

Denne rapport  
tilhører



UND DOK.SENTER

L.NR. 1248204 0029

KODE Well 15/9-11 nr. 34

Returneres etter bruk

## WELL SUMMARY

DET NORSKE STATS OLJESELSKAP A/S

STATOIL

15/9-11

CHOR DRILLING FLUIDS

## WELL SUMMARY

DET NORSKE STATS OLJESELSKAP A/S

STATOIL

15/9-11

# GENERAL SUMMARY

OPERATOR STATOIL

WELL NO. 15/9-11

## OPERATOR'S REPRESENTATIVES

Al Purvis, Jocill Weems, George Mostyn, Helge Ødegård,  
Gunnar Helle, Svein Bogre, Erling Rostad.

CONTRACTOR ROSS DRILLING COMPANY

RIG ROSS RIG

## CONTRACTOR'S REPRESENTATIVES

Edvin Aahre, Ove Sæthre, Einar Mæland,  
Bjarne Pedersen

## ANCHOR ENGINEERS

David H. Ford, John Hannan,  
Einar Korsvold, Anskar Aase

WATER DEPTH	89 m
SEABED to RKB	112 m
36" HOLE DRILLED TO	175 m
30" CASING SET AT	174 m
26" HOLE DRILLED TO	585 m
20" CASING SET AT	569 m
17½" HOLE DRILLED TO	1176 m
13⅜" CASING SET AT	1159 m
12¼" HOLE DRILLED TO	2590 m
9⅝" CASING SET AT	2575 m
8½" HOLE DRILLED TO	2950 m
7" LINER SET AT	2950 m
6" HOLE DRILLED TO	-



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS A.AASE/J.HANNAN

DATE 17.09.81

Rig on move. Anchor handling.

Delivered lost circulation materials to Neptuno Nordraug.

DATE 18.09.81

Mixed + 1000 bbls spud mud. Pumped 700 bbls spud mud.

Drilling to 175 m. Wiper trip to sea bed. RIH to T.D.  
Displaced to spud mud for 2nd time.

Running 30" casing.

DATE 19.09.81

Built 950 bbls gel mud.

Ran 30" casing. Cemented 30" casing.

Running the 20" riser.



**ANCHOR DRILLING FLUIDS AS**  
OSLO - STAVANGER

**DAILY SUMMARY REPORT**

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS A.AASE/J.HANNAN

DATE 20.09.81

Ran riser. RIH with 12 1/4" bit to well head.  
POOH. Waiting on weather.  
25 tons Barite used for mixing kill mud to 1.23 S.G.  
1 ton Bentonite used for mixing 100 bbls reserve mud.

DATE 21.09.81

RIH with 12 1/4" bit. Drilled 12 1/4" pilot hole to 465 m.  
Displaced hole to seawater.  
Rigged up Schlumberger.

DATE 22.09.81

Logged 12 1/4" hole. Rigged down Schlumberger.  
Displaced hole to mud.  
RIH with 17 1/2" bit and under-reamer.  
Opened hole to 253 m. POOH. Picked up 12 1/4" bit. Drilled ahead to 550 m.



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J.HANNAN/A. AASE

DATE 23.09.81

Drilled to 585 m (T.D.). Wiper trip to 235 m. RIH to T.D. Circulated bottoms up. Slugged pipe. POOH. Rigged up Schlumberger. Logged hole. POOH. RIH with 12 1/4" bit.

Displaced hole to seawater. Observed well for 30 mins. 72 units of gas. Displaced hole back to mud. POOH. Picked up 17 1/2" bit and under-reamer. Opened hole to 26" to depth of 350 m. Severe losses over shakers due to blinding of screens.

DATE 24.09.81

Under-reamed to 433 m. POOH for bit change. RIH. Drilled to T.D. 585 m. Increased mud weight to 1.25 S.G. Circulated clean. POOH. Unable to get under-reamer through wellhead. Displaced riser to seawater. RIH to T.D. Made one DP connection hand tight. POOH. Pull riser.

DATE 25.09.81

RIH with 26" bit. Reamed from 565 m. Displaced with 1100 bbls 1.25 S.G. mud. Prepared to run 20" casing.



# ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J.HANNAN/E.KORSVOLD

DATE 26.09.81

Ran, cemented and displaced 20" casing. Built 1200 bbls new mud.

DATE 27.09.81

Working on B.O.P. stack.

DATE 28.09.81

Drilled out cement + 3 m new hole. Added seawater to the initial volume.



# ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J.HANNAN/E.KORSVOLD/D.FORD

DATE 29.09.81

Drilling from 588 m to 956 m. Premixed gel and transferred to active all the time. Used CMC for Fluid loss control. Extremely high sand content.

DATE 30.09.81

Drilling to 1169 m. Circulated hole clean.

DATE 1.10.81

Ran 13 3/8" casing. Lost circulation during cementing. 310 bbls mud penetrated the formation.





# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D.FORD/E.KORSVOLD

DATE 2.10.81

Displaced cement. Waiting on cement. Flushed kill and choke line. No return of cement. Tested seal assembly and BOP. RIH right before midnight.

DATE 3.10.81

RIH to drill out cement. Had to dump 870 bbls. highly cement-contaminated mud. Weighted up to 1.20 S.G. after leakoff test. Brought fluid loss down by adding CMC.

Mud in good shape. Seemed to work out better with less Ligno than programme called for.

DATE 4.10.81

Sticky hole. Tight spots. Max 37 tons overpull.

Picking up clay from formation continuously.



# ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D.FORD/E.KORSVOLD

DATE 5.10.81

Started to add 70 bbl/hr seawater. Ended up with 240 bbl/hr seawater. Fighting sticky hole. The lower clay content the better when pulling out of hole.

DATE 6.10.81

Thinned the mud while drilling. Water addition approx. 120 bbl/hr. The result was a 10 ppb decrease in MBT. Kept a satisfactory Y.P. by adding CMC HV and a few sacks of Drispac regular. Max. overpull 36 tons. High penetration rate when drilling.

DATE 7.10.81

Continued to dilute mud with seawater. Started with 70 bbl/hr, slowed down to approx. 25 bbl/hr. The claystone now being drilled is less reactive compared to the one 100 m above. Still tight spots in hole (2113-2085). Maximum overpull 40-45 tons.



