HALLIBURTON

CEMENT BOND LOG

Company	CARRIZO OIL & GAS
Well	PERGAMOS 1-4-34-7-60
Field	WILDCAT
County	WELD
State	CO

Company	CARRIZO OIL & GAS
Well	PERGAMOS 1-4-34-7-60
Field	WILDCAT
County	WELD
State	CO

API No.: 05123363380000 Serv #: 900523295

Location: LAT:40.597210 LONG: -104.093010
92' FSL & 1319' FEL SESE

Sec: 4 Twp: 7N Rge: 60W

Other Services
N/A

Permanent Datum GL Elevation 4910'
Log Measured From KB' , 17' Ft. above perm. datum
Drilling Measured From KB

Elevation
K.B. 4927
D.F. 4926
G.L. 4910

Date @ Time Logged	18-JUN-13	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.33
Depth - Driller	10684'	Fluid Level	100'
Depth - Logger	6500'	Cement Top Est. Logged	208'
Bottom - Logged Interval	6500'	Equipment / Location	11014931 / BRIGHTON
Top - Log Interval	SURFACE	Recorded by	C. CRADDOCK
Max. Recorded Temp.	215°F	Witnessed by	K. WILLIAMS

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	6460'	7"	23	0	5668'
ONE	6.25"	5752'	10684'	4.5"	11.6	5668'	10684'

<<< 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

ESTIMATED TOP OF CEMENT @ 208'
LINER TOP @ 5668'
USED INTERNAL CAL FOR 4.5"
FREE PIPE IN 7" CALIBRATED @ 200'
NO OPENHOLE LOGS ON AVALIABLE

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES
CREW TODAY E. THOMAS, C. CRADDOCK, K. PRIEST, TURBO THOMAS

Service Ticket No. 900523295 API No. 05-123-36338 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	6500	SURFACE	1000 PSI	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	500
	150	300	0	10				

DIRECTIONAL INFORMATION

Maximum Deviation		deg. @		KOP		

HALLIBURTON

MAIN PASS 7"

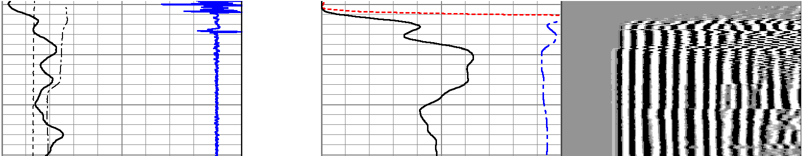
1000 PSI

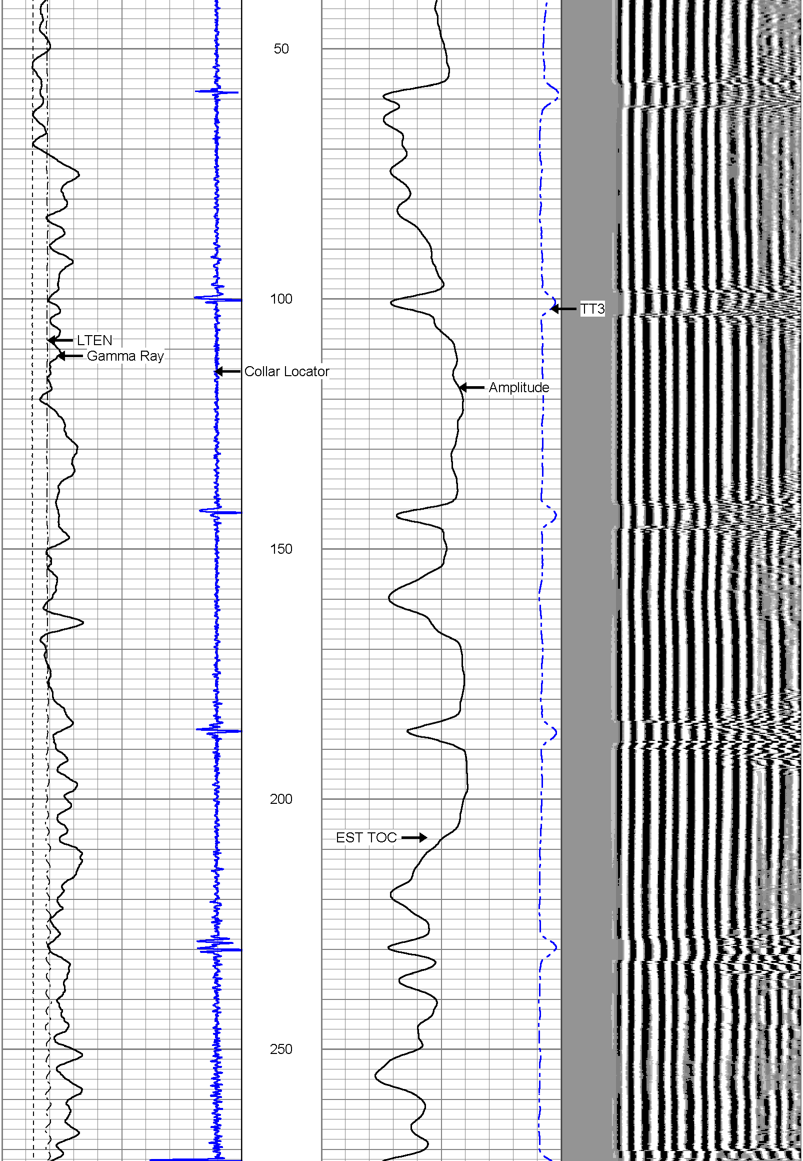
Database File: carrizo_pergamos_1_4_34_7_6.db
Dataset Pathname: pass8
Presentation Format: cbl_et
Dataset Creation: Tue Jun 18 10:34:36 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

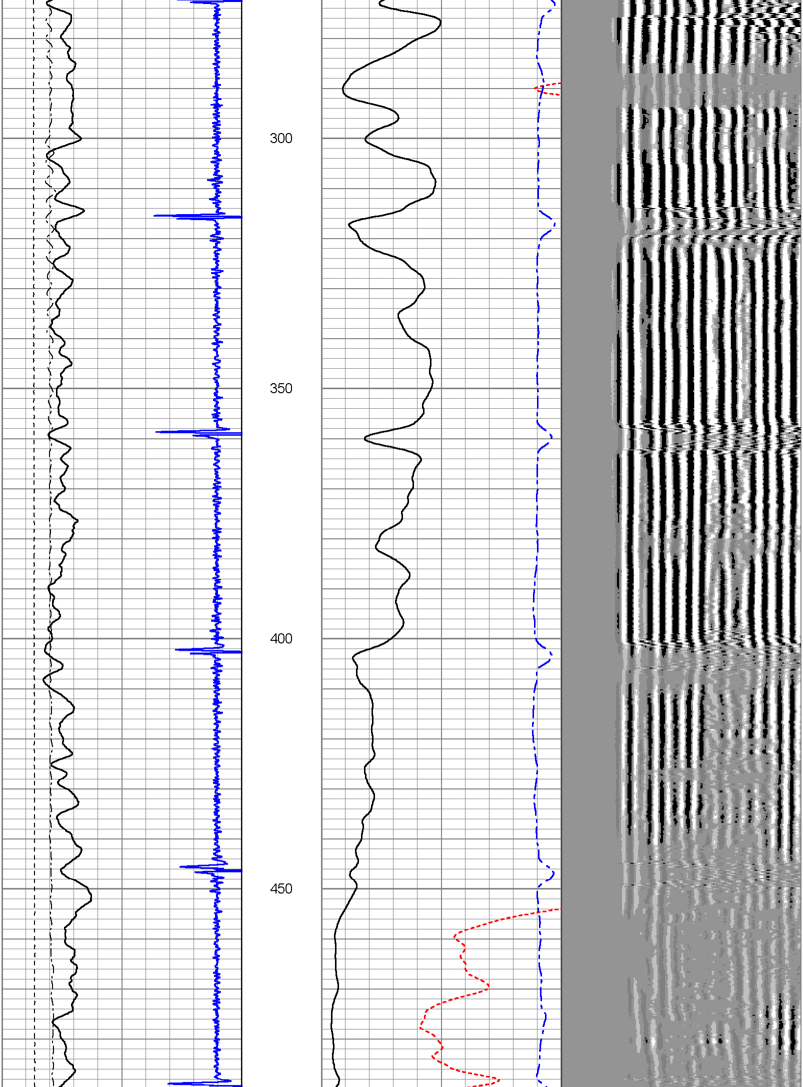
9 Collar Locator -1
0 Gamma Ray (GAPI) 150
0 LTEN (lb) 2000
150 GAMMA RAY (GAPI) 300
0 TEMP (degF) 500

