HALLIBURTON

CEMENT BOND LOG

Company	CARRIZO		
Well	NELSON 4-17-9-60		
Field	WILDCAT		
County	WELD	State	CO

Company CARRIZO
Well NELSON 4-17-9-60
Field WILDCAT
County WELD State CO

API No.: 05-123-36869 Serv #: 900440618
Location: SHL 291' FSL 1595' FWL

Other Services
N/A

Sec: 17 Twp: 9N Rge: 60W

Permanent Datum	GL	Elevation 4992'	Elevation K.B. 5009' D.F. 5008' G.L. 4992'
Log Measured From	KB , 17 Ft. above perm. datum		
Drilling Measured From	KB		

Date @ Time Logged	15-MAY-2013	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.33
Depth - Driller	10739	Fluid Level	SURFACE
Depth - Logger	5954	Cement Top Est. Logged	1410
Bottom - Logged Interval	5942	Equipment / Location	11874896 / BRIGHTON
Top - Log Interval	190	Recorded by	JOSHUA MCDANIEL
Max. Recorded Temp.	122	Witnessed by	KIRK WILLIAMS

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Primary / Squeeze				
Date / Time Cemented				
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
SURF	12.25	0	1400	9.625	36	0	1400
ONE	8.75	0	6550	7	23	0	6550
LINER	6.25	5850	10739	4.5	11.6	5850	10739

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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

FIRST LOG IN THE WELL

TOL @ 5779'

ESTIMATED TOP OF CEMENT @ 1410'

TENSION VARIANCE FROM PACKOFF

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES!

