HALLIBURTON

CEMENT BOND LOG

Company WPX ENERGY
Well SG 332-22
Field GRANDE VALLEY #31290
County GARFIELD State CO

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API No.: 05-045-21758 Serv #:
Location: LOT 7

Other Services
CIRCUMFERENTIAL ACOUSTIC SCANNING TOOL

Sec: 22 Twp: 7S Rge: 96W

Permanent Datum	GROUND LEVEL	Elevation	5215
Log Measured From	KB , 22 Ft. above perm. datum		
Drilling Measured From	KB		

Elevation
K.B. 5237
D.F. 5236
G.L. 5215

Date @ Time Logged	AUG 19 2013 @ 3PM	Type Fluid in Hole	WATER
Run No.	1	Density of Fluid	8.3
Depth - Driller	5800	Fluid Level	SURFACE
Depth - Logger	5673	Cement Top Est. Logged	SEE COMMENTS
Bottom - Logged Interval	5644	Equipment / Location	11875120 / G.J.
Top - Log Interval	60	Recorded by	RICHARD MACKIE
Max. Recorded Temp.	162	Witnessed by	MIKE BRUNICK

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Date / Time Cemented				
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
			18	48	0	60
			9.625	32.3	0	1330
			4.5	11.6	0	5800

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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

LOG CORRELATED TO BAKER HUGHES PULSE NUETRON LOG DATE AUG 15, 2013

EST TOC IS NOT CLEAR IN BOND LOG. REFER TO CIRCUMFERENTIAL ACOUSTIC SCANNING TOOL LOG

FREE PIPE PASS WAS PERFORMED 484' - 278'

FREE PIPE LATER FOUND FROM 224' TO 60' RECALCULATION WAS DONE USING THIS SECTIO

YOUR CREW TODAY : ROBERT HOEY, JOSEPH FORSTER, ALEX EMERSON

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES!!!

Service Ticket No. 900672115 API No. 05-045-21758 PGM Ver WARRIOR 127.230

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

EQUIPMENT DATA

TELEMETRY		BOND LOG		CAST		CAST	
Run No.	MAIN	Run No.	MAIN	Run No.	MAIN	Run No.	MAIN
Serial No.	12105786	Serial No.	11817943	Serial No.	12030242	Serial No.	12030243
Model No.	TTCU-004	Model No.	PROBE CBLM	Model No.	CAST-M ELEC	Model No.	CAST-M 3 1/8
Diameter	1 11/16	Diameter	2.75	Diameter	2.75	Diameter	3 1/8

LOGGING DATA

General Data

Pass No.	Depths From	To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ALL PASSES	5644	60	0	45	

	GAMMA RAY Scale		TRAVEL TIME Scale		TEMPERATURE Scale		Scale	
Pass No.	L	R	L	R	L	R	L	L
ALL PASSES	0	200	330	230	0	250		

DIRECTIONAL INFORMATION

Maximum Deviation		deg. @	KOP

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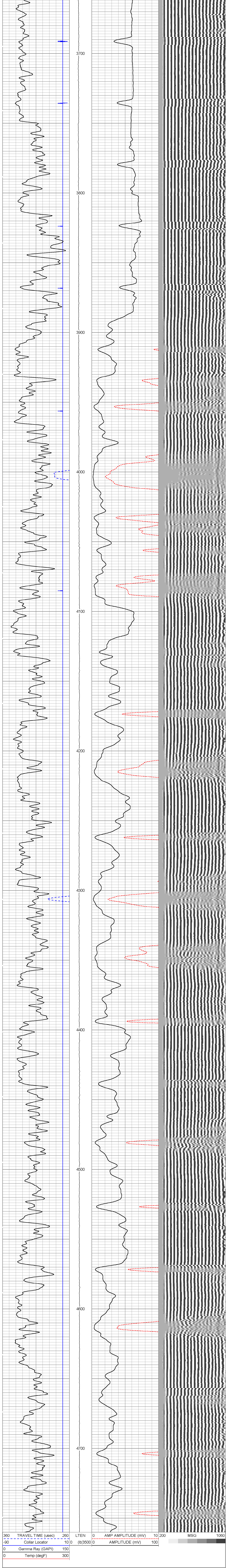
MAIN PASS

SCALE 5" = 100'

