HALLIBURTON

CEMENT BOND LOG

Company CARRIZO NIOBRARA LLC
Well BRINGELSON RANCH 7-20-9-58
Field WILDCAT
County WELD State CO

Company	CARRIZO NIOBRARA LLC
Well	BRINGELSON RANCH 7-20-9-58
Field	WILDCAT
County	WELD State CO

API No.: 05-123-38584 Serv #: 901185386
Location: 830' FSL 568' FWL SWSW
40.731530, -103.895570

Sec: 20 Twp: 9N Rge: 58W

Other Services
NONE

Permanent Datum	GL	Elevation	4857	Elevation
Log Measured From	GL ,	Ft. above perm. datum		K.B. 17 D.F. 17 G.L. 4857
Drilling Measured From	KB			

Date @ Time Logged	12 MARCH 2014	Type Fluid in Hole	FRESH
Run No.	ONE	Density of Fluid	8.33
Depth - Driller	N/A	Fluid Level	FULL
Depth - Logger	5380	Cement Top Est. Logged	550
Bottom - Logged Interval	5380	Equipment / Location	11875120 / BC
Top - Log Interval	0	Recorded by	TAMEEM ISHTEIWY
Max. Recorded Temp.	192	Witnessed by	KIRK WILLIAMS

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

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	N/A	N/A	N/A	9 5/8	36	0	1400
ONE	N/A	N/A	N/A	7	23	0	6069
ONE	N/A	N/A	N/A	4 1/2	11.6	5316	TD

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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

ESTIMATED TOP OF CEMENT AT 550'
THORIUM BLANKET 236 GAPI
7' 23# CASING
NO CORRELATION LOG PROVIDED

*** THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES ***
CREW TODAY: T. ISHTEIWY, D. WASCHKOWSKY, J. WILFAWN, B. MEROLA, C. BUCANEK

Service Ticket No.	901185386	API No.	05-123-38584	PGM Ver	WARRIOR 7

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

EQUIPMENT DATA

GR		CBL					
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	PR070856	Serial No.	276	Serial No.		Serial No.	
Model No.	GR275	Model No.	CBL-PROBE	Model No.		Model No.	
Diameter	2.75	Diameter	2.75	Diameter		Diameter	

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No.	From	To	Pressure	Ft/Min	
ONE	5380	0	1000	100	

