

OPERATOR STATOIL

WELL NO 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

HOLE DRILLED TO ^{Meters} ~~Feet~~ CASING SET AT ^{Meters} ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED ^{Meters} ~~Feet~~ DAYS ON INTERVAL FROM SPUD

DRILLING FLUID SYSTEM

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BENTONITE M/T	M/T	30	22	- 8	8,360.00
CAUSTIC	25 KG	32	16	-16	320.00
BARITE	M/T	25	11	-14	1,507.00

COST/DAY TOTAL COST FOR INTERVAL
COST/Mt. or ~~Feet~~ PROG. COST FOR INTERVAL
ENGR. COST COST VARIANCE FOR INTERVAL

OPERATOR STATOIL

WELL NO. 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

12 1/4" pilot hole to 752 m

26" hole opened 370 Meters ~~xxxx~~ 20" CASING SET AT 365.5 Meters ~~xxxx~~

ACTUAL AMOUNT OF HOLE DRILLED 438 Meters ~~xxxx~~ DAYS ON INTERVAL 6

DRILLING FLUID SYSTEM NATURAL MUD

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	137	93	- 44	12,741.00
BENTONITE	M/T	360	16	- 344	6,080.00
CAUSTIC	25 KG	20	42	+ 22	840.00
LIGNOSULPHONATE	25 KG	18	9	- 9	162.00
LIGNITE	25 KG	-	12	+ 12	216.00
SODA ASH	50 KG	20	-	-	-
DETERGENT	200 L	2	-	-	-
NOTE that the 26" hole was programmed to 750 m R.K.B.					

COST/DAY	US\$ 3,339.83	TOTAL COST FOR INTERVAL	US\$20,039.00
COST/Mt. xxxx	US\$ 45,75	PROG. COST FOR INTERVAL	US\$40,620.00
ENGR. COST	US\$ 4,725.00	COST VARIANCE FOR INTERVAL	US\$ - 20,581.-

OPERATOR STATOIL

WELL NO. 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

HOLE DRILLED TO Meters ~~Feet~~ ~~Feet~~ Meters ~~Feet~~ CASING SET AT Meters ~~Feet~~

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

DRILLING FLUID SYSTEM

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE M/T	M/T		21		2,877.00
BENTONITE M/T	M/T		2		760.00
LIGNOSULPHONATE	25 KG		25		450.00
CAUSTIC	25 KG		7		140.00

COST/DAY US\$ TOTAL COST FOR INTERVAL US\$

COST/Mt. ~~oXXX~~ US\$ PROG. COST FOR INTERVAL } SIGNIFICANT CHANGE

ENGR. COST US\$ COST VARIANCE FOR INTERVAL } FROM PROGRAMME SO
NOT REALLY APPLICABLE

OPERATOR STATOIL

WELL NO. 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

12 1/4" HOLE DRILLED TO 1917 ^{Meters} ~~XXX~~ 9 5/8" CASING SET AT 1904 ^{Meters} ~~XXX~~

ACTUAL AMOUNT OF HOLE DRILLED 1052 ^{Meters} ~~XXX~~ DAYS ON INTERVAL 11

DRILLING FLUID SYSTEM GYP/LIGNO

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE M/T	M/T	240	70	- 170	9,590.00
BENTONITE M/T	M/T	-	14	+ 14	5,320.00
BENTONITE SXS	50 KG	320	421	+ 101	7,578.00
CHROME LIGNOSULPH.	25 KG	520	164	- 356	2,952.00
CAUSTIC	25 KG	180	148	- 32	2,960.00
SODA ASH	50 KG	25	8	- 17	16.0.00
GYPSUM	50 KG	540	334	- 206	4,408.80
CMC LV	25 KG	240	203	- 37	13,195.00
CMC HV	25 KG	25	38	+ 13	2,546.00
DRILLING DETERGENT	200 L	30	19	- 11	6,650.00
DEFOAMER	200 L	-	1	+ 1	700.00
DRISPAC REG.	25 KG	-	52	+ 52	9,412.00
DRISPAC S.L.	25 KG	-	32	+ 32	6,144.00
MILCHEM (MILPOL) 302	25 KG	-	23	+ 23	7,820.00

