HALLIBURTON

CEMENT BOND LOG

Company WPX ENERGY
Well SG 432-22
Field GRANDE VALLEY #31290
County GARFIELD State CO

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API No.: 05-045-21757 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 @ 9PM	Type Fluid in Hole	WATER
Run No.	1	Density of Fluid	8.3
Depth - Driller	5731	Fluid Level	SURFACE
Depth - Logger	5693	Cement Top Est. Logged	SEE COMMENTS
Bottom - Logged Interval	5679	Equipment / Location	11875120 / G.J.
Top - Log Interval	64	Recorded by	RICHARD MACKIE
Max. Recorded Temp.	171	Witnessed by	MIKE BRUNCK

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	1118
				4.5	11.6	0	5731

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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 438' - 256'

FREE PIPE LATER FOUND FROM 170' TO 66' RECALCULATION WAS DONE USING THIS SECTIO

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

Service Ticket No. 900671340 API No. 05-045-21757 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	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ALL PASSES	5693	SURFACE	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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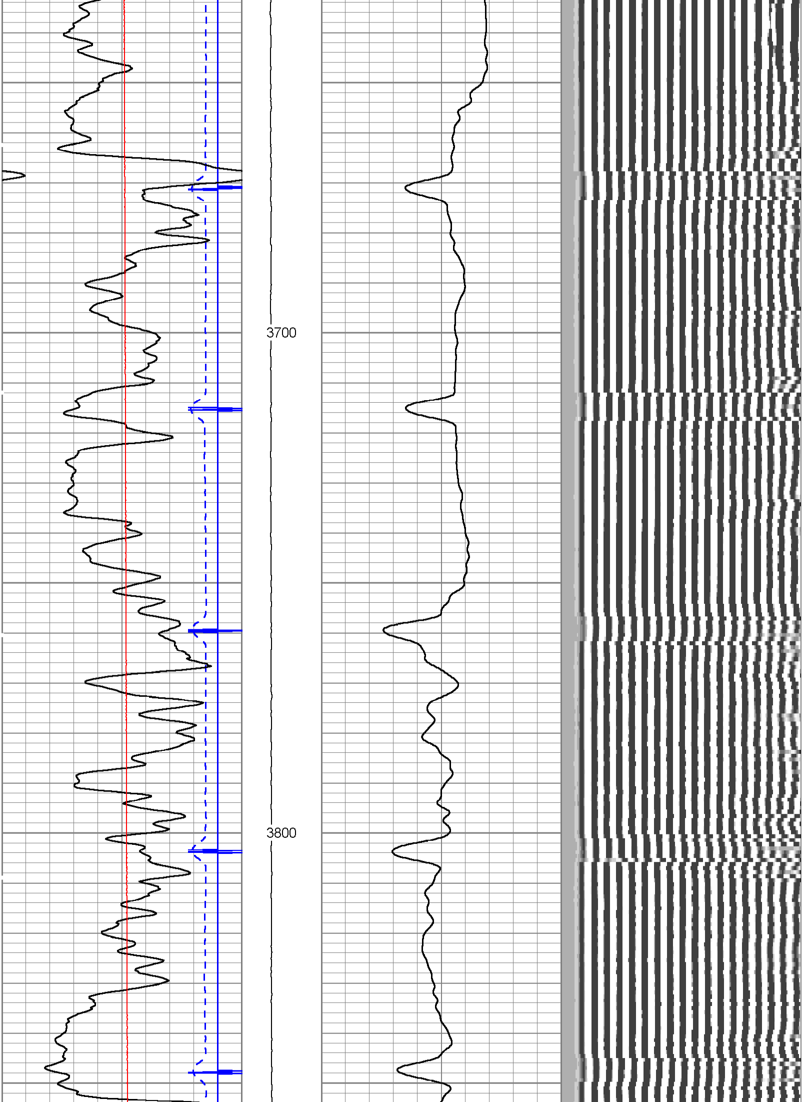
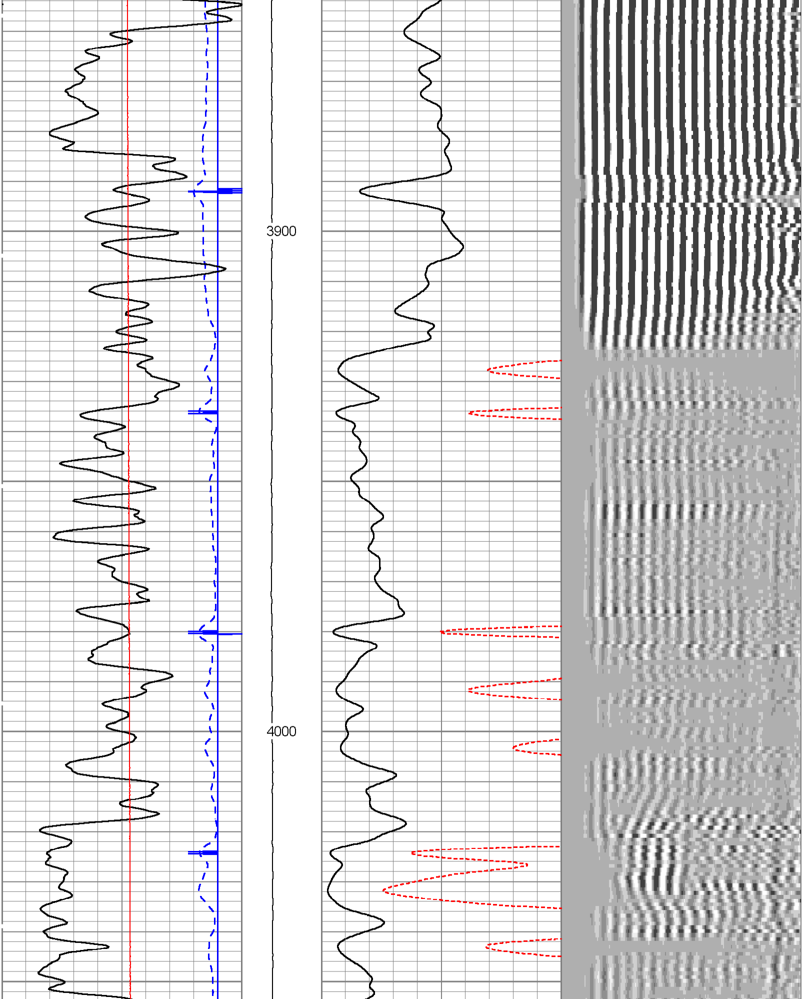
MAIN PASS

