HALLIBURTON

RADIAL CEMENT BOND LOG

DEPTH CORRECTED

Company	CHEVRON USA INC.
Well	SKINNER RIDGE 598-26-AV-14
Field	SKINNER RIDGE
County	GARFIELD State CO

Company CHEVRON USA INC.
Well SKINNER RIDGE 598-26-AV-14
Field SKINNER RIDGE
County GARFIELD State CO

API No.: 05045139040000 Serv #: 5472068
Location: SURFACE:
0540' FSL & 2224' FEL
Sec: 26, Twp: 5S, Rge:98W
BOTTOM:
0151' FSL & 1959' FWL
Sec: 35, Twp: 5S, Rge:98W
Sec: 26 Twp: 05S Rge: 98W

Other Services
RMTE

Permanent Datum GROUND LEVEL Elevation 6087'
Log Measured From KB , 25 Ft. above perm. datum
Drilling Measured From KB

Elevation
K.B. 6112'
D.F. 6111'
G.L. 6087'

Date @ Time Logged	11-04-2007 @ 0900	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.4 PPG
Depth - Driller	6062'	Fluid Level	FULL
Depth - Logger	5980'	Cement Top Est. Logged	798'
Bottom - Logged Interval	5960'	Equipment / Location	10029613 / GJ
Top - Log Interval	SURFACE	Recorded by	SKJERPEN
Max. Recorded Temp.	196 F	Witnessed by	R. GROSSMAN

CEMENTING DATA	Surface String	Protection String	Production String	Liner
Date / Time Cemented	09/09/2007@ 1700			
Primary / Squeeze	PRIMARY			
Expected Compressive Strength	NA psi@ NA hrs	psi@ hrs	psi@ hrs	psi@ hrs
Cement Volume	294/726 LEAD/TAIL			
Cement Type / Weight	50/50 PZ / 12.8/13.4	/	/	/
Formulation	NA			
Mud Type / Mud Wgt.	WBM / NA	/	/	/

	Borehole Record			Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	26.0"	SURFACE	60'	16.0"	37#	SURFACE	60'
TWO	12.25"	60'	1000'	8.625"	24#	SURFACE	1000'
THREE	7.875"	1000'	6062'	4.5"	11.6#	SURFACE	6034'

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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

TTTCU-RMTE-RBT RAN IN COMBINATION

HES RBT DATED 11-04-2007 IS PRIMARY DEPTH REFERENCE

SHORT JOINT: 4506'-4528' & 3473'-3495'

REFORMATTED PRESENTATION
CEMENTER CALCULATED TOP OF CEMENT @ 2800'

YOUR CREW TODAY: SHEA & STEPHEN

THANK YOU FOR CHOOSING HES GRAND JUNCTION, CO 970-523-3600

Service Ticket No. 5472068 API No. 05045139040000 PGM Ver WARRIOR 7.0

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

EQUIPMENT DATA

TTTC		RMTE		RBT			
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	214896	Serial No.	392	Serial No.	11002212	Serial No.	
Model No.	TTTC-U	Model No.	RMTE	Model No.	RBT	Model No.	
Diameter	1.69"	Diameter	2.25"	Diameter	3.375"	Diameter	

LOGGING DATA

General Data

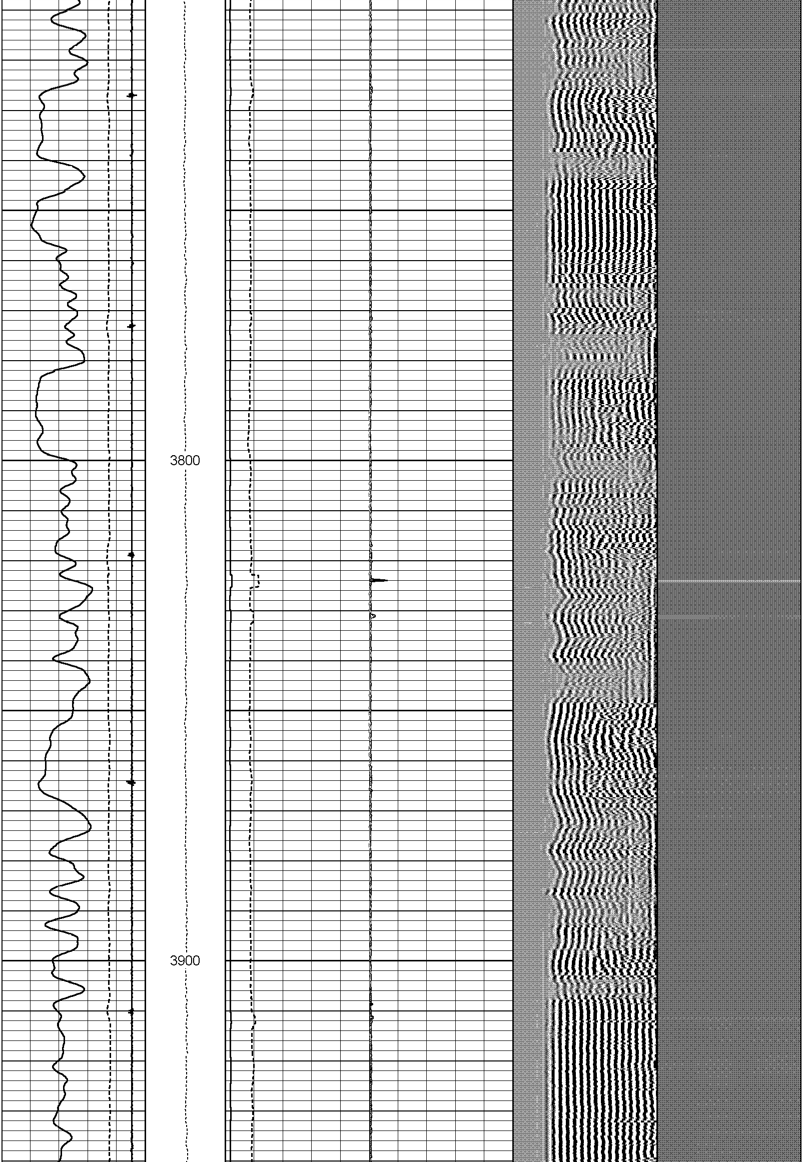
Pass No.	Depths From	Depths To	Well Head Pressure	Speed Ft/Min	Logging Run Comments
ONE	5980'	1850'	0 PSI	REC	MAIN RMTE
ONE	5980'	SURFACE	0 PSI	REC	MAIN RBT

