HALLIBURTON

ACOUSTIC CEMENT BOND LOG

Company	BILL BARRETT CORPORATION
Well	GGU FEDERAL 41A-29-691
Field	GIBSON GULCH
County	GARFIELD State CO

Company BILL BARRETT CORPORATION
Well GGU FEDERAL 41A-29-691
Field GIBSON GULCH
County GARFIELD State CO

API No.: 0504519794 Serv #: 8079230
Location: SHL: 1236' FNL & 1279' FEL
BHL: 1146' FNL & 0660' FEL

Other Services
JUNK BASKET,
GAUGE RING
RMTE

Sec: 29 Twp: 6S Rge: 91W

Permanent Datum	GROUND LEVEL	Elevation	6108'
Log Measured From	K.B. , 23 Ft. above perm. datum		
Drilling Measured From	K.B.		

Elevation
K.B. 6131'
D.F. 6130'
G.L. 6108'

Date @ Time Logged	02/APRIL/11 @ 09:15	Type Fluid in Hole	WATER
Run No.	ONE	Density of Fluid	9.0 PPG
Depth - Driller	7221'	Fluid Level	SURFACE
Depth - Logger	7188'	Cement Top Est. Logged	2300'
Bottom - Logged Interval	7180'	Equipment / Location	10971659 / GJ
Top - Log Interval	1800'	Recorded by	J.ARRASCUE
Max. Recorded Temp.	167 DGF	Witnessed by	GARY ETTER

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
ONE	14.75"	SURFACE	804'	9 5/8"	36 #	SURFACE	804'
ONE	7.875"	804'	7221'	4.5"	11.6 #	SURFACE	7221'

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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 WHCIH 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

HES ACOUSTIC CEMENT BOND LOG CORRELATED TO WEATHERFORD
TEMP LOG DATED 16 JAN ,2011
LOGGED INTERVALS PER CUSTOMER REQUEST
RBT & RMTE RAN IN COMBO
RUN JUNK BASKET & GAUGE RING
SHORT JOINTS : 4131' -4157' & 5854' - 5875'

CREW: S. PARSONS & J.GAY

THANK YOU FOR USING HALLIBURTON ENERGY SERVICES GRAND JUNCTION, CO

Service Ticket No. 8079230 API No. 0504519794 PGM Ver 101102_R1

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

EQUIPMENT DATA

GAMMA RAY		CBL					
Run No.	ONE	Run No.	ONE	Run No.		Run No.	
Serial No.	10002717	Serial No.	1119	Serial No.		Serial No.	
Model No.	GR-PROBE	Model No.	RBT-004	Model No.		Model No.	
Diameter	1 11/16"	Diameter	3 1/8"	Diameter		Diameter	

LOGGING DATA

General Data

Pass No.	Depths From	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ONE	7188'	1800'	0 PSI	REC	MAIN PASS

	GAMMA RAY Scale		CCL Scale		Scale		Scale	
Pass No.	L	R	L	R	L	R	L	L
ONE	0	200	-9	1				

