

**Appendix J.** Halliburton Lab  
Results - #73909/2

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# HALLIBURTON

## Cementing Gulf of Mexico, Broussard

## LAB RESULTS - Primary

### Job Information

Request/Slurry	73909/2	Rig Name	TRANSOCEAN HORIZON	Date	April 12th 2010
Submitted By	Jesse Gagliano	Job Type	9 7/8" X 7" Prod 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	7"	Depth MD	18360 ft	BHST	210 F
Hole Size	9 7/8"	Depth TVD	18360 ft	BHCT	135 F

### Drilling Fluid Information

Mud Company	MI	Type	SOBM	Density	14,1 PPG	PV/YP
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### Cement Information - Primary 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	Rig	Apr 05, 2010	Tank # 8	Water Requirement	4.93 GPS
						Total Mix Fluid	5.02 GPS
0.07	% BWOC	EZ-FLO	Rig	Apr 05, 2010		Foam Density	14.496 PPG
0.25	% BWOC	D-Air 3000	Rig	Apr 05, 2010		Foam Quality	12.98 %
1.88	lb/sk	KCl (Potassium Chloride) Salt	Rig	Apr 05, 2010		Water Source	Fresh Water
20.00	% BWOC	SSA-1 (Silica Flour) - PB	Rig	Apr 05, 2010		Water Chloride	N/A ppm
15.00	% BWOC	SSA-2 (100 Mesh) - PB	Rig	Apr 05, 2010			
0.20	% BWOC	SA-541	Rig	Apr 05, 2010			
0.11	gps	ZoneSealant 2000	Lab	Mar 15, 2009			
0.09	gps	SCR-100L	Lab	Oct 22, 2009	6264		
4.93	gps	Fresh Water	Lab	Apr 12, 2010	FRESH WATER		

### Operation Test Results Request ID 73909/2

#### Thickening Time, Request Test ID:812338

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)
135	14,458	83	14	07:25	07:34	07:36	07:37

#### Mud Balance Density, Request Test ID:811529

Density (ppg)

16.7

from part 1

#### Mixability (0 - 5) - 0 is not mixable, Request Test ID:811524

Mixability rating (0 - 5)

4

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**UCA Comp. Strength, Request Test ID:811522**

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)
210	14,458	08:12	08:40	2,301	2,966	3,099

Circulate before pouring C.S. for 3 Hrs

**Operation Test Results Request ID 73909/1****Crush Compressive Strength, Request Test ID:806069**

Curing Temp (°F)	Time 1 (hrs)	Strength 1	Time 2 (hrs)	Strength 2	Time 3 (hrs)	Strength 3	Foam quality
180	12	0	24	0	48	1,590	0