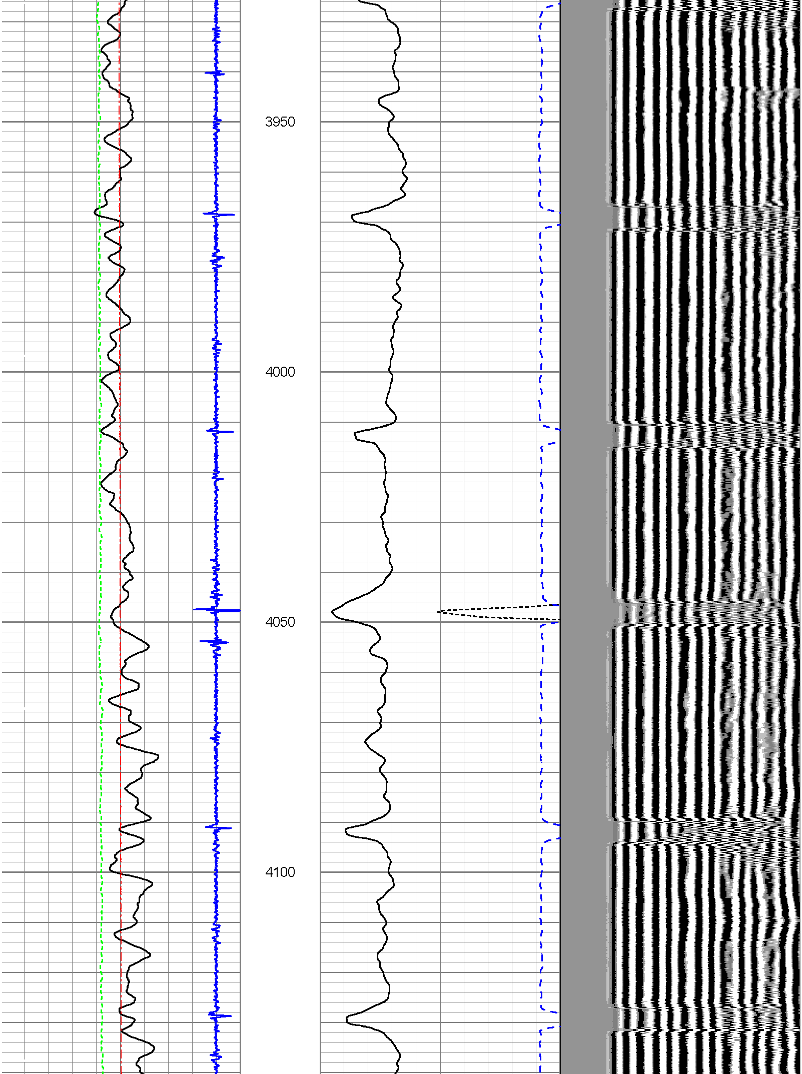
HALLIBURTON

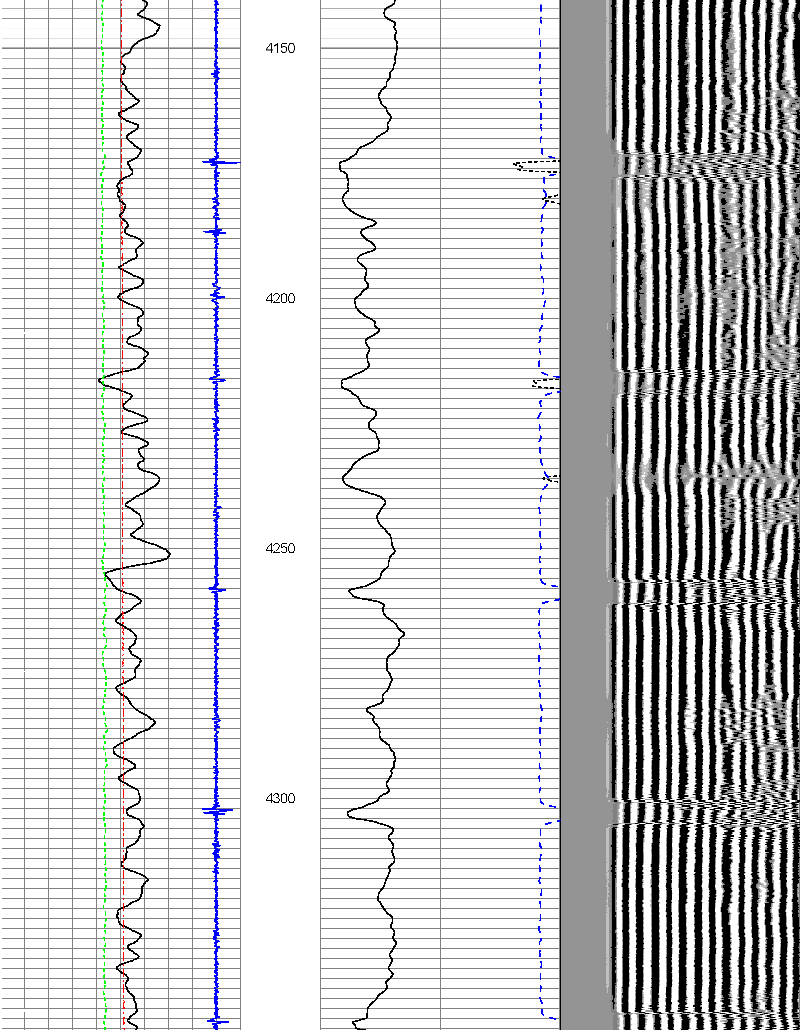
