PHILLIPS PETROLEUM COMPANY NORWAY

2/4-10

NORTH WEST TOR

PHILLIPS PETROLEUM COMPANY NORWAY

INDIVIDUAL WELL RECORD

INDEX

BLOCK: 2/4 WELL: 10

FIELD: EDDA DATE WELL COMPLETED: DEC.18, 1973

C O N F I D E N T I A L

DRILLING PROSPECTUS

Well	:	2/4 - 10 AFE No. 5670
Prospect	:	North West Tor
Location	:	56° 40' 44" N 03° 13' 25" E
Water Depth	:	218 feet
RKB to Mean Sea Level	:	110 feet
RKB to Sea Bottom	:	328 feet

GENERAL

An 11,200 foot exploratory well is to be drilled in block 2/4 using the jackup rig ZAPATA EXPLORER under contract from Zapata North Sea Incorporated.

This well, the prospectus and attachments, and all other information concerning this well are CONFIDENTIAL. "Tight hole" Procedures will be followed and are detailed in the attachments to the prospectus. Prospectus and attachments are not to be released to anyone except the drilling contractor, without approval of the Stavanger office.

ATTACHMENTS

The attachments to the prospectus detail the work program for this well. Any deviations from the program as planned should be cleared with the Stavanger office in advance.

The attachments issued with this prospectus are:

1. Drilling Procedure
2. Well Control
3. Casing and Cementing Program
4. Well Profile
5. Blowout Preventer
6. Mud Program
7. Geological Prognosis
8. Standard Distribution
9. Tight Hole Procedure

A Test Procedure will be issued later. The Geological Prognosis includes Logging, Coring and Sampling Programs.

DAILY DRILLING REPORT

A Daily Drilling Report covering the period 0600 hours to 0600 hours is to be called to the Stavanger Office at 0630 hours daily. A brief report of operations will be called to the Stavanger Office at 1600 hours daily. Below the 13 3/8 inch casing point, all depths, formation tops and geological data should be in code.

NOTE:

Numbers which are not coded should be reported by calling one number at a time. i.e. 2 3 7 6 shall be reported at two-three-seven-six. NOT as two thousand, three hundred and seventy-six. This will help to eliminate misunderstandings.

ATTACHMENT 1

DRILLING PROCEDURE

1. Drill a 36 inch hole to 50 ft below the ocean floor. Drill a 26 inch hole to 100 ft below the ocean floor approximately 420 ft RKB. After reaching total depth displace hole with 150 bbls of high viscosity mud. See mud program for make up of mud.

2. Drive the 30 inch conductor pipe to ± 110 ft. The pipe should be spaced out and driven so that the final position of the National 30 inch landing hub is ± 10 ft above the ocean floor. Two 4 inch collars are to be welded into the 30 inch pipe, one collar three feet below the National hub and one collar five feet below the National hub. Remove plugs from collars before driving.

3. Gurtler, Hebert Co. will be used to weld and drive the conductor.

4. Drill a 26 inch hole to 1600 ft RKB using sea water with returns to the ocean floor. Pump in slugs of high viscosity mud as required to clean hole. See Mud Program for makeup of mud.

5. After reaching casing setting depth, circulate hole clean, pump in 400 bbls 11 ppg mud, and make short trip to 30 inch casing. Go back in hole to bottom and displace hole with 800 bbls of 11 ppg mud. Pull out of hole slowly.

6. Run and cement 20 inch casing as shown in the Cementing and Casing Program. Cut off casing and install 20 inch, 2000 psi WP casing head. Nipple up 20 inch BOP stack and test BOP's and casing to 1200 psi for 30 minutes.

7. Wait on cement for at least 8 hours before drilling out. Drill 17 ½ inch hole to 4000 ft RKB. Follow the procedures detailed in the Mud Program and Operational Plan.

8. Use a drill pipe float above bit in 17 ½ inch hole. Use standard PPCO stabilizer program. Refer to Operational Plan for drilling practices.

9. After reaching 4000 ft RKB, circulate and condition mud and hole for logging. Make full trip and circulate one complete round or until shaker cleans up. Come out of hole slowly. Run logs specified in Geological Well Program.

10. Go in hole, circulate and condition hole to run casing. Continue circulating until shaker cleans up. If required by hole condition, make short trip to 20 inch casing shoe before running casing. Come out of hole. Pull bore protector from wellhead.

Run and cement 13 3/8 inch casing as shown in the Casing and Cementing Program. After pumping down plug, release pressure and close 20 inch Hydril. Wait on cement 8 hours with Hydril closed.

11. Cut off casing and install wellhead. Test casing pack off through test port with 1500 psi. Nipple up BOP stack. Test BOP's and choke manifold to 5000 psi and Hydril to 2500 psi. Test casing with 2800 psi for 30 minutes.

12. Drill 12 1/4 inch hole to 8000 ft RKB. Follow the procedures detailed in the Mud Program and Operational Plan.

13. Test BOP stack and choke manifold with 2500 psi weekly. When out of hole, close and open each set of rams individually; blind rams should be left closed until ready to go in hole.

14. After reaching 8000 ft RKB, circulate and condition mud and hole for logging. Make short trip to 13 3/8 inch casing shoe. Go back in hole to total depth and circulate a minimum of one hole volume. Come out of hole slowly. Run logs as shown in Geological Well Program.

15. Go in hole, circulate and condition hole to run casing. Continue circulating until shaker cleans up. Come out of hole. Pull bore protector from wellhead. Run and cement 9 5/8 inch casing as shown in the Casing and Cementing Program. After pumping plug, release pressure and close Hydril. Wait on cement 8 hours with Hydril closed.

16. Cut off casing and install casing spool. Test casing pack-off to 3500 psi through test port. Nipple up BOP's. Test BOP stack choke manifold and casing spool with 5000 psi and Hydril with 2500 psi. Test casing with 4000 psi for 30 minutes.

17. Drill 8 ½ inch hole to 11,200 ± ft RKB. Follow drilling practices detailed in the Operational Plan.

18. Test BOP and choke manifold with 5000 psi and Hydril with 2500 psi weekly. When out of hole, close and open each set of rams individually; blind rams should be left closed until ready to go into hole.

19. After reaching total depth, condition mud and hole thoroughly and come out of hole. Run Logs as shown in Geological Well Program.

20. If log analysis indicates hydrocarbon bearing zones, circulate and condition hole to run 7 inch liner.

21. Run and cement 7 inch liner as shown in Casing and Cementing Program.

22. Testing Program and Plug and Abandon Procedure will be issued after log analysis.

23. A hole deviation survey should be made <u>every trip</u> out of the hole, down to 8000 ft. Intermediate surveys are to be made only if deviation is a problem. If collar assembly is stabilized according to Operational Plan, deviation should not be a problem.

ATTACHMENT 2

WELL 2/4-9 DRILLING PROSPECTUS

WELL CONTROL

2 (a) BLOW OUT DRILL

1. After 13 3/8" casing has been cemented and tested, and before drilling the cement plug, this drill shall be initiated. If possible have the onboard off duty supervisors of the contractor on hand.

2. Circulation pressure at a reduced pump rate will be established and recorded.

3. Blow out preventor will be closed on the drill string and shut-in drill pipe pressure will be recorded. (This will be zero, but for the purpose of this drill, it will be assumed to be 300 psi or a predetermined figure).

4. Circulation at a reduced pump rate will be established through the chokes with sufficient back pressure so that the drill pipe pressure is equal to the reduced circulation pressure plus the 300 psi 'kick', plus a 100 psi safety margin (for example, if the drill pipe pressure was 400 psi at 30 strokes per minute, to control the 300 psi 'kick' with a 100 psi safety margin, the chokes would be adjusted so that the circulating drill pipe pressure would be 800 psi at 30 strokes per minute).

5. Calculate the required density of the new mud weight to contain the B.H.P. plus the 100 psi safety margin.

Object of this blow out drill

1. It will enable us to check the chokes, gauges, and equipment for performance before any emergency arises.

2. It will give realistic training with the actual equipment to the drilling contractor crews and a better knowledge of the practice of kick control.

3. It will give us an opportunity to evaluate the performance of personnel and equipment and if necessary make more training available, and repair or replace defective equipment.

2 (b) HOLE "FILL-UP" PROCEDURE

The following procedure should be followed to insure the accurate measurement of the fluid volume required to "fill-up" while tripping. It is important that the written records included in the procedure be kept on a permanent basis.

1. Open the suction valves on the slug tank and pits so that the mud level will equalize into the slug tank, No. 1 suction tank, and No. 2 suction tank.

2. Circulate bottoms up, drain the "Possum Belly" (tank in front of shale shaker) and pull the first stand slowly while observing the fluid level in the hole for swabbing. After two stands stop and observe hole for flow, continue to come out of hole until 10 stands have been pulled. Do not install the pipe wiper until it is certain that the hole is static.

3. Close the suction valve on the No. 1 suction pit open the valve on the slug tank and fill the hole. Count the number of pump strokes required, allow 2 or 3 extra strokes. Measure the inches of fluid pumped out of the slug tank and into the hole. If the hole did not take the correct amount of fluid, find out why! After each 10 stands, fill-up, open the suction valve on the No. 1 suction pit and the suction valve on the slug tank. This will allow the pits to equalize and will also allow the pit level recorders to indicate an accurate record of fill-up amount.

4. The driller on tour is to make a written record of the hole fill-up data showing depth, number of stands of pipe pulled between fill-ups, amount of fill-up, date and time of trip.

5. As soon as the bit is up in the casing, stop and check for flow regardless of record showing proper fill-up. Stop before pulling the drill collars to check for flow, and at any other time it is deemed necessary or prudent.

6. The blind and pipe rams should be closed and opened one time each trip out of the hole as an operational check. This should be done after the bit is above the rotary table.

7. The Phillips Drilling Supervisor onboard will determine the maximum rate of decent while going in hole. Avoid pressure surges set up when the bit is spudded or lowered too rapidly.

GENERAL REMARKS

1. Any time the mud is being circulated, and open hole is exposed, the mud weight and viscosity will be checked and recorded at least every 15 minutes in the pump room and at the shale shaker.

2. Suitable floor safety valves threaded, or with proper subs, to fit both drill pipe and drill collars are to be in an accessible place on the rig floor at all times when not in use. Any time a trip is interrupted, a floor safety valve is to be installed.

   NOTE:
   Use the Hydril or T.I.W. type safety valve first. The Gray inside BOP will NOT be installed unless it is so ordered by Phillips Drilling Supervisor.

3. At all times, be aware of how much surface mud volume is on hand. Check the Pit Level Recorder for accuracy each tour. Measure the volume to fill hole on each 10 stands when making trip and record this figure.

4. The Phillips Drilling Supervisor is to be on the rig floor any time the hole could be swabbing, when a core is being pulled or when a diamond drill bit is being pulled.

FILL-UP VOLUMES FOR 5" D.P.

1. 10-90 foot stands of 5", 19.5 lbs/ft. drill pipe displace 6.75 bbl. therefore the hole should take 6.75 bbl. to fill when 10 stands of pipe have been pulled.

2. If the same amount of drill pipe is pulled wet, it will take 22,73 bbls to fill the hole. When the drill pipe is pulled wet the mud inside the pipe should be returned to the hole by draining the mud bucket into the drilling nipple. Then it will require 6.75 bbls of fluid to fill hole, as the conditions are the same as when pulled dry.

2 (c) FORMATION PRESSURE TESTING

After drilling out the 20", 13 3/8", 9 5/8" and subsequent casing strings, the following procedure will be followed:

1. Clean out cement below the shoe and make ten feet of new hole.

2. Pick up into the casing and close blow out preventor.

3. Pump slowly down the drill pipe with the cementing pump pressuring up the casing and the exposed formation. Maximum pump rate is to be 0.3 bbl/min.

4. The pressure is to be built up in 50 to 200 psi stages depending on the estimate fracture pressure. When the surface pressure reaches first level, shut the pump down and check for bleed off. Increase surface pressure, shut the pump down and check again, and so on until the final pressure is reached. When approaching the final pressure it may be desirable to use 25 to 100 psi increments.

5. The final pressure to be held on surface will be advised by the Stavanger office. This pressure will be calculated from the following:

   (a) Maximum mud weight anticipated to next casing point.

   (b) Maximum pressures anticipated when cementing the next casing string.

   (c) Estimated formation fracture gradients.

6. An accurate measurement of pressure build up and volume pumped is to be taken and recorded. If the formation begins to take mud, shut the pump down immediately and record the surface holding pressure.

7. After reaching the surface pressure designated by the office, hold the pressure on the formation for five minutes. If the pressure bleeds off, record the rate of bleed off, and the final holding pressure.

8. Release the pressure, open the blow out preventor and drill ahead.

9. The results of the formation pressure test are to be reported on the Daily Drilling Report.

10. The minimum acceptable bleed off have pressure at each casing point are:

Depth	Weight of mud in hole	Bleed off pressure	Equivalent mud weight
1600 ft	11,0	125	12,5 ppg
	11,5	80	
4000 ft	12,0	500	
	12,5	400	14,5 ppg
	13,0	300	
8000 ft	14,0	620	
	14,3	500	15,5 ppg
	14,5	420	

2 (d) DRILLING BREAKS

If a significant drilling rate increase occurs the following procedure should be followed.

1. Drill a maximum of 10 feet at the increased rate.

2. Notify the Phillips Drilling Supervisor.

3. Pick up off bottom, shut down pumps and check for flow or loss.

4. If well flows, close Hydril, then choke and kill lines. Record drill pipe and casing pressures.

5. If well does not flow, the Phillips Supervisor will then decide if the "break" warrants circulating out a sample or if it is OK to drill ahead.

   A drilling break where the penetration rate doubles are considered significant.

ATTACHMENT NO. 3

CASING AND CEMENTING PROGRAM

1. Casing Program

Size (in.)	Weight (lb/ft.)	Grade	Threads	Optimum Torque (ft/lb)	PPCO Rating Burst (psi)	PPCO Rating Collapse (psi)	PPCO Rating Tension (1000 lb)
30	309		Welded				
20	133	J-55	Buttress	15,000[3]	2883	1415	952
13 3/8	68	J-55	ST&C	6,750	3271	1840	450
9 5/8	47	N-80	Buttress	11,000[3]	6090	4484	803
7	29	N-80	LT&C	5,970	7300	6626	398

Notes:

1. Use Phillips modified thread dope on all other casing threads.

2. Space out all casing strings so that the casing shoe will be about 30 feet above T.D. when casing hanger is landed on hanger seat approximately 10 feet above ocean floor.

3. The following procedure should be used in making up the buttress casing strings:

   Make up the first three or four joints of each string until the casing coupling is near the mid-point of the triangle stamped on the casing. The torque required for these joints should be used for the rest of the string. About one joint in 10 should be checked to see that the final position of the coupling is some place on the triangle. If necessary the torque should be adjusted.

2. 30 inch Casing will be driven to ± 110 feet below the ocean floor. All casing joints to be butt welded with the exception of the National clamp hubs. Have Hammer company keep a foot by foot driving record.

3. 20 inch Casing in 26 inch hole at 1600 feet

   A. Mechanical Accessories:

      i. Halliburton top and bottom plugs.

      ii. Halliburton float shoe. This will be installed onshore. (Note: Some shoe joints have been prepared with a float shoe and collar).

iii. Five centralizers and two stop collars:

7 feet above shoe	(bow type over stop collar)
7 feet above float collar	(bow type over stop collar)
Top of second joint	(bow type)
First coupling inside 30 inch casing	(positive)
First coupling below 20 inch hanger	(positive)

B. Running Procedure: The shoe and collar will be welded to the casing onshore. Thread locking compound should be used on first joint above float collar.

C. Cementing Procedure: Use 40 bbls. sea water behind bottom cementing plug. Cement with 1600 sacks Class 'B' cement blended with 8% bentonite mixed at 13.1 lb/gal using sea water followed by 1000 sx Class 'B' neat cement mixed at 15.6 lb/gal using sea water. Catch three wet and three dry samples of each type of cement while mixing. Release top plug, displace plug with sea water using both rig pumps at a maximum rate. Stop displacement after pumping volume of casing to float collar whether or not plug bumps.

Dry Bulk Volume of cement:

1600 sacks Class 'B' with 8% bentonite	1810 cu.ft.
1000 sacks Class 'B'	1000 cu.ft.

