HALLIBURTON

CEMENT BOND LOG

Company	CARRIZO OIL & GAS
Well	STATE 2-36-9-61
Field	WILDCAT
County	WELD State CO

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Well	STATE 2-36-9-61
Field	WILDCAT
County	WELD State CO

API No.: 05-123-37897 Serv #: 900858734

Location: LAT: 40.71171 LONG: -104.14949

Other Services: NONE

Sec: 36 Twp: 9N Rge: 61W

Permanent Datum	GL	Elevation 4939'	Elevation	
Log Measured From	KB , 15 Ft. above perm. datum		K.B.	4954'
Drilling Measured From	KB		D.F.	4953'
			G.L.	4939'

Date @ Time Logged	10/30/13 @ 12:35	Type Fluid in Hole	FRESH WATER
Run No.	01	Density of Fluid	8.33
Depth - Driller	10792'	Fluid Level	SURFACE
Depth - Logger	6436'	Cement Top Est. Logged	750'
Bottom - Logged Interval	6424'	Equipment / Location	11014931 / BRIGHTON
Top - Log Interval	50'	Recorded by	F. KUMA
Max. Recorded Temp.	220 DEG F @ 6436'	Witnessed by	B. SHABALL

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

Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	8.75	0	5927	7	23	0	5927
LINER	6.25	6652	10792	4.5	11.60	6652	10972

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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

PRIMARY DEPTH OF REFERENCE

ESTIMATED TOP OF CEMENT @ 750 '

TOP OF LINER @ 5727'

THORIUM BLANKET VALUE: 237

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES
YOUR CREW TODAY: F. KUMA, K. MAGLIETTO, E. WHITTIER

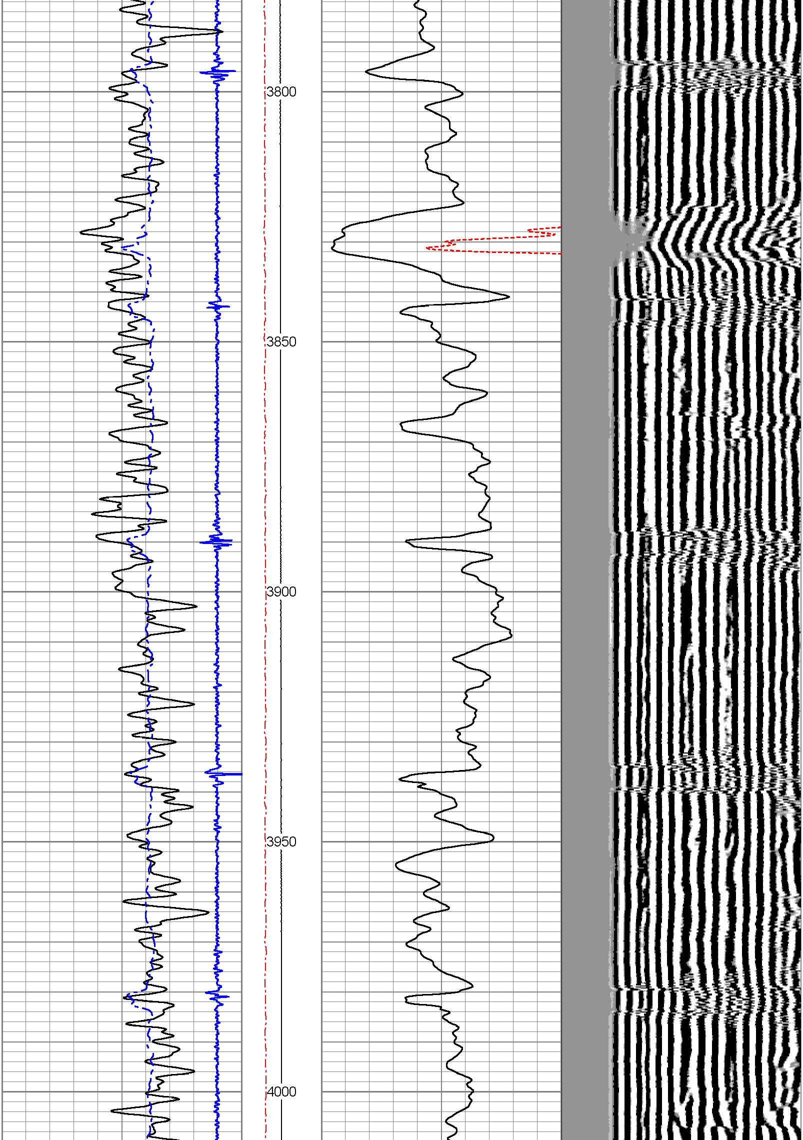
HALLIBURTON

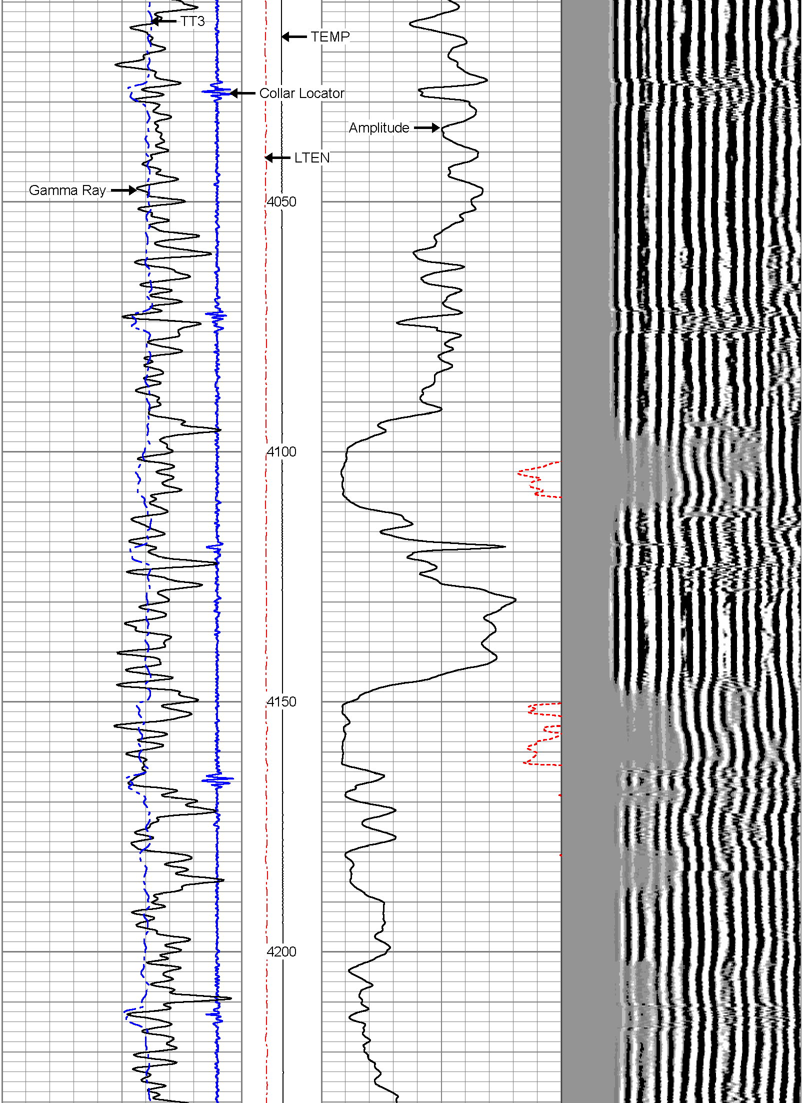
MAIN PASS (1000 PSI)