MAIN PASS 1000 PSI

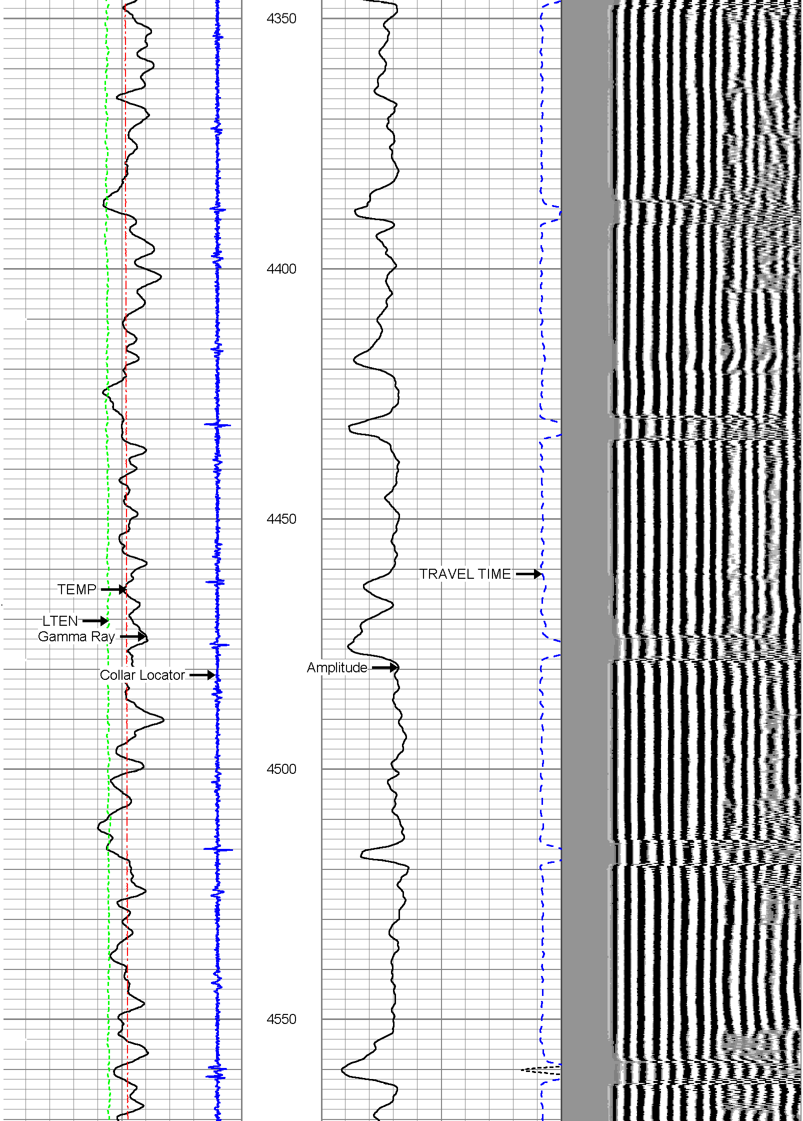
SCALE: 5"=100'