DIRECTIONAL INFORMATION

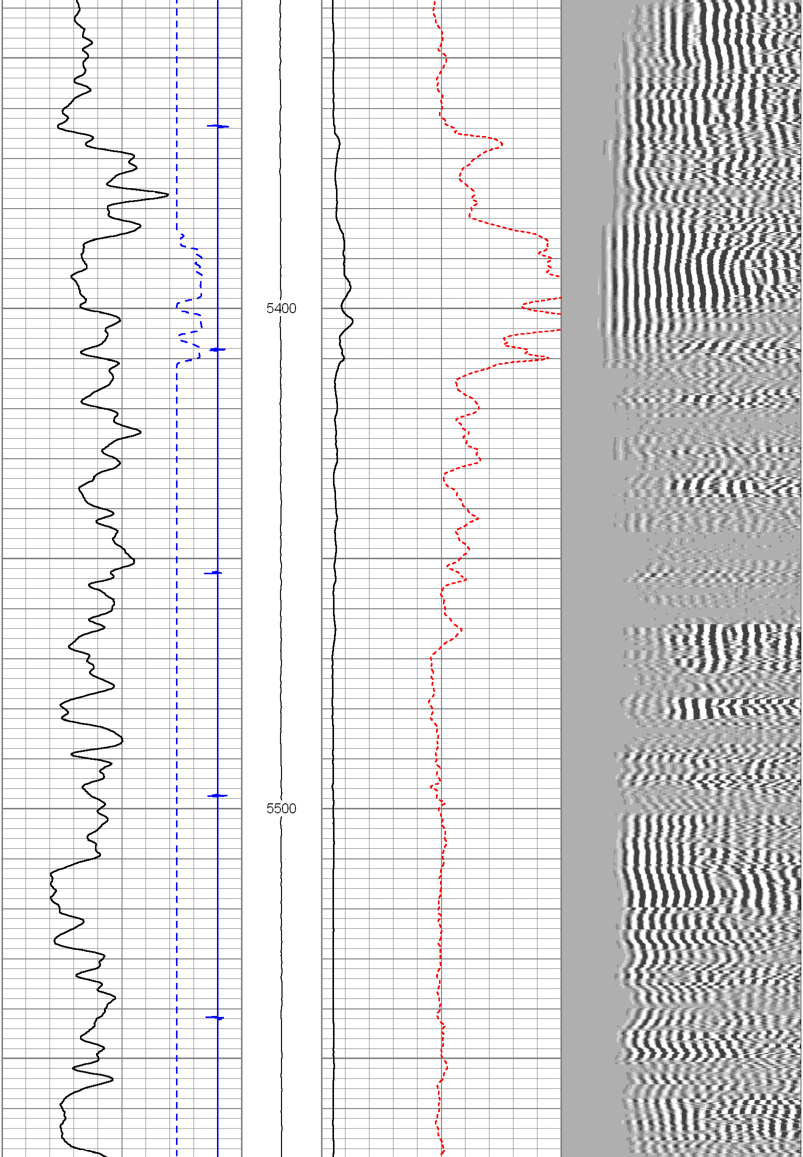
Maximum Deviation		deg. @		KOP	

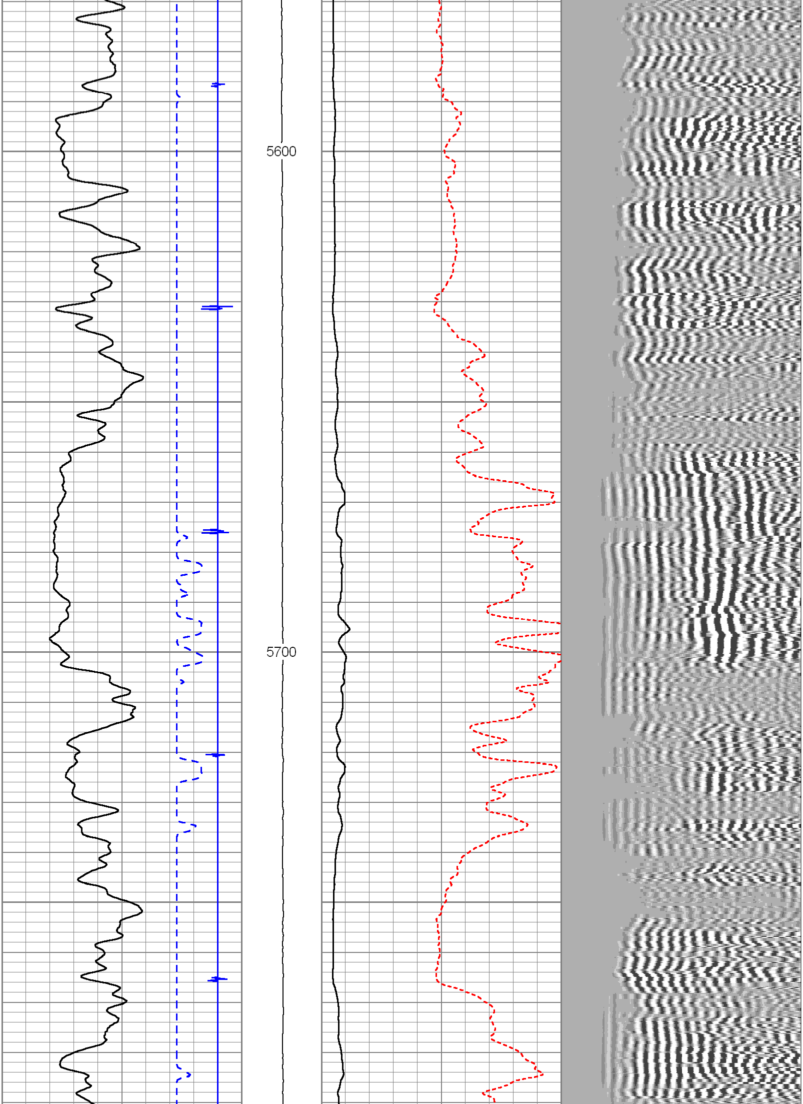
HALLIBURTON

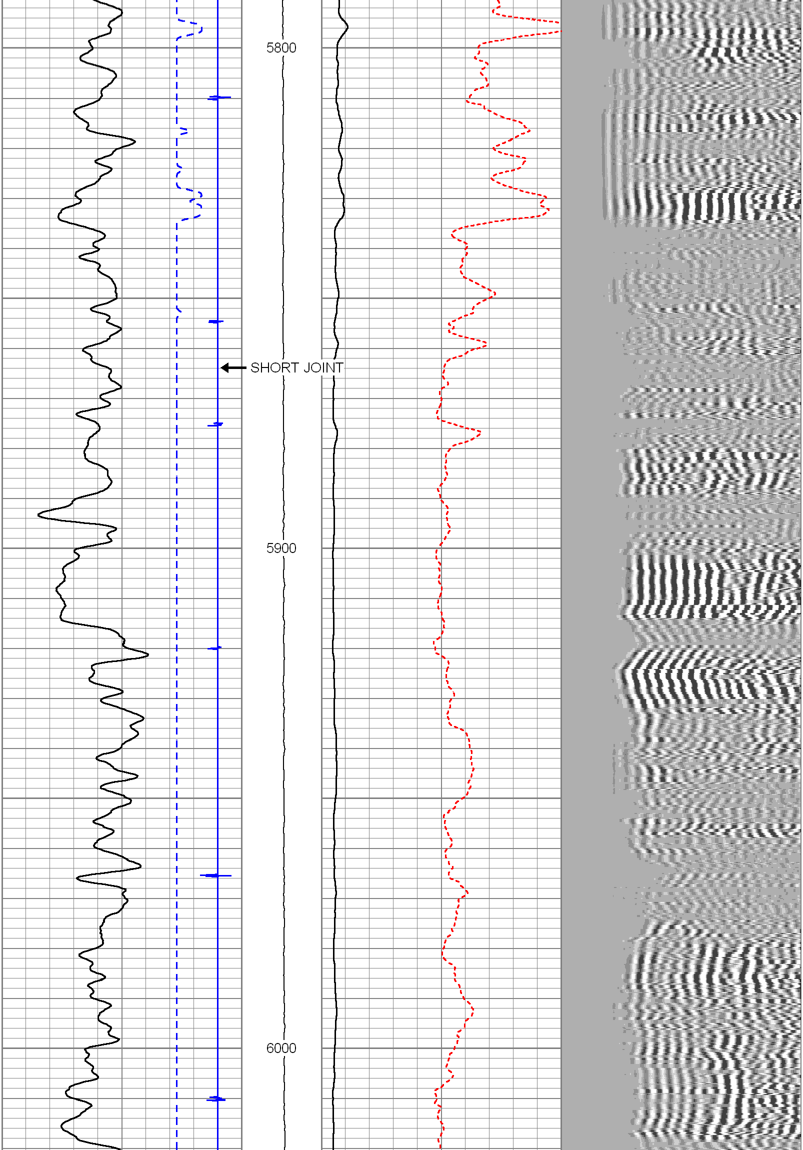
MAIN LOG SECTION

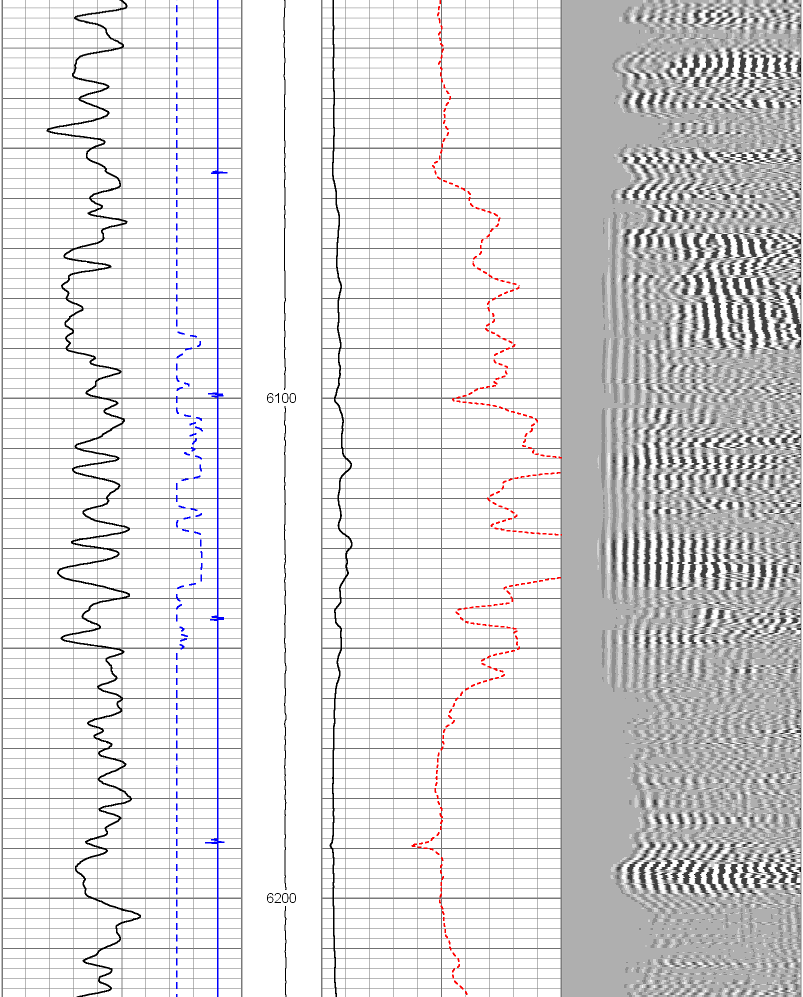
5"=100'