Database File: sg-332-22.db
Dataset Pathname: MAIN2.1
Presentation Format: cbl_main
Dataset Creation: Mon Aug 19 23:54:20 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



360 TRAVEL TIME (usec) 260 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150
0 Temp (degF) 300

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MAIN PASS

SCALE 5" = 100'

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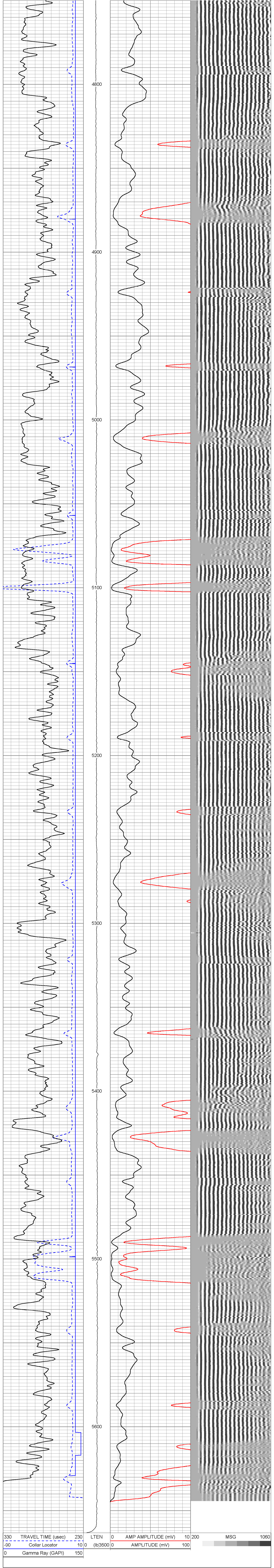
MAIN PASS

SCALE 5" = 100'

Database File: sg-332-22.db
Dataset Pathname: MAIN.1
Presentation Format: cbl_main
Dataset Creation: Tue Aug 20 00:23:06 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

330 TRAVEL TIME (usec) 230 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150



330 TRAVEL TIME (usec) 230 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150

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MAIN PASS

SCALE 5" = 100'

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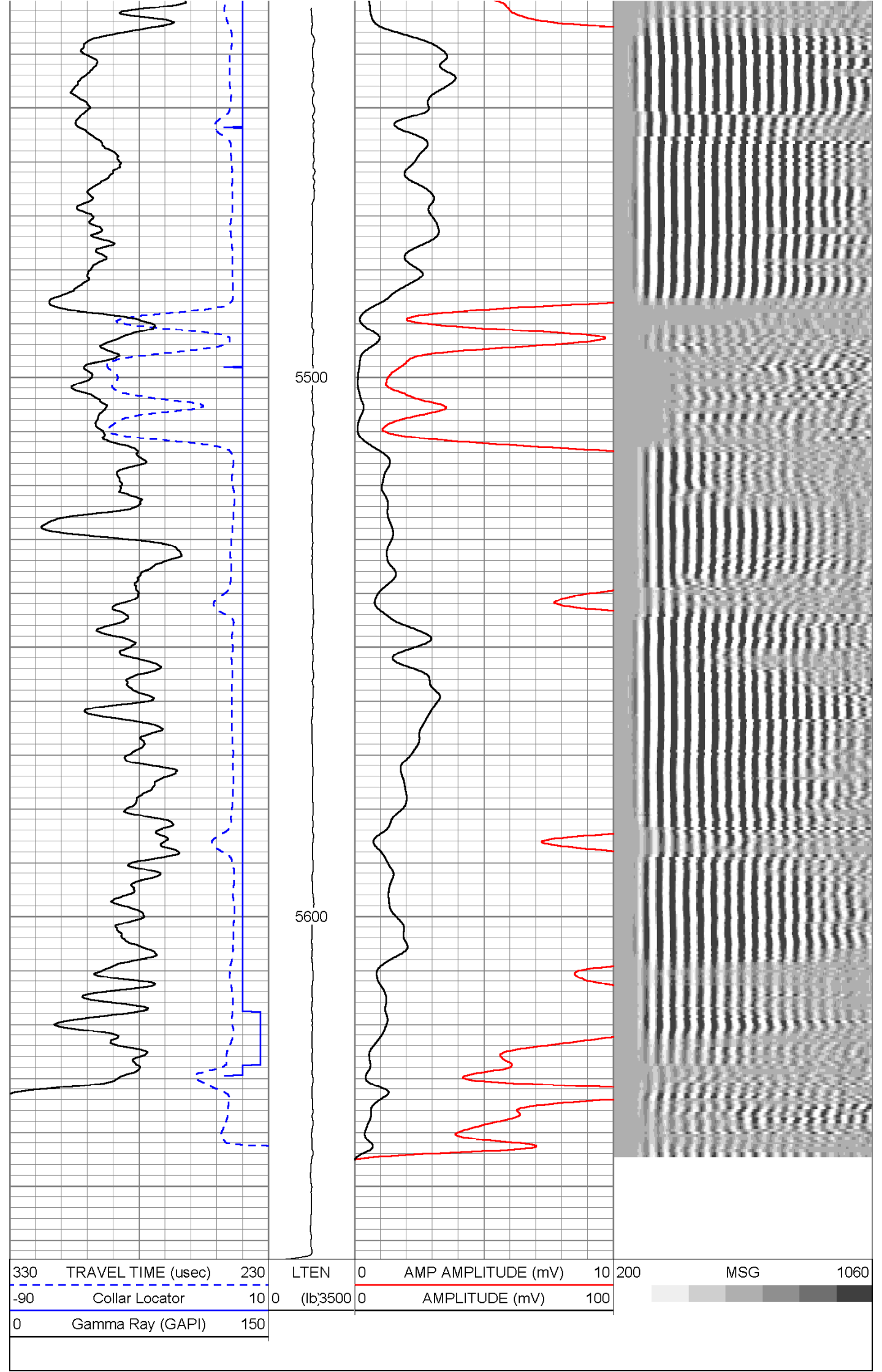
REPEAT PASS