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D. FORD/E. KORSVOLD/A. AASE

DATE 8.10.11

Continued diluting mud with water. Kept MBT in balance. Still tight hole. 40 tons overpull. Lower penetration rate at the moment. Expecting soon to reach the sandlayer. Will then start coring.

\* 25 sxs caustic used yesterday adjusted in this report.

DATE 9.10.81

Ran water to control weight and MBT levels. Drilled into sand. Changed screens on two shakers to 80's at geologist's request because of fine sand. Trip - started swabbing on stand 18. RIH. Circulated the hole. No water added for accurate control and monitoring of volume. Hence weight rise to 1.22 S.G. 35 bbls lost over shakers on bottoms up. POOH. Hole in very good condition.

DATE 10.10.81

Cut core no. 1 and 2 from 2368 m - 2375 m.



**ANCHOR DRILLING FLUIDS AS**

OSLO - STAVANGER

**DAILY SUMMARY REPORT**

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D.FORD/A.AASE

DATE 11.10.81	<p>Coring from 2376 m - 2379 m. Reaming. Cut core barrel no. 3.</p>
DATE 12.10.81	<p>Coring from 2395 m - 2424 m.</p>
DATE 13.10.81	<p>Cut core no. 5 to 2430 m. Built 117 bbl gel.</p>



# ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D.FORD/A.AASE/J.HANNAN

DATE 14.10.81	<p>Ran water and all solids removal equipment to reduce MBT, solids and PV.</p> <p>Reduced fluid loss on Statoil's request as coring in permeable formation</p>
DATE 15.10.81	<p>Coring no. 8 and no. 9.</p>
DATE 16.10.81	<p>Cut core no. 10 and no. 11 to 2510 m.</p>



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OSLO - STAVANGER

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WELL NAME 15/9-11

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ENGINEERS J.HANNAN/A.AASE

DATE 17.10.81	<p>Cored to 2514 m. Tested BOP's.</p> <p>Changed bottom screen on shaker no. 1 and no. 3 due to mud losses.</p> <p>Changed to 40 mesh.</p>
DATE 18.10.81	<p>Drilled new formation to 2538 m. Changed shaker screens due to high mud losses.</p>
DATE 19.10.81	<p>Waiting on weather. Drilled 12 1/4" hole to 2577 m. Built some new gel and bled into the active system.</p>



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OSLO - STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J. HANNAN/A. AASE

DATE  
20.10.81

Drilled 12 1/4" hole to T.D. - 2590 m.

DATE  
21.10.81

Ran Schlumberger logs.

DATE  
22.10.81

Finished logging. RIH with bit. Circulated and conditioned mud, 10 stands wiper trip. RIH to T.D. Circulated hole clean and slugged pipe. POOH.

Rigged up and ran 9 5/8" casing.



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J. HANNAN/E. KORSVOLD

DATE 23.10.81	<p>Ran and cemented 9 5/8" casing. Unable to displace to float collar. Lost approx. 200 bbls. mud during displacement. Possible we have left 600' - 700' of cement in casing. POOH. Laid down landing string. Set seal assembly. Pressure tested BOP's.</p>
DATE 24.10.81	<p>Made up new B.H.A. Drilled cement from 2326 to 2555 m. Treated mud with CMC and Ligno in order to control fluid loss/rheology. Dumped sand traps and shakerbox. Wateraddition 3 m<sup>3</sup>/hr.</p>
DATE 25.10.81	<p>Drilled 2554 m - 2656 m. Leak off test 1.84 S.G. Circulated bottoms up. Low penetration rate in this chalk layer. Mud in good shape.</p>





# ANCHOR DRILLING FLUIDS AS

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ENGINEERS J.HANNAN/E.KORSVOLD

DATE 26.10.81	<p>Drilling with bit no. 17 to 2679 m. POOH. RIH with bit no. 18. Drilling to 2686 m. Added 30 bbls seawater to keep weight in balance. Other properties steady without adding any chemicals.</p>
DATE 27.10.81	<p>Drilled 8 1/2" hole from 2686 m to 2745 m. POOH. One 40 mesh screen broke on one shaker and 2 x 200 mesh screen broke on mud cleaners.</p>
DATE 28.10.81	<p>Made up new B.H.A. RIH. Drilled from 2745 m to 2833 m. Circulated bottoms up. Maximum 49 gas units. Diluted mud with seawater to keep weight in balance. T.D. estimated at 1860 m.</p>



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OSLO --- STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D.FORD

DATE  
29.10.81

Drilling from 2833 m to 2850 m. POOH. for logging following a wiper trip. Hole in good shape. Mud weighted up to 1.27 S.G. at Statoil's request

DATE  
30.10.81

Cleaned under shakers. Logging with Schlumberger. Started drilling again at 1330 hours. Mud in good condition. Fluid loss to be reduced below 5 mls, before stop circulating at Statoil's request.

DATE  
31.10.81

Drilled to 2950 m. Wiper trip. Pulled out of hole to log. Mud and hole in good condition.



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OSLO -- STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS D. FORD

DATE 1.11.81

Logging.

DATE 2.11.81

Logging.

Ran in the hole and circulated bottoms up. Wiper trip. Pulled out of the hole to run the 7" liner. Ran 7" liner.

DATE 3.11.81

Ran 7" liner and cemented it. No cement contamination in the mud system. Pulled out of the hole and tested the stack. Ran in the hole with 8½" bit and casing scraper. Circulated bottoms up. No sign of cement contamination. Pulled out of the hole to change the bottom hole assembly to 6" bit and casing scraper.



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OSLO -- STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS E. KORSVOLD/D. FORD/A. AASE

DATE 4.11.81	<p>Squeezed cement around top of casing and liner overlap. Some mud lost when diluted with water on cement job when reversed circulation. Minimal cement returns. POOH. Ran in hole with 8½" bit and casing scraper. Drilled cement from 2466 m to 2485 m.</p>
DATE 5.11.81	<p>Ran in hole with 6" bit and casing scraper. Cleaned to bottom. Pulled out of hole. Ran in hole with C.B.L. Ran in hole to run Swab test.</p>
DATE 6.11.81	<p>Waiting on orders. Members of Norsk Sjømannsforbund on strike. Set cement plug 2120 m - 2000 m. Reversed out. Pulled out of hole. Ran in hole with 8½" bit.</p>



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OSLO - STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS A. AASE

DATE  
7.11.81

Tagged cement at 1991 m. Drilling soft cement to 1996 m.  
Drilling firm cement to 2000 m. Circulated bottoms up.  
Displaced riser with seawater. Pulled the riser.