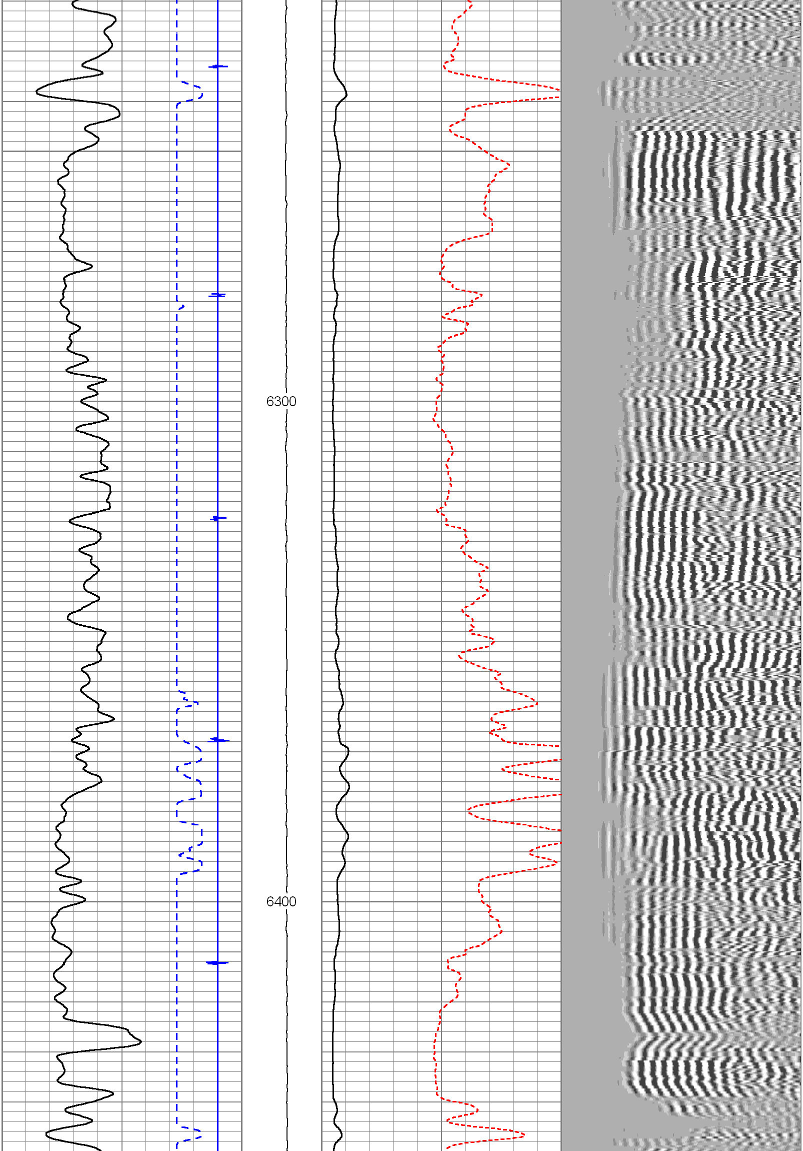
Database File: c:\warrior\data\bill_barrett\ggu_fed_41a_29_691\ggu_fed_41a_29_691_cbl_rmt.db
Dataset Pathname: G_GULCH/GGUFED_41/run1/MAIN_1
Presentation Format: CBL_RB~1
Dataset Creation: Sat Apr 02 17:44:49 2011
Charted by: Depth in Feet scaled 1:240

