13.8 Drilling Fluids Program

MÌ SWACO	7124/4-1 HEILO	DRILLING FLUIDS PROGRAM	Prepared by:	Bjørn Rørvik		Date :	16.08.2011	
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		REVISION NO:	:	Approved date/by:				

42" Section - FLUIDS Seawater - Bentonite / Bentonite

Depth meters	FLUID TYPE	MW SG	FV s										PRODUCT USAGE TYPE	UNIT	SWEEPS	DISPL	TOT UNITS	VOLUMES	m³
342	SWEEPS	1,05	> 100										Bentonite, OCMA	MT	0,075		10	DISPL. VOL:	84
													Freshwater	m³	0,969		120	KILL FLUID VOL:	100
	DISPL. FLUID	1,30											Soda Ash	kg	1,5		200	SWEEP VOL:	120
405	COMMENTS:																	CASING VOL:	
	The section will be drilled using sea water - pumping hivis sweeps. Mix hivis Bentonite sweeps according to programmed specifications. Prehydrate Bentonite in fresh water for at least 6 hours before blending with sea water. Pump 7-10 m3 hivis pills every 10 m drilled (2-3 pills per stand). At TD sweep the hole by pumping a 30 m3 hivis pill before displacing the hole to 1,30 sg Bentonite fluid by pumping 1,3 - 1,5 times the hole volume. Also sweep the hole hole by pumping 30 m3 hivis at TD if a wiper trip is required. Prepare at least 100 m3 of 1,30 sg displacement fluid, add 3-5 kg/m3 of CMC-HV to the displacement fluid in order to provide extra fluid loss control. As a contingency in case bulk Bentonite can not be used - or time don't allow to mix Bentonite mud. 8 - 16 kg/m3 CMC-EHV in Sea Water is a sacked alternative for sweeps.												Bentonite, OCMA	MT		0,075	10	OPEN HOLE:	56
													Freshwater	m³		0,626	120	TOTAL HOLE VOL:	56
													Soda Ash	kg		1,5	200	TOT. VOL. REQ.:	361
													Seawater	m³		0,173	30	RECEIVED VOL:	361
													Barite	MT		0,720	130	NEW MUD VOL:	361
																		MUD LEFT VOL:	100
	SEE DETAILED PROCEDURES IN DETAILED DRILLING FLUIDS PROGRAM AND IN THE M-I NORWAY OPERATIONAL PROCEDURE MANUAL												CMC EHV	kg		as req		TRANSFERRED OUT VOL:	100
Length: 63													Volume exported	m³		(Kill fluid to next section)	100		
													Volume imported	m³					

9 7/8" Section - FLUIDS Seawater - Bentonite / Bentonite

Depth meters	FLUID TYPE	MW SG	FV s										PRODUCT USAGE TYPE	UNIT	SWEEPS	DISPL	TOT UNITS	VOLUMES	m³
405	SWEEPS	1,05	> 100										Bentonite, OCMA	MT	0,075		10	DISPL. VOL:	41
													Freshwater	m³	0,969		170	KILL FLUID VOL:	100
	DISPL. FLUID	1,30											Soda Ash	kg	1,5		270	SWEEP VOL:	180
029	COMMENTS:																	CASING VOL:	
	The section will be drilled using sea water - pumping hivis sweeps. Mix hivis Bentonite sweeps according to programmed specifications. Prehydrate Bentonite in fresh water for at least 6 hours before blending with sea water. Pump 7-10 m3 hivis pills every 10 m drilled (3 pills per stand). At TD sweep the hole by pumping a 20 m3 hivis pill before displacing the hole to 1,30 sg fluid by pumping 1,3 - 1,5 times the hole volume. (Consider using CMC for the displacementfluid)Also sweep the hole hole by pumping 20 m3 hivis at TD if a wiper trip is required. Prepare at least 70 m3 of 1,30 sg displacement fluid. Prepare 100 m³ with 1.60 sg KCL kill fluid. To be used as displacement fluid in 17 1/2" section. As a contingency in case bulk Bentonite can not be used - or time don't allow to mix Bentonite mud. 8 - 16 kg/m3 CMC-EHV in Sea Water is a sacked alternative for sweeps.												Bentonite, OCMA	MT		0,075	3	OPEN HOLE:	21
													Freshwater	m³		0,626	30	TOTAL HOLE VOL:	21
													Soda Ash	kg		1,5	100	TOT. VOL. REQ.:	321
													Seawater	m³		0,235	10	TRANSFERRED IN VOL:	100
													Barite	MT		0,458	20	NEW MUD VOL:	221
																		MUD LEFT VOL:	100
	SEE DETAILED PROCEDURES IN DETAILED DRILLING FLUIDS PROGRAM AND IN THE M-I NORWAY OPERATIONAL PROCEDURE MANUAL												CMC EHV	kg		as req		TRANSFERRED OUT VOL:	100
Length: 424													Volume exported	m³		(Kill fluid to next section)	100		
													Volume imported	m³		(Kill fluid)	100		

17 1/2" Section - FLUIDS Seawater - Bentonite / Bentonite

Depth meters	FLUID TYPE	MW SG	FV s										PRODUCT USAGE TYPE	UNIT	SWEEPS	DISPL	TOT UNITS	VOLUMES	m³
405	SWEEPS	1,05	> 100										Bentonite, OCMA	MT	0,075		40	DISPL. VOL:	137
													Freshwater	m³	0,969		470	KILL FLUID VOL:	100
	DISPL. FLUID	1,30											Soda Ash	kg	1,5		700	SWEEP VOL:	480
029	COMMENTS:																	CASING VOL:	27
	The section will be drilled using sea water - pumping hivis sweeps. Mix hivis Bentonite sweeps according to programmed specifications. Prehydrate Bentonite in fresh water for at least 6 hours before blending with sea water. Pump 7-10 m3 hivis pills every 10 m drilled (2-3 pills per stand). At TD sweep the hole by pumping a 30 m3 hivis pill before displacing the hole to 1,30 sg fluid. Prepare the open hole displacement fluid with 80-100kg/m3 KCL for increased inhibition. Have enough brine left to prepare a new open hole volume if a wiper trip is required. Also sweep the hole hole by pumping 30 m3 hivis at TD if a wiper trip is required. Prepare at least 230 m3 of 1,30 sg displacement fluid, use Kill mud and out weight with DV. As a contingency in case bulk Bentonite can not be used - or time don't allow to mix Bentonite mud. 8 - 16 kg/m3 CMC-EHV is a sacked alternative for sweeps.												Bentonite, OCMA	MT		0,075	10	OPEN HOLE:	66
													Freshwater	m³		0,626	90	TOTAL HOLE VOL:	93
													Soda Ash	kg		1,5	200	TOT. VOL. REQ.:	717
													Seawater	m³		0,235	30	TRANSFERRED IN VOL:	100
													Barite	MT		0,458	60	NEW MUD VOL:	617
																		MUD LEFT VOL:	
	SEE DETAILED PROCEDURES IN DETAILED DRILLING FLUIDS PROGRAM AND IN THE M-I NORWAY OPERATIONAL PROCEDURE MANUAL												CMC EHV	kg		as req		TRANSFERRED OUT VOL:	
Length: 424													Volume exported	m³					
													Volume imported	m³		(Kill fluid)	100		

Figure 13-7: Drilling Fluids Program