COST/DAY US\$7,221.44 TOTAL COST FOR INTERVAL US\$79,435.80

COST/Mt. ~~XXX~~ US\$ 75.51 PROG. COST FOR INTERVAL US\$87,003.60

ENGR. COST US\$8,662.50 COST VARIANCE FOR INTERVAL US\$-7,567.80

OPERATOR STATOIL

WELL NO. 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

8 1/2" HOLE DRILLED TO 2839 Meters ~~XXXX~~ 7" LINER CASING SET AT 2836 Meters ~~XXXX~~

ACTUAL AMOUNT OF HOLE DRILLED 922 Meters ~~XXXX~~ DAYS ON INTERVAL 24

DRILLING FLUID SYSTEM GEL/LIGNO/SEAWATER

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE, BULK	M/T	310	166	- 144	22,742.00
BENTONITE	M/T	0	20	+ 20	7,600.00
BENTONITE	50 KG	460	77	- 383	1,386.00
CHROME LIGNITE	25 KG	395	254	- 141	4,572.00
CAUSTIC	25 KG	165	128	- 37	2,560.00
SODA ASH	50 KG	20	1	- 19	20.00
BICARBONATE	50 KG	22	8	- 14	168.00
CMC LV	25 KG	240	131	- 109	8,515.00
CMC HV	25 KG	20	32	+ 12	2,144.00
BARITE	50 KG	0	13	+ 13	83.85
DRISPAC S.L.	25 KG	0	7	+ 7	1,344.00

COST/DAY US\$2,130.62 TOTAL COST FOR INTERVAL US\$ 51,134.85
 COST/Mt. ~~XXXX~~ US\$5,546.00 PROG. COST FOR INTERVAL US\$ 78.962.00
 ENGR. COST US\$18,900.00 COST VARIANCE FOR INTERVAL US\$ - 27.827,15

OPERATOR STATOIL

WELL NO. 7120/7-1

MATERIAL CONSUMPTION & COST ANALYSIS

TESTING AND ABANDONMENT

DAYS ON INTERVAL 23

DRILLING FLUID SYSTEM GEL/ LIGNO

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE, BULK	M/T		34		4,658.00
BENTONITE, BULK	M/T		5		1,900.00
BENTONITE	50 KG		19		342.00
LIGNOSULPHONATE	25 KG		29		486.00
CMC LV	25 KG		29		1,885.00
CMC, HV	25 KG		24		1,608.00
SODA ASH	50 KG		2		40.00
CAUSTIC	25 KG		12		240.00
BICARBONATE	50 KG		4		84.00
CaCl ₂			12		276.00

COST/DAY	US\$. 496.48	TOTAL COST FOR INTERVAL	US\$ 11,519.00
COST/Mt. or Ft.		PROG. COST FOR INTERVAL	Not programmed
ENGR. COST	US\$12,075.00	COST VARIANCE FOR INTERVAL	

OPERATOR STATOIL

WELL NO. 7120/7-1

TOTAL CONSUMPTION & COST ANALYSIS

TOTAL DEPTH 2839 Meters
~~XXX~~

TOTAL HOLE DRILLED 2582 Meters
~~XXXX~~

TOTAL DAYS 70

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	US\$ COST
BARITE, BULK	M/T	735	395	- 340	54,115.00
BARITE	100 LBS	0	13	+ 13	83.85
BENTONITE, BULK	M/T	72	79	+ 7	30,020.00
BENTONITE	50 KG	780	517	- 263	9,306.00
LIGNOSULPHONATE	25 KG	925	479	- 446	8,622.00
CMC LV	25 KG	480	363	- 177	23,595.00
CMC HV	25 KG	45	94	+ 49	6,298.00
SODA ASH	50 KG	78	11	- 67	220.00
CAUSTIC	25 KG	491	353	- 138	7,060.00
BICARBONATE	50 KG	22	12	- 10	252.00
CaCl ₂			12		276.00
LIGNITE	50 LBS	0	12	+ 12	216.00
DRISPAC REGULAR	50 LBS	0	52	+ 52	9,412.00
DRISPAC S.L.	50 LBS	0	39	+ 39	7,488.00
MILPOL 302		0	23	+ 23	7,820.00
DRILLING DETERGENT	200 L	32	19	- 13	6,650.00
DEFOAMER	200 L	0	1	+ 1	700.00
GYPSUM	50 KG	540	334	- 206	4,408.80

COST/DAY US\$ 2,522.04

TOTAL COST US\$176,542.65

COST/Mt ~~xxxx~~ US\$ 68.37

PROG. COST US\$221,690.00 *

ENGR. COST US\$49,087.50

COST VARIANCE US\$ 45,147.35

Notes

*Testing and abandonment excluded.