<u>13 3/8 inch Casing in 17½ inch hole at 4000 feet</u>

A. Mechanical Accessories:

i. Halliburton top and bottom plugs.

ii. Halliburton float shoe and float collar. Shoe joint will be made up on shore.

iii. Five bow-type centralizers:

7 feet above shoe over stop collar
7 feet above float collar over stop collar
Over couplings on top of joints 2, 4 and 6.

iv. 25 bow-type centralizers:

one per joint for 1000 feet below 20 inch shoe.

v. 100 scratchers, 114 stop collars, 2 bow type centralizers, 2 positive centralizers, and one metal petal basket around 20 inch casing shoe as shown in attached sketch.

vi. Five positive centralizers:

One every other joint for 500 feet above 20 inch shoe.

vii. One positive centralizer: over first coupling below the casing hanger.

B. Running Procedure

Use thread locking compound on field connections on first stand and tack weld mill connections. Run casing to depth and set down 20 inch hanger. Pick up 2 to 3 feet and circulate one casing volume. Work pipe with 4 to 6 feet stroke while circulating. Displace with rig pump 20 to 30 bbl pill, mud containing 15 lb/bbl fine mica, ahead of wash. Hang casing with wellhead 18 inches offseat while cementing. Land casing while on last 20 bbl of displacement.

C. Cementing Procedure

Lead cement with 20 bbls fresh water spacer. Use 200 sacks Class B neat cement wash mixed to 13.5 lb/gal and run behind the bottom cementing plug. Cement with 3000 sacks neat Class B cement mixed at 15.6 lb/gal using fresh water. Catch three wet and three dry samples of each type cement while mixing. Release top plug and pump in 10 bbl fresh water. Displace plug with mud using both rig pumps at maximum rate to calculated casing volume. Do not overdisplace.

Dry bulk of cement:

200 sacks Class B neat (wash)	200 cubic feet
3000 sacks Class B neat	3000 cubic feet

5. 9 5/8 inch Casing in 12 1/4 inch hole at 8000 feet

A. Mechanical Accessories:

i. Halliburton top and bottom cementing plugs.

ii. Halliburton float shoe and float collar. These will be installed onshore.

iii. Five bow type centralizers:

7 ft above shoe
7 ft above float collar
top of 2, 4 and 6 joints

iv. 25 bow type centralizers:

one per joint for 1000 ft below 13 3/8 inch shoe.

v. 95 scratchers, 111 stop collars, 2 bow type centralizers, 2 positive centralizers and one metal petal basket around 13 3/8 inch casing shoe as shown in the attached sketch.

vi. Five positive centralizers:

one every other joint for 500 ft above 13 3/8 inch shoe.

vii. One centralizer over first coupling below the 9 5/8 inch hanger.

B. Running Procedure

Use thread locking compound on field connections. Run casing to depth and set down on hanger. Pick up two with___sacks or three feet and circulate one casing volume. Displace with rig pump 20 to 30 bbl pill, mud containing 15 lb/bbl fine mica, ahead of 14.5 ppg cement slurry. Work pipe with 4 to 6 feet stroke while circulating. Land casing hanger prior to cementing.

C. Cementing Procedure

Lead cement with 10 bbls of fresh water. Use 200 sacks Class B cement mixed to 14.5 lb/gal and run behind the bottom cementing plug. Cement with sacks Class B mixed to 15.6 ppg. Catch three wet and three dry samples of cement while mixing. Release the top plug and pump in 10 bbl sea water. Displace plug with mud using rig pumps at maximum rate. Do not overdisplace.

Cement volume will be supplied after drilling and logging this section of hole. Volume will be calculated on the basis of hole diameter from caliper log so that top of cement will be at 2000 ft above the 13 3/8 inch casing.

Dry bulk volume cement:

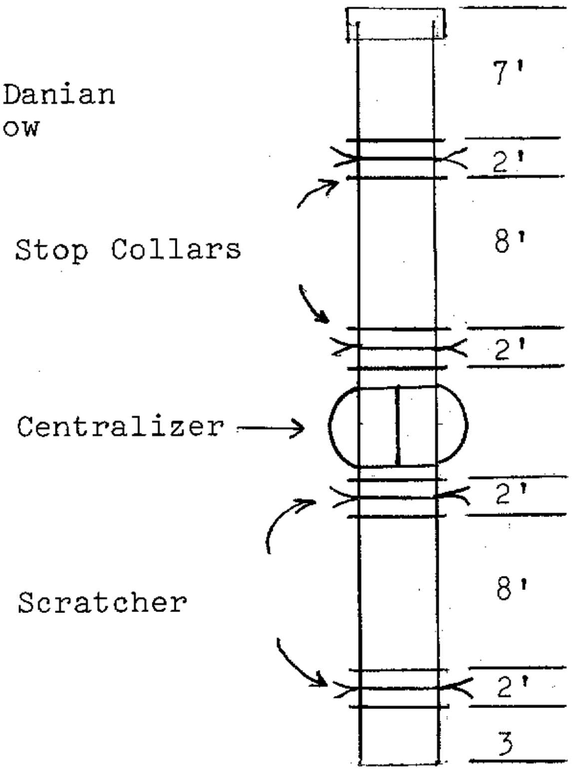
3000 sacks Class B 3000 cubic feet

6. 7 inch liner in 8½ inch hole at total depth

A. Mechanical Accessories:

float shoe
float collar
liner hanger
linger packer and tie back sleeve
running tools
scratchers and centralizers as listed below

Interval	Quantity	Estimated Total Required
Liner hanger to 100' above Danian (7600 - 10,400)	One Centralizer One stop collar each two joints	32 Centralizers(Bow type) 32 Stop Collars 57 Centralizers (close tolerance positive) 5 Stop Collars
100' above Danian to 100' below Danian		20 Centralizers 160 Stop Collars 80 Scratchers



Interval	Quantity	Estimated Total Required
100' below Danian to float collar (est. 700')	One centralizer and one stop collar each joint	18 Centralizers
3' above float collar	Centralizer and two stop collars	1 Centralizer 2 Stop Collars
3' above float centralizer shoe	Centralizer and two stop collars	1 Centralizer 2 Stop Collars
Total required		2 Centralizers(positive) 67 Centralizers (bow) 128 Stop Collars 50 Scratchers

B. Running Procedure

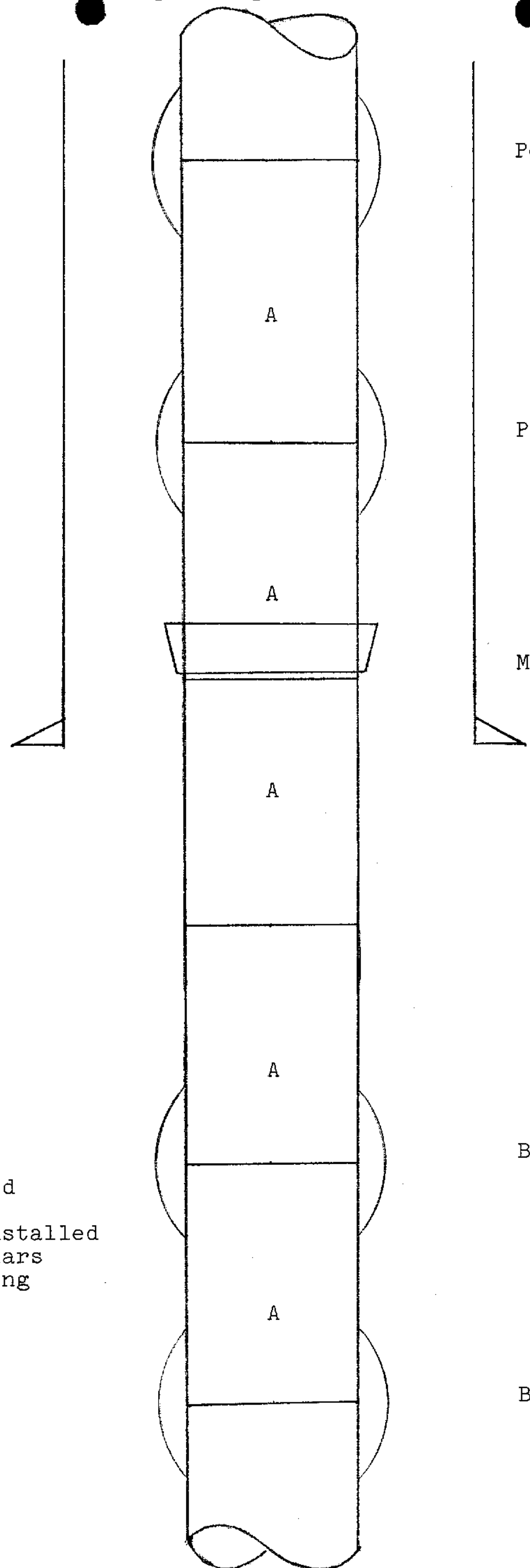
Break circulation at 9 5/8 inch shoe and circulate 10 to 15 minutes when running 7 inch liner. Run liner to setting depth. Make up cementing manifold on drill pipe. Circulate a minimum of one casing volume continue circulating until mud across shaker is clean. Reciprocate casing 20 to 25 ft while circulating or until pipe drag increases. Set hanger before cementing.

C. Cementing Procedure

Lead cement with 10 bbls of fresh water.
Use 100 sacks Class E cement wash mixed to 14.5 ppg and run behind the bottom cementing plug. Cement liner with sacks Class E cement mixed to 16.5 ppg. The sacks of cement will be calculated on the basis of hole diameter from caliper log plus 20% excess. Catch three wet and three dry samples of cement while mixing. Release plug and displace with mud using cementing unit. Pick up out of liner and reverse out.

NOTE: Thickening time for Class E cement at 10,000 ft is 4 hours 20 minutes.

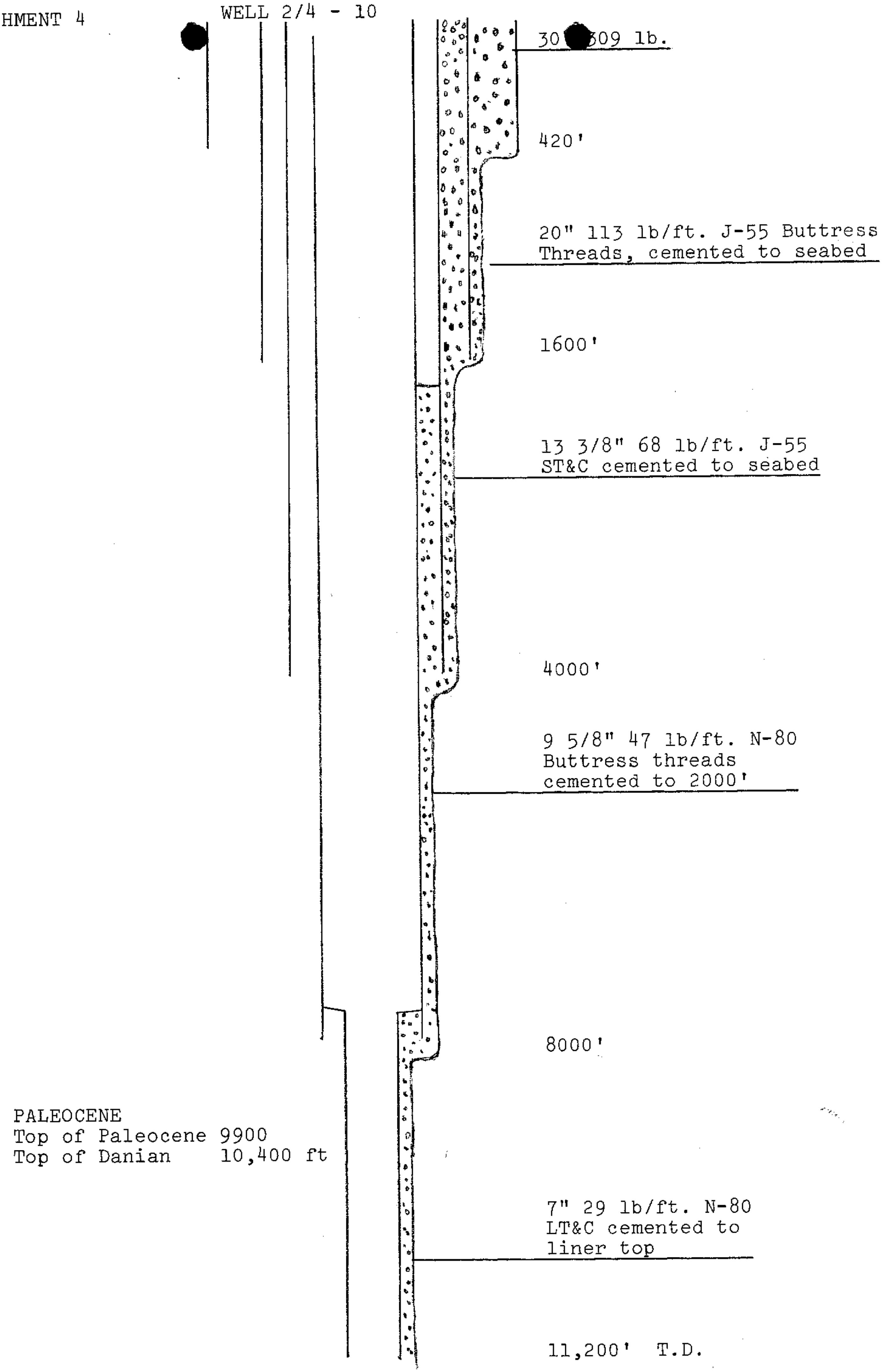
13 3/8" and 9 5/8" Casing String



Each joint marked
'A' should have
1[illegible] scratchers installed
and 19 stop collars
on two ft. spacing

ATTACHMENT 4

WELL 2/4 - 10



ATTACHMENT NO. 5

WELL 2/4-9 DRILLING PROSPECTUS

BOP - WELLHEAD PROGRAM

A 20", 2000 psi Hydril will be used on the 20" casing while drilling the surface hole.

A 13 5/8", 10,000 psi Cameron Type "U" Single, a 13 5/8", 10,000 psi Cameron type "U" Double, and a 13 5/8", 5,000 psi GK Hydril will be used on the 13 3/8" casing to completion. All BOP and 13 5/8" Hydril are equipped with Cameron clamp connections.

Procedure for testing the BOP stack should be similar to that outlined and used by Zapata. Safety measures and personnel involved in testing BOP stack are included in the procedure.

ATTACHMENT NO. 6

MUD PROGRAM

30 inch casing at 450 ft RKB

Drill and drive the 30 inch casing as per Drilling Procedure. Drill with sea water with returns to the sea. Pump slugs of thick mud through the hole frequently to clean and to seal off surface sands. Mix the thick mud as follows:

Material		Properties	
Sea Water		Weight	- 8.8 to 9.4 ppg.
Attapulgite clay	- 10 ppb.	Viscosity	- thick
Flosal	- 2 ppb.	Fluid loss	- No control

Run the shearing device on pit using 400 to 500 psi, to shear flosal.

20 inch casing at 1600 ft RKB - 26 inch hole

Drill the 26 inch hole with sea water with returns to the sea. Pump slugs of thick mud through the hole to clean and to seal off the surface sands. After the 26 inch hole has been drilled, pump in 600 barrels of 11.0 ppg mud prior to making wiper trip. After cerculating out after the wiper trip fill the hole with 800 barrels of 11.0 ppg mud. Mix the thick mud as outlined above and increase the weigth to 11.0 ppg with barite for wiper trip and to run 20 inch casing.

13 3/8 inch casing at 4000 ft RKB (17½ inch Hole)

Drill the cement with sea water. While drilling the shoe displace the hole with mud previously mixed in the pits as follows:

Material		Properties	
Sea water		Weight	- 10.5 ppg.
Bentonite	- 5 ppb	Viscosity	- 38 to 45 SEC/qt
Caustic	- 1 ppb	Fluid loss	- 10 to 15 cc/30 min
Flosal	- 2 ppb	Ph	- 10.5 to 11.5
Barite	- As needed		

While drilling the shoe, start mixing Shale Trol and caustic to bring Shale Trol concentration to ½ to 1 ppb excess at the flowline. From the 20 inch shoe to 4000 ft maintain the mud properties as follows:

Depth ft RKB	wt. ppg	viscosity sec/qt	Ph.	Shale Trol Excess - out/ppb
1600 - 3000	10.5	38 - 45	11.0	½ - 1
3000 - 4000	11.5	40 - 50	11.0	½ - 1

Lignosulfonate and lime added as needed for Rheology control.