Condition for 1.5 hrs

**FYSA Viscosity Profile & Gel Strength, Request Test ID:806074****Test Temp (°F)**

80

600=14, 300=7, 200=5, 100=3, 60=1, 30=1, 6=1, 3=1.... 6D=1, 3D=1

**Non API Rheology, Request Test ID:806075**

Test temp (°F)	600	300	200	100	60	30	20	10	6	3
80	180	84	56	28	26	8	6	4	2	2

**Non API Rheology, Request Test ID:806076**

Test temp (°F)	600	300	200	100	60	30	20	10	6	3
135	130	56	40	20	12	8	6	4	4	2

**Foam Mix and Stability, Request Test ID:813603**

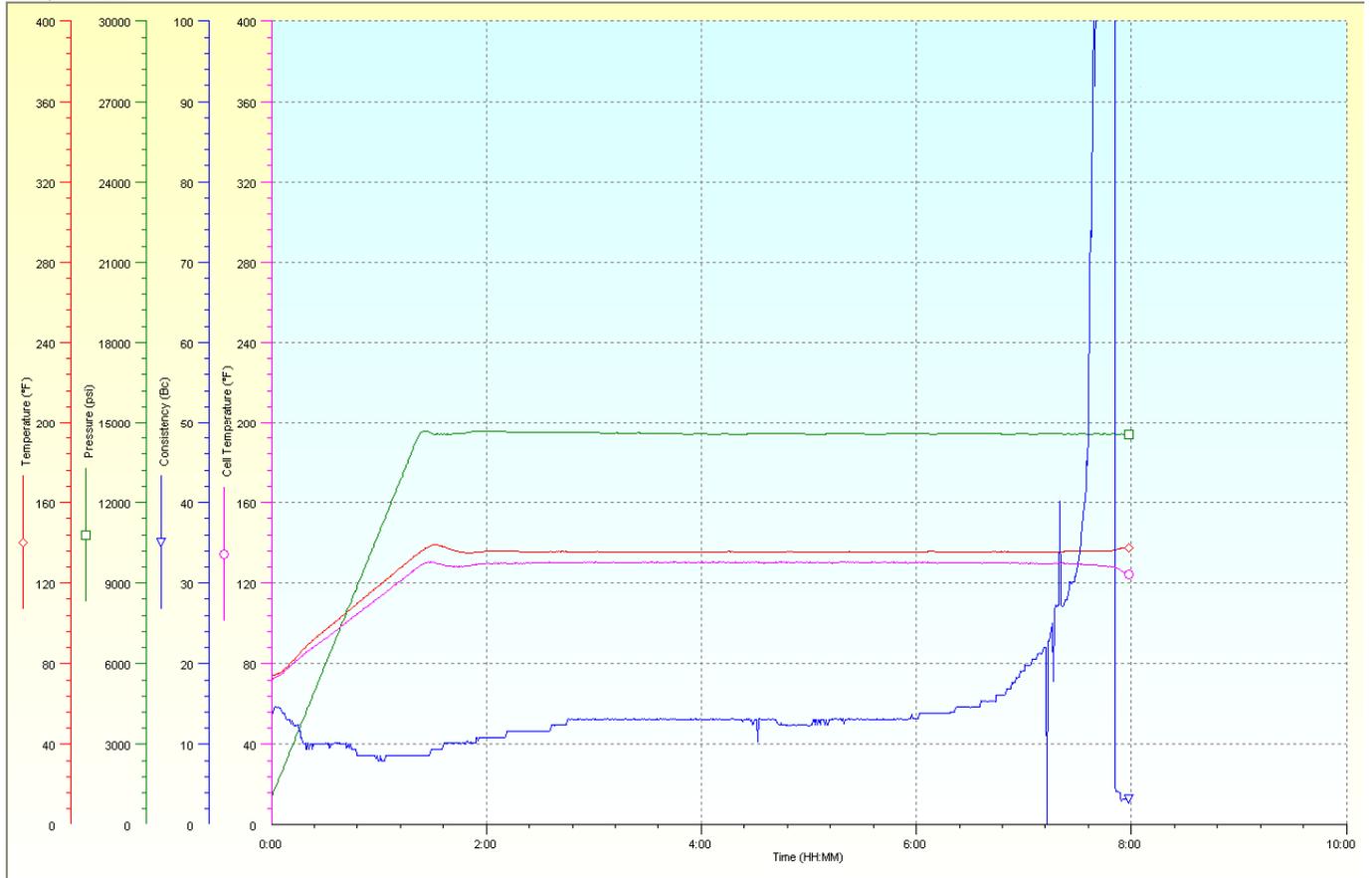
Time to Foam [Sec]	SG top	SG bot.	Conditioning time (hrs:min)
8	1.8	1.8	03:00

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Temperature: 137 °F  
Cell Temperature: 124 °F