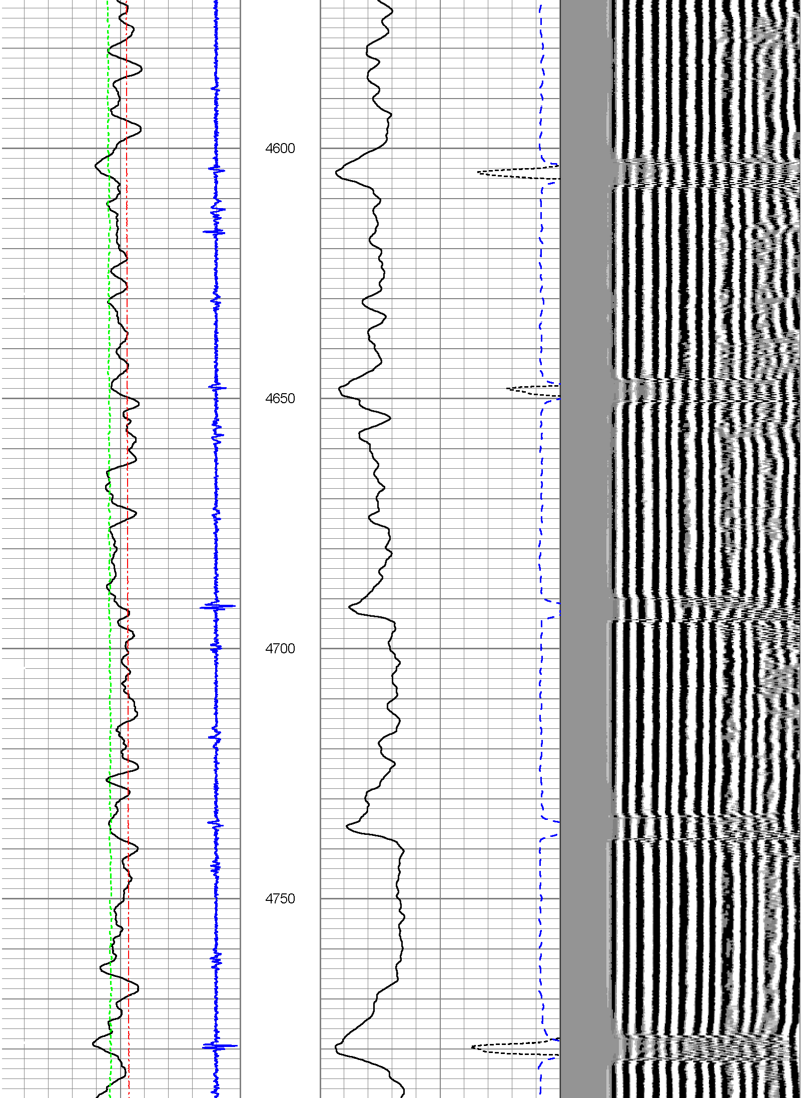
Database File: nelson 4-17-9-60.db
Dataset Pathname: pass4
Presentation Format: 1cbl
Dataset Creation: Wed May 15 13:47:25 2013 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

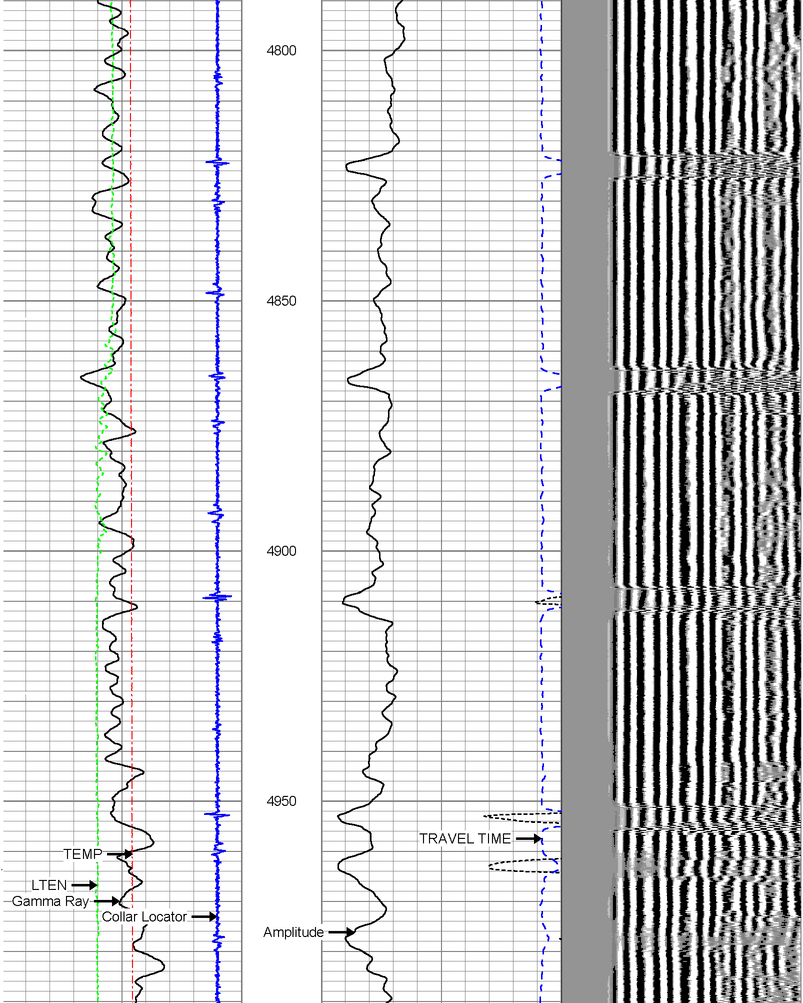
9	Collar Locator	-1		0	Amplified Amplitude (mV)	10	200	MSG	1200
0	Gamma Ray (GAPI)	150		0	Amplitude (mV)	100			
0	LTEN (lb)	2500		180	TRAVEL TIME (usec)	280			
0	TEMP (degF)	200							