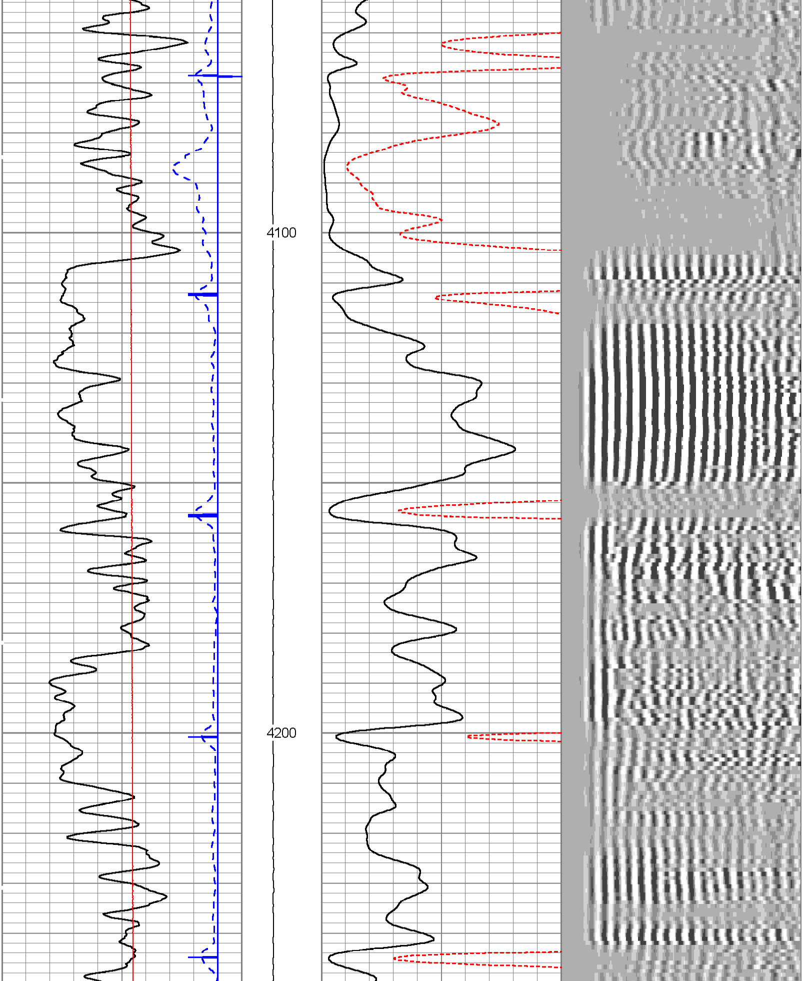
SCALE 5" =100'