Run centrifuge for barite recovery to prevent dumping of excess mud.

For viscosity requirements - use flosal.

9 5/8 inch casing at 8000 ft RKB - 12 1/4 inch Hole

Drill the cement and shoe with the mud in the system. Below the 13 3/8 inch casing control the mud as follows:

Depth ft RKB	wt. ppg.	Viscosity sec/qt	Fluid Loss cc/30 min	Shale Trol Excess - out/ppb
4000-4500	11.5 to 12.0	40 - 50	6 - 8	½ to 1
4500-5500	13.5 to 13.7	40 - 50	4 - 6	½ to 1
5500-8000	13.7 to 14.0	40 - 50	4 - 6	½ to 1

Run the centrifuge for barite recovery as needed. Add Lignasulfonate and Lime as needed for Rheology control.

7 inch Limer to Total Depth - 8½ inch hole

Drill the cement and shoe with the existing mud. Convert the system to a sea water lignasulfonate mud and maintain as follows to total depth:

Material		Properties	
Barite	- As needed	Weight	- 14.3 ppg
Bentonite	- 18 - 20 ppg	Viscosity	- 40 - 50 sec/qt.
Oil	- 3 - 4 %	Oil	- 3 - 4 %
Soltex	- 4 - 5 ppb	Soltex	- 5 ppb

Maintain 4 ppb soltex to total depth.

Prehydrate bentonita before adding to system.
Control high pressure - high temperature fluidloss below 10.0 cc-250°F - from 9700 ft to total depth. Pilot tests are to be run to determine the best formulation to control the high pressure - high temperature fluid loss.

Use the Methyl-Blue test for clay content.

From below the 9 5/8 inch casing to total depth maintain 100 PPM excess nitrate ion in the mud for a mud filtrate tracer.

Packer Fluid

Condition the mud in the system to leave behind the packer for testing and completion.

Material		Properties	
Barite	- As needed	Weight	- 14.3 ppg
Bentonite	- As needed	Ph.	- 11.0 to 11.5
Caustic Sale	- As needed	YP	- 12 to 18
Flosal	- 2 ppb	Bentonite	- 15 to 20 ppb.
Desco	- 1 ppb		

Check Bentonite by Methyl-Blue test. No starch or Lignasulfonate is to be added to condition for Packer fluid.

Mechanical Equipment

Rig - Shale Shapers - Use 14 or 16 mesh screens on 26 inch, 17½ inch and 12 1/4 inch hole. Use 30 mesh on the 8½ inch hole.

Milchem High Speed Shakers. - Use tap 40/40 - 30/30 - 30/30 - 30/30 mesh screens on the 26 inch, 17½ inch and 12 1/4 inch holes. Use 80/80 mesh screens on the 8½ inch hole.

Centrifuge

Run the centrifuge for barite recovery.

ATTACHMENT NO. 7

PHILLIPS PETROLEUM COMPANY NORWAY

GEOLOGICAL PROGNOSIS

SEPTEMBER , 1973

Well No: 2/4-10

Location: Shotpoint 65 on seismic line PS 031310
N 56° 40' 44"
E 03° 13' 25"

Prospect: Tor

Classification: Wildcat

RKB: ± 110'

AFE: NW 5670

A. Projected Total Depth 11,200' Water Depth 218'

B. Anticipated Formation Tops:

PALAEOCENE -9800'

TOP DANIAN(Seismic)-10300'

C. Principal Zones of Interest:

The Danian Limestone is the expected pay zone, and if porosity is present, the Upper Cretaceous Limestone could also be hydrocarbon bearing.

D. Logging Program:

Run 1 - 17½ inch hole, 1600-4000'	:	IES, BHCS - GR - CAL; (Run GR up to sea floor)
Run 2 - 12 1/4" hole, 4000-8000'	:	IES, BHCS-GR-CAL; FDC* SNP* MML*. *Run over potential reservoir zones only.
Run 3 - 8½" hole, 8000'-TD	:	IES, BHCS-GR-CAL; SNP*, FDC*, MML*, HDT** Velocity Survey. *Run over pay section only. **Note: Run HDT from TD to 1000' above Danian.

E. Casing Program: (for details see Drilling Prognosis)

Estimated	30"	at 410'
	20"	at 1600'
	13 3/8"	at 4000'
	9 5/8"	at 8000'
	7"	at T.D. if required.

F. Sample Program:

1. Catch 6 sets of washed and dried cuttings from below 20" casing ± 1600'.
   Catch samples at each connection (approx. every 30' down to 9 5/8" csg point ± 8000'), then at 10' intervals thereafter, if possible.

   The geologist may change to 5' intervals through zones of interest. Store samples on rig until well reaches T.D. Then ship all samples at one time to Stavanger shorebase for storage and/or distribution. Samples should be sorted into six complete sets prior to shipping in order to facilitate handling.

2. Catch one set of unwashed samples and put in plastic bags to Norges Geologiske Undersøkelse starting at 4000'. Boxes should be marked "Kontinental Sokkelen", stored on rig until well is finished, then shipped to Phillips shorebase, Stavanger.
   The geologist will alert shorebase when samples are due to arrive in Stavanger.

G. Anticipated Coring and Testing:

1. Conventional coring is not planned on this test. However, unexpected circumstances may alter this plan, therefore, a core barrel should be available.

2. Sidewall cores will be considered in zones of interest that were not cored coventionally.

3. DST's should be made of all significant hydrocarbon shows. Testing will be through perforations after running casing.

H. Anticipated Hole Problems:

Heaving shale and high pressure can be expected throughout most of the Tertiary.
Washouts can be expected throughout most of the section down to the Danian Limestone.

I. Daily Geological Reports:

A daily geological report will be given to the Tananger Base every morning between 8:30 and 9:00 a.m. This report should be given to F.A. Parada.

Home telephone for weekends and nights: Parada 38 347
Schriber 27 520 Room 912

J. Miscellaneous:

Detailed well site instructions will be given separately to those concerned.

WELL NO:

	Set No.						Interval		Type Sample		Type Box	
	I	II	III	IV	V	VI	From	To	Dry	Wet	Carboard	Steel

ATTACHMENT NO. 8

STANDARD DISTRIBUTION

Schlumberger Logs

One field print of all well logs should be left on the rig. This prints should be returned to the Tananger base at the conclusion of the well.

One field print and onesepia of all well logs should be delivered to the Tananger Base for the attention of F.A. Parada.

Cutting Samples

Instructions for catching cutting samples are included in the Geologic Prognosis.

Dry samples should be packed in the cardboard boxes provided by the mudlogging contractor. Normally six sets of dried samples will be taken and a number of boxes will be required for each set. The boxes should be labeled on both ends with the sample interval, box number and set number. For example:

Interval	9350 - 10,000
Box	2
Set	III

The unwashed samples for the Norges Geologiske Undersøkelser should be stored in strong cardboard or wood core boxes. These boxes should also be labeled on the end with the interval and box number. In addition the boxes should have "Kontinental Sokkelen" written on them.

Wet samples should be stored in the metal ammunition boxes provided by Robertson Research. Again the boxes should be labeled with the interval and box number and should have"Robertson Research" plainly marked on them.

When samples are sent to shore fill out the cutting sample record sheet in duplicate. Send on copy to M.F. Klungland, Phillips Tananger Base, and one copy to Mr. F.A. Parada, Phillips Tananger Base.

DST Sample

All samples sent to the Tananger Base for shipping or warehousing should be clearly labelled with waterproof bags or paint. The label should state contents of container, intervals and final destination of samples. All containers should be tagged inside and out so that the container does not need to be opened during transhipment. Specific sampling instructions are included in the Testing Procedure.

ATTACHMENT NO. 9

TIGHT HOLE PROCEDURE

For various reasons, it is necessary that certain information concerning the well be withheld from competitors and others.

It will be the responsibility of the Supervisor on duty at the rig to see that only necessary and authorized individuals should carry written permission signed by:

E.W. Thrall

P.W. Reynolds

or A.E. Vick

No information is to be given to any individual, not an employee of Phillips, regardless of his credentials. This includes partners, government agents and all others.

All information released concerning the well will be released only from the Stavanger Office.

In this respect, reasonable caution is to be practised during conversation with associates, friends, etc.

Below the 13 3/8" casing point, all radio and R/T conversations are to be in code when reference is made to:

Drill Stem Tests, Shows,

Depths, Formation Tops,

Lithology

November 12, 1973

TEST PROGRAM

NORTHWEST TOR WELL 2/4-10

Test	Interval		Feet
1	10840 to 10900 ft		60
2	10440 to 10510 ft		70
		Total	130 ft

1. Test casing to 3000 psi.

2. Run CBL and Gamma Ray/Neutron correlation. Determine that first test zone is isolated by good bonding before continuing test program.

3. Perforate the interval 10840 ft to 10900 ft for first production test. Run wireline junk basket to top of perforations.

4. Pick up test string and run into hole. Refer to attached list. Space out test string so that pressure recorders are located across from perforations. Displace test string with drill water; first 20 bbl in test string are to be treated with clay stabilizer.

5. Flow Period 1. Open well 15 minutes to 2000 gal tank on pipe rack.

6. Shutin Period 1. Shut well in at surface for two hours.

7. Flow Period 2. Flow well wide open to burner for clean up. Formation fluid that surfaces will determine remainder of test program. Engineer on rig will select program and advise office.

Water Test

1. Continue flowing well until 30 minute readings of resistivity, chlorides and nitrate ion tracer indicate formation water is being recovered. Catch sample in T-kit.

2. Kill zone, release packer and circulate to condition mud.

3. Set cement retainer approximately 50 ft above top of perforations using mechanical setting tool. Break down formation, mix 200 sx Class E neat cement to a slurry weight of 16.4 lb/gal and squeeze zone to a maximum holding pressure of 3000 psi.

4. Proceed with abandonment program after receiving approval from Drilling Superintendent.

Dead Zone Test

1. Attempt to break down formation and pump in 10 bbl treated water cushion. Wait two hours after well dies.

2. Test all lines to 7500 psig. Stimulate according to BJ recommendation.

3. Proceed with appropriate program if well flows. Observe well two hours if no flow continues after stimulation.

4. Release packer, reverse out test string and condition mud.

5. Run into hole with tubing string and lay 50 sx neat Class E cement across test interval.

6. Proceed with abandonment program after receiving approval from Drilling Superintendent.

Hydrocarbon Test

1. Flow Period 2. Flow well six hours at maximum stabilized rate. Catch oil and gas samples in one Phillips F-kit. Catch atmospheric pressure oil sample in metal can. All samples must be properly labelled with data sheets completed in full detail.

2. Shutin Period 2. Shut well in eight hours.

The engineer will decide whether flow rate during Period 2 was sufficient to proceed with modified isochronal four-point flow test before stimulation. If he decides to proceed, program will be:

3. Flow Period 3: Six hours at one-third rate of FP2. Catch companion separator samples in corelab bottles.

4. Shutin Period 3: Six hours. Catch duplicate bottom-hole samples.

5. Flow Period 4: Six hours at two-thirds rate of FP2.

6. Shutin Period 4: Six hours.

7. Flow Period 5: Six hours at maximum stabilized rate.

8. Shutin Period 5: Six hours.

9. Test lines to 7500 psig and stimulate zone. Run pressure recorders on wireline during acid contact period if required.

10. Flow Period 6: Clean up to burner and then switch to separator for six hour stabilized flow at maximum rates.

11. Shutin Period 6: Eight hours.

If the engineer elects to stimulate this interval immediately after Shutin Period 2, he will prepare a new program listing Steps 9, 10 and 11 above after Setp 3 and then following with Steps 3 through 8 in order.

12. Kill well, release packer and condition mud.

13. Set retainer approximately 50 ft above perforations using mechanical setting device. Break down formation, mix 200 sx neat Class E cement to a slurry weight of 16.4 lb/gal and squeeze interval to a maximum holding pressure of 3000 psig.

14. Perforate the interval 10440 ft to 10510 ft RKB for the second test. Run wireline junk basket to top of perforations.

15. Run into hole with test string. Space out with recorders across from perforations. Displace test string with drill water using clay stabilizer in first 20 bbl.

16. Flow Period 1. Open well 15 minutes to tank on pipe rack.

17. Shutin Period 2: Shut well in 2 hours.

18. Flow Period 2: Flow well wide open to burner for clean up. Engineer will prepare remainder of test program after determining results of this flow period.

WELL ABANDONMENT PROCEDURE

NOTE: DO NOT PROCEED WITHOUT APPROVAL FROM DRILLING SUPERINTENDENT

20. Pull out of hole to approximately 8150 ft and lay a plug of 90 sacks Class E cement back to 150 ft above liner top.

21. Set 9 5/8 inch bridge plug at approximately 3950 ft using mechanical setting device.

22. Lay cement plug from 3950 ft to 3350 ft using 200 sacks of available cement.

23. Cut off 9 5/8 inch casing at 355 ft and retrieve. Cut off 13 3/8 inch casing and 20 inch casing at 350 ft and retrieve.

24. Cut off 30 inch casing at 345 feet and retrieve.

25. Lay cement plug from 750 ft back to surface using tubing stinger below 30 inch cutting tool and 500 sacks available cement.

26. Make inspection dive to insure that the well location is clear of all debris. Divers should provide Drilling Supervisor with a written report of the condition of the seabed.

TOOL STRING

Test Head

Swivel

TIW Valve

Crossover

Tubing, 3½-in 12.95 lb/ft N-80

Crossover

Bumper Sub

Drill Collars, 4 3/4-in

Crossover

Model EA Retrievamatic Packer

Crossover

Tubing Tail Pipe

Perforated Joint

Crossovers

F Profile Nipple

Crossovers

Instream Pressure Recorders, 2

Blanked Hanger

Perforated Pup

Pressure Recorder

Shoe

Stimulation Program

Material Required: 12,000 gal - 92-8 Acid.

Interval: 10840 to 10900 ft (60 ft)

Total Barrels	Barrels each Stage
	81.5 bbls Preflush
176.7	95.2 bbls Sac
271.9	95.2 bbls Acid - 92-8
281.4	9.5 bbls Divert II
376.6	95.2 bbls Sac
471.8	95.2 bbls Acid - 92-8
481.3	9.5 bbls Divert II
576.5	95.2 bbls Sac
671.7	95.2 bbls Acid - 92-8
681.7	10.0 Treated Sea Water
763.2	81.5 Flush

Material Required: 14,000 gal - 92-8 Acid

Interval: 10440 to 10510 ft (70 ft)

Total Barrels	Barrels each Stage
	78.6 bbls Preflush
161.9	83.3 bbls Sac
245.2	83.3 bbls Acid
252.8	7.6 Divert II
336.1	83.3 bbls Sac
419.4	83.3 bbls Acid
427.0	7.6 bbls Divert II
510.3	83.3 bbls Sac
593.6	83.3 bbls Acid
601.2	7.6 bbls Divert II
684.5	83.3 bbls Sac
767.8	83.3 bbls Acid
777.8	10.0 bbls Treated Sea Water
856.4	78.6 Sea Water Flush

REVISED TEST PROGRAM

NORTHWEST TOR WELL 2/4-10

Test	Interval		Feet
1	10,840 to 10,900 ft		60
2	10,840 to 10,855 ft		15
3	10,680 to 10,765 ft		85
4	10,440 to 10,510 ft		70
		Total	230

1. Perforate the interval 10,840 to 10,900 ft for first production test. Run wireline junk basket to top of perforations.

2. Pick-up test string and run into hole. Space out test string so that pressure recorders are located across from perforations. Displace test string with drill water; first 20 bbls in test string are to be treated with clay stabilizer.

3. Flow Period 1: Open well 15 minutes to 2000 gal tank on pipe rack.

4. Shut-in Period 1: Shut-in well at surface for 2 hours.

5. Flow Period 2: Flow well wide open to burner to clean-up.

6. Stimulate well according to BJ recommendation using 200 gal acid per foot. Test all lines to 7500 psig before acidizing. Shut well in three hours at surface for acid contact.

