OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

MATERIAL CONSUMPTION & COST ANALYSIS

36" HOLE DRILLED TO 189.5 Meters ~~Xxx~~ 30" CASING SET AT 189 Meters ~~Xxx~~

ACTUAL AMOUNT OF HOLE DRILLED 59 Meters ~~Xxx~~ DAYS ON INTERVAL 2

DRILLING FLUID SYSTEM SPUD MUD

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
WYOMING BENTONITE	M/T	21	8	-13	1.640.-
CAUSTIC SODA	25KG	12	16	+4	168.-
SODA ASH	50KG	-	2	+2	33.-
LIME	25KG	4	4	-	17.-
BARITE	M/T	28	3	-25	345.-

COST/DAY	$ 1.101.50	TOTAL COST FOR INTERVAL	$ 2.203.-
COST/Mt. or Ft.	$ 37.34	PROG. COST FOR INTERVAL	$ 8.613.-
ENGR. COST	$ 1.050.-	COST VARIANCE FOR INTERVAL	$ 6.410.-

OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

MATERIAL CONSUMPTION & COST ANALYSIS

26" HOLE DRILLED TO 895 Meters ~~xxx~~ CASING SET AT 887 Meters ~~xxx~~

ACTUAL AMOUNT OF HOLE DRILLED 706 Meters ~~xxx~~ DAYS ON INTERVAL 7

DRILLING FLUID SYSTEM SPUD MUD

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	26	27	+1	3.105.-
WYOMING BENTONITE	M/T	34	37	+3	7.585.-
WYOMING BENTONITE	50KG	-	645	+645	8.062.50
CAUSTIC SODA	25KG	14	93	+79	970.[illegible]
SODA ASH	50KG	3	3	-	49.50
LIME	25KG	7	2	-5	[illegible]

COST/DAY	$ 2.826.71	TOTAL COST FOR INTERVAL	$19.787 .-
COST/Mt. or Ft.	$ 28.02	PROG. COST FOR INTERVAL	$ 11.716.25
ENGR. COST	$ 3.675.-	COST VARIANCE FOR INTERVAL	$ 8.070.75

OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

MATERIAL CONSUMPTION & COST ANALYSIS

17-1/2" HOLE DRILLED TO 1934 Meters ~~Feet~~ 13-3/8" CASING SET AT 1921 Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 1039 Meters ~~Feet~~ DAYS ON INTERVAL 28

DRILLING FLUID SYSTEM LIGNOSULFONATE-BENTONITE

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	468	427	-41	49.105.-
WYOMING BENTONITE	50KG	490	740	+250	9.250.-
CAUSTIC SODA	25KG	55	352	+297	3.696.-
CHR. LIGNOSULF.	25KG	215	924	+709	13.860.-
SODA ASH	50KG	-	24	+24	396.-
CMC L V	25KG	-	65	+65	3.250.-
SODIUM BICARBON.	50KG	3	30	+27	495.-
AL. STEARATE	25KG	-	2	+2	100.-
SOLTEX	50LBS	-	200	+200	9.000.-
MICA	25KG	-	5	+5	66.25
WALNUT FINE	50LBS	-	30	+30	397.50

COST/DAY	$ 3.200.-	TOTAL COST FOR INTERVAL	$ 89.615.75
COST/Mt. or Ft.	$ 86.25	PROG. COST FOR INTERVAL	$ 63.797.-
ENGR. COST	$ 14.700.-	COST VARIANCE FOR INTERVAL	$+25.818.75

OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

MATERIAL CONSUMPTION & COST ANALYSIS

12-1/4" HOLE DRILLED TO 2456 Meters ~~Feet~~ 9-5/8" CASING SET AT 2450 Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 522 Meters ~~Feet~~ DAYS ON INTERVAL 17

DRILLING FLUID SYSTEM LIGNOSULFONATE-BENTONITE

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	357	253	-104	29.095.-
WYOMING BENTONITE	50KG	230	370	+140	4.625.-
CAUSTIC SODA	25KG	76	97	+21	1.018.50
CHR. LIGNOSULF.	25KG	320	289	-31	4.335.-
CMC L V	25KG	92	61	-31	3.050.-
SODIUM BICARBON.	50KG	9	2	-7	33.-

COST/DAY	$ 2.479.79	TOTAL COST FOR INTERVAL	$ 42.156.50
COST/Mt. or Ft.	$ 80.76	PROG. COST FOR INTERVAL	$ 54.276.50
ENGR. COST	$ 8.925.-	COST VARIANCE FOR INTERVAL	$-12.120.-

OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

MATERIAL CONSUMPTION & COST ANALYSIS

8-1/2" HOLE DRILLED TO 3175 Meters ~~Feet~~ TD CASING SET AT Meters Feet

ACTUAL AMOUNT OF HOLE DRILLED 719 Meters ~~Feet~~ DAYS ON INTERVAL 39

DRILLING FLUID SYSTEM CHR. LIGNOSULFONATE/BENTONITE

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	257	43	-21.4	4.945.00
BENTONITE	50KG	175	438	+263	5.475.00
CHR. LIGNOSULF.	25KG	285	282	-3	4.230.00
CMC LO VIS	25KG	50	27	-23	1.350.00
DRISPAC SUPERLO	50LBS	-	5	+5	710.00
SODA ASH	50KG	-	2	+2	33.00
SODIUM BICARBONATE	50KG	8	2	-6	33.00
CAUSTIC SODA	25KG	65	64	-1	672.00
CHR. LIGNITE	50LBS	95	49	-46	980.00

COST/DAY	$ 472.51	TOTAL COST FOR INTERVAL	$ 18.428.00
COST/Mt. or Ft.	$ 25.63	PROG. COST FOR INTERVAL	$ 39.332.00
ENGR. COST	$ 16.975.00	COST VARIANCE FOR INTERVAL	$ -20.904.00

OPERATOR STATOIL

WELL NO. 30/6-1

ANCHOR DRILLING FLUIDS AS

TOTAL CONSUMPTION & COST ANALYSIS

TOTAL DEPTH 3175 Meters

TOTAL HOLE DRILLED 3044 Meters

TOTAL DAYS 93

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	1236	753	-482	86.595.00
BENTONITE	M/T	55	45	-10	9.225.00
BENTONITE	50KG	995	2193	+1198	27.412.50
CAUSTIC SODA	25KG	268	622	+354	6.531.00
SODA ASH	50KG	3	31	+28	511.50
LIME	25KG	11	6	-5	25.50
CHR. LIGNOSULF.	25KG	947	1495	+548	22.425.00
CMC LO VIS	25KG	172	153	-19	7.650.00
SODIUM BICARBONATE	50KG	20	34	+14	561.00
AL. STEARATE	25KG	-	2	+2	100.00
SOLTEX	50LBS	-	200	+200	9.000.00
MICA	25KG	-	5	+5	66.25
WALNUT	50LBS	-	30	+30	397.50
DRISPAC SUPERLO	50LBS	-	5	+5	710.00
CHR. LIGNITE	50LBS	95	49	-46	980.00

COST/DAY $ 1.851.51

COST/Mt. or Ft. $ 56.57

ENGR. COST $ 45.325.00

TOTAL COST FOR WELL $ 172.190.25

PROG. COST FOR WELL $ 196.272.50

COST VARIANCE FOR WELL $ -24.082.25

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: SPUD MUD/LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA

OPERATOR: STATOIL RIG: DEEP SEA SAGA

ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS	MATERIALS ADDED TO CONTROL PROPERTIES																		
									THINNERS				POLYMERS					OTHERS									
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE BULK		CHR. LIGNOSULF.				CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	LIME						
1	18.6			1006			8											16	2		4						
2	19.6	100		200	3																						
3	20.6			800			8											16	2								
4	21.6		200	605	17		9											15									
5	22.6		200	575			19											18									
6	23.6		100	350		124	1											10									
7	24.6		200	735		70												12									
8	25.6	1700		1235		151												12	1		2						
9	26.6	2000		1000	10	300												10									
10	27.6			850		180			10									18	6								
FORWARD		3800	700	7350	30	825	45		10									127	11		6						
ESTIMATED TOTALS																											

REMARKS:

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA

OPERATOR: STATOIL RIG: DEEP SEA SAGA

ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																	
									THINNERS				POLYMERS					OTHERS								
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE BULK		CHR. LIGNOSULF.				CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
11	28.6																										
12	29.6		60	71		68			21									9	4	6							
13	30.6		39	400					46									22		2							
14	1.7		112	300					41									21									
15	2.7		144	220	3	18			33									39									
16	3.7		144	260	60	30			88									59		7							
17	4.7			31	3	4			52				12														
18	5.7		50	50	21				9				14					7									
19	6.7		50	50	16				34				5					23			5	30					
20	7.7		67	120	24				34				10					6					1				
21	8.7		130	20	16				31									8					1				
22	9.7		15	74	6				69									12						30			
23	10.7		20	110	3				9									5									
24	11.7				9				1									18						170			
FORWARD		3800	700	7350	30	825	45		10									127	11						6		
ESTIMATED TOTALS		3800	1531	9056	191	945	45		478				41					356	15	15	15	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA

OPERATOR: STATOIL RIG: DEEP SEA SAGA

ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS	MATERIALS ADDED TO CONTROL PROPERTIES																		
										THINNERS			POLYMERS					OTHERS									
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE M/T		LIGNOSULF.				CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
25	12.7		37		20				46				3					9									
26	13.7				16				20				4					5									
27	14.7		350	500	18				18				2					12									
28	15.7		290	56	10				52				3						8	15							
29	16.7		5	200		60			25				3						4								
30	17.7		330	800	37	200			59									11	2								
31	18.7		1385	800	108	180			13				7					10									
32	19.7		5	18	2				89									11									
33	20.7			12	27				63				2					20									
34	21.7			30					27									13									
35	22.7		55		8				31									14									
36	23.7				3				3																		
37	24.7	END	13-3/8"		17																						
38	25.7				24				25									6									
FORWARD		3800	1531	9056	191	945	45		478				41					356	15	15	5	30	2	200	6		
ESTIMATED TOTALS		3800	3988	11466	481	1385	45		949				65					467	29	30	5	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA
OPERATOR: STATOIL RIG: DEEP SEA SAGA
ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																		
										THINNERS			POLYMERS					OTHERS									
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE M/T		LIGNOSULF.				CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
39	26.7			60	9				104									13		2							
40	27.7		35	200	27				4				10					4									
41	28.7		5	188	30				25				14					14									
42	29.7		100	266	102				3				9					7									
43	30.7		30	124	31				8				14					8									
44	31.7		50	42	20								4														
45	1.8			10	7	10							2					1									
46	2.8		750	839		298			9									10									
47	3.8					22			25									6									
48	4.8					28			21									5									
49	5.8		10	11	3	12			20									5									
50	6.8								2				2														
51	7.8								11				2					2									
52	8.8								11				2					2									
FORWARD		3800	3984	11466	481	1385	45		949				65					467	29	30	5	30	2	200	6		
ESTIMATED TOTALS		3800	4698	13206	710	1755	45		1192				124					544	29	32	5	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA
OPERATOR: STATOIL RIG: DEEP SEA SAGA
ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																		
									THINNERS			POLYMERS					OTHERS										
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE M/T		LIGNOSULF.				CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
53	9.8								21				2					4									
54	10.8		40															10									
55	11.8		110																								
56	12.8																										
57	13.8				5																						
58	14.8																										
59	15.8		60	80		25												1									
60	16.8																										
61	17.8																										
62	18.8			55	7	5																					
63	19.8		350	400		110			25				8					4		2							
64	20.8			20		40			30									5									
65	21.8			60		20			24									5									
66	22.8		50	30	7	10			26									4									
FORWARD		3800	4968	13206	710	1755	45		1192				124					544	29	32	5	30	2	200	6		
ESTIMATED TOTALS		3800	5578	13851	729	1965	45		1318				134					577	29	34	5	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: LIGNOSULFONATE-BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA
OPERATOR: STATOIL RIG: DEEP SEA SAGA
ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																		
									THINNERS				POLYMERS					OTHERS									
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE M/T		LIGNOSULF.	LIGNITE			CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
67	23.8		15			30			12				6					3									
68	24.8		40	35		20			15				4					17									
69	25.8		50	56		44			17				9														
70	26.8		70	60		22			51									5									
71	27.8		76	50		8			22									10									
72	28.8		10	30		26			12																		
73	29.8		50	25					16	36								5									
74	30.8		30	10		8			5	8																	
75	31.8		25	30		5			7	5				2				2									
76	1.9	30	75	10																							
77	2.9	145	87	15					4					1					1								
78	3.9																										
79	4.9		14																								
80	5.9		21	50	12				16					2					1								
FORWARD		3800	5578	13851	729	1965	45		1318				134					577	29	34	5	30	2	200	6		
ESTIMATED TOTALS		3975	6141	14222	742	2128	45		1495	49			153	5				619	31	34	5	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 30/6-1 AREA NORTH SEA