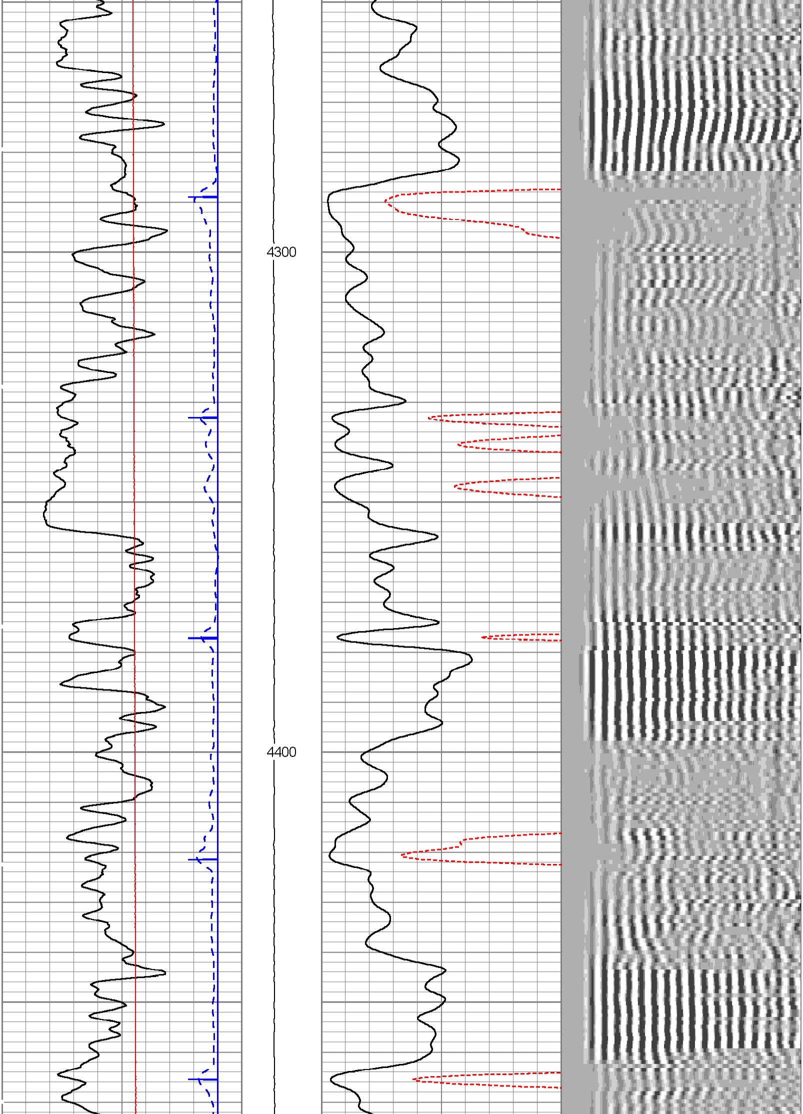
Database File: sg-432-22.db
Dataset Pathname: MAINA
Presentation Format: cbl_main
Dataset Creation: Tue Aug 20 12:12:48 2013
Charted by: Depth in Feet scaled 1:240

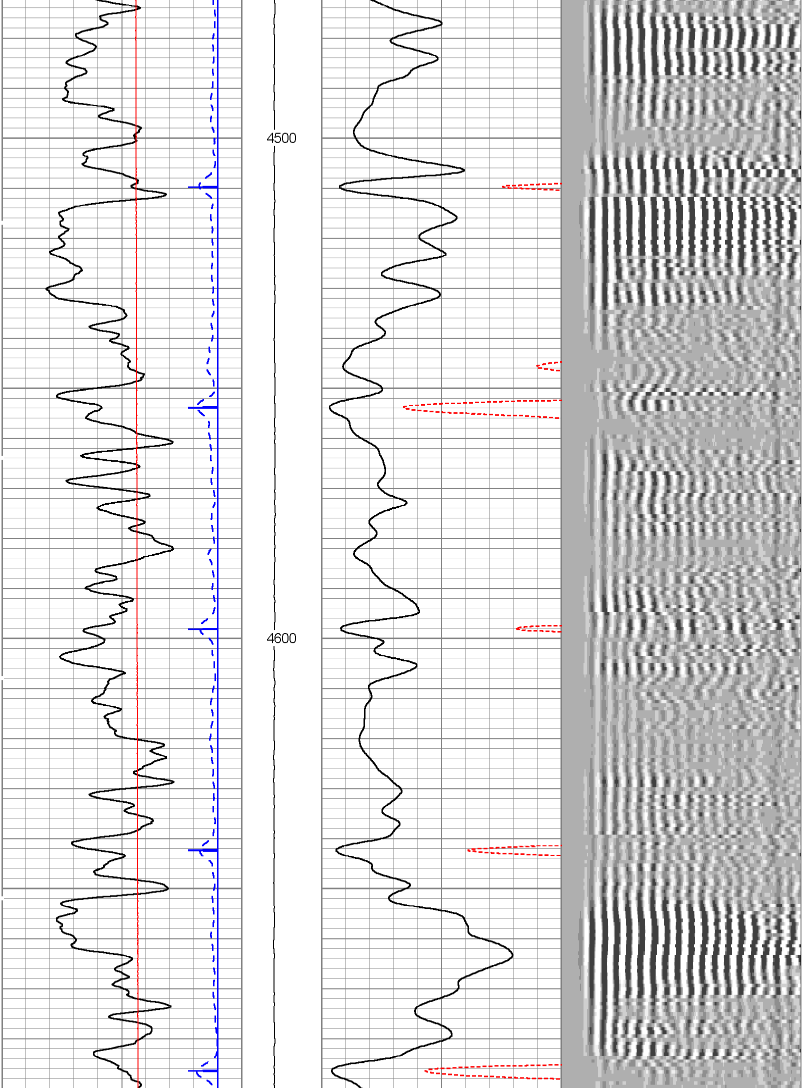
330 TRAVEL TIME (usec) 230	LTEN	0 AMP AMPLITUDE (mV) 10	200 MSG 1060
-90 Collar Locator 10	0 (lb) 3500	0 AMPLITUDE (mV) 100	
0 Gamma Ray (GAPI) 150			
0 Temp (degF) 300			