7. Flow Period 3: Clean-up to burner and then switch to separator for six hour stabilized flow at maximum rates.

8. Shut-in Period 3: Eight hours.

9. Flow Period 4: Six hours at 1000 bfpd. Catch companion separator samples in Corelab bottles.

10. Shut-in Period 4: Eight hours.

11. Flow Period 5: Six hours at 2000 bfpd.

12. Shut-in Period 5: Eight hours.

13. Flow Period 6: Six hours at 3000 bfpd. Catch oil and gas samples in one Phillips F-kit. Catch atmospheric pressure oil sample in gerry can.

14. Shut-in Period 6: Eight hours.

15. Kill well, release packer and condition mud.

16. Go in hole with Baker Retrivamatic packer and 3½ inch - 9.2 lb/ft N-80 pup joint screwed in bottom with pin end down. Spot end of tail pipe at least 50 ft above top perforation and set packer. Break down formation. Mix 300 sxs neat Class E cement to a slurry weight of 16.4 lb/gal and pump in as follows:
    First 100 sxs at maximum pump rate, next 50 sxs at 1 bbl/min, next 50 sxs at ½ bbl/min and final 100 sxs at 1/3 to 1/4 bbl/min. Squeeze interval to a maximum holding pressure of 4000 psig. (NOTE: Thickening time for Class E cement at 10,000 ft is 4 hours 20 minutes).

17. Run into hole with bit and bottomhole assembly and drill out cement to 10,865 ft. (IMPORTANT: Depth measurement is critical).

18. Perforate the interval 10,840 to 10,855 ft RKB for the second test. Correlate depths with CCL log. Run wire line junk basket to top of perforations.

19. Pick-up test string and run in hole. Displace test string with drill water using clay stabilizer in first 20 bbls.

20. Flow Period 1: Flow well wide open to burner for clean-up. Formation fluid that surfaces will determine remainder of test program. Engineer on rig will select program and advise office.

WATER TEST

W-18. If zone flows primarily water (water cut greater than 20 percent) advise office and further instructions will be issued.

HYDROCARBON TEST

H-19. Flow well six hours at maximum stabilized rate. Catch oil and gas samples in one Phillips F-kit. Catch atmospheric pressure oil sample in metal gerry can.

H-20. Shut-in Period 1: Eight hours.

H-21. Test lines to 7500 psig and stimulate well according to BJ recommendation using 200 gal/ft. Shut well in three hours at surface for acid contact.

H-22. Flow Period 2: Clean up to burner and then switch to separator for six hour stabilized flow at maximum rate. Catch corelab companion kit oil and gas samples.

H-23. Shut-in Period 2: Eight hours.

24. Kill well, release packer and condition mud.

25. Set retainer approximately 50 ft above perforations using mechanical setting device. Breakdown formation, mix 200 sxs neat Class E cement of a slurry weight of 16.4 lb/gal and squeeze interval to a maximum holding pressure of 3000 psig.

26. Perforate the interval 10,680 to 10,765 ft RKB for the third test. Run wireline junk basket to top of perforations. Pick-up test string and run in hole. Displace test string with drill water using clay stabilizer in first 20 bbls.

27. Flow Period 1: Open well 15 minutes to tank on pipe rack.

28. Shut-in Period 1: Two hours.

29. Flow Period 2: Flow well wide open to burner for clean-up. Formation fluid that surfaces will determine remainder of test program. Engineer on rig will select program and advise office.

WATER TEST

W-29. Continue flowing well until 30 minute readings of resistivity, chlorides and nitrate ion tracer indicate formation water is being recovered. Catch sample in T-kit. Proceed with Step 34.

DEAD ZONE

D-29. Attempt to break down formation and pump-in 10 bbls treated water cushion. Wait two hours after well dies.

D-30. Test all lines to 7500 psig. Stimulate according to BJ recommendation.

D-31. Proceed with appropriate program if well flows. Observe well 2 hours if no flow continues after stimulation, release packer, reverse out test string and condition mud.

HYDROCARBON TEST

H-29. Flow well six hours at maximum stabilized rate. Catch oil and gas samples in one Phillips F-kit. Catch atmospheric pressure oil sample in metal gerry can.

H-30. Shut-in Period 2: Eight hours.

H-31. Test lines to 7500 psig. Stimulate according to BJ recommendation.

H-32. Flow Period 3: Clean-up to burner and then switch to separator for six hour stabilized flow at maximum rates. Catch Corelab companion kit oil and gas samples.

H-33. Shut-in Period 3: Eight hours.

34. Kill well, release packer and condition mud.

35. Set retainer approximately 50 ft above perforations using mechanical setting device. Breakdown formation, mix 200 sxs neat Class E cement to a slurry weight of 16.4 lb/gal and squeeze interval to a maximum holding pressure of 3000 psig.

36. Perforate the interval 10,440 to 10,510 ft RKB for the fourth test. Run wireline junk basket to top of perforations. Pick-up test string and run in hole. Displace test string with drill water using clay stabilizer in first 20 bbls.

37. Flow Period 1: Open well 15 minutes to tank on pipe rack.

38. Shut-in Period 1: Two hours.

39. Flow Period 2: Flow well wide open to burner for clean-up. Formation fluid that surfaces will determine remainder of test program. If well produces:

   a. Water, go to Step W-29.
   b. Nothing, go to Step D-29.
   c. Hydrocarbons, go to Step H-29.

Engineer on rig will select program and advise office.

40. Kill well, release packer and condition mud.

41. Set retainer approximately 50 ft above perforations using mechanical setting device. Breakdown formation, mix 200 sxs neat Class E cement to a slurry weight of 16.4 lb/gal and squeeze interval to a maximum holding pressure of 3000 psig.

42. Proceed with abandonment program after receiving approval from Drilling Superintendent.

GWB/eb-574-73 December 3, 1973

Statens Oljedirektorat
Lagårdsveien 80
4000 STAVANGER

Dear Sirs:

RE: ABANDONMENT OF NORTH WEST TOR WELL 2/4-10

Phillips Petroleum Company Norway will abandon the North West Tor Well 2/4-10 according to the following program, after testing zones of interest:

1. Each productive interval will be squeeze cemented to a maximum holding pressure of 3000 psi using a cement retainer.

2. The liner hanger will be plugged with cement from 150 feet below the hanger in the 7-inch casing to 150 feet above in the 9 5/8-inch casing.

3. The 9 5/8-inch casing will be plugged just above the shoe of the 13 3/8-inch casing with a bridge plug and a 600 foot column of cement on top.

4. All casing strings will be cut off below the seafloor and the upper section of each will be retrieved.

5. A cement plug will be laid from 400 feet below the sea floor back to the sea floor.

6. An inspection dive will be made to insure that the sea floor has been returned to its original condition.

Please give us your approval of this program.

Yours very truly,

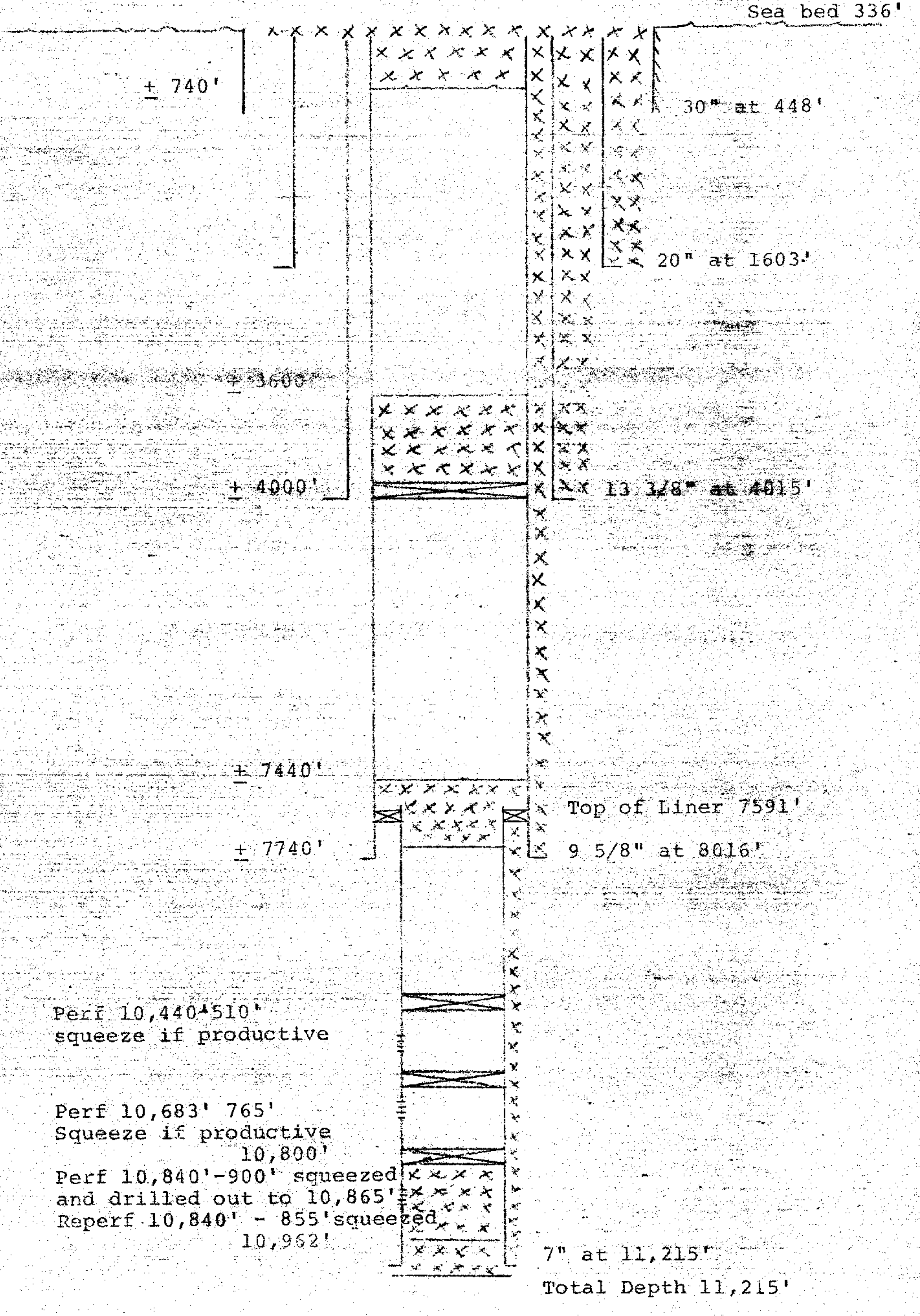
E.W. Thrall, Manager
Ekofisk Operations

Well 2/4-10

4 December 1973

Profile When Abandoned

All Depths from RKB



CII/eb-490-73 November 15, 1973

Statens Oljedirektorat
Lagårdsveien 80
4000 STAVANGER

Dear Sirs,

RE: <u>ABANDONMENT OF NORTH WEST TOR WELL 2/4-10</u>

Phillips Petroleum Company Norway proposes to plug and abandon the North West Tor well 2/4-10 after testing zones of interest. We shall go by the following procedure:

1. Each productive interval will be squeezed with cement to a maximum holding pressure of 3000 psi using a cement retainer.

2. The liner will be plugged with cement from 150 feet below the hanger in the 7 inch casing to 150 feet above it in the 9 5/8 inch casing.

3. The 9 5/8 inch casing will be plugged just above the shoe of the 13 3/8 inch casing with a bridge plug and about 600 foot column of cement on top.

4. All casing strings will be cut off below the sea floor and the upper section of each will be retrieved.

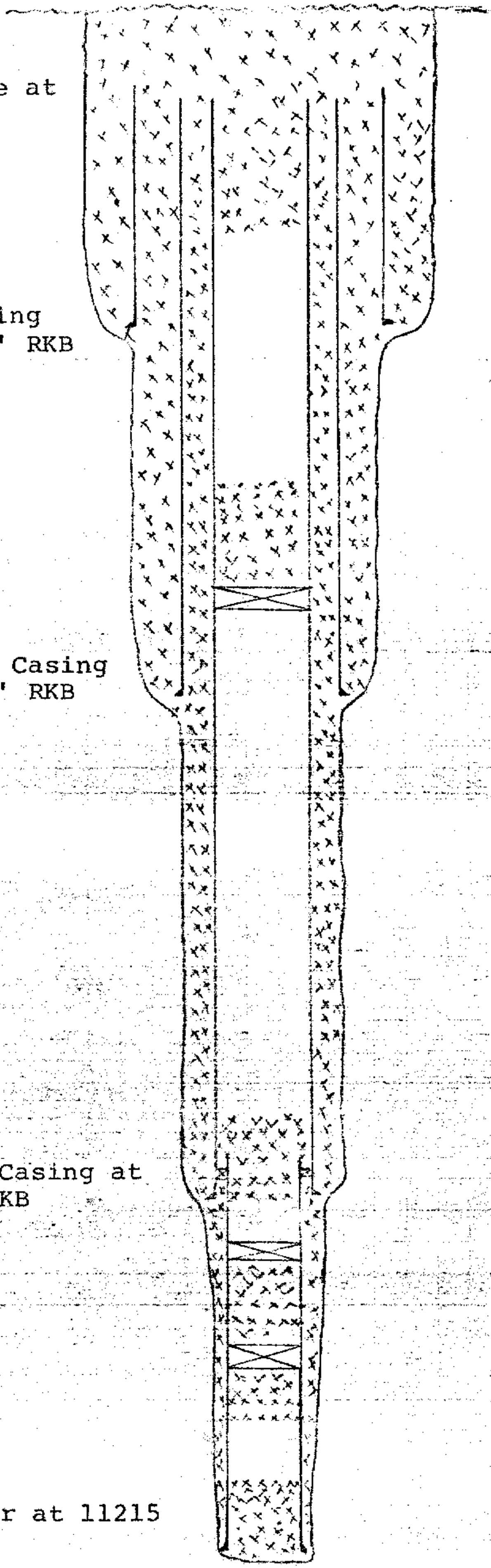
5. A cement plug will be laid from 400 feet below the sea floor back to the sea floor.

6. An inspection dive will be made to insure that the sea floor has been returned to its original condition.

A sketch showing the final layout is attached. We ask for your approval of this procedure.