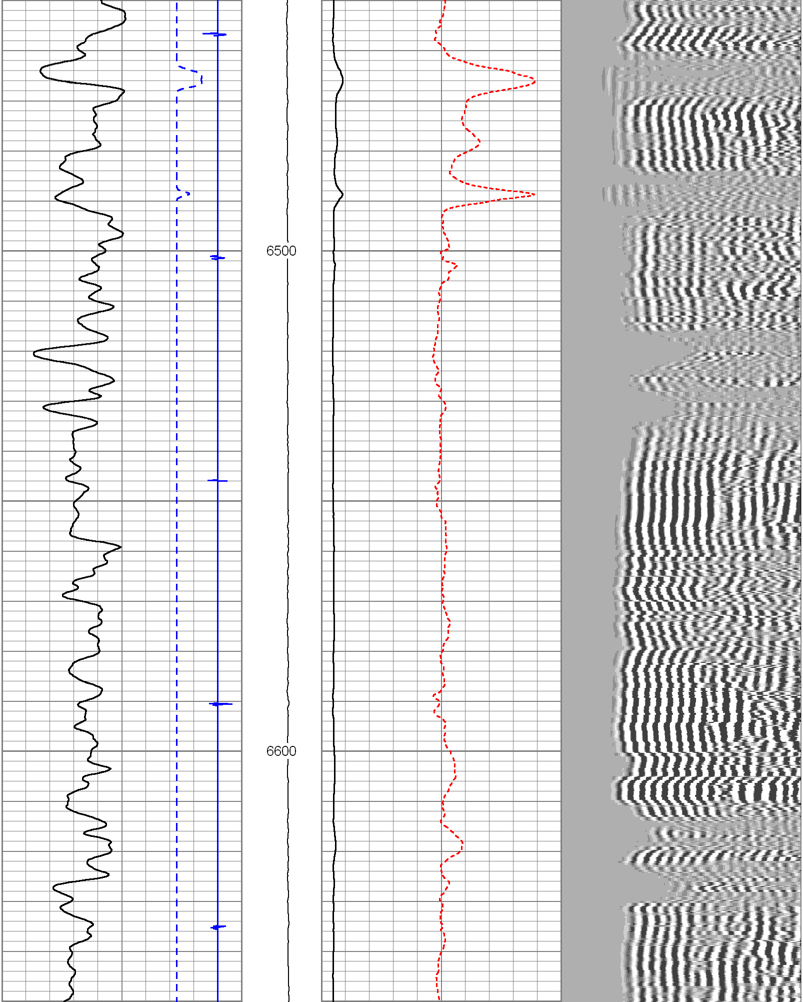


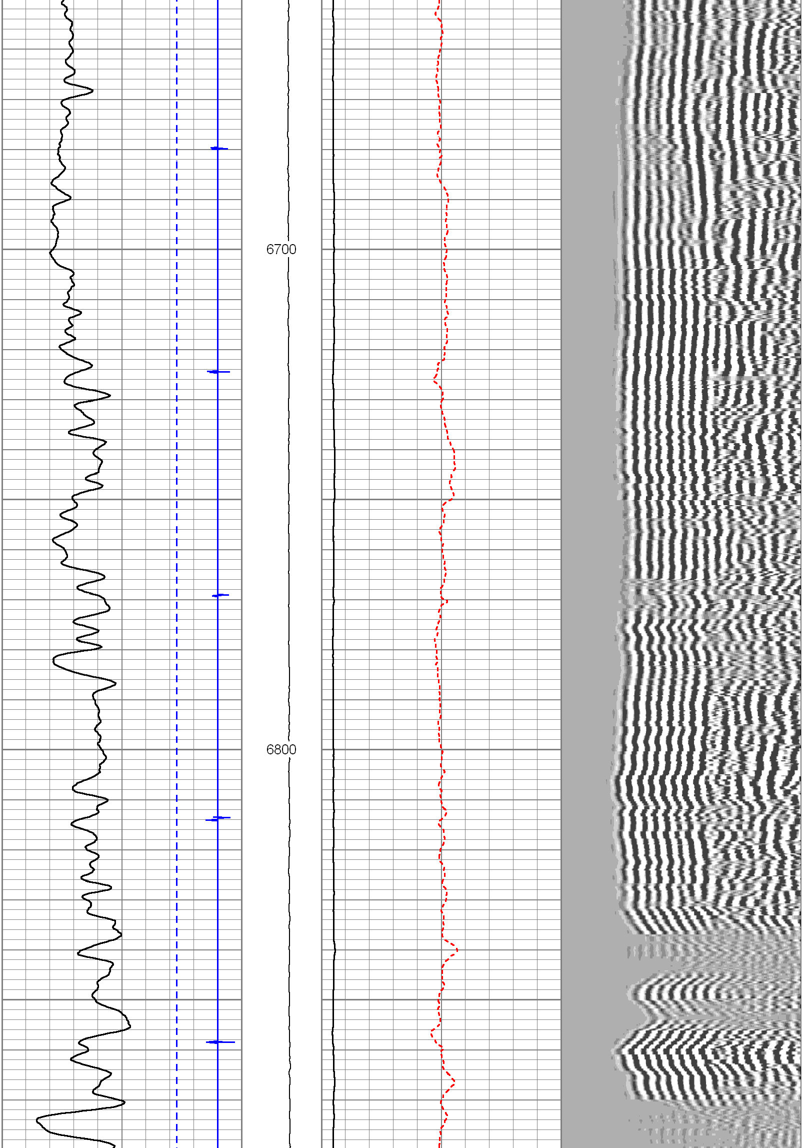


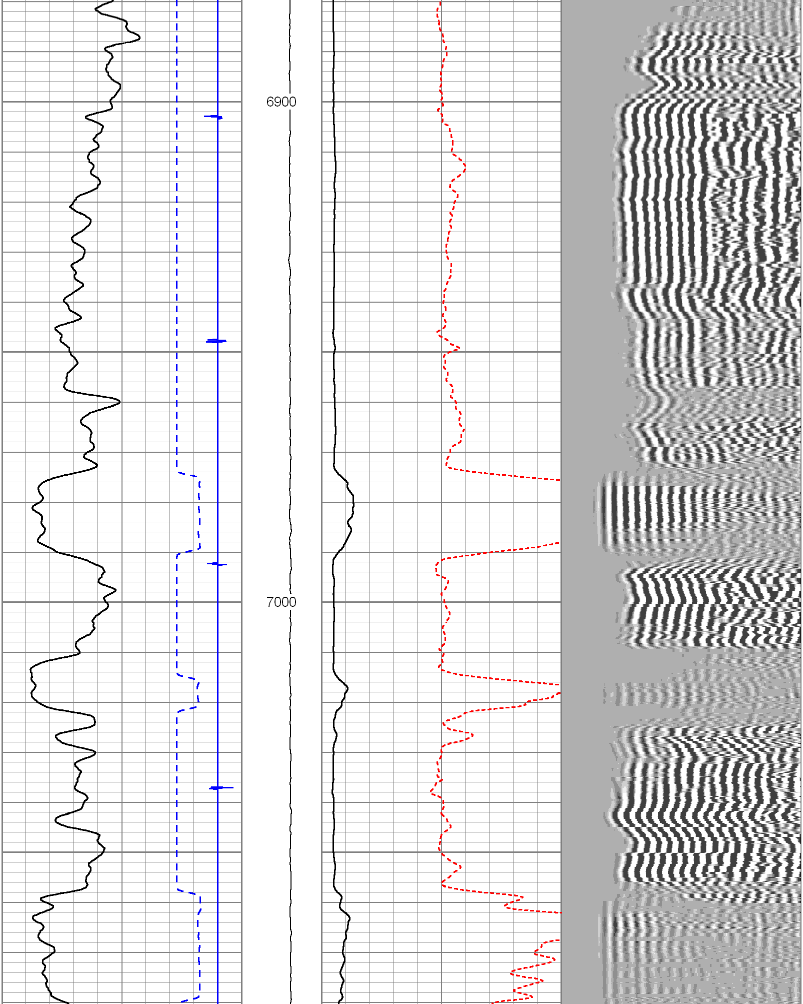