OPERATOR STATOIL RIG. DEEP SEA SAGA

MUD SYSTEM LIGNOSULFONATE-BENTONITE

ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																		
											THINNERS				POLYMERS						OTHERS						
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE M/T		LIGNOSULF.	LIGNITE			CMC	DRISPAC SUPERLO				CAUSTIC SODA	SODA ASH	SODIUM BICARB.	MICA	WALNUT	AL. STEARATE	SOLTEX	LIME		
81	6.9		40		8																						
82	7.9		50																								
83	8.9		25			7																					
84	9.9																										
85	10.9	80	40			24																					
86	11.9		65		4																						
87	12.9					16												1									
88	13.9					12																					
89	14.9		10			6												2									
90	15.9																										
91	16.9																										
92	17.9																										
93	18.9																										
FORWARD		3975	6141	14222	742	2128	45		1495	49			153	5				619	31	34	5	30	2	200	6		
ESTIMATED TOTALS		4055	6371	14222	754	2193	45		1495	49			153	5				622	31	34	5	30	2	200	6		

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

WELL NAME 30/6-1 AREA NORTH SEA
OPERATOR STATOIL RIG. DEEP SEA SAGA
ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Drilling Mud Properties Record

MUD SYSTEM SPUD MUD/LIGNOSULFONATE/BENTONITE

Day No.	DATE	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl⁻ ppm x1000	Filtrate Analysis Ca. ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
1	18.6		1.04	100+									0.6	180										Prepare for spudding.
2	19.6	189	1.04	100+									0.7	180										Drill 36" hole POOH.
3	20.6	189	1.05										0.7	180										Run & cmt. 30" csg. Drill. cmt.
4	21.6	569	1.07	45					N/L			10.5	6.0	300			1/4							Drill. 17-1/2" pilot hole.
5	22.6	895	1.07	50								10.0	12.0	400			.4							Drill. 17-1/2" pilot hole.
6	23.6	430	1.07	55		4	50	25/40				10.0	13.0				TR							Underreaming.
7	24.6	853	1.08	80								10.0	13.0				.4							Reaming 26".
8	25.6	895	1.08	100+		22	135	50/54				10.5	7.0				TR							Drill. 26" hole.
9	26.6	895	1.20	48		5	8	8/14				10.0	8.0				-							Run & cmt. 20" casing.
10	27.6	895	1.08	40		6	9	11/20	12.5			10.5	11.0				NIL	17.5						Test BOP.
11	28.6	895	1.08	39		6	9	10/19	13.0			10.5	11.0				-	17.5						Test BOP.
12	29.6	965	1.10	48	26.5	6	41	37/44	20.0			12.0	10.0				TR	20.0						Drill. cmt.
13	30.6	1290	1.12	42					13.0	3		10.5	14.0	240	.50	3	1/2	30.0						Drilling ahead.
14	1.7	1490	1.14	45					13.0	3		10.5	14.5	200	.30	6	1	32.5						Drilling ahead.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM LIGNOSULFONATE/BENTONITE

WELL NAME 30/6-1 AREA NORTH SEA
OPERATOR STATOIL RIG. DEEP SEA SAGA
ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	DEPTH (FEET ☐ METERS ☒)	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm x1000	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
15	2.7	1583	1.15	53					13.2	2		10.5	15.0	40	.30	-	6	TR	32.5					Drilling.
16	3.7	1724	1.25	43	17	12	10	5/39	14.0	2		11.3	15.0	80	1.0	-	10	TR	32.5					Drilling.
17	4.7	1723	1.25	55	21	16	10	3/48	8.8	2		10.0	16.0	80	.40	-	10	TR	32.5					Drilling circ.
18	5.7	1723	1.28	62	24	18	12	3/80	9.0	2		10.0	17.0	80	0.3	-	10	TR	32.5					Start logging.
19	6.7	1723	1.30	55	24½	19	11	3/50	9.0	2		9.0	16.5	150	0.2		10½	TR	32.5					Tight hole at 1523m Start reaming.
20	7.7	1723	1.33	47	23½	19	9	2/24	8.0	2		10.5	16.0	75	0.25	5	13	TR	32.5					Sloghing shale mix 5% diesel.
21	8.7	1723	1.34	50	26	21	10	2/35	7.5	2		10.5	16.0	90	0.3	4	12	TR	30.0					Start open hole to 20".
22	9.7	1723	1.34	60	35	27	16	2/22	6.1	2		10.0	15.5	90	0.25	4	12	TR	37.5					Test BOP.
23	10.7	1723	1.34	53	24	18	12	2/28	7.1	2		10.0	16.0	90	0.3	4	12	TR	32.5					Reaming opening 17½ to 20".
24	11.7	1723	1.34	56	32	23	18	3/35	6.2	2		10.0	16.0	90	0.25	8	12	TR	32.5					Incr. oil cont. to 8%.
25	12.7	1723	1.34	56	29½	23	13	2/26	6.0	2		10.0	16.5	90	0.2	8	12	TR	32.5					Reaming and circl.
26	13.7	1723	1.34	56	27	22	11	3/29	6.4	2		9.5	16.0	60	0.20	6.5	12	TR	32.5					Start running csg.
27	14.7	1723	1.34	58	24	18	13	3/39	6.8	3		10.5	18.0	80	0.35	6.5	12	TR	30.0					Run csg. Cmt. casing.
28	15.7	1724	1.34	52	21	15	13	9/122	9.0	2		12.0	19.0	40	2.3	7	12	TR	30.0					Drl. cement.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM LIGNOSULFONATE/BENTONITE

