

Denne rapport
tilhører



L&U DOK. SENTER

L. NR. 20088370042

KODE Well 31/2-7 nr 12

Returneres etter bruk

WELL SUMMARY

A/S NORSKE SHELL

WELL NO. 31/2-7



ANCHOR DRILLING FLUIDS AS

WELL SUMMARY

A/S NORSKE SHELL

WELL NO. 31/2-7

GENERAL SUMMARY

OPERATOR NORSKE SHELL

WELL NO. 31/2-7

OPERATOR'S REPRESENTATIVES

J. DALY, J. HULME

CONTRACTOR DOLPHIN DRILLING SERVICES

RIG BORGNY DOLPHIN

CONTRACTOR'S REPRESENTATIVES

H. FRIESTAD, H. KILPATRICK

ANCHOR ENGINEERS

C. ATKINSON, A. YOUNG, C. BLANCHARD

WATER DEPTH	338 m
SEABED to RKB	363 m
36" HOLE DRILLED TO	455 m
30" CASING SET AT	449 m
26" HOLE DRILLED TO	825 m
20" CASING SET AT	812 m
17 $\frac{1}{2}$ " HOLE DRILLED TO	1517 m
13 $\frac{3}{8}$ " CASING SET AT	1495 m
12 $\frac{1}{4}$ " HOLE DRILLED TO	1660 m
9 $\frac{5}{8}$ " CASING SET AT	1652 m
8 $\frac{1}{2}$ " HOLE DRILLED TO	
7" LINER SET AT	
6" HOLE DRILLED TO	



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/7-2

OPERATOR NORSKE SHELL

ENGINEERS C. ATKINSON

DATE 20.4.82

Rig on location. Ran anchors.

Carried out materials and screen inventories (ordered as necessary).

Checked on testing equipment.

DATE 21.4.82

Finished running anchors. Ballasted rig. Tensioned anchors.

Made up 36" BHA. Prepared to spud.

Mixed 1385 bbls prehydrated Bentonite spud mud.

Dressed shakers with 20/20 - 20/40 - 20/40 ; Thule has 150s.

DATE 22.04.82

Ran and landed temporary guide base. RIH with 26" bit and 36" hole opener.

Spudded well at 11:30 hrs. Used sea water and 35 bbls hi-vis pills as required. Drilled from 363 m to 444 m. (Surveyed at 420 m = $\frac{1}{2}$ °).

Flocculated spud mud with Lime prior to pumping as pills.



ANCHOR DRILLING FLUIDS AS
OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/7-2

OPERATOR NORSKE SHELL

ENGINEERS C .ATKINSON

DATE 23.4.82

Drilled 36" hole from 441 m to 455 m. Pumped a 200 bbls hi-vis pill. Made check trip. O.K. Displaced hole with 600 bbls hi-vis mud. POOH. Ran and cemented 30" casing. POOH with landing string.

Mixed 150 bbls Calcium Chloride cement mix water. Started mixing new gel/seawater mud (600 bbls).

Dressed Thule unit with 200 mesh screens.

DATE 24.4.28

POOH. Made up 26" hole opener and 17½" bit assembly. RIH. Tagged cement at 437 m. Drilled cement to 451 m. Drilled 26" hole from 455 m to 465 m.

Circulated hole clean with seawater. POOH. Laid down hole opener. Made up 17½" BHA. Made up pin connector and RIH with marine riser - latched same.

Had 1075 bbls gel/seawater mud mixed for displacement. Also 320 bbls kill mud at 1.40 sg in pit no 4. Made up SAPP/Caustic bags for use if necessary in Barite PWE recipe. (1 bag for each 10 bbls final volume.)

DATE 25.4.82

Rigged up diverter. Filled riser with seawater. Made up 17½" BHA. RIH to 465 m. Checked diverter. Circulated with seawater. Displaced hole (lost 100 bbls due to open valve under sand traps). Drilled 17½" hole from 465 m to 708 m,

Continued water addition for mud weight below 1.12 sg. Mixed CMC (hi-vis) and Drispac for visc. maintenance. Caustic for alkalinity.



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS C. ATKINSON

DATE 26.04.82

Drilled 17½" pilot hole 708 m to 823 m. Circulated 1 hr to clean hole. Wiper trip to shoe (recovered survey).