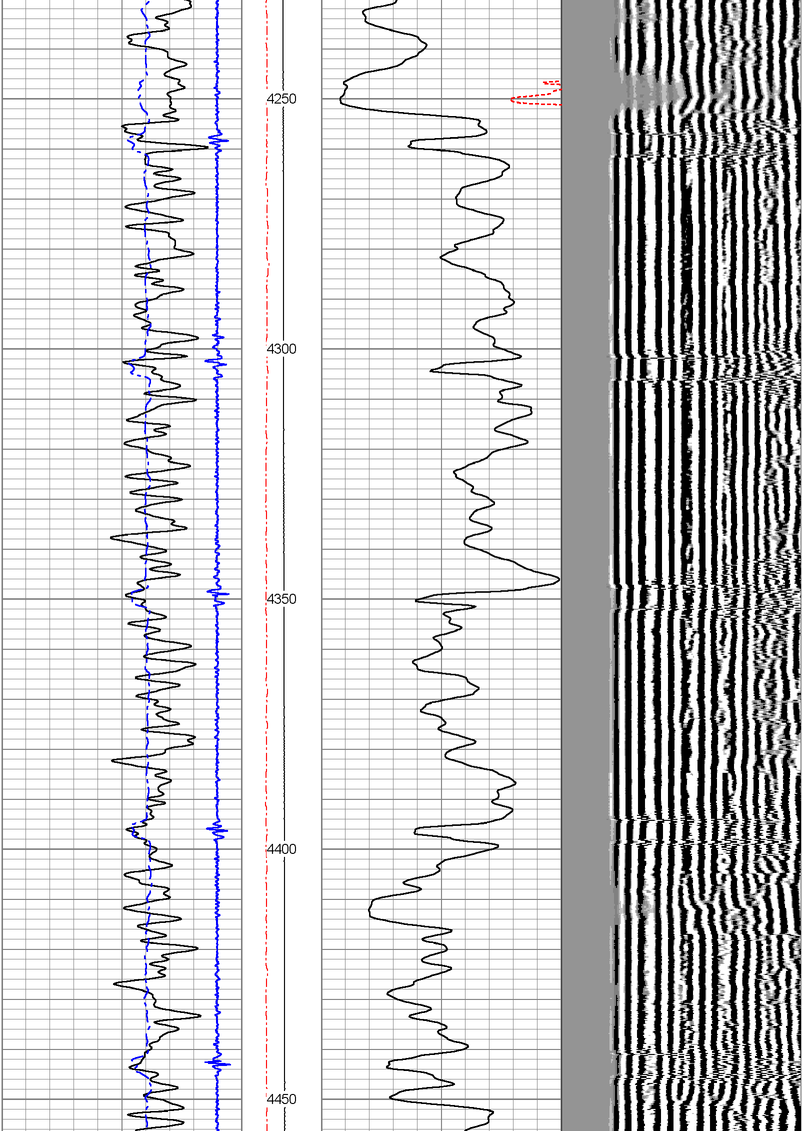
SCALE: 5"=100'

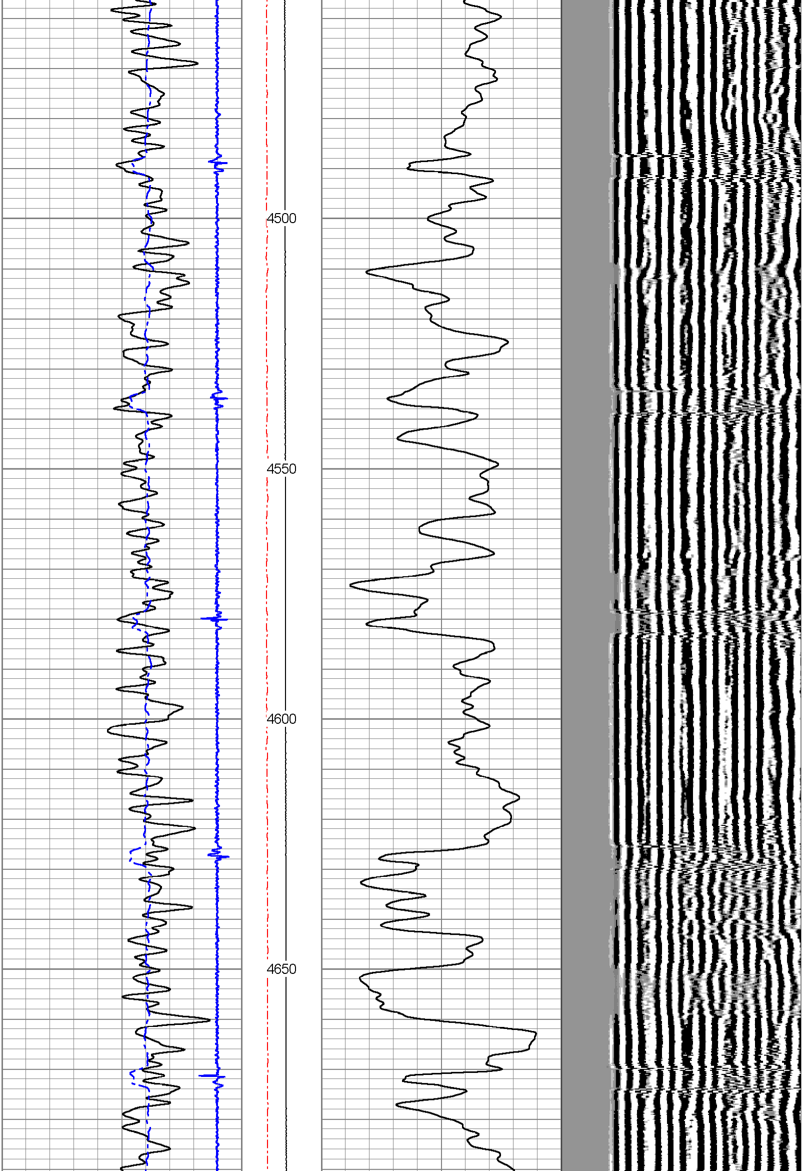
Database File:	carrizo_state_2-36-9-61.db
Dataset Pathname:	pass12
Presentation Format:	1katcbl
Dataset Creation:	Wed Oct 30 13:26:09 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