WELL NAME 30/6-1 AREA NORTH SEA

OPERATOR STATOIL RIG. DEEP SEA SAGA

ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	DEPTH FEET METERS	MUD PROPERTIES: DENSITY PPG SG	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm x1000	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
29	16.7	1724	1.34	48	20	13	14	9/98	16	2		12	19.0	40	2.53	7	12	TR	30					Squeeze cem. Test 20" csg.
30	17.7	1724	1.34	42	16	13	6	6/24	6.9	1		11.5	2.0		1.1		10		27.5					Made new mud-system.
31	18.7	1818	1.34	43	24	21	6	3/20	4.4	1		11.5	5.0		1.0	4.5	10	TR	27.5					Mix new mud.
32	19.7	1887	1.40	50	36	32	8	3/12	4.8	1		11.0	4.9		0.9	6.0	12	0.3	27.5					Start raise weight to 1.46.
33	20.7	1934	1.46	53	37	31	12	2/5	4.2	2		11.0	5.5	60	1.5	6.0	12	0.4	27.5					
34	21.7	1922	1.46	54	38	32	12	3/11	4.4	2		11.0	6.0	60	1.0	6.0	12	0.3	27.5					Traces of gas.
35	22.7	1870	1.46	53	40	34	12	2/10	4.2	2		11.0	6.0	60	1.0	6.0	12	0.3	27.5					
40	27.7	2178	1.51	52	29	25	8	2/9	5	2		11.0	6.0	40	1.45	6.0	16	0.5	27.5					
41	28.7	2218	1.70	50	34	29	10	2/10	3.8	2		11.5	6.0	40	1.15	6.0	21	0.5	25.0					Weight up mud to 1.70.
42	29.7	2277	1.70	52	35	27	15	3/10	3.6	2		11.0	7.0	40	1.5	6.0	22	TR	27.5					
43	30.7	2333	1.70	50	32	28	11	3/12	3.5	2		11.5	6.0	40	1.4	6.0	21	TR	25.0					
44	21.7	2340	1.70	50	30.5	25	11	3/12	3.6	2		11.0	6.0	40	1.2	5.0	23	TR	25.0					Coring.
45	1.8	2340	1.70	50	30.5	25	11	3/12	3.6	2		11.0	6.0	40	1.2	5.0	23	TR	25.0					Logging.
46	2.8	2349	1.40	50	25.5	17	16	8/21	4.4	1		11.0	4.0	40	1.05	2.0	14	TR	25.0					Decreased mudweight to 1.40.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM LIGNOSULFONATE/BENTONITE