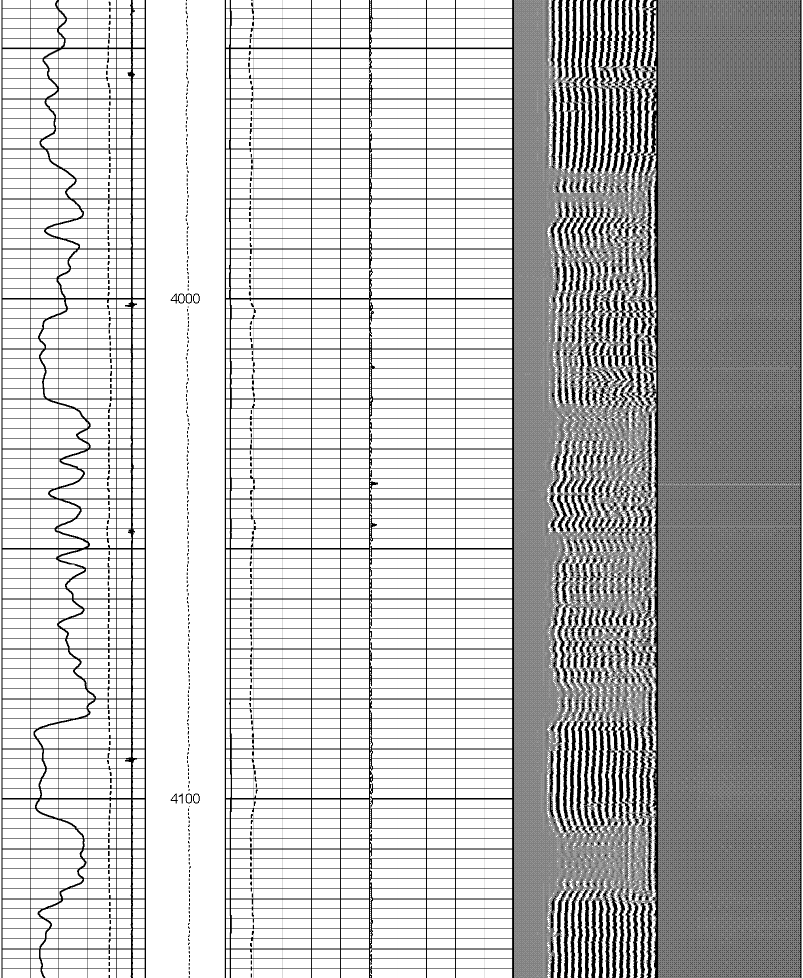
Pass	MSG Scale		TRAVEL TIME Scale		GAMMA RAY Scale		SIGMA Scale	
No.	L	R	L	R	L	R	L	L
ONE	200	1200	440	140	0	200	60	0

