

N₂ CMT
SUMMARY

N₂ JOB SUMMARIES

General Info:	Units	Macondo	Isabella	King South	Nakika H2
date		4/29/2010	4/13/2007	4/19/2009	7/4/2009
slurry density	ppg	16.74	16.94	16.74	16.74
slurry yield	gal / sx	1.37	1.32	1.04	1.04
foam density	ppg	14.5	13.9	14	14.5
foam yield	gal / sx	1.69	1.73		
N ₂	scf / bbl	584	719	?	411
Final ESD	ppg	14.17	12.9		12.3
TVD	ft	18304	19187		16600
Annular Hydrostatic Estimate	psi	13487	12871		10617
Calculated Foam Quality (bbl N ₂ / bbl cement at downhole)		18.9%	23.7%		
Recipe:					
EZ Flo (bulk flow enhancer)		0.07%	0.07%	0.07%	0.07%
SSA-1 (silica flour)		20%	20%		
SSA-2 (silica flour)		15%	15%		
Zonesealant 2000 (Foamer)	gal / sx	0.11	0.14	0.11	0.11
HR-6L (retarder)	gal / sx		0.07		
SCR-100L (Retarder)	gal / sx	0.09		0.03	0.07
Fresh Water (Mixing Fluid)	gal / sx	5.13	7.74		3.921
KCL (Clay Control)	lb / sx	1.88		1.88	1.8
WellLife 734 (LCM)	lb / sx	1		1	0.2
Premium Cement (Cement)	lb / sx			94	94
Premium Cement (Cement) - Class H	lb / sx				
D-air 3000		0.25%			
SA-541 (high temp suspension / viscofier)		0.20%			

N₂ OPERATION SUMMARIES

date of job: 19-Apr-2008 MC 129 #3 (King South) 9-7/8"

Sequence	Operation	Vol	Density	Foam Den	Yield	scf / bbl	rate bpm	Comments
1	spacer	5	11					
2	spacer	100	11					
3	lead	2	16.74		1.04			
4	drop btm dart							
5	lead	8	16.74		1.04			
6	foam tail	76	16.74	14	1.04			
7	shoe cmt	13.8	16.74		1.04			
8	drop top dart							
9	spacer	15	11					
10	CaCl ₂	462					10	
11	mud	87	10.5					
12	bump bleed 1900 psi and 2-1/2 bbls back							

date of job: 4-Jul-2009 MC 520 H2 (Nakika) 9-7/8"

Sequence	Operation	Vol	Density	Foam Den	Yield	scf / bbl	rate bpm	Comments
1	base oil	100	6.5				5	complete lost returns at 2.5 bpm
2	spacer	67		11.7		945	4	
3	drop btm dart							
4	lead	14.3	16.74		1.04			
5	foamed tail	99.7		14.5	1.26	411		
6	shoe cmt	21.3	16.74		1.04			
7	drop top dart							
8	cement	8						
9	spacer				16			
10	CaCl	12					5	
11	CaCl	129	10.2					
12	CaCl	549	10.2					
13	spacer	22	11					
14		182						
15	did not bump plug. Displaced 7 bbls over. Bled back 1.5 bbls. Floats holding.							

lost 2291 bbls during cement job
cement contamination obs with bond log

date of job: 13-Apr-2007 Isabela 10-3/4" x 9-7/8"

Sequence	Operation	Vol	Density	Foam Den	Yield	scf / bbl	rate bpm	Comments
1	spacer	100	13.3					
2	lead	10	16.9					
3	drop btm dart							
4	lead	208.1		13.9	1.73	719		
5	tail	26	16.9		1.32			
6	drop top dart							
7	mud	10	12.9					
8	mud	180	12.9				6	
9	mud	982	12.9					958 bls (HES post report) vs 982 bbls DIMS
10	bumped plug 1590 psi. Press increased to 1950psi. Bled to zero with 7 bbls back. Floats holding.							

date of job: 19-Apr-2010

Sequence	Operation	Vol	Density	Foam Den	Yield	scf / bbl	rate bpm	Comments
1	base oil	7	6.7					
2	spacer	10	14.3					tested lines to 5k. was this included in the following 62 bbl vol????
3	spacer	62	14.3				4	
4	Class H cmt	4	16.7		1.37		2	
5	drop dart #1							
6	Class H cmt	4	16.7		1.37		2	
7	N ₂ Foam cmt	48	16.7	14.5	1.69	584		39 bbl cmt & 48 bbls once foamed
8	Class H cmt	4	16.7		1.37			
9	spacer	0	14.3					3 bbls displace surface lines from cmt unit to wellhead
10	drop dart #2							
11	spacer	20	14.3					(3 bbls to clear lines + drop dart + 17 bbls per DIMS)
12	mud	133	14.0					with cement unit
13	bottom dart to diverter							43 bbls to diverter, 3500 psi sheared
14	bottom dart to DTD							150 bbls to DTD, 3250 psi sheared
15	no indication of bottom plug shear							
16	top dart to diverter							100 bbls to diverter, 3200 psi sheared
17	top dart to DTD							109 bbls pumped, 3400 psi sheared
18	top dart to plug							119 bbls, 3300 psi sheared
19	switch to rig pumps							
20	mud	727	14				4	530 psi circ rate.
21	bottom plug to XO							469 bbls at 330 psi
22	top plug to XO							523 bbls at 590 psi
23	bottom plug landed FC							673 bbls at 2932 psi
24	top plug to land FC							727 bbls at 740 psi over circ press
25	bled press to 0 psi with 5 bbls back							