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

DIRECTIONAL INFORMATION

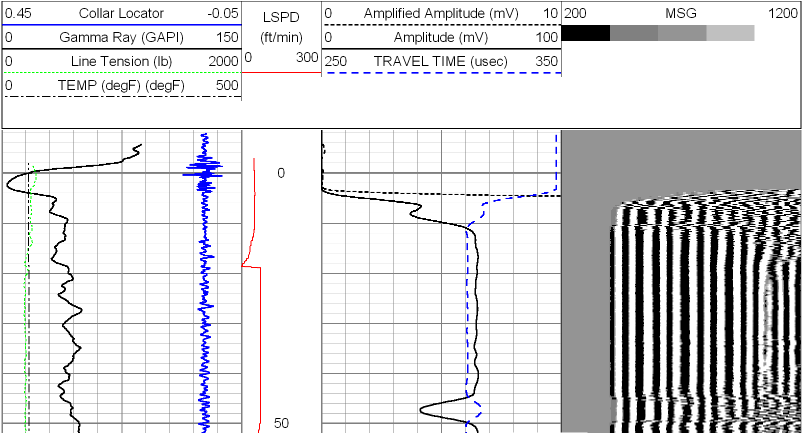
Maximum Deviation		deg. @		KOP		

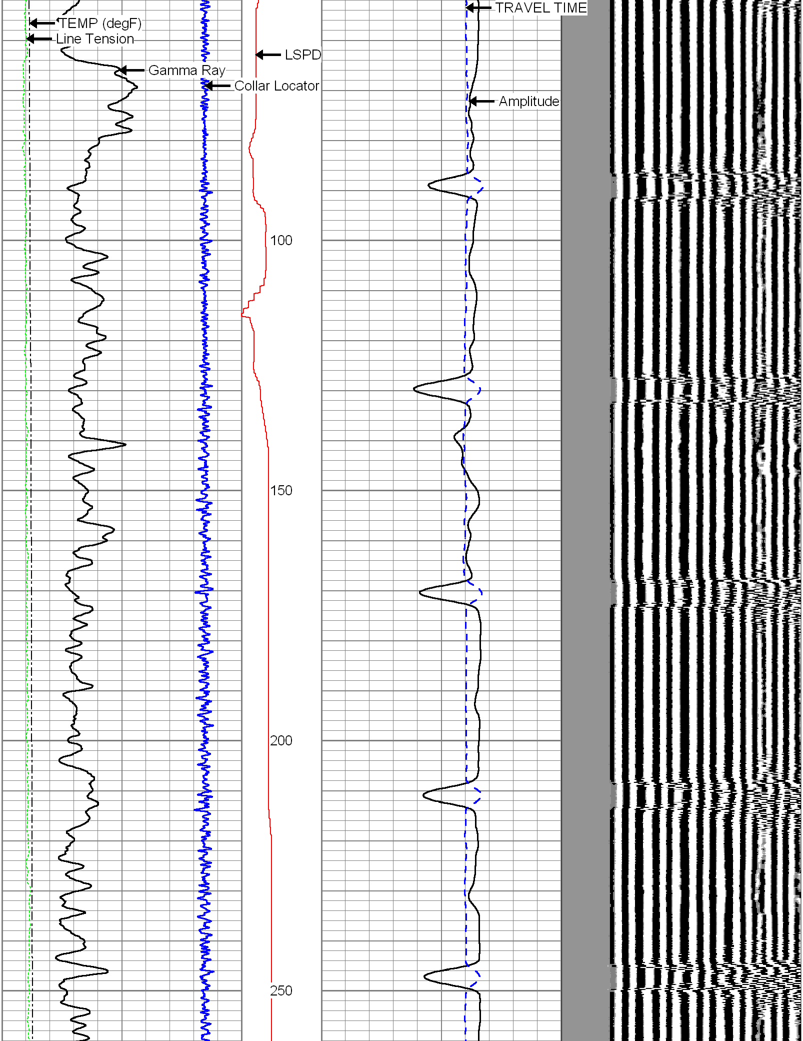
HALLIBURTON

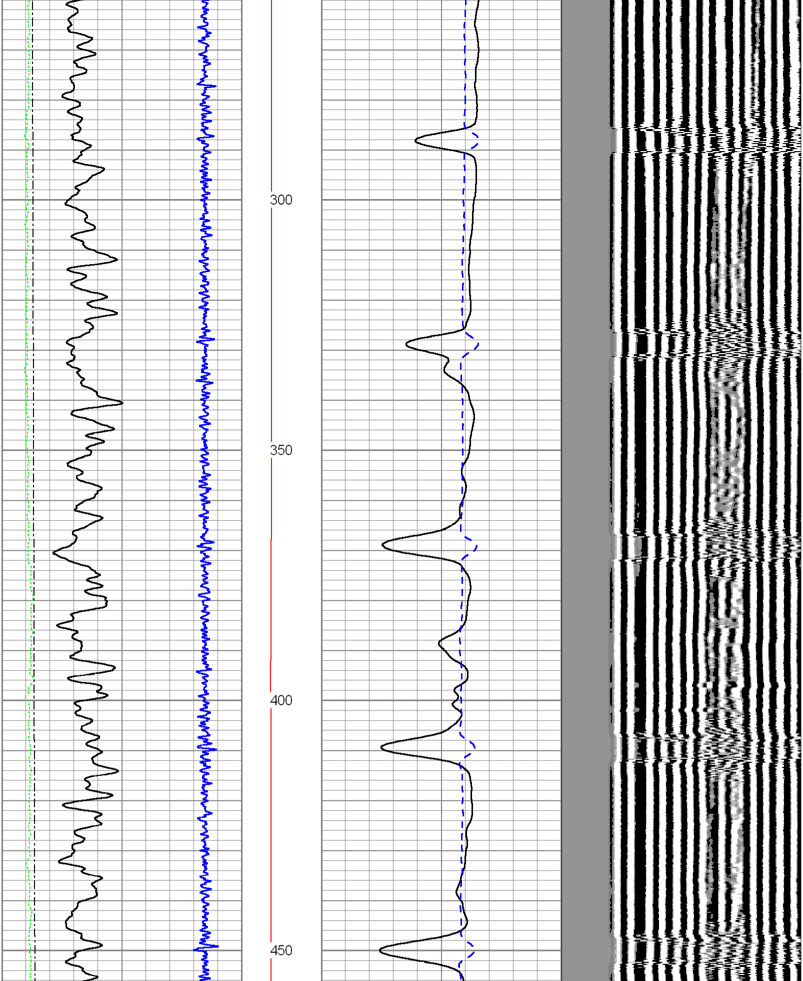
MAIN PASS

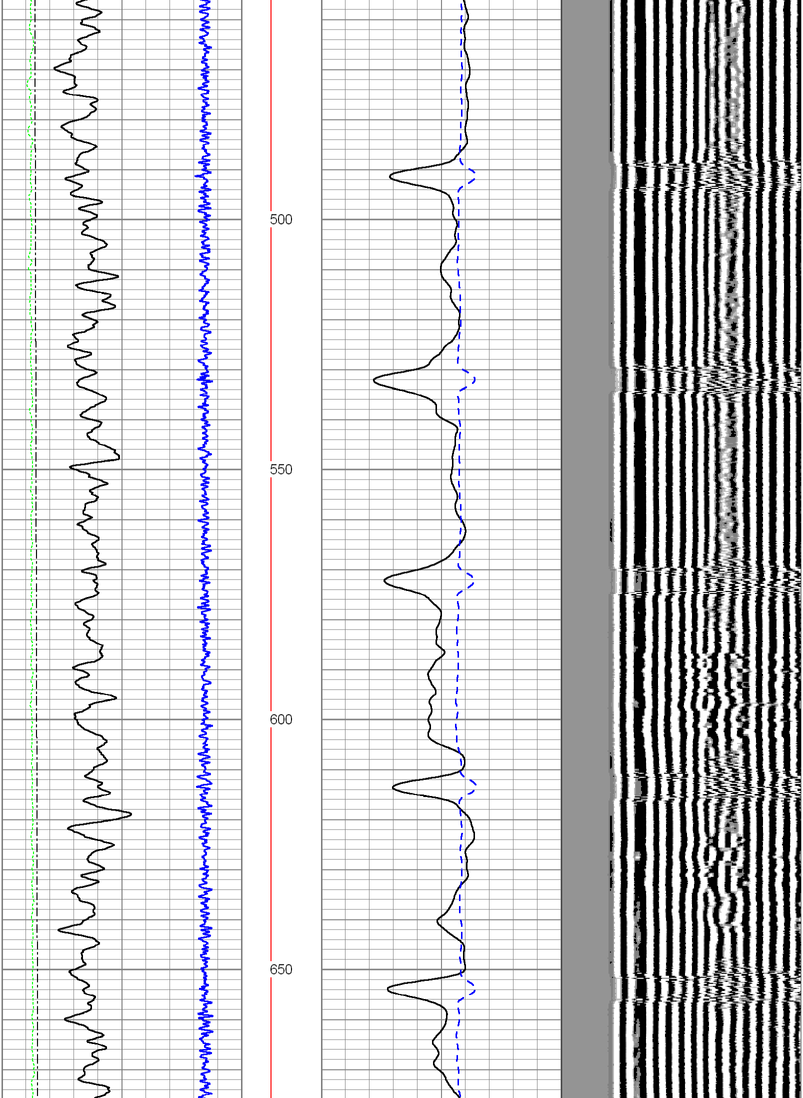
SCALE 1:240

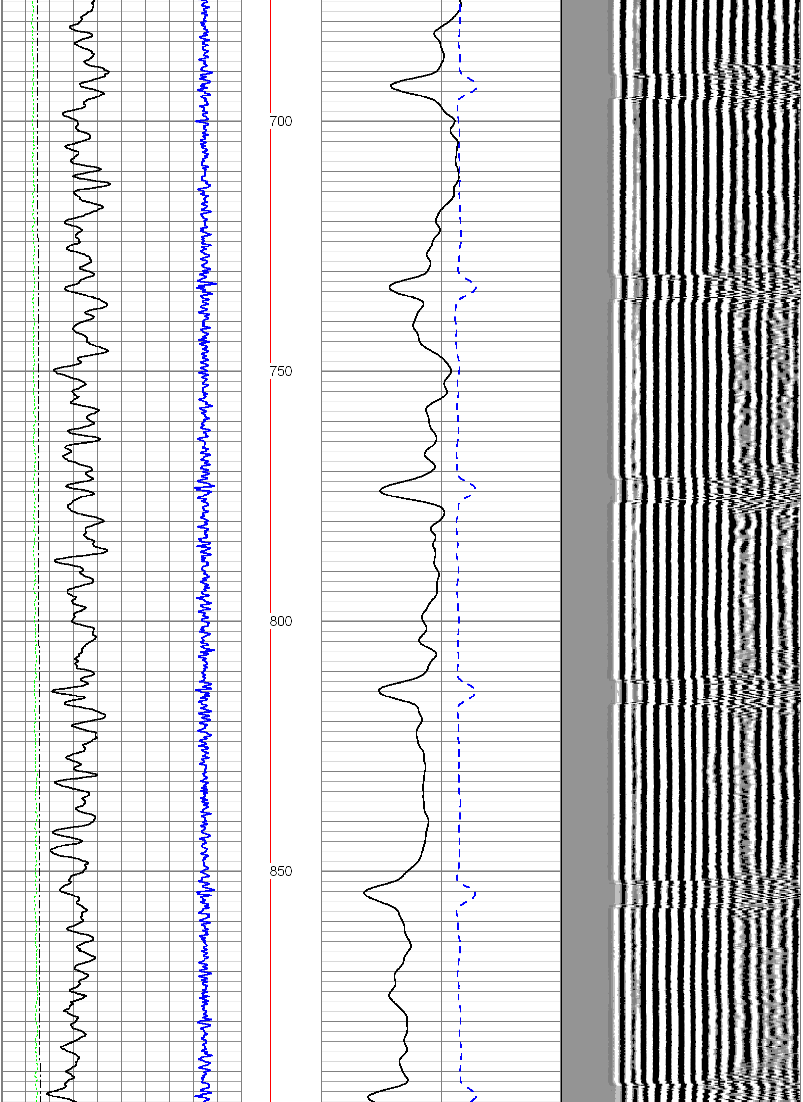
Database File:	czo_br_7_20_9_58.db
Dataset Pathname:	cbl1/main1
Presentation Format:	1cbl
Dataset Creation:	Wed Mar 12 16:19:29 2014 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