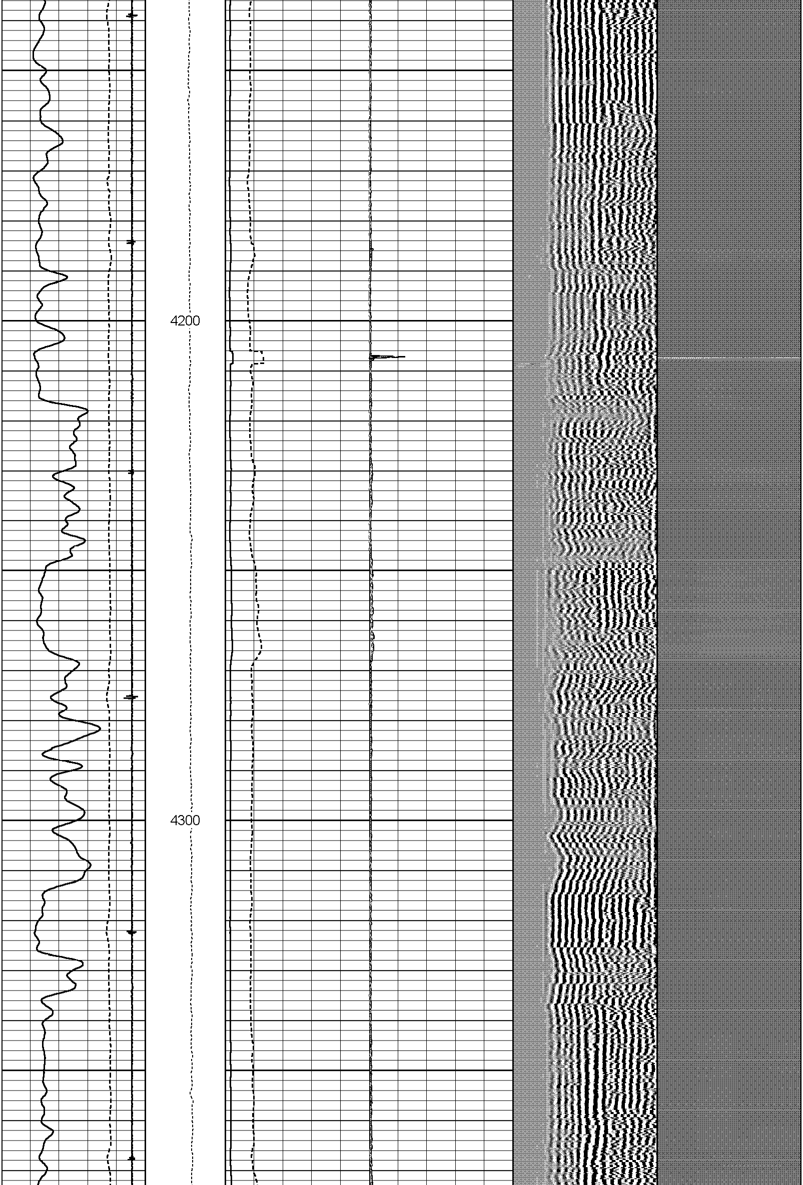
DIRECTIONAL INFORMATION

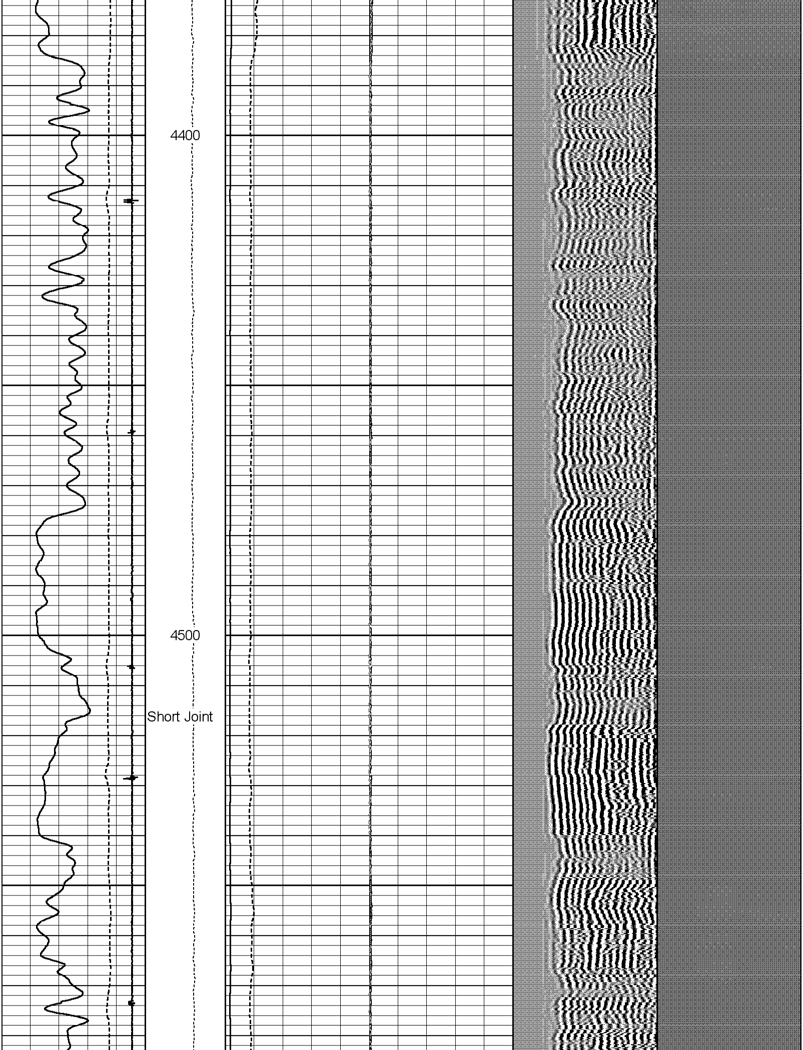
Maximum Deviation		deg. @		KOP	

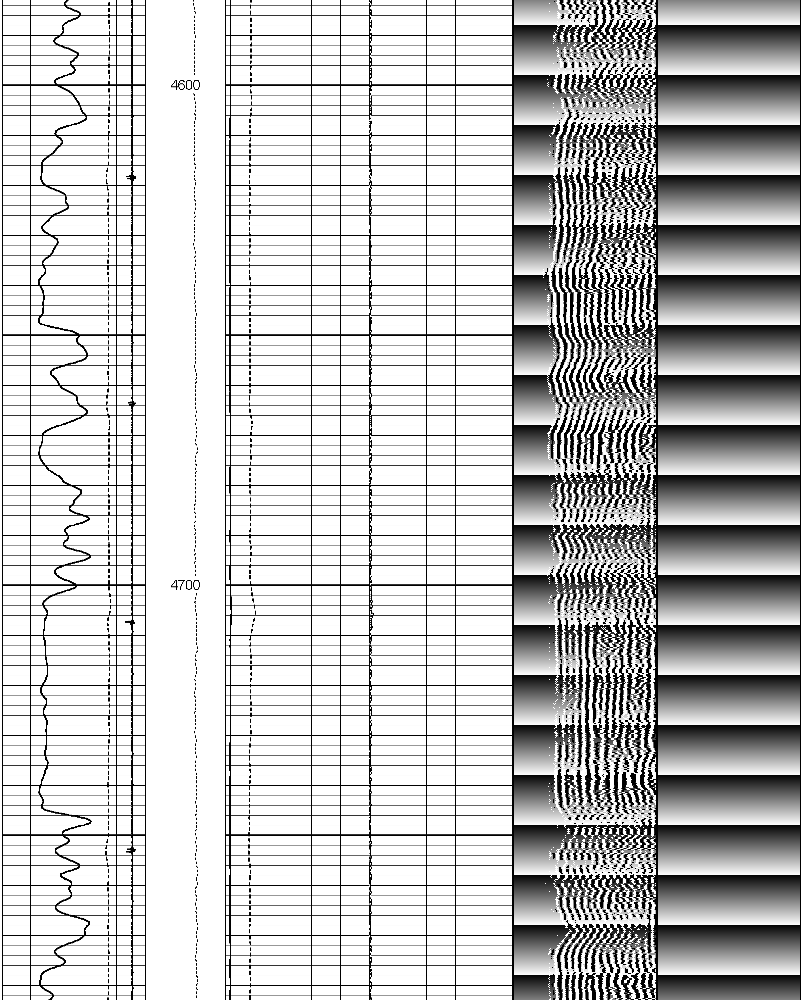
Database File: c_sr_598_26_av_14_rmt_rbt2.db
Dataset Pathname: RBT/MAINF
Presentation Format: radial
Dataset Creation: Wed Jan 23 16:29:04 2008
Charted by: Depth in Feet scaled 1:240