ANCHOR DRILLING FLUIDS AS

O.S.L.O -- STAVANGER

Drilling Fluid & Material Consumption Report

DATE: 1982

NATURAL MUD

17 1/2" HOLE

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG. NORDRAUG

ENGINEERS FORD/WERSLAND

DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS	MATERIALS ADDED TO CONTROL PROPERTIES																					
	LOSSES SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE		LIGNO-SULPHONATE	LIGNITE	THINNERS	POLYMERS				CAUSTIC	OTHERS													
10. 8.8		125	300	9	2		7									7												
11. 9.8		36	700	12			6																					
12. 10.8		124	500				6																					
13. 11.8	Conversion to Gyp./Ligno system						6																					
ENDWARD	2750	718	4639	104	38		9	12																				
ESTIMATED TOTAL	2750	1003	6139	125	40		34	12																				
REMARKS																												



ANCHOR DRILLING FLUIDS AS

OSLO -- STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM

GYP/LIGNO

12 1/4" / 8 1/2" HOLE

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG NORDRAUG

ENGINEERS FORD/WERSLAND/AASE/CHAVEZ/TORGENSEN

DAY	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES															
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	MT BARITE	BENTONITE	BENTONITE BARITE	LIGNO-SULPHONATE	THINNERS		POLYMERS						OTHERS							
									CMC	L.V.	CMC	H.V.	DRISPAC REG.	DRISPAC S.I.	XC POLYMER	SODA ASH	CAUSTIC	DRUG.	DETERGENT	DEFOAMER	GYP			
14	12.8		580	1000	11	7	4	9			34			20				3	5					59
15	13.8		550	780	30	6		36			36			32			1	9	3		1			64
16	14.8		132	200	3		126	59			31			6	5	2	14	2					44	
17	15.8		81	300	4		100	21							16	2	13	1					11	
18	16.8		154	160	4			13			36				2		21	1					20	
19	17.8		323	400			60	10						22		1	33	1					42	
20	18.8		121	250	8	1	108	8			44			4		2	19	2					59	
21	19.8		156	150	10		23	3			22	26					26	3					35	
22	20.8		223					2				9					7	1						
23	21.8		35	15				3				3					3							
24	22.8	250	46																					
25	23.8		366	200			60	10			2	2					5							
26	24.8		48	280	15	5		21			25						16							
27	25.8		78	231	9	4		16							1	10								
FORWARD		2750	1003	6139	125	40	0	34	12		0	0	0	0	0	0	65	0	0	0				
ESTIMATED TOTALS		3000	3896	10105	219	63	481	245	12		230	40	52	32	23	9	244	19	1	334				
REMARKS																								



ANCHOR DRILLING FLUIDS AS

OSLO -- STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM

GEL/LIGNO

8 1/4" HOLE

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG. NORDRAUG

ENGINEERS AASE/FORD/CHAVEZ/TORGENSEN

DAY NO.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																
		LOSSES SURFACE	VOLUME MUD BUILT		BARITE	BENTONITE			THINNERS				POLYMERS				OTHERS								
	1982			MT	MT																				
28	26.8	288	185					22				28	1												10
29	17.8	150	180	33				9				21	4												8
30	28.8	178	120	18				5				4													6
31	29.8	76	25	16	2			4				8	2												1
32	30.8	50	78					18							5										4
33	31.8	98	25	9								4		2											2
34	1.9	77	50	2				18																	10
35	2.9	178	250		3			13					3												8
36	3.9	30	261		3			26																	8
37	4.9	77	50	19				2					3												5
38	5.9	36	60	7		2							13												5
39	6.9	49	40	3		15		9																	4
40	7.9	172	220	2	3			24				5													6
41	8.9	22	80	10				23				25													7
FORWARD		3000	3896	10105	219	63	481	245	12			230	40	52	32	23	9	244	19	1	334				
ESTIMATED TOTALS		3000	5377	11729	338	74	498	418	12			321	70	52	39	23	9	328	19	1	334				
REMARKS																									