RIH to T.D. Circulated B.U - no gas. Pumped 360 bbls of 1.40 sg mud in open hole. POOH to log. Made up 17½" bit and RIH.

Maintained system at 1.10 sg max while drilling. Drispac for hi-vis.

Screens changed to 20/360 due to blinding of (40x40) by sand. Dumped and cleaned out sand traps. Changed 2 broken 200 mesh Thule screens.

DATE 27.4.82

RIH to T.D. (823 m). Circulated hole to seawater - lost returns with (1.10-1.40 sg) system above shoe. E.C.D. = 1.28 sg. Opened dump valve to dump riser volume. Closed valve and obtained returns again with slow pump. Opened dump again. Circulated hole clean with sea water. Stopped and checked for flow ½ hour. O.K. Pumped 350 bbls hi-vis gel to displace open hole. POOH with 17½" bit. Pulled marine riser and pin connector. Made up new 26" BHA. RIH to 450 m. Picked up kelly. Tagged at 465 m. Opened to 26" from 465 m to 470 m.

Increased visc. in pits no. 1 and 2 to 100+ with XC Polymer for hi-vis pills. Started to mix hi-vis gel mud also for pills. Received shaker screens as per order of 21.4.82.

DATE 28.4.82

Opened to 26" hole 470 m - 822 m. Pumped 30 bbls hi-vis pills on connections. Circulated ½ hour with seawater. Spotted 200 bbls hi-vis gel. Circulated hole clean for 1 hour. Dropped survey and POOH to 30" shoe. Recovered survey. RIH to T.D. Circulated ½ hour with sea water. Pumped 200 bbls hi-vis pill. Circulated 1 hour with seawater. Displaced open hole with + 800 bbls of 1.30 sg hi-vis gel. POOH to run casing.

Mixed total of 800 bbls hivis gel. Weighted up + 800 bbls to 1.30 sg for displacing hole.

Dumped and cleaned out pit no. 2. Ready for mixing CaCl₂.



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS C. ATKINSON/A. YOUNG

DATE 29.04.82

Continued POOH. Lost one cone of H.O. Made up 26" bit. RIH to 471 M. Reamed 471 M to 822 M. Drilled to 825 m. POOH wiper trip. RIH to 664 M. Reamed back to T.D. Circulated sea water. Pumped 200 bbls Hi-Vis pill. Circulated hole clean for 1½ hrs.

Made up +700 bbls Hi-Vis gel at 1.30 sg. (Pits no. 3 and no. 4). Mixed + 700 bbls Hi-Vis gel in pits no. 1 and no. 2.

DATE 30.04.82

Displaced hole with + 770 bbls of 1.30 sg mud. POOH. Rigged up and ran 20" casing. Picked up hanger and RIH. Tight spot at 666 M.

Picked up kelly. Washed tight spot. Set and cemented casing.

Dumped and cleaned out all pits and lines. Mixed CaCl₂ water for cementing. (150 bbls pit no. 2)

Dressed mud cleaner screens to 150 x 120. Pits empty. Waited on KCl brine.

DATE 01.05.82

Waited on weather. Received 554 bbls KCl brine. Mixed Kcl/Polymer system.



ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS A. YOUNG/E. SUNDE

DATE
2.5.82

Ran BOP's and riser. Pulled same to inspect for leak.

Completed mixing new mud.

Weight: 1.26 Viscosity: 55 Depth: (825) m

DATE
3.5.82

Worked on BOP's and riser.

Ran BOP's and riser.

Mud sheared in tanks with rig pumps.

Weight: 1.26 Viscosity: 55 Depth: (825) m

DATE
4.5.82

Ran and landed BOP's. Tested same.
Pulled BOP's to inspect and repair leak.

Checked brine sample from "Balder Fosna". KCl concentration 70+ ppb. Attempted to increase KCl concentration in mud from 20 ppb to 40 ppb. 20 ppb addition resulted in 10+ ppb increase.

Weight: 1.26 Viscosity: 54 Depth: (825)



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS A. YOUNG/E. SUNDE

DATE 05.05.82

Pulled stack. Tested BOP's. Ran riser/BOP's. Sheared mud with the rig pumps.

Carried out pilot-tests.

Weight: 1.26
Viscosity: 55
Depth: (825) m

DATE 06.05.82

Ran stack. Tested BOP's. Made up 17½" BHA. RIH.

Weight: 1.26
Viscosity: 50
Depth (825) m

DATE 07.05.82

Drilled cement with sea water 788 m to 796 m. Drilled cement with mud 796 m to 812 m. Cleaned rat hole to 825 m. Drilled 17½" hole 825 m to 848 m.

Dumped header tank and Gumbo box each connection. Made new mud as necessary.

Weight: 1.26
Viscosity: 50
Depth: 848 m



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS A. YOUNG/E. SUNDE

DATE 08.05.82

Drilled 17½" hole to 1076 m (wiper trip at 919 m). Pumped 20 bbls viscous mud prior to wiper trip at 1076 m. Increased mud weight to 1.30 sg as per instructions. Serviced mud cleaner. Replaced and washed out cones and removed blockages.

Dressed screens to 150 x 150. Mixed reserve mud including 320 bbls kill mud at 1.42 sg.

Depth: 1076 m Weight: 1.30+ Viscosity: 47

DATE 09.05.82

Circulated prior to wiper trip. Wiper trip to 20" shoe. Tight spots at 1003 m to 1022 m and 937 m to 927 m.

RIH and drilled 17½" hole to 1114 m. Ran survey. Drilled ahead to 1139 m. POOH for bit-change. RIH with bit no. 4. Drilled ahead to 1257 m (survey at 1248 m).

Conditioned mud to maintain KCl concentration, rheology and sg. Dumped and cleaned settling pits, gumbo box and header tank during trip. Dressed shaker screens to B 40/B 60. Mixed 350 bbls dilution treatment.

Depth: 1257 m Weight: 1.30+ Viscosity: 47

DATE 10.05.82

Drilled ahead to 1379 m. Circulated and ran survey. Drilled ahead to 1436 m. Hook unlatched during connection. Recovered and laid down kelly and one bent joint drill pipe. Repaired leak on goose neck. Drilled ahead to 1517 m. Circulated hole clean.

Dropped survey and POOH to casing shoe. Retrieved survey. Changed out mud cleaner screens to 200 x 150. Continued conditioning treatment as before.

Depth: 1517 m Weight: 1.30 Viscosity: 54



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS A. YOUNG

DATE	11.05.82
<p>RIH from 20" casing shoe. Washed and reamed tight spots 1335 m to 1379 m, 1401 m to 1455 m. Circulated 15 minutes. Pulled 7 stands - no drag. RIH. Circulated bottoms up and POOH.</p> <p>Rigged up Schlumberger and ran logs. Rigged down Schlumberger. Made up casing hanger and stand in derrick. RIH with bit no. 4 RR. Weighted up active pit to 1.34 sg as per instructions.</p> <p>Prepared 300 bbls at 1.20 sg for cement job.</p> <p>Depth: 1517 m Weight: 1.34 Viscosity: 49</p>	
DATE	12.05.82
<p>RIH to shoe. Slipped and cut drilling line. Installed new compensation hose and dolly guide roller. RIH. Washed and reamed to bottom - 10 m fill.</p> <p>Circulated hole clean. Increased mud weight to 1.34 sg. Hole still caving. Increased weight to 1.37. Caving stopped. POOH. Retrieved wear bushing. Rigged up and ran 13 3/8" casing.</p> <p>Depth: 1517 m Weight: 1.37 Viscosity: 49</p>	
DATE	13.05.82
<p>Ran and landed 13 3/8" casing. Circulated casing volume. Pumped 250 bbls 1.20 sg mud. Cemented casing. Displaced with 4400 strokes. Set seal assembly.</p> <p>Flushed out well head. POOH with landing string. Made up test tool and tested stack. POOH with test tool. RIH with wear bushing and set same. Changed out BHA. RIH and tagged float collar at 1478 m. Dumped and cleaned settling pits, header tank and gumbo trap. Prepared 1000+ bbls mud at 1.20 sg to displace hole prior to drilling. 320 bbls in reserve as kill mud.</p> <p>Depth: 1517 m Weight: 1.34 Viscosity: 54</p>	



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS C. BLANCHARD/A. YOUNG

DATE 14.05.82

Displaced hole to 1.20 sg. mud. Diluted further 250 bbls. 1.37 sg. with sea water to provide 300+ bbls reserve. Drilled rat hole. Performed leak off test.

Weight: 1.19
Viscosity: 46
Depth: 1547 m

DATE 15.05.82

Ran core barrel. Cored from 1547 m to 1556.5 m. Recovered core no. 1. POOH. Cut core no. 2 from 1556.5 m to 1559 m. POOH. Made up new core barrel.

Weight: 1.18+
Viscosity: 57
Depth: 1559 m

DATE 16.05.82

Core no. 3. Cut from 1559 m to 1578 m. POOH to recover core. RIH to cut core no. 4 from 1578 m 1597 m.

Weight: 1.18+
Viscosity: 52
Depth: 1597 m



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS C. BLANCHARD

DATE 17.05.82

Cut core no. 5 from 1597 m to 1616 m. POOH to recover core no. 5.

RIH to cut no. 6 core from 1616 m to 1635 m. POOH.

Weight: 1.18+
Viscosity: 54
Depth: 1635 m

DATE 18.05.82

RIH with new BHA. Tagged bottom at 1547 m. Reamed 8½" hole to 12 1/4" to 1605 m. Circulated bottoms up.

Drilled to 1660 m. Ran wiper trip. 4 m fill. Spotted hi-vis pill on bottom. POOH.

Weight: 1.18
Viscosity: 50
Depth: 1660 m

DATE 19.05.82

Ran logs.

Weight: 1.18
Viscosity: 46
Depth: 1660 m



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/7-2

OPERATOR NORSKE SHELL

ENGINEERS C. BLANCHARD

DATE

20.05.82

Logged. Ran wiper trip for casing. Spotted 40 bbls hi-vis pill before pulling out. Built 380 bbls of hi-vis mud for milling.

Weight: 1.18
Viscosity: 50
Depth: 1660 m

DATE 21.05.82

Ran and cemented 9 5/8" casing. Dumped 532 bbls of mud during cement job.

Weight: 1.19
Viscosity: 46
Depth: 1660 m

DATE

22.05.82

Mixed 555 bbls of Bentonite mud for milling. Tested BOP's. Ran casing scraper and circulated bottoms up.

RIH with CBL log.

Weight: 1.18
Viscosity: 100+
Depth: 1660 m



ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

DAILY SUMMARY REPORT

WELL NAME 31/2-7

OPERATOR NORSKE SHELL

ENGINEERS C. BLANCHARD

DATE

23.05.82

Ran logs. Made up casing cutter. RIH to 1570 m. Cut casing.

Displaced hole with hi-vis mud. POOH.

Weight: 1.18
Viscosity: 110
Depth: 1660 m

DATE 24.05.82

Milled 9 5/8" casing from 1584.5 m to 1590.5 m. Cleaned out hole. Jetted well head and BOP,s.

RIH to circulate out metal cuttings. Displaced casing and hole with HEC MUD.

Weight: 1.20
Viscosity: 95
Depth: 1600 m

DATE

SUMMARY OF EVENTS

OPERATOR: NORSKE SHELL

WELL NO. 31/2-7

36" HOLE/ 30" CASING INTERVAL

After making up 36" BHA, the temporary guide base was run and landed.

Sea water was used when spudding in, and 35 bbls hi-vis pills flocculated with Lime were pumped as required. The hole was drilled to 455 m without any problems, and a 200 bbls hi-vis pill was pumped. Then a check trip was made, but no evidence of obstructions. The hole was then displaced with 600 bbls hi-vis mud, and the 30" casing was landed and cemented.

SUMMARY OF EVENTS

OPERATOR: NORSKE SHELL

WELL NO. 31/2-7

26" HOLE/ 20" CASING INTERVAL

A 26" hole opener/17½" bit assembly was made up. The cement was tagged at 437 m. Cement and open hole was drilled to 465 m. A 17½" BHA was made up, and a pilot hole was drilled to a TD of 823 m.

Gel, CMC hi-vis and Drispac took care of the viscosity, and water had to be added to keep the weight below 1.12 sg. A survey was dropped after TD was reached, and a wiper trip to the shoe was made. Survey was recovered.

RIH to TD. Displaced open hole to 1.40 sg prior to logging. After logging, the hole was displaced to sea water - lost returns. Established returns after dumping riser volume and pumping at a low rate.

Displaced hole with a 350 bbls hi-vis pill and POOH. Pulled riser and RIH with 26" BHA. Tagged at 465 m and opened up to 822 m. A 30 bbls hi-vis pill was pumped on each connection. 200 bbl hi-vis gel was spotted, and a wiper trip was made. Another 200 bbls gel was spotted and the hole circulated with sea water for one hour. Open hole was displaced with 800 bbls/1.30 sg hi-vis gel, and the H/O was pulled, left roller in hole.

RIH with 26" bit. Reamed 427 m to 822 m and drilled to 825 m. POOH for wiper trip. Reamed 664 m - T.D. A 200 bbls hi-vis pill was pumped, then the hole was circulated with sea water for 1½ hour. Open hole was displaced with 770 bbls 1.30 sg hi-vis gel and casing run and cemented.

SUMMARY OF EVENTS

OPERATOR: NORSKE SHELL

WELL NO. 31/2-7

17 1/2" HOLE/ 13 3/8" CASING INTERVAL

After mixing the programmed KCl/Polymer system for this section, it showed that the K⁺-concentration in the brine only was 70 ppb instead of 100 ppb, and sack material of KCl had to be added to obtain the right concentration.

After a few minor BOP-problems, the cement was drilled out with sea water from 788 m to 796 m. The hole was displaced to mud and drilled to 848 m. Drilled ahead to 1436 m with necessary bit-changes and weight increases.

At 1436 m the kelly hook unlatched during connection. Kelly and one bent joint drill pipe was recovered. The hole was then drilled to TD - 1517 m. Survey and wiper trip was then made. Tight spots were encountered at 1335 m to 1379 m, 1401 m to 1455m. Circulated 15 minutes and pulled 7 stands. No drag.

Logs were run and a wiper trip was made. 10 m of fill indicated that the hole was caving, and the mud weight was raised to 1.34 sg and then to 1.37 sg to remedy this. Casing was run and cemented.

SUMMARY OF EVENTS

OPERATOR: NORSKE SHELL

WELL NO. 31/2-7

8 1/2 Core HOLE/ 9 5/8" CASING INTERVAL

12 1/4 to TD

The float collar of the 13 3/8" casing was tagged at 1478 m and the bit was pulled after locked cones. The cement was drilled out and a 12 1/4" rat hole drilled from 1495 m - 1517 m. After drilling ahead a drilling break was encountered from 1543 m to 1547 m. Coring was carried out from 1547 m to a total of 1635 m.

A total of 6 cores were taken and then the 8 1/2" hole was reamed out to 12 1/4" and drilled to a total depth of 1660 m. After reaching T.D., a wiper trip was run with 4 m of fill. In order to remedy this problem a havis Bentonite pill was spotted on bottom and logs were run with no problem.

After logging, a wiper trip was made for casing, and another havis pill was spotted before pulling out of hole. While running and cementing casing, 532 bbls of mud were dumped.

The casing was cemented and BOP's were tested. Then a casing scraper was run.

A total of 1085 bbls of 100+ viscosity Bentonite mud was mixed for milling casing for testing. The casing was cut at 1584.5 m and milled to a depth of 1590.5 m.

After cleaning up the well with havis mud, the well was displaced with XC Polymer HEC-mud for under-reaming and testing.

OPERATOR NORSKE SHELL

WELL NO. 31/2-7

MATERIAL CONSUMPTION & COST ANALYSIS

26" HOLE DRILLED TO 825 Meters Reek 20" CASING SET AT 812 Meters Reek

ACTUAL AMOUNT OF HOLE DRILLED 367 Meters Reek DAYS ON INTERVAL 7

DRILLING FLUID SYSTEM SEA WATER/GEL

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE *	M.T.	0	105	+105	14.070.00
BENTONITE	M.T.	45	29	- 16	9.512.00
X-C POLYMER	50 lb	0	6	+ 6	1.992.00
DRISPAC REGULAR	50 lb	0	59	+ 59	9.988.07
C.M.C. HI-VIS	25 kg	0	30	+ 30	1.830.00
CAUSTIC SODA	25 kg	50	54	+ 4	1.026.00
SODA ASH	50 kg	8	25	+ 17	462.50
CALCIUM CHLORIDE	50 kg	0	21	+ 21	483.00
S.A.P.P.	25 kg	0	1	+ 1	105.00
LF-5	25 kg	44	0	- 44	
* Barite consumption due to hole displacement of weighted and make up of kill mud.					

COST/DAY US \$5.638.45 TOTAL COST FOR INTERVAL US \$39.469.20
 COST/Mt. or Ft. US \$107.55 PROG. COST FOR INTERVAL US \$17.970.00
 ENGR. COST COST VARIANCE FOR INTERVAL US \$+21.499.20

OPERATOR NORSKE SHELL

WELL NO. 31/2-7

MATERIAL CONSUMPTION & COST ANALYSIS

12 1/4" HOLE DRILLED TO 1660 Meters ~~XXXX~~ 9518 CASING SET AT 1652 Meters ~~XXXX~~

ACTUAL AMOUNT OF HOLE DRILLED 143 Meters ~~XXXX~~ DAYS ON INTERVAL 5

DRILLING FLUID SYSTEM KCL - POLYMER/GEL/LIGNO

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M.T.	100	80	+ 20	10.720.00
BENTONITE	M.T.	0	9	+ 9	2.952.00
BENTONITE	50 kg	220	20	-200	354.00
DRISPAC REGULAR	50 lbs	60	34	- 26	5.756.20
C.M.C. HI-VIS	25 kg	0	26	+ 26	1.586.00
C.M.C. LO-VIS	25 kg	25	34	+ 9	2.006.00
CAUSTIC SODA	25 kg	70	38	- 32	722.00
LF-5	25 kg	50	127	+ 77	6.096.00
X-C POLYMER	50 lbs	15	27	+ 12	8.964.00
SODA ASH	50 kg	4	24	+ 20	444.00
SODA BICARBONATE	50 kg	0	3	+ 3	57.75
KCL	50 kg	0	13	+ 13	232.70
SPERCELL	25 kg	175	0	-175	
DRILLING DETERG.	200 l	10	0	- 10	

COST/DAY US \$7.978.13 TOTAL COST FOR INTERVAL US \$39.890.65

COST/Mt. ~~XXXX~~ US \$278.96 PROG. COST FOR INTERVAL US \$44.221.00

ENGR. COST COST VARIANCE FOR INTERVAL US \$ - 4.330.35

OPERATOR NORSKE SHELL

WELL NO. 31/2-7

TOTAL CONSUMPTION & COST ANALYSIS

TOTAL DEPTH 1660 Meters ~~K&K~~

TOTAL HOLE DRILLED 1297 Meters ~~K&K~~

TOTAL DAYS 28

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BENTONITE	M.T.	65	71	+ 6	23.288.00
BENTONITE SACKS	50 kg	220	20	-200	354.00
BARITE	50 kg	0	150	+150	945.00
BARITE	M.T.	305	348	+ 43	46.632.00
KCL BRINE	BBLS	0	864 BBLS	+864	11.739.76
KCL	50 kg	954	983	+ 29	17.595.70
C.M.C HI-VIS	25 kg	0	56	+ 56	3.416.00
C.M.C. LO-VIS	25 kg	106	134	+ 28	7.906.00
CALCIUM CHLORIDE	50 kg	0	21	+ 21	483.00
S.A.P.P.		0	1	+ 1	105.00
LF-5	25 kg	274	325	+ 51	15.600.00
ANCOPOL	25 kg drum	85	36	- 49	4.752.00
CAUSTIC SODA	25 kg	255	182	- 73	3.458.00
SODA ASH	50 kg	45	104	+ 59	1.924.00
X-C POLYMER	50 lbs	15	33	+ 18	10.956.00
LIME	25 kg	6	8	+ 2	40.00
DRISPAC REGULAR	50 lbs	150	224	+174	37.923.02
SODA BICARBONATE	50 kg	0	13	+ 13	250.25
DRILLING DETERGENT	200l drum	25	4	- 21	1.400.00
SPERCELL C	25 kg	175	0	-175	

COST/DAY

US \$6.741.71

TOTAL COST FOR INTERVAL

US \$188.767.91

COST/Mt. ~~K&K~~

US \$145.54

PROG. COST FOR INTERVAL

US \$161.629.10

ENGR. COST

COST VARIANCE FOR INTERVAL

US \$+27.138.81

WELL NAME 31/2-7 AREA NORWAY NORTH SEA
 OPERATOR NORSKE SHELL RIG. BORGNY DOLPHIN
 ENGINEERS YOUNG/ATKINSON

Drilling Mud Properties Record

MUD SYSTEM KCL/POLYMER

Day No.	DATE	DEPTH FEET <input type="checkbox"/> METERS <input checked="" type="checkbox"/>	DENSITY PPG <input type="checkbox"/> SG <input checked="" type="checkbox"/>				VISCOSITY			FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	PH	Filtrate Analysis				RETORT		BENTONITE #/BBL	POTASH #/BBL	KCL #/BBL	"N"	"K"	OPERATION REMARKS
			sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq ft.	GELS	10	0					Ca. + ppm	PI/MF	% OIL	% SOLIDS	% SAND	13						
15	4.5	822	1.26	54	40	25	30	4	4.2	1	10.5	71000	80	0.8						30.0					
16	5.5	822	1.26	55	35.5	25	27	3	4.2	1	10.4	73000	80	0.8						30.0					
17	6.5	822	1.26	50	32	21	22	3	4.2	1	10.5	73000	80	0.8						30.0					
18	7.5	848	1.27	50	34	23	22	3	4.0	1	10.5	72000	240	0.7				13	TR	2	35.0				
19	8.5	1076	1.30	47	33	24	18	3	4.0	1	10.2	69000	110	0.9				12	1.5	7	39.0				
20	9.5	1257	1.30	47	34	25	18	3	4.2	1	9.8	67000	180	0.7				13	1.5	14.5	41.0				
21	10.5	1517	1.30	54	37	28	18	3	4.2	1	9.8	69000	220	0.7				15	1.5	20	40.0				
22	11.5	1517	1.34	49	37	28	18	4	4.0	1	9.8	69000	210	0.7				15	1.0	20	40.0				
23	12.5	1517	1.37	54	40	31	18	6	4.2	1	9.6	69000	200	0.7				16	1.0	20	40.0				
24	13.5	1517	1.20	48	39	23	12	4	4.0	1	10.2	56000	320	1.0				10	0.25	14	-				
25	14.5	1547	1.19	46	28	20	16	3	4.5	1	11.7	50000	150	1.5				10	TR	14	-				
26	15.5	1559	1.18	57	24	17	14	5	4.4	1	11.0	46000	270	0.6				10	0.25	12	-				
27	16.5	1597	1.18	52	24	17	14	6	4.2	1	12.6	11.0	45000	240	0.55			10	0.25	12.5	-				
28	17.5	1635	1.18	54	22.5	15	15	5	4.5	1	11.5	43000	200	0.7				10	0.25	12	-				

REMARKS

WELL NAME 31/2-7 AREA NORWAY NORTH SEA
 OPERATOR NORSKE SHELL RIG. BORGNY DOLPHIN
 ENGINEERS A. YOUNG/C. ATKINSON/C. BLANCHARD

Drilling Fluid & Material Consumption Report
 MUD SYSTEM KCL/POLYMER - BENTONITE MILLING MUD

Day No	DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																								
		LOSSES SURFACE	LOSSES SUB SURFACE	VOLUME MUD BUILT	BARITE M/T	BENTONITE	BARITE	BENTONITE	LIGNO	THINNERS	XC POLYMER	DRISPAK	REC.	CMC HVIS	CMC HVIS	TF-5	CAUSTIC	SODA ASH	BICARB.	LIME	ANCOPOL	MICA G	MICA OTHER	NUT PLUG C	NUT PLUG F	KCL BLS	KCL SK	DRILL DET.	AL. STERATE	S.A.P. 2				
29	18.05	50		52	4			16				3	3		15	1																		
30	19.05						M	A	T	E	R	I	A	L	E	S	U	S	E	D														
31	20.05			475	10	5							5		2	1																		
32	21.05				12																													
33	22.05	200		555	11	4						23		34	4																			
34	23.05			150	19			3				8	1	8	1																			
35	24.05							1				1		15	1																			
36	25.05																																	
37	26.05																																	
38	27.05																																	
39	28.05																																	
40	29.05																																	
41	30.05																																	
42	31.05																																	
FORWARD		105	9295	11427	292	62	150					22	219	30	114	268	173	103	13	8					864	4								
ESTIMATED TOTALS		105	10077	12658	348	71	151	20				33	224	56	134	325	182	104	13	8					864	4								

REMARKS

GRAPHI-CAP

OPERATOR: Norske Shell PAGE NO: 1
 WELL NAME: 31/2-7 SPUD DATE: 22/4-82
 CONTRACTOR: Dolphin Services RIG: Borgny Dolphin

