

DRILLING MUD PROPERTIES RECORD

ANCHOR DRILLING FLUIDS AS

Drilling Mud Properties Record
MUD SYSTEM GEL/CHEMICAL

WELL NAME 24/0-2 AREA NORWAY
STOCK POINT TANANGER Contractor DOLPHIN
ENGINEERS ASBJØRNSEN / KENNEDY / LARSEN

DATE	DEPTH	MUD PROPERTIES																		OPERATION REMARKS						
		WEIGHT PPG						VISCOSITY		GEL		Filtrate Analysis				RETORT		BENTONITE #/BBL			POTASH #/BBL		POLYMER #/BBL		"N"	"K"
		sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq. ft.	10	0	FLUID LOSS 30 Min cc's	CAKE 32 hrs	H.T.H.P. cc's	PH	Cl ⁻ ppm	Ca ⁺⁺ ppm	PT	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL		POLYMER #/BBL					
1977																										
10/6																								ENGINEER ON RIG		
11/6																								RIG UNDER TOW		
12/6																								ON LOCATION - MIXING SPUD		
13/6		8.7	150	68	20	96	68	93	NC		10.4													MUD (1100 BBLs.) ~ SPUD WELL		
14/6	681	8.7	120	61	20	82	61	86	NC		10.4									.28	92			DRILL TO 681 FT. POOH TO		
15/6	681	8.7	120	65	20	87	62	89	NC		10.4									.26	110			RUN 30" - LOST 2 JTS. CASING		
16/6	1707	8.7	45	18	6	24	4	8	NC		10.5	100	.7		3					.26	31			CEMENT CASING - PU RISER		
17/6	1707	9.4	42	21	11	21	6	16	NC		10.8	35	240	.8		8	3			.42	10			DRILL TO 1707 FT. ~ OPENING		
18/6	1707	9.1	42	20	10	20	5	14	NC		10.2	36	260	.5		7	2			.40	10			HOLE TO 26"		
19/6	1707	9.2	44	21	10	22	10	18	NC		9.6	100	900	.25		8	1.2							RUNNING 20" CASING		
20/6	1652	9.0	40	16	10	12	4	7	NC		9.8	12.0	1400	.3		6	.27							W.O.W.		
21/6	2300	9.3	38	18	6	24	10	12	66		10.0	15	1200	.4		9	3.5							DRILL OUT - DRILL AHEAD		
22/6	2758	9.3	33	19	8	20	10	14	52		10.2	16	1240	.4		8	3.0							DRILL AHEAD		
23/6	3589	9.2	35	15	8	14	8	10	44	4	9.6	13	1210	.1		7	.72							DRILL AHEAD		

MARKS:-

**ANCHOR
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MUD SYSTEM GEL/CHEMICAL

WELL NAME 24/9-2 AREA NORWAY

STOCK POINT TANANGER Contractor DOLPHIN

ENGINEERS ASBJØRNSEN, LARSEN, KENNEDY

DATE	DEPTH	MUD PROPERTIES															OPERATION REMARKS											
		WEIGHT ppG					VISCOSITY				GEL		Filtrate Analysis					RETORT		BENTONITE #/BBL			POTASH #/BBL		POLYMER #/BBL		"N"	"K"
		sec/ft	A.V. cps	P.V. cps	Y.P. #/100 sq. ft.	10	FLUID LOSS 30 Min cc's	CAKE 32nds	H.T.H.P. cc's	pH	Cl ⁻ ppm	Ca ⁺⁺ ppm	Pf	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"							
1977																												
24/6	4850	9.5	48	19	14	10	4	20	12.0	2	9.0	11.	1000	.01		9	.57											DRILLING TO 5098 FT.
25/6	5098	9.5	48	17	11	12	5	18	15.6	2	9.0	14	1800	.01		8	.05											DRILLED TO CASING POINT - P.O.O.H. TO LOG - LOGGING
26/6	5098	9.8	55	24	14	21	8	28	12.8	2	9.0	14	1800	.1		8	.05											TIE HOLE @ 3370 - RH - REAM TO BOTTOM - SLOUGHING SHARPS - RAISED VP TO CLEAR HOLE - RH TO P.U. WEAR BUSHING - BUSHING STUCK
27/6	5098	9.8	54	24	14	21	8	26	12.8	2	9.0	14	1800	.1		8	.05											TRYING TO FREE WEAR-BUSHING
28/6	5098	9.8	54	24	14	21	8	26	12.8	2	9.0	14	1800	.1		8	.05											SET 100' PLUG IN 20" CASING & PULL STACK. & RISER
29/6	5098	9.8	54	24	14	21	8	26	12.8	2	9.0	14	1800	.1		8	.05											
30/6	5098	9.8	54	24	14	21	8	26	13.0	2	8.9	14	1800	.1		8	.05											DIVERS CUTTING WEAR-BUSHING OUT OF WELL HEAD
1/7	5098	9.8	54	24	14	21	8	26	13.0	2	8.9	14	1800	.1		8	.05											RAN STACK & RISER & DRIVE OUT CEMENT - MUD CONTAMINATED
2/7	5098	9.8	52	26	15	23	18	37	14.4	2	9.0	15	600	.3		9	1.0											LOWERING FLUID LOSS & COUD. MUD WHILE REAMING TO BOTTOM
3/7	5098	10.0	55	24	14	21	13	26	12.2	2	10.0	14	360	.3		10	.50											RAN 13 3/8" CASING TO 5009 FT
4/7	5098	9.9	42	19	14	10	5	16	12.6	2	10.0	14	470	.2		9	.25											DRILL CEMENT - DRILL AHEAD
5/7	5300	10.0	46	18	12	13	8	20	14.2	2	10.5	14.5	400	.4		10	.50											DRILLING - RAISING DENSITY
6/7	6513	10.8	52	23	17	13	3	19	8.8	2	10.5	15.	400	.3		12	TR											DRILLING - MUD WT. TO 110 PPg
7/7	7009	11.0	48	25	18	15	2	14	7.4	2	14.4	10	14	360	.2		12	TR										DRILLING