Drilling Fluid & Material Consumption Report

MUD SYSTEM

GEL/LIGNO

8 1/2" HOLE/TESTING

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG. NORDRAUG

ENGINEERS FORD/TORGENSEN/AASE

DAY NO.	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS			MATERIALS ADDED TO CONTROL PROPERTIES														
		LOSSES SURFACE	VOLUME MUD BUILT		BARITE	BENTONITE	BENTONITE	BARITE	LIGNO-SULPHONATE	LIGNITE	THINNERS	CMC L.V.	CMC H.V.	DRUSPAC REG.	DRISPAC S-L	XC POLYMER	SODA ASH	CAUSTIC	DRUG. DETERGENT	DEFOAMER	OTHERS	GYP	BICARB.	
42	9.9	49	20		4			14			2						5							
43	10.9	85	20		8			6			3						6							
44	11.9				N	I	L																	
45	12.9	14			2			4			4						1							
46	13.9	20	10		2			6			2						1							
47	14.9				4			13																
48	15.9	125	15		3			4			2											8		
49	16.9	202	19		7			4			1	1										2		
50	17.9	62	10					2			2											1		
51	18.9				N	I	L																	
52	29.9				N	I	L																	
53	20.9				N	I	L																	
54	21.9	124	220		5			20			15	3				2	5							
55	22.9										2	1											1	
FORWARD		3000	5377	11729	338	74	498	0	418	12	321	70	52	39	23	9	328	19	1	334	0			
ESTIMATED TOTALS		3000	6058	12043	373	79	498	13	478	12	354	75	52	39	23	11	346	19	1	334	12			

REMARKS



ANCHOR DRILLING FLUIDS AS

OSLO -- STAVANGER

WELL NAME 7120/7-1

AREA TROMSØFLAKET

Drilling Fluid & Material Consumption Report

OPERATOR STATOIL

RIG NORDRAUG

MUD SYSTEM

GEL/LIGNOSULPHONATE

ENGINEERS AASE/CHAVEZ

DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																		
	LOSSES SURFACE	VOLUME MUD BUILT		BARITE	BENTONITE	BENTONITE	BARITE	LIGNO-SULPHONATE	LIGNITE	THINNERS	POLYMERS					CAUSTIC	DRIG. DETERGENT	DEFOAMER	BICARBON.	GYPS	CaCl ₂					
											CMC L.V.	CMC H.V.	DRISPAC	REG.	DRUSPAC										S.L.	XC
1982																										
56 23.9		20	20			17		1				8	4													
57 24.9			79			NONE		USED																		
58 25.9		110				NONE		USED																		
59 26.9	104					.							1													
60 27.9			80			2																				
61 28.9		14				NONE		USED																		
62 29.9						NONE		USED																		
63 30.9	80	30				NONE		USED																		
64 1.10	200	50				NONE		USED																		
65 2.10		90																								4
66 3.10			31			NONE		USED																		
67 4.10	201	20																								4
68 5.10																										4
69 6.10	9			22								1	14													
FORWARD	3000	6058	12043	373	79	498	13	478	12			354	75	52	39	23	11	346	19	1	12	334	0			
ESTIMATED TOTALS	3594	6392	12253	395	79	517	13	479	12			363	94	52	39	23	11	353	19	1	12	334	12			

REMARKS

Drilling Mud Properties Record

MUD SYSTEM SPUD MUD / NATURAL MUD

WELL NAME 7120/7-1

AREA TROMSØFLAKET

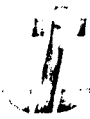
OPERATOR STATOIL

RIG NORDRAUG

ENGINEERS D.H. FORD

Day No	DATE	DEPTH	MUD PROPERTIES																		OPERATION REMARKS				
			DENSITY PPG SG	VISCOSITY				GELS 0	FLUID LOSS 30 Min cc's	CAKE 32 hrs	H.T.H.P. cc's	pH	Filtrate Analysis			RETORT		BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL		"Z"	"K"		
				sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.						Ca. ++ ppm	Pl	% OIL	% SOLIDS	% SAND								
1	1982 30.7		1.08	100																					
2	31.7	281	1.08	110																					
3	1.8	319	1.08	105																					
4	2.8	319	1.08	60																					
5	3.6	518	1.07	55	30	7	47				10		1												
6	4.8	752	1.08	47	24	7	34	24	60	3	10	17K												nil	
7	5.8	752	1.10	50	35	6	58	15	25	N/C	11	19K	1000	0.8											
8	6.8	752	1.09	47	25	8	34			N/C	10.6	18K	1200												nil
9	7.8	752	1.30	48	27	7	40				10.4	18K	1200												nil
10	8.8	354	1.09	49	30	7	46			N/C	10.2	15000	760												
11	9.8	642	1.09	47	28.5	7	43			N/C	10.4														
12	10.8	864	1.08	42	24	6	34			N/C	11.2														nil
13	11.8	865	1.10	38	22.5	6	33			N/C	11.0														