Pressure: 14503 psi

Consistency: 3 Bc

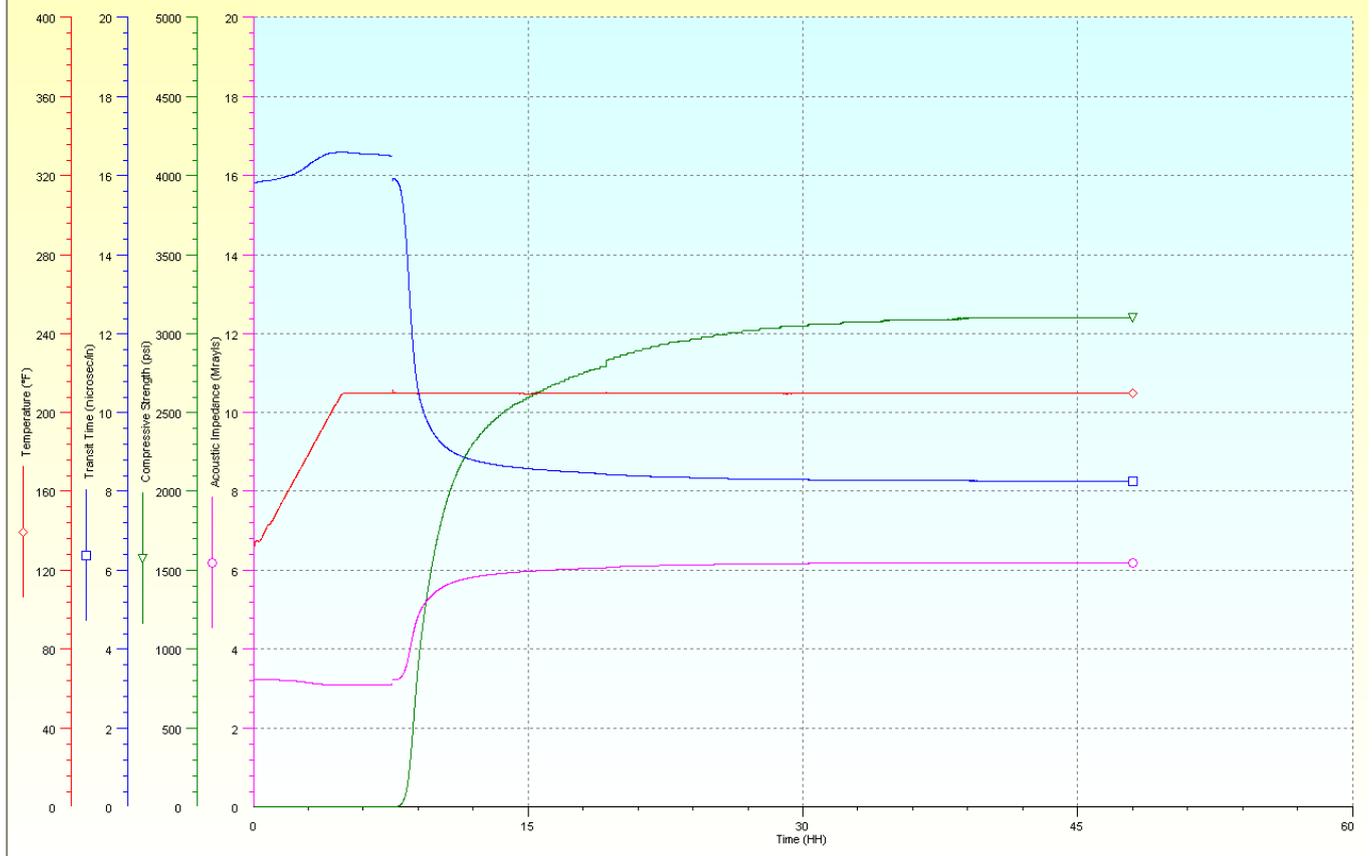


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Well ID:  
Temperature: 210 °F  
Transit Time: 8.24 microsec/in

Customer:  
Strength: 3099 psi  
Compressive strength type B (more than 14 lb/gal)

50 psi @ 8:12:00  
500 psi @ 8:40:30



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