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 ENGINEERS ASBJØRNSEN, LARSEN, KENNEDY

DATE	DEPTH	MUD PROPERTIES																		OPERATION REMARKS						
		WEIGHT ppq		VISCOSITY					GEL		Filtrate Analysis					RETORT										
		sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq. ft.	10	0	FLUID LOSS 30 Min cc's	CAKE 32 hrs	H.T.H.P. cc's	pH	Cl ⁻ ppm	Ca ⁺⁺ ppm	PT	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL		POLYMER #/BBL	"N"	"K"			
1977																										
8/7	7380	11.0	43	25	18	15	2	11	6.8	2	14.4	10.5	14.5	360	.3		13	.25								DRILLING ~ POOH FOR NB.
9/7	7510	11.0	44	22	16	12	3	14	7.0	2	14.2	10.5	14.5	360	.2		13	.25								REAMING TITE HOLE
10/7	7946	11.0	44	22	16	12	3	16	6.8	2	14.6	10.2	14.5	360	.4		13	.50	30							DRILLING
11/7	8210	11.0	45	23	16	14	3	15	6.8	2	15.0	9.8	15.0	380	.4		13	.25	30							DRILLING
12/7	8223	11.0	44	23	16	14	3	16	6.9	2	16.6	10.4	13.5	360	.8		13	.25	27.5							DRILLING
13/7	8390	11.0	47	22	15	15	3	18	5.8	2	15.4	10.4	13.5	340	.8		13	.33	30							DRILLING
14/7	8518	11.0	47	26	17	19	3	15	5.8	2	15.6	10.2	13.5	350	.6		13	.33	32.5							DRILLING
15/7	8628	11.0	46	22	16	17	3	16	6.2	2	16.8	10.1	13.5	360	.4		14	.25	25							DRILLING ~ TAP FOR N.B.
16/7	8700	11.0	46	22	16	16	3	15	6.0	2	16.4	10.0	13.5	360	.4		14	TR	25							R.I.H. ~ DRILLING TO 8882'
17/7	8915	11.0	45	26	19	15	3	16	6.0	1	16.0	10.5	14.0	320	.5		14	TR	25							DRILLING
18/7	9000	11.0	45	26	18	15	2	13	5.6	1	15.8	10.5	14.0	320	.4		14	TR	25							DRILL TO 9000 FT.
19/7	9000	11.0	42	24	17	13	2	10	5.8	1	15.8	10.0	13.5	340	.3		14	TR	25							LOGGING
20/7	9000	11.0	46	26	18	16	2	14	6.0	1	10.0	13.5	360	.3			14	TR	25							LOGGING - ENGINEER RELEASED

REMARKS:-

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Drilling Fluid Consumption Report

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STOCK POINT TANANGER Contractor DOLPHIN