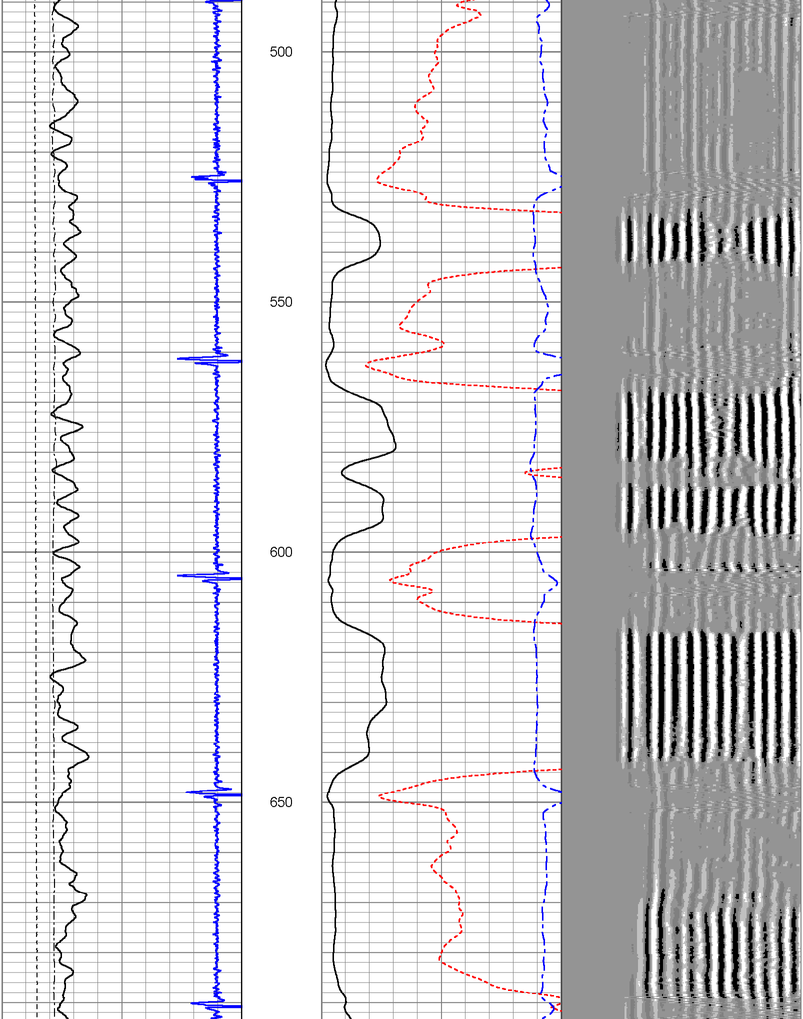
0 Amplified Amplitude (mV) 10
0 Amplitude (mV) 100
195 TT3 (usec) 295

