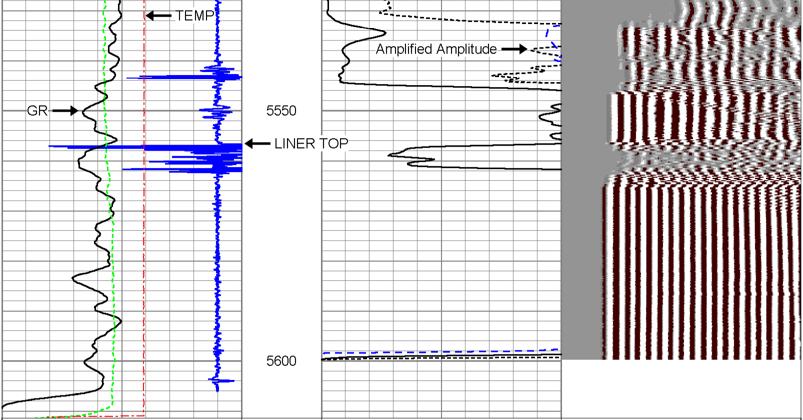












9 Collar Locator -1
0 Gamma Ray (GAPI) 150
0 LTEN (lb) 2500
0 TEMP (degF) 200

0 Amplified Amplitude (mV) 10
0 Amplitude (mV) 100
200 TRAVEL TIME (usec) 300

200 MSG 1200
▨ ▨ ▨ ■

HALLIBURTON

MAIN PASS 7"

1000 PSI

HALLIBURTON

MAIN PASS 4.5"