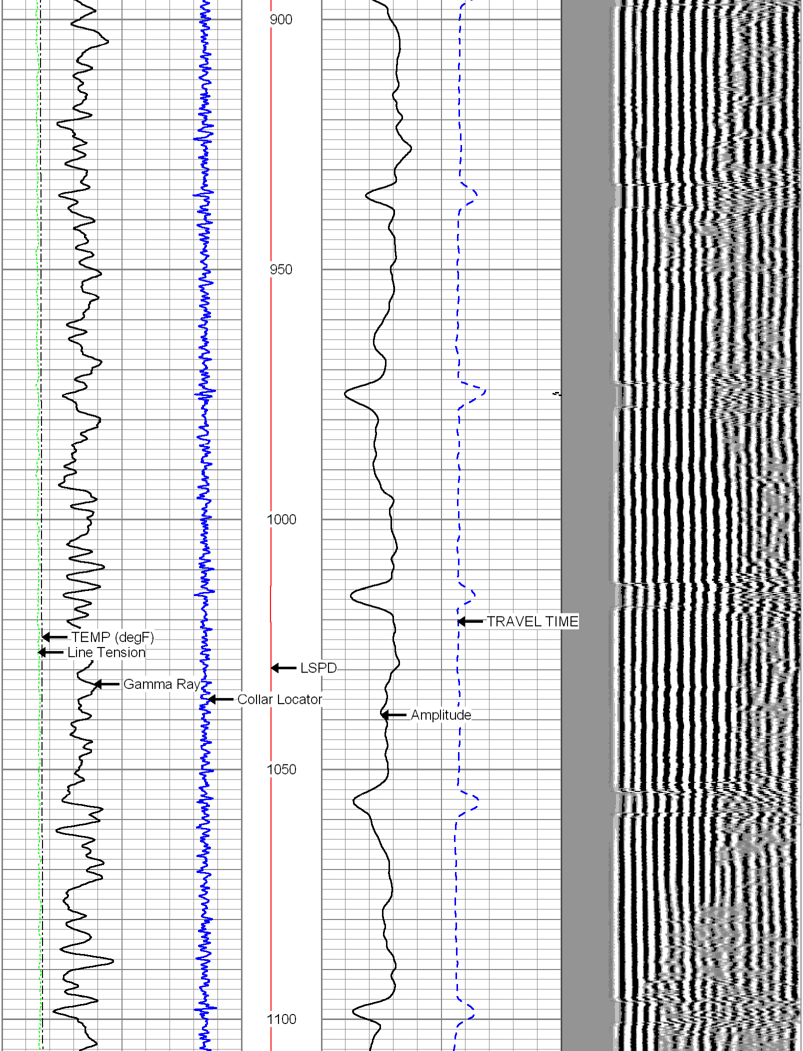


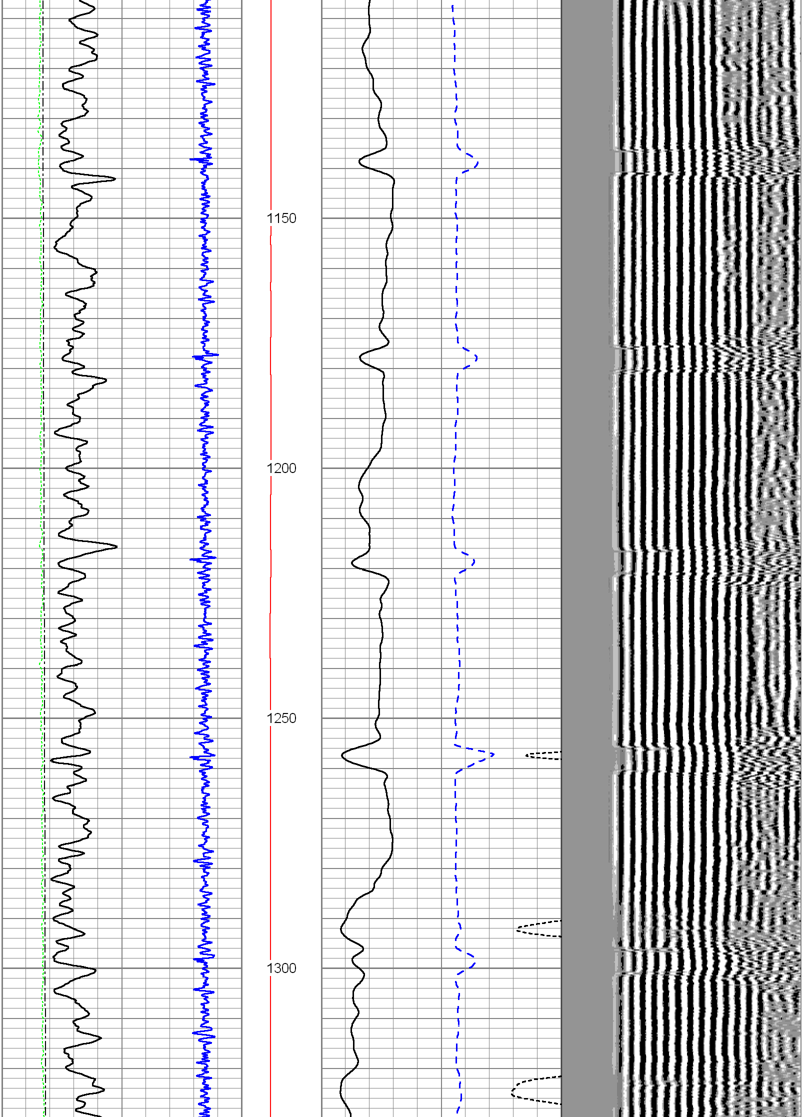


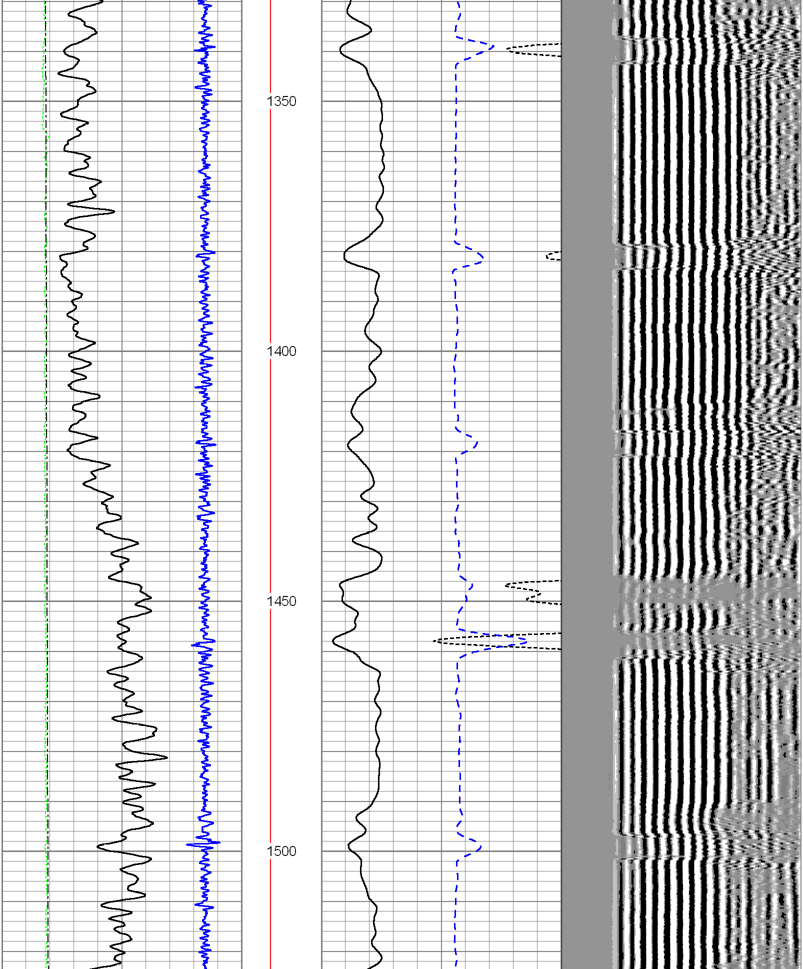


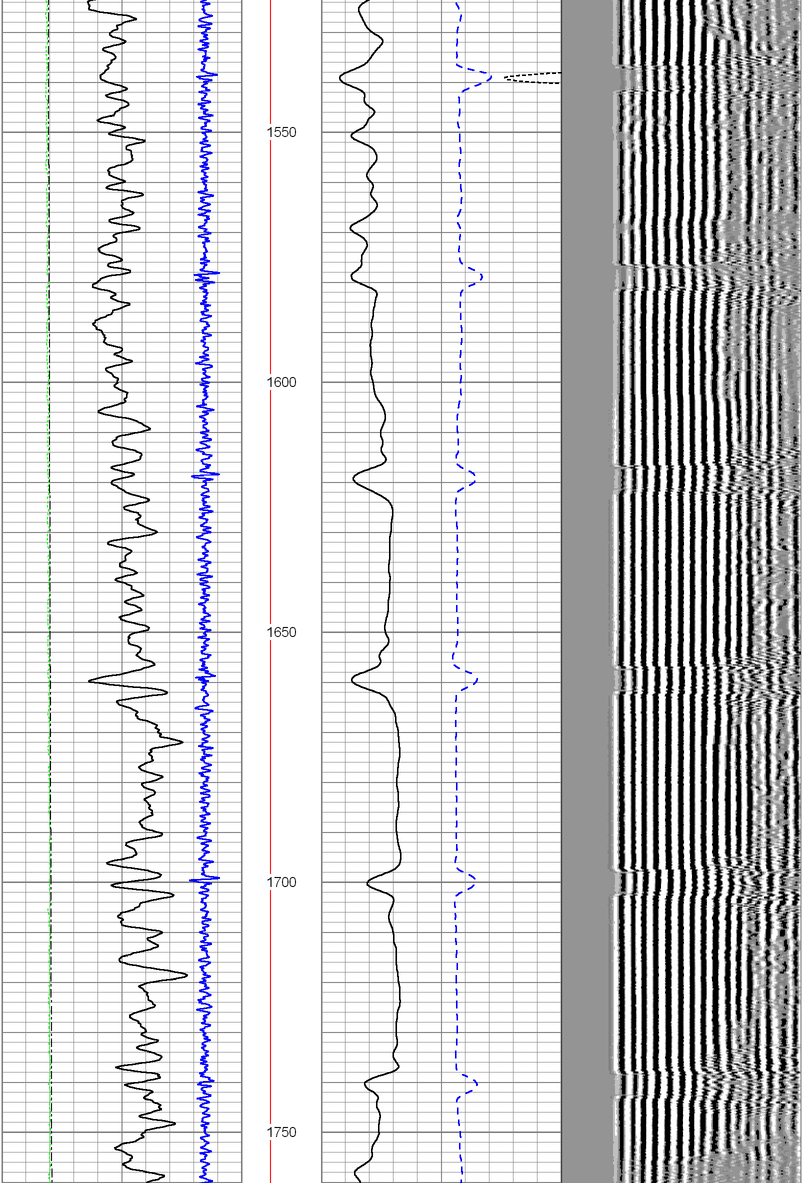


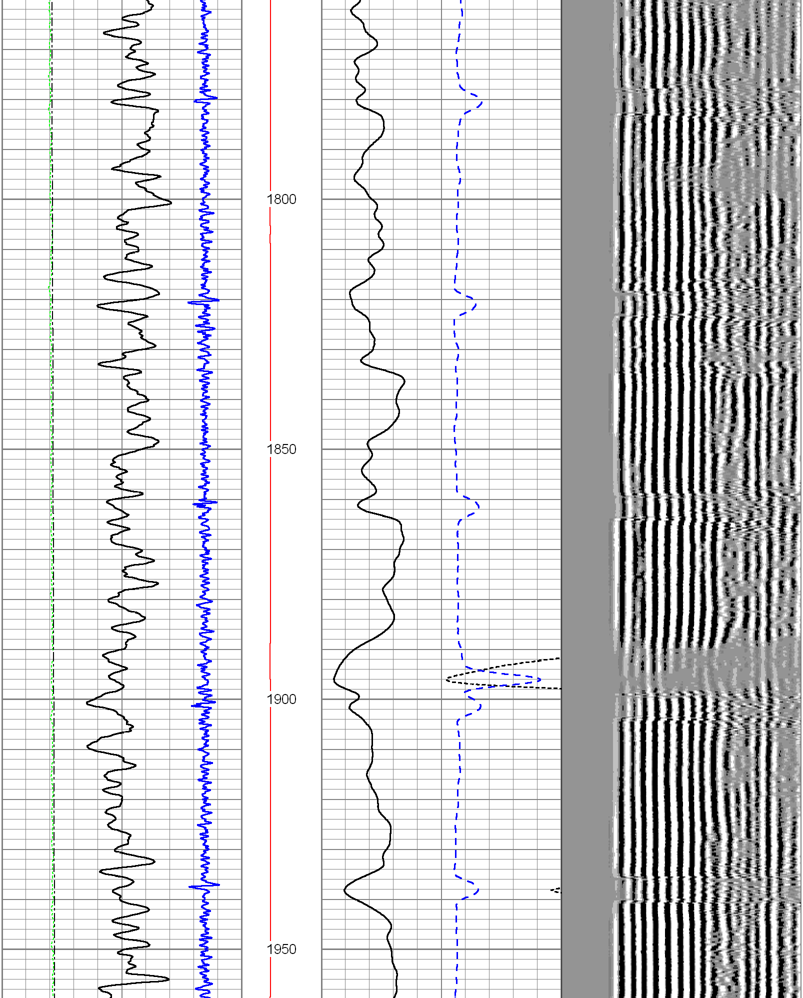


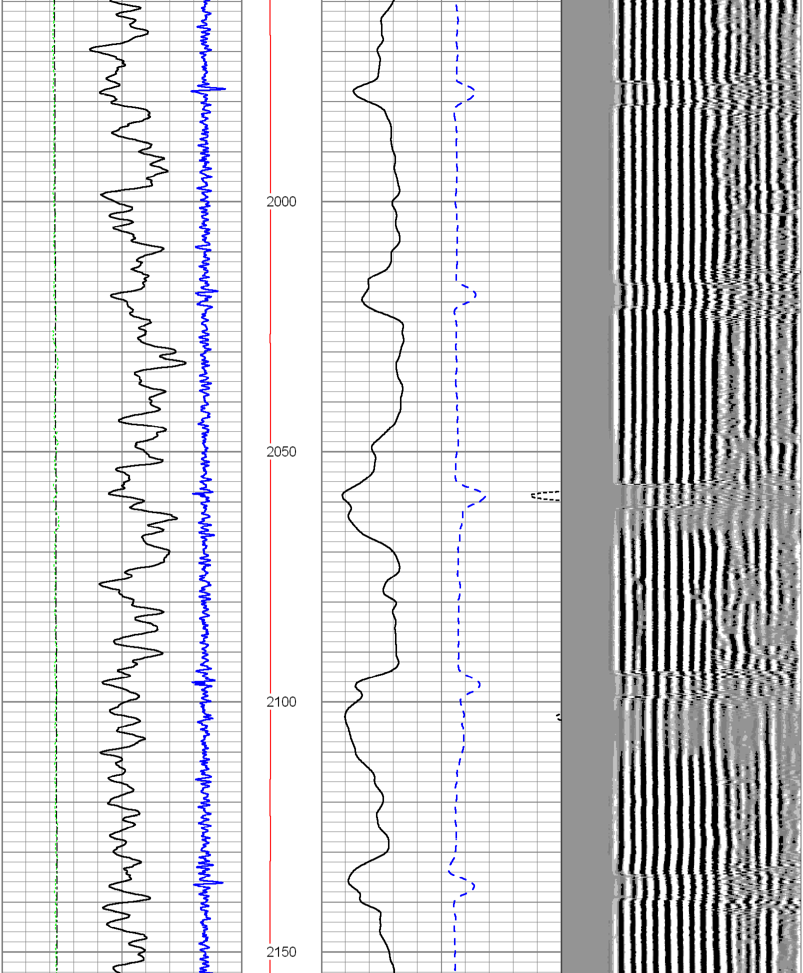


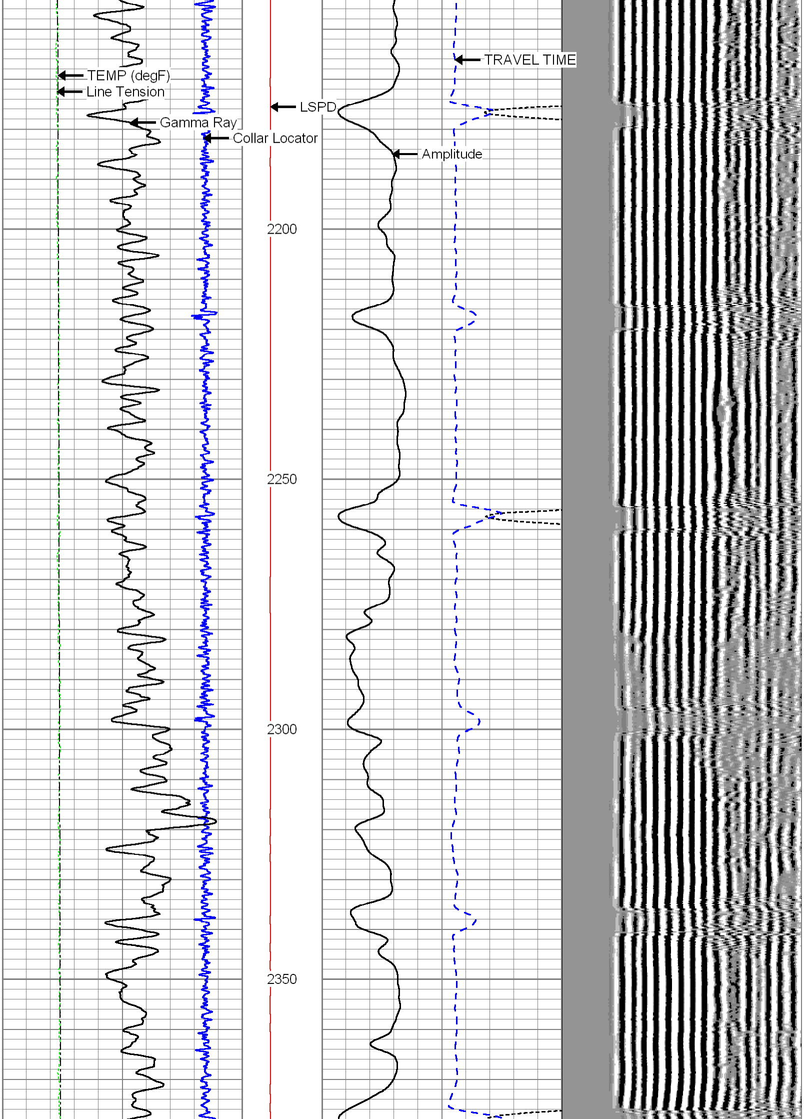


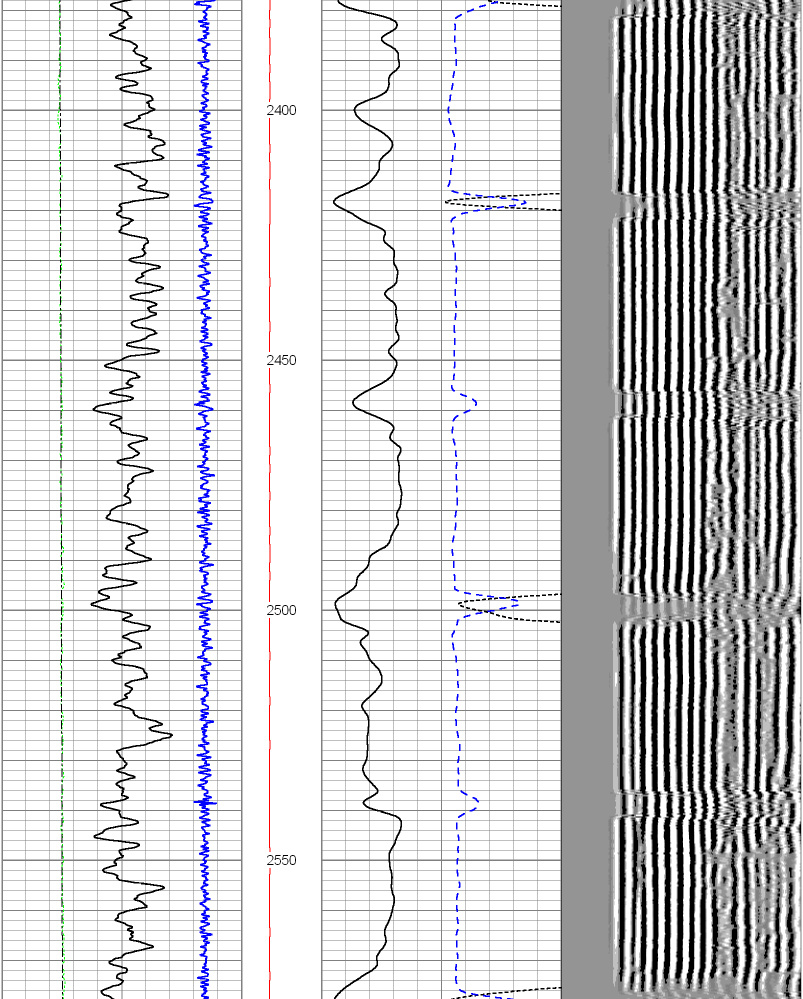


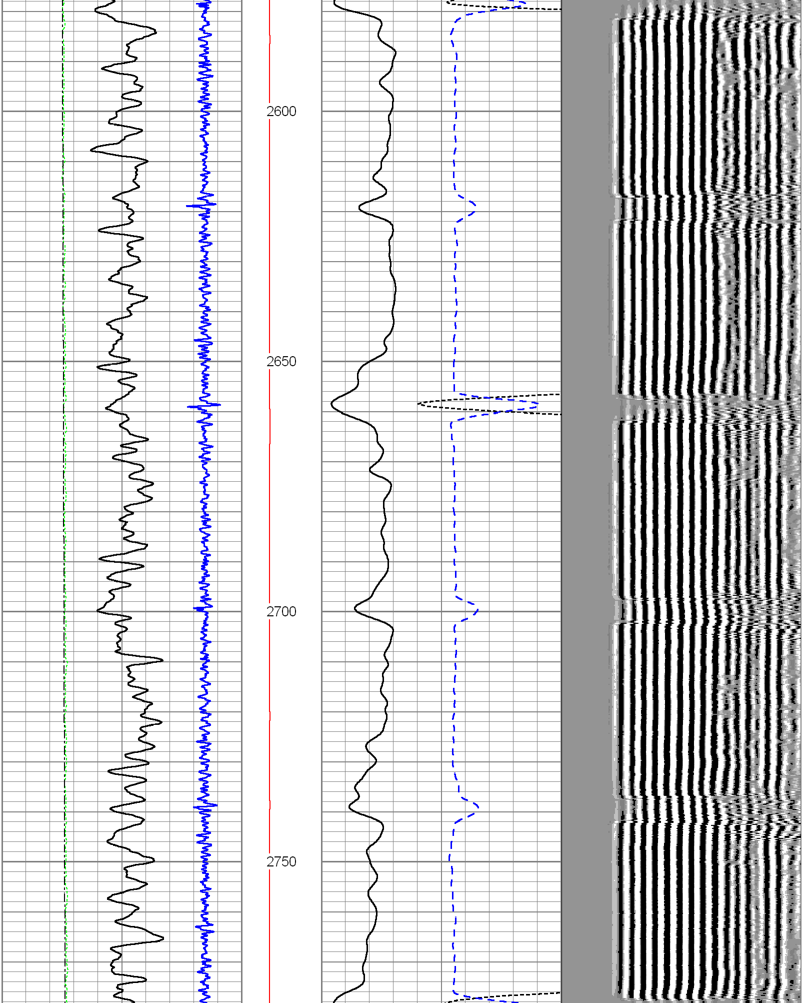


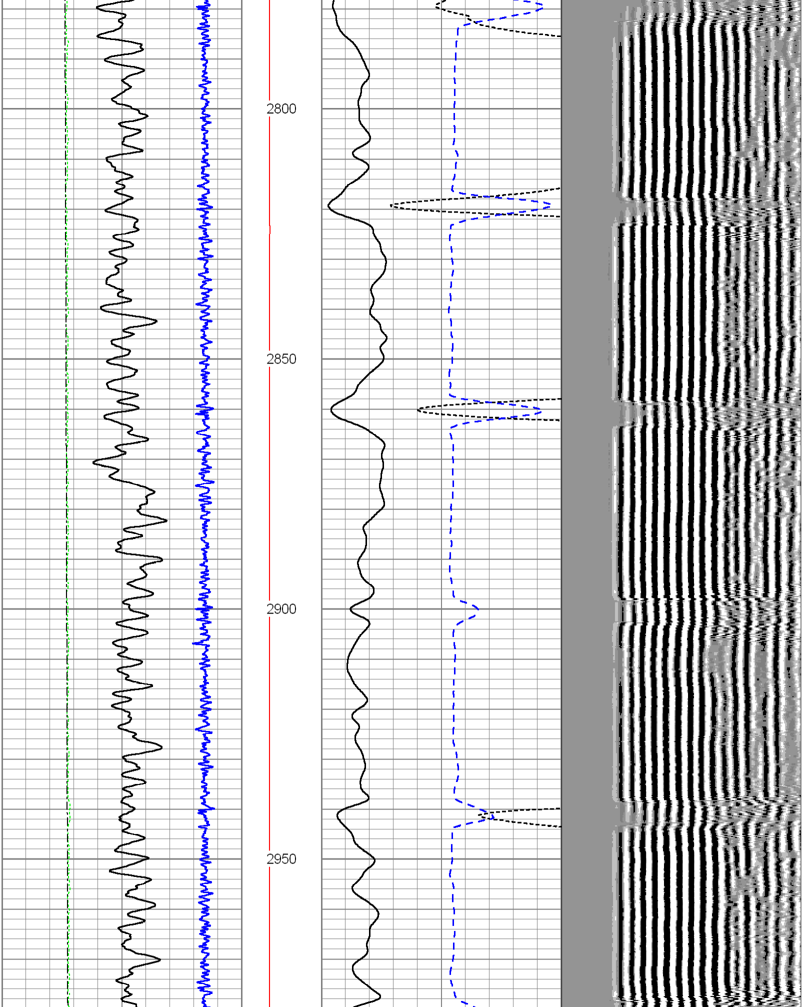


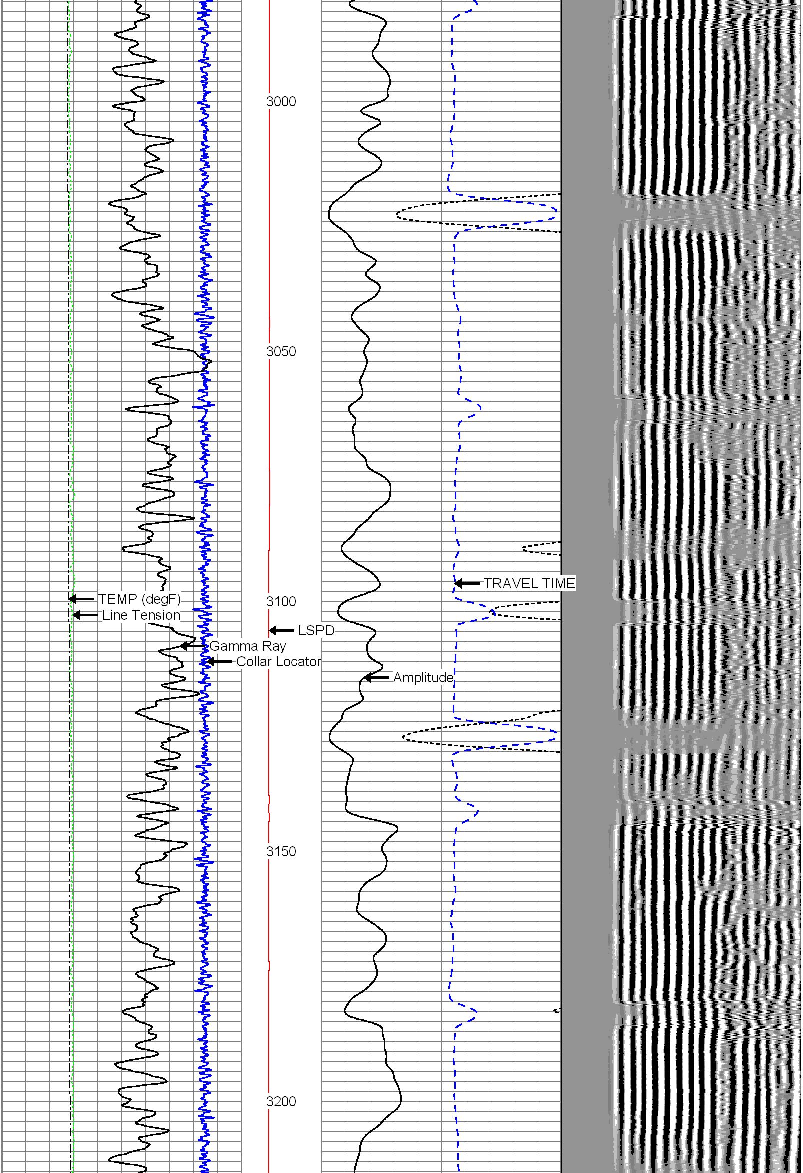


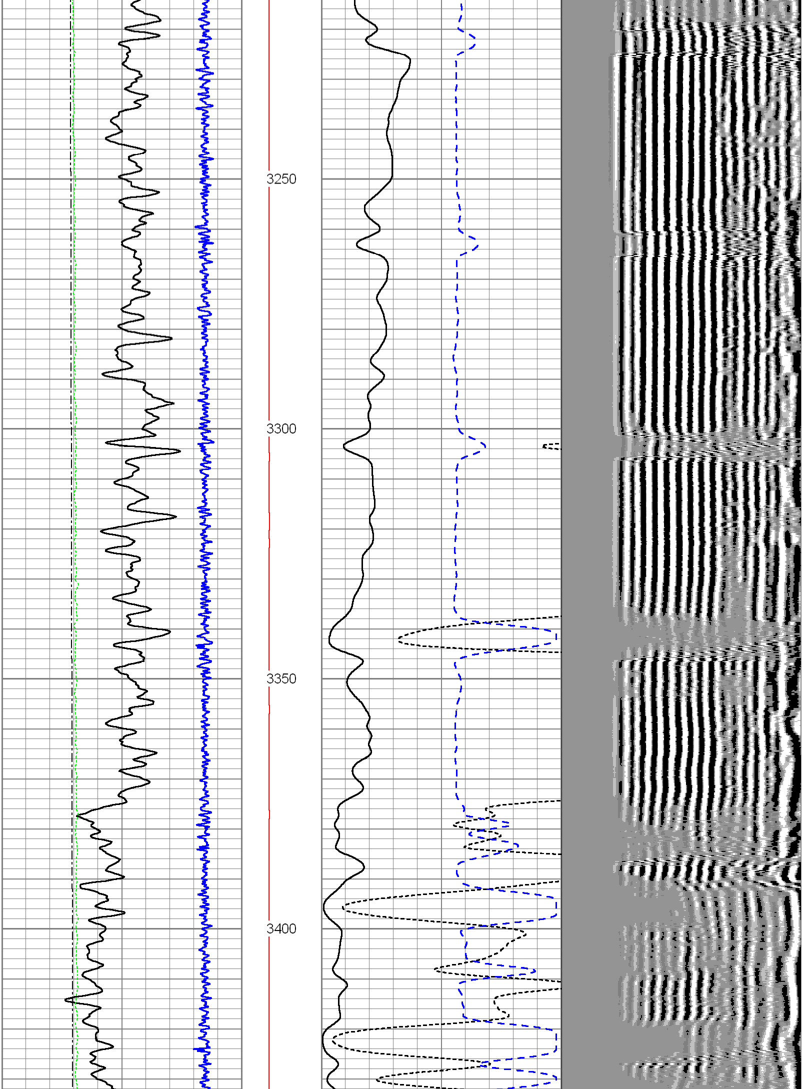


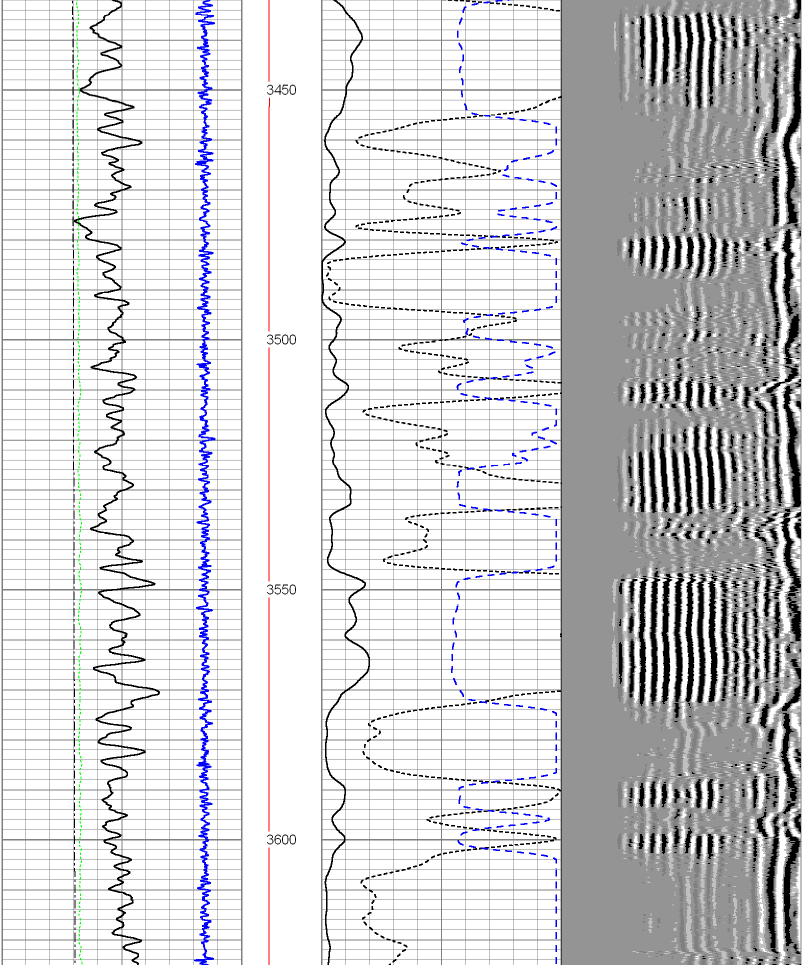


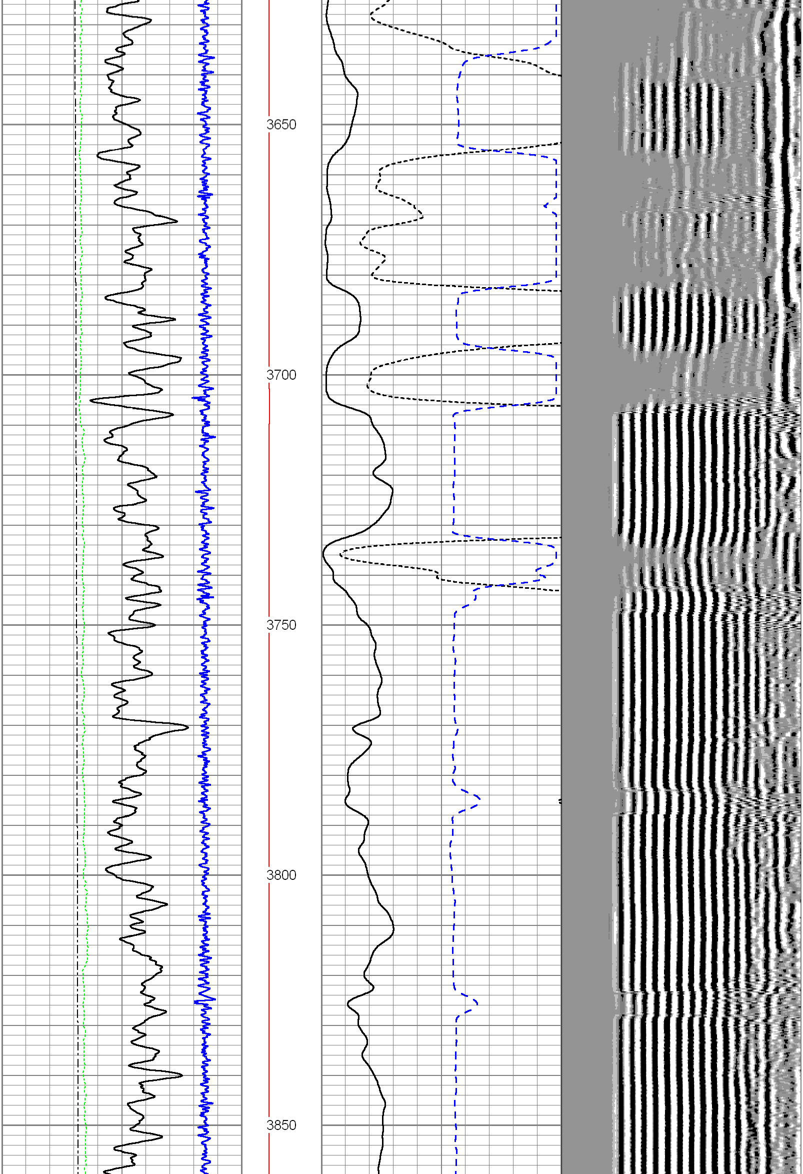


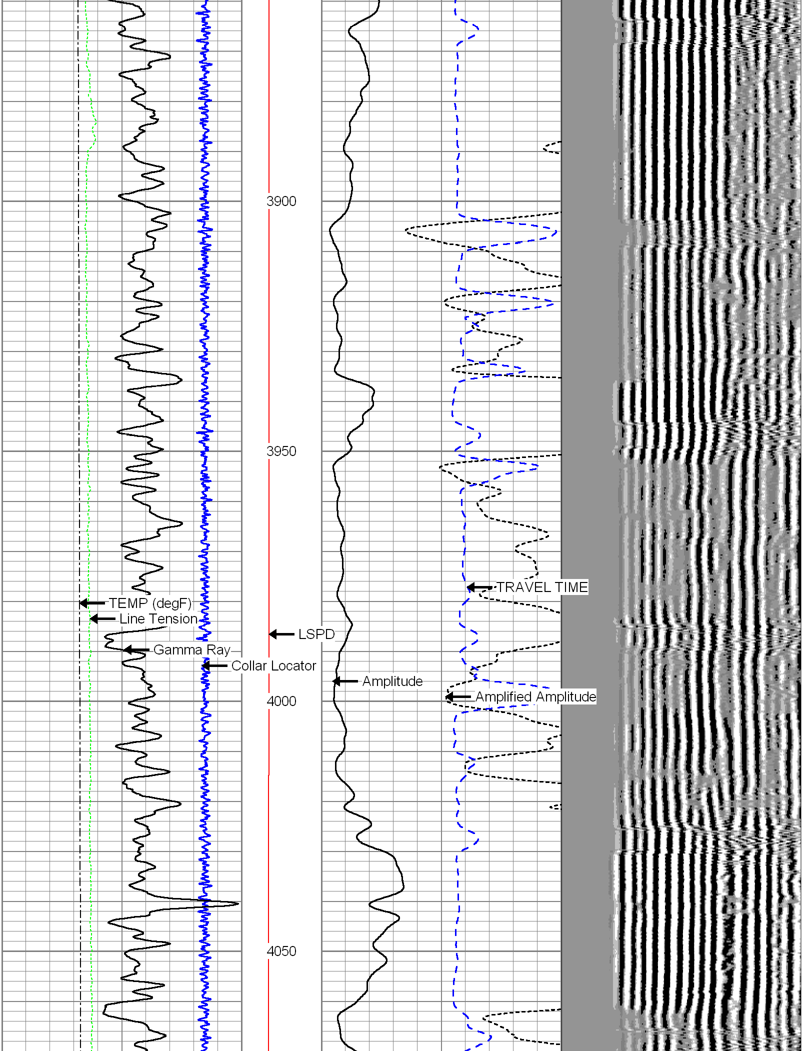


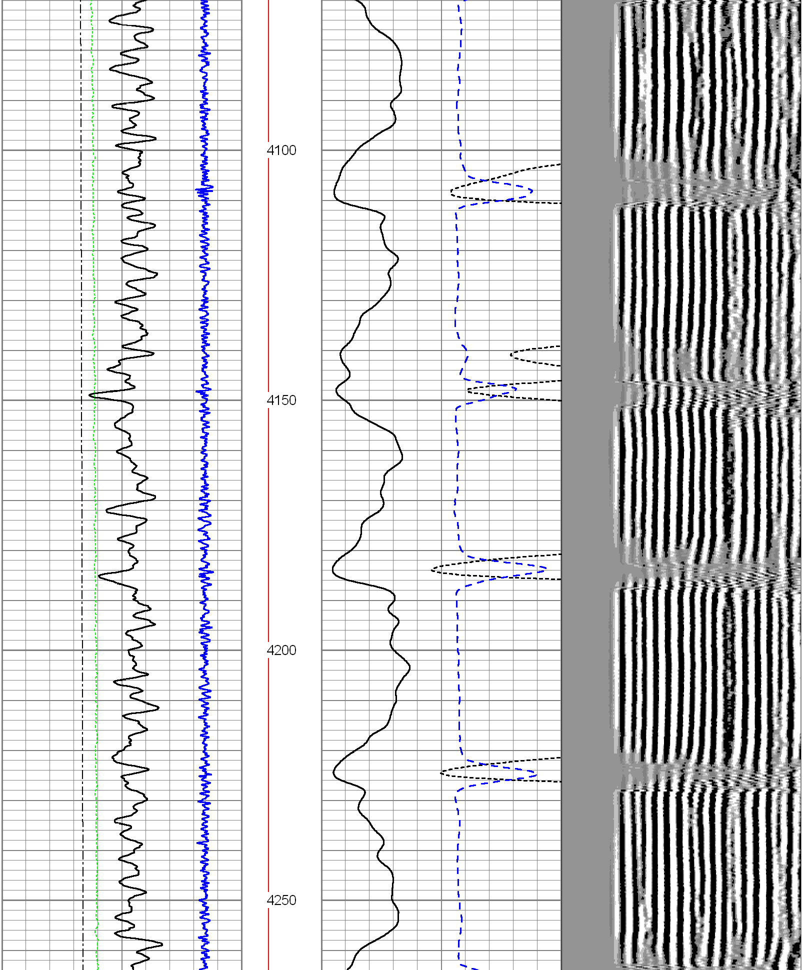