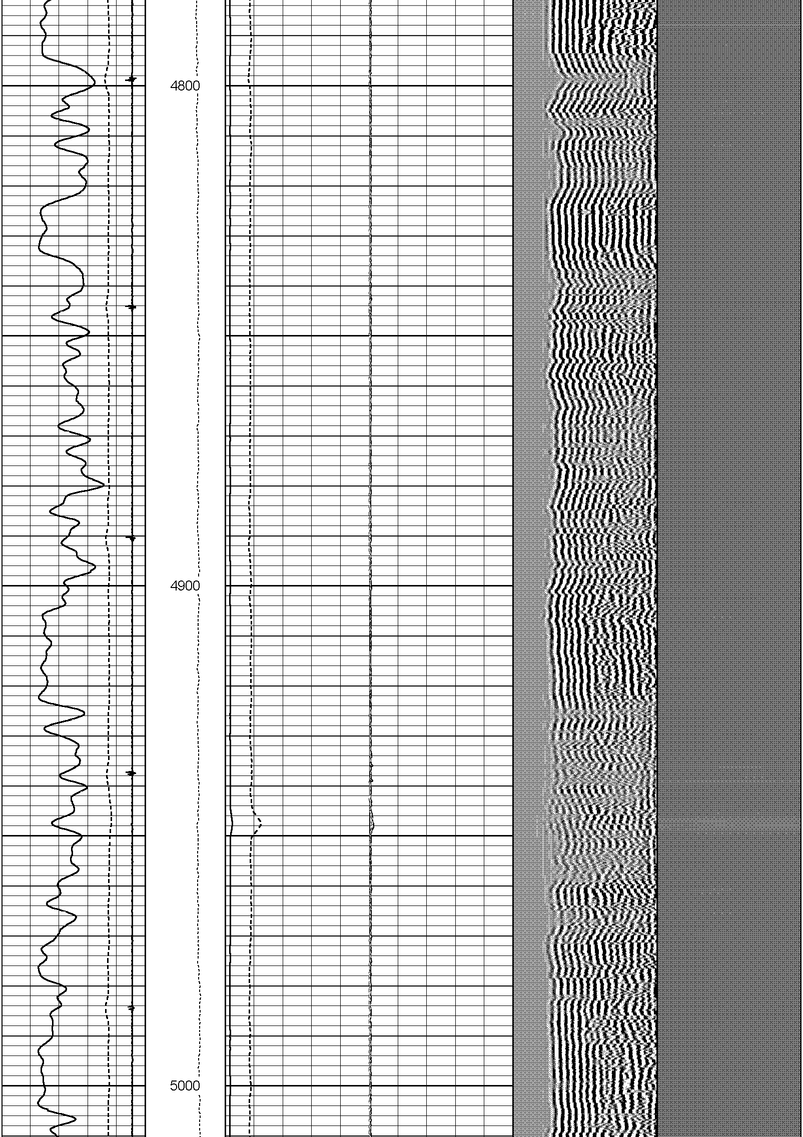


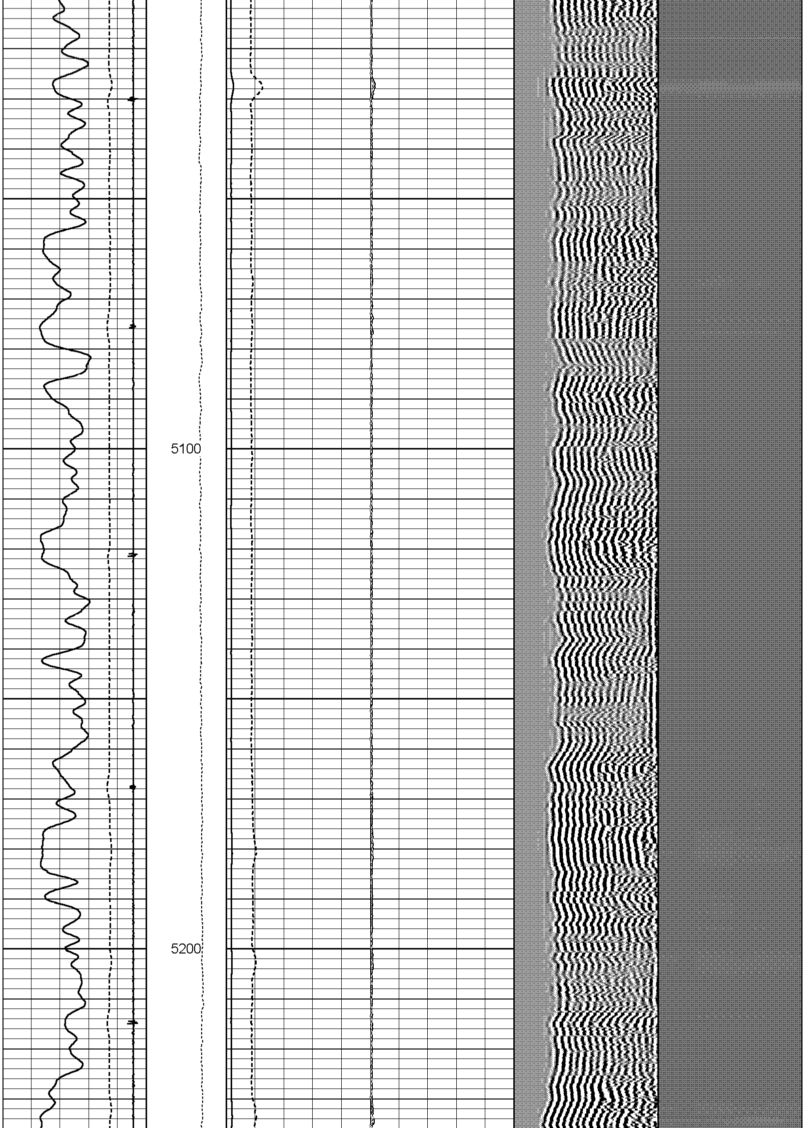


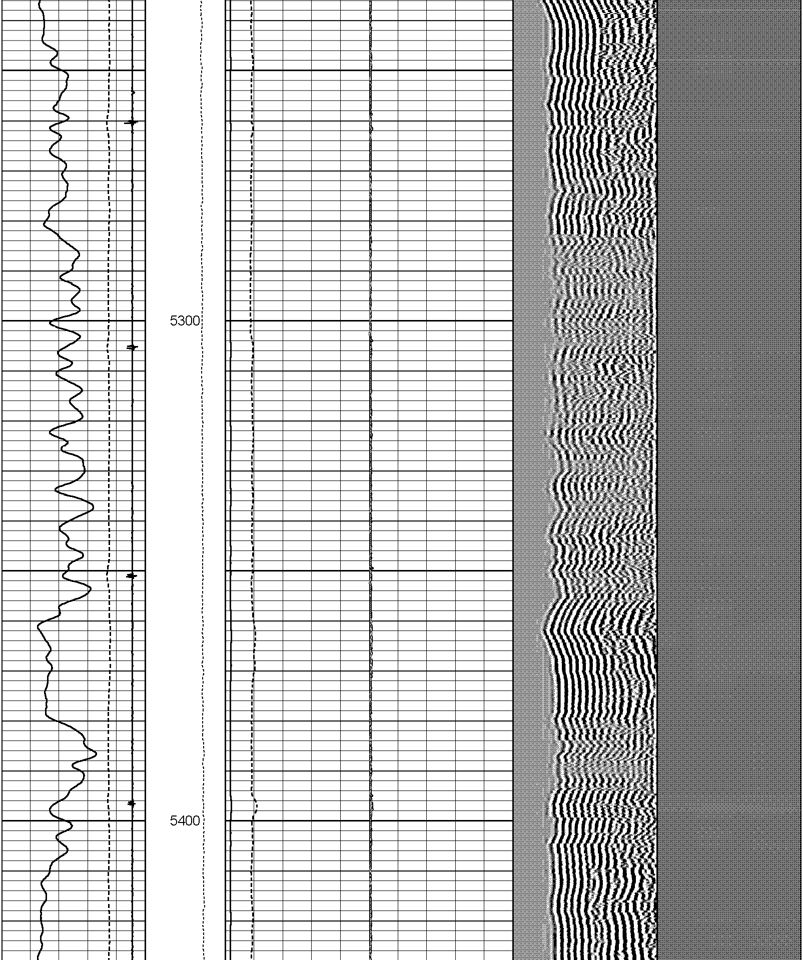


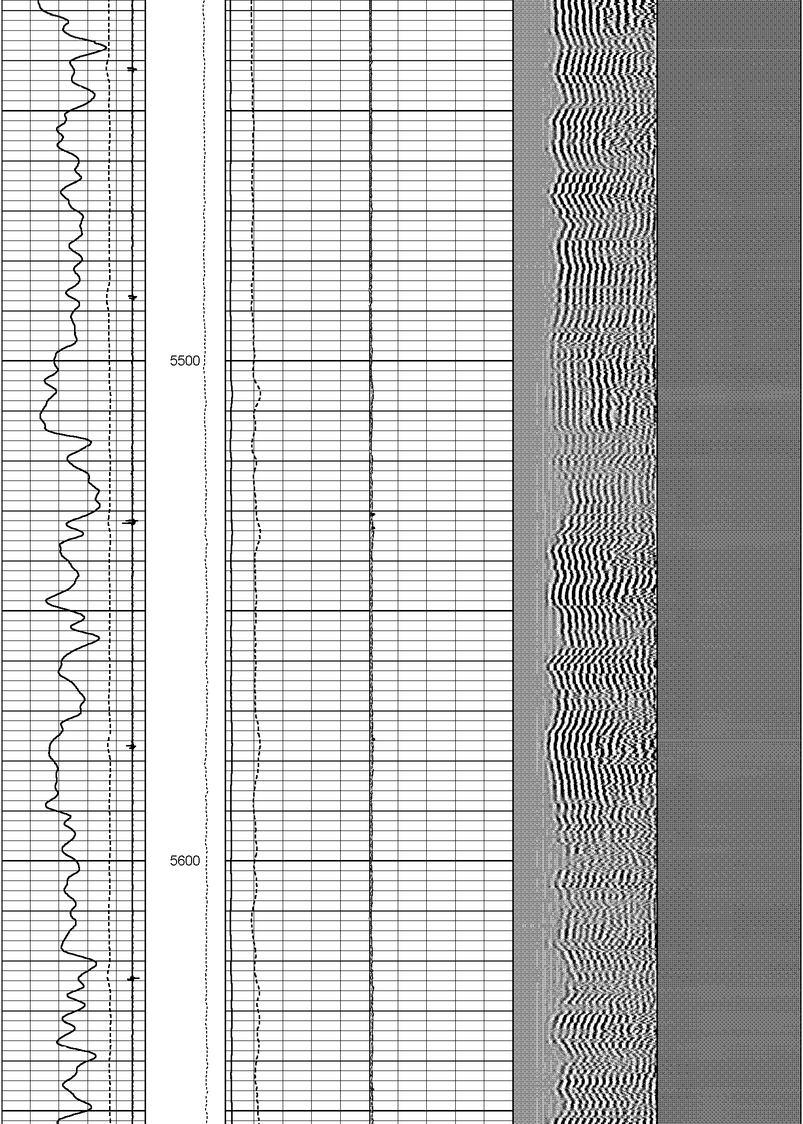