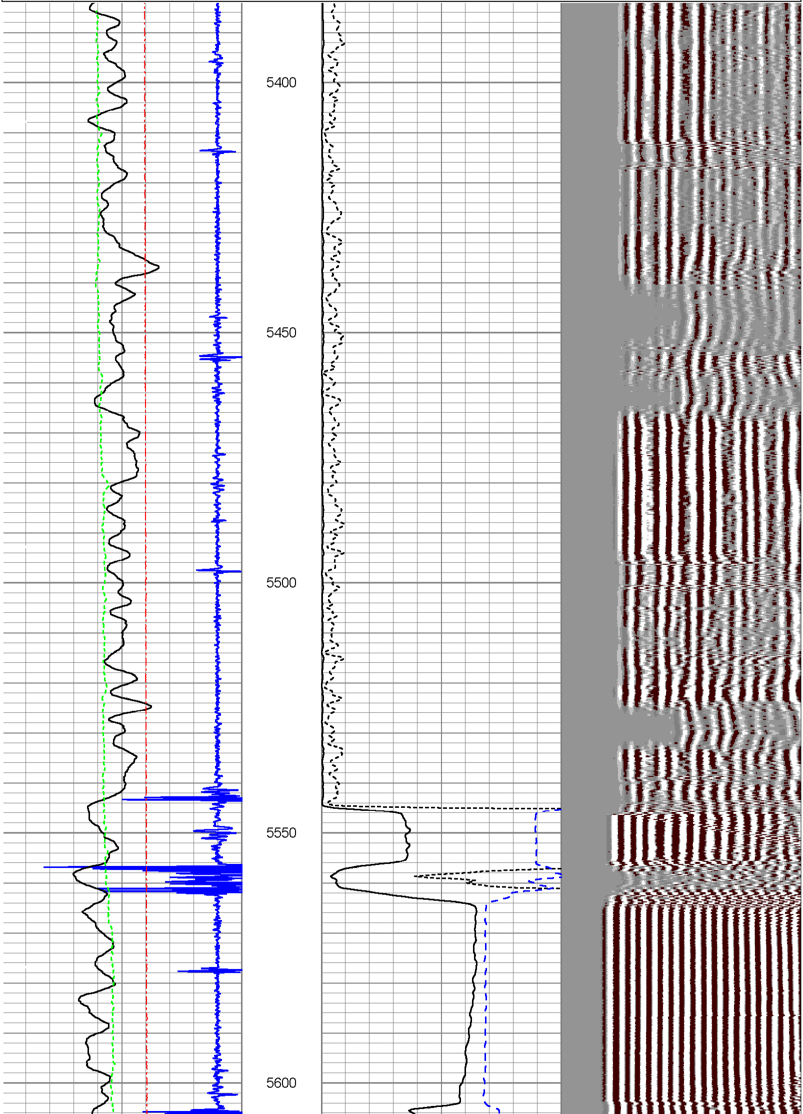
1000 PSI

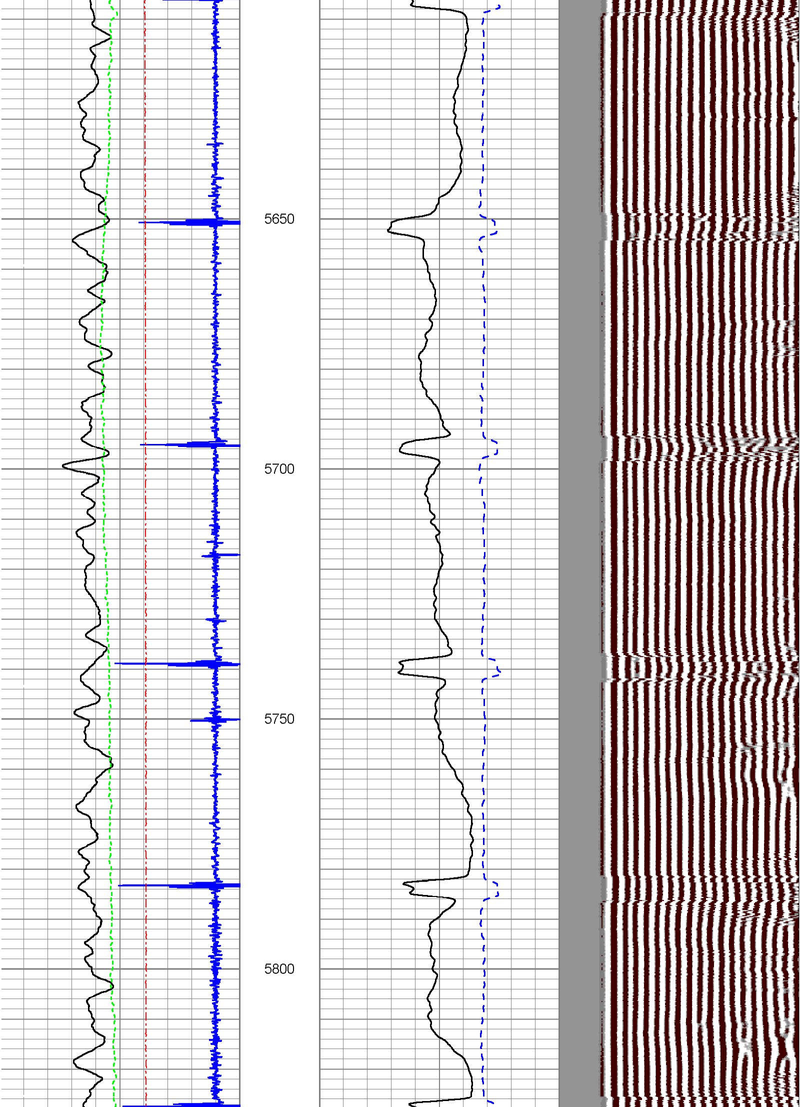
Database File:	carrizo_timbro_ranch_17_11_9_59.db
Dataset Pathname:	pass13
Presentation Format:	1cbl
Dataset Creation:	Tue Jul 02 12:43:18 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

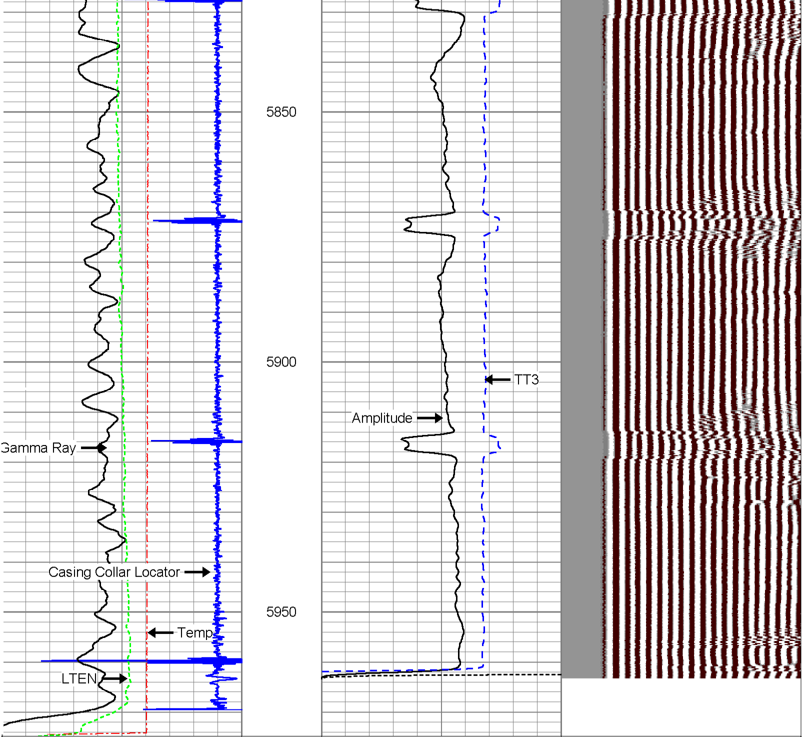
9 Collar Locator -1
0 Gamma Ray (GAPI) 150
0 LTEN (lb) 2500
0 TEMP (degF) 200
0 MINMK 10