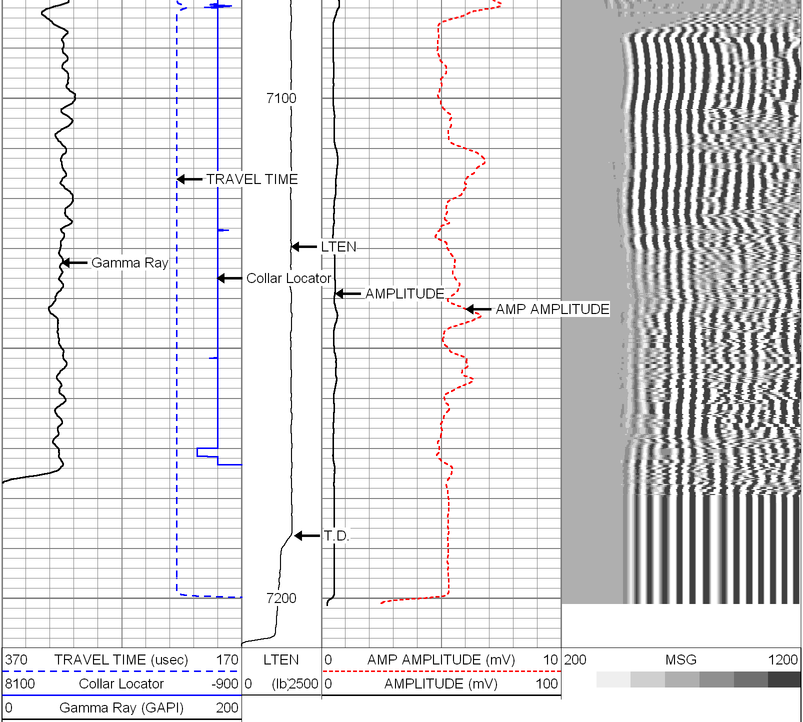












HALLIBURTON

MAIN LOG SECTION

5"=100'