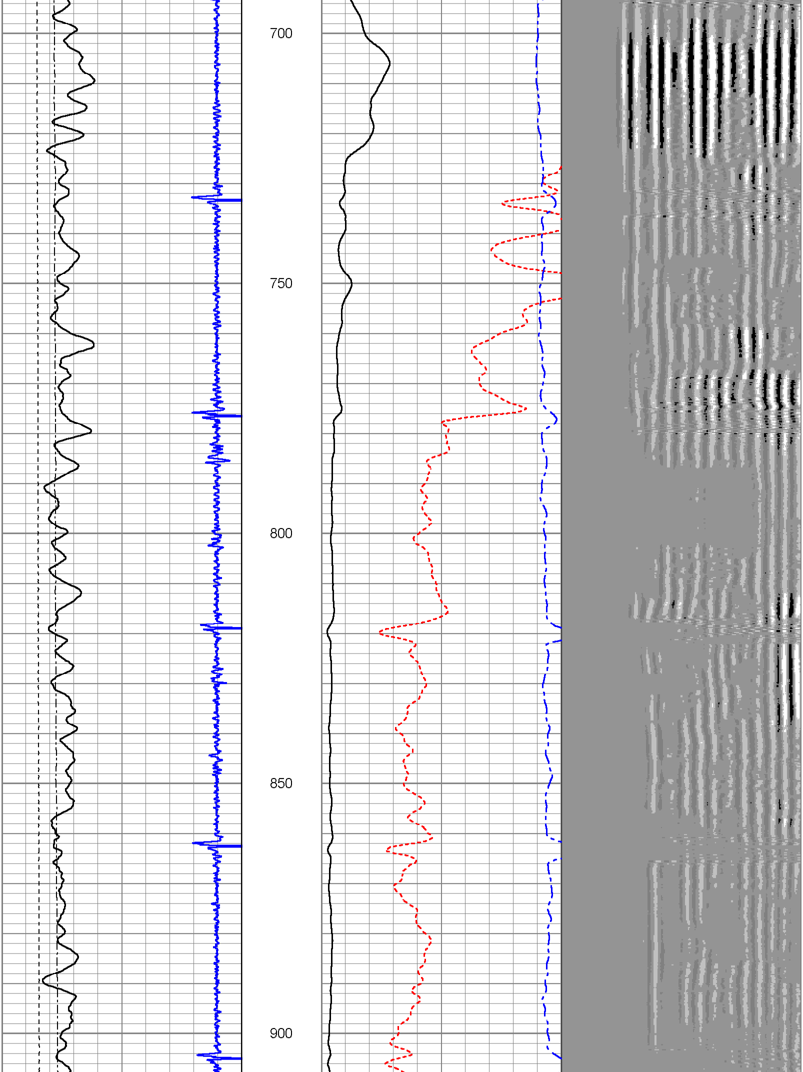
200 MSG 1200

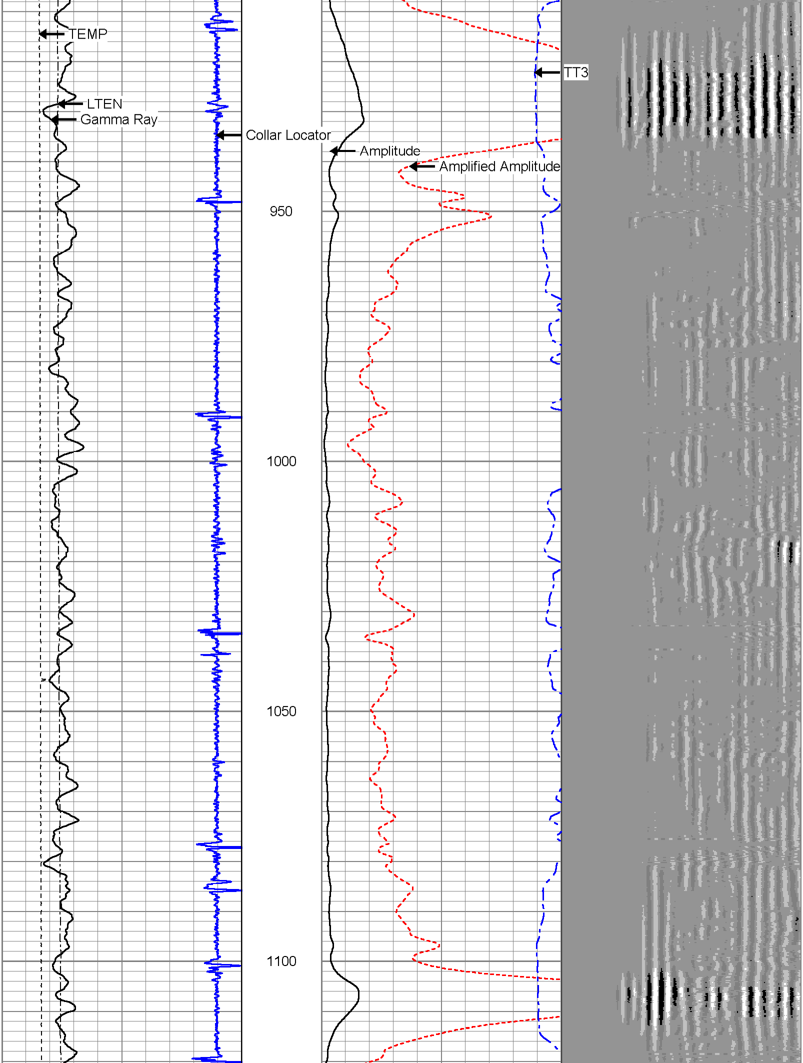


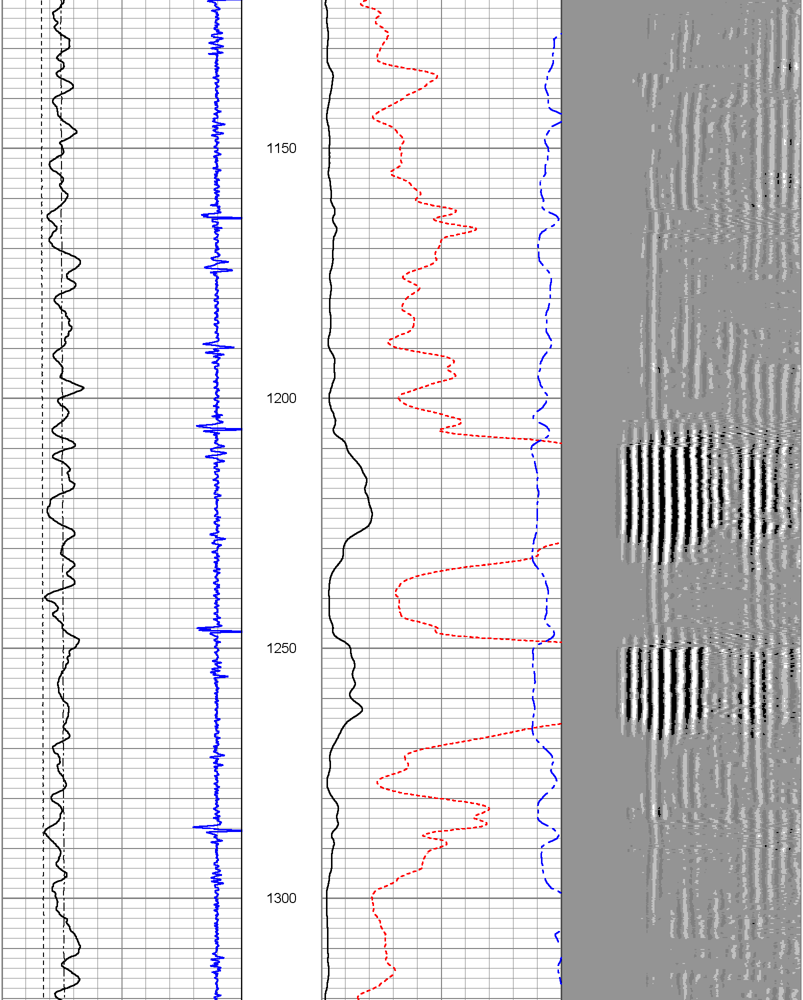


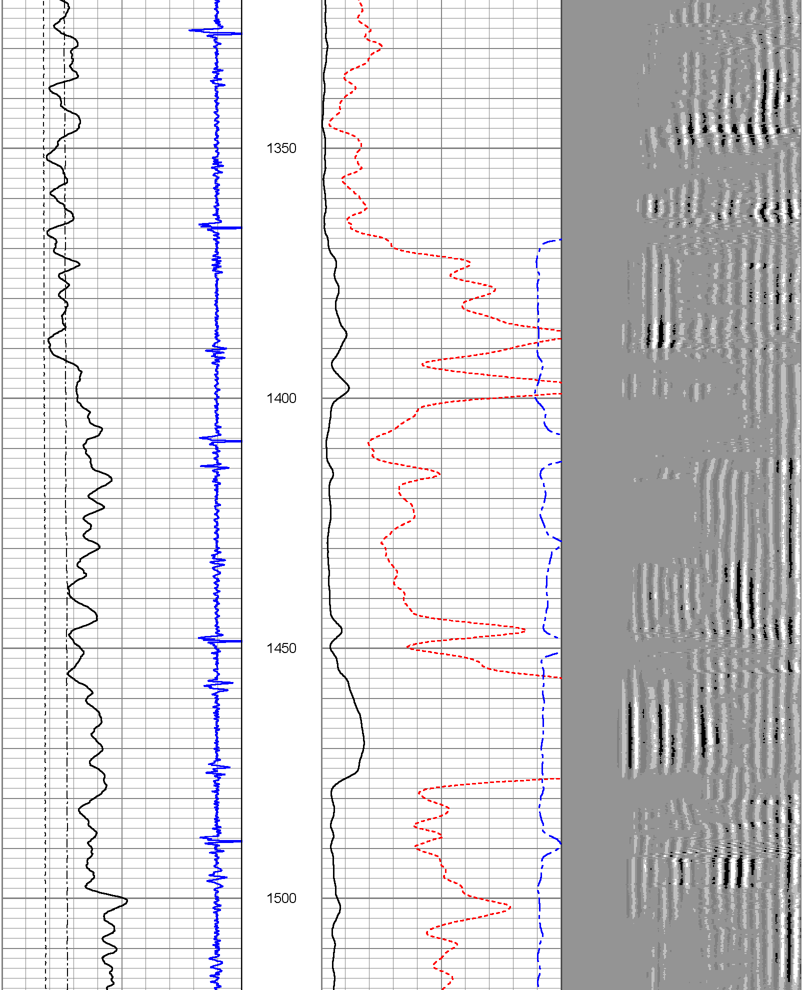