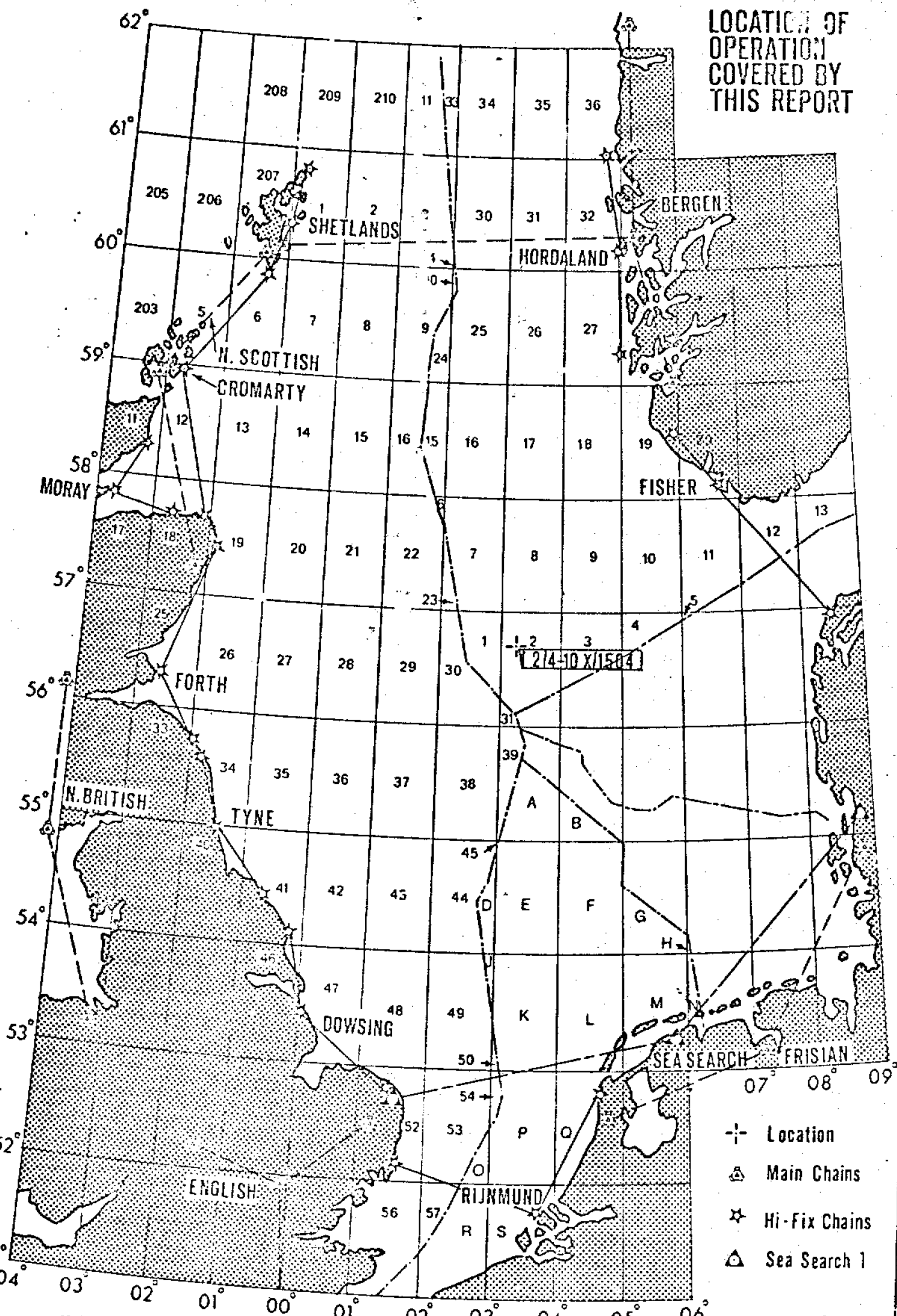
Yours very truly,

E.W. Thrall, Manager
Ekofisk Operations



RKB to Sea Floor 328'
30" Pipe at
436 RKB
20" Casing
at 1630' RKB
Top of Cement Plug at 3350' RKB
Retainer at 3750 RKB
13 3/8" Casing
at 4030' RKB
9 5/8" Casing at
80 6' RKB
Retainer at 10490 RKB
Perforation from 10440 - 10510' RKB
Retainer at 10890
Perforation at 10840 - 10900
7" Liner at 11215
RKB
T.D. at 11215' RKB

LOCATION OF OPERATION COVERED BY THIS REPORT



U.K.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Dutch

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18

Norwegian

1	2	3
4	5	6
7	8	9
10	11	12

Sub-Division Of Blocks

DECCA SURVEY LTD.,
Main Cross Road,
Gt. Yarmouth,
Norfolk.
☎ 57210/7/8/9

BMT/eb-421-73

October 15, 1973

Statens Oljedirektorat
Lagårdsveien 80
4000 STAVANGER

RE: NOTICE OF RIG LOCATION

Phillips Petroleum Company Norway advises that the rig Zapata Explorer is now located at Well 2/4-10 with the following coordinates:

Geographical	Fisher Hifix
56° 40' 41.6" N	Pattern 1: 524,59
03° 13' 21.7" E	Pattern 2: 620,80

Very truly yours,

E.W. Thrall, Manager
Ekofisk Operations

cc: T.J. Jobin
Direktoratet for arbeidstilsynet
Elektrisitetstilsynet
Fiskeridepartementet
Fiskeridirektoratet
Forsvarsdepartementet
Fyrdirektoratet
Helsedirektoratet
Kommunal- og Arbeidsdepartementet
Luftfartsdirektoratet
Politimesteren i Stavanger
"Etterretninger for Sjøfarende"
Fiskerimeldinger
Sjøfartsdirektoratet
Sjøstridskreftene i Sør-Norge
Skattedirektøren
Sprengstoffinspeksjonen
Statens Strålehygieniske institutt
Statens Utlendingskontor
Teledirektoratet
Tolldirektoratet
Sola Air Rescue Center

VDS/eb-405-73 October 3, 1973

Statens Oljedirektorat
Lagårdsveien 80
4000 STAVANGER

Attention: Petroleum Section

Dear Sirs:

RE: ANNOUNCEMENT OF DRILLING LOCATION PHILLIPS 2/4-10 EXPLORATORY TEST, DRILLING VESSEL "EXPLORER".

This is to advise that Phillips Petroleum Company, Norway anticipates to have the drilling vessel "Explorer" on location on or about October 10, 1973.
The location of well 2/4-10 is:

Geographical: 56° 40' 44" N
03° 13' 25" E

Particulars of the drilling program for this subject well have been forwarded for your approval.

Yours very truly,

P.W. Reynolds, Manager
Drilling & Production

cc: T.J. Jobin/PPCo London
Direktoratet for Arbeidstilsynet
Elektrisitetstilsynet
Fiskeridepartementet
Fiskeridirektoratet
Forsvarsdepartementet
Fyrdirektoratet
Helsedirektoratet
Kommunal- og Arbeidsdepartementet
Luftfartsdirektoratet
Politimesteren i Stavanger
"Etterretninger for Sjøfarende"
"Fiskerimeldinger"
Sjøfartsdirektoratet
Sjøstridskreftene i Sør-Norge
Skattedirektøren
Sprengstoffinspeksjonen
Statens Strålehygieniske Institutt
Statens Utlendingskontor
Teledirektoratet
Tolldirektoratet
Sola Air Rescue Centre

BZP/sjm-346-73

August 21, 1973

Statens Oljedirektoratet,
Lagårdsveien 80,
4000 STAVANGER.

Dear Sirs,

RE: PHILLIPS 2/4-10 EXPLORATORY TEST, PRODUCTION LICENCE 018

In accordance with the Royal Decree of April 9, 1965, Phillips Petroleum Company Norway, as operator for itself, Norske Fina A/S, Norske AGIP A/S and Petronord A/S, requests Oljedirektoratet approval to drill the 2/4-10 well as outlined below:

a. Geographical Co-ordinates : 56° 40' 44" N
03° 13' 24" E

b. Drilling Vessel : Zapata Explorer

Construction and Equipment : Previously submitted by Zapata North Sea, Inc. and Amoco Norway

Drilling Contractor : Zapata North Sea, Inc.

c. Estimated Total Depth : 3414 m RKB

d. Expected Geological Strata : Miocene
Eocene
Paleocene
(anticipated top at 2987 m RKB)
Danian
(anticipated top at 3140 m RKB)

e. Water depth : 66 m Mean Sea Level

f. Casing Program:

Diameter inches	Type	Weight	Depth	Volume of Cement
30	1 inch wall	309 lb/ft	170 m RKB	to be driven 70 m into the sea bed
20	J - 55	133	487 m	4400 ft^3
13 3/8	J - 55	68	1219 m	3800 ft^3
9 5/8	N - 80	47	2439 m	2800 ft^3
7	N - 80	29	at total depth if required	

g. Blowout Preventors:

1. Hydril : One - type MSP 20 inch - 2000 psi W.P. with flange on bottom.

   One - type GK 13 5/8 inch - 5000 psi W.P. with Camloc bottom connection and flange top.

2. B.O.P. : One - Double Cameron type U 13 5/8 inch - 10,000 psi W.P. with Camloc connectors and flange and two outlets below rams.

   One - Single Cameron type U 13 5/8 inch- 10,000 psi W.P. with Camloc connectors and two outlets below rams.

3. Accumulator : Koomey 160 gallon capacity with two remote control stations.

4. Choke and Kill Manifold: Previously submitted by Zapata North Sea, Inc. and Amoco Norway.

h. Drilling and Fluid Program :

1. 26 inch hole to 487 m RKB

   Drilling and Running Casing:

Bentonite	-	Flosal Mud
Weight	-	8 - 9 lb/gal
Viscosity	-	45 to 60 sec/qt
Fluid Loss	-	10 to 15 cc/30 min

2. 17 ½ inch hole to 1219 m RKB

   Drilling and Running Casing

Shale	-	Trol
Weight	-	11 lb/gal
Viscosity	-	45 to 55 sec/qt
Fluid Loss	-	10 to 15 cc/30 min

3. 12 1/4 inch hole to 2439 m RKB

Shale	-	Trol
Weight	-	12.5 to 14.3 lb/gal
Viscosity	-	40 to 55 sec/qt
Fluid Loss	-	4 to 8 cc/30 min

4. 8 ½ inch hole to 3414 m RKB

Sea Water	-	Lignosulfonate
Weight	-	14.3 lb/gal
Viscosity	-	45 to 55 sec/qt
Fluid Loss	-	4 to 6 cc/30 min

i. **Logging Program:**

Contractor: Schlumberger

Run	Hole Size	Interval RKB	Tools
1	20 inch cased	100 to 487 m	GR
	17 ½ inch	487 to 1219 m	IES, BHCS-GR
2	12 1/4 inch	1219 to 2439 m	IES, BHCS-GR, CAL, FDC, SNP, MML
3	8 ½ inch	2439 to 3414 m	IES, BHCS-GR-CAL, SNP, FDC, MML, HDT, Velosity Survey

j. Mud Logging Program:

Contractor: Exploration Logging

A mud logging program with continuous gas detection on the mud stream and continuous chromatographic analysis for relative hydrocarbon percentage will be in operation from the 20 inch casing point to total depth.

k. Sample Program:

Formation samples will be caught after 20 inch casing is set at 30 foot drilling intervals. From 2439 meters to total depth samples will be caught at 10 foot intervals. Through zones of interest samples will be caught at 5 foot intervals.

l. Coring Program:

Conventional coring is not planned for this test. However, unexpected circumstances may alter this plan. Sidewall cores will be considered in zones of interest that were not cored conventionally.

m. Testing Program:

All significant hydrocarbon shows will be tested through cased hole.

n. Safety Program:

Previously submitted by Zapata North Sea, Inc. and Amoco Norway.

o. Seismic Profile Line:

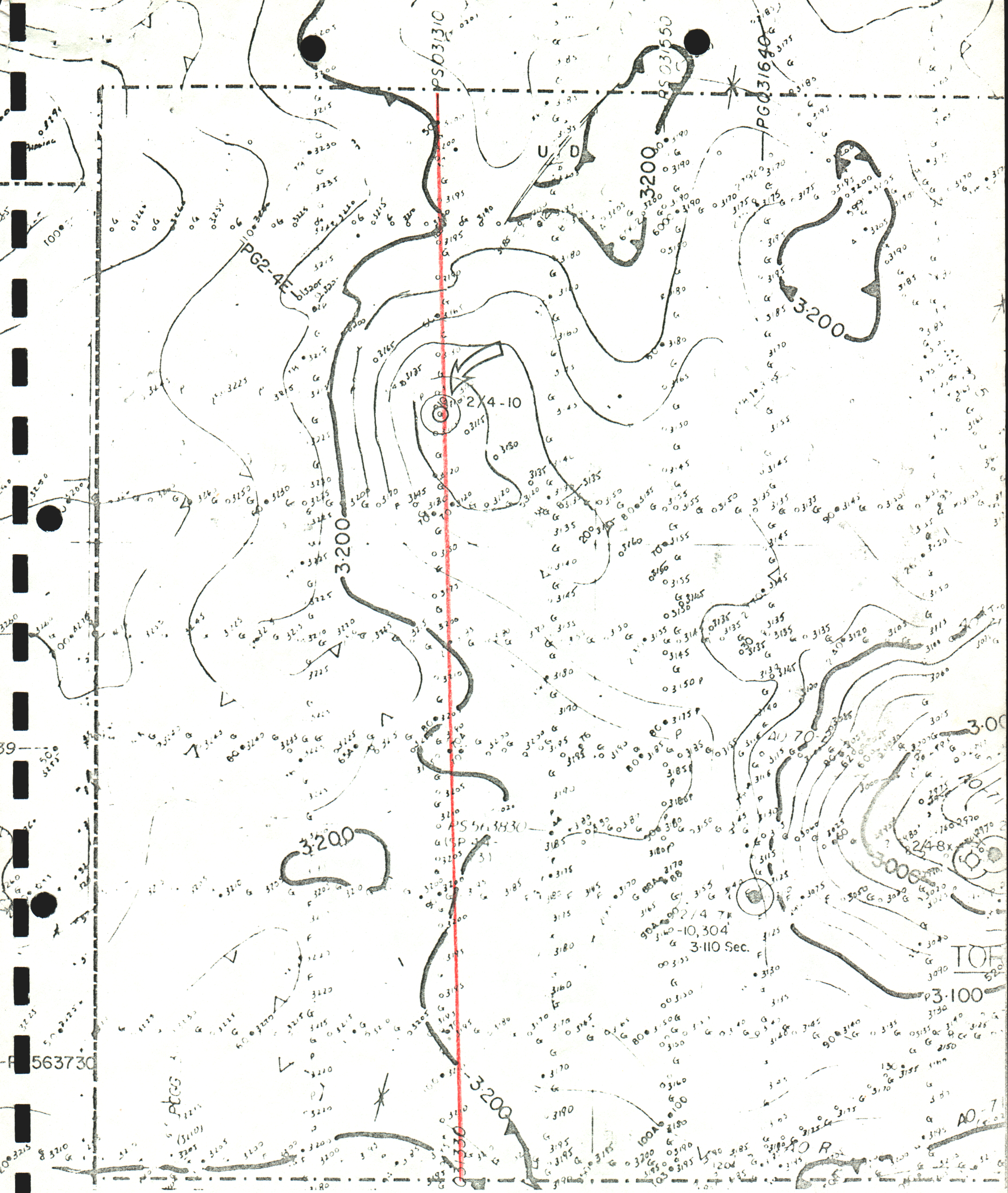
Attached is a structural map contoured on the top of the Danian and a seismic profile line through the well location.

Yours very truly,

Attachment.

E. W. Thrall, Manager,
Ekofisk Operations

c.c. T J Jobin London



PHILLIPS PETROLEUM COMPANY
NORWAY

TOR PROSPECT 2/4-10

HORIZON TOP DANIAN (SEISMIC)

CONTOUR INTERVAL 0.020sec.

DATUM, SEA LEVEL

SCALE 1:50,000

INDIVIDUAL WELL COMPLETION RECORD

Lease 2/4 North Sea Norway   Well No. 10   AFE P- 5670

Line measurements of well:

56° 40' 41.06" N
03° 13' 21.7" E

Measurements taken from

ELEVATIONS:
Ground Ft.
Derrick Floor Ft.
R K B Ft.
Top Csg. Flg. Ft.
Or Bench Mark Ft.