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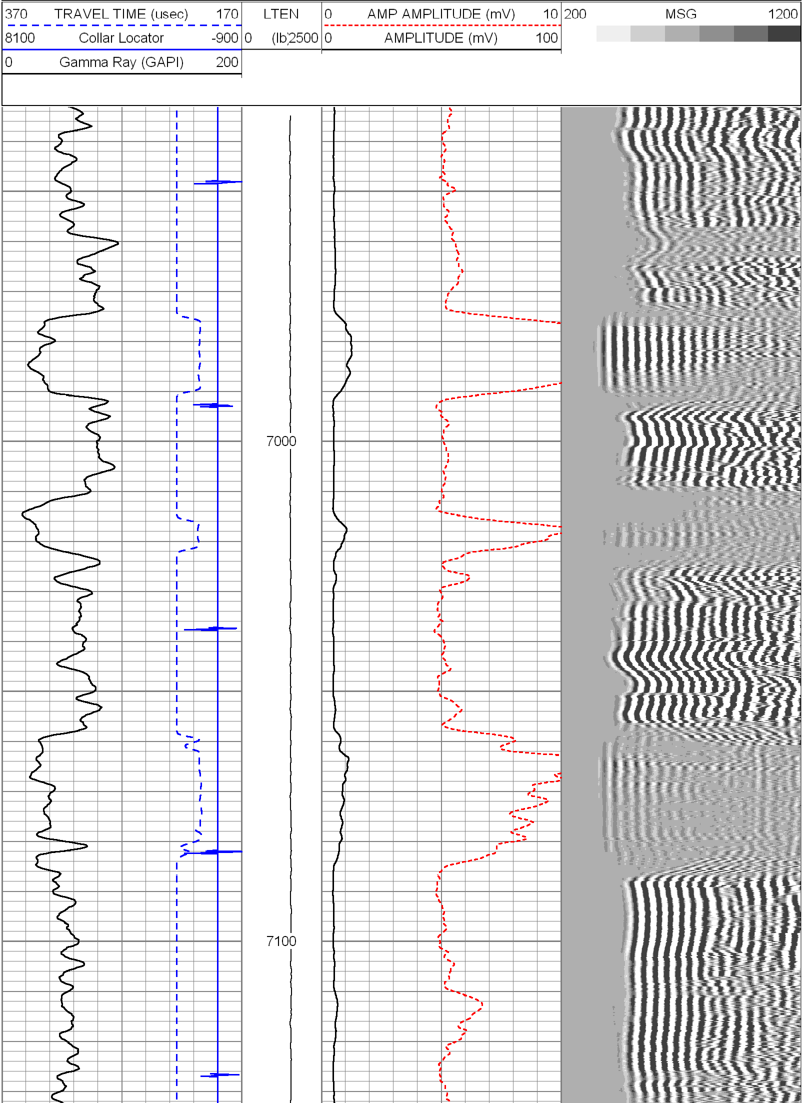
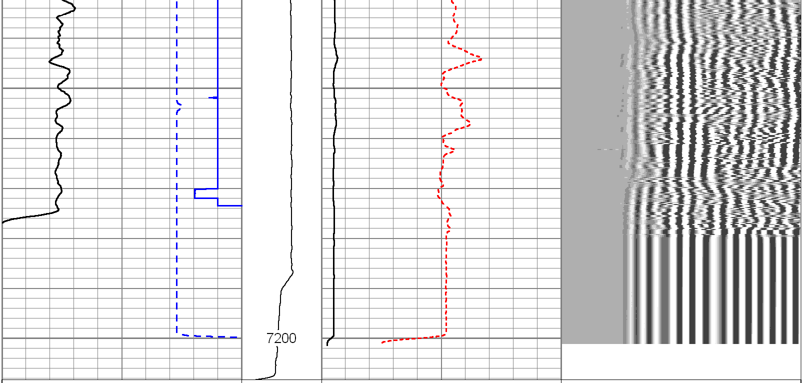
REPEAT LOG SECTION

5"=100'

Database File:	c:\warrior\data\bill_barrett\ggu_fed_41a_29_691\ggu_fed_41a_29_691_cbl_rmt.db
Dataset Pathname:	G_GULCH/GGUFED_41/run1/REPEAT2
Presentation Format:	CBL_RB~1
Dataset Creation:	Sat Apr 02 10:34:25 2011 by Log Halliburton Casedho
Charted by:	Depth in Feet scaled 1:240





370 TRAVEL TIME (usec) 170	LTEN	0 AMP AMPLITUDE (mV) 10	200 MSG 1200
8100 Collar Locator -900	0 (lb) 2500	0 AMPLITUDE (mV) 100	
0 Gamma Ray (GAPI) 200			

HALLIBURTON

REPEAT LOG SECTION

5"=100'