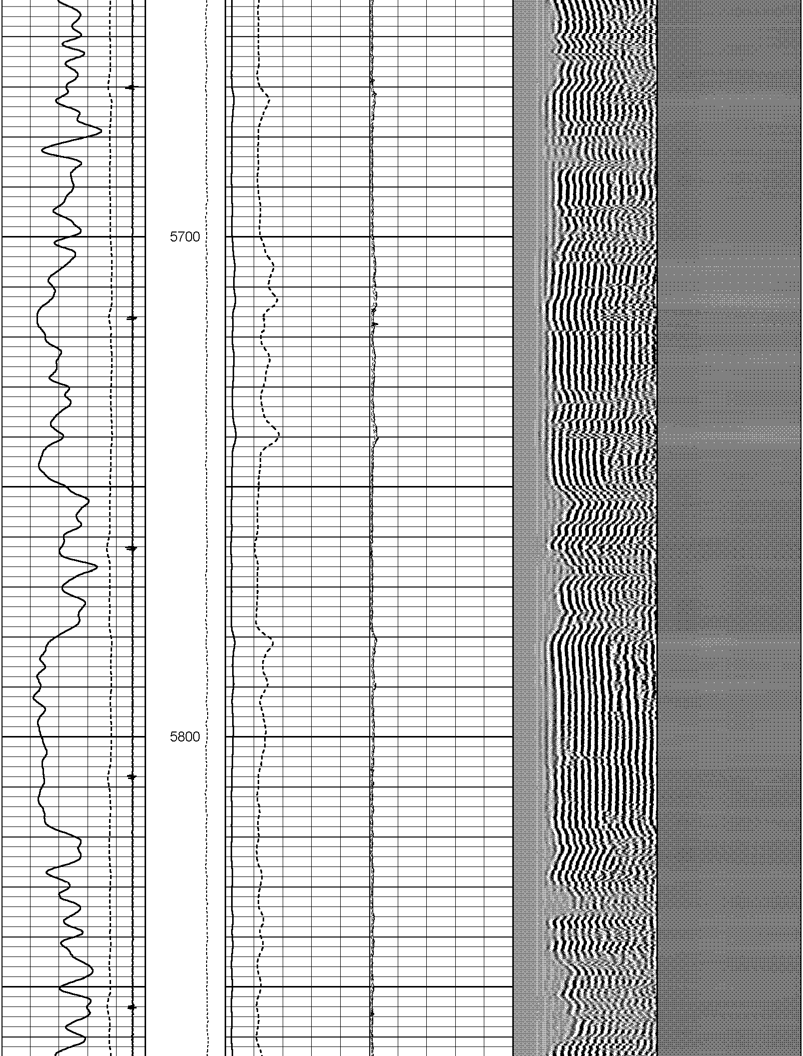


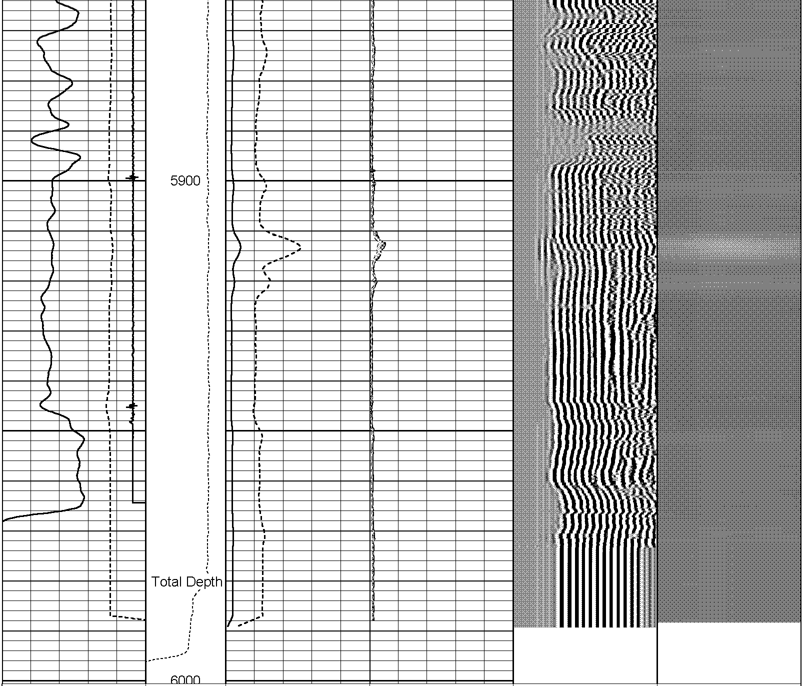








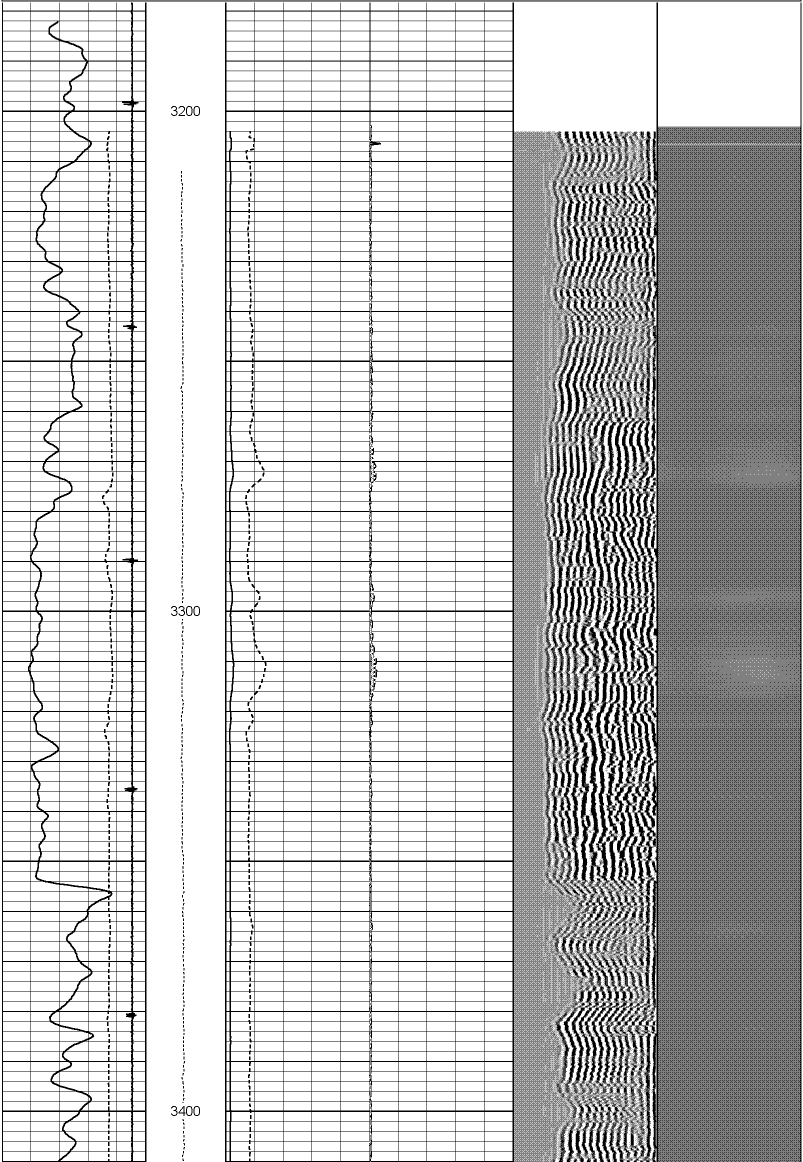




440 TT (usec) 140	TENSION	0 AMP (mV) 100	0 AMPAVG 150	200 MSG 1200	1 SECTORS 8
28100 CCL 16100	0 (lb) 2000	0 AMPx5 (mV) 20	0 AMPMAX 150		1 100
0 GR (GAPI) 200			0 AMPMIN 150		