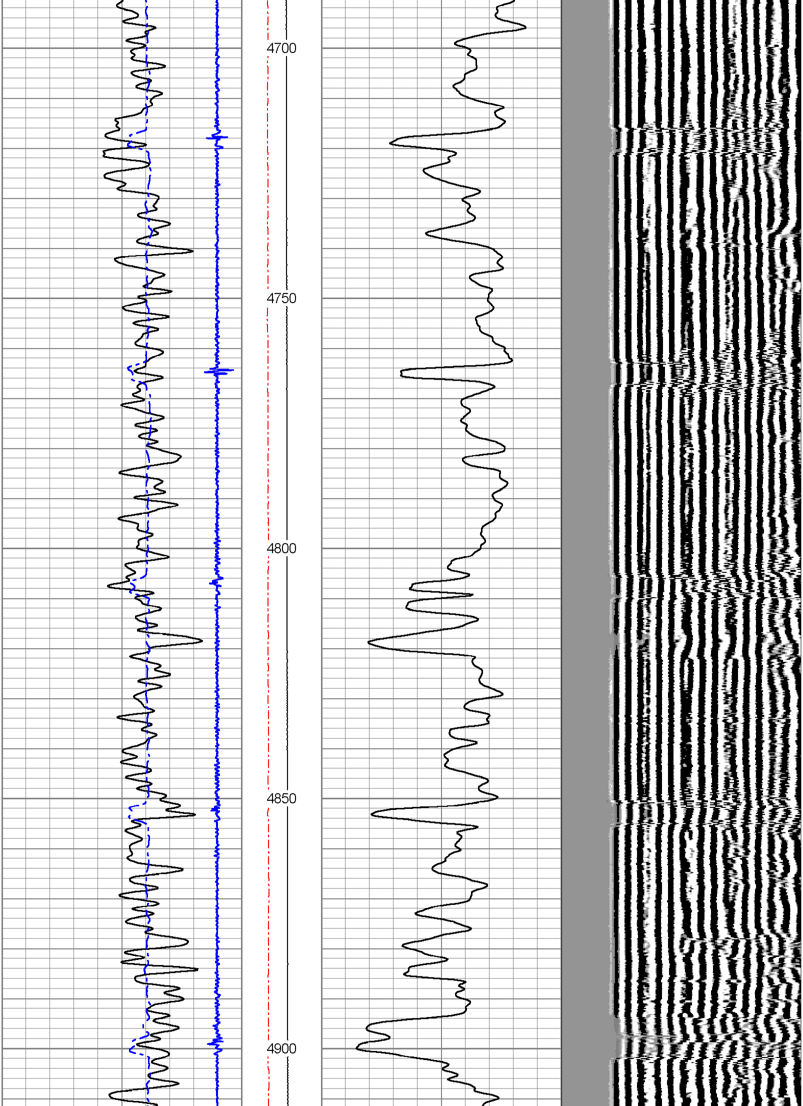
9 Collar Locator -1	LTEN	0 Amplified Amplitude (mV) 10	200 MSG 1200
0 Gamma Ray (GAPI) 150	0 (lb) 2000	0 Amplitude (mV) 100	
340 TT3 (usec) 240	TEMP (degF) 0 300		