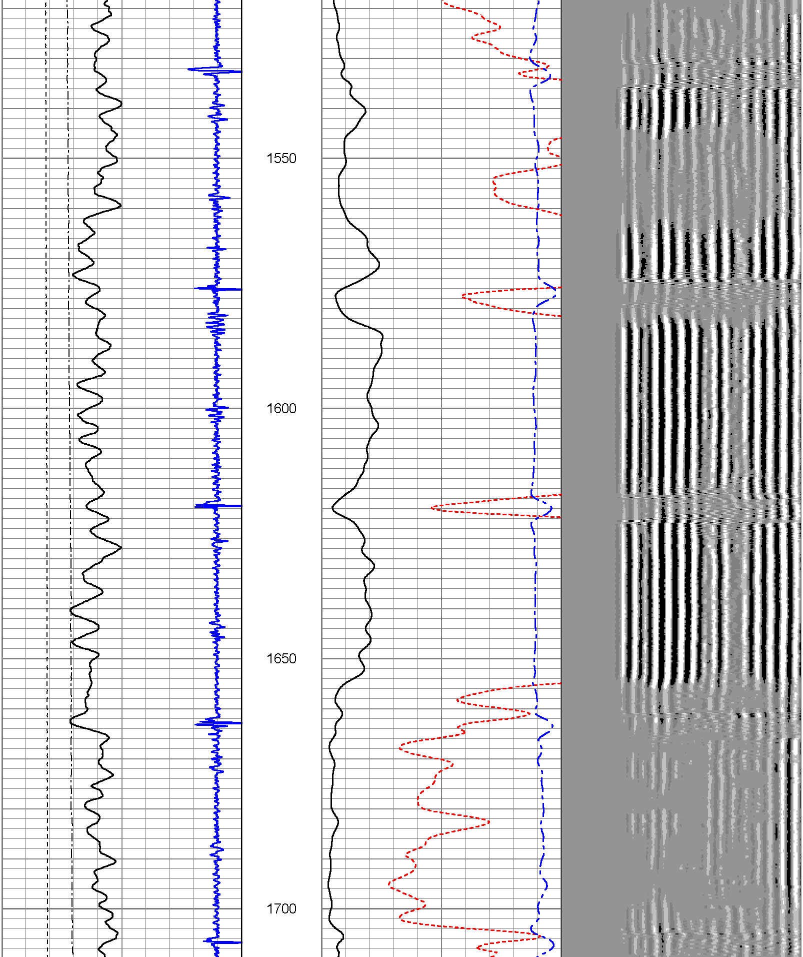


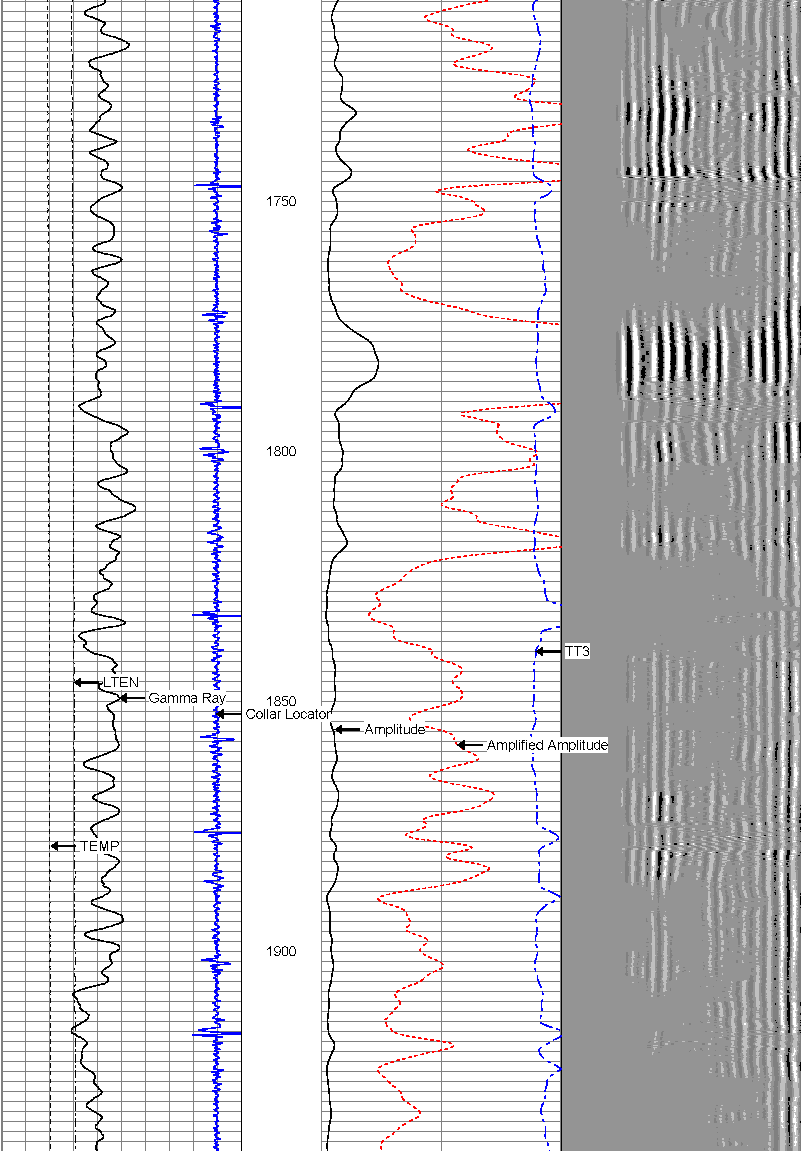


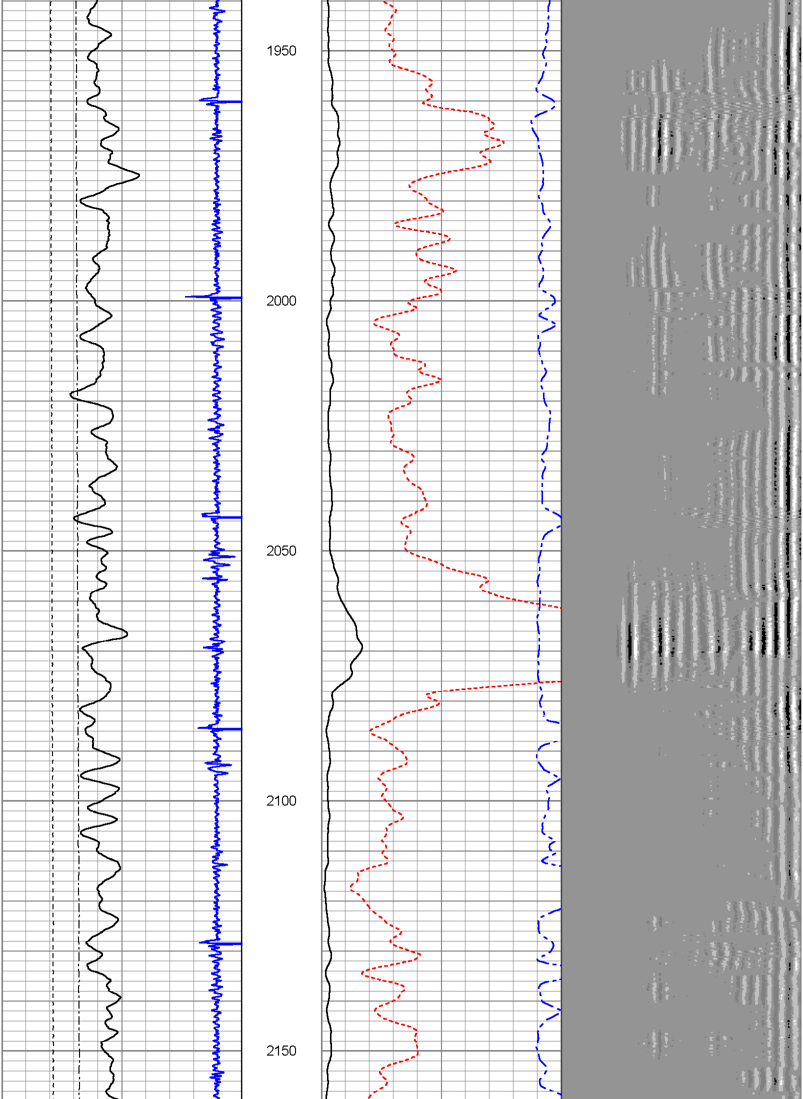


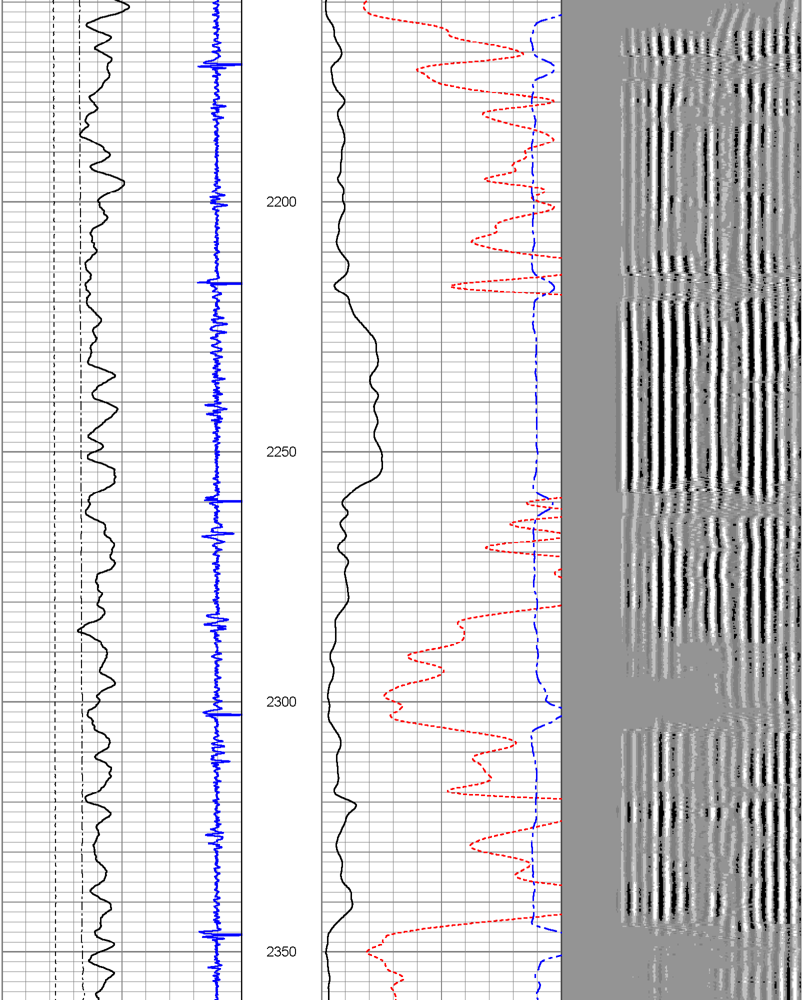


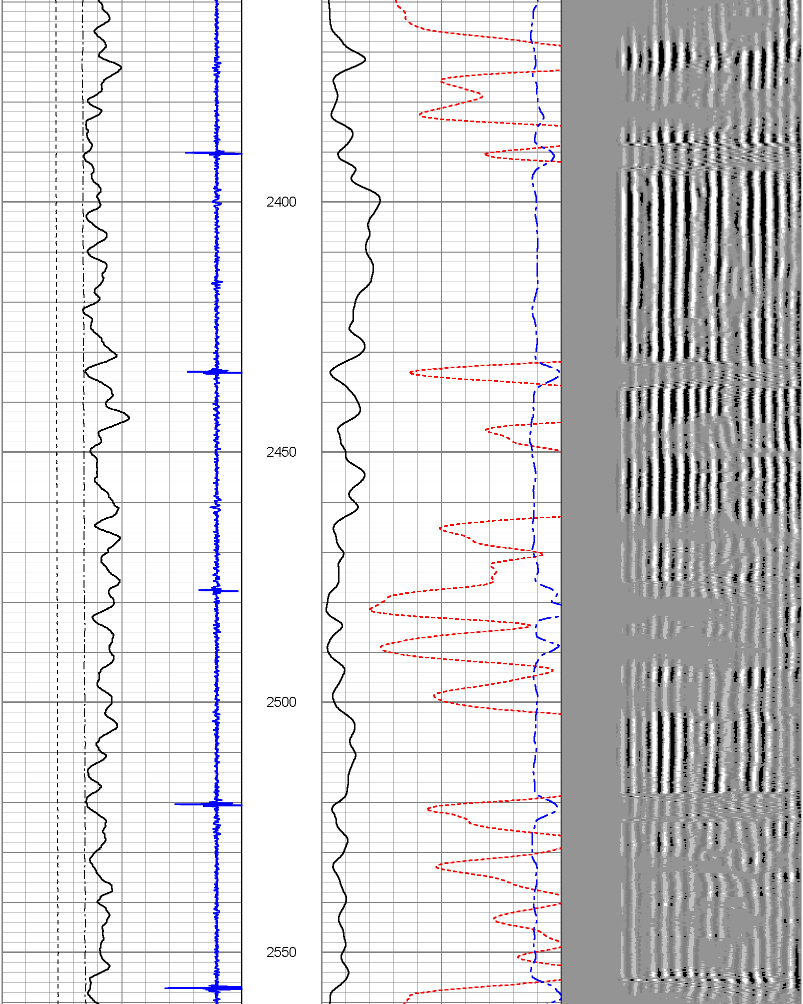