0 Amplified Amplitude (mV) 10
0 Amplitude (mV) 100
180 TRAVEL TIME (usec) 280

200 MSG 1200
▨ ▨ ▨ ■







9	Collar Locator	-1
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500
0	TEMP (degF)	200
0	MINMK	10

0	Amplified Amplitude (mV)	10
0	Amplitude (mV)	100
180	TRAVEL TIME (usec)	280

200	MSG	1200

HALLIBURTON

MAIN PASS 4.5"

1000 PSI

HALLIBURTON

REPEAT PASS 4.5"

1000 PSI

Database File:	carrizo_timbro_ranch_17_11_9_59.db
Dataset Pathname:	pass10
Presentation Format:	1cbl
Dataset Creation:	Tue Jul 02 12:20:18 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

9 Collar Locator -1

0 Gamma Ray (GAPI) 150

0 LTEN (lb) 2500

0 TEMP (degF) 200

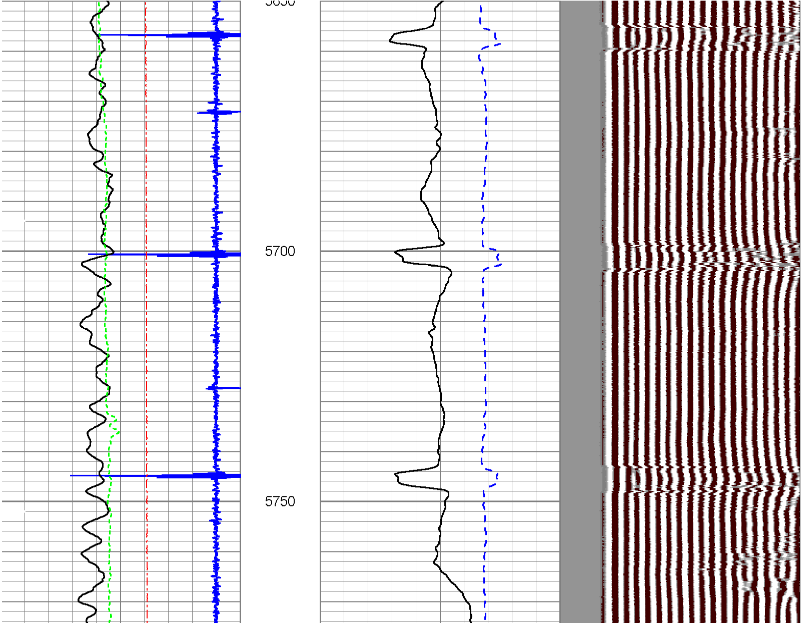
0 MINMK 10

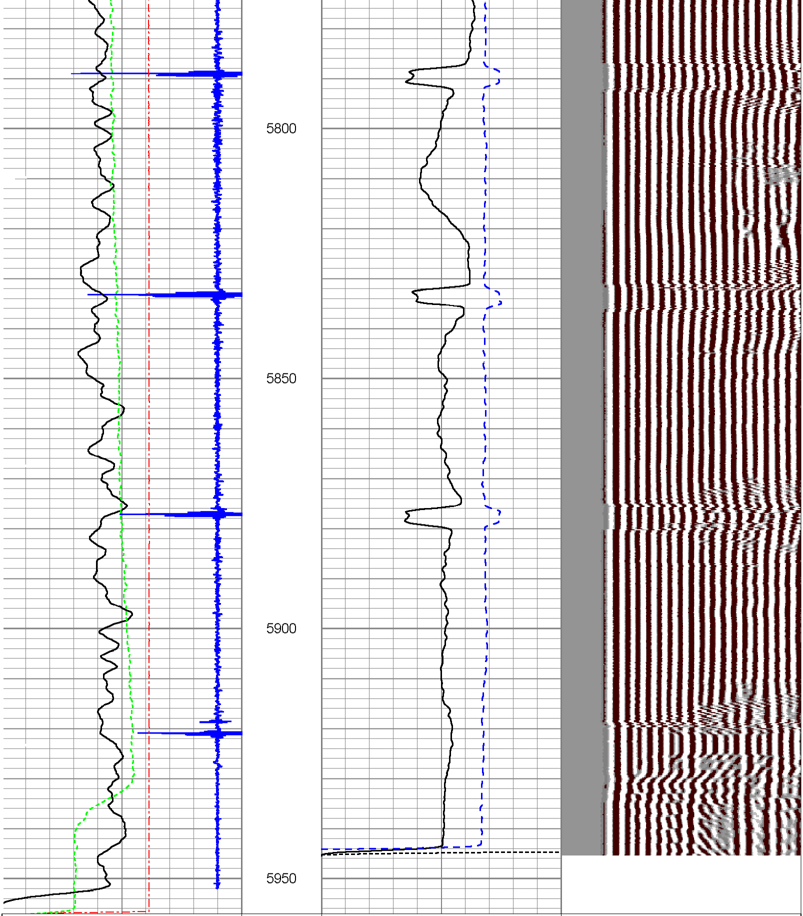
0 Amplified Amplitude (mV) 10

0 Amplitude (mV) 100

180 TRAVEL TIME (usec) 280

200 MSG 1200





9 Collar Locator -1	0 Amplified Amplitude (mV) 10	200 MSG 1200
0 Gamma Ray (GAPI) 150	0 Amplitude (mV) 100	
0 LTEN (lb) 2500	180 TRAVEL TIME (usec) 280	
0 TEMP (degF) 200		
0 MINMK 10		

HALLIBURTON

REPEAT PASS 4.5"

1000 PSI

Calibration Report

Database File: carrizo_timbro_ranch_17_11_9_59.db
Dataset Pathname: pass16
Dataset Creation: Tue Jul 02 14:21:50 2013 by Log Halliburton Casedho

Temperature Calibration Report

Serial Number: Tit1.3_02
Tool Model: Titan
Performed: Sun Jan 20 14:20:13 2013

	Reference	Reading
Low Reference:	61.00 degF	558.10 cps
High Reference:	120.00 degF	1975.90cps

Gain: 0.04
Offset: 37.78
Delta Spacing 2

Gamma Ray Calibration Report

Type / Serial: Probe / 275

SHOP CALIBRATION Tue Jul 02 10:50:50 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	61.6				cps
Calibrator	270.8				cps
		1.1521			GAPI/cps

PRIMARY VERIFICATION Tue Jul 02 10:55:11 2013

Background	72.6				cps
Calibrator	303.3				cps