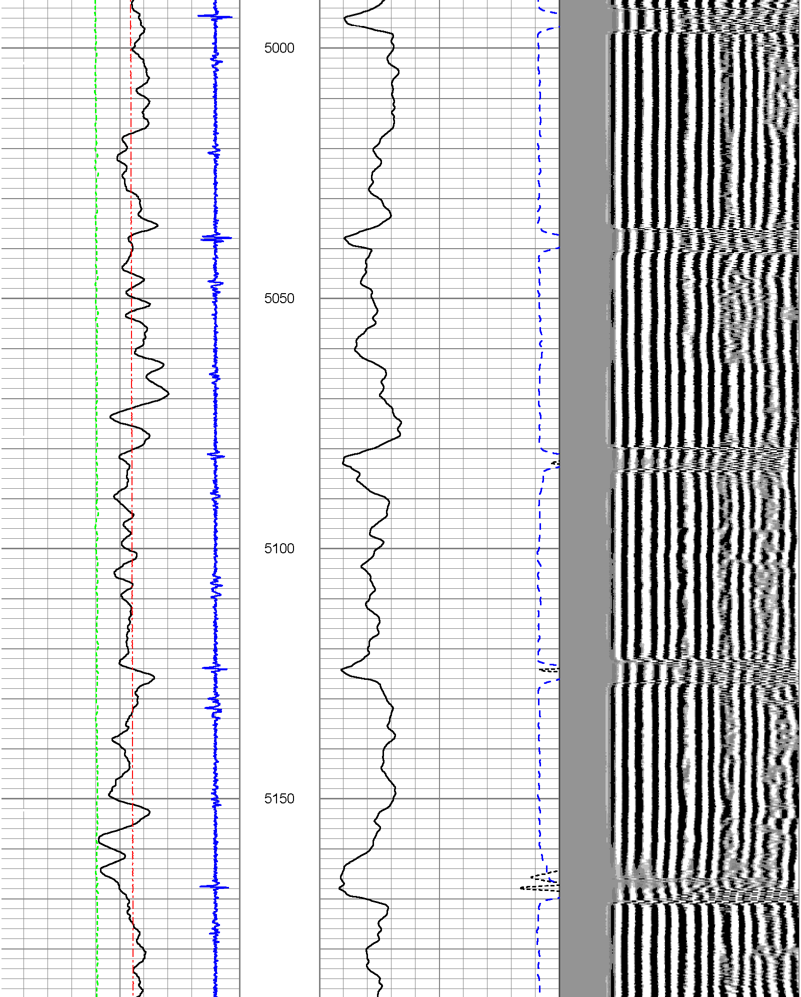


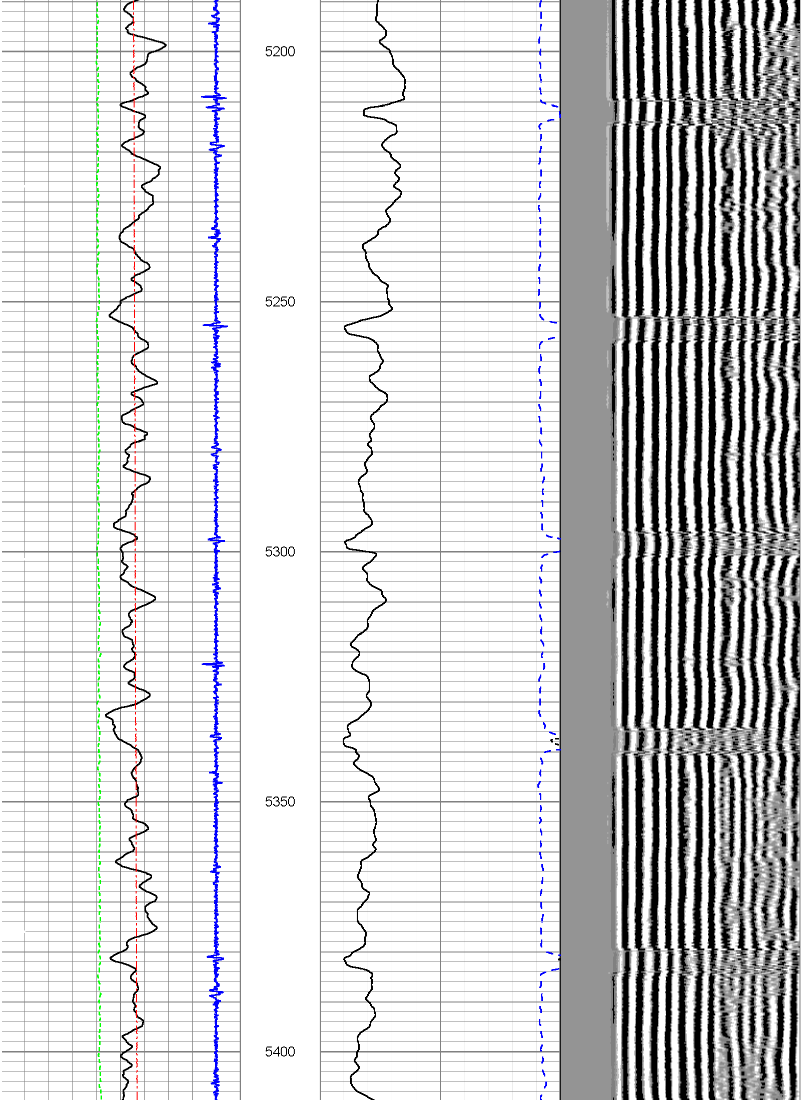


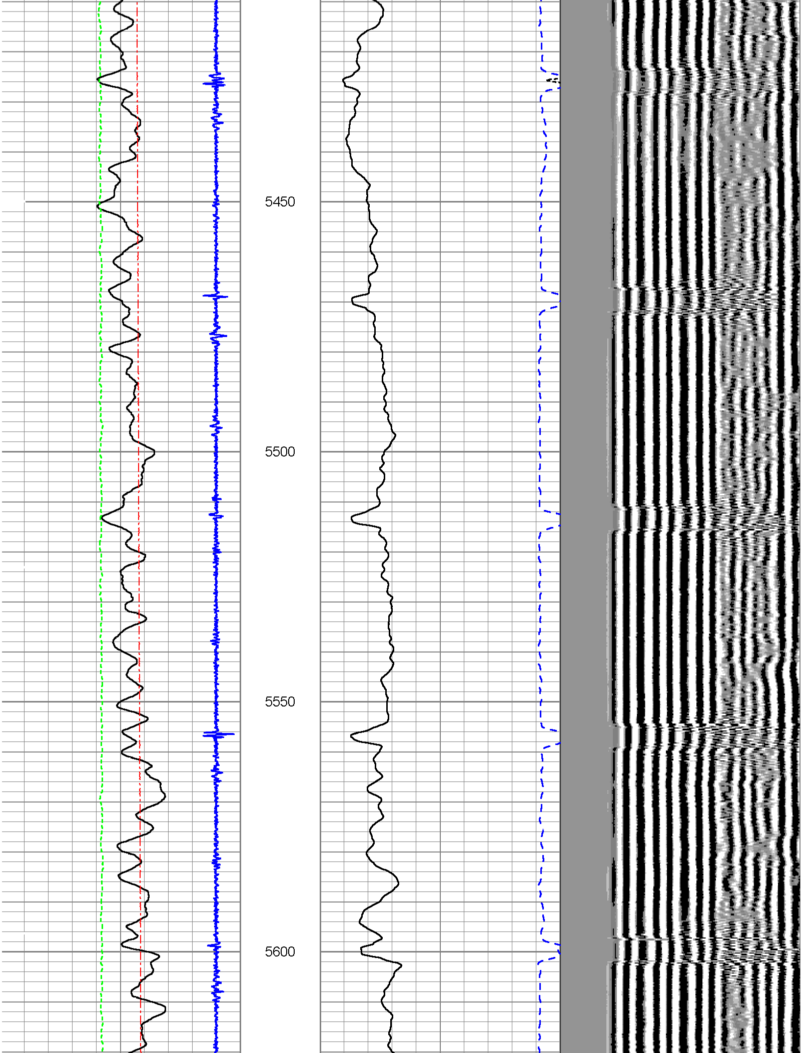


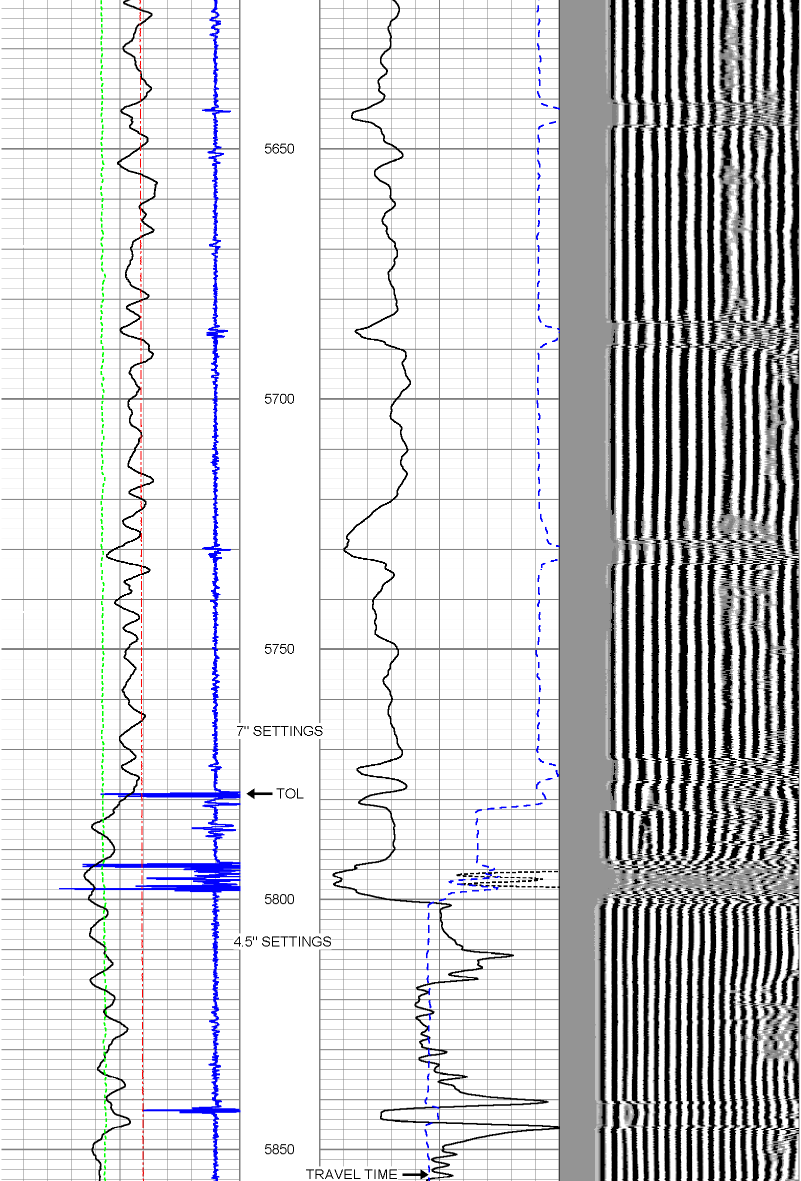


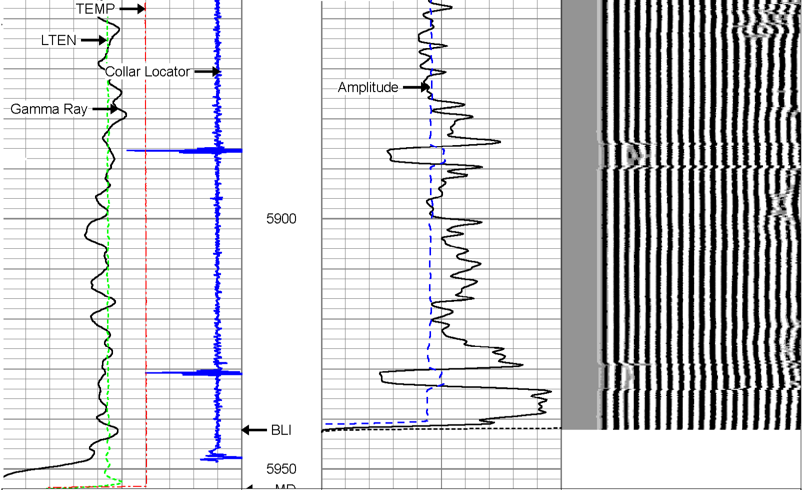












9	Collar Locator	-1
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500
0	TEMP (degF)	200

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

200	MSG	1200

HALLIBURTON

MAIN PASS 1000 PSI

SCALE: 5"=100'