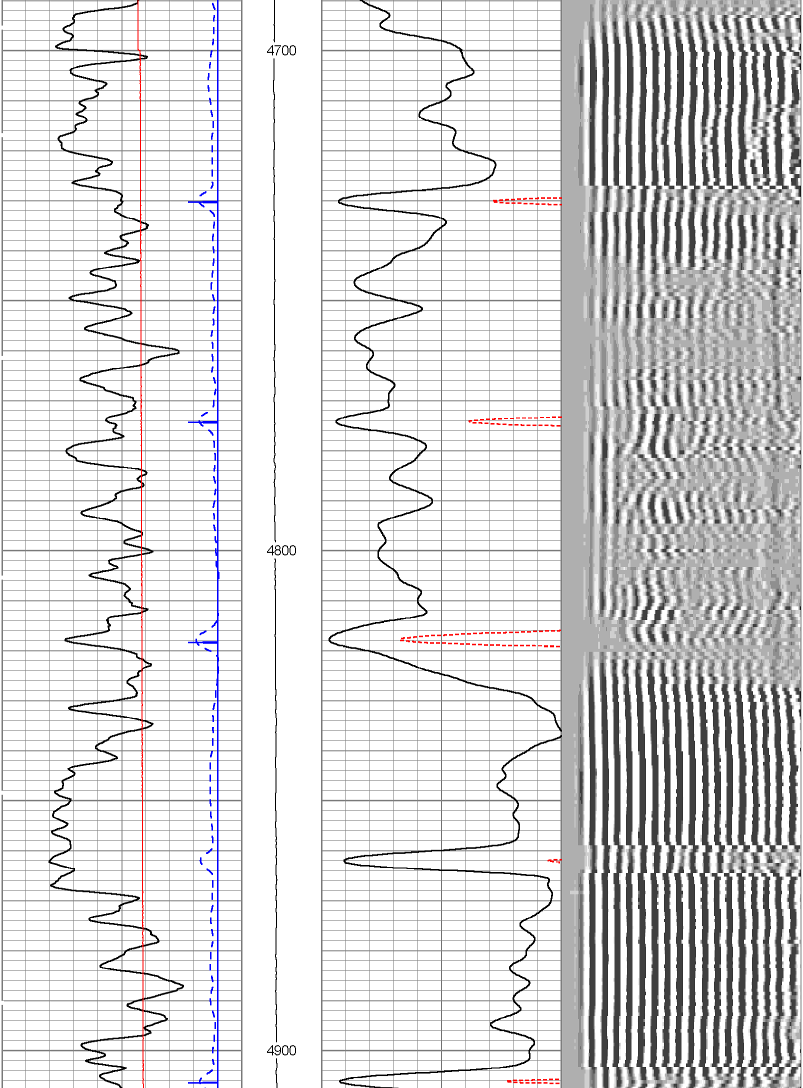


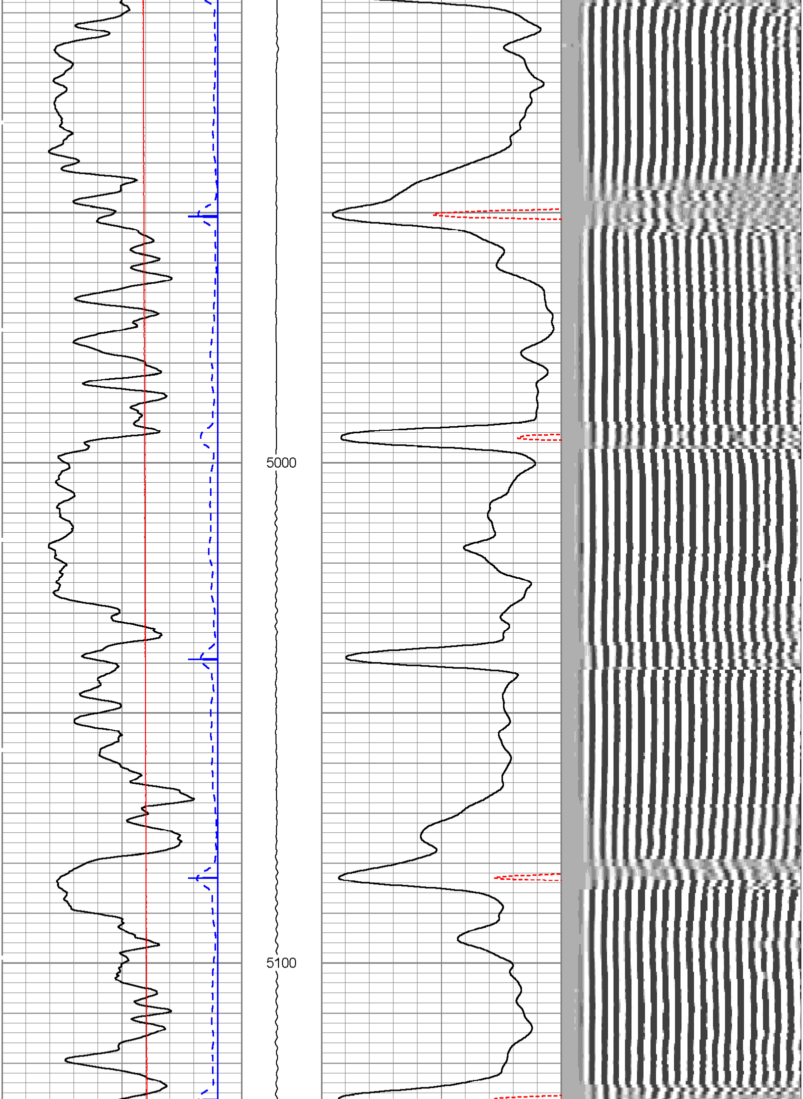