WELL NAME 30/6-1 AREA NORTH SEA
OPERATOR STATOIL RIG. DEEP SEA SAGA
ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	DEPTH FEET ☐ METERS ☒	MUD PROPERTIES: DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
47	3.8	2349	1.41	53	23.5	17	13	3/32	4.4	2		11.1	4.0	60	0.9	2.0	14	0.3	25.0					Coring.
48	4.8	2371	1.41	42	24.5	19	11	2/14	4.6	2		11.1	4.0	40	0.9	2.0	14	0.3	25.0					Coring.
49	5.8	2440	1.41	52	27.5	19	19	2/12	4.6	2	24	10.9	4.0	40	0.7	2.0	14	0.3	25.0					
50	6.8	2456	1.41	53	24	18	12	2/14	4.6	2	23	11.1	4.0	40	0.8	2.0	14	0.3	25.0					Logging.
51	7.8	2456	1.41	53	28	22	12	2/13	4.4	2	23	10.8	4.0	40	0.8	2.0	14	0.2	25.0					"
52	8.8	2456	1.41	55	27.5	23	9	2/10	4.4	2	24	10.8	4.0	40	0.8	1.5	14	0.2	25.0					"
53	9.8	2456	1.41	53	28.5	23	11	2/9	4.0	2	24	10.8	4.0	40	0.9	1.5	14	TR	25.0					
54	10.8	2456	1.41	52	28	23	10	2/7	3.9	1	24	11.5	4.0	50	1.4 3.0	1.5	14	TR	24.0					
55	11.8	2456	1.42	52	27.5	23	9	2/7	3.8	1	24	11.5	4.0	40	1.3 3.0	1.5	14	TR	24.0					No circ.
56	12.8	2456	1.42	52		24	9	2/8	3.9	1	24	11.4	4.0	40	1.3	1.5	14	TR	24.0					No circ.
57	13.8	2456	1.42	55	29	24	10	3/12	3.8	1	24	11.3	4.0	50	1.3	1.5	14	TR	24.0					Circ. Fish for csg. Running tool.
58	14.8	2456	1.42	54	28	23	10	3/11	3.9	1	24	11.3	4.0	50	1.3	1.5	14	TR	24.0					Fish for csg. Run tool.
59	15.8	2456	1.42	57	27.5	23	9	3/13	3.7	1		11.3	4.2	40	1.25	1.5	14	TR	24.0					Attempt to out 9-5/8" csg. No succe
60	16.8	2456	1.42	55	25.5	21	9	3/12	3.8	1		11.3	4.2	40	1.25	1.5	14	TR	24.0					Waiting on new cutting tool.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM: LIGNOSULFONATE/BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA
OPERATOR: STATOIL RIG: DEEP SEA SAGA
ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Day No.	DATE	DEPTH (FEET / METERS)	DENSITY PPG / SG	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm x1000	Ca. ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
61	17.8	2456	1.42	55	25	20	10	3/12	3.9	1	24	11.2	4.0	40	1.20	1.5	14	TR	25					
62	18.8	2456	1.42	56	25	20	10	3/12	4.0	1		11.2	4.0	40	1.20	1.5	14	TR	25					Milling. Pump visc. mud.
63	19.8	2500	1.30	55	26	19	14	2/20	4.8	1	24	11.1	4.0	40	1.3	1	11	TR	25					Drilling cmt.
64	20.8	2570	1.31	56	29	22	14	2/12	4.5	1		11.1	4.0	40	1.3	1	11½	TR	27.5					Drilling.
65	21.8	2660	1.31	52	25	19	12	2/13	4.5	1		11.1	4.0	40	.90	1	12	TR	28.5					Drilling.
66	22.8	2722	1.30	51	24.5	19	11	2/12	4.5	1	15.6	11.0	4.0	40	.80	1	11½	TR	27.5					Drilling. POOH.
36	23.7	1934	1.46	53		30	11	3/13	4.2	2		11.0	6.0	90	1.0	5.5	12	.3	27.5					Logging circ. Run 13-3/8" csg.
37	24.7	1934	1.46	53		30	11	3/12	4.2	2		11.0	6.0	90	1.0	5.5	12	.3	27.5					Run and cmt. 13-3/8" csg.
38	25.7	1982	1.51	61	43.5	38	10	3/28	4.8	2		11.2	6.0	60	1.7	6	16	.3	27.5					Drilling cmt.
39	26.7	2088	1.51	56								11.0	6.0	60	1.5	6	16½	.6	27.5					Drilling.
67	23.8	2800	1.31	54	28.5	20	14	2/12	4.4	1	16.1	11.1	4.0	40	0.7	1/2	11.5	TR	26					
68	24.8	2856	1.31	52	26.5	21	11	4/8	4.8	1	16.5	11.1	4.0	40	.65	TR	11.5	TR	23					
69	25.8	2940	1.31	55	27	22	10	3/7	4.1	1	16.0	10.8	4.0	40	.58	TR	11.5	TR	24					
70	26.8	3021	1.30	55	24	19	10	2/6	4.0	1	14.5	10.8	4.2	40	.60	TR	11.5	TR	23.5					

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

WELL NAME 30/6-1 AREA NORTH SEA
OPERATOR STATOIL RIG. DEEP SEA SAGA
ENGINEERS ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