ENGINEERS ASBJØRNSEN, KENNEDY, LARSEN

DATE	ESTIMATED DAILY MUD VOLUMES			MATERIALS ADDED TO CONTROL PROPERTIES											COST				
	LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE BULK	BENTONITE BULK	BENTONITE SACKS	THINNERS		POLYMERS			CAUSTIC	LIME	OTHERS			Engineering Cost	Daily Cost	Cumulative Cost
							FCL		CMC					ZOFA	ASH	CALCIUM CHLORIDE			
1977																			
10/6																		300 ¹⁸	
11/6																		300 ¹⁸	
12/6																		300 ¹⁸	
13/6			1100	6.4	13.5	20						15	15	4				300 ¹⁸	
14/6			800		15.5							10		4				300 ¹⁸	
15/6																		300 ¹⁸	
16/6			400									10		4	24			300 ¹⁸	
17/6		100	450	4.8		80						15		6				300 ¹⁸	
18/6		50	100	2.0								7						300 ¹⁸	
19/6	1200			3.5		48									10			300 ¹⁸	
20/6						40						6						300 ¹⁸	
21/6		450	1500			182						12	14					300 ¹⁸	
22/6		750	600	7.0		242	24				17	26	14					300 ¹⁸	
23/6			685	30.0		160	186				13	25						300 ¹⁸	
TOTAL	1200	1350	5635	53.7	29.0	712	210				30	126	43	18	34			4200 ¹⁸	

REMARKS:-

FORWARD

TOTAL MUD COST

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MUD SYSTEM GEL/CHEMICAL

WELL NAME 24/3-2 AREA NORWAY

STOCK POINT TANANGER Contractor DOLPHIN

ENGINEERS ASSBJØRNSEN, KENNEDY, LARSEN

DATE	ESTIMATED DAILY MUD VOLUMES			MATERIALS ADDED TO CONTROL PROPERTIES															COST												
	LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE BULK	BENTONITE BULK	BENTONITE SACK	THINNERS			POLYMERS				CAUSTIC	AL. STERATE	LIME	OTHERS			Engineering Cost	Daily Cost	Cumulative Cost									
							FCL			CMC									SODA ASH				CaCl2	BITUM							
1977																															
24/6				9.5			30				14					2							300 ⁰⁰								
25/6																							300 ⁰⁰								
26/6				12.0			15				8												300 ⁰⁰								
27/6							1																300 ⁰⁰								
28/6																							300 ⁰⁰								
29/6																						3	300 ⁰⁰								
30/6		50																					300 ⁰⁰								
1/7																							300 ⁰⁰								
2/7		50					28								9								300 ⁰⁰								
3/7		150		3.0			78				27			43									300 ⁰⁰								
4/7		633				68	13																300 ⁰⁰								
5/7			80	16.0		52	26				2			8	1	1	1				3	300 ⁰⁰									
6/7			128	56.0			53				67			10		8						300 ⁰⁰									
7/7			150	37.0			40				19			8		6						300 ⁰⁰									
FORWARD	1200	1350	5635	53.7	29.0	772	210				30			126		43	18	34				4200 ⁰⁰									
ESTIMATED TOTALS	1200	2233	5993	187.2	29.0	892	493				167			204	1	60	19	37	3			8400 ⁰⁰									

REMARKS:-

FORWARD
TOTAL MUD COST

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DATE	ESTIMATED DAILY MUD VOLUMES			MATERIALS ADDED TO CONTROL PROPERTIES														COST					
	LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE BULK	BENTONITE BULK	BENTONITE SACKS	THINNERS		POLYMERS				CAUSTIC	AL. STEARATE	LIME	OTHERS			Engineering Cost	Daily Cost	Cumulative Cost		
							FOL	SOLTEX	CMC							SODA ASH	CaCl ₂	BICARB					
8/7			111	42.0		4	30	19			15			15		5					300 ⁰⁰		
9/7			81	60.0		31	2	104			16			14	1	4					300 ⁰⁰		
10/7		80	70	6.7		17	16	13			17			19	1						300 ⁰⁰		
11/7			50	10.0		10	1				24					5					300 ⁰⁰		
12/7			206			20					14			5							300 ⁰⁰		
13/7		46		4.5		20	10				8			13		4					300 ⁰⁰		
14/7		50		6.1			13				2			2							300 ⁰⁰		
15/7		79	65				10							4		3					300 ⁰⁰		
16/7		5					14							13		1					300 ⁰⁰		
17/7			35	4.5			19							6							300 ⁰⁰		
18/7				6.0			19							2							300 ⁰⁰		
19/7																					300 ⁰⁰		
20/7																					300 ⁰⁰		
WARD	1200	2233	5993	187.2	29.0	892	493				167			204	1	60	19	37	3		8400 ⁰⁰		
ATED ALS	1200	2493	6611	327.0	29.0	994	626	136			263			297	3	82	19	37	3		12300 ⁰⁰		

MARKS:-

FORWARD

TOTAL MUD COST