Database File: c_sr_598_26_av_14_rmt_rbt2.db
Dataset Pathname: BOTH/pass6
Presentation Format: Unknown
Dataset Creation: Wed Jan 23 16:28:58 2008
Charted by: Depth in Feet scaled 1:240

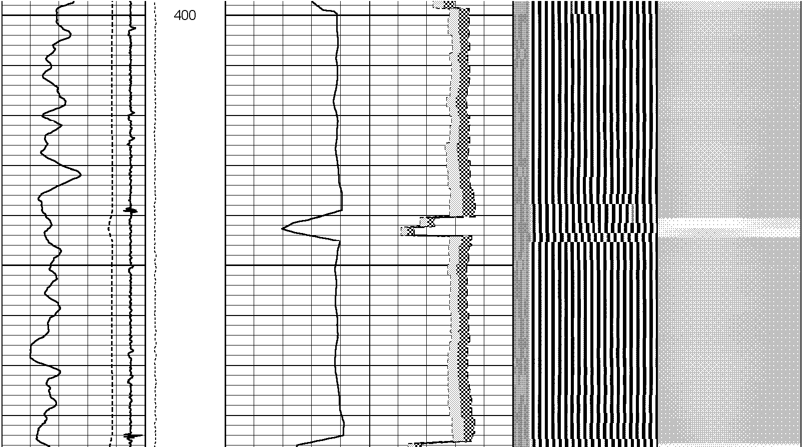
440 TT (usec) 140	TENSION	0 AMP (mV) 100	0 AMPAVG 150	200 MSG 1200	1 SECTORS 8
28100 CCL 16100	0 (lb) 2000	0 AMPx5 (mV) 20	0 AMPMAX 150		1 100
0 GR (GAPI) 200			0 AMPMIN 150		

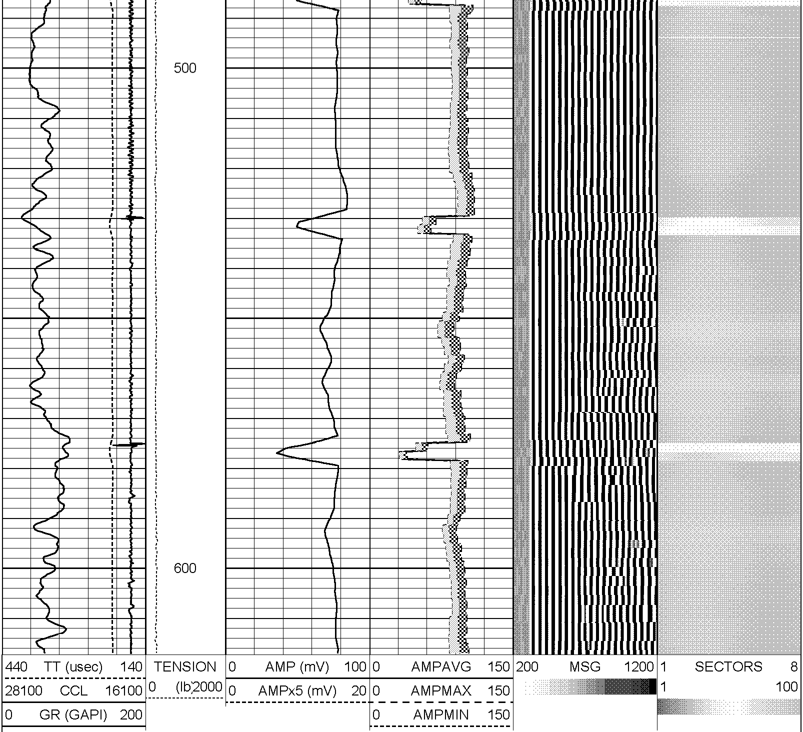


440 TT (usec) 140	TENSION	0 AMP (mV) 100	0 AMPAVG 150	200 MSG 1200	1 SECTORS 8
28100 CCL 16100	0 (lb)2000	0 AMPx5 (mV) 20	0 AMPMAX 150		1 100
0 GR (GAPI) 200			0 AMPMIN 150		

Database File:	c_sr_598_26_av_14_rmt_rbt2.db
Dataset Pathname:	RBT/pass2
Presentation Format:	radial
Dataset Creation:	Wed Jan 23 16:37:38 2008
Charted by:	Depth in Feet scaled 1:240

440 TT (usec) 140	TENSION	0 AMP (mV) 100	0 AMPAVG 150	200 MSG 1200	1 SECTORS 8
28100 CCL 16100	0 (lb)2000	0 AMPx5 (mV) 20	0 AMPMAX 150		1 100
0 GR (GAPI) 200			0 AMPMIN 150		





Calibration Report

Database File: c_sr_598_26_av_14_rmt_rbt2.db
Dataset Pathname: RBT/MAINF
Dataset Creation: Wed Jan 23 16:29:04 2008

Segmented Cement Bond Log Calibration Report

Serial Number: 11002212
Tool Model: 004

Calibration Casing Diameter: 4.500 in
Calibration Depth: 2732.230 ft

Master Calibration, performed Sun Nov 04 15:29:37 2007:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.012	0.761	1.000	81.196	82.000	1.000
5FT	0.007	0.888	1.000	81.196	91.067	0.334
S1	0.015	0.730	0.000	100.000	139.850	-2.084
S2	0.013	0.716	0.000	100.000	142.141	-1.806
S3	0.016	0.755	0.000	100.000	135.300	-2.119
S4	0.012	0.786	0.000	100.000	129.155	-1.573
S5	0.014	0.816	0.000	100.000	124.683	-1.778
S6	0.014	0.826	0.000	100.000	123.188	-1.764
S7	0.017	0.810	0.000	100.000	126.221	-2.182
S8	0.017	0.770	0.000	100.000	132.804	-2.302

Calibration Report

Serial Number:	11002212
Tool Model:	004
Performed:	

	Reference ()	Reading ()
Low:		
High:		
	Gain =	Offset=

Reservoir Monitor Tool Elite Calibration Report

Serial-Model:	U392-A
Shop Calibration Performed:	Thu Nov 01 14:03:59 2007

Linearity Results (Generator Off)