SCALE 5" = 100'

Database File: sg-332-22.db
Dataset Pathname: REPEAT.1
Presentation Format: cbl_main
Dataset Creation: Tue Aug 20 00:29:54 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

330 TRAVEL TIME (usec) 230 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150



330 TRAVEL TIME (usec) 230 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150

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REPEAT PASS

SCALE 5" = 100'

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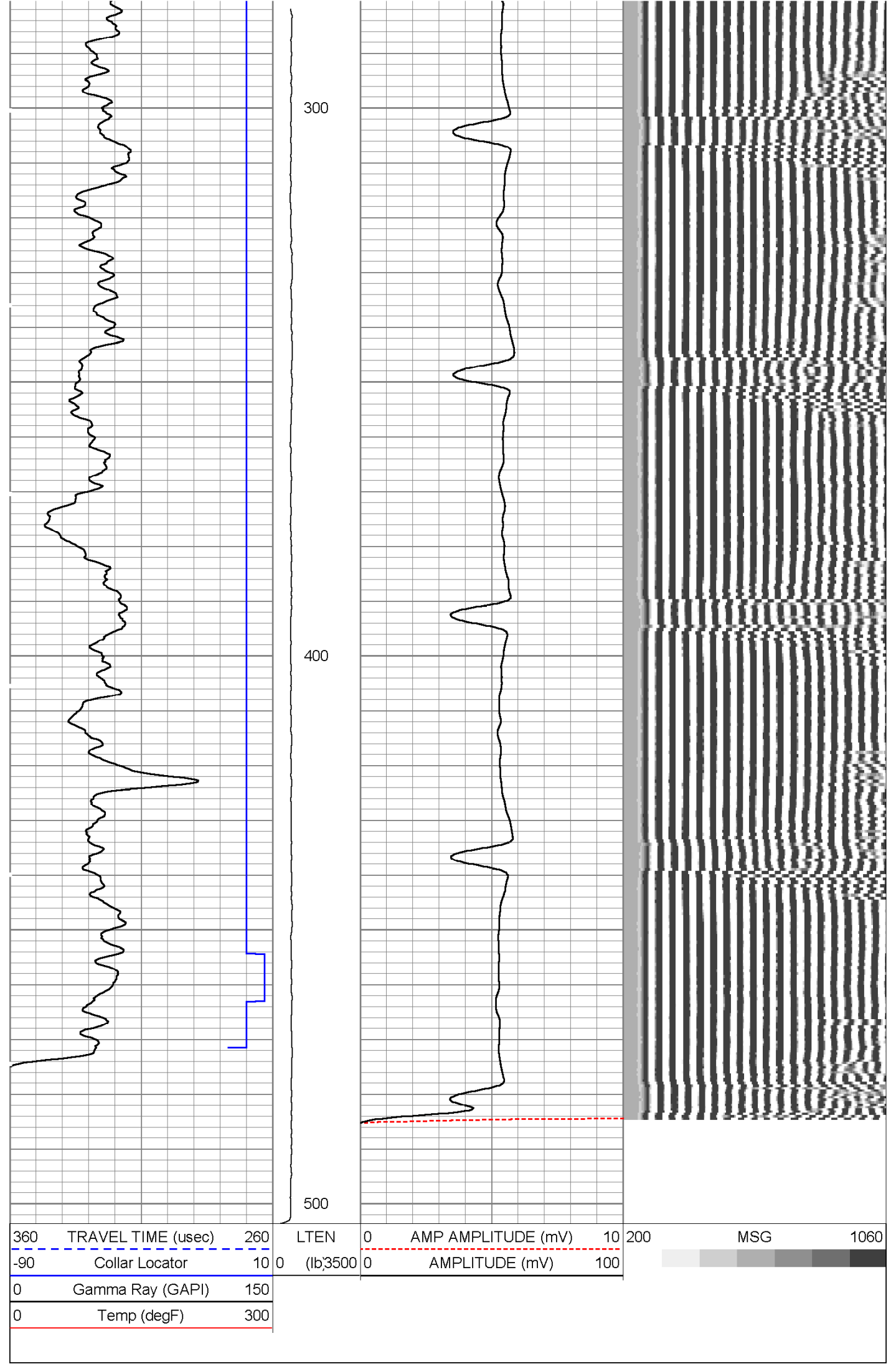
FREE PIPE PASS