REMARKS



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GYP/LIGNO

WELL NAME 7120/7-1 AREA TROMSØFLAKET
 OPERATOR STATOIL RIG NORDRAUG
 ENGINEERS D. H. FORD/S.WERSLAND/A. AASE

Day No	DATE	DEPTH	MUD PROPERTIES																			OPERATION REMARKS	
			DENSITY PPG SG	sec/qt	VISCOSITY		Y.P. #/100 sq.ft.	GELS 0	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	PH	Filtrate Analysis			RETORT		BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"		"K"
					AV cps	P.V. cps							Ca. ++ ppm	PI	% OIL	% SOLIDS	% SAND						
14	12.8		1.08	38	22.5	10	25				10.5												
15	13.8	870	1.15	40	17	6	22	5	25	2	11.0	12	2000	0.7	6		12.5	4					
16	14.8	1089	1.15	80	25	16	18	9	16	2	10.5	11	1800	0.5	8		18	3					
17	15.8	1270	1.15	70	25	14	22	9	28	1	10.5	14	1900	0.35	7		18	3					
18	16.8	1462	1.16	76	27	16	22	13	35	1	10.0	13	1900	0.5	11		20	2.9					
19	27.8	1650	1.16	54	24	15	18	7	20	1	10.0	16	1840	0.4	10		21	3					
20	18.8	1766	1.2	63	24.5	15	19	6	27	1	10.0	15	1880	0.35	11		22	3.2					
21	19.8	1917	1.22	70	28	17	22	7	32	1	10.5	15	1760	0.5	11		22	2.5					
22	20.8	1917	1.22	60	22.5	16	13	4	31	1	10.0	15	1360	0.35	11		20	2.0					
23	21.8	1917	1.22	75	25	17	16	4	23	1	10.5	16	1320	0.4	11		20	1.9					
24	22.8	1917	1.22	71	25	17	16	4	21	1	10.5	16	1200	0.4	11		20						
25	23.8	1920	1.22	60	22.5	15	15	4	20	1	10.5	16	1360	0.4	11		24						
26	24.8	2049	1.22	53	21.5	14	15	3	21	1	10.0	14	1080	0.45	10		25						
27	25.8	2135	1.25	53	23	16	14	3	22	1	13.6	10.5	14	940	0.5	11	TR	25					

REMARKS

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO

WELL NAME 7230/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG NORDRAUG

ENGINEERS AASE/CHAVEZ/FORD/TORGERSEN

Dy No	DATE	DEPTH	MUD PROPERTIES																				OPERATION REMARKS		
			DENSITY PPG/SG		VISCOSITY				GELS	FLUID LOSS 30 Min cc's			Filtrate Analysis			RETORT			BENTONITE #/BBL			"N"		"K"	
			sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	0	10	CAKE 32 hrs	H.T.H.P. cc's	pH	Ca. ++ ppm	Cl- ppm	Pt	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"			
28	26.8	2245	1.25	52	24	17	14	3	16	5.2	1	13	10.5	15	660	0.45	11	nil	22						
29	27.8	2341	1.30	54	27	20	14	5	28	5.2	1	13	10.5	15	720	0.5	11	nil	25						
30	28.8	2416	1.36	55	26	19	14	4	24	4.2	1	13	11.0	15	520	0.4	15	nil	22.5						
31	29.8	2441	1.36	52	24	17	14	3	25	5.2	1	14	10.5	16	520	0.45	15	TR	25						
32	20.8	2469	1.36	55	26	20	12	3	18	4.4	1	12	10.5	15	360	0.4	16	TR	22.5						
33	31.8	2494	2.36	53	27	20	13	3	22	4.8	1	13.2	10.5	15	360	0.45	15	TR	22.5						
34	1.9	2523	1.36	55	26	19	14	3	21	4.4	1	13.4	10.5	16	320	0.4	14	TR	22.5						
35	2.9	2598	1.36	52	27	20	14	2	21	4.6	1	12	10.4	13	320	0.3	15	TR	25						
36	3.9	2660	1.36	54	26	19	14	3	21	4.8	1	12	10.4	14	280	0.45	15	TR	27.5						
37	4.9	2684	1.36	53	25.5	19	13	3	20	4.6	1	12.2	10.6	14	240	0.45	15	TR	25						
38	5.9	2737	1.36	54	26.5	19	15	4	24	4.8	1	15	10.6	15	200	0.5	14	TR	25						
39	6.9	2769	1.36	55	27	20	14	4	20	4.8	1	14.6	10.4	14	200	0.4	14	TR	25						
40	7.9	2780	1.36	53	25	18	13	3	22	5.0	1	14.8	10.6	14	220	0.3	14	TR	25						
41	8.9	2806	1.36	54	27	20	14	4	16	4.4	1	14.2	10.8	14	180	0.45	15	TR	22.5						