HALLIBURTON

CORRELATION PASS

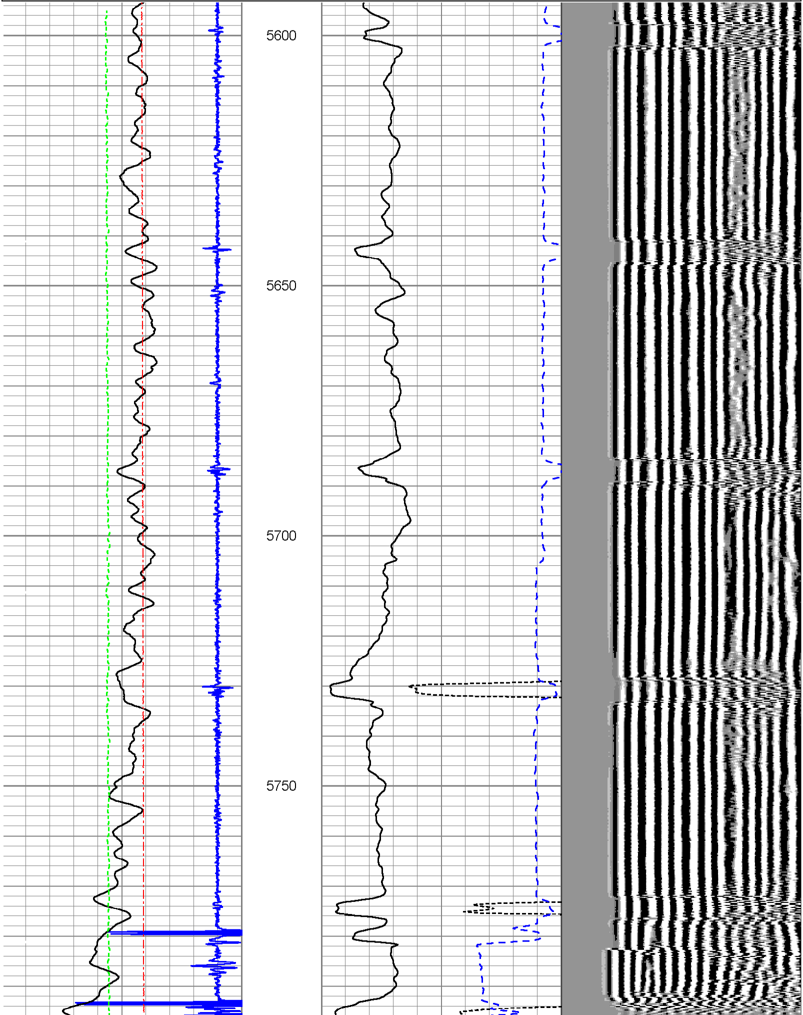
SCALE: 5"=100'

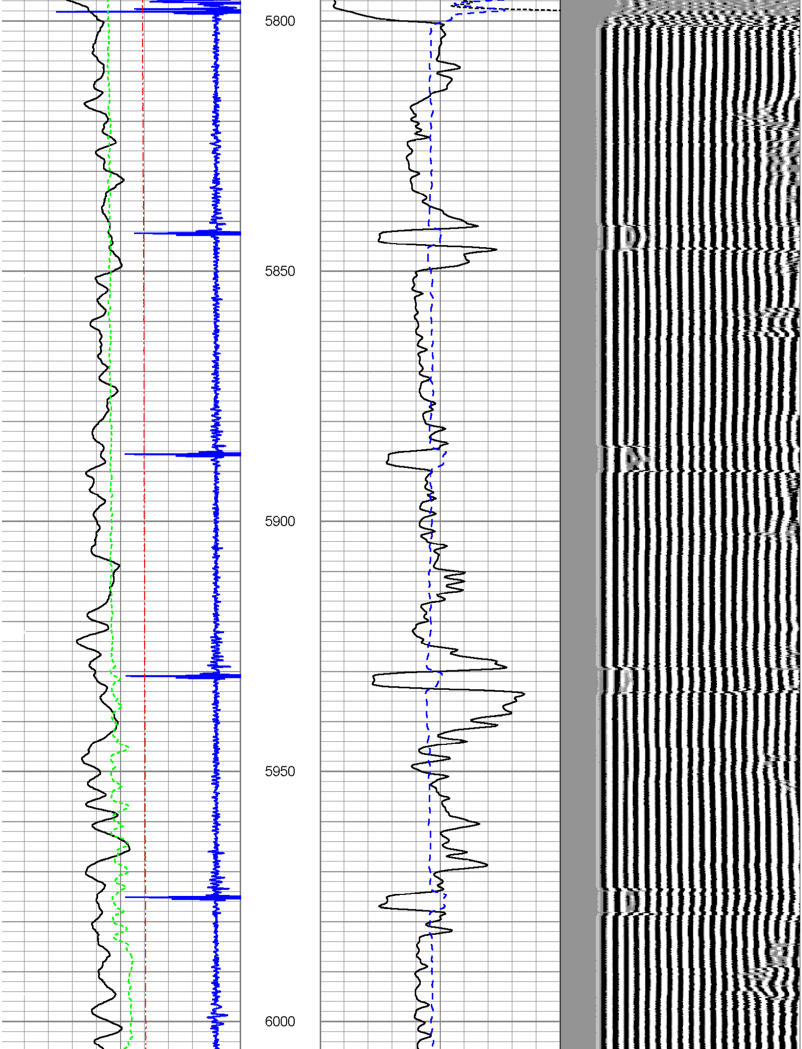
Database File:	nelson 4-17-9-60.db
Dataset Pathname:	pass2
Presentation Format:	1cbl
Dataset Creation:	Wed May 15 13:32:36 2013 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240