SCALE 5" = 100'

Database File: sg-332-22.db
Dataset Pathname: FREE4.1
Presentation Format: cbl_main
Dataset Creation: Tue Aug 20 00:35:48 2013 by Calc Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

360 TRAVEL TIME (usec) 260 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150
0 Temp (degF) 300



360 TRAVEL TIME (usec) 260 | LTEN | 0 AMP AMPLITUDE (mV) 10 | 200 MSG 1060
-90 Collar Locator 10 | 0 (lb) 3500 | 0 AMPLITUDE (mV) 100
0 Gamma Ray (GAPI) 150
0 Temp (degF) 300

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FREE PIPE PASS

SCALE 5" = 100'

Calibration Report

Database File: sg-332-22.db
Dataset Pathname: MAIN2.1
Dataset Creation: Mon Aug 19 23:54:20 2013 by Calc Halliburton Casedho

Circumferential Acoustic Scanning Tool Downhole Calibration Report

Serial-Model: 438_12030243-4 3/8 SCAN
Calibration Performed: Mon Aug 19 17:24:16 2013

Averaged Results

Name	Value	Units
TT-Main	35.1	usec
Amp-Main	61.1	
Frq-Main	240.1	khz
TT-Mud	47.8	usec
Amp-Mud	66.4	
TT-LWv1	34.8	usec
TT-LWv2	66.1	usec
Amp-LWv1	65.3	
Amp-LWv2	38.8	
Frq-LWv	224.3	khz
TT-MWv1	47.8	usec
TT-MWv2	91.8	usec
Amp-MWv1	66.6	
Amp-MWv2	19.1	
Frq-MWv	343.2	khz

Calibrated Offsets

Name	Value
TCAL	3.8
MCAL	3.7

XY Accelerometers Calibration Report

Performed: Sat Aug 17 16:26:38 2013

	Low Read.	High Read.		Low Ref.	High Ref.	
X Accelerometer	-0.999	1.003	gee	-1.000	1.000	gee
Y Accelerometer	-1.011	1.013	gee	-1.000	1.000	gee