REMARKS

FUNCTION DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG NORDRAUG

ENGINEERS FORD/TORGERSEN /ASE

Day No	DATE	DEPTH	MUD PROPERTIES																				OPERATION REMARKS		
			DENSITY PPG SG	sec. qt	VISCOSITY			GELS 0	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	PH	Filtrate Analysis			RETORT		BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"			
					A.V. cps	P.V. cps	Y.P. #/100 sq.ft.						Ca. ++ ppm	PI	% OIL	% SOLIDS	% SAND								
					10	10	1000																		
42	9.9	2813	1.36	56	28	20	15	4 23	4.3	1	13.6	10.6	15	220	0.4	nil	15	TR	22.5						
43	10.9	2839	1.36	52	26	19	14	4 18	4.4	1	13.8	10.6	14.6	180	0.5	nil	14	TR	24						
44	11.9	2839	1.36	54	24.5	18	13	3 14	4.4	1	13.8	10.6	14.5	200	0.45	nil	14	TR	24						
45	12.9	2839	1.36	53	26	19	14	4 20	4.3	1	13.7	10.7	14.5	180	0.4	nil	15	TR	24						
46	13.9	2839	1.36	52	24.5	18	13	4 18	4.1	1	13.5	10.3	15	180	0.4	nil	15	TR	23						
47	14.9	2839	1.36	55	25.5	19	13	4 17	4.0	1	13.5	10.9	15	240	0.6	nil	15	TR	23						
48	15.9	2839	1.36	55	24.5	18	13	3 15	4.1	1	13.7	10.5	15	200	0.5	nil	14	TR	23						
49	16.9	2839	1.36	54	25.5	19	13	3 16	4.1	1	13.5	10.9	15	220	0.65	nil	14	TR	24						
50	17.9	2839	1.36	55	24.5	18	13	3 15	4.1	1	13.6	10.9	15	200	0.7	nil	14	TR	24						
51	18.9	2839	1.36	57	25.5	19	13	3 16	4.1	1	13.5	10.9	15	210	0.7	nil	14	TR	24						
52	19.9	2839	1.36	58	25.5	19	13	3 17	4.1	1	13.6	10.9	15	220	0.7	nil	14	-	24						
53	20.9	2839	1.36	58	25.5	19	13	3 17	4.1	1	13.5	10.9	15	220	0.7	nil	14	-	24						
54	21.9	2839	1.25	55	20.5	14	13	3 12	4.7	1	14.5	10.7	15.5	220	0.6	nil	9	-	23						
55	22.9	2839	1.25	52	19	13	12	3 10	4.8	1	14.7	10.7	15.5	220	0.6	nil	9	-	23						