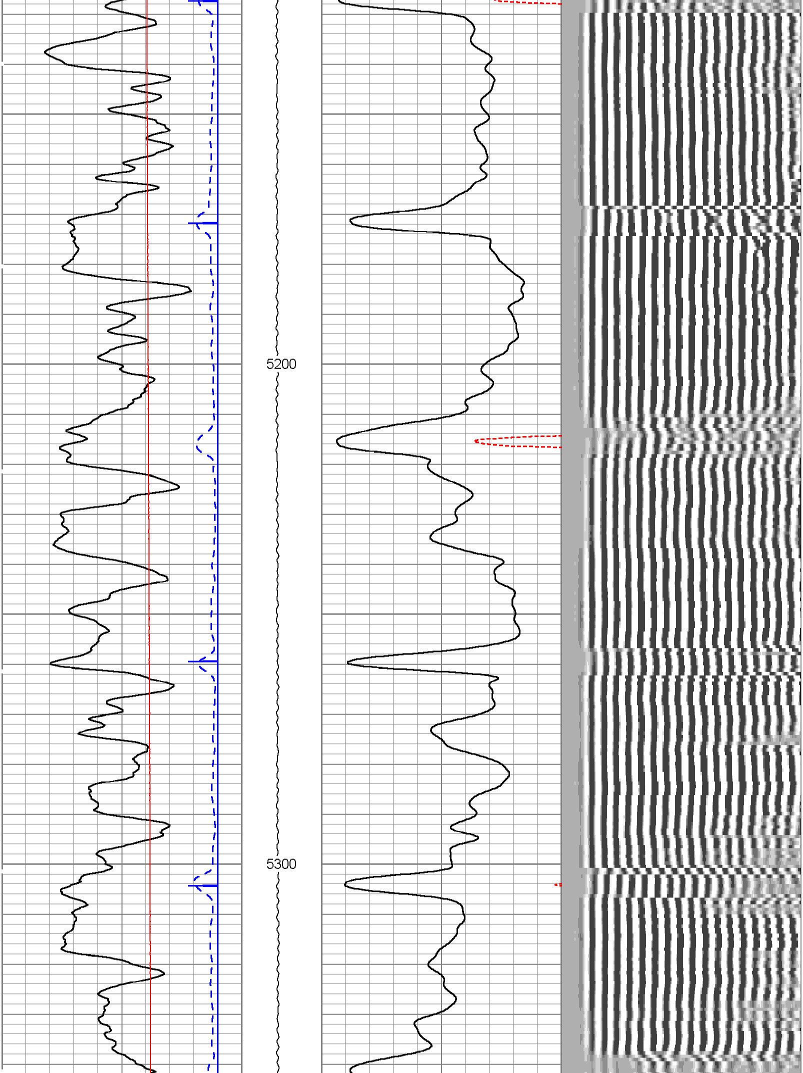


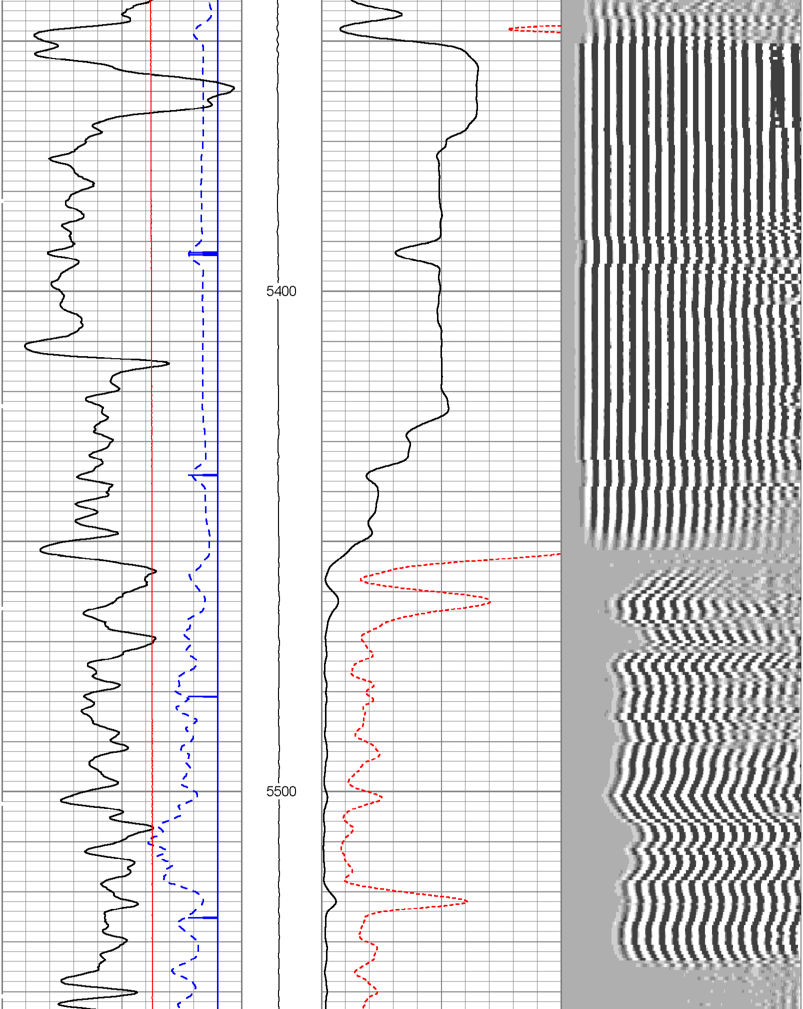


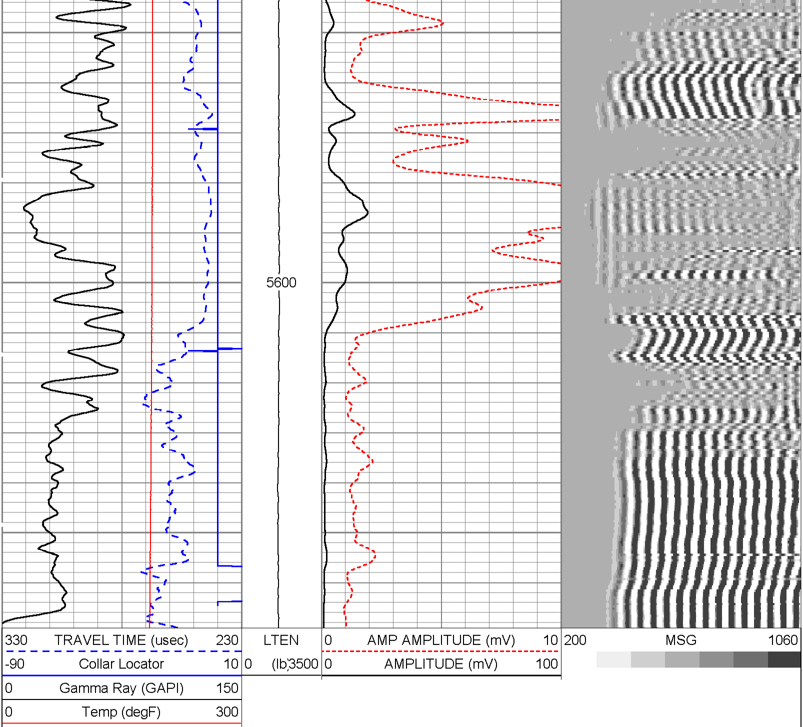












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MAIN PASS

SCALE 5" =100'