COST DATA
Est. Total Mud
TOTAL PAID DRILLING CONTRACTOR:
Footage $
Day Work $

CASING						CEMENT					
Date	Size	Weight	Condition & Grade	Amount Run	Where set	No. Sacks	Kind	Depth of plug	Top in Annulus	Amount Pulled	Data pulled
Oct. 13 1973	30"	309	1	10	448'						
Oct. 15 1973	20"	133	J-55	40	1602'	1600	Class B 2/8% Gel				
						800	Class B Neat				
Oct. 20 1973	13 3/8	68	J-55	105	4015'	200	Class B Neat				
						3000	Class B Neat				
Oct. 27 1973	9 5/8	47	N-80	205	8016	2800	Class B				
Nov. 11 1973	7"	29	N-80	105	11,215	100	Class E				
						850	Class E				

PERFORATING AND SQUEEZE RECORD

Lease 2/4 Well 10

Date	Size of Casing	Perforating To	Perforating From	No. of ft perforated	No. of Holes	Size of Holes	Gun Diameter	Gun Type	Perforating Company
1973 Nov.18	7"	10900'	10840'	60	4/ft	1/4"	4½-in	Casing	Schlumberger
Nov.28	7"	10850'	10840'	10	4/ft	1/4"	4½-in	Casing	Schlumberger
Dec. 1	7"	10765'	10683'	80	4/ft	1/4"	4½-in	Casing	Schlumberger
Dec.10	7"	10510'	10440'	70	4/ft	1/4"	4½-in	Casing	Schlumberger

SQUEEZE NO. 1

Date: Nov. 26, 1973
Reason: Squeeze test interval
Retainer: Baker Retriev-O-Matic, 10780'
Cement: 200 sx Class E

SQUEEZE NO. 2

Date: Nov. 30, 1973
Reason: Squeeze test interval
Retainer: HOWCO EZ, 10800'
Cement: 200 sx Class E

SQUEEZE NO. 3

Date: 14 Dec. 1973
Reason: Squeeze test interval
Retainer: HOWCO SV, 10400'
Cement: 200 sx Class B

SQUEEZE NO. 4

Date: 14 Dec. 1973
Reason: plug form 7768' to 7460'
Retainer: HOWCO SV
Cement: 90 sx Class B

SQUEEZE NO. 5

Date: 15 Dec. 1973
Reason: plug from 3950' to 3350'
Retainer: 9 5/8 HOWCO EZ, 3950'
Cement: 200 sx Class B

EXPLORATION RECORD

Lease ______________ Well 2/4-10

Formation Name	RKB Top	Subsea Top	Remarks
Palaeocene	9910'	- 9795'	
Danian Limestone	10375'	-10260'	
Upper Cretaceous	10805'	-10690'	

Form 853 3-53

WELL NO. 2/4-10

Name of Log	Scale	Run No.	Interval From	To
IES	1/200-1/500	1	4041	1605
IES	1/200-1/500	2	8051	4014
IES	1/200-1/500	3	11192	8006
BHCS-GR-Cal	1/200-1/500	3	11192	8006
FDC	1/200-1/500	1	11204	9850
SNP	1/200-1/500	1	11204	9850
CNT	1/200-1/500	1	10968	9968
PML	1/200-1/500	1	11204	9850
HDT	1/200-1/500	1	11202	9400
BHCS-GR-Cal	1/200-1/500	1	4036	1605
BHCS-GR-Cal	1/200-1/500	2	8050	4014
BHCS-GR-Cal	1/200-1/500	3	11192	8006

FILE NO. BIT RECORD SALESMAN: Page of

CONTRACTOR ZAPATA RIG NO. 16
COMPANY PHILLIPS FIELD NW Tor
LEASE 2/4 WELL NO. 10
STATE NORWAY COUNTY
SEC./ T'SHIP/RANGE

RIG MAKE OILWELL
RIG SIZE 1300
PUMP NO. 1 1700-P
PUMP NO. 2 1700P
MUD TYPE

COLLARS: OD X ID X LENGTH
x x
x x
DRILL PIPE 5" - 19.50
TOOL JOINT 4½ IF

	MO. / DAY / YR.
SPUD	10 / 13 / 73
UNDER SURFACE	/ /
UNDER INTER.	/ /
TOTAL DEPTH	/ /

T.P.-DRILLERS
WATER SOURCE SEA/boAT
FUEL SOURCE boAT

RUN NO.	SIZE	MAKE	TYPE	SERIAL NO.	JETS - 32nds Reg. R or RO 1	2	3	DEPTH OUT	FEET	HOURS	FEET PER HOUR	CUM. HOURS	WT. 1000 LBS.	R.P.M.	PUMP PRESS.	PUMP NO 1 Liner	PUMP NO 1 SPM	PUMP NO. 2 Liner	PUMP NO. 2 SPM	MUD PROPERTIES Wt.	W.L.	F.V.	P.V.	Y.P.	Ver. Dev.	Dull. Cond. ¼ ⅛ T	B	G		Date
1	26	Smith	D.S.	MV621	REG			436'	100	3'	33.3	3	5/10	60	300	7	60			WATER & mud slugs					1°	1	1	1	Predrill 30" oct 13	73
RR1	26	Smith	D.S.	MV621	REG			1630	1194	19½	61.2	22½	10/25	160	1200	7	60	7	60	Sea water mud slugs						1	1	1	oct 15	73
2	17½	SEC	S3SJ	444658	22	22	22	4030	2400	26½	90.5	48½	30	240	2100	7	60	7	60	115	8		19	20	1	4	4	I		
3	12¼	MURPHY	VT3A	NCV022	20	20	20	5972	1942	26½	73.2	75	30	240	3100	7	48	7	48	132			20	22		6	7	I	23-oct	73
4	12¼	SEC	S33S	451507	18	18	18	8046	2074	31.5	65.5	106½	30	240	3100	7	40	7	40	14	3		40	16	1¾					
5	8½	Smith	DGH	KD341	13	13	13	9140	1094	22	[illegible]3	128½	25/30	160/180	3100	7	40			14.3	5.8	58	35	10		6	8	I 85	Oct 30	73
6	8½	SEC.	M44N	384270	11	11	11	9688	548	24	23	152½	30/35	110	3100	7	34			143	58	60	38	10		7	4	I	Nov. 1.	73
7	8½	SEC.	M44N	388504	10	10	10	9715	27	4	6.7	156½	35	80/110	3100	7	34			143	56	58	38	9						
8	8½	Smith	SVH	NH428	12	12	12	9800	85	12.5	6.8	169	35	80/100	3100	7	32			"	"	"	"	"		6	8	I		
9	8½	Smith	SVH	NH516	10	10	10	99[illegible]6	196	13.5	14.5	182.5	35	"	"	"	"			"	"	"	"	"		5	8	I		
10	8½	Smith	V25	CX941	10	10	10	10233	237	20.5	11.5	203	40	100	"	6	59			"	"	"	"	"		8	8	I		
11	8½	H.T.C	J33	HU595	13	13	13	11215	982	96	10.2	299	40	60	"	6	59			143	48	"	35	8		3	3	I		
12	6	SEC	MHLG	380256	0	0	0	CLEAN OUT FLAPPER VALVE & LINER.																						

HOLE DEVIATION 2/4-10

Date	Depth ft	Reading Degrees
October 10, 1973	436	1
October 17, 1973	1630	1½
October 17, 1973	3140	1
October 22, 1973	5972	1 3/4
October 25, 1973	8040	2

GEOLOGIC SUMMARY

2/4-10

The principal zone of interest on this well was the Danian Limestone, and with porosity being present, the Upper Cretaceous could also bear hydrocarbons.

The proposed 2/4-10 test evaluated an anticlinal structure, 3 miles long and 1½ miles wide, lying approximately 5 miles NW of the centre of the Tor Field.

The Danian Limestone was found to be 430 ft. thick, but produced very small amounts of sub-commercial oil, after acidisation, on two drill stem tests.

The Upper Cretaceous Chalk, however, produced oil on a lower test, but with a very low GOR, and high amount of water, which made its commerciality questionable, and indicated that it is a separate structure from the Tor Field.

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 73

1. Date Dec. 24, '73 Present operation: Jacking into water. Time 0600

2. Well: 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 72 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

18 Waiting on weather.

3 1/2 Securing rig for move.

1/2 Jack down to 5' air gap.

1 1/2 Tie onto tug.

1/2 Jack into water.

BOATS: The Nautic is standby boat, The Staldis is standing by, the Rob't. O'Leary is standing by, Miss Gulf standing by and the Decca Skanner is at the new location.

DW PW DF JF CEMENT BARITE

15. Personnel on rig: Contractor: 34 Phillips: 1 Other: 8 Total 43

16. Weather: Wind: SE 12 - 14 knots Waves: 6 ft. Visibility: Good

17. Vessel heave: Roll: Pitch:

M/v Kent Shore

CUSSACK

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 72

1. Date Dec 23 1973 Present operation: WOW Time 0600

2. Well: 2/4-10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. M.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

24 WOW

DW 3200 PW 1220 RF 728 JF 154 gal 0 cmt 1300 Barite

15. Personnel on rig: Contractor: 31 Phillips: 1 Other: 8 (40

16. Weather: Wind: SE 20 Waves: 6-8' Visibility: good

17. Vessel heave: Roll: Pitch:

18. M/v ~~/Kent/ /Shore/~~ Nautic standby

Cussack

-71. Gordum

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 71

1. Date Dec. 22, '73 Present operation: Waiting on weather Time 0600

2. Well: 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump no. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 70 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

8 Waiting on weather.

16 Backloading supply vessel.

Boats: Nautic is the stand by boat. The Decca Skanner is on location.

Holstentor Ar. 0845 Dep. 1145 for Ekofisk

Hohentor " 1200 " 1145 " Gulftide

Stella Salvator " " 2400 " Platform "A"

DW 3360 PW 1325 DF 748 JF 154 CEMENT nil BARITE 1300

15. Personnel on rig: Contractor: 31 Phillips: 1 Other: 8 Total 40

16. Weather: Wind: SE 20 - 30 knots Waves: 15 - 18 ft. Visibility: 4 miles

17. Vessel heave: Roll: Pitch:

M/v Kent Shore

CUSSACK

2-71. Gordon

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 70

Date Dec. 21, '73 Present operation: Waiting on weather. Time 0600

Well 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. H. Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

Mud cost daily: Cumulative: Rm = at °F

Rot hrs: Days since spud: 69 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

24 Waiting on weather to offload equipment.

BOATS: Nautic the standby - Holstentor on anchor in the area.

DW 2600 PW 900 DF 780 JF 500 Cement, nil - Barite 900 sx.

Personnel on rig: Contractor: 31 Phillips: 1 Other: 9 Total 41

Weather: Wind: SW 27 knots Waves: 8 - 12 ft. Visibility: Fair

Vessel heave: Roll: Pitch:

M Kent Shore

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 69

Date: Dec. 20, '73 Present operation: Waiting on weather & boats. Time 0600

Well: 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump no: Liner size: Stroke: Gpm: Av:

Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

Mud cost daily: Cumulative: Rm = at °F

Rot hrs: Days since spud: 68 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

13 Waiting on boats to offload equipment.

3 Offloading Holstentor.

8 Waiting on weather & boats.

BOATS : Nordic the stand by boat.

Holstentor arrived 1845 hrs & standing by.

Hohentor arrived 2130 hrs. & standing by.

DW 2635 PW 940 DF 785 JF 722 - Cement (?), Barite 900 sx.

Personnel on rig: Contractor: 28 Phillips: 1 Other: 8 Total 37

Weather: Wind: S 15 - 30 knots Waves: 8 - 10 ft. Visibility: 4 - 6 miles

Vessel heave: Roll: Pitch:

Kent Shore

DEAIL

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 68

Date Dec. 19; '73 Present operation: Getting ready to move & waiting on boats. Time 0600

We 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit : Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. . Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pu er. Liner size: Stroke: Gpm: Av:

H.H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

Mu cost daily: Cumulative: Rm = at °F

Rot hrs: Days since spud: 67 Vert dev:

Bu er Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

5	Cutting and laying down 9 5/8", 13 3/8" & 20" casing.
1	Rigging to cut 30" casing.
5	Cutting 30" casing.
1 1/2	GIH to 750' and layed a 500 sx Class "B" cement plug.
1/2	Laying down 24 joints of 5" drill pipe.
2	Rig to lay down drive pipe.
4 1/2	Cutting & laying down 30" drive pipe.
4 1/2	Getting rig ready to move and waiting on boats.

BOATS: Baltic Standing by.

Holstentor - Arrived 1000 hrs. & departed 1015 for Ekofisk.

Personnel on rig: Contractor: 31 Phillips: 1 Other: 14 Total 46

W ther: Wind: SSW 20 - 25 knots Waves: SSW 8 - 10 ft. Visibility: 6 - 8 miles

Vessel heave: Roll: Pitch:

M Kent Shore

BEALL

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 67

Date Dec. 18, '73 Present operation: Cutting & laying down 9 5/8" & 13 3/8" Time 0600

Well 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

H.H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

Mud cost daily: Cumulative: Rm = at °F

Rot hrs: Days since spud: 66 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

10 1/2 WOW. Too rough to get water well tower down.

1 1/2 Cut 9 5/8", 13 3/8" & 20 " at 350'.

12 POOH, layed down cutter, pulled & layed down 9 5/8", 13 3/8"

& 20" csg. Lack 3 more cuts.

Nordic standing by.

DW 2635 PW 617 DF 831 JF 838 gals - Cement 500 sx "B", Barite 900 sx.

Personnel on rig: Contractor: 31 Phillips: 1 Other: 14 Total 46

Weather: Wind: ENW 30 - 40 knots Waves: 10 - 14 ft. Visibility: 6 - 8 miles

Vessel Heave: Roll: Pitch:

Kent Shore

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 66

Date Dec. 17, '73 Present operation: Waiting on weather. Time 0600

W 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. H. Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

M cost daily: Cumulative: Rm = at °F

Rot hrs: Days since spud: 65 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

9	Nippling down BOPs'.
1 1/2	Getting boat back into position and rigging up cutting tool.
1	GIH & attempting to cut 9 5/8" & 13 3/8" at 350 ft.
3	POOH at cut off casing at top to remove spools, etc.
1	Pick up spear and attempted to pull 9 5/8" - would not pull.
1	Lay down spear & GIH w/cutting tool.
1/2	Cutting on 13 38" & 9 5/8" at 350'.
1	Check cutting tool.
2	Cutting 9 5/8" & 13 3/8" csg. at 350'.
1/2	Trip to check cutters.
1	Cutting on casing.
1/2	Round trip for spear. Had not cut thru casing. Ran out of water.
2	Waiting on weather.

DW 2630 PW 646 DF 863 JF 1000 Cement 500 sx "B" - Barite 900 sx

BOATS: Nautic standing by. - No other boats.

Personnel on rig: Contractor: 31 Phillips: 1 Other: 14 Total 46

Weather: Wind: NNW 50-60, Gusts 75 Waves: NNW 30' - 40' Visibility: 3 - 4 miles

Vessel heave: Roll: Pitch:

M Kent Shore

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 65

1. Date 16 Dec 1973 Present operation: Nippling Down BOP Time 0600

2. Well: 2/4-10 3. P.T.D. 3350 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 64 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Post 24 hrs.)

3½	Laying down 3½ Tubing.
1½	Finish POOH and stand in derrick
3	Pick up 9 5/8 HOWCO E-Z Drill and set with tubing at 3950 RKB
1	Layed 200 sxs B Cmt Plug from 3950 to 3350 Rkb.
½	Circulate to balance mud.
10	Lay down 3½ tbg..
1½	Pick up and stand back 720' 5" D.Pipe in Derrick.
1	Change out kelly
2	Set back Rotary Table and start nippling down BOPs.

15. Personnel on rig: Contractor: 33 Phillips: 1 Other: 15 (49

16. Weather: Wind: WNW 10-18 Waves: NW 8-10 Visibility: 10 Miles

17. Vessel heave: Roll: Pitch:

18. M/v Kent/Shore Nautic - standby

DW 2635 PW 725 DF 877 JF 1000 Cmt 550 sxs B

Beall

4000 -71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Beall

Daily drilling report No. 64

1. Date 15 DEc, 73 Present operation: Laying down tubing Time 0600

2. Well: 2/4-10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 63 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.) 7 hr. POOH w/ test tools, broke & laid down same.

6 hr. WIH w/ Howco S V easy drill cement retainer.
1½ hr. set retainer 10400' squeezed w/ 200 sx class B neat cement.
3½ hr. reversed out, no cement, circulated mud.
2½ hr. Laid down 81 jts 3½" tubing
1 hr Laid 90 sacks cement plug from 7768-7460' RKB.
½ hr Pulled 11 stds. wet pipe
1 hr. Reversed out.
1 hr. Laying down tubing.

DW 2460 PW 842 DF 902 JF 1000 Cement 600 Barite same.

15. Personnel on rig: Contractor: 33 Phillips: 1 Other: 16 = 49

16. Weather: Wind: N 40-50 Waves: 20-24' Visibility: good

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent Shore~~ Nautic

4000-2-71. Gardum

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 63

Date Dec. 14, '73 Present operation: COOH w/test tool. Time 0600

Well: 2/4 - 10 3. P.T.D. 10,625 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. H. Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

M. cost daily: -0- Cumulative: 154,775 Rm = at °F

Rot hrs: Days since spud: 62 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

3	DST No. 6, Flow Period No. 3 - Flow pressure -0-, 8 bbls/hr. of treat water.
1 1/2	Shut in well opened by-pas and reversed out.
1	Circulate.
1 1/2	Broke down test head and service lines.
1 1/2	Started out of hole.
14 1/2	Waiting on weather.
1	POOH.

Nautic Standing by.

DW 2650 PW 900 DF 927 JF 1100 - Cement (Same) - Barite (Same)

Personnel on rig: Contractor: 31 Phillips: 1 Other: 16 Total 48

Weather: Wind: WNW 35 - 40 knots Gusts to 50 knots Waves: 30 - 40 ft. Visibility: 10 - 12 miles

Vessel heave: Roll: Pitch:

M. Kent Shore

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 62

Date Dec. 13, '73 Present operation: Flowing well on DST No. 6 - FP #3 (Perfs. 10,440'- 510') Time 0600

Well 2/4 - 10 3. P.T.D. 10,625 4. O.T.D. 5. Progress

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B. H. Assembly: Well 3 2.

Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

H. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

Mud cost daily: 487 Cumulative: 154, 775 Rm = at °F

Rot hrs: Days since spud: 61 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

24 Flowing well on DST No. 6. - FLOW PERIOD NO. 3

At 0400 hours - Flowing 2.38 bbls/hr., chl. 29,000, Res. 0.161, Nitrate -0-, Tubing flow pressure -0-, 100% water.

NOTE: Has recorded the above info at other intervals but did not report on radio. Reports that other periods are very much the same.

NOTE: Sea water chl. 18,000 ppm.

The "Nautic" is the standby boat.

DW 2700 PW 925 DF 958 JF 1250 gals. - Cement same, Barite 900 sx.

Personnel on rig: Contractor: 33 Phillips: 2 Other: 18 Total 53

Weather: Wind: Waves: Visibility:

Vessel heave: Roll: Pitch:

M. Kent Shore

CUSSACK

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 61

1. Date Dec. 12, '73 Present operation: Flow period No. 2 - DST No. 6 (Perfs. 10,440'-510') Time 0600
2. Well: 2/4 - 10 3. P.T.D. 10,620' 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. M.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:
Cl: Sand: Solids: Ca: Alk: Circulation cycle:
11. Mud cost daily: 276 Cumulative: 154,288 Rm = at °F
12. Rot hrs: Days since spud: 60 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

5	GIH for DST No. 6.
1 1/2	Rig up & test all lines to 7,500 psi.
1/2	Displace tubing w/78 bbls. of sea water. Set packer at 10,343'. top of perforated joint at 10,512'.
1/2	Flow Period No. 1, recovered 4.05 bbls fluid.
2	SIP No. 1
7 1/2	Flow Period No. 2, recovered 12.4 bbls. of fluid.
2	Acidize according to BJ program.
2	WO acid contact - Tubing pressure 3,911 psi, dropped to 400 psi in 20 minutes.
3	Flow Period No. 3. Flowing into tank. no rate determined.

CLOCKS:

No. 3510 at 10,580' 72 hr.)
No. 4182 at 10,585' 72 hr.) All set at 1930 hrs., Dec. 10, '73
No. 4184 at 10,502' 72 hr.)

ACID INFORMATION

Type - 92.8
Formation broke down at 6,950 psi.
Max. tubing pressure, 7,000psi
Min. " " 3,920 "
Max. injection rate - 10.8 bbl/mt.
Min. " " 2.4 "
Total fluid - 776.4 bbls.

Fluid into formation at 699.4 BPM
Type of fluids, No. 1 333.3 SAC
No.2 333.3 92.8 acid, No.3 22.8 bbls. Divert, No.4 10.0 bbls. treated sea water, No.5 77.0 bbls sea water.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 23 Total 58
16. Weather: Wind: WNW 25 knots Waves: 10-12 ft. Visibility: Good
17. Vessel ~~xxxx~~ Nautic, Standby Roll: Pitch:
18. M/v Kent Shore
DW 2725 PW 930 DF 970± JF 416 - Cement same - Barite 900 sx

400-7-71. Gordum

(Continued on page 2)

CUSSACK

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 60

1. Date Dec. 11, '73 Present operation: GIH for DST No.6 (Perfs.10,440'-510') Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,620' 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: SAME Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 59 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1 Breaking down and laying down fish.

1 1/2 Pick up fifteen 4 3/4" drill collars.

11 Run Schlumberger junk basket & set Howco cement retainer at 10,620'. Perforate, 10,440' to 10,510'. Reran junk basket.

10 1/2 GIH w/test tool.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 24 Total 59

16. Weather: Wind: SW 12 knots Waves: 8 ' Visibility: Good

17. Vessel ~~Name~~: Nautic - Standby Roll: Pitch:

18. M/v Kent Shore

DW 2775 PW 1070 DF 1015 JF 1461 gals.

CUSSACK

400 2-71. Gordum

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 59

1. Date Dec. 10, '73 Present operation: Laying down fish Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,800 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Well 3 2.

7. B. H. Assembly:

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mud: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 575 Cumulative: 154,011 Rm = at °F

12. Rot hrs: Days since spud: 58 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1 1/2	Milling over fish.
1 1/2	Circulate.
4 1/2	POOH. No fish.
6 1/2	Picked up overshot dressed w/5" spiral graple & WIH.
1	Engaging fish. Pulled free at 20,000 lbs.
1	POOH, mud back flowed thru tubing.
1	Circulate and pumped slug in tubing.
7	POOH, layed down fish & test tool.

BOATS: Nautic- Standby - Jakobturm Depart (?), Destination, Base

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 24 Total 59

16. Weather: Wind: SW 35 knots Waves: 16' Visibility: Fair

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

DW 2925 PW 1150 DF 1042 JF 1494 Cement "E" 750 & "B" 200 sx

Barite 1050 sx

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 58

1. Date 9 Dec.:73 Present operation: Milling over fish top at 9940' Time 0600

2. Well: 2/4-10 3. P.T.D. 10800 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: 5-3/4" Overshot w/ mill shoe, 6-4&3/4" DC& tubing string Well 3 2.

8. Bit wt: 8-10 Rpm: 80 Torque: 200 Pump psi: 500

9. Pump nr. 1 Liner size: 6" Stroke: 28 Gpm: 205 Av:

10. Depth: 7950 Mw: 14.3 Vis: 45 Wl: 8.2 Fc: 2 pH: 11.6 Pv: 25 Yp: 8 Oil: 2

Cl: 18000 Sand: tr. Solids: 25 Ca: 600 Alk: 2.8 Circulation cycle:

11. Mud cost daily: $423. Cumulative: $153,436. Rm = at °F

12. Rot hrs: Days since spud: 57 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.) 3½hr. POOH w/ taper tap, failed to recover any part of fish.

6 hr. Wih w/ taper tap.
1½ hr. Engaged fish at 9940' attempted to torque and stab into fish good enough to pull. Failed to stay engaged and pull any more than 15000 lbs over the weight of fish.
4 hr. POOH.
6 hr. Picked up 5-3/4" overshot w/ mill shoe 4-1/4" ID, WIH
3 hr. Milling over the top of fish at 9941' - need to mill an additional 6 inches before making a trip for grapple to pick up fish.

Cusack

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 24 = 59

16. Weather: Wind: W 6 kts Waves: 6' Visibility: Good

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kem - Shore~~ Nautic
Eureka departed 1300 hrs.

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 57

1. Date: Dec. 8, '73 Present operation: POOH with taper tap Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,800 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Taper tap, three 4 3/4" dc, bumper sub, & Three 4 3/4"dc Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mud: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 583 Cumulative: 153,013 Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

3 1/2	GIH to top of fish at 9,940'.
1	Getting over fish, pulled 25,000 lbs. overweight. Overshot kept slipping off.
3 1/2	Circulate and condition.
4 1/2	POOH & layed down overshot - Grapple broken.
2	Waiting for boat to return to location with drill collars.
6	Pick up six 4 3/4" drill collars & GIH to top of fish w/taper tap.
1	Engage fish. At 15,000 lbs. tap would pull out. Torqued to estimated limit, took a strain, backed out and are coming out of hole.
2 1/2	POOH.

BOATS: Eurkea, Standby - Johnnisturm Depart for Nordic 0100 hrs. Holstentor arrived 1230 hrs 8th Dec.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 24 Total 59

16. Weather: Wind: No Report Waves: Visibility: Good

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

DW 2940 PW 400, DF 1109, JF 1180 gals.
Cement & Barite - Same

CUSSACK

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 56

1. Date Dec. 7, '73 Present operation: GIH w/overshot Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,800 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mud: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: -0- Cumulative: 152,249 Rm = at °F

12. Rot hrs: Days since spud: 55 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

21 1/2 WOW.

2 1/2 GIH with overshot.

Drill Water 2986 Pot. Water 392 Drill Fuel 1144 Jet Fuel 1522 gals.

15. Personnel on rig: Contractor: 38 Phillips: 3 Other: 27 Total 68.

16. Weather: Wind: N 20 - 30 knots Waves: 15' - 18' Visibility: Good

17. Vessel ~~xxxx~~ Ibis - Stdbb Roll: Pitch:

18. ~~xxxxxxxxxxx~~ Johannisturm - Standing by to offload

Cussack

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 55

1. Date Dec. 6, '73 Present operation: WOW Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,800' 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Hr: Mw: SAME Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 1,321 Cumulative: 152,429 Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1	Flowing well.
1 1/2	Kill well and attempted to unseat packer. Lost 18,000 lbs of weight.
2 1/2	Circulate and condition mud, rig down & test head.
5	POOH. Left tail pipe, packer, 18-4 3/4" drill collars & slip joint in the hole. A 3 1/2" IF pin connection broken at top of slip joint.
3	Test BOP and layed down bad slip joint.
3 1/2	waiting on drill collars from Nordic rig.
2 1/2	WOW. & preparing to GIH with overshot.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 24 Total 59

16. Weather: Wind: WNW 40-50 knots Waves: 16' Visibility: Good

17. ~~Vessel Name~~: Nautic, Standby ~~xxx~~ Johannisturm, S'dby Pitch:

18. M/v Kent Shore

DW 2986 PW 470 DF 1161 JF 1522 - Cement same - Barite 1150 sx

2-71. Gordum

CUSSACK

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 54

1. Date 5 Dec, 73 Present operation: Flowing DST no.5 (perfs 10685-10765') Time 0600

2. Well: 2/4-10 3. P.T.D. 10800 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mud: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.) 4 hr. GIH for DST no 5, tested tool foints to 7500 psi.

1 hr. Slipped drill line

4 hr. WIH.

2 hr. Reversed out, rigged up acid lines & tested all surface equipment with 7500 psi.

1 hr. spotted 1ooo gals acid across perforations

1 hr. set packer at 10517' RKB, tail pipe at 10772' RKB, injected acid into formation, Break down 5400 psi, pump-in 4400 psi at 2 bbl per min, pumped 47.6 bbl acid and 10 bbls treated water into formation.

½ hr Shut in for Acid contact.

2 hr. Flow period no 1, pressure bled to 0 psi immediately.

1 hr Shut in period no 2 FSIP 1018 psi,

8½ hr Flow period no. 2 total fluid 16.63 bbls at 0 psi.

Drill water 3159 pot water 568 fuel 1204 jet fuel 204

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 25 total 60.

16. Weather: Wind: N 10-20 mph Waves: 8-10 Visibility: good

17. Vessel heave: Nautic Roll: Pitch:

18. M/v Kent Shore

Cusack

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 53

1. Date Dec. 4, '73 Present operation: DST No. 5 (Perfs. 10,683'-765') Time 0600

2. Well: 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: As per program - except with non-perforated tail pipe set through perfs. Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

SAME

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 246 Cumulative: 151,108 Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

2	Attempt to break down formation with 7,000 psi, couldn't break down. reversed out water cushion.
2	Test lines & head to 7,500 psi & spot 1,000 gals. acid down tubing. Set packer and attempted to pump into perforations with 7,000 psi. Couldn't pump in.
2	Reverse out water and acid.
7	Pooh and layed down RTTS tool.
7 1/2	Pick up Schlumberger and reperforated zone from 10,683' to 10,765" Ran wireline junk basket. No indication of drag with 5.72" basket or with guns.
3 1/2	Make up Baker Retriev-O-Matic Packer and GIH.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 25 Total 60

16. Weather: Wind: NNW 35-45 knots Waves: 12'- 16' Visibility: Poor

17. Vessel heave: Roll: Pitch:

18. ~~M/V Kent Shore~~ Nautic - Standby

Cassack

400-2-71. Gordum

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 52

1. Date: Dec. 3, '73 Present operation: DST No. 4 (Perfs. 10683-765) Time 0600

2. Well: 2/4 - 10 3. P.T.D. 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Test Tools Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 51 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

3	Run wireline junk basket.
3 1/2	GIH w/RTTS packer & test tools.
1	Change out air valve on Drawworks clutch.
3	GIH w/test tools
1	Straightening line on drawworks drum.
3 1/2	Finish GIH.
1 1/2	Test all surface lines to 7,500 PSI
5	Displace tubing w/76 bbls of water. x-over sub at top of string started leaking. Reversed out water and changed out sub. Pumped in 76 bbls. water, sub still leaking. Reversed out, changed out subs and pumped in 76 bbls. of water. Set packer a 10,626'
1/2	Open tool for Flow Period No.1 (15 minutes) Pressure bled off immediately. Recovered 1.52 bbls. of fluid.
2	SIP No. 1 - Final SIP 112 psi.

NOTE: At 0700 hrs. Pressured to 7,000 PSI, could not pump into formation.

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 25 Total 61

16. Weather: Wind: WNW 30-40 knots Waves: 12' Visibility: 4 miles

17. Vessel heave: Roll: Pitch:

18. xxxxxxxxxx Nautic - Standby - Maersk Shipper Ar. 0130 Dept 0145 for Ekofisk

DW 3,100 PW 705 DF 1263 JF 554 - Barite & cement same.

Cusack

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 51

1. Date: Dec. 2, '73 Present operation: Rigging up to run wireline junk basket Time: 0600

2. Well: 2/4 - 10 3. P.T.D. 10,800 4. O.T.D. 5. Progress: Perfs. at (10,683 & 10,765)

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 549 Cumulative: 150,262 Rm = at °F

12. Rot hrs: Days since spud: 50 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

5 1/2	Perforate 10,683' to 10,765' & ran junk basket.
11	Ran Baker Retriev-O-Matic. Would not go below 9,438.
7 1/2	POOH. Rig up to run wireline junk basket.

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 25 Total 61

16. Weather: Wind: NW 12 - 15 knots Waves: 5 ft. Visibility: Good

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent Shore~~ NAUTIC - STANDBY

~~[illegible]~~ Imkenturm Arrive 0130 Depart 0145

400[illegible]-71. Gardum

EXPLORER

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 50

1\. Date Dec. 1, '73 Present operation: Perforating for DST No. 3 Time 0600

2\. Well: 2/4 - 10 3. P.T.D. Plug Back 10,800' 4. O.T.D. 5. Progress

6\. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7\. B. H. Assembly: Well 3 2.

8\. Bit wt: Rpm: Torque: Pump psi:

9\. Pump nr. Liner size: Stroke: Gpm: Av:

10\. H.H: Mw: SAME Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11\. Mud cost daily: Cumulative: Rm = at °F

12\. Rot hrs: Days since spud: Vert dev:

13\. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14\. Report detail: (Past 24 hrs.) 4 Hours Pull DST No. 2

8 Pick up EZ drill cement retainer, run and set 10,800'

2 1/2 Test annulus & cement retainer to 1,000 psi, test tubing to 5000 psi. Formation breakdown 2,600 psi. Pumped in 20 bbls. of drill water Rate 2.5 bbls/mt. at 1,700 psi. Mixed and pumped in 200 sx Class "E" cement, slurry 16.5 ppg, 38 bbls of slurry, followed w/5 bbls of water, 23 bbls of mud, stung into retainer, squeezed 21 bbls of cement into formation thru perforation at 10,840'-55'. Final squeeze pressure 4,100 psi. Reversed out 15 bbls of cement.

5 POOH. Tested liner and casing to 3,000 psi.

4 1/2 Rig up Schlumberger, damaged and repaired wireline. Made one run and perforating.

15\. Personnel on rig: Contractor: 34 Phillips: 2 Other: 26 Total 62

16\. Weather: Wind: NE 10-15 knots Waves: 6'-8' Visibility: Good

17\. Vessel heave: Roll: Pitch:

18\. M/v Kent Shore

Nautic - Standby boat - Hohentor Ar. 1130 Dept 1340 for Nordic

Mersk Shipper Ar. 1845 Dept 1855 for Ekofisk

DW 4130 PW 800 RF 1340 JF 686 gals. Cement "E" 750 sx, "B" 200 sx

Barite 200 sx (Jim Cusack)

4300 .-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 49

1. Date Nov. 30, '73 Present operation: POH following DST No. 2 Perforation 10,840'-55' Time 0600
2. Well: 2/4 - 10 3. P.T.D. 10,865 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. M.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:
Cl: Sand: Solids: Ca: Alk: Circulation cycle:
11. Mud cost daily: Cumulative: Rm = at °F
12. Rot hrs: Days since spud: Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

1/2	Flowing well into tank. Final ratewas 6.5 bbls/hour.
3 1/2	Rig up and test head & lines to 9,500 psi. Acidize well.
3	Shut in well for acid contact time.
6 1/2	Flowing well.
2	Killing well and worked packer loose.
3 1/2	Circulating and conditioning mud.
5	POOH

NOTE: Unable to get rest of report due to poor radio communication.