DATE  
8.11.81

Rig shut down due to strike.

DATE



WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS ANSGAR AASE

DATE 23.11.81

43 BBLS lost in active pits during strike period due to leaking valves and work done on the mudcleaners.

Waiting on the weather.

DATE 24.11.81

Waiting on weather.

DATE 25.11.81

Waiting on weather. Connected riser. Displaced riser with mud.

93 BBLS mud lost due to testing kill and choke lines.



**ANCHOR DRILLING FLUIDS AS**  
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**DAILY SUMMARY REPORT**

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS ANSGAR AASE

DATE 26.11.81	<p>Built some extra mud to keep volume in active. Displaced riser with seawater. Pulled the riser. Repaired it. Ran the riser. 48 BBLs mud lost due to displacing and testing.</p>
DATE 27.11.81	<p>Displaced riser with mud. Circulated and conditioned mud. Tested BOP. Drilled out cement from 2000 m - 2068 m.</p>
DATE 28.11.81	<p>Drilled out cement plug. Made up teststring.</p>



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OPERATOR STATOIL

ENGINEERS ANSGAR AASE

DATE 29.11.81	<p>Picked up tubing. Ran in hole with 6" bit and 7" - 9 5/8" scrapers - then circulated hole clean.</p>
DATE 30.11.81	<p>Ran Schlumberger logs. Ran in hole with test-string.</p>
DATE 1.12.81	<p>Tested the well.</p>





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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS ANSGAR AASE

DATE 2.12.81

Shut in well.

Pulled out.

DATE 3.12.81

Pulled out test-string. Ran in hole with 6" bit and 7" casing-scraper. Circulated and conditioned mud. Pulled out.

Treated mud to maintain good properties.

DATE 4.12.81

Set cement plugs from 2797 m - 2807 m and from 2546 m - 2430 m.

Reversed out and circulated bottoms up. POOH. Tested BOP.



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OSLO -- STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J.HANNAN

DATE 5.12.81

RIH with bit and scraper. Cleaned out to 2450 m. Circulated and conditioned mud. Slugged pipe. POOH. Rigged up Schlumberger. RIH and perforated. POOH. RIH to do squeeze job.

DATE 6.12.81

Did squeeze job. Reversed out. RIH with bit and scraper. Cleaned out to 2450 m.

Reduced mud weight to 1.15 specific gravity. Slugged pipe. POOH. Rigged up Schlumberger. Ran C.B.L.

Approximately 700 BBLS water needed to reduce weight to 1.15 specific gravity.

DATE 7.12.81

POOH. Rigged down Schlumberger.

Made up test tools. RIH with same.



**ANCHOR DRILLING FLUIDS AS**  
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**DAILY SUMMARY REPORT**

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J. HANNAN

DATE 8.12.81	D.S.T. no. 2
DATE 9.12.81	Bullheaded string contents. Reversed out. 1151 units of gas. Circulated long way. 970 units of gas. Observed well. Slugged pipe. POOH.
DATE 10.12.81	RIH to total depth. (2450 m). Circulated bottoms up. 468 units of gas. Rigged up Schlumberger. Ran EZSV retainer, unable to get free from retainer with running tool. Schlumberger line broke at weak point. RIH with overshot and grapple, latch on to fish, POOH with same.



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J. HANNAN

DATE 11.12.81

RIH with stinger. Squeezed off perforations. Reversed out. Circulated and conditioned mud. Slug pipe. POOH. RIH with bit and scraper, cleaned out top of EZSV at 2427 m. Circulated bottoms up. Slug pipe. POOH. Tested BOP.

DATE 12.12.81

D.S.T. No. 3

DATE 13.12.81

D.S.T. no. 3. Set packer. HOWCO circulating valve went into open position. Displaced string to mud by reversing. Redisplace string with 2 BBLs gel mud, 61 BBLs water and 61 BBLs diesel, open APR valve, flow well to burner, then through separator at 22:00 hrs.



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OSLO --- STAVANGER

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WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS J.HANNAN

DATE 14.12.81

D.S.T. no. 3

Flow well through separator until 08:00 hrs.

Present operation - well shut in.

DATE 15.12.81

D.S.T. no. 3

Flow well until 08:00 hrs, closed well in for 12 hr period.

Bullhead contents of tubing, reversed out 747 units of gas.

Unseat RTTS, circulated long way 936 units of gas. Slug pipe. POOH.

DATE 16.12.81

POOH. Laid down test string. RIH with bit and scraper. Circulated and conditioned mud. Slug pipe. POOH. Rigged up Schlumberger, ran gauge ring and junk basket. Ran EZSV retainer.



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OSLO -- STAVANGER

## DAILY SUMMARY REPORT

WELL NAME 15/9-11

OPERATOR STATOIL

ENGINEERS A.AASE

DATE 17.12.81

RIH and laid down tubing

DATE 18.12.81

Cut 9 5/8" casing at 650 m and retrieved same. Cleaned out 13 3/8" casing to 650 m with bit and casing scraper.

Set cement plug from 600 m - 700 m.

DATE 19.12.81

Punched hole in 13 3/8" casing. Cut 13 3/8" casing at 240 m and retrieved same. Displaced with seawater to 360 m.

Set cement plug from 360 m to 140 m.

## SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 15/9-11

36" HOLE/ 30" CASING INTERVAL

700 bbls of the mixed spudmud was circulated to ensure hole cleaning. Returns allowed to go to seabed.

During cementing 30" casing, 3 sacks Mica coarse was mixed into the cement on Dowell's cementer's order/wish.

## SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 15/9-11

26" HOLE/ 20"-569 mCASING INTERVAL

This section drilled with gel mud.

Built 550 bbls killmud 1.25 S.G. Due to sand increasing the mudweight, drillwater and Bentonite was added to the active system for reducing weight and ensuring good hole cleaning.

After having opened the hole with 12 1/4" bit and Schlumberger having logged it, the hole was displaced with seawater. 72 units off gas. The hole was displaced to mud and drilled with 17½" bit and 26" U.R.

Severe mudlosses over shakers due to blinding of screens. Building new mud all the time and adding lots of seawater.

After having reached TD - 585 m, the underreamer was unable to be pulled out through the well head. Displaced hole with seawater.

Pulled the riser. Displaced hole with new 1.25 S.G. mud.

Running 20" casing to 569 m.

Mud in very good condition.



## SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 15/9-11

17½" HOLE/ 13 3/8" CASING INTERVAL 1,159 m

Started drilling 17½" hole with Bentonite / seawater mud. The Bentonite being pre-hydrated, CMC LV was used to help control the fluid loss. Between 588 m and 956 m all mechanical equipment had to be utilized to cope with a very high sand content.

Some mud losses due to flow line plugging.

Prepared to log with Schlumberger. Ran and cemented casing and had to dump 310 bbls of mud as all available surface volume was full.

## SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 15/9-11

12 1/4" HOLE/ 9 5/8" CASING INTERVAL 2.575 m

R.I.H. to drill out cement. Cement had leaked back into the casing, so heavily cement contaminated mud had to be dumped. Drilling progressed well and the hole and mud remained in good condition considering the activity of the drilled clays.

All surface solids equipment including the centrifuge was run to keep the M.B.T. level below 35 ppb equivalent because at that point rheology became difficult to control. When first pulling out on each wiper trip there were tight spots, though usually the overpull was not excessive. Once each new section had been wiped and the hole remained in very good condition and did not appear to deteriorate with time. Hole remained stable through a long period of coring.

Drilling proceeded very satisfactorily with one disruption due to high winds. The pipe was hung off at 1955 m while waiting for the wind to subside.

We were able to run two shakers with 60 mesh screens and the central shaker with 80 mesh screens for the whole section to reduce solids building up in the mud. At times it was possible to run 80 mesh screens on two of the shakers. A total of 11 cores were cut and then the hole was drilled to 2590 m and logged before running casing.

## SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 15/9-11

8½" HOLE/ 7" CASING INTERVAL (Liner)

Hole drilled to 2.950 m.

Drilled fine cement from 2.326 to 2.575 m in casing but treatment with Sodium Bicarbonate avoided excessive increases in the alkalinity and hardness readings.

Mud stayed in good condition and stable for the section. Schlumberger logged the hole at 2.850 m, then drilling was continued to 2.950 m and the hole logged again before running the 7" liner. Ran 7" liner which went right to bottom with no difficulty.

Cemented the liner.







OPERATOR STATOIL

WELL NO. 15/9-11

# MATERIAL CONSUMPTION & COST ANALYSIS

12 1/4" HOLE DRILLED TO 2590 <sup>Meters</sup><sub>Feet</sub> 9 5/8" CASING SET AT 2575 <sup>Meters</sup><sub>Feet</sub>

ACTUAL AMOUNT OF HOLE DRILLED 1414 <sup>Meters</sup><sub>Feet</sub> DAYS ON INTERVAL 22

DRILLING FLUID SYSTEM GEL/LIGNO/SEAWATER

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST US\$
BENTONITE SX	50 kg	600	148	- 452	2.619,60
BENTONITE BULK	M/T	0	4	+ 4	1.296,00
BARITE	M/T	200	150	- 50	20.100,00
SODA ASH	50 kg	10	11	+ 1	203,50
CAUSTIC	25 kg	250	267	+ 17	5.073,00
SODIUM BICARB.	50 kg	4	8	+ 4	154,00
CHROME LIGNOSULF.	25 kg	550	288	- 262	4.953,60
CMC LV	25 kg	50	328	+ 278	19.352,00
AL. STEARATE	25 kg	10	0	- 10	
DRLG. DETERGENT	200 ltr	10	8	- 2	2.800,00
DRISPAC REG.	50 lbs	15	50	+ 35	8.465,00
CMC H.V	25 kg	0	34	+ 34	2.074,00
LIGNITE	25 kg	0	41	+ 41	1.230,00

COST/DAY US\$ 3.105,49 TOTAL COST FOR INTERVAL US\$ 68.320,70

COST/Mt. of Ft. US\$ 48,32 PROG. COST FOR INTERVAL US\$ 61.681,50  
coring not included

ENGR. COST US\$ 15.675,00 COST VARIANCE FOR INTERVAL US\$ 6.639,20

OPERATOR STATOIL

WELL NO. 15/9-11

# MATERIAL CONSUMPTION & COST ANALYSIS

8 1/2" HOLE DRILLED TO 2.950 <sup>Meters</sup> ~~Feet~~ 7" LINER ~~CASING~~ SET AT 2.950 <sup>Meters</sup> ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 675 <sup>Meters</sup> ~~Feet~~ DAYS ON INTERVAL 11

DRILLING FLUID SYSTEM GEL/LIGNO/SEAWATER

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BENTONITE SX	50 kg	60	24	- 36	US\$ 424,80
BENTONITE BULK	M/T				-
BARITE	M/T	15	21	+ 6	2.814,00
SODA ASH	50 kg	1	1	NIL	18,50
CAUSTIC	25 kg	25	27	+ 2	513,00
SODIUM BICARB	50 kg	NIL	19	+ 19	365,75
CHROME LIGNOSULF	25 kg	55	90	+ 35	1.548,00
CMC LV	25 kg	10	113	+ 103	6.667,00
AL. STEARATE	25 kg	1		- 1	
DRLG. DETERGENT	200 ltr				
DRISPAC REG	50 lbs	NIL	14	+ 14	2.370,20

COST/DAY US\$ 1.338,29 TOTAL COST FOR INTERVAL US\$ 14.721,25

COST/Mt. ~~act.~~ US\$ 21,81 PROG. COST FOR INTERVAL US\$ 5.181,50  
 Estimated to 2.800 m

ENGR. COST US\$ 6.056,25 COST VARIANCE FOR INTERVAL US\$ 9.539,75



OPERATOR STATOIL

WELL NO. 15/9-11

# MATERIAL CONSUMPTION & COST ANALYSIS

TESTING AND ABANDONMENT

DAYS ON INTERVAL 33

DRILLING FLUID SYSTEM BENTONITE/S.W./LIGNOSULPHONATE

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST US \$
BENTONITE	50 kg		101		1787,70
BARITE	M/T		40		5360,00
LIGNOSULPHONATE	25 kg		8		137,60
DRISPAC REGULAR	50 lbs		41		6941,30
CMC LoVis	25 kg		12		708,00
CAUSTIC	25 kg		19		361,00
SODA ASH	50 kg		3		55,50
SOD. BICARBONAT	50 kg		19		365,75

COST/DAY	<span style="border: 1px solid black; padding: 2px;">US \$ 476,27</span>	TOTAL COST FOR INTERVAL	<span style="border: 1px solid black; padding: 2px;">US \$ 15.716,85</span>
COST/Mt. or Ft.	<span style="border: 1px solid black; padding: 2px;"> </span>	PROG. COST FOR INTERVAL	<span style="border: 1px solid black; padding: 2px;"> </span>
ENGR. COST	<span style="border: 1px solid black; padding: 2px;"> </span>	COST VARIANCE FOR INTERVAL	<span style="border: 1px solid black; padding: 2px;"> </span>

OPERATOR STATOIL

WELL NO. 15/9-11

# TOTAL CONSUMPTION & COST ANALYSIS

TOTAL DEPTH 2.950 Meters  
~~Feet~~

TOTAL HOLE DRILLED 2.950 Meters  
~~Feet~~

TOTAL DAYS 47

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST US\$
BENTONITE	M/T	72	78	+ 6	25.272,-
BENTONITE	50 kg	660	264	- 396	4.672,80
BARITE	M/T	305	325	+ 20	43.550,00
LIGNOSULPHONATE CHR	25 kg	755	451	- 304	7.757,20
CHROME LIGNITE	25 kg	0	41	+ 41	1.230,00
CMC LV	25 kg	110	508	+ 398	29.972,00
CMC HV	25 kg	0	39	+ 39	2.379,00
DRISPAC REGULAR	50 lbs	35	72	+ 37	12.189,00
CAUSTIC SODA	50 kg	403	471	+ 67	8.949,00
SODA ASH	50 kg	40	77	+ 37	1.424,50
SODIUM BICARB.	50 kg	9	27	+ 8	519,75
DETERGENT	200 ltr	10	8	- 2	2.800,00

COST/DAY US\$ 2.993,95 TOTAL COST FOR ~~the well~~ US\$ 140.715,25

COST/Mt. or ~~FIX~~ US\$ 47,70 PROG. COST FOR ~~the well~~ US\$ 114.231,75

ENGR. COST US\$ 31.706,25 COST VARIANCE FOR INTERVAL US\$ 26.483,50



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## Drilling Fluid & Material Consumption Report

WELL NAME: 15/9-11

AREA: NORTH SEA NORWAY  
OPERATOR: STATOIL  
RIG: ROSS RIG  
ENGINEERS: AASE/HANNAN/KORSVOLD

### MATERIALS ADDED TO CONTROL PROPERTIES

1981	ESTIMATED DAILY MUD VOLUMES		VOLUME MUD BUILT	BULK MATERIALS			SACK MATERIALS	THINNERS		POLYMERS				OTHERS											
	LOSSES SURFACE	LOSSES SURFACE		BAHITE	BENTONITE	BENTONITE		LIGNO CHR.	LIGNITE	CMC	LOVIS	CMC	HIVIS	DRISPAC	REG.	CAUSTIC	SODA	ASH	SOD.	BICARB.	DETERGENT	MICA FINE	MICA COARSE	NUT PLUG F	QUICK SEAL
1	17.9																								
2	18.9	700	950		21																				
3	19.9		950			1																			
4	20.9		250			1																			
5	21.9					5																			
6	22.9					1																			
7	23.9					2																			
8	24.9					53																			
9	25.9					30		82																	
10	26.9					40		15																	
11	27.9																								
12	28.9					88		2																	
13	29.9					338		12																	
14	30.9					181		8																	
TOTAL				700	607	3646	150	72	82		73			67	5	8									3



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## Drilling Fluid & Material Consumption Report

BENTONITE/LIGNOSULFONATE/SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS FORD/KORSVOLD/HANNAN/AASE

1981	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS			MATERIALS ADDED TO CONTROL PROPERTIES			OTHERS						
	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE	LIGNO CHR. LIGNITE THINNESS	CMC LOVIS	CMC	HIVIS DRISPAC REG.	CAUSTIC SODA ASH SOD. BICARB.	DETERGENT MICA FINE	MICA COARSE	NUT PLUG P	QUICK SEAL					
15	1.10	391	180	4	2	10				5	2								
16	2.10	38							2										
17	3.10	970	600	52	4	86			3	9	8	8							
18	4.10	135	370							26			1						
19	5.10	1138	1200	7					5	43			3						
20	6.10	1509	1800	38					8	41			3						
21	7.10	688	700	12					6	25			1						
22	8.10	229	250	7					3	13									
23	9.10	73	40	7.5					2	17									
24	10.10	10	88	4						7									
25	11.10	65	40							6									
26	12.10	19	100	2.5					2	13									
27	13.10	132	180						2	6	1								
28	14.10	49	45	9					1	11									
TOTALS	700	6053	10859	293	78	201	320	41	333	59	42	394	74	8	8	110	3	100	15

10/1/1981



# ANCHOR DRILLING FLUIDS AS

OSLO STAVANGER

## Drilling Fluid & Material Consumption Report

DATE

BENTONITE/LIGNOSULFONATE/SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS HANNAN/AASE/KORSVOILD

### MATERIALS ADDED TO CONTROL PROPERTIES

1981	ESTIMATED DAILY MUD VOLUMES		BULK MATERIALS		SACK MATERIALS		THINNERS		POLYMERS		OTHERS								
	LOSSES SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE	LIGNO CHR.	LIGNITE	CMC Lovis	CMC Hivis	DRISPAC REG.	CAUSTIC SODA	ASH SOD. BICARB.	DETERGENT MICA FINE	MICA COARSE	NUT PLUG F	QUICK SEAL		
29 15.10	149	120				1			7	6		10							
30 16.10	60	30	4			2			8	5		3							
31 17.10	204	40				7			11	5		10							
32 18.10	313	50	5		24	11			14			11	1						
33 19.10	60	80			15	10			15	1		5	1						
34 20.10	26	100				10			5			3							
35 21.10	77	20	2						2			2							
36 22.10												6							
37 23.10	207																		
38 24.10	166	210			24	31			27			1	1	10					
39 25.10	110	63	4			24			32	3		6		6					
40 26.10	127	30				7			12			7							
41 27.10	51	45				6			5	6		6							
42 28.10	148	300	4			6													
TOTALS	907	7524	11947	312	78	264	429	41	471	39	67	458	77	24	8	110	3	100	15



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## Drilling Fluid & Material Consumption Report

WELL NAME BENJONITE/LIGNOSULFONATE/SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
OPERATOR STATOIL RIG ROSS RIG  
ENGINEERS FORD/KORSVOLD HANNAN

DATE	ESTIMATED DAILY MUD VOLUMES		BUCK MATERIALS		SACK MATERIALS		THINNERS		POLYMERS		MATERIALS ADDED TO CONTROL PROPERTIES														
	LOSSES SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	EARITE	BENTONITE	BENTONITE	LIGNO CHR.	LIGNITE	CMC	LOVIS	CMC	HIVIS	DRISPAC	REG.	CAUSTIC	SODA	ASH	SOD.	BICARB.	DETERGENT	MICA FINE	MICA COARSE	NUT PLUG F	QUICK SEAL	
1981																									
43 29.10	62		5				9		9						4										
44 30.10	28	67	4						11		3			5											
45 31.10	30	40					13		17		1			4											
46 1.11																									
47 2.11	12	29	4																						
48 3.11		62									1				3										
49 4.11	90										1				1										
50 5.11	90																								
51 6.11	12																								
52 7.11											1				1										
53 8.11																									
FORWARD	907	7524	11947	312	78	264	429	41	471	39	67			458	77	24	8	110	3	100	15				
ESTIMATED TOTALS	907	7849	12145	325	78	264	451	41	508	39	74			471	77	29	8	110	3	100	15				

UNIT: GALLONS



# ANCHOR DRILLING FLUIDS AS

OSLO · STAVANGER

## Drilling Fluid & Material Consumption Report

BENTONITE/LIGNOSULFONATE/SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS AASE

DATE	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS			MATERIALS ADDED TO CONTROL PROPERTIES										
	LOSSES SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE	LIGNO CHR.	LIGNITE	HINNERS	CMC LOVIS	CMC HAVIS	DRISPAC REG.	CAUSTIC SODA	ASH SOD. BICARB.	DETERGENT	MICA FINE	MICA COARSE	NUT PLUG F	QUICK SEAL	
1981																				
54.23.11	43			NIL	USAGE															
55.24.11				NIL	USAGE															
56.25.11	93			NIL	USAGE															
57.26.11	48			4																
58.27.11	125	12								2										
59.28.11	53	130	17		22	4				4			2	1	9					
60.29.11	102	10			15					1			1	1	2					
61.30.11				NIL	USAGE															
62.1.12				NIL	USAGE															
63.2.12	130					2				1										
64.3.12	15	25	3						6	1										
65.4.12	16	58	3						1						2					
66.5.12		53	3		13	2			5	4			1	1	1					
TOTAL	907	7849	12145	325	78	264	451	41		508	39	74	471	77	29	8	110	3	100	15
ESTIMATED TOTALS	907	8474	12433	355	78	314	459	41		520	39	87	475	80	46	8	110	3	100	15

REVISIONS



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

## Drilling Fluid & Material Consumption Report

BENTONITE/LIGNOSULFONATE/SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS AASE/HANNAN

MATERIALS ADDED TO CONTROL PROPERTIES

1981	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS			SACK MATERIALS		THINNERS			POLYMERS				OTHERS							
	LOSSES SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE	BENTONITE	BENTONITE	LIGNO CHR.	LIGNITE	CNC LOVIS	CNC	HIVIS	DRISPAC	REG.	CAUSTIC	SODA	ASH	SOD. BICARB.	DETERGENT	MICA FINE	MICA COARSE	NUT PLUG F	QUICK SEAL	
67 6.12	35	697	3		10							15		3			5						
68 7.12																							
69 8.12												2											
70 9.12	150	20	3									3		8									
71 10.12												2											
72 11.12	130	20										3		4									
73 12.12																							
74 13.12																							
75 14.12																							
76 15.12			2								1												
77 16.12	136		2																				
78 17.12																							
79 18.12																							
80 19.12	152																						
FORWARD TOTALS	907	8474	12433	355	78	314	459	41	520	39	87			475	80	46	8	110	100	15	3		
ESTIMATED TOTALS	907	9077	13170	365	78	324	459	41	520	39	113			490	80	51	8	110	100	15	3		





# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM BENTONITE/LIGNO/SEAWATER

WELL NAME 15/9-11 AREA North Sea NORW  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS A. AASE/J. HANNAN/E. KORSVOLD

Day No	DATE	DEPTH METERS	MUD PROPERTIES										REMARKS											
			DENSITY PPG	DENSITY SG	sec/qt	VISCOSITY			GELS	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's		pH	Filtrate Analysis			RETORT						
						A.V. cps	P.V. cps	Y.P. #/100 sq ft	0	10				Cl ppm	Ca ++ ppm	Pf	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"Z"	"K"
1981																								
1	12.9	-																						
2	18.9	175	1.03	150	46	17	58	47	25	N/C														
3	19.9	175	1.03	70	33.5	15	37	28	25	N/C														
4	20.9	177	1.05	71	33.5	15	37	28	22	N/C														
5	21.9	465	1.10	48	19	9	20	34	16	N/C														
6	22.9	550	1.10	46	20	8	24	20	24	N/C														
7	23.9	585	1.10	43	27.5	10	35	26	21	N/C														
8	24.9	585	1.25	42	23.5	7	33	25	21	N/C														
9	25.9	585	1.25	42	23.5	7	33	25	25	N/C														
10	26.9	585	1.07	55	30	12	36	35	24	25														
11	27.9	585	1.07	57	31	11	40	30	23	28														
12	28.9	588	1.06	48	30.5	7	47	28	12	N/C														
13	29.9	956	1.13	43	18	16	17	20	8	11.5														
14	30.9	1176	1.12	41	16	11	11	16	8	11.5														

REMARKS

# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO/SEAWATER

WELL NAME 15/9-11 AREA North Sea Norway  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS FORD/KORSVOLD/AASE/HANNAN

Dy No	DATE	DEPTH	MUD PROPERTIES										RETOUR	RETORT				OPERATION REMARKS																	
			DENSITY PPG $\rho$		VISCOSITY		GELS		FLUID LOSS 30 Min cc's		Filtrate Analysis			% OIL	% SOLIDS	% SAND	BENTONITE #/BBL		POTASH #/BBL	POLYMER #/BBL															
			SG	sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	0	10	30	CAKE 32 nds	H.T.H.P. cc's	pH	Cl ppm	Ca +- ppm	Pt																			
1981																																			
15	1.10	1134	1.13	44	18.5	12	13	24	7	11.6	1.5	-	10.812800	160	.40			8	1	22.5															
16	2.10	1134	1.12	43	17	12	10	24	6	9.5	1.0	-	10.812000	160	.30			9	1/4	22.5															
17	3.10	1361	1.20	80	26	17	18	75	9	9.5	2.0	-	10.211200	240	.12			10	tr	22.5															
18	4.10	1663	1.17	66	24	16	16	65	5	8.9	1.0	-	9.815500	300	.15			10	tr	30.8															
19	5.10	1924	1.20	68	30.5	23	25	32	3	6.5	1.0	-	10.015800	360	.10			10	tr	35.0															
20	6.10	2127	1.21	59	28	20	16	16	2	6.0	1.0	11.2	9.919800	480	.10			9	1/4	25.0															
21	7.10	2261	1.20	42	22.5	16	13	10	5	5.9	1.0	11.4	10.719600	280	.22			9	tr	25.0															
22	8.10	2349	1.21	64	28	19	18	28	3	6.3	1.0	14.3	10.418200	280	.20			12	1/4	25.0															
23	9.10	2370	1.22	46	26	19	14	22	3	5.8	1.0	13.4	10.520500	300	.20			14	1/4	27.0															
24	10.10	2375	1.22	45	26	19	13	18	3	5.7	1.0	13.5	10.521000	280	.24			14	tr	30.0															
25	11.10	2395	1.22	45	24	17	14	18	3	5.6	1.0	13.8	10.721800	260	.30			13	tr	30.0															
26	12.10	2425	1.22	46	27	19	15	18	3	5.5	1.0	14.1	10.621500	260	.25			10	tr	32.0															
27	13.10	2428	1.22	46	25	18	14	16	3	5.3	1.0	11.1	10.521500	270	.23			12	tr	30.0															
28	14.10	2460	1.22	46	25	18	14	12	3	4.9	1.0	12.2	10.622000	160	.25			12	tr	32.5															

REMARKS

# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO/SEAWATER

WELL NAME 15/9-11 AREA North Sea Norway  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS HANNAN/AASE/KORSVOLD

Day No	DATE	DEPTH FEET METERS	MUD PROPERTIES										OPERATION REMARKS											
			DENSITY PPG	DENSITY SG	VISCOSITY				GELS	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's		Filtrate Analysis			RETORT							
			sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq ft					pH	Cl ppm	Ca + + ppm	PI	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"		
1981																								
29	15.10	2485	1.22	46	25	18	14	14	2	9	4.9	1	12.1	10.6	21500	220	.35							
30	16.10	2510	1.22	50	28	20	16	16	3	10	4.8	1	11.9	10.3	21000	280	.30							
31	17.10	2475	1.22	45	24	17	14	14	2	8	4.9	1	11.9	10.3	21200	200	.25							
32	18.10	2538	1.22	45	23	16	14	14	3	10	4.9	1	11.9	10.4	20500	220	.30							
33	19.10	2576	1.22	45	23	16	14	14	3	12	5.0	1	12.1	10.2	21000	220	.25							
34	20.10	2590	1.22	46	23	16	14	14	3	11	5.0	1	12.1	10.2	20500	220	.25							
35	21.10	2590	1.22	49	23	16	14	14	3	12	5.0	1	12.0	10.2	20500	220	.25							
36	22.10	2590	1.23	47	23	16	14	14	3	11	5.0	1	12.0	10.1	20500	160	.20							
37	23.10	2590	1.23	50	27	19	16	16	3	15	5.0	1	12.1	10.0	20500	180	.20							
38	24.10	2590	1.22	45	25	18	14	14	2	13	5.6	1	12.4	11.6	21100	340	2.15							
39	25.10	2652	1.22	50	30	21	18	18	2	9	4.8	1	11.8	11.8	20000	220	1.70							
40	26.10	2686	1.22	48	26.5	20	13	13	2	9	5.5	1	12.6	10.8	19000	160	0.45							
41	27.10	2745	1.23	45	31	24	14	14	3	13	5.4	1	13.8	11.0	20600	220	0.85							
42	28.10	2833	1.23	45	28	21	14	14	3	13	5.4	1	14.0	11.2	21200	180	0.35							

REMARKS

# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL/LIGNO/SEAWATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS D.FORD/A.AASE

Day No	DATE	DEPTH	MUD PROPERTIES										OPERATION REMARKS									
			DENSITY PPG □ SG □		VISCOSITY				GELS		FILTRATE ANALYSIS				RETORT							
			sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq ft.	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl ppm	Ca + T ppm	PI	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	Z	K	
1981							10															
43	29.10	2850	1.27	50	29	21	15	3	16	5.6	1	14.0	10.52	000	320	.2	-	11	tr	20		
44	30.10	2891	1.27	45	28	21	14	3	10	5.2	1	14.0	10.52	2000	240	.3	-	12	tr	25		
45	31.10	2950	1.27	46	28	21	14	4	8	4.6	1	12.6	11.01	9000	180	.5	-	11	tr	32.5		
46	1.11	2950	1.27	46	28	21	14	4	9	4.6	1	12.6	11.02	1000	180	.5	-	11	tr	32.5		
47	2.11	2950	1.27	50	28	21	14	3	9	4.7	1	13.2	11.02	1000	160	.5	-	11	tr	35.0		
48	3.11	2950	1.27	50	28	22	12	3	9	4.7	1	13.4	11.52	1000	180	.5	-	11	tr	35.0		
49	4.11	2950	1.27	49	29	22	14	5	12	4.8	1	13.4	11.52	1000	240	.5	-	11	tr	35.0		
50	5.11	2950	1.27	48	28	22	13	3	5	4.6	1	13.6	11.52	1000	200	.5	-	11	tr	32.5		
51	6.11	2950	1.27	47	29	22	14	3	8	4.7	1	13.5	11.42	1000	200	.5	-	11	tr	32.5		
52	7.11	2950	1.27	48	29	22	14	2	7	4.8	1		11.5									
53	8.11	2950	1.27	48	29	22	14	7	7	4.8	1		11.5									

REMARKS

Pulled the riser  
RIG ON STRIKE



# ANCHOR DRILLING FLUIDS AS

OSLO - STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL / LIQNO / SEA WATER

WELL NAME 15/9-11 AREA NORTH SEA NORWAY  
 OPERATOR STATOIL RIG ROSS RIG  
 ENGINEERS A. AASE

Day No	DATE	DEPTH FEET METERS	MUD PROPERTIES										RETOUR	OPERATION REMARKS														
			DENSITY PPG SG		VISCOSITY				GELS	FLUID LOSS 30 Min cc's		CAKE 32 nds			H.T.H.P. cc's		pH		Filtrate Analysis		% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"
				sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	10	0									Cl <sup>-</sup> ppm	Ca ++ ppm	PI								
1981																												
54	23/11	2950	1,27	45	28,5	22	13	2	7	4,8	1	13,2	11,0	21	320	0,5					11	TRR	32,5					
55	24/11	2950	1,27	45	28,5	22	13	2	7	4,8	1	13,2	11,0	21	320	0,5					11	TRR	32,5					
56	25/11	2950	1,27	47	28,5	22	13	2	7	4,8	1	13,2	11,0	21	320	0,5					11	TRR	32,5					
57	26/11	2950	1,27	47	28,5	22	13	3	7	4,7	1	13,2	11,0	22	320	0,55					11	TRR	32,5					
58	27/11	2068	1,27	47	26,5	19	15	3	11	4,8	1	13,2	11,0	21	320	0,7					11	TRR	30,0					
59	28/11	2950	1,27	45	26,0	19	14	3	11	4,8	1	13,2	10,5	20	280	0,6					11	TRR	27,5					
60	29/11	2925	1,27	49	28,5	21	15	3	12	4,9	1	13,5	11,0	18	200	1,15					11	TRR	25,-					
61	30/11	2925	1,27	47	28,-	21	14	2	10	4,9	1	13,5	11,-	19	180	0,85					11	TRR	25,-					
62	1/12	2925	1,27	46	25,5	19	13	3	8	4,9	1	13,5	11,-	19,2	180	0,8					11	TRR	23,-					
63	2/12	2807	1,27	47	24,5	18	13	3	12	4,9	1	13,5	11,-	19	160	0,8					11	TRR	25,-					
64	3/12	2738	1,27	47	25,5	19	13	3	12	5,0	1	13,8	11,-	20	180	0,6					11	TRR	25,-					
65	4/12	2430	1,27	48	27,-	20	14	3	10	4,9	1	13,7	10,5	20,1	100	0,56					11	TRR	25,-					
66	5/12	2450	1,27	47	26,5	20	13	2	10	4,9	1	13,9	11,-	20	150	0,7					11		22,5					
67	6/12	2450	1,15	43	20,5	14	13	7	7	5,-	1	14,1	10,0	20	240	0,3					6		10,-					

REMARKS



# ANCHOR DRILLING FLUIDS AS

OSLO -- STAVANGER

Drilling Mud Properties Record

MUD SYSTEM SEA WATER / IICGN

WELL NAME 15/9-8  
OPERATOR STAFFOIL  
ENGINEERS HANNAN  
AREA NORTH SEA NORWAY  
RIG: ROSS RIG

Day No	DATE	DEPTH FEET <input checked="" type="checkbox"/> METERS <input checked="" type="checkbox"/>	DENSITY PPG <input checked="" type="checkbox"/> SG <input checked="" type="checkbox"/>	VISCOSITY				GELS	FLUID LOSS 30 Min cc's	CAKE 32 nds	HTHP cc's	pH	Filtrate Analysis			RETORT			BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	OPERATION REMARKS							
				sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft						Ca ++ ppm	Cl- ppm	PI	% OIL	% SOLIDS	% SAND											
1981												1000																	
68	7/12	2450	1,15	41	19,5	13	13	2	5	5,0	1	14,1	10	20	220	0,3		6		10,-									
69	8/12	2450	1,15	49	25,5	18	15	2	6	5,0	1	14,1	10	20	220	0,2		6		10,-									
70	9/12	2450	1,15	47	22,5	15	15	2	10	5,0	1	14,2	11	21	280	0,6		6		10,-									
71	10/12	2450	1,16	46	24,-	17	14	2	7	5,0	1	14,1	10,5	20	240	0,25		6		10,-									
72	11/12	2427	1,16	46	24,-	17	14	2	7	5,1	1	14,2	11,-	20	310	0,26		6		10,-									
73	11/12	2427	1,16	44	22,5	16	13	2	5	5,1	1	14,2	11,-	20	310	0,25		6		10,-									
74	13/12	2427	1,16	44	23,-	16	14	2	4	5,1	1	14,2	11,-	20	290	0,25		6		10,-									
75	14/12	2427	1,16	44	24,-	17	14	2	4	5,0	1	14,1	11,-	19	200	0,41		6		10,-									
76	15/12	2427	1,16	43	20,5	14	13	2	4	5,1	1	14,1	10,5	20	210	0,22		6		10,-									
77	16/12	2427	1,16	44	23,-	16	14	2	4	5,1	1	14,1	10,5	20	180	0,21		6		10,-									
78	17/12	2360	1,16	44	22,5	16	13	2	5	5,1	1	14,1	10,5	20	180	0,25		6		10,-									
79	18/12	2360	1,16	44	22,5	16	13	2	5	5,1	1	14,1	10,5	20	180	0,25		6		10,-									
80	19/12	140	1,16	45	23,-	16	14	2	6	5,1	1	14,1	11,-	20	210	0,30		6		10,-									

REMARKS

# GRAPHI-CAP