REMARKS



STATOIL DRILLING FLUIDS AS

OSLO -- STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO

WELL NAME 7120/7-1

AREA TROMSØFLAKET

OPERATOR STATOIL

RIG NORDRAUG

ENGINEERS AASE/CHAVEZ

DAY NO.	DATE	DEPTH	MUD PROPERTIES																			OPERATION REMARKS		
			DENSITY PPG SG	sec qt	VISCOSITY			GELS 0	FLUID LOSS 30 Min ccs	CAKE 32 hrs	H.T.H.P. ccs	PH	Filtrate Analysis			RETORT		BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"		"K"	
					A.V. cps	P.V. cps	Y.P. #/100 sq.ft.						10	Ca. ++ ppm	PT	% OIL	% SOLIDS							% SAND
1982																								
56	23.9	2839	1.25	56	21.5	15	13	4 18	4.9	1	14.3	10.9	15	220	0.9		9		22					
57	24.9	2839	1.25	55	20	14	13	2 25	5.0	1	14	11.0	13	280	1.0		9	nil	20					
58	25.9	2799	1.25	53	20	14	12	2 21	5.0	1		11.0	13	280	0.7		9	nil	20					
59	26.9	2450	1.25	52	20	14	12	1 20	5.2	1		11.0	11	320	0.9		9	nil	20					
60	27.9	2450	1.25	50	20	15	10	1 18	5.4	1		10.5	11	320	0.6		9	nil	20					
61	28.9	2450	1.25	48	20	15	10	1 20	5.6	1		10.5	11	300	0.7		9	nil	20					
62	29.9	2450	1.25	53	18.5	13	11	2 22	5.6	1		10.8	12	500	0.8		9	nil	20					
63	20.9	2450	1.25	50	18.5	13	11	2 20	5.6	1		10.8	12	500	0.8		9	nil	20					
64	1.10	1670	1.25	50	18.5	13	11	2 20	5.6	1		10.5	12	400	0.6		9	nil	20					
65	2.10	1670	1.25	48	18	13	10	2 18	5.8	1		10.2	13	420	0.5		9	nil	20					
66	3.10	1670	1.25	48	17	12	9	1 18	5.8	1		10.0	13	560	0.6		9	nil	20					
67	4.10	475	1.25	48	17	12	9	1 20	6.0	1		10.0	13	560	0.5		9	nil	20					
68	5.10	360	1.26+	48	17	12	9	2 20	6.0	1		10.0	13	520	0.65		9	nil	20					
69	6.10	320	1.26+	48	17	12	9	2 20	6.0	1		10.0	13	520	0.65		9	nil	20					

REMARKS

RFT pressure points 7120/7-1:

Depth, m RKB	Pressure psia	bara	gm/cc
2409	3860	266.14	1.127
2417.5	3868	266.69	1.125
2425	3871	266.90	1.123
2429	3870	266.83	1.120
2436	3870	266.83	1.117
2447.5	3877.5	267.34	1.114
2467.5	3881.5	267.62	1.106
2475.5	3892.5	268.38	1.106
2484.6	3898.5	268.79	1.103
2489.5	3906.5	269.34	1.104
2500	3920.5	270.31	1.103
2523	3963	273.24	1.105
2661	4171	287.58	1.102
2671.3	4187	288.68	1.102
2681.1	4199	289.51	1.101

Gas gradient linear fit: $R^2 = 0.899$
 Water gradient linear fit: $R^2 = 0.999$

RFT - sampling data

Well: 7120/7-1

Date: 12.09.82

Run no: 1

Type of sample (segreg./separate): . Attempted segregated sample

Chamber sizes, lower: 2 3/4 gal

upper: 1 gallon

Choke sizes: 4 x 0.015

Filter type: Standard

Depth	m RKB	2477.5
Log hydr. pres. bef. setting	bara	331.91
Log pretest pressure	bara	267.79
Cor. pretest pressure	bara (g/cc)	268.79 (1.106)

Lower/upper chamber:		Lower
time opened		-
log flowing pressure	bara	7
log shut-in pressure	bara	266.2
time sealed		After 57 minutes
cor. flowing pressure	bara	-
cor. shut-in pressure	bara (g/cc)	267.1

Lower/upper chamber		Upper
time opened		
log flowing pressure	bara	This chamber was never
log shut-in pressure	bara	attempted opened, due
time sealed		to tool failure.
cor. flowing pressure	bara	-
cor. shut-in pressure	bara (g/cc)	-

Log hydr. pres. after retracting	bara	-
Max. recorded temp.	°C	87.7
Surf. pres., lower ch.	bara	0
Surf. pres., upper ch.	bara	-

Comments: 2 3/4 gal. chamber bled off offshore. Zero opening pressure.

DST no. 1:

Perforated interval: 2487 - 2505 m (water zone)

Objectives: - Obtain fluid samples (formation water)
- Reservoir pressure and temperature
- Estimate reservoir properties

The test consisted of a short initial flow and initial shut-in followed by a longer flow period and final shut-in period. Due to mud u-tubing into test string through the mechanical circulation valve when setting packer, the flow was very restricted. Formation water did never flow to surface before the well died, due to the extra amount of mud in the string. Approximately 22 bbls of formation water flowed into the string. When the flow rate was exceptionally low (1.2 l/min) it was decided to cancel the test by shearing the APR-m valve and reverse out the content of the test string. Analysis of the string content showed that rather clean formation water was produced with a salinity of 99000 ppm NaCl and density of 1.068 gm/cc.