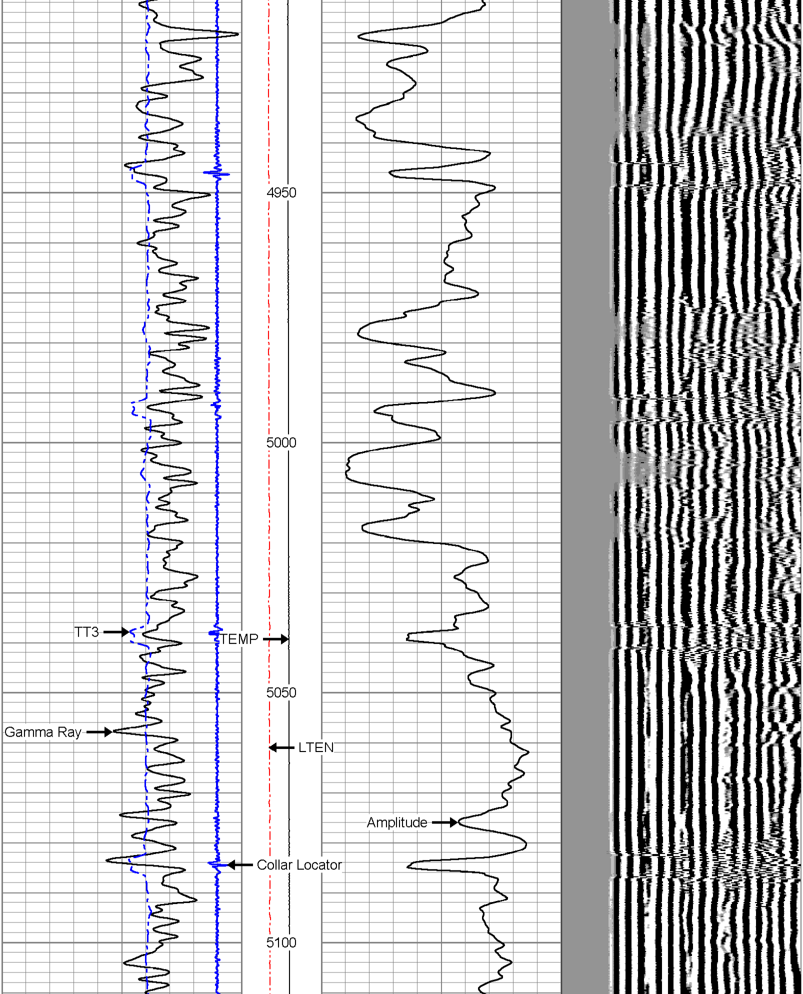


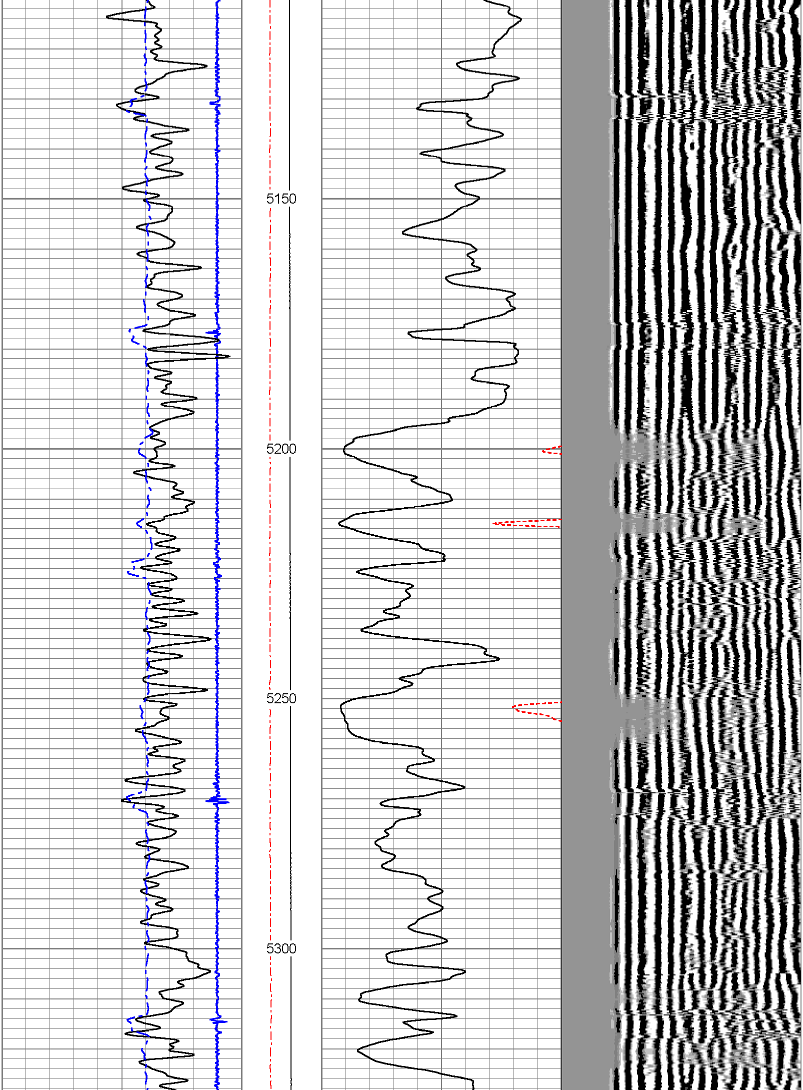


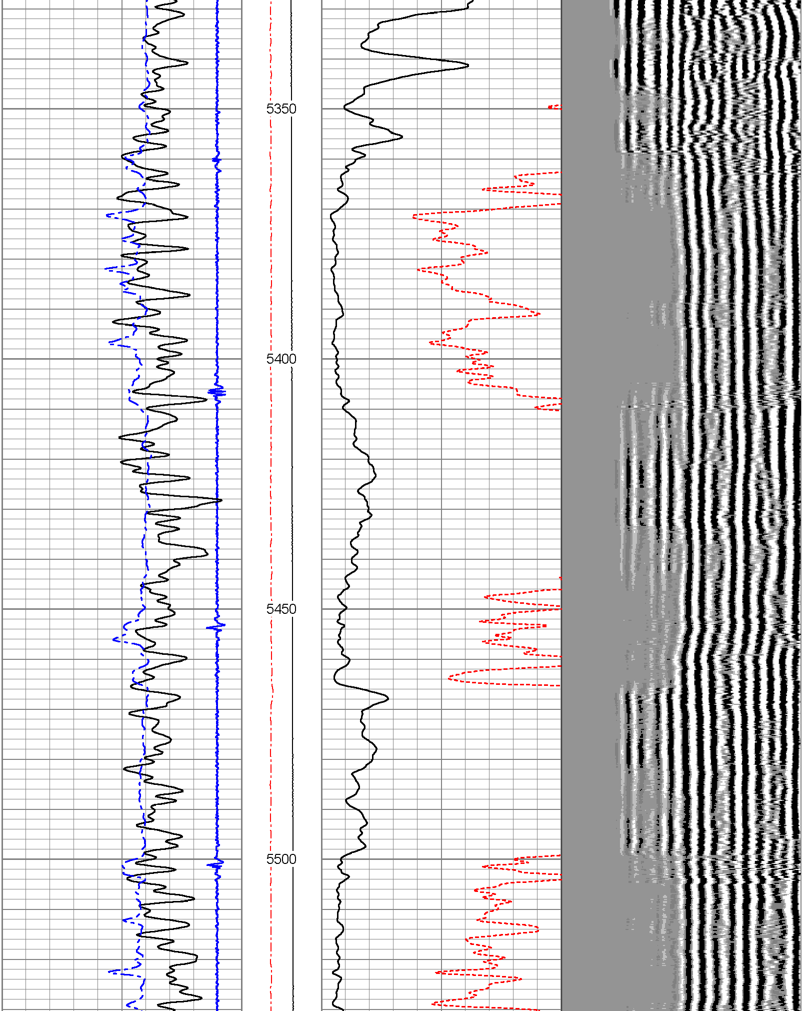


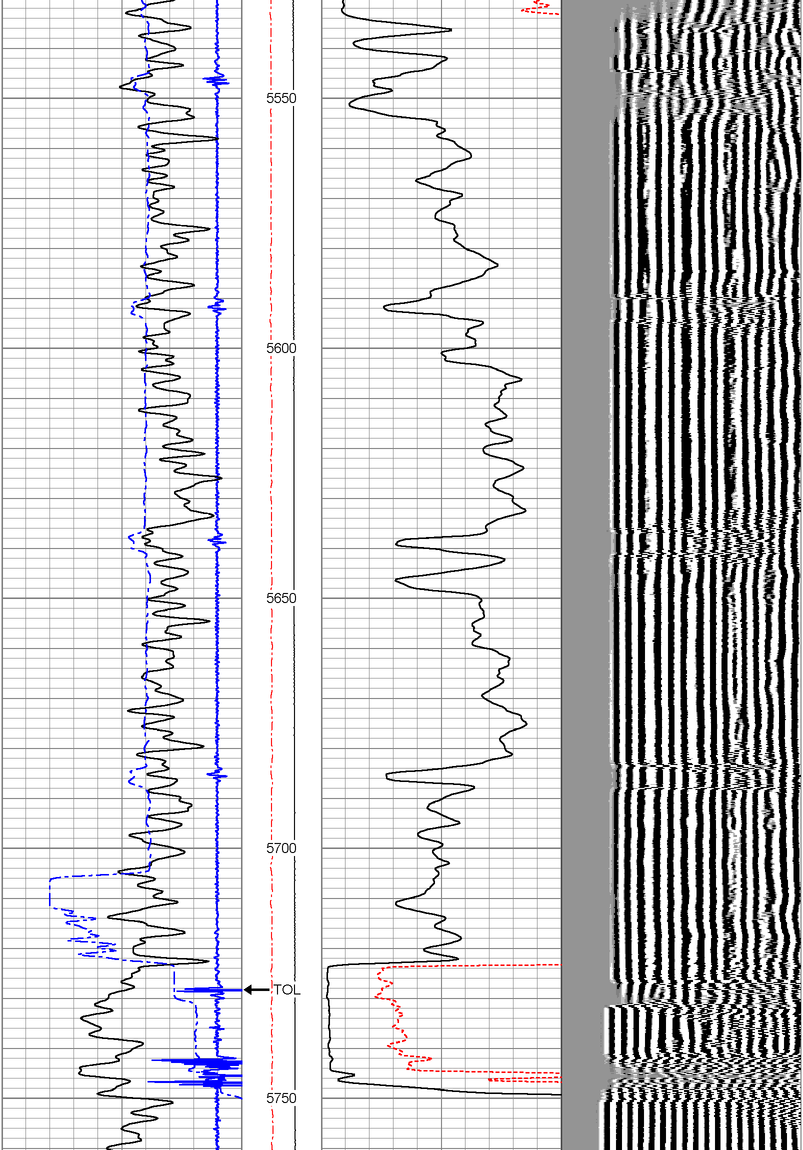