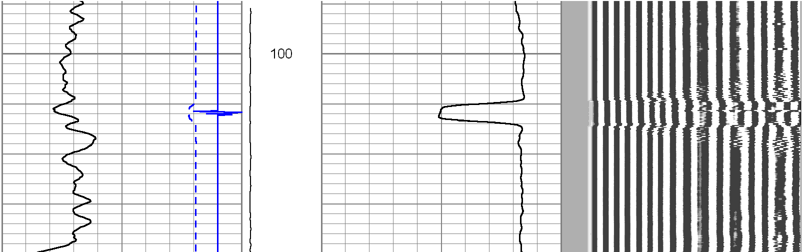
HALLIBURTON

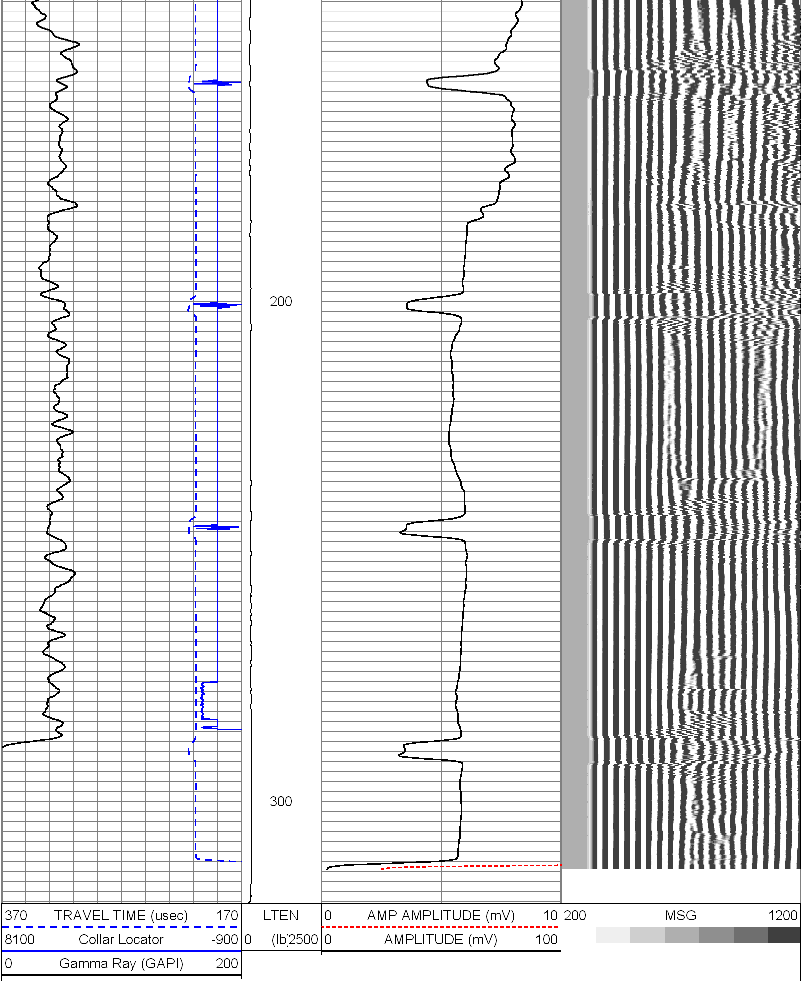
FREE PIPE LOG SECTION

5"=100'

Database File: c:\warrior\data\bill_barrett\ggu_fed_41a_29_691\ggu_fed_41a_29_691_cbl_rmt.db
Dataset Pathname: G_GULCH/GGUFED_41/run1/F_P_1
Presentation Format: CBL_RB~1
Dataset Creation: Sat Apr 02 09:16:28 2011 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

370 TRAVEL TIME (usec) 170	LTEN	0 AMP AMPLITUDE (mV) 10	200 MSG 1200
8100 Collar Locator -900	0 (lb) 2500	0 AMPLITUDE (mV) 100	
0 Gamma Ray (GAPI) 200			





HALLIBURTON

FREE PIPE LOG SECTION

5"=100'

Calibration Report

Database File: C:\Warrior\Data\BILL_BARRETT\GGU_FED_41A_29_691\ggu_fed_41a_29_691_cbl_rmt.db
Dataset Pathname: G_GULCH/GGUFED_41/run1/MAIN_1
Dataset Creation: Sat Apr 02 17:44:49 2011

Segmented Cement Bond Log Calibration Report

Serial Number:	1119	
Tool Model:	004	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	105.282	ft

Master Calibration, performed Sat Apr 02 09:22:26 2011:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.007	1.097	2.000	82.000	72.469	2.473
5FT	-0.005	0.876	2.000	82.000	90.823	2.420
S1	-0.001	1.034	0.000	100.000	96.574	0.121
S2	-0.001	1.149	0.000	100.000	86.960	0.104
S3	-0.004	0.919	0.000	100.000	108.386	0.422
S4	-0.004	0.902	0.000	100.000	110.466	0.414
S5	-0.003	0.934	0.000	100.000	106.702	0.289
S6	-0.002	1.019	0.000	100.000	97.986	0.167
S7	-0.002	1.094	0.000	100.000	91.216	0.202
S8	-0.003	1.138	0.000	100.000	87.687	0.235

Calibration Report

Serial Number: 1119
Tool Model: 004
Performed:

	Reference (degF)	Reading ()
Low:	0.000	0.000
High:	1.000	1.000
	Gain = 1.000	Offset= 0.000

Reservoir Monitor Tool Elite Calibration Report

Serial-Model: U070-A

Shop Calibration Performed: Fri Apr 01 12:49:31 2011

Linearity Results (Generator Off)

	Near Detector 5 Peaks Found	
Channel	Amplitude	FWHM
52.39	0.00982	5.05
94.84	0.00433	5.47
107.35	0.00780	7.38
135.16	0.00027	7.88
182.53	0.00063	8.64
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00

Near Detector
H Position 52.39 C Position 107.35 FE Position 182.53
Linearity Correction 3.76

Far Detector 7 Peaks Found

Channel	Amplitude	FWHM
52.45	0.01449	5.16
96.23	0.00182	4.16
108.98	0.00698	7.35
138.38	0.00018	5.04
151.74	0.00053	8.43
184.39	0.00065	7.54
197.87	0.00105	9.81
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00