Both the initial and the final build-ups indicate a permeability of 37 md over the tested interval. This section was not cored.

DST no. 2:

Perforated interval: 2415 - 2435 m (gas zone)

Objectives: - Obtain fluid samples (PVT samples)
- Measure rate and productivity
- Reservoir properties
- Reservoir pressure and temperature.

The test consisted of a short initial flow and initial shut-in followed by a longer flow period and a longer final shut-in. The planned multirate test had to be cancelled due to gas-leak in the riser. The clean-up period and flow period on 64/64" choke followed by 48/64" choke lasted for 14 hrs 35 minutes.

The final shut-in period lasted for 20 hrs 56 minutes. Two good sets of PVT-samples were obtained on the 48/64" choke. The production rates on 48/64" choke were about 489 000 SM³/D of gas and 18.8 M³/D of condensate (GCR = 26 000 SM³/M³).

PRODUCTION FIGURES DST no. 1:

Time interval	MINUTES	LITRES	COMMENTS
0607 - 0619	12	1808	Initial Flow
0619 - 0629	10	174	
0629 - 0720	51	0	Initial shut-in
0720 - 0739	19	116	Final flow
0739 - 0805	26	158 (est.)	"
0805 - 0845	40	172	"
0845 - 1200	195	780	"
1200 - 1230	30	60	"
1230 - 1300	30	62.5	"
1300 - 1330	30	48	"
1330 - 1400	30	43	"
1400 - 1430	30	36	"
1430 - 1530	60	72	"
1530 - 1700	90	0	Final shut-in

Total 3529.5 l
= 22.2 bbls

INITIAL FLOW: $t_1 = 22$ min, $Q = 1982$ l = 816 BWPD

Last rate : 174 l/10 min $q_1 = 157.6$ BWPD

teff : $\frac{17.4 \text{ l/m} \cdot 10 \text{ min} + 150.7 \text{ l/m} \cdot 12 \text{ m}}{17.4 \text{ l/m}} = 134.7 \text{ min}$

FINAL FLOW: $t_2 = 490$ min, $Q = 1547.5$ l = 28.6 BWPD

Last rate: 1.21 l/min $q_2 = 11$ BWPD

teff: $\frac{1547.5 \text{ l}/490 \text{ min} \cdot 490 \text{ min}}{1.21 \text{ l/min}} = 1279 \text{ min}$

7120/7-1 DST no. 1 = 2487 - 2505 m RKB

PRELIMINARY RESULTS

Sequences	Duration (min)	WHP (bars)	WHT (°C)	BHP* (bar)	BHT* (°C)	Water rate SCMD**	Choke (inch)
Initial flow	22	1-10.67	12.2	261.72	91.6	129.7	6/64
Initial build-up	51	2.53	12	268.10	92.0	-	-
Main flow	490	1	14	267.58	92.6	4.55	32/64
Final build-up	89	-	-	267.96	92.7	-	-

Water gravity : 1.068 gm/cc

Salinity Cl⁻ : 60000 ppm

Water resistivity: 0.094 ohm m at 20 deg C (0.034 ohm m at reservoir temp.)

Total hardness: 7000 ppm

* Flopetrol SSSR 81058

** Rate measured through bubble hose (average)

7120/7-1 DST no. 2 : 2415 - 2435 m RKB

PRELIMINARY RESULTS

Sequences	Duration (min)	WHP (bar)	WHT (°C)	BHP* (bar)	BHT* (°C)	Gasrate MSM ³ /D	Cond.rate M ³ /D**	Choke (inch)
Initial flow	7	1	15.5	218.6	85.7	-	-	
Initial build-up	69	4.8	16.4	266.74	88.0	-	-	-
Main flow	875	99.6	19.7	190.71	85.8	489	18.8	48/64
Final build-up	1256	146.4	19.8	267.34	88.7	-	-	-

Gas gravity : 0.680
 Condensate gravity : 0.780
 CO₂ : 4%
 H₂S : 0%
 BS&W : 10-15%

Note: Multirate flow period cancelled due to leak in riser !

* Flopetrol SDR 82101 at 2400.55 m RKB

** Measured on stock tank