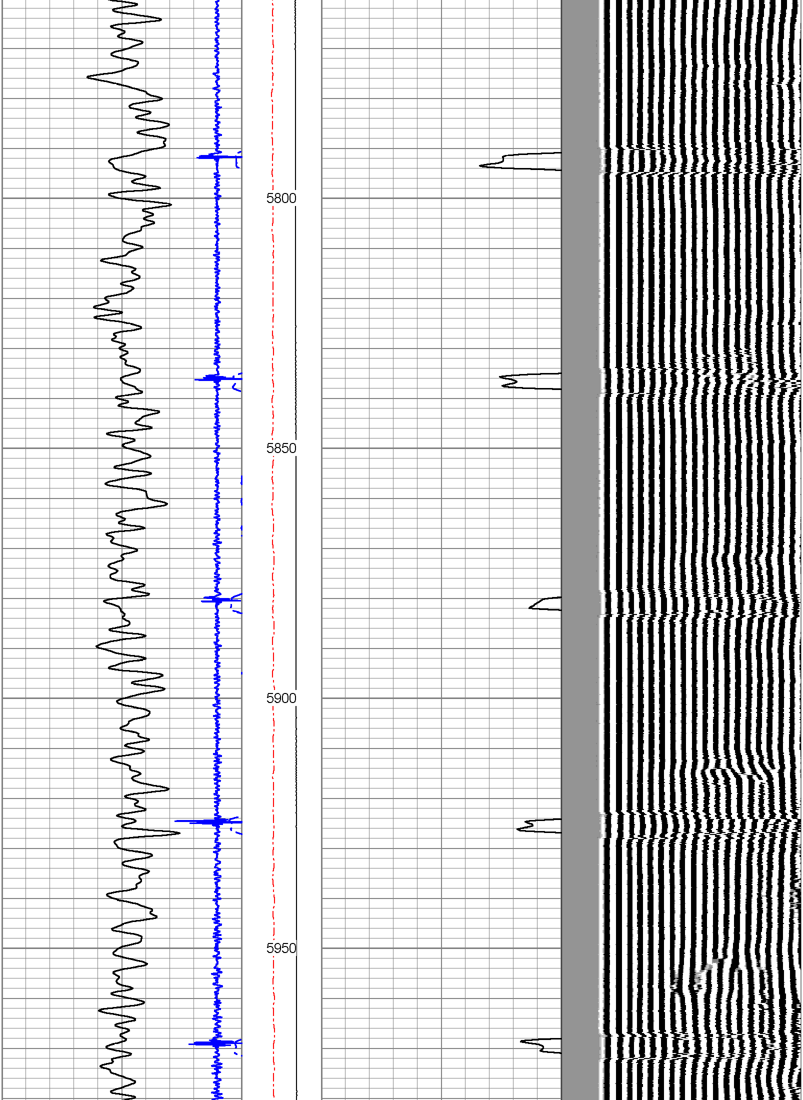


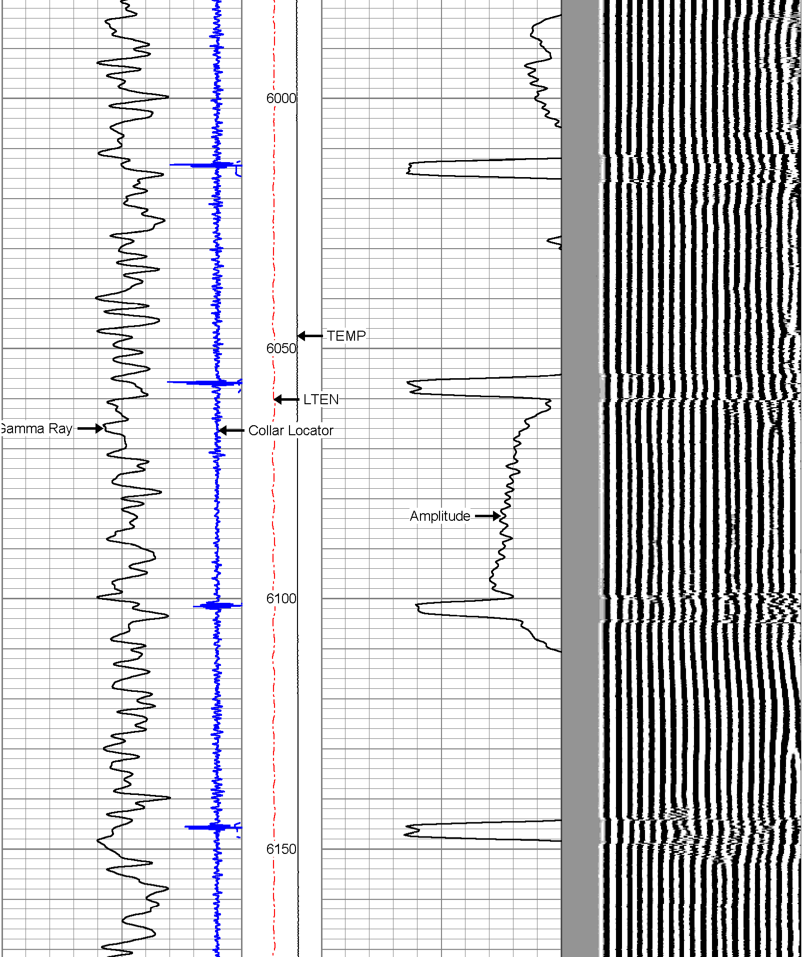


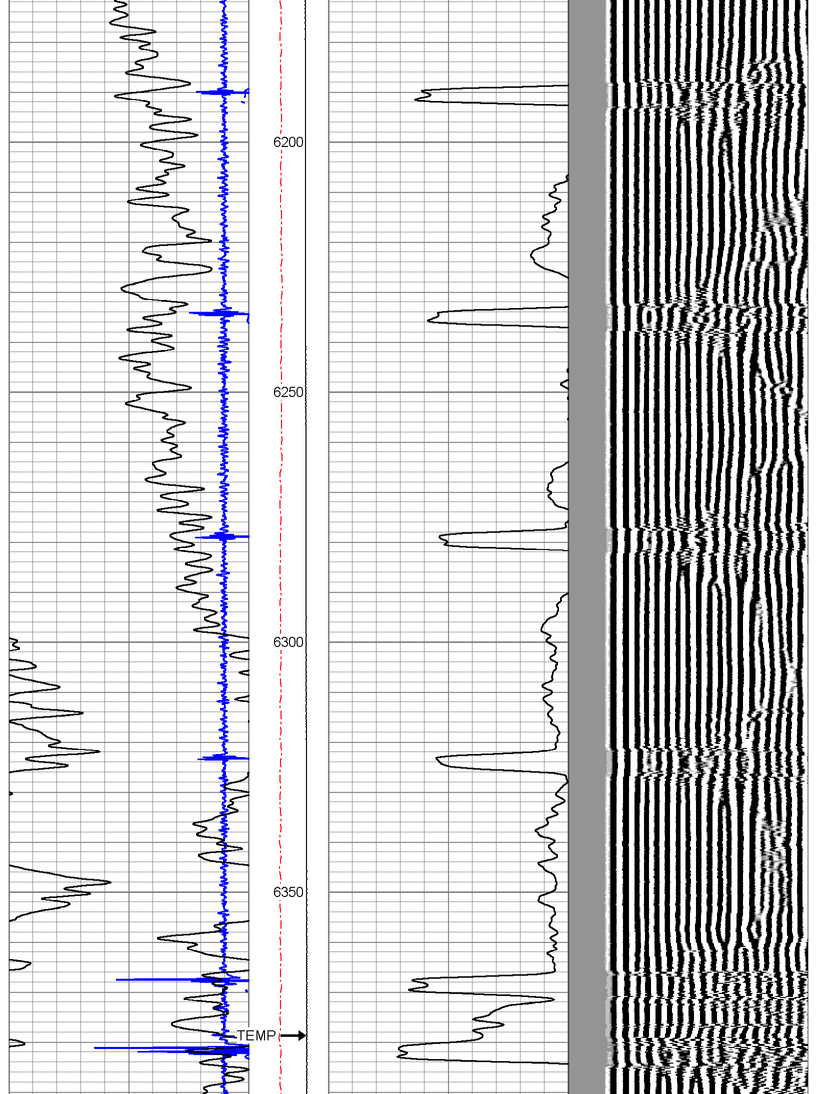


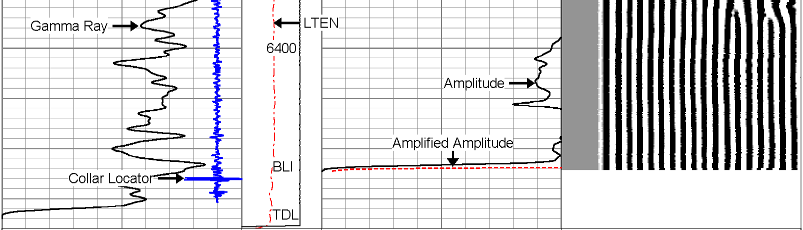












9 Collar Locator -1	LTEN	0 Amplified Amplitude (mV) 10	200 MSG 1200
0 Gamma Ray (GAPI) 150	0 (lb 2000	0 Amplitude (mV) 100	■ ▨ ▨ ▨
340 TT3 (usec) 240	TEMP (degF) 0 300		

HALLIBURTON

MAIN PASS (1000 PSI)

SCALE: 5"=100'