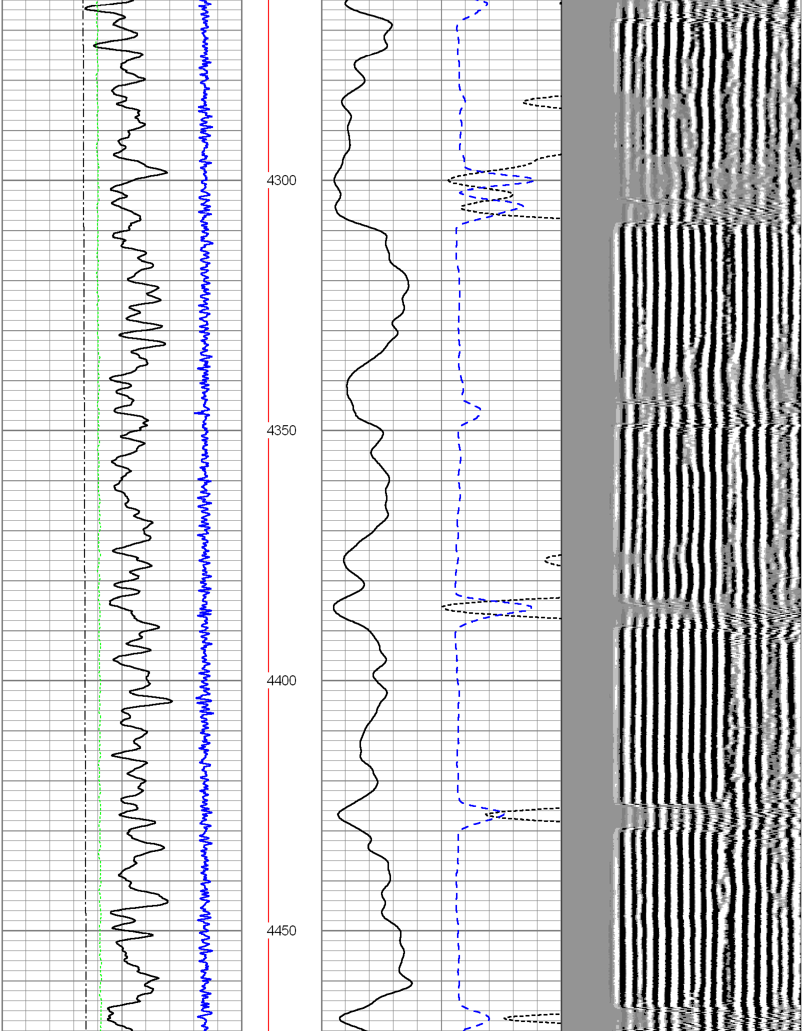


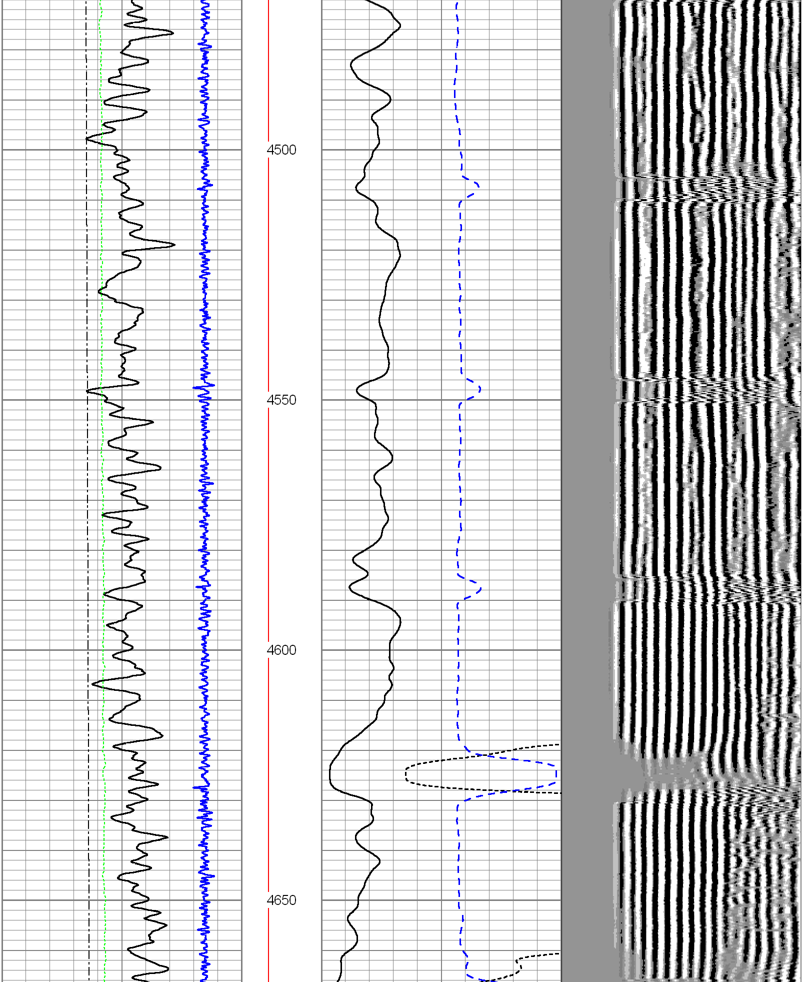


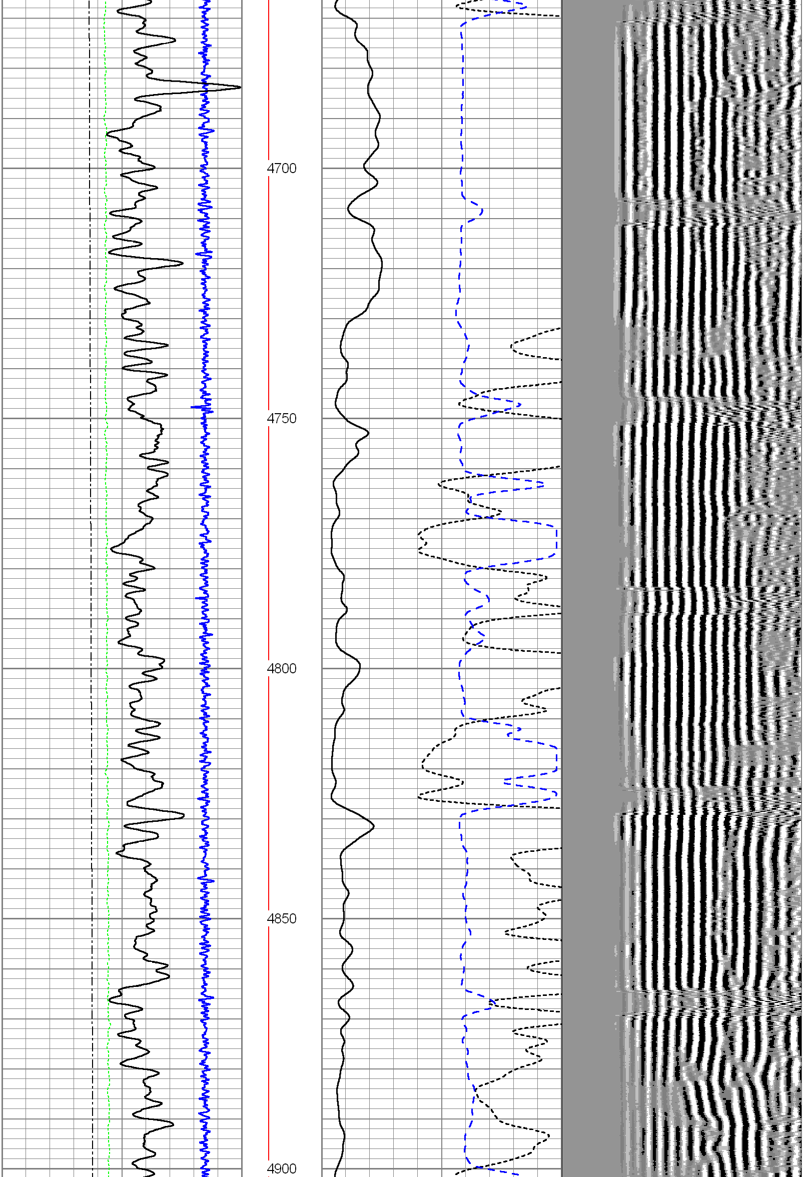


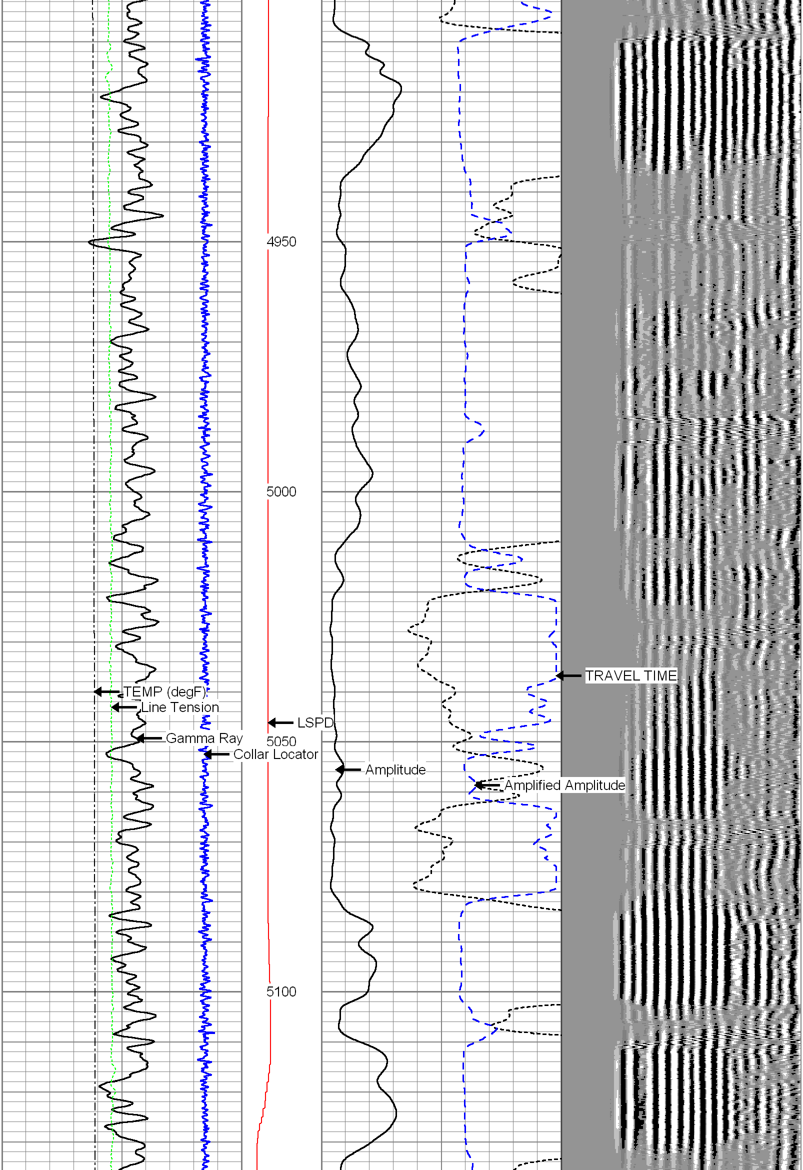


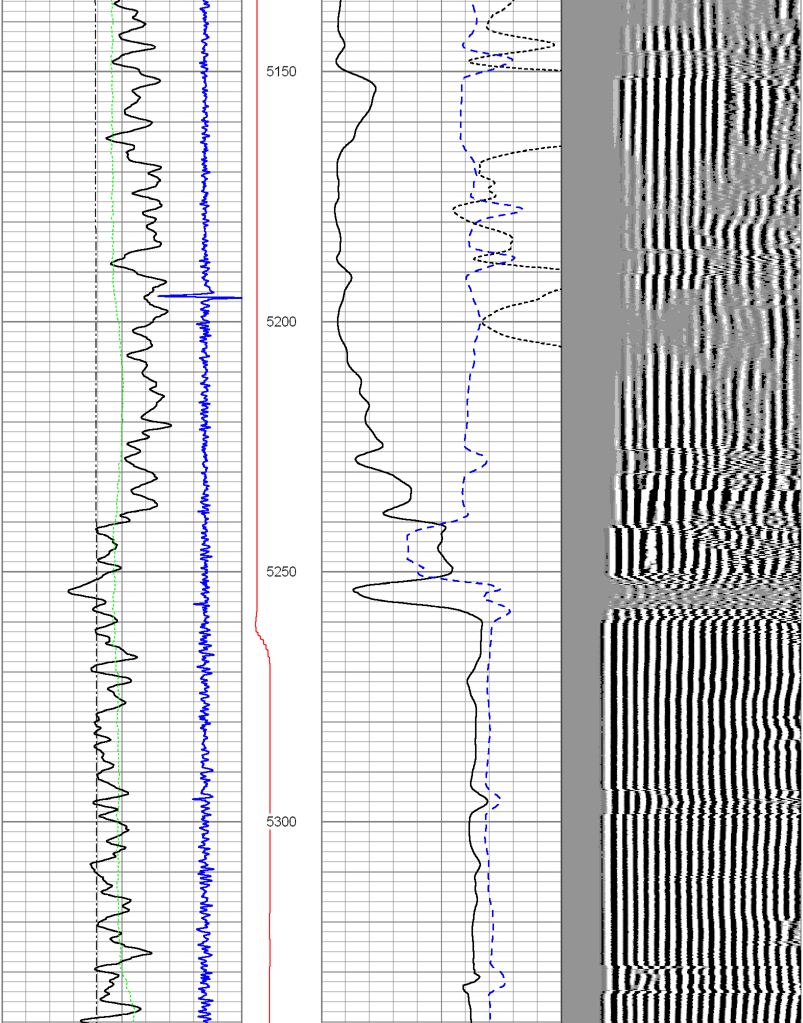


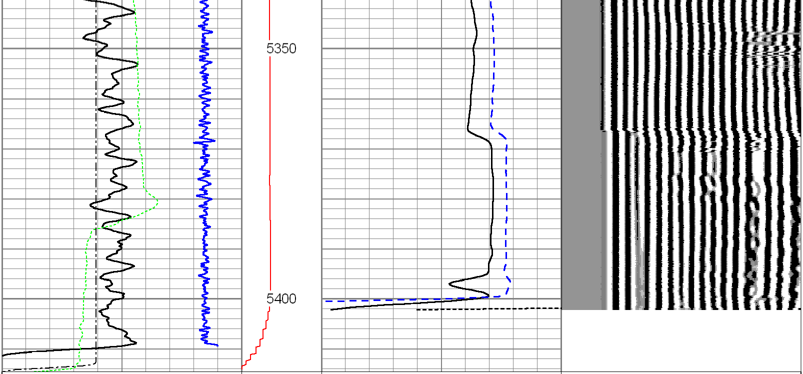












0.45 Collar Locator -0.05
0 Gamma Ray (GAPI) 150
0 Line Tension (lb) 2000
0 TEMP (degF) (degF) 500

LSPD (ft/min)
0 300

0 Amplified Amplitude (mV) 10
0 Amplitude (mV) 100
250 TRAVEL TIME (usec) 350

200 MSG 1200
■ ▨ ▨ ▨

HALLIBURTON

MAIN PASS

SCALE 1:240

HALLIBURTON

REPEAT PASS

SCALE 1:240

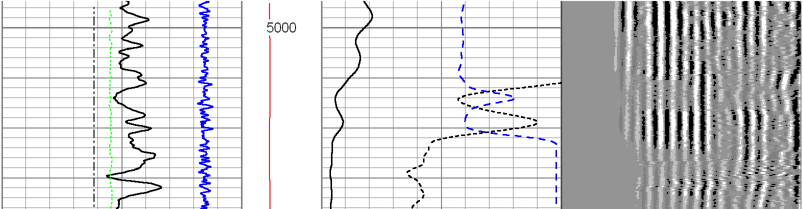
Database File:	czo_br_7_20_9_58.db
Dataset Pathname:	cbl1/repeat1