Drilling Mud Properties Record

MUD SYSTEM LIGNOSULFONATE/BENTONITE

Day No.	DATE	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl⁻ ppm	Filtrate Analysis Ca. ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
71	27.8	3084	1.30	54	24	19	10	3/8	4.1	1	16	11.0	4.3	40	.7	TR	12	TR	23					
72	28.8	3108	1.30	56	26	21	10	3/6	4.1	1	17½	11.0	4.3	30	.6	TR	12	TR	25					
73	29.8	3175	1.30	55	24	19	10	3/7	3.9	1	15½	10.9	4.3	30	.6	TR	12	TR	24					
74	30.8	3175	1.30	55	24½	20	9	3/6	3.7	1	15	10.1	4.3	30	.45	TR	12	TR	24					
75	31.8	3175	1.30	55	25½	21	9	3/7	3.8	1	15	10.2	4.3	30	0.5	TR	12	TR	24					
76	1.9	3175	1.31	63	31	25	12	5/31	4.1	1		11.6	4.3	140	1.1	TR	12	TR	24					Setting cmt. plug mud cem. contaminate
77	2.9	3175	1.30	56	23	19	8	4/10	4.0	1		11.6	4.3	80	1.1	TR	12	TR	24					Set retainer. Squeezed cmt.
78	3.9	3175	1.30	53	20	16	8	3/10	4.0	1		11.5	4.3	60	1.0	TR	12	TR	24					Working on BOP.
79	4.9	3175	1.30	53	21	17	8	3/9	4.0	1		11.5	4.3	50	1.0	TR	12	TR	24					Run BOP stack. Pick up 3½" tubing.
80	5.9	2392	1.35	56	25½	20	11	4/10	4.1	1		11.5	4.3	80	.85	TR	12	TR	24					Circ. POOH.
81	6.9	2260	1.35	55	25½	20	11	2/9	4.2	1		11.0	4.9	70	.90	TR	13	TR	22.5					Prefor. Run packer circ. POOH.
82	7.9	2392	1.35	58	26½	19	12	2/10	4.4	1		11.4	5.1	90	.90	TR	13	TR	22.5					Drl. cmt. Test squeeze. POOH.
83	8.9	2392	1.35	58	24½	19	11	2/11	4.5	1		11.4	5.2	90	.80	TR	13	TR	22.5					Perforate. Run and test. Test string.
84	9.9	2392	1.35	57	24½	19	11	2/10	4.4	1		11.3	5.2	80	.80	TR	13	TR	22.5					Test zone no. 1.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM: LIGNOSULFONATE/BENTONITE

WELL NAME: 30/6-1 AREA: NORTH SEA
OPERATOR: STATOIL RIG: DEEP SEA SAGA
ENGINEERS: ASBJØRNSEN, LARSEN, STRAND, JENSEN, BJØRHEIM, ABUSDAL, ÅRSETH

