HALLIBURTON

CEMENT BOND LOG
GR-CCL

Company URSA OPERATING COMPANY
Well Monument Ridge B 43B-08-07-95
Field Parachute
County Garfield State CO

Company	URSA OPERATING COMPANY
Well	Monument Ridge B 43B-08-07-95
Field	Parachute
County	Garfield
State	CO

API No.: 05-045-22915000 Serv #: 903040049

Other Services
JB/RMTi

Location:
SHL: 1015' FSL & 166' FEL

Sec:8 Twp:7S Rge: 95 W

Permanent Datum Ground Level Elevation 5701.8'
Log Measured From KB , 17 Ft. above perm. datum
Drilling Measured From KB

Elevation
K.B. 5718.8'
D.F. 5718.8'
G.L. 5701.8'

Date @ Time Logged	22-Jan-2016	Type Fluid in Hole	Water
Run No.	Two	Density of Fluid	8.4 PPG
Depth - Driller	7290'	Fluid Level	Full
Depth - Logger	7091'	Cement Top Est. Logged	n/a
Bottom - Logged Interval	7085'	Equipment / Location	RS / 11808537
Top - Log Interval	1750'	Recorded by	Pedro Gonzalez Baqueiro
Max. Recorded Temp.	n/a	Witnessed by	Oscar Molinar

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	24	surface	60'	16"	75#	surface	60'
Two	12.25"	surface	1755.6	8.625"	32#	surface	1755.6
Three	7.875"	surface	7290.2	4.5"	11.6#	surface	7290.2

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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

HES Cement Bond Log Correlated by HES Dual Spaced Neutron Dated 22-Dec-2015
Log Interval Percustomer Request
Log Ran in combo with RMTi tool

THANK YOU FOR CHOOSING HALLIBURTON ENERGY ROCKSPRING WY

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MAIN PASS

5"=100'

Database File	monument ridge 43b-08-07-95.db
Dataset Pathname	43d/MAIN
Presentation Format	cbl_main
Dataset Creation	Thu Jan 21 23:43:45 2016
Charted by	Depth in Feet scaled 1:240

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MAIN PASS

5"=100'

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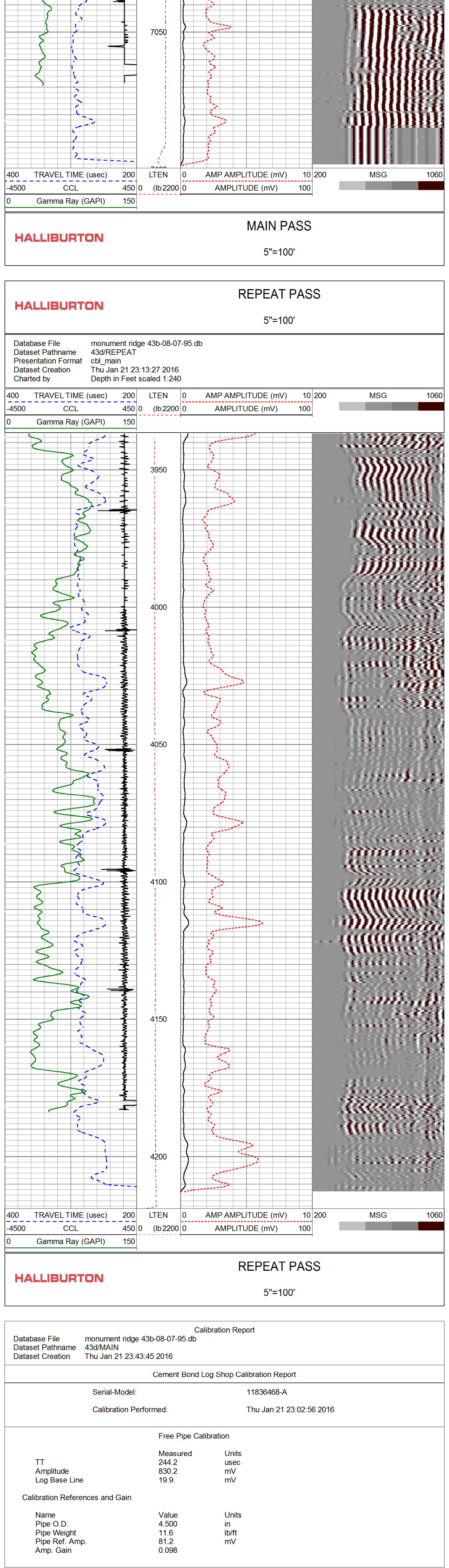
REPEAT PASS

5"=100'

Database File	monument ridge 43b-08-07-95.db
Dataset Pathname	43d/REPEAT
Presentation Format	cbl_main
Dataset Creation	Thu Jan 21 23:13:27 2016
Charted by	Depth in Feet scaled 1:240



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REPEAT PASS

5"=100'

Calibration Report

Database File	monument ridge 43b-08-07-95.db
Dataset Pathname	43d/MAIN
Dataset Creation	Thu Jan 21 23:43:45 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 11836468-A

Calibration Performed: Thu Jan 21 23:02:56 2016

Free Pipe Calibration

	Measured	Units
TT	244.2	usec
Amplitude	830.2	mV
Log Base Line	19.9	mV

Calibration References and Gain

Name	Value	Units
Pipe O.D.	4.500	in
Pipe Weight	11.6	lb/ft
Pipe Ref. Amp.	81.2	mV
Amp. Gain	0.098	

