HALLIBURTON

RESERVOIR MONITOR LOG
GR-CCL

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

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Field Parachute
County Garfield State CO
API No.: 05-045-22965-0000 Serv #: 903138220
Location: SHL: 965' FSL & 166' FEL
Other Services JB/CBL
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	25-FEB-2016	Type Fluid in Hole	Water
Run No.	One	Density of Fluid	8.4 PPG
Depth - Driller	7137'	Fluid Level	Full
Depth - Logger	6924'	Cement Top Est. Logged	n/a
Bottom - Logged Interval	6901'	Equipment / Location	RS / 10971690
Top - Log Interval	3230'	Recorded by	Pedro Gonzalez Baqueiro
Max. Recorded Temp.	n/a	Witnessed by	Luke Grieger

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	1720.5'	8.625"	32#	surface	1720.5'
Three	7.875"	surface	7137.1'	4.5"	11.6#	surface	7137.1'

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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 First Run in to the hole
Log correlated by KB 17'
Log Interval Percustomer Request
Log Ran in combo with CBL-M tool

THANK YOU FOR CHOOSING HALLIBURTON ENERGY ROCKSPRING WY

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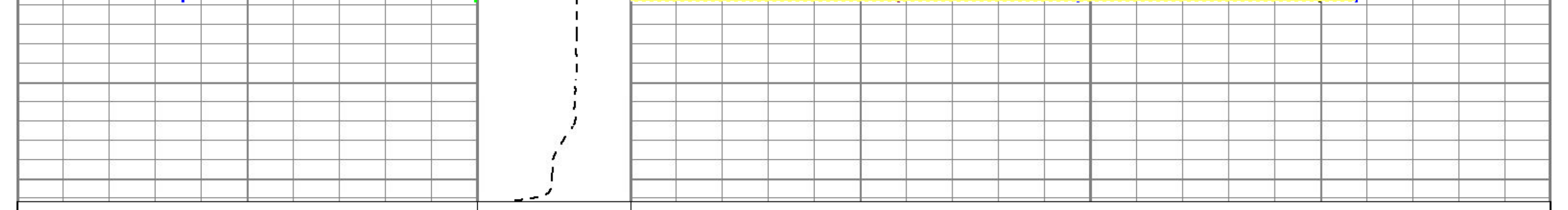
MAIN PASS

5"=100'

Database File	monument ridge 43d-08-7-95.db
Dataset Pathname	main
Presentation Format	RMTE_M~1
Dataset Creation	Thu Feb 25 22:42:33 2016
Charted by	Depth in Feet scaled 1:240



200 Near Bore Si (SGBN) 0 | TENSION | 0 RATIO (RNF) 1.1
0 OAI 100 | 0 (lb 2300 | 60 SGIN 0
10 FAR FIT ERR (SGFF) 40 | 0 RIN 9 | 60000 Near Counts (NCAP) 0
0 GR (GAPI) 150 | 0 RICF 6 | 60000 Far Counts (FCAP) 0
0 NEAR FIT ERR (SGFN) 100 | 0 H YIELD (YH2) 1 | 100000 FAR INTEL CT (FSIN) 0
-5500 CCL 550 | 0 H YIELD (YH1) 1 | 10000(NEAR INTEL CT (NSIN) 0
0 IN FIT ERR (CFTR1) NEAR 1 | 0.9 PHIT ( ) -0.1 | ET INL NEAR (NNI
0 IN FIT ERR CFTR2) FAR 1 | INOX2 | 50000 -1000
-1500 1500

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MAIN PASS

5"=100'

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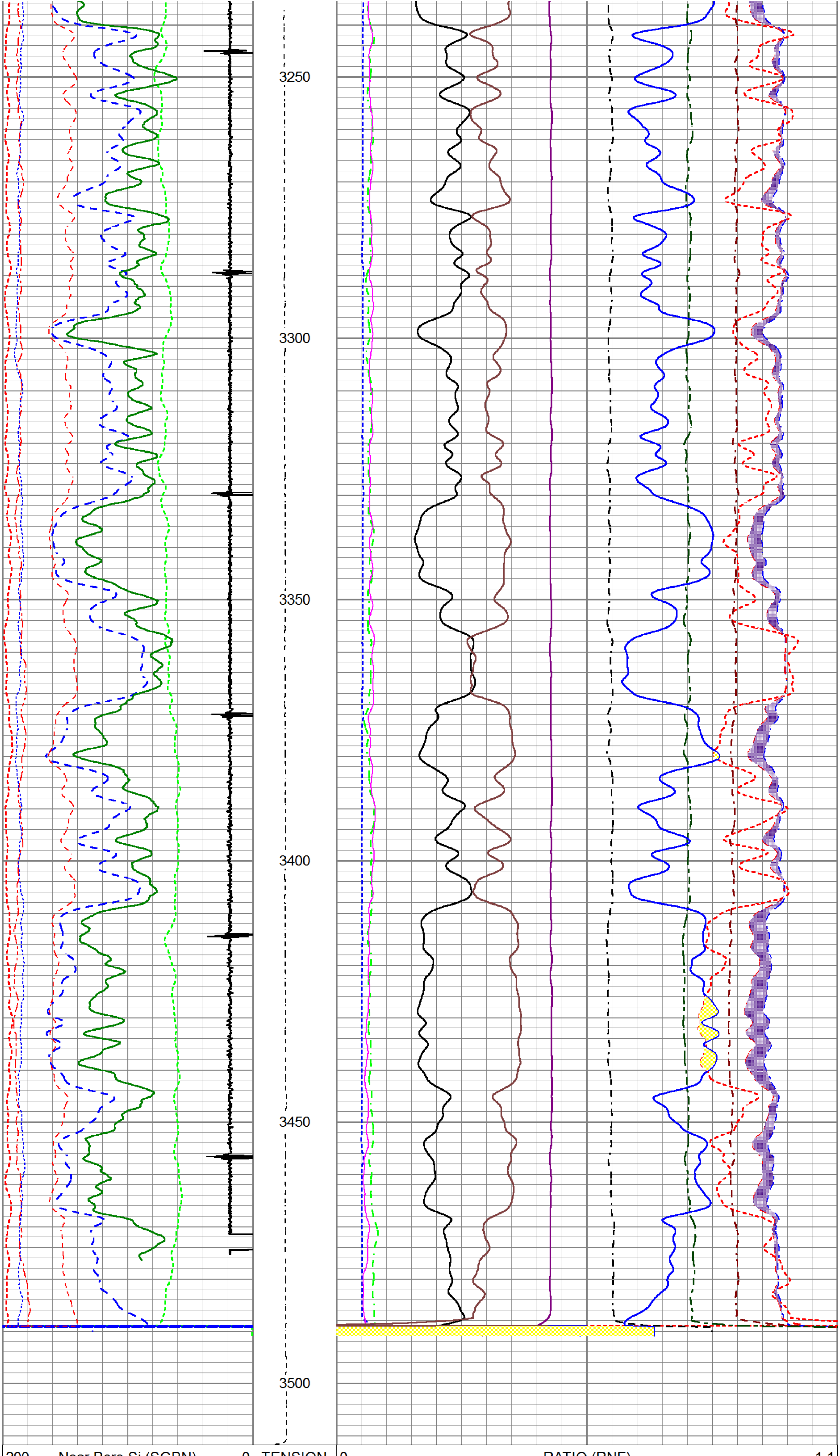
REPEAT PASS