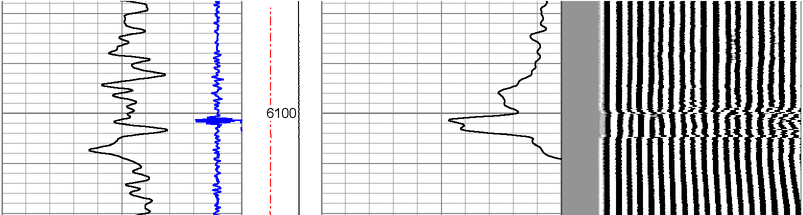
HALLIBURTON

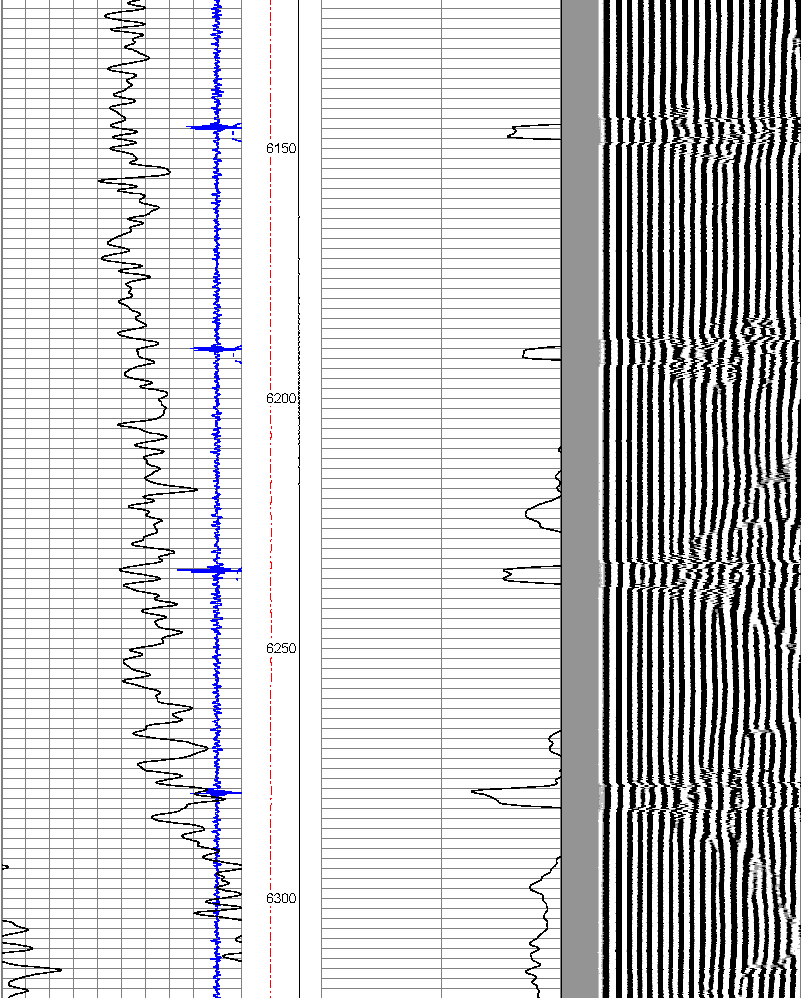
REPEAT PASS

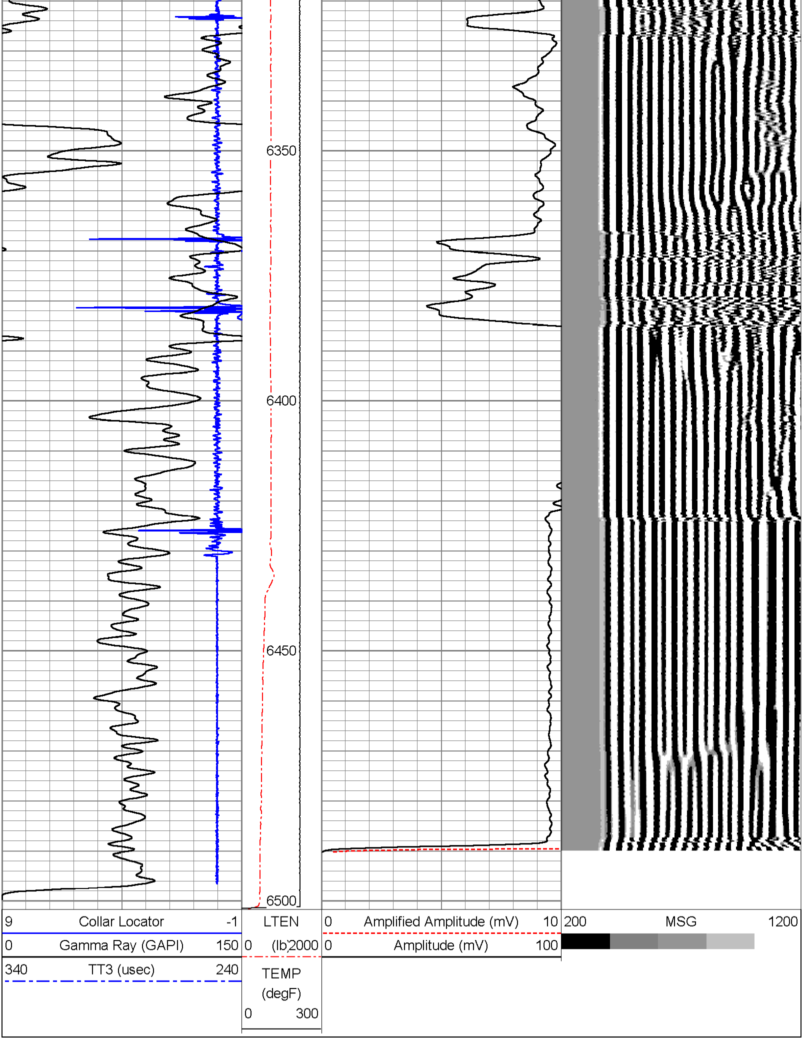
SCALE: 5"=100'

Database File:	carrizo_state_2-36-9-61.db
Dataset Pathname:	pass9
Presentation Format:	1katcbl
Dataset Creation:	Wed Oct 30 13:16:51 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

9 Collar Locator -1	LTEN	0 Amplified Amplitude (mV) 10	200 MSG 1200
0 Gamma Ray (GAPI) 150	0 (lb 2000	0 Amplitude (mV) 100	■ ▨ ▨ ▨
340 TT3 (usec) 240	TEMP (degF) 0 300		







HALLIBURTON

REPEAT PASS

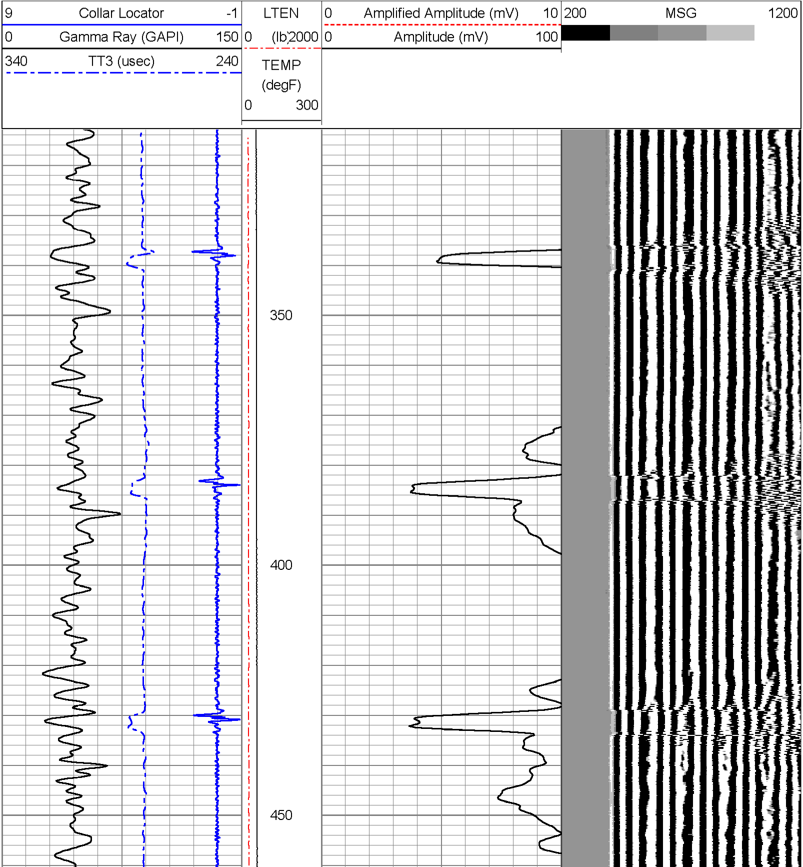
SCALE: 5"=100'