Cement Bond Log Shop Calibration Report

Serial-Model: 11817943-A
Calibration Performed: Mon Aug 19 23:54:10 2013

Free Pipe Calibration

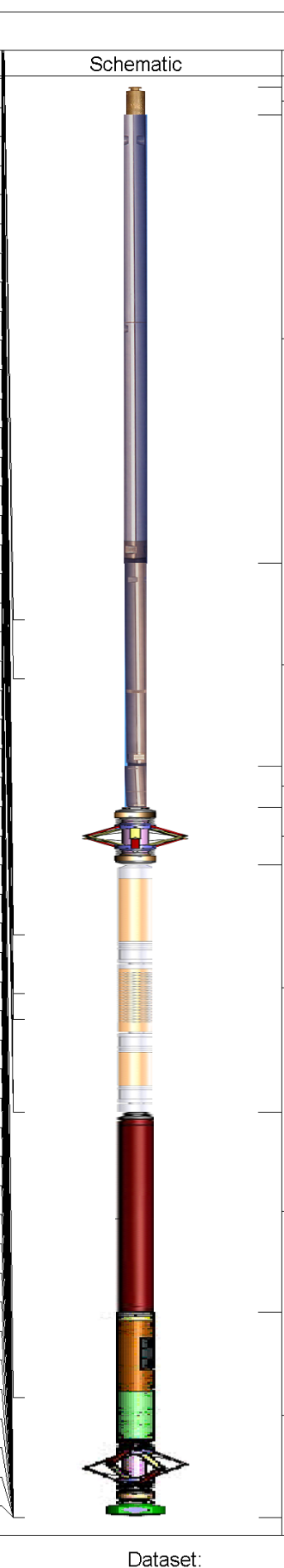
	Measured	Units
TT	0.0	usec
Amplitude	707.3	mV
Log Base Line	0.7	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	0.000	in
Pipe Weight	0.0	lb/ft
Pipe Ref. Amp.	81.0	mV
Amp. Gain	0.115	

Gamma Ray Calibration Report

Serial Number:	12105786	
Tool Model:	002	
Performed:	Tue Aug 13 20:13:11 2013	
Calibrator Value:	433.0	GAPI
Background Reading:	36.7	cps
Calibrator Reading:	323.8	cps
Sensitivity:	1.5080	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
WVF3FT	15.36					
CblTStat	15.36		STND_CH 1.4375 IN CABLE HEAD	1.08	1.44	1.00
CblSeqNum	15.36					
CblITemp	15.36					
CblIVolt	15.36					
CblCStat	15.36					
CblLWvCnt	15.36					
CblAGate	15.36					
CblTTThresh	15.36					
CblBLine	15.36		1-11/16" 1.6875" WEIGHT BAR	17.00	1.69	84.00
CblCAmp	15.36					
CblCCsgOD	15.36					
CblCCsgWgt	15.36					
CblCTT	15.36					
TLINITCNT	15.36					
TLINITCNT	15.36					
MCWV	4.54					
LLMTEN	0.00					
UTCTIM	0.00					
LOCTIM	0.00					
SCAN	0.00		TTTCU-002 (12105786) Through Tubing Telemetry Cartridge - Ultrawire	7.66	1.69	100.00
LWV	0.00					
TStat	0.00					
AccX1	0.00					
AccY1	0.00		XHU-003 (11899561) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
Ps0	0.00					
PsP3	0.00		CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
PsP5	0.00					
PsM5	0.00					
PsP15	0.00					
PsM15	0.00					
AccX2	0.00		HCBLM-A (11817943) Halliburton HCBLM Tool	9.38	2.75	116.00
AccY2	0.00					
ITemp	0.00					
MTemp	0.00					
PsP400	0.00					
MVolt	0.00					
MCurr	0.00					
MSpd	0.00					
XHUERR1	0.00		HAL-CAST-M-ELECT-CAST-M-Elect (12037.582) CAST M ELECTRONIC		2.75	30.00
XHUERR2	0.00					
XHUTEMP	0.00					
XHUSTAT	0.00					
XHUCUR1	0.00					
XHUCUR2	0.00					
XHUCUR3	0.00					
XHUCUR4	0.00		HAL-CAST-M-4 3/8 SCAN (438_120302437.78 4 3/8 SCAN CASTM		4.38	276.00
TSTAMP	0.00					
ITEMPX	0.00					
HVOLTX	0.00					

Dataset: sg-332-22.db: field/well/run1/MAIN
Total Length: 54.23 ft
Total Weight: 639.00 lb
O.D. 4.38 in

Company	WPX ENERGY		
Well	SG 332-22		
Field	GRANDE VALLEY #31290		
County	GARFIELD	State	CO

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CEMENT BOND LOG