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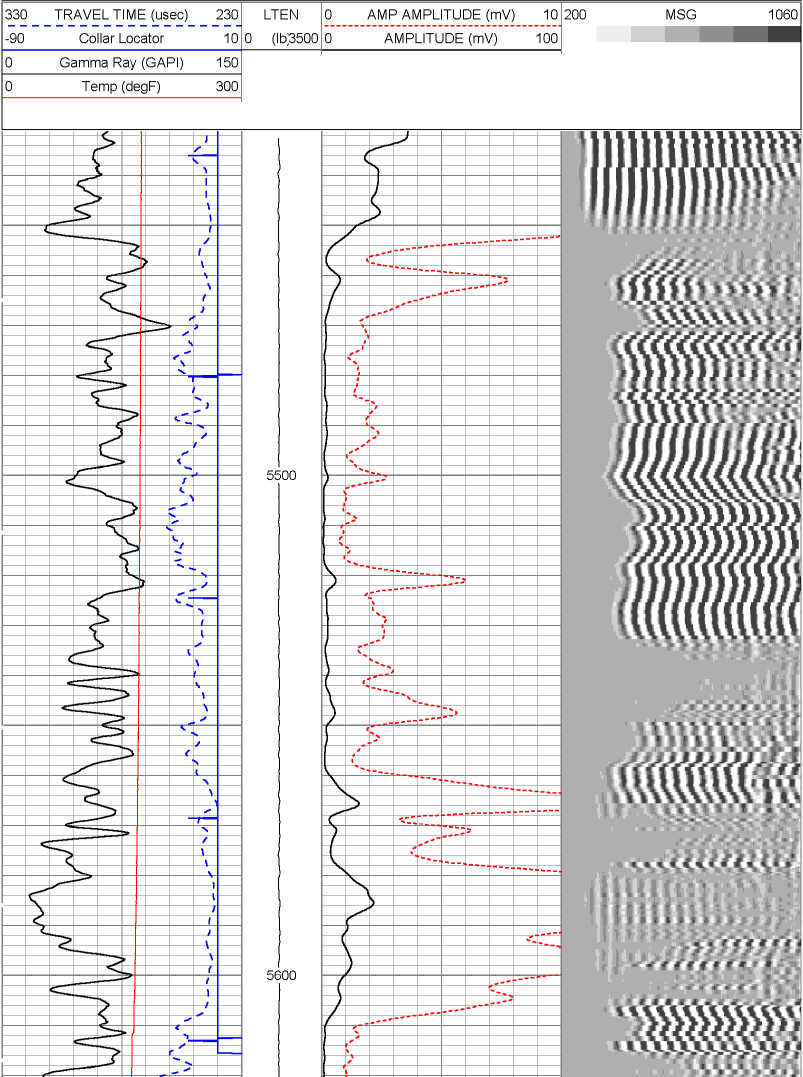
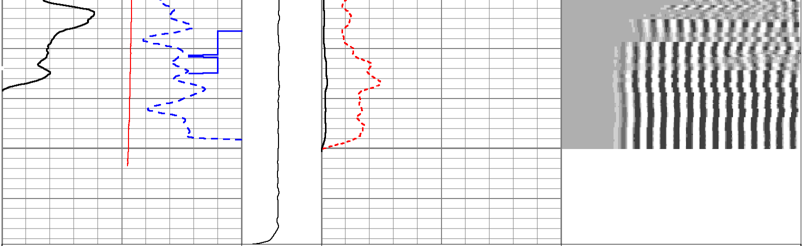
REPEAT PASS

SCALE 5" =100'

Database File: sg-432-22.db
Dataset Pathname: REPEAT.2
Presentation Format: cbl_main
Dataset Creation: Tue Aug 20 10:38:06 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								
0	Temp (degF)	300								

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REPEAT PASS

SCALE 5" =100'

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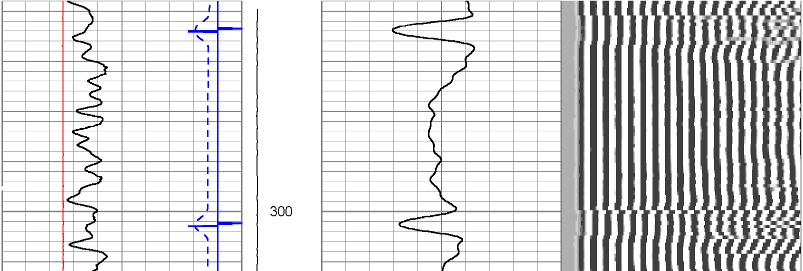
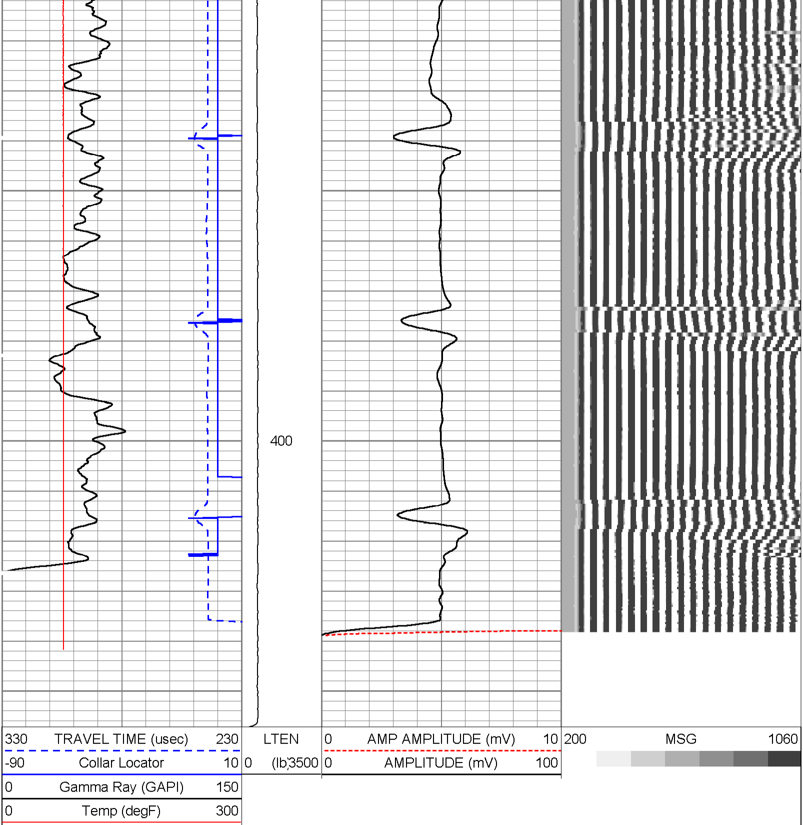
FREE PIPE PASS