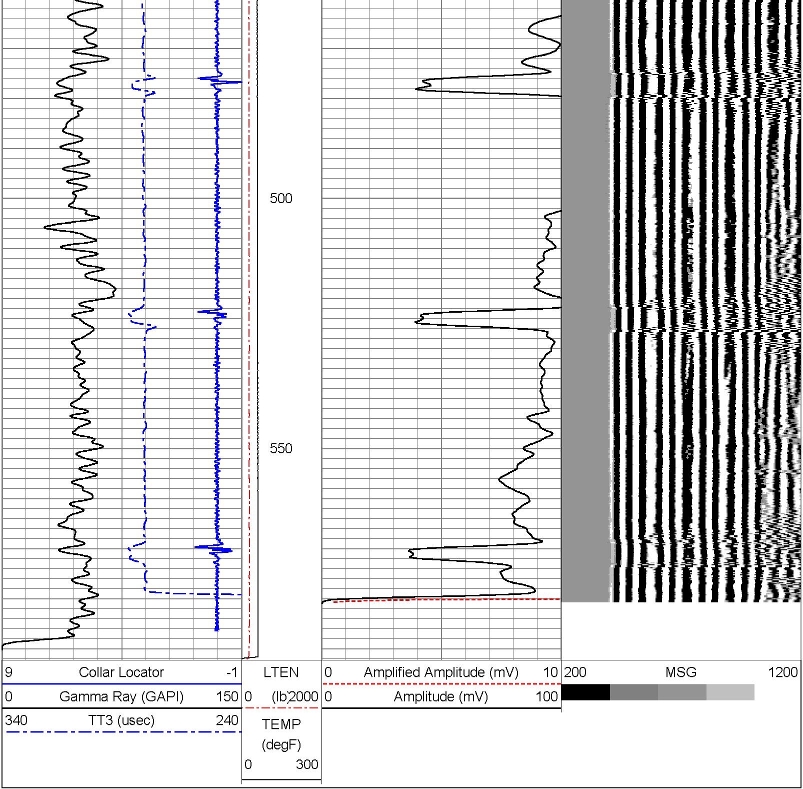
HALLIBURTON

FREE PIPE PASS

SCALE: 5"=100'

Database File:	carrizo_state_2-36-9-61.db
Dataset Pathname:	pass7.1
Presentation Format:	1katcbl
Dataset Creation:	Wed Oct 30 14:33:53 2013 by Calc Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240





HALLIBURTON

FREE PIPE PASS

SCALE: 5"=100'

Log Variables

Database:D:\Warrior_data\carrizo_state_2-36-9-61.db
Dataset: field/well/run1/pass12

Top - Bottom

PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF
287	65	0	0.8	7	0	10792	175
BITSIZE in							
7.875							

Calibration Report

Database File: carrizo_state_2-36-9-61.db
Dataset Pathname: pass12
Dataset Creation: Wed Oct 30 13:26:09 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 Wed Oct 30 09:19:19 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	71.7				cps
Calibrator	294.3				cps
		1.0649			GAPI/cps

PRIMARY VERIFICATION Wed Oct 30 09:23:46 2013

Background	76.0				cps
Calibrator	309.8				cps
Difference				233.8	GAPI

BEFORE SURVEY VERIFICATION Wed Oct 30 09:28:38 2013

Background	75.6				cps
Calibrator	308.0				cps
Difference				232.5	GAPI

AFTER SURVEY VERIFICATION

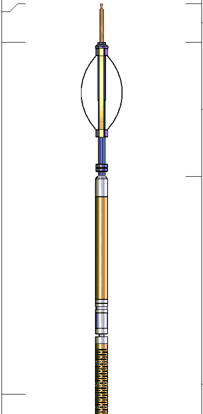
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Cement Bond Log Calibration Report

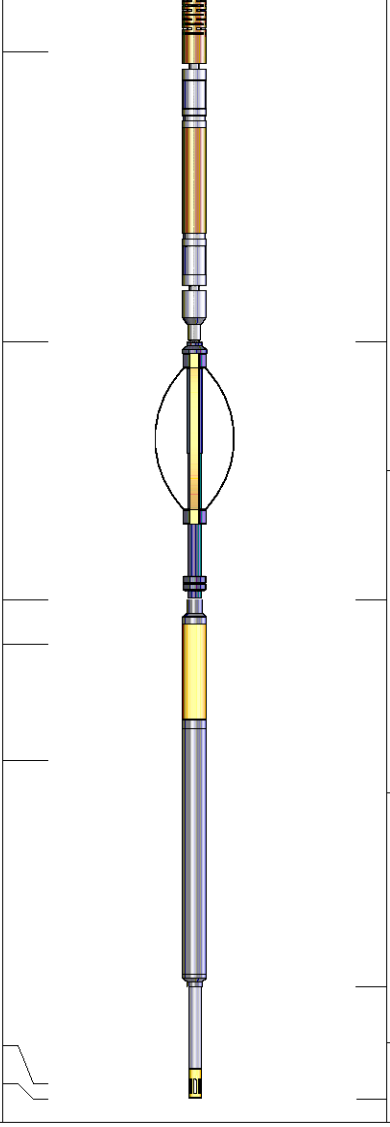
Serial Number: 275
Tool Model: Probe
Performed: Wed Oct 30 12:40:58 2013

Depth: 321.185 ft
Casing Diameter: 7 in

	3' Spacing	5' Spacing	
Signal Zero:	0	0	mV
Calibrated Amplitude:	62	62	mV
Reading at Signal Zero:	-0.00412598	-0.00227051	V
Reading in Free Pipe:	0.631079	1.26931	V
Gain:	97.6063	48.7582	
Offset:	0.402721	0.110706	

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
GR	5.58
CCL	5.08
GR	3.79
TEMP	0.17
LLMTEN	0.00



CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
GR-Probe (275) Probe 2.75" 4 Channel Pulse	4.33	2.75	30.00
TEMP-Titan (Tit1.3_02) Titan Temp 1.3875	1.25	1.39	10.00

Dataset:	carrizo_state_2-36-9-61.db: field/well/run1/pass7.1
Total Length:	21.10 ft
Total Weight:	173.00 lb
O.D.	2.75 in

Company	CARRIZO OIL & GAS
Well	STATE 2-36-9-61
Field	WILDCAT
County	WELD
State	CO

HALLIBURTON

CEMENT BOND LOG