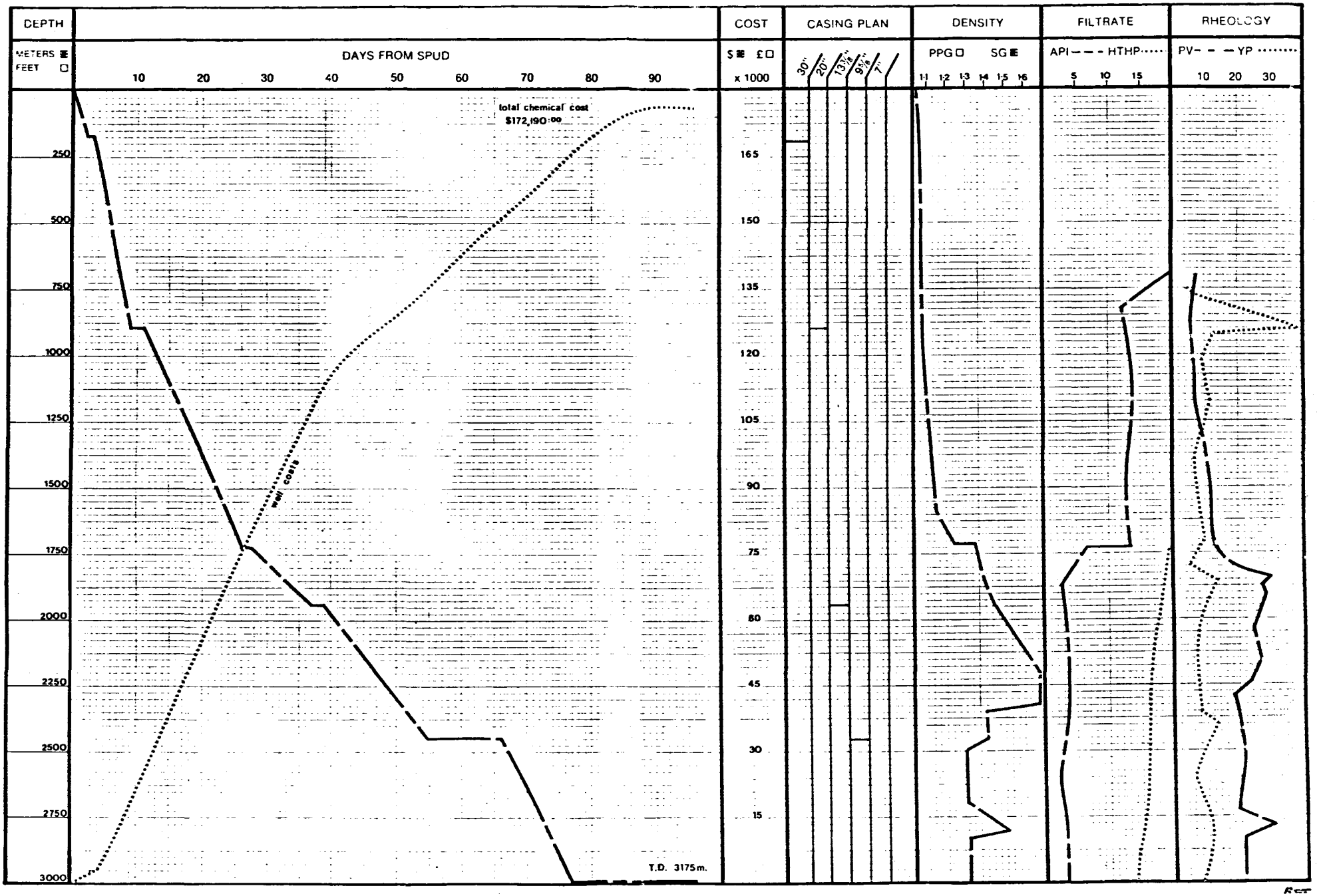
Day No.	DATE	DEPTH (FEET ☐ METERS ☐)	DENSITY PPG ☐ SG ☐	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
85	10.9	2392	1.35	57	24	18	10	2/15	4.6	1		11.3	5.1	70	.80	TR	13	TR	24					Finished testing. Release packer.POOH.
86	11.9	2314	1.35	54	23½	18	11	2/15	4.5	1		11.3	5.1	70	.80	TR	13	TR	24					RIH w/bit and scrape Circ.
87	12.9	2314	1.35	55	19	19	11	2/14	4.5	1		11.4	5.1	60	.70	TR	13	TR	24					Circ. POOH. WOW.
88	13.9	2311	1.35	56		19	11	2/16	4.6	1		11.3	5.2	60	.80	TR	13	TR	24					WOW.
89	14.9	2311	1.35	54	24	19	10	2/14	4.2	1		11.0	5.4	60	.90	TR	13	TR	24					Perforate RIH w/test string.
90	15.9	2311	1.35	54	24½	19	11	2/14	4.3	1		11.0	5.3	60	.90	TR	13	TR	24					Testing.
91	16.9	2311	1.35	54	24½	20	9	3/10	4.4	1		11.0	6.2	20	.67	TR	13	TR	24					Bullheading. POOH. w/test string.
92	17.9	2311	1.35	54	25½	21	9	2/8	4.3	1		11.0	6.1	20	.70	TR	13	TR	24					POOH. Set retainer RIH w/stringer.
93	18.9	663	1.35	52	24½	20	9	2/7	4.8	1		10.5	6.6	20	.55	TR	13	TR	24					Squeeze cmt. Schlumberg. Perforat

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO – STAVANGER

GRAPHI-CAP

OPERATOR: STATOIL
WELL NAME: 30/6-1
CONTRACTOR: DEEP SEA COMPANY A/S
PAGE NO: 1
SPUD DATE: JUNE 19th 79
RIG: DEEP SEA SAGA



V TESTING OPERATIONS AND RESULTS

Brief Summary of production tests

DST No. 1

Perforated interval:	2320 - 2330 m RKB
- Initial flow:	12 mins
- Initial build-up:	63 mins
- Second flow:	427 mins
- Final build-up:	260 mins

Flowrates, second flow

- About 950 STB/d of Condensate
- About 17.2 MMSCF/D of Gas

The test was successful, and the analysis of the results indicated a good productivity.

Summary of test analysis

Reservoir pressure	4000 psi
Kh factor	40147 md ft
Skinfactor	108
Productivity	126 MSCF/D/psi
flow eff.	0.25

DST No. 2

Perforated interval: 2301 - 2305 m RKB

- Initial flow: 4 mins
- Initial build-up: 63 mins
- Second flow: 569 mins
- Final build-up: 420 mins

Flowrates second flow

- About 900 STB/D of Condensate
- About 23 MMSCF/D of Gas

The test was successful, and the analysis indicated a good productivity.

Summary of the testanalysis.

Reservoir pressure	3990 psi
Kh factor	3700 md ft
Skinfactor	5.3
Productivity	102 MSCF/D/psi
Flow eff.	0.56

Further information in the final well testreport, October 1979.