SCALE 5" =100'

Database File:	sg-432-22.db
Dataset Pathname:	FREE.1
Presentation Format:	cbl_main
Dataset Creation:	Tue Aug 20 11:23:20 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								
0	Temp (degF)	300								





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FREE PIPE PASS

SCALE 5" =100'

Calibration Report

Database File: sg-432-22.db
Dataset Pathname: MAIN
Dataset Creation: Mon Aug 19 21:47:09 2013 by Log Halliburton Casedho

Circumferential Acoustic Scanning Tool Shop Calibration Report

Serial-Model: 438_12030243-4 3/8 SCAN

Calibration Performed: Sat Aug 17 16:08:36 2013

	Mudcell Transducer		Main Transducer		
	Measured	Expected	Measured	Expected	Units
W/O Calibrator	47.62	44.00	N/A	N/A	usec
W Calibrator	39.82	35.00	55.30	50.00	usec

Calibrated Offsets

Name	Value	Units
TCAL	5.2993	usec
MCAL	8.6052	usec

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 21:30:50 2013

Free Pipe Calibration

	Measured	Units
TT	241.0	usec
Amplitude	1094.9	mV
Log Base Line	-7.2	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.0	mV
Amp. Gain	0.073	

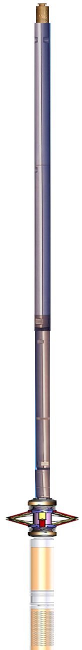
Gamma Ray Calibration Report

Type / Serial: 002 / 12105786

		Counts/Sec.	Gain	Offset	Jig	Units
SHOP CALIBRATION	Tue Aug 13 20:13:11 2013					
Background		36.7				cps
Calibrator		323.8				cps
			1.5080			GAPI/cps
PRIMARY VERIFICATION	Tue Aug 13 20:18:00 2013					
Background		58.9				cps
Calibrator		490.7				cps
Difference					431.8	GAPI
BEFORE SURVEY VERIFICATION	Tue Aug 13 20:20:52 2013					
Background		56.9				cps
Calibrator		482.0				cps
Difference					425.0	GAPI
AFTER SURVEY VERIFICATION						
Background		0.0				cps
Calibrator		0.0				cps
Difference					0.0	GAPI

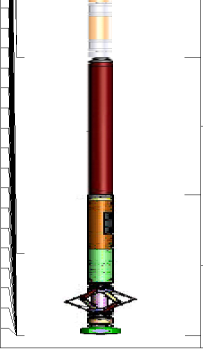
Sensor	Offset (ft)
WWFSFT	15.36
CblTStat	15.36
CblSeqNum	15.36
CblITemp	15.36
CblIVolt	15.36
CblCStat	15.36
CblLWvCnt	15.36
CblAGate	15.36
CblTTThresh	15.36
CblBLine	15.36
CblCAmp	15.36
CblCCsgOD	15.36
CblCCsgWgt	15.36
CblCTT	15.36
TLINITCNT	15.36
TLINITCNT	15.36
MCWV	4.54
LLMTEN	0.00
UTCTIM	0.00
LOCTIM	0.00
SCAN	0.00
LWV	0.00
TStat	0.00
AccX1	0.00
AccY1	0.00
Ps0	0.00
PsP3	0.00
PsP5	0.00
PsM5	0.00
PsP15	0.00
PsM15	0.00
AccX2	0.00
AccY2	0.00

Schematic



Description	Len (ft)	OD (in)	Wt (lb)
STND_CH 1.4375 IN CABLE HEAD	1.08	1.44	1.00
1-11/16" 1.6875" WEIGHT BAR	17.00	1.69	84.00
TTTCU-002 (12105786) Through Tubing Telemetry Cartridge - Ultrawire	7.66	1.69	100.00
XHU-003 (11899561) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
HCBLM-A (11817943) Halliburton HCBLM Tool	9.38	2.75	116.00

ITemp	0.00
MTemp	0.00
PsP400	0.00
MVolt	0.00
MCurr	0.00
MSpd	0.00
XHUERR1	0.00
XHUERR2	0.00
XHUTEMP	0.00
XHUSTAT	0.00
XHUCUR1	0.00
XHUCUR2	0.00
XHUCUR3	0.00
XHUCUR4	0.00
TSTAMP	0.00
ITEMPX	0.00
HVOLTX	0.00



HAL-CAST-M-ELECT-CAST-M-Elect (12037.582) CAST M ELECTRONIC	2.75	30.00
HAL-CAST-M-4 3/8 SCAN (438_120302437.78 4 3/8 SCAN CASTM	4.38	276.00

Dataset:	sg-432-22.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