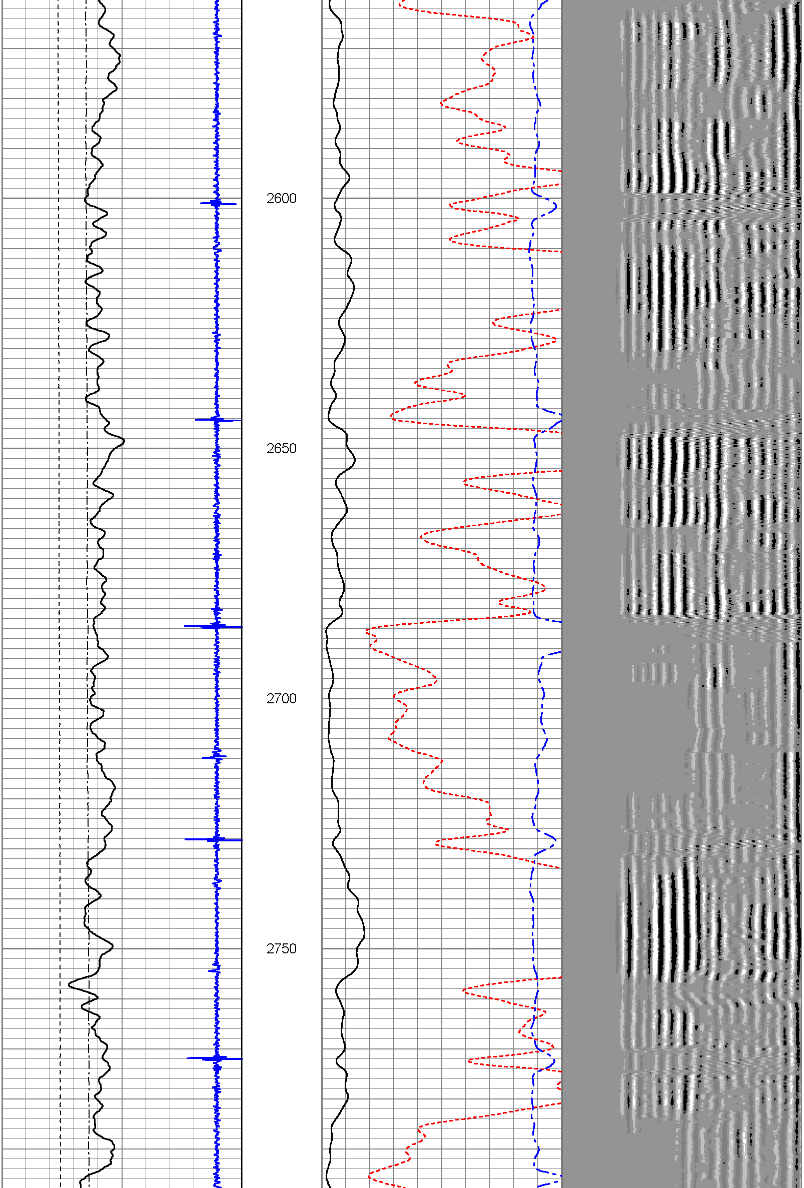


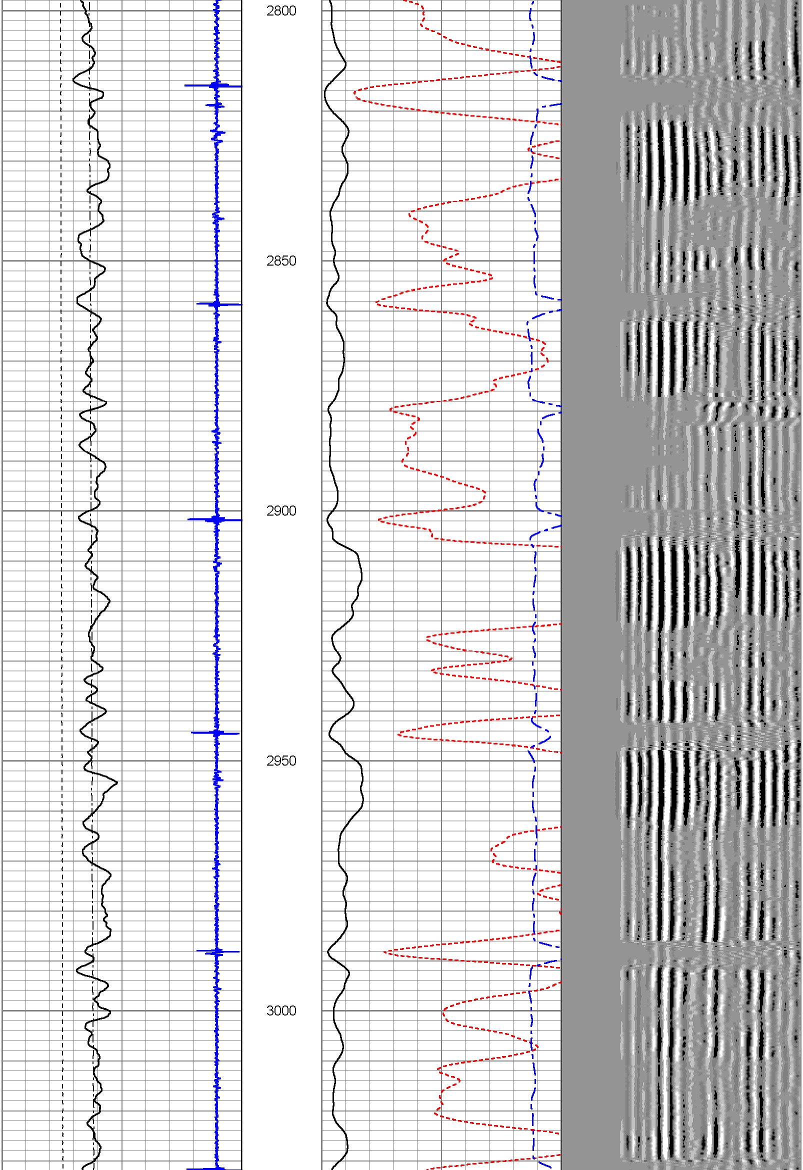


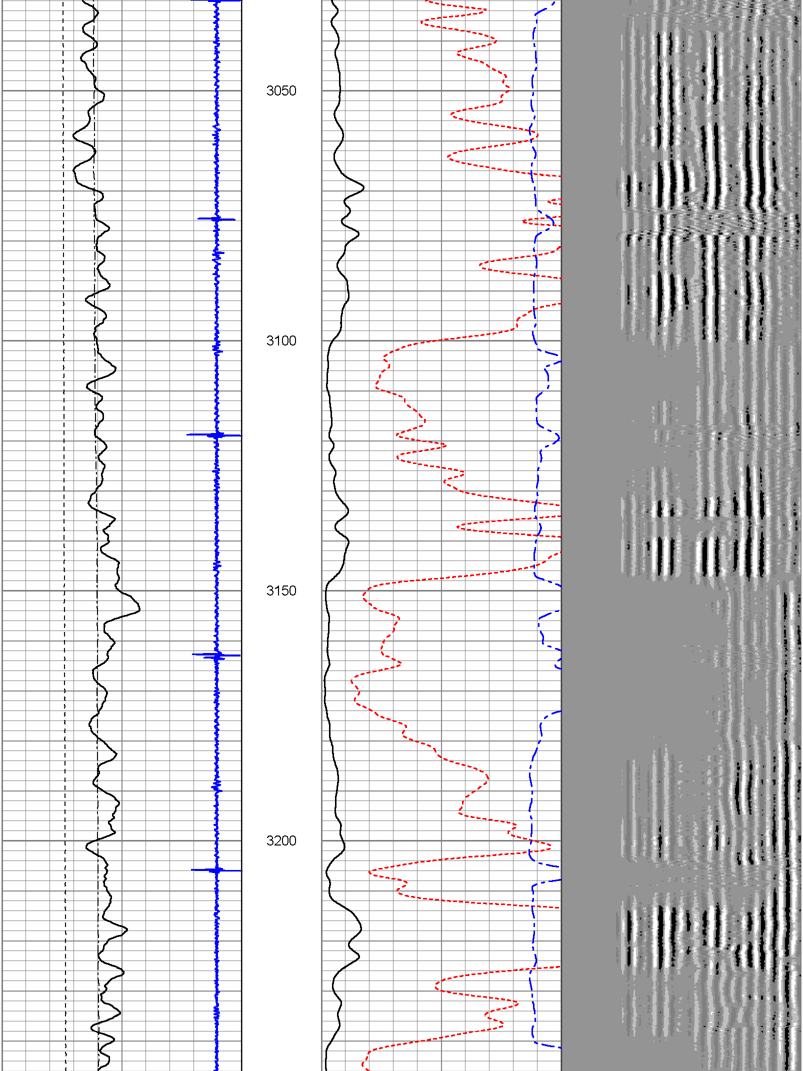


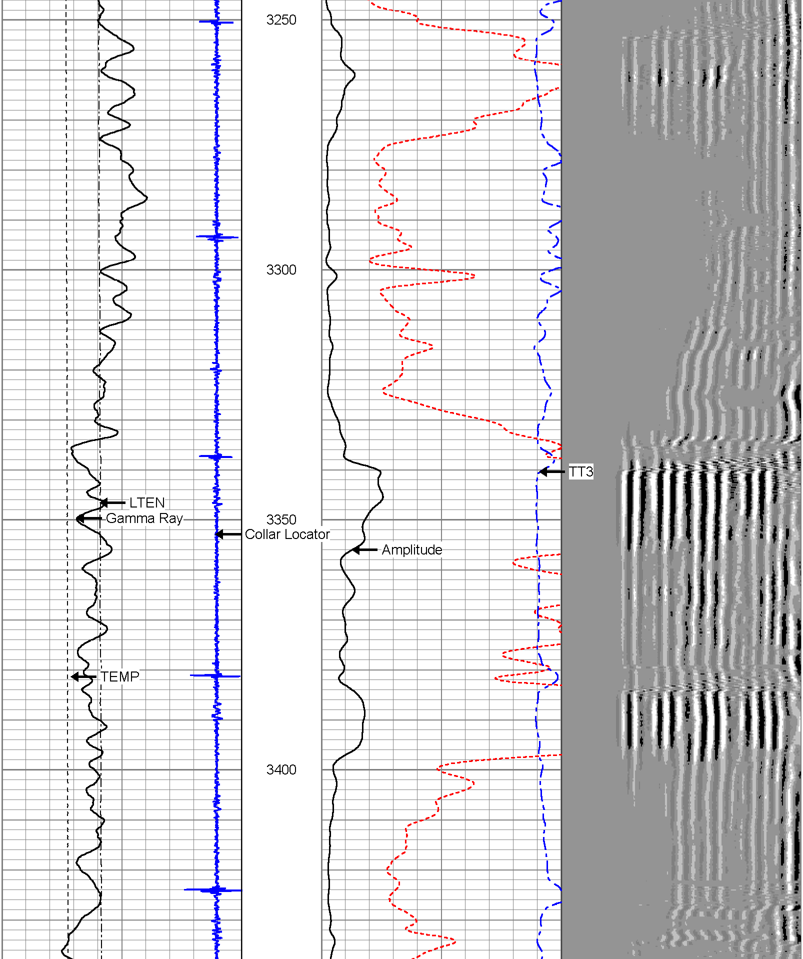