Presentation Format:	1cbl
Dataset Creation:	Wed Mar 12 16:11:02 2014 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

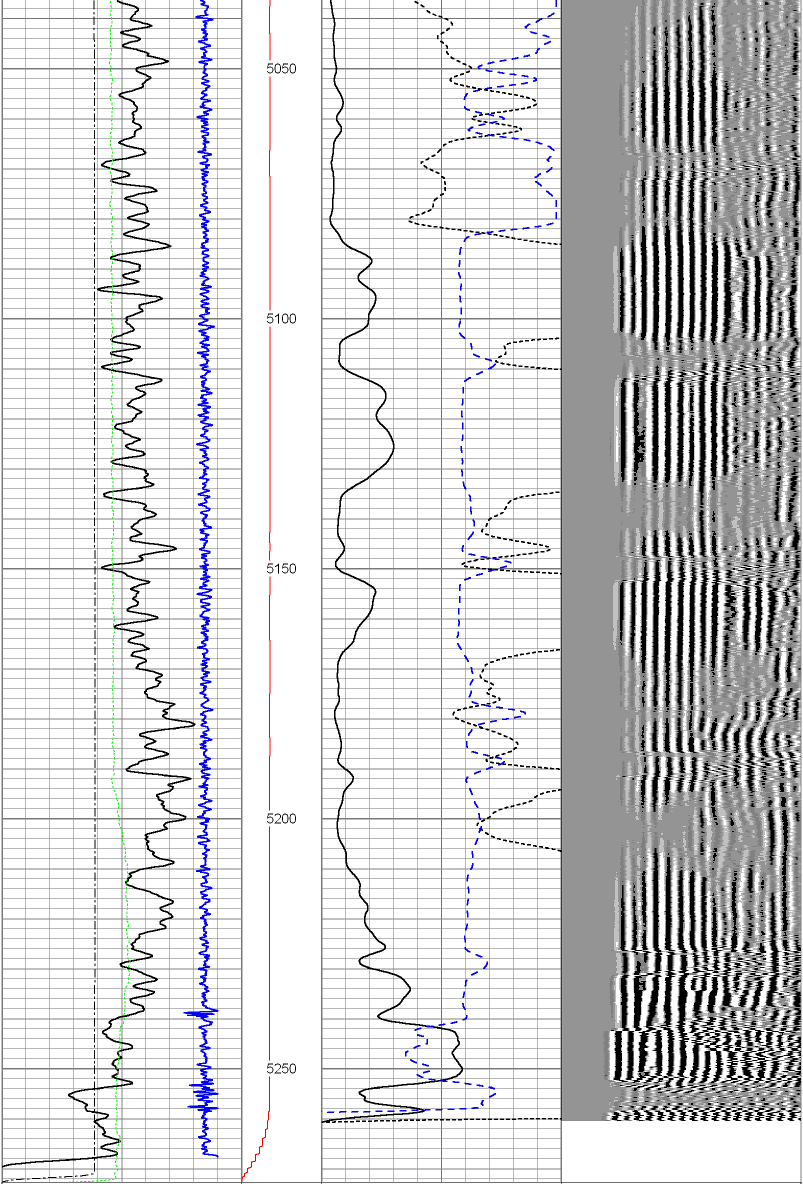
0.45 Collar Locator -0.05
0 Gamma Ray (GAPI) 150
0 Line Tension (lb) 2000
0 TEMP (degF) (degF) 500

LSPD (ft/min)
0 300

0 Amplified Amplitude (mV) 10
0 Amplitude (mV) 100
250 TRAVEL TIME (usec) 350

200 MSG 1200
■ ▨ ▨ ▨





0.45 Collar Locator -0.05	LSPD (ft/min)	0 Amplified Amplitude (mV) 10	200 MSG 1200
0 Gamma Ray (GAPI) 150		0 Amplitude (mV) 100	█ ▓ ▒ ░
0 Line Tension (lb) 2000	0 300	250 TRAVEL TIME (usec) 350	
0 TEMP (degF) (degF) 500			

HALLIBURTON

REPEAT PASS

SCALE 1:240