Near Detector 7 Peaks Found

Channel	Amplitude	FWHM
52.36	0.00920	5.00
95.70	0.00462	5.54
108.32	0.00804	7.64
136.66	0.00026	7.78
150.16	0.00029	9.45
182.65	0.00064	9.11
196.39	0.00043	10.98
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00

Near Detector

H Position 52.36 C Position 108.32 FE Position 182.65

Linearity Correction 2.83

Far Detector 7 Peaks Found

Channel	Amplitude	FWHM
52.44	0.01517	5.03
95.76	0.00185	4.59
108.39	0.00599	7.87
138.06	0.00013	4.53
151.09	0.00046	9.45
184.15	0.00049	7.36
196.47	0.00090	10.88
0.00	0.00000	0.00
0.00	0.00000	0.00
0.00	0.00000	0.00

Far Detector

H Position 52.44 C Position 108.39 FE Position 184.15

Linearity Correction 3.48

Carbon/Oxygen Mode

Stabilization

	Reading	Range
GENV	75.18	70 - 100 Volts
RAW ITCR2	3372.00	3000 - 3500 CPS

Near Detector

	Channel	Expected	Amplitude	FWHM
H	47.00	52	0.0332	4.87
FE	200.54	198	0.0922	----
NGAIN =	0.951	NZOFF =	7.305	

Far Detector

	Channel	Expected	Amplitude	FWHM
H	46.97	52	0.0458	5.14
FE	199.06	198	0.0955	----
FGAIN =	0.973	FZOFF =	6.293	

	Result	Expected
COIR2	0.439	0.42 - 0.48
LIRI2	1.387	1.20 - 1.60
RICF	0.8180	0.70 - 0.85
TCCR2	3859.04	3000 - 5000 CPS
ITCR2	3156.70	2000 - 4000 CPS

Capture Mode

Stabilization

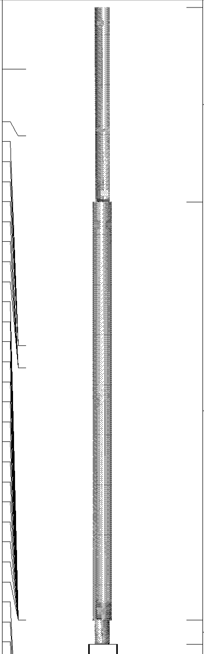
	Reading	Range
GENV	78.09	70 - 100 Volts
FCAP	9975.64	9500 - 10500 CPS

Result	Logged	Expected Value	Diff.	Tol.	Units
Ratio Normalizer	5.05	4.60	0.45	+/- 0.70	
Ratio Inel Norm	1.07	1.00			+/- 0.15
Near Spaced Count	10458.25	10000 - 13000			CPS
Far Spaced Count	10277.37	9000 - 11000			CPS
Sigma Form Near	23.92	23.50	0.42	+/- 1.00	C.U.
Sigma Bore Near	79.27	77.00	2.27	+/- 8.00	C.U.
Sigma Form Far	22.41	22.50	-0.09	+/- 0.50	C.U.
Ratio Near/Far	1.02	1.10	-0.08	+/- 0.15	
Ratio Bore/Form	0.31	0.34	-0.03	+/- 0.04	
Near Error	0.65	<5.00			
Far Error	0.49	<5.00			
Near Background	113.62	<1000			
Far Background	89.60	< 500			
Near Resolving Time	0.904	0.0 - 2.0			
Far Resolving Time	0.848	0.0 - 2.0			

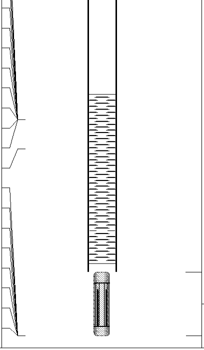
Gamma Ray Calibration Report

Type / Serial: ULTRA_LINK / 214896

	Counts/Sec.	Gain	Offset	Jig	Units
SHOP CALIBRATION	Sat Nov 03 09:02:46 2007				
Background	36.2				cps
Calibrator	191.4				cps
		1.6685			GAPI/cps
PRIMARY VERIFICATION	Sat Nov 03 09:06:36 2007				
Background	62.7				cps
Calibrator	318.5				cps
Difference				255.8	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)
CCL	30.98					
GR	28.73		TTTCU-ULTRA_LINK (214896) Through Tubing Telemetry Cartridge - Ultrawire	6.55	1.69	33.00
FINEL	21.68					
FCAP	21.68					
FBACK	21.68					
TFGT	21.68					
NINEL	20.93					
NCAP	20.93					
NBACK	20.93					
TNGT	20.93					
REPV	12.45					
REPI	12.45					
GENV	12.45					
GENI	12.45					
ISV	12.45					
ISI	12.45		RMTE-A (U392) RMTE	14.06	2.13	77.00
IONI	12.45					
LSHV	12.45					
SSHV	12.45					
ROMTEMP	12.45					
FLASKTEMP	12.45					
CNTL	12.45					
GNCTL	12.45					
SPECSTAT	12.45					
FSTAT	12.45					
WVF3FT	7.28					
WVFS1	7.28		VSS X-over	0.83	1.69	7.00
WVFS2	7.28					

WVFS3	7.28
WVFS4	7.28
WVFS5	7.28
WVFS6	7.28
WVFS7	7.28
WVFS8	7.28
CBLTEMP	7.28
CBLROT	7.28
WVF5FT	6.28
LLMTEN	0.00
XHUTEMP	0.00
XHUCURR	0.00
XHUVOLT	0.00
XHUSTAT	0.00
TSTAMP	0.00
ITEMPX	0.00
HVOLTX	0.00



RBT-004 (11002212) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
INLINE ROLLER CENTRALIZER	2.15	1.44	1.10

Dataset:	c_sr_598_26_av_14_rmt_rbt2.db: field/well/RBT/MAINF
Total Length:	33.07 ft
Total Weight:	258.10 lb
O.D.	3.13 in

Company	CHEVRON USA INC.		
Well	SKINNER RIDGE 598-26-AV-14		
Field	SKINNER RIDGE		
County	GARFIELD	State	CO

HALLIBURTON

RADIAL CEMENT
BOND LOG
DEPTH CORRECTED