HALLIBURTON

Cement Bond Log

Company	Mineral Resources		
Well	Ehrlich Motors D8		
Field	Wattenberg		
County	Weld	State	Colorado

Company Mineral Resources
Well Ehrlich Motors D8
Field Wattenberg
County Weld State Colorado
API No.: 05-123-24989-00 Serv #:
Location: SHL:350' FNL & 1278' FEL NE NE
Sec. 20, Twp. 5N, Rge. 65 W
BHL: 54' FSL & 1349' FEL SE SW
Sec: 17 Twp:5N Rge: 65W

Other Services
Perforate

Permanent Datum	GL	Elevation		Elevation
Log Measured From	KB	, Ft. above perm. datum		K.B. 4690'
Drilling Measured From	KB			D.F. 4689' G.L. 4674
Date @ Time Logged	21-May-2007	Type Fluid in Hole		Water
Run No.	1	Density of Fluid		
Depth - Driller	7840	Fluid Level		Surface
Depth - Logger	7834	Cement Top Est. Logged		3110'
Bottom - Logged Interval	7800	Equipment / Location		/
Top - Log Interval	2550	Recorded by		Brian Bentley
Max. Recorded Temp.	Not recorded	Witnessed by		Ed Martin
CEMENTING DATA	Surface	Protection	Production	Liner
	String	String	String	
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.	/	/	/	/

Run Number	Borehole Record			Casing & Tubing Record			
	Bit	From	To	Size	Weight	From	To
1	8.75"	7320	479	4.5"	13.5	7320	Surface

<<< Fold Here >>>

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

Top of Cement found at 3110'
CBL logged with 1000 psi pressure applied to casing.
Log Correlated to PSI log dated 4/25/2007.
Log was tied in at bottom, but drifted 2-3 feet off by the end of the logging interval at 3110 ft.

Thank you for using Halliburton.

Service Ticket No. 5096393 API No. 05-123-24965-00 PGM Ver

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

EQUIPMENT DATA

Run No.	1	Run No.		Run No.		Run No.	
Serial No.	07054	Serial No.		Serial No.		Serial No.	
Model No.	Probe CBL	Model No.		Model No.		Model No.	
Diameter	2.75"	Diameter		Diameter		Diameter	

LOGGING DATA

General Data

Pass	Depths		Well Head	Speed	Logging Run Comments
No.	From	To	Pressure	Ft/Min	
1	8182'	3780'	0	75	

Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L

DIRECTIONAL INFORMATION

Maximum Deviation		deg. @		KOP	

HALLIBURTON

Main Pass

5"=100'

Database File: mr_ehrlich_motors_d8.db
Dataset Pathname: pass4
Presentation Format: probebbp
Dataset Creation: Mon May 21 14:09:18 2007 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

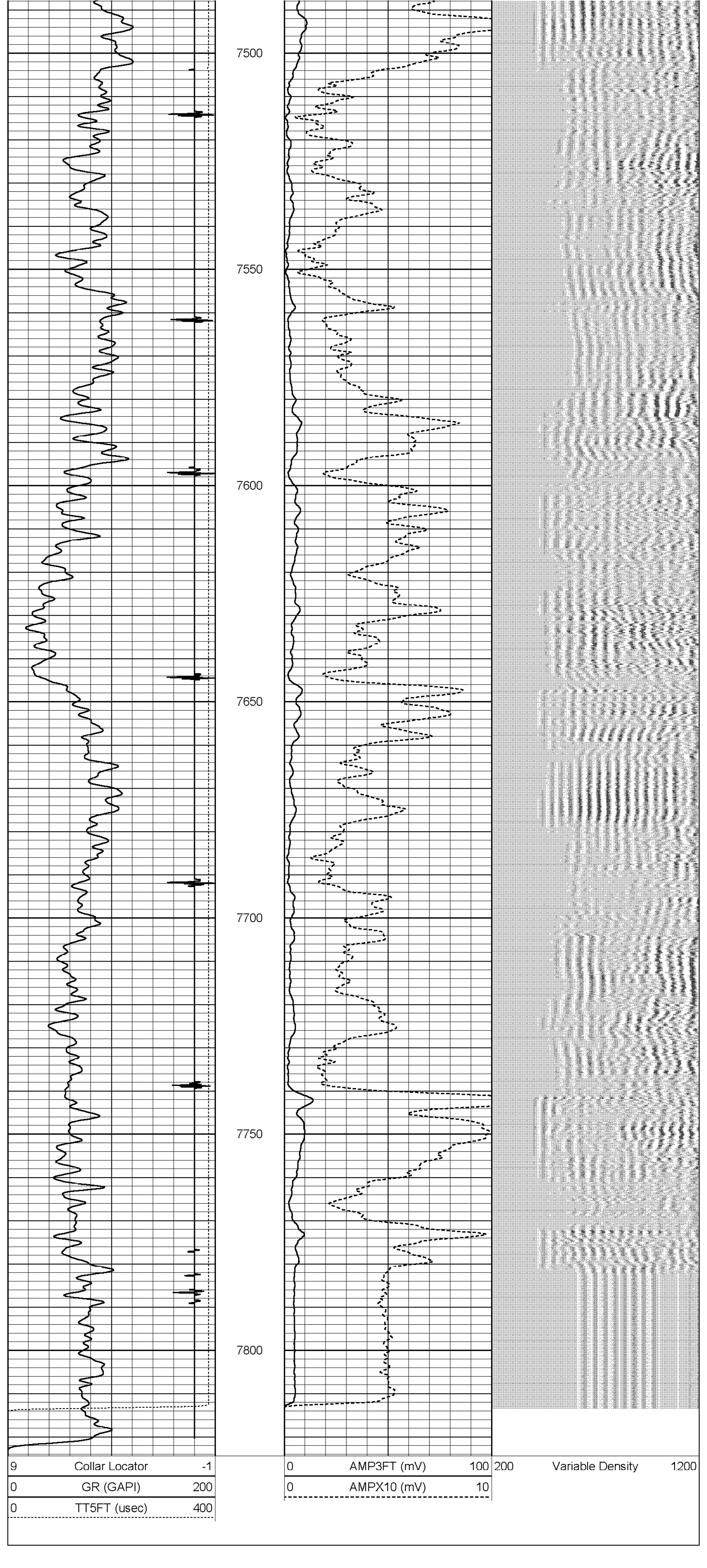
9	Collar Locator	-1
0	GR (GAPI)	200
0	TT5FT (usec)	400