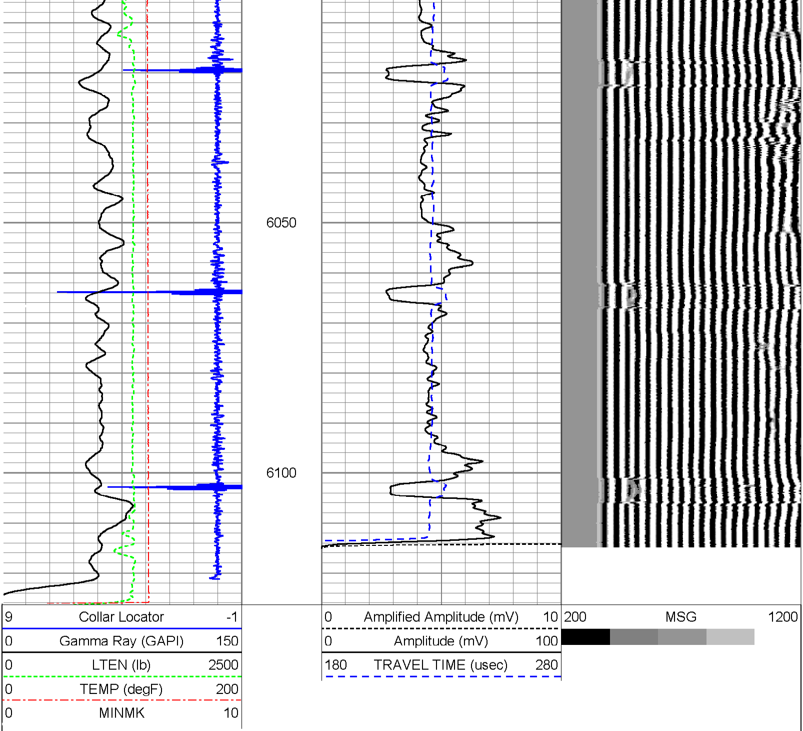
9	Collar Locator	-1
0	Gamma Ray (GAPI)	150
0	LTEN (lb)	2500
0	TEMP (degF)	200
0	MINMK	10

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

200	MSG	1200







HALLIBURTON

CORRELATION PASS

SCALE: 5"=100'

Log Variables

Database:C:\Warrior\Data\nelson 4-17-9-60.db
Dataset: field/well/run1/pass5

Top - Bottom

PPT usec	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF
287	62	0	0.8	7	0	10819	120

BITSIZE in
7.875

Calibration Report

Database File: nelson 4-17-9-60.db
Dataset Pathname: pass4
Dataset Creation: Wed May 15 13:47:25 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 Mon May 06 10:26:52 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	86.2				cps
Calibrator	355.8				cps
		0.8941			GAPI/cps

PRIMARY VERIFICATION Mon May 06 10:31:47 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	76.8				cps
Calibrator	314.2				cps
Difference				237.3	GAPI

BEFORE SURVEY VERIFICATION Tue May 07 14:40:37 2013

	Counts/Sec.	Gain	Offset	Jig	Units
Background	80.4				cps
Calibrator	315.0				cps
Difference				234.6	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: 275
Tool Model: Probe
Performed: Wed May 15 10:44:19 2013

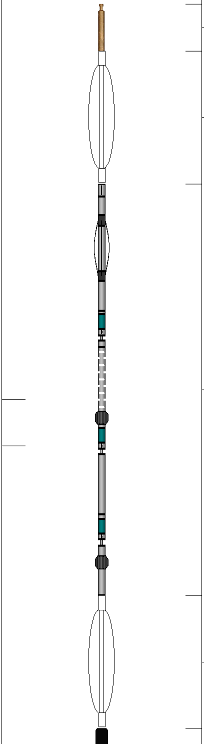
Depth: 339.233 ft
Casing Diameter: 7 in

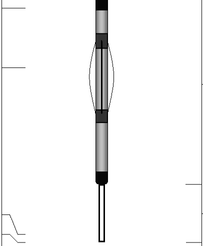
	3' Spacing	5' Spacing	
Signal Zero:	0.15	0.15	mV
Calibrated Amplitude:	62	62	mV
Reading at Signal Zero:	0.0017334	0.00119629	V
Reading in Free Pipe:	0.427905	0.401196	V
Gain:	145.129	154.625	
Offset:	-0.101567	-0.0349762	

Sensor Report

Database File: nelson 4-17-9-60.db
Dataset Pathname: pass4
Dataset Creation: Wed May 15 13:47:25 2013 by Log Halliburton Casedho

Sensor Name	Offset (ft)
WVF3	12.72
WVF5	11.72
CCL	5.08
GR	3.79
TEMP	0.17
Ex1	0
FrameCnt	0
ErrCnt	0
LLMTEN	0
Telemetry	0

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			1_CABLEHEAD 1"OD CABLE HEAD	1.02	1.44	3.00
			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-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00



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

Dataset: nelson 4-17-9-60.db: field/well/run1/pass5
Total Length: 21.29 ft
Total Weight: 173.00 lb
O.D. 2.75 in

Company CARRIZO
Well NELSON 4-17-9-60
Field WILDCAT
County WELD
State CO

HALLIBURTON

CEMENT BOND LOG