Calibration Report

Database File: czo_br_5_20_9_58.db
Dataset Pathname: cbl1/main1
Dataset Creation: Wed Mar 12 11:26:38 2014 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 / pr070856

SHOP CALIBRATION Wed Mar 12 09:47:20 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	120.9				cps
Calibrator	426.8				cps
		0.7717			GAPI/cps

PRIMARY VERIFICATION Wed Mar 12 09:50:22 2014

	Counts/Sec.	Gain	Offset	Jig	Units
Background	93.2				cps
Calibrator	330.0				cps
Difference				236.8	GAPI

BEFORE SURVEY VERIFICATION

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

	Counts/Sec.	Gain	Offset	Jig	Units
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Cement Bond Log Calibration Report

Serial Number:	276		
Tool Model:	Probe		
Performed:	Wed Mar 12 10:15:38 2014		
Depth:	199.422	ft	
Casing Diameter:	5.5	in	
	3' Spacing	5' Spacing	
Signal Zero:	0.1	0.1	mV
Calibrated Amplitude:	65	65	mV
Reading at Signal Zero:	0.00214844	0.00222168	V
Reading in Free Pipe:	1.84604	1.70562	V
Gain:	35.1972	38.1004	
Offset:	0.024381	0.0153531	

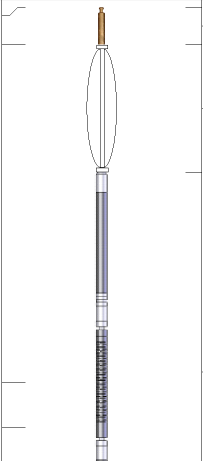
Log Variables

Database:C:\Warrior\Data\czo_br_7_20_9_58.db
Dataset: field/well/cbl1/main1

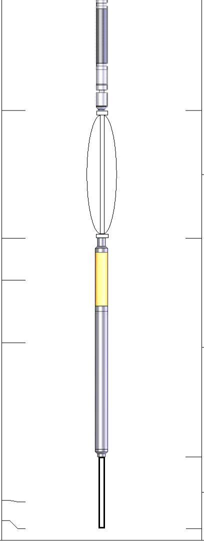
Top - Bottom

PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF
0	65	1	0.8	7	0	5600	192

BITSIZE in
8.75

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
STNDCH	21.75		1_CABLEHEAD 1"OD CABLE HEAD	0.83	1.00	3.00
CENT	20.92					
			CBLINLINE	2.83	6.50	10.00
WVF3	13.44		CBL-Probe (276) Probe 2.75" Dual Receiver Bond	8.83	2.75	60.00
WVF5	12.44					

CENT	9.25
GR	6.42
CCL	5.49
GR	4.10
TEMP	0.58
LLMTEN	0.00



CBLINLINE	2.83	6.50	10.00
GR-Probe275dig (pr070856) Probe Digital Gamma CCL	4.83	2.75	57.00
TEMP-1.375TEMP (0001) Temperature Tool	1.58	1.38	30.00

Dataset:	czo_br_7_20_9_58.db: field/well/cbl1/main1
Total Length:	21.75 ft
Total Weight:	170.00 lb
O.D.	6.50 in

Company	CARRIZO NIOBRARA LLC		
Well	BRINGELSON RANCH 7-20-9-58		
Field	WILDCAT		
County	WELD	State	CO

HALLIBURTON

CEMENT BOND LOG