0	AMP3FT (mV)	100
0	AMPX10 (mV)	10

200	Variable Density	1200

HALLIBURTON	Main Pass 5"=100'

Database File: mr_ehrlich_motors_d8.db
Dataset Pathname: pass3
Presentation Format: probebbp
Dataset Creation: Mon May 21 14:02:15 2007 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240



Log Variables

Database:C:\Warrior\Data\mr_ehrlich_motors_d8.db
Dataset: field/well/run1/pass4

Top - Bottom

PPT usec	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV	MINATTN db/ft	CASEOD in	PERFS	TDEPTH ft
0	13.8	82	1	0.8	4.5	0	0
BOTTEMP degF	**BOREID** in						
100	7.875						

Calibration Report

Database File: mr_ehrlich_motors_d8.db
Dataset Pathname: pass4
Dataset Creation: Mon May 21 14:09:18 2007 by Log Halliburton Casedho

Gamma Ray Calibration Report

Type / Serial: probe275dig / pr050806

SHOP CALIBRATION Fri May 18 10:11:01 2007

	Counts/Sec.	Gain	Offset	Jig	Units
Background	116.4				cps
Calibrator	481.8				cps
		0.6651			GAPI/cps

PRIMARY VERIFICATION Fri May 18 10:14:11 2007

Background	77.7				cps
Calibrator	320.3				cps
Difference				242.6	GAPI

BEFORE SURVEY VERIFICATION Fri May 18 10:17:30 2007

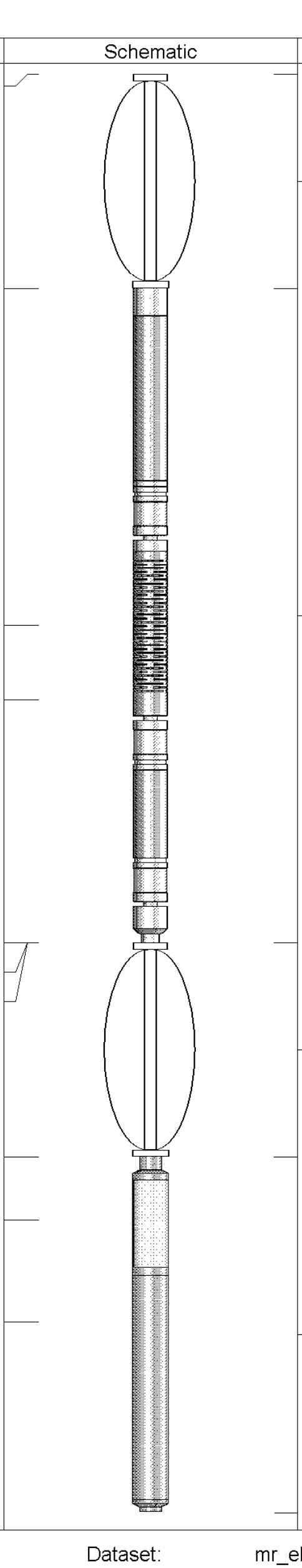
Background	76.6				cps
Calibrator	320.4				cps
Difference				243.9	GAPI

AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

CBL Calibration Report

Serial Number:	040201	
Tool Model:	PRB275_Dig	
Performed:	Mon May 21 15:00:16 2007	
Depth:	293.266	ft
Casing Diameter:	4.500	in
	3' Spacing	
Signal Zero:	0.000	mV
Calibrated Amplitude:	81.196	mV
Reading at Signal Zero:	0.001	V
Reading in Free Pipe:	0.621	V
Gain:	150.117	
Offset:	-0.042	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CENT	19.25					
			Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
CBL_PRB275D	16.38					
WVF3FT	11.88		CBL_PRB275D-PRB275_Dig (040201) Probe 2 3/4" Digital 3' & 5' Bond - Move voltage to +/- 150 for cal mode	8.75	2.75	92.00
WVF5FT	10.88					
ProbeHV	7.63					
IntTemp	7.63					
CENT	7.63					
			Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
GR_PRB275	4.75					
CCL	3.92					
GR	2.54		GR_PRB275-probe275dig (pr050806) Probe Digital Gamma CCL	4.75	2.75	57.00

Dataset: mr_ehrlich_motors_d8.db: field/well/run1/pass4
Total Length: 19.25 ft
Total Weight: 189.00 lb
O.D. 2.75 in