Far Detector
H Position 52.45 C Position 108.98 FE Position 184.39
Linearity Correction 3.01

Carbon/Oxygen Mode

Stabilization

	Reading	Range
GENV	75.95	70 - 100 Volts
RAW ITCR2	3443	3000 - 3500 CPS

Near Detector

	Channel	Expected	Amplitude	FWHM	Tol
H	45	52	0.0342	4.95	<6.00
FE	197	198	0.0978	----	----

NGAIN = 0.964 NZOFF = 8.832

Far Detector

	Channel	Expected	Amplitude	FWHM	Tol
H	49	52	0.0447	5.21	<6.50
FE	202	198	0.0943	----	----

FGAIN = 0.967 FZOFF = 5.582

	Result	Expected
COIR2	0.440	0.41 - 0.47
LIRI2	1.410	1.20 - 1.60
TCCR2	4088	3000 - 5000 CPS
ITCR2	3350	3000 - 3500 CPS

Capture Mode

Stabilization

	Reading	Range
GENV	81.83	70 - 100 Volts
FCAP	10142	9500 - 10500 CPS

Result	Logged	Expected Value	Diff.	Tol.	Units
Ratio Normalizer	5.17	4.90	0.27	+/- 0.40	
Ratio Inel Norm	1.09	1.00	0.09	+/- 0.15	
Near Spaced Count	9915	8100 - 13000			CPS
Far Spaced Count	9957	9000 - 11000			CPS
Sigma Form Near	23.62	23.50	0.12	+/- 1.00	C.U.
Sigma Bore Near	77.32	77.00	0.32	+/- 5.00	C.U.
Sigma Form Far	22.36	22.40	-0.04	+/- 0.50	C.U.
Ratio Near/Far	1.00	1.05	-0.05	+/- 0.15	
Ratio N/F Inel	1.70	1.81	-0.11	+/- 0.25	
Near Error	0.71	<5.00			
Far Error	1.12	<5.00			

Near Background	109	<500
Far Background	122	<200
Near Resolving Time	0.956	0.00 - 2.00
Far Resolving Time	0.958	0.00 - 2.00

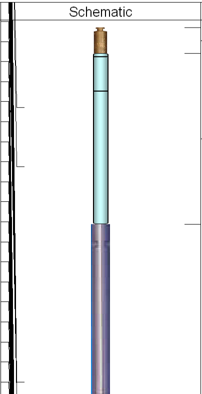
Calibration Software Modules

PNLS Module	2010.9.24.0
RMTE Module	2010.10.1.1

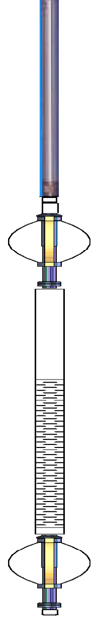
Gamma Ray Calibration Report

Type / Serial: 001 / 10002717

	Counts/Sec.	Gain	Offset	Jig	Units
SHOP CALIBRATION		Sat Apr 02 08:47:19 2011			
Background	38.5				cps
Calibrator	189.8				cps
		1.5196			GAPI/cps
PRIMARY VERIFICATION		Sat Apr 02 08:51:11 2011			
Background	58.6				cps
Calibrator	288.5				cps
Difference				230.0	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

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
REPI	16.11		STND_CH 1.4375 IN CABLE HEAD	1.00	1.44	1.00
GENV	16.11					
GENI	16.11					
ISV	16.11					
ISI	16.11					
IONI	16.11		TTTCU-001 (10002717) Through Tubing Telemetry Cartridge - Ultrawire	6.55	1.69	33.00
LSHV	16.11					
SSHV	16.11					
ROMTEMP	16.11					
FLASKTEMP	16.11					
CNTL	16.11					
GNCTL	16.11					
SPECSTAT	16.11					
FSTAT	16.11					
REPV	16.11					
REPI	16.11					
GENV	16.11					
GENI	16.11					

ISV	16.11
ISI	16.11
IONI	16.11
LSHV	16.11
SSHV	16.11
ROMTEMP	16.11
FLASKTEMP	16.11
CNTL	16.11
GNCTL	16.11
SPECSTAT	16.11
FSTAT	16.11
WVF3FT	8.24
WVFS1	8.24
WVFS2	8.24
WVFS3	8.24
WVFS4	8.24
WVFS5	8.24
WVFS6	8.24
WVFS7	8.24
WVFS8	8.24
CBLTEMP	8.24
CBLROT	8.24
WVF5FT	7.24
LLMTEN	0.00
XHUTEMP	0.00
XHUCURR	0.00
XHUVOLT	0.00
XHUSTAT	0.00
TSTAMP	0.00
ITEMPX	0.00
HVOLTX	0.00



RMTE-A (U070) RMTE	14.06	2.13	77.00
GoxSondex Go Box x Sondex Pin CrossOver	0.27	1.69	1.00
AUH-001 (000001) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
CENT-Probe (PT_MONO2) Probe 2 3/4 Centralizer	2.88	2.75	35.00
RBT-004 (1119) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
CENT-Probe (PTS_MONO) Probe 2 3/4 Centralizer	2.88	2.75	35.00
BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20

Dataset: ggu_fed_41a_29_691_cbl_rmt.db: G_GULCH/GGUFED_41/run1/MAIN_1
Total Length: 37.73 ft
Total Weight: 326.20 lb
O.D. 3.13 in

Company	BILL BARRETT CORPORATION		
Well	GGU FEDERAL 41A-29-691		
Field	GIBSON GULCH		
County	GARFIELD	State	CO

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG