From: Jesse Gagliano
Sent: Mon Mar 08 16:33:56 2010
To: Hafle, Mark E; Morel, Brian P
Cc: Cocales, Brett W
Subject: OptiCem Run
Importance: Normal
Attachments: image003.jpg; image002.jpg; image001.jpg; Pilot Test BC19-65112.3.pdf

Below are the ECD graphs for setting the 11 7/8" Liner @ 15500'. The parameters used to run the simulations are

Mud Weight – 14.3 ppg
Spacer – 14.5 ppg
Cement – Base weight 16.74 ppg, foamed to 14.5 ppg
TOC – 17900'

I've updated the RPMs for the cement with the data from the pilot test and added a cap cement (un-foamed) about 5 bbls ahead to this model I've attached the lab test for your review. Let me know if you have any questions. Thanks!!

ECD Graph @ Previous Shoe with 20 bbls base oil ahead

ECD Graph @ 17900' with 20 bbls base oil ahead

ECD Graph @ TD with 20 bbls base oil ahead

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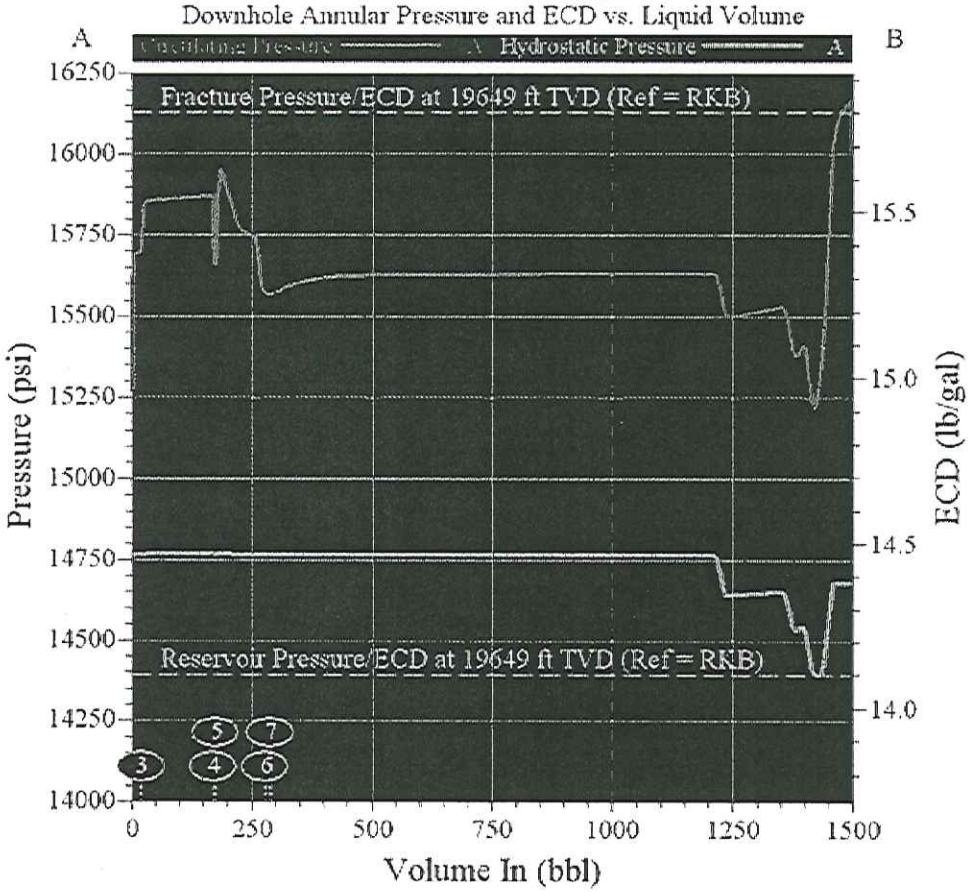
message.

OptiCem

Circulating Pressure and Density at Fracture Zone

Downhole Annular Pressure and ECD vs. Liquid Volume



Fluids Pumped

2. 8 ppg Base Oil
3. Macondo TS3
4. Macondo Foamed Slurry - 16.74 ppg
5. Macondo Foamed Slurry - 16.74 ppg
6. Macondo TS3
7. (Composite) SBM

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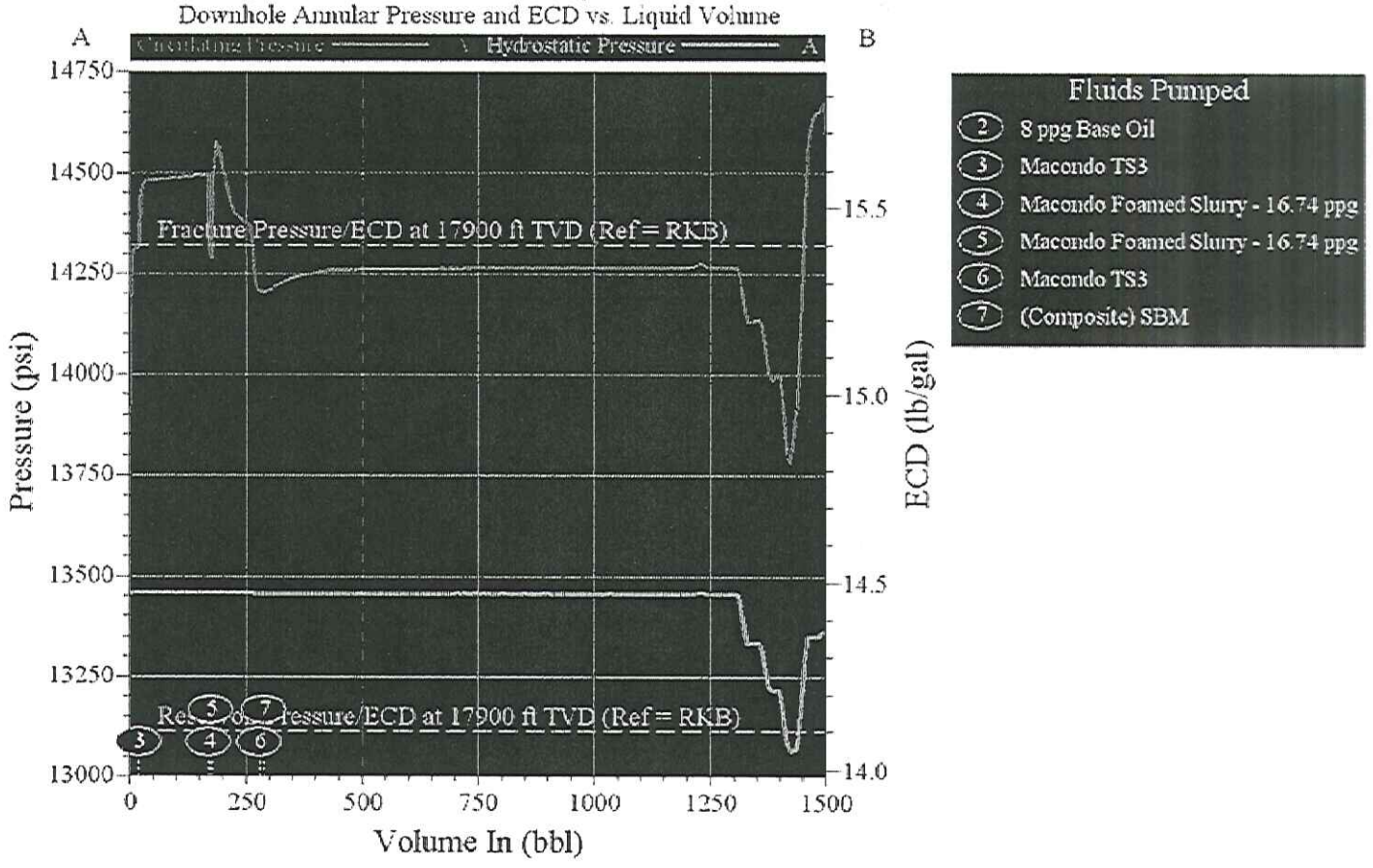
Circulating Pressure and Density at Fracture Zone



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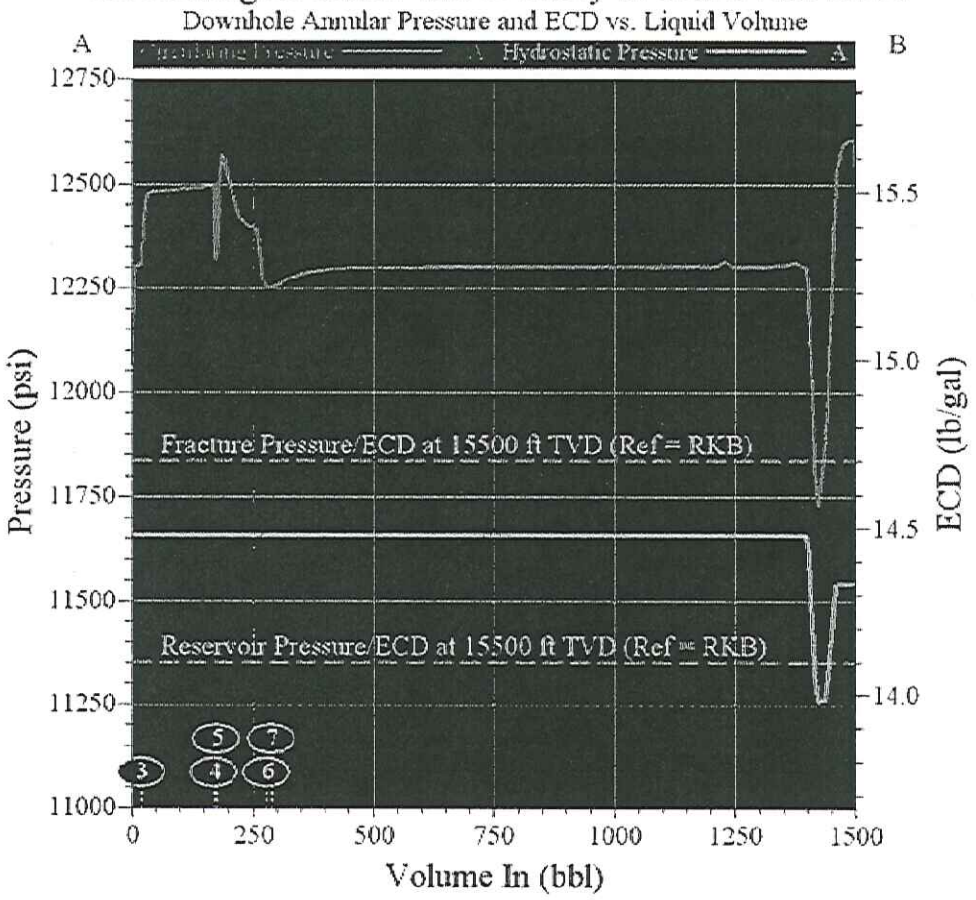
Circulating Pressure and Density at Reservoir Zone



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HALLIBURTON

Cementing Gulf of Mexico, Broussard

LAB RESULTS - Lead

Job Information

Request/Slurry	65112/3	Rig Name	TRANSOCEAN HORIZON	Date	February 10th 2010
Submitted By	Jesse Gagliano	Job Type	Production Casing	Bulk Plant	Fourchon-C-Port I, La, USA
Customer	BP	Location	Mississippi Cny	Well	Mississippi Canyon 252 OCS-G-32306 Macondo #1

Well Information

Casing/Liner Size	9 5/8"	Depth MD	19650 ft	BHST	262 F
Hole Size	12 1/4"	Depth TVD	19650 ft	BHCT	223 F

Drilling Fluid Information

Mud Company	MI	Type	SOBM	Density	14.6 PPG	PV/YP	

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	16.741	PPG
						Slurry Yield	1.37	FT3
100.00	% BWOC	Lafarge Class H	Bulk	Dec 29, 2009	LOCATION	Water Requirement	4.84	GPS
						Total Mix Fluid	5.04	GPS
0.07	% BWOC	EZ-FLO	Bulk	Dec 29, 2009	BLENDED	Foam Density	14.496	PPG
0.25	% BWOC	D-Air 3000	Bulk	Dec 29, 2009	BLENDED	Foam Quality	12.98	%
1.88	lb/sk	KCl (Potassium Chloride) Salt	Bulk	Dec 29, 2009	BLENDED	Water Source	Fresh Water	
20.00	% BWOC	SSA-1 (Silica Flour) - PB	Bulk	Dec 29, 2009	BLENDED	Water Chloride	N/A	ppm
15.00	% BWOC	SSA-2 (100 Mesh) - PB	Bulk	Dec 29, 2009	BLENDED			
0.20	% BWOC	SA-541	Bulk	Dec 29, 2009	BLENDED			
0.11	gps	ZoneSealant 2000	Lab	Mar 15, 2009				
0.20	gps	SCR-100L	Lab	Dec 23, 2008	2117			
4.84	gps	Fresh Water	Lab	Jan 18, 2010				

Operation Test Results Request ID 65112/3

Thickening Time, Request Test ID:722097

Temp (°F)	Pressure (psi)	Batch Mix (min)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)
223	15,945	0	89	7	04:57	04:58	04:59	05:00

Mud Balance Density, Request Test ID:722106

Density (ppg)

16.5

Mixability (0 - 5) - 0 is not mixable, Request Test ID:722100

Mixability rating (0 - 5)

5

Foam Mix and Stability, Request Test ID:727534

SG top	SG bot.	Conditioning time (hrs:min)
1.91	1.91	00:00

FYSA Viscosity Profile & Gel Strength, Request Test ID:722102

Test Temp (°F)

80

foamed fysa rpms 22 8 5 3 2 2 2 1 3d= 0 6d = 0

Non API Rheology, Request Test ID:722103

Test temp (°F)	600	300	200	100	60	30	20	10	6	3
80	120	58	36	16	8	4	2	2	2	2

Non API Rheology, Request Test ID:722104

Test temp (°F)	600	300	200	100	60	30	20	10	6	3
130	56	28	18	8	4	2	2	2	2	2

Non API Rheology, Request Test ID:722105

Test temp (°F)	600	300	200	100	60	30	20	10	6	3
190	192	108	66	34	20	10	6	2	2	2

UCA Comp. Strength, Request Test ID:722098

End Temp (°F)	Pressure (psi)	50 psi (hh:mm)	500 psi (hh:mm)	12 hr CS (psi)	24 hr CS (psi)	48 hr CS (psi)
262	15,945	02:28	02:42	1,829	1,872	1,946

Crush Compressive Strength, Request Test ID:727535

Time 1 (hrs)	Strength 1	Time 2 (hrs)	Strength 2	Time 3 (hrs)	Strength 3	Time 4 (hrs)	Strength 4	Foam quality
12	0	24	0	36	0	48	0	0

60 hr c/s = 0 72 hr c/s = 0 84 hr c/s = 0 96 hr c/s = 1145