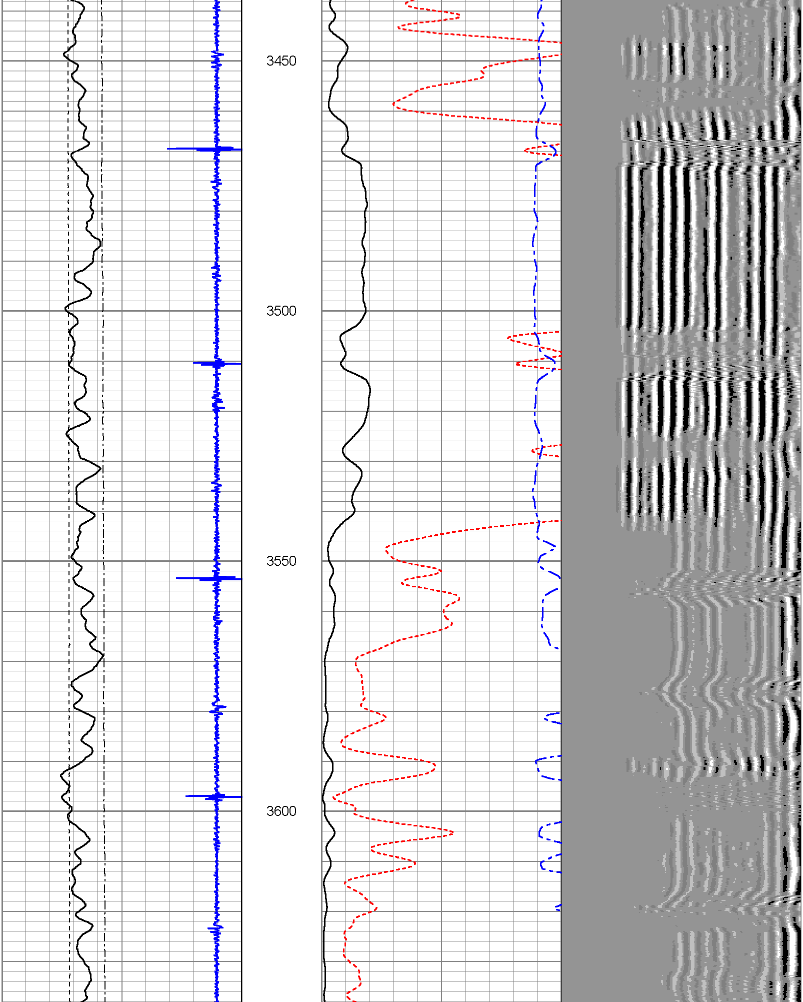












HALLIBURTON

MAIN PASS 7"

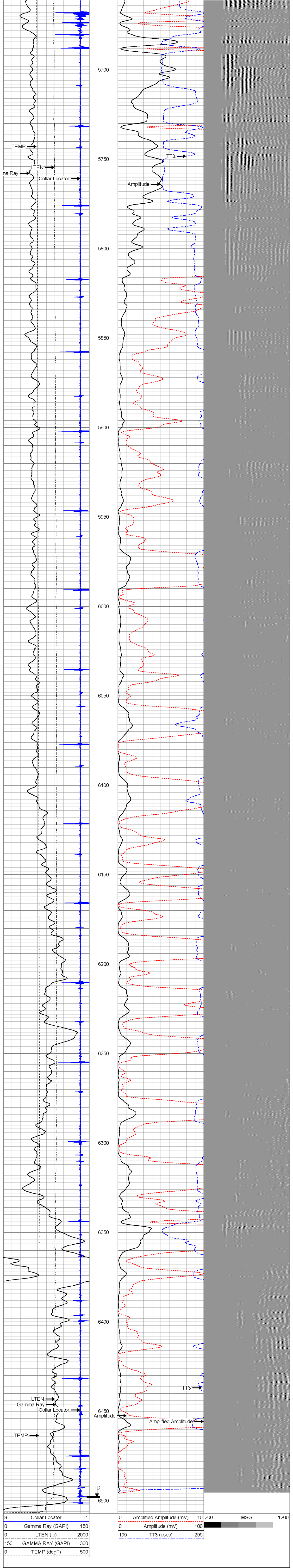
1000 PSI

HALLIBURTON

MAIN PASS 4.5"

1000 PSI

Database File: carrizo_pergamos_1_4_34_7_6.db
Dataset Pathname: pass7.6
Presentation Format: cbl_et
Dataset Creation: Tue Jun 18 11:26:58 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



HALLIBURTON

MAIN PASS 4.5"