Difference				230.7	GAPI

BEFORE SURVEY VERIFICATION Tue Jul 02 10:59:13 2013

Background	68.0				cps
Calibrator	304.1				cps
Difference				236.1	GAPI

AFTER SURVEY VERIFICATION Tue Jul 02 14:21:20 2013

Background	80.5				cps
Calibrator	324.3				cps
Difference				243.8	GAPI

Cement Bond Log Calibration Report

Serial Number: 275
Tool Model: Probe
Performed: Tue Jul 02 11:29:58 2013

Depth: 325.858 ft
Casing Diameter: 5.5 in

	3' Spacing	5' Spacing	
Signal Zero:	0.15	0.15	mV
Calibrated Amplitude:	62	62	mV
Reading at Signal Zero:	0.00302734	0.00288086	V
Reading in Free Pipe:	0.480566	0.541675	V
Gain:	129.518	114.793	
Offset:	-0.242096	-0.180704	

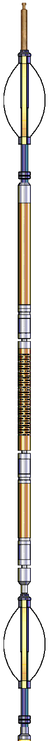
Log Variables

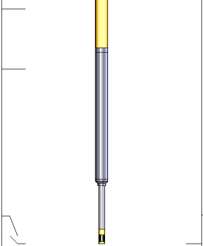
Database:D:\Warrior_data\carrizo_timbro_ranch_17_11_9_59.db
Dataset: field/well/run1/pass16

Top - Bottom

CASEWGHT lb/ft	PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft
23	0	62	0	0	7	0	5556

BOTTEMP degF	BITSIZE in
120	7.875

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
STNDCH	21.29					
			1_CABLEHEAD 1"OD CABLE HEAD	1.02	1.44	3.00
CENT	20.27					
			CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
			CBL-Probe (275) Probe 2.75" Dual Receiver Bond	8.92	2.75	60.00
WVF3	12.72					
WVF5	11.72					
CENT	8.47					
			CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
GR	5.58					



CCL	5.08				
GR	3.79	GR-Probe (275) Probe 2.75" 4 Channel Pulse	4.33	2.75	30.00
TEMP	0.17	TEMP-Titan (Tit1.3_02) Titan Temp 1.3875	1.25	1.39	10.00
LLMTEN	0.00				

Dataset:	carrizo_timbro_ranch_17_11_9_59.db: field/well/run1/pass16
Total Length:	21.29 ft
Total Weight:	173.00 lb
O.D.	2.75 in

Company	CARRIZO OIL AND GAS
Well	TIMBRO RANCH 17-11-9-59
Field	WILDCAT
County	WELD
State	CO

HALLIBURTON

CEMENT BOND LOG