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12270693-A

Shop Calibration Performed: Sun Jan 10 18:03:51 2016

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	92.00	80.00	12.00	+/-15.00	V
ITCR2	3435	3250	185	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0268	5.37	<6.00
Fe	207	206 +/-2	0.0948	-----	-----
NGAIN = 0.996	NZOFF = 0.3				

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0341	6.02	<6.50
Fe	209	208 +/-2	0.0916	-----	-----
FGAIN = 0.991	FZOFF = 0.6				

Flask Temperature 55.3 degF

Result	Logged	Expected Value	Diff.	Tol.	Units
COIR2	0.45	0.45	-0.00	+/-0.02	
LIRI2	1.37	1.36	0.01	+/-0.05	
TCCR2	5506	5000	506	+/-1000	cps
ITCR2	3432	3200	232	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	91.00	80.00	11.00	+/-15.00	V
FCAP	10099	10000	99	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	1.01	0.95	0.06		
N/F Inel Norm	0.65	0.61	0.04		
RNF	0.99	1.07	-0.08	+/-0.12	
RINC	1.54	1.64	-0.10	+/-0.18	
SGFN	24.11	24.00	0.11	+/-0.50	cu
SGFF	22.94	22.85	0.09	+/-0.50	cu
FSIN	23744	24000	-256	+/-2000	cps
FCAP	10025	10000	25	+/-1000	cps
NFTR	0.81			<5.00	
FFTR	0.89			<5.00	
NBKG	214			<500	cps
FBKG	108			<500	cps
RTN	0.40	0.40	-0.00	+/-0.10	usec
RTF	0.41	0.40	0.01	+/-0.10	usec

Calibration Software Modules

HRMTI Module	2015.5.4.0
RMTI Module	2015.5.15.1

Log Data Acquisition Software Modules

HRMTI Module	2015.5.4.0
RMTI Module	2015.5.15.1

Gamma Ray Calibration Report

Type / Serial: 002 / 11159411

SHOP CALIBRATION Tue Dec 15 21:01:01 2015

	Counts/Sec.	Gain	Offset	Jig	Units
Background	28.7				cps
Calibrator	323.0				cps
		1.3864			GAPI/cps

PRIMARY VERIFICATION

Background	40.3				cps
Calibrator	454.6				cps
Difference				414.4	GAPI

BEFORE SURVEY VERIFICATION

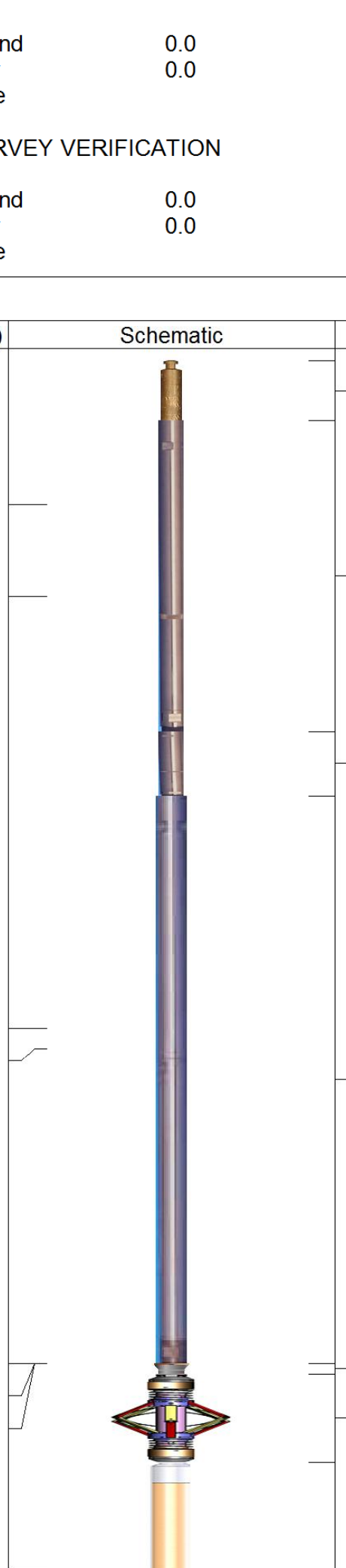
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Sensor	Offset (ft)
CCL	35.82
GR	33.56
RmtTFGT	22.91
RmtTNGT	22.41
RmtFP5V	14.66
RmtNFwvMcsP	14.66
RmtCommFWa	14.66
Temp	9.57
TT3FT	7.32
AMP3FT	7.32
WVF5FT	6.36
WVF3FT	2.84
LLMTEN	0.00

Schematic



Description	Length (ft)	O.D. (in)	Weight (lb
STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
TTTCU-002 (11159411) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	30.00
XHU-003 (11983708) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RMTI-A (12270693) Halliburton RMTI Tool	14.00	2.13	77.00
X-OVER-GoxSondex Go Box x Sondex Pin CrossOver	0.27	1.69	1.00
CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
HCBLM-A (11836468) Halliburton HCBLM Tool	9.38	2.75	116.00
CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
AUH-001 (11072111) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
BUL-001 (000001) Bullnose	0.30	1.69	1.50

Dataset:	monument ridge 43b-08-07-95.db: field/well/43d/MAIN
Total length:	39.39 ft
Total weight:	286.50 lb
O.D.:	3.13 in

Company	URSA OPERATING COMPANY
Well	Monument Ridge B 43B-08-07-95
Field	Parachute
County	Garfield
State	CO

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