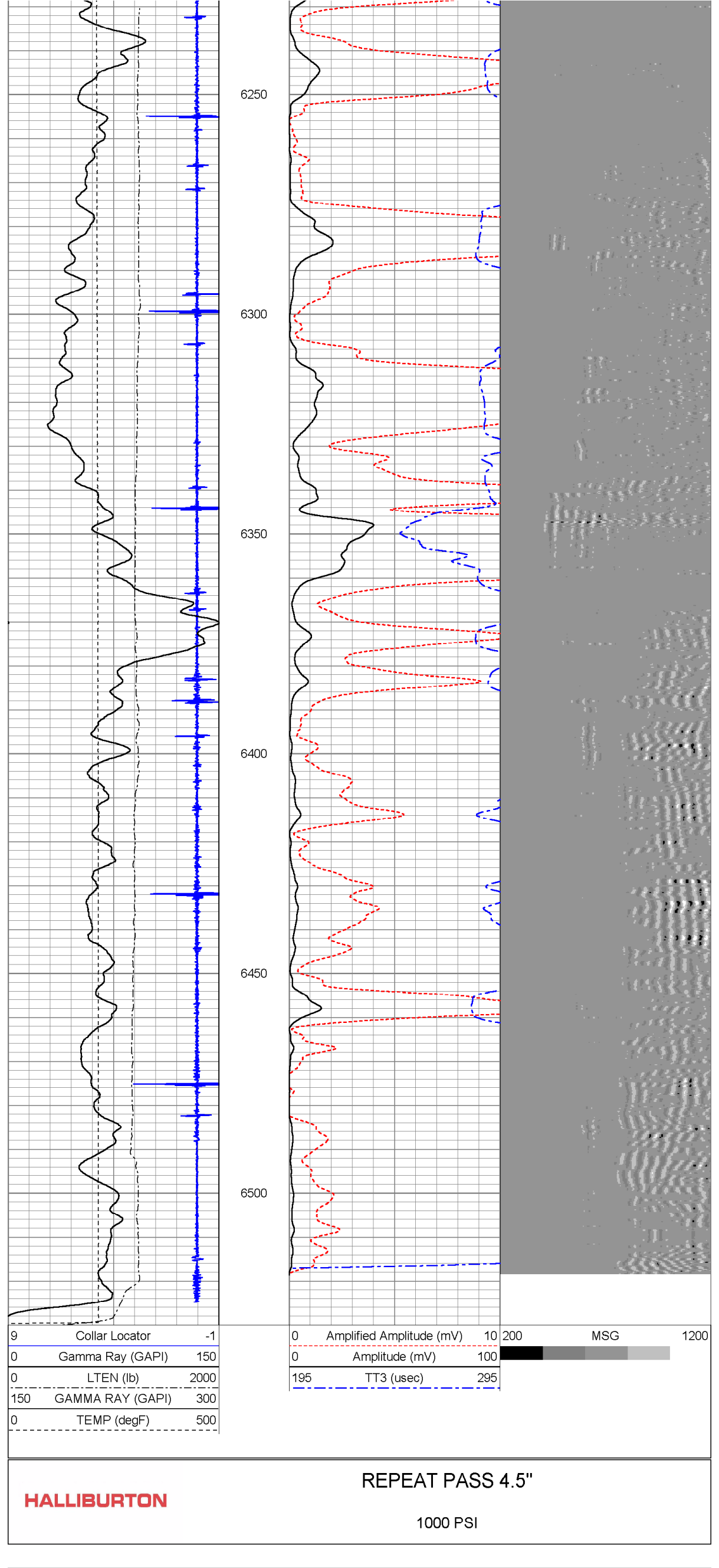
1000 PSI

HALLIBURTON

REPEAT PASS 4.5"

1000 PSI

Database File: carrizo_pergamos_1_4_34_7_6.db
Dataset Pathname: pass6.1
Presentation Format: cbl_et
Dataset Creation: Tue Jun 18 11:33:17 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



HALLIBURTON

REPEAT PASS 4.5"

1000 PSI

Calibration Report

Database File: carrizo_pergamos_1_4_34_7_6.db
Dataset Pathname: pass8
Dataset Creation: Tue Jun 18 10:34:36 2013 by Log Halliburton Casedho

Temperature Calibration Report

Serial Number: Tit1.3_02
Tool Model: Titan
Performed: Fri Jan 04 06:55:24 2002

	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 2

Gamma Ray Calibration Report

Type / Serial: Probe / 275

SHOP CALIBRATION Tue Jun 18 10:33:50 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	118.0				cps
Calibrator	469.9				cps
		1.0000			GAPI/cps

PRIMARY VERIFICATION Tue Nov 20 09:10:47 2012

Background	82.1		cps
Calibrator	320.3		cps
Difference		238.2	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: 275
Tool Model: Probe
Performed: Tue Jun 18 09:36:52 2013

Depth: 179.897 ft
Casing Diameter: 4.5 in

	3' Spacing	5' Spacing	
Signal Zero:	0.1	0.1	mV
Calibrated Amplitude:	62	62	mV
Reading at Signal Zero:	0.00244141	0.0106934	V
Reading in Free Pipe:	0.371582	0.416919	V
Gain:	167.687	152.378	
Offset:	-0.309392	-1.52944	

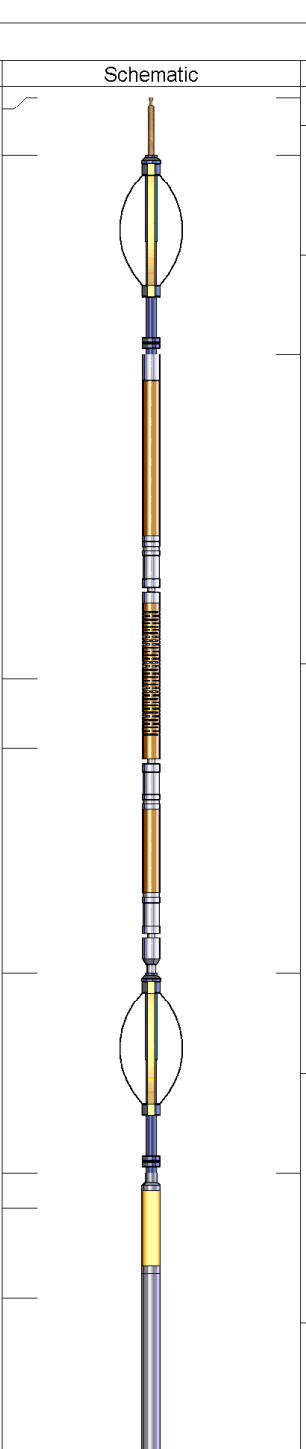
Log Variables

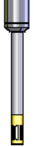
Database:D:\Warrior_data\carrizo_pergamos_1_4_34_7_6.db
Dataset: field/well/run1/pass8

Top - Bottom

PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF
0	62	0	0	7	0	5668	100

BITSIZE in
8.75

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
STNDCH	21.10		1_CABLEHEAD 1"OD CABLE HEAD	0.83	1.00	3.00
CENT	20.27		CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
WVF3	12.72		CBL-Probe (275) Probe 2.75" Dual Receiver Bond	8.92	2.75	60.00
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 LLMTEN	0.17 0.00		TEMP-Titan (Tit1.3_02) Titan Temp 1.3875	1.25	1.39	10.00

Dataset: carrizo_pergamos_1_4_34_7_6.db: field/well/run1/pass8
Total Length: 21.10 ft
Total Weight: 173.00 lb
O.D. 2.75 in

Company	CARRIZO OIL & GAS		
Well	PERGAMOS 1-4-34-7-60		
Field	WILDCAT		
County	WELD	State	CO

HALLIBURTON

CEMENT BOND
LOG