5"=100'

Database File	monument ridge 43d-08-7-95.db
Dataset Pathname	repeat
Presentation Format	RMTE_M~1
Dataset Creation	Thu Feb 25 22:11:55 2016
Charted by	Depth in Feet scaled 1:240

200 Near Bore Si (SGBN) 0 | TENSION | 0 RATIO (RNF) 1.1
0 OAI 100 | 0 (lb 2300 | 60 SGIN 0
10 FAR FIT ERR (SGFF) 40 | 0 RIN 9 | 60000 Near Counts (NCAP) 0
0 GR (GAPI) 150 | 0 RICF 6 | 60000 Far Counts (FCAP) 0
0 NEAR FIT ERR (SGFN) 100 | 0 H YIELD (YH2) 1 | 100000 FAR INTEL CT (FSIN) 0
-5500 CCL 550 | 0 H YIELD (YH1) 1 | 10000(NEAR INTEL CT (NSIN) 0
0 IN FIT ERR (CFTR1) NEAR 1 | 0.9 PHIT ( ) -0.1 | ET INL NEAR (NNI
0 IN FIT ERR CFTR2) FAR 1 | INOX2 | 50000 -1000
-1500 1500



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0 IN FIT ERR CFTR2) FAR 1 | INOX2 | 50000 -1000
-1500 1500

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REPEAT PASS

5"=100'

Calibration Report

Database File	monument ridge 43d-08-7-95.db
Dataset Pathname	main
Dataset Creation	Thu Feb 25 22:42:33 2016

Cement Bond Log Shop Calibration Report

Serial-Model: 11836468-A

Calibration Performed: Thu Feb 25 21:51:45 2016

Free Pipe Calibration

	Measured	Units
TT	245.0	usec
Amplitude	628.4	mV
Log Base Line	19.3	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	0.130	

Reservoir Monitor Tool I Calibration Report

Serial-Model: 12270693-A

Shop Calibration Performed: Fri Feb 12 14:31:42 2016

Carbon/Oxygen Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	93.00	80.00	13.00	+/-15.00	V
ITCR2	3235	3250	-15	+/-250	cps

Near Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0267	5.38	<6.00
Fe	206	206 +/-2	0.0959	-----	-----
NGAIN = 0.997	NZOFF = 0.2				

Far Detector

	Channel	Expected Value	Amplitude	FWHM	Tol.
H	60	60 +/-2	0.0342	6.01	<6.50
Fe	209	208 +/-2	0.0911	-----	-----
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	1.36	1.36	0.00	+/-0.05	
TCCR2	5189	5000	189	+/-1000	cps
ITCR2	3213	3200	13	+/-250	cps

Sigma Mode

Stabilization

Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	93.00	80.00	13.00	+/-15.00	V
FCAP	9709	10000	-291	+/-500	cps

Horizontal Water Tank

Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	1.00	0.95	0.05		
N/F Inel Norm	0.65	0.61	0.04		
RNF	1.00	1.07	-0.07	+/-0.12	
RINC	1.54	1.64	-0.10	+/-0.18	
SGFN	24.10	24.00	0.10	+/-0.50	cu
SGFF	22.94	22.85	0.09	+/-0.50	cu
FSIN	23109	24000	-891	+/-2000	cps
FCAP	9760	10000	-240	+/-1000	cps
NFTR	0.80			<5.00	
FFTR	0.87			<5.00	
NBKG	180			<500	cps
FBKG	96			<500	cps
RTN	0.39	0.40	-0.01	+/-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 / 11527445

SHOP CALIBRATION Fri Feb 12 13:43:57 2016

	Counts/Sec.	Gain	Offset	Jig	Units
Background	24.6				cps
Calibrator	314.1				cps
		1.4958			GAPI/cps

PRIMARY VERIFICATION

Background	36.1		cps
Calibrator	466.2		cps
Difference		430.1	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
RmtNFwvMcsPl	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 (11527445) 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 43d-08-7-95.db: field/well/run1/main
Total length:	39.39 ft
Total weight:	286.50 lb
O.D.:	3.13 in

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

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