15. Personnel on rig: Contractor: 31 Phillips: 3 Other: 25 Total 59
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. ~~xxxxxxxxx~~ DW 3575 PW 623 RF 1375 JF 1066 - Cement same - barite 2,200 sx

4000 -71. Gordum

Arseack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 48

1. Date Nov 29 1973 Present operation: DST No 2- Perfs-10840-55' RKB Time 0600

2. Well: 2/4-10 3. P.T.D. 10865 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. M.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: 47 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

½ Pull BOP Test Tool and install bore protector.

7½ Rig up Schlumberger and shooting nipple. Perforated from 10840 to 10850' RKB.

11 GIH with test tools. Clocks set at following times on Nov. 28 th. Set packer at 10750.

Clock No.	Time	Depth
3510 (72)	1300 hrs	10837
3854 (72)	1304	10842
4429 (120)	1308	10849
4184 (120) Hrs	1312	10854

2 Rig up and test head and lines to 7800 psi. Displace pipe with 78 bbls water.

3 Testing well - DST No 2. Tool opened at 0132 hrs. Choke wide open. Flow rate= 4 BBLS per Hr..

15. Personnel on rig: Contractor: 35 Phillips: 2 Other: 27 (64

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent/Skate/~~ Nautic- standby

DW 3800 PW 400 RF 837 JF 1180 Cmt -barite-same

(Cussack)

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 47

1. Date Nov. 28, '73 Present operation: Testing BOP Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,865' 4. O.T.D. 5. Progress

6. Bit no: RR12 Size: 6 Jets: Type: M4LG In: 10784 Out: 10865 Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit scraper, sub & 18 4 3/4" drill collars Well 3 2.

8. Bit wt: 8,000 Rpm: 50 Torque: 300 Pump psi: 2000

9. Pump nr. 1 Liner size: 6 Stroke: 30 Gpm: 252 Av: 245

10. H.H: Mw: 14.3 Vis: 50 Wl: 5.4 Fc: 2 pH: 11.6 Pv: 30 Yp: 12 Oil: 5%

Cl: 18M Sand: Tr. Solids: 26% Ca: 440 Alk: 1.6 Circulation cycle:

11. Mud cost daily: 11,151 Cumulative: 149,712 Rm = 0.29 at 90 °F

No% - 20 ppm

12. Rot hrs: Days since spud: 46 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1/2	Lay down squeeze packer.
1 1/2	Make up BHA
1	Wait on high winds.
6 1/2	GIH
4	Drilling out cement.
3	Circulate and condition mud.
4 1/2	POOH
2 1/2	Testing BOP

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 26 Total 51

16. Weather: Wind: NW 20 knots Waves: 10' Visibility: Good

17. Vessel heave: Roll: Pitch:

18. ~~XXXXXXXXXX~~ DW 3475 PW 440 RF 864 JF 1332 gals.
Cement 1150 sx "E" - Barite 1300 sx.

1009-2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 46

1. Date: Nov. 27, '73 Present operation: Laying down squeeze tools. Time 0600
2. Well: 2/4-10 3. P.T.D. 10,730' 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. M.H.: Mw: 13.3 Vis: 48 Wl: 6.2 Fc: 2 pH: 11.5 Pv: 48 Yp: 12 Oil: 1
Cl: 19M Sand: TR. Solids: 27 Ca: 8 Alk: 2 Circulation cycle:

11. Mud cost daily: -0- Cumulative: 138,560 Rm = at °F

12. Rot hrs: Days since spud: 45 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1 1/2	Made up Baker squeeze packer and pick up 16 jts. of $3\frac{1}{2}$" 9.5 lbs/ft tubing.
11 1/2	GIH w/Baker Retriev-O-Matic Packer
3 1/2	Set packer at 10,770' w/tail pipe at 10,780', squeeze perfs w/200 sx "E" cement to 4,500 psi standing pressure with 30 bblsæ of slurry out of perfs. Initial pumping pressure at 2.5 BPM was 2,200 psi. Had several break backs while building up final squeeze pressure. Pump rate was never less than 1/2 BPM during buildup to 4,500 psi.
1	Reverse out 5 bbls. cement.
6 1/2	POOH & lay down Baker Retriev-O-Matic.

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 25 Total 61

16. Weather: Wind: N 30 knots Waves: 12'-15' Visibility: 8-12 miles

17. Vessel heave: Roll: Pitch:

18. M/v ~~XXXXXXXX~~ Nautic
DW 3570, PW 480, DF 950, JF 1406 - Cement - 1150sx "E" - Barite 1900 sx

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 45

1. Date Nov 26, '73 Present operation: Laying down test tools Time 0600

2. Well: 2/4 - 10 3. P.T.D. Same 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

Pump nr. Liner size: Stroke: Gpm: Av:

T.H: Mw: 14.3 Vis: 49 Wl: 5.6 Fc: 2 pH: 11.2 Pv: 26 Yp: 12 Oil: 1

Cl: 18M Sand: Tr. Solids: 26 Ca: 400 Alk: 1.4 Circulation cycle:

Mud cost daily: 1212 Cumulative: 138,560 Rm = at °F

Rot hrs: Days since spud: 44 Vert dev:

Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

Report detail: (Past 24 hrs.)

10	WOW - DST No. 1 - Seas to rough for lowering deep well pump.
1	Mix 20 bbls. Diacel "M" mud and pumped in 80 bbls. mud. Well took mud on vaccum.
2	Waiting on Diacel "M".
3	Pulled packer and opened bypass. Filled hole with 12 bbls mud.
7	POOH w/test tools.
1	Laying down test tools.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 25 Total 60

16. Weather: Wind: N 30-35 Waves: N 18-20 - 24 max. Visibility: 6 miles

17. Vessel heave: Roll: Pitch:

18. ~~xxxxxxxxx~~ Nautic - Standby

DW 3,600 PW 525 RF 983 JF 1,446 gals. Cement 200 sx B & 1380 mixedæ
Barite 1,900 sx.

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 44

1. Date: Nov 25, 1973 Present operation: DST No 1 - Waiting on Weather Time: 0600

2. Well: 2/4- 10 3. P.T.D. 10962 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: same Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: same Rm = at °F

12. Rot hrs: Days since spud: 43 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

24 WOW

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 25 (60

16. Weather: Wind: NW 30 -40 mph Waves: 17- 20 ft Visibility: 10 miles

17. Vessel heave: Roll: Pitch:

18. M/v Kent ~~Shore~~ Nautic - standby

460 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 43

1. Date 24 Nov 73 Present operation: DST No. 1 - shut in well Time 0600

2. Well: 2/4-10 3. P.T.D. 10,962 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: 14.3 Vis: 46 Wl: 5 Fc: 2 pH: 11.5 Pv: 22 Yp: 11 Oil:

Cl: 18,000 Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: 137,348 Rm = at °F

12. Rot hrs: Days since spud: 42 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

4 Drill stem test No. 1

6 Shut in period No. 3

7 Flow period No. 4

4 Shut in period No. 4

3 Flow period No. 5

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 27 (63)

16. Weather: Wind: W 35-45 Waves: 12-15 Visibility: 6 miles

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 42

1. Date: Nov.23 1973 Present operation: DST No. 1 Shut In Period No 3 Time 0600

2. Well: 2/4-10 3. P.T.D. same 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: same Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: same pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 0 Cumulative: 137348 Rm = at °F

12. Rot hrs: Days since spud: 41 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

5 Shut in Period No. 2 FSIP=2954 psi.

2 Acidize well as pef program.

3 Shut in well for acid contact.

12 Flow period No. 3. Flowed 3668 BOPD- 1730 BWPD , FTP=2495psi 24/64" choke

2 Shut in Period No 3 SIP at 0445 hrs = 2496 psi

DW 3810 PW 800 DF 1044 JF 1218 E Cmt 1330 sxs 2100 barites

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 25 (59

16. Weather: Wind: 35 Waves: 12-15 Visibility: 10

17. Vessel heave: Roll: Pitch:

18. M/v Kent ~~Shore~~ Nautic - standby

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 41

1. Date Nov. 22, '73 Present operation: DST No. 1 - SIP No. 2 Time 0600

2. Well: 2/4-10 3. P.T.D. same 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: 14.3 Vis: 47 Wl: 4.8 Fc: 2 pH: 11.8 Pv: 23 Yp: 10 Oil: 2

Cl: 18000 Sand: 1/2 Solids: 25 Ca: 400 Alk: 1.1 Circulation cycle:

11. Mud cost daily: -0- Cumulative: 137,348 Rm = 0.34 at 75 °F
30 PPM Nitrate

12. Rot hrs: Days since spud: 40 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1/2 Hrs. Rig up test head & surface lines.

1 " Test head & lines to 7,500 psi. Test lines to separator to 5000psi.

1/2 " Displace tubing w/sea water (78 bbls.)

1 " DST No. 1 - Set packer 10,795', opened for 15 mts., initial flow recovered 4.25 bbls. fluid, shut in 2 hrs. w/FSIP 2,266 psi. Opened well at 11:21 hrs. for clean up and flow period No. 2. Shut in well at 23:25 hrs.

15. Personnel on rig: Contractor: 32 Phillips: 3 Other: 28 Total 63

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore Nautic Standby

400 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 40

1. Date Nov 21, 1973 Present operation: Set and test Packer Annulus to 3000 psi Time 0600

2. Well: 2/4-10 3. P.T.D. same 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: 14.4 Vis: 47 Wl: 4.8 Fc: 2 pH: 11.8 Pv: 23 Yp: 10 Oil: 2 (
30 ppm Nitrate
Cl: 18000 Sand: ½ Solids: 25 Ca: 320 Alk: 8 Circulation cycle:

11. Mud cost daily: 0 Cumulative: 137,348 Rm = at °F

12. Rot hrs: Days since spud: 39 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

7	POOH with test tools.
2	Test BOP and Chokes to 5000 psi- OK
14½	Made up BJ Tools. GIH for DST No1. Test pipe to 7000 psi. using Gator Hawk Tester. Packer started dragging at 9800' to pkr setting depth at 10795' RKB (3 hrs to run 10 stands).
½	Set and test packer annulus to 3000 psi- OK.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 23 (58

16. Weather: Wind: W 15 kn Waves: 4-6' Visibility: good

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent/Shore/~~ Nautic - standby

BEALL

400 12-71. Gordon

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 39

1. Date 20 Nov 73 Present operation: Pulling out of hole Time 0600

2. Well: 2/4-10 3. P.T.D. 10,962 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 893 Cumulative: 137,342 Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1½ Circulated out cement cuttings and rubber. (3 gal. cmt - reported Nov 19)

3 Reverse circulated, no debris in returns.

19 WOW

½ Pulled out of hole.

DW 3375 PW 979 RF 1132 JF 1330

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 23 (58)

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

Nautic standby boat

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 38

1. Date Nov 19, 1973 B Present operation Bit & Scraper at 10840- Now Reversing Out Time 0600

2. Well: 2/4-10 3. P.T.D. 10962 4. O.T.D. 5. Progress

6. Bit no: 12 RR Size: 6 Jets: 0 Type: M4LG In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: 6" Bit, scraper, sub, 20 collars Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: same Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1½ GIH with packer. Packer stopped at 9777'

1 Worked packer up and down. Could not go below 9737'. (Note: Also reverse circulated at various times)

3½ POOH. Well started flowing through tubing after pulling packer through top of liner hanger

1 Circulating to balance mud.

5 POOH. Layed down test tool. Rubbers badly cut and one rubber missing.

9½ Pick up bit and scraper and GIH to 9977. Worked, scraped and rotated to 10840. No indications of tight spots.

2½ Circulated bottoms up long way around. Recovered 3 pcs. rubber and 3 gallons cement cuttings. Now reverse circulating through 3½ " drill pipe.

DW 3510 PW 1017 DF 1166 JF 1330 gal Cmt, Barite - same

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 23 (58

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. ~~M/V / K/F / Store~~ Nautic - standby Hohentor Dept 0720 to EKO.

400 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 37

1. Date Nov 18 1973 Present operation: GIH with test tools Time 0600

2. Well: 2/4-10 3. P.T.D. 10962 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: As per program Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: same Cumulative: 136454 Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

3½ Made two perforating runs. Perforated as per program from 10840 to 10900' RKB.

4½ Run Schlumberger junk basket. Stopped at 10150. Reran same to 10800. POOH.

1½ Make up and test tools and BHA.

14½ GIH and test 3½ tbg. jts to 6999 psi. and measuring into hole.

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 23 (58

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore // Nautic standby Hohentor arr 0115 On location

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 36

1. ate 17 Nov 73 Present operation: GIH to perforate Time 0600

2. Well: 2/4 - 10 3. P.T.D. 10,962 4. O.T.D. 5. Progress

6. it no: 12 Size: 6 Jets: 0 Type: M4LG In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

it no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. it wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

l: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 896 Cumulative: 136,454 Rm = at °F

12. ot hrs: Days since spud: 35 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. eport detail: (Past 24 hrs.)

2½ running 3½" tubing

1½ drilled and cleaned out to 10,962'.

4½ circulate and condition mud.

7½ POOH wind to high to Gater hawk, will test GIH.

8 logging, good bond TD to 10,000, CBL failed at 10,000, re-ran GR-CBL-CCL

no CBL above 10,000.

DW 3672 PW 1222 RF 926 JF 686 cement same barite 2660 sx

Hohentor in area

Johannesturm 1655 - 1710 for Ekofisk

Kent Shore 0900 - 0905 for Ekofisk

Mersk Shipper 1030 - 1230 (lost ropes and departed)

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 26 = 61

16. eather: Wind: NNW 34-40 Waves: 14-20 Visibility: good

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 35

1. Date 16 Nov 73 Present operation: Cleaning out to T.D. Time 0600
2. Well: 2/4 - 10 3. P.T.D. 11,215 4. O.T.D. 5. Progress
6. Bit no: 12 Size: 6 Jets: - Type: M4LG In: 11,215 Out: Incl. Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit, scraper, sub., 20-4 3/4" collars, Cross over Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. 8302 Mw: 14.3 Vis: 49 Wl: 4.6 Fc: 2 pH: 11.2 Pv: 25 Yp: 10 Oil: 2

Cl: 19,000 Sand: ½ Solids: 26 Ca: 400 Alk: 1.6 nitrates 70 ppm Circulation cycle:

11. Mud cost daily: -- Cumulative: 135,558 Rm = 0.30 at 75 °F
12. Rot hrs: Days since spud: 34 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

2 Went in hole with tubing, stopped at 8,850'.

1 Picked up kelley

2 Picked up tubing, pushed plug to 8910'.

14 Waiting on weather.

4 Picked up tubing, plug stopped at 10,640'.

1 Picked up kelly at 10,700'.

DW 3775 PW 1120 RF 963 JF 116 1200 sx class E cmt., 200 sx "B"

2760 sx barite

Nautic stand-by boat.

15. Personnel on rig: Contractor: 33 Phillips: 1 Other: 23 (57)
16. Weather: Wind: NNW 25-30 Waves: 6-8 swells 12-18 Visibility: good
17. Vessel heave: Roll: Pitch:
18. M/v Kent Shore

Jim Cusack

40 3/71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 34

1. Date 15Nov 1973 Present operation: Picking up 3½" Tubing. Time 0600
2. Well: 2/4-10 3. P.T.D. 4. O.T.D. 5. Progress
6. Bit no: 12 Size: 6" Jets: none Type: M4LG In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit, scraper , sub, 20-4 3/4" collars , X-over Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F
12. Rot hrs: Days since spud: Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

9½	Waiting on supply boat.
1½	Pick up BHA
12	Pick up 3½ Tubing
½	Drill out BOT Back Pressure Valve
½	Pick up 3½ tubing to go to bottom.

DW 3950 PW 1320 RF 995 JF 340 gal 1200 sxs E 200 sxs B

2760 sxs Barite

15. Personnel on rig: Contractor: 33 Phillips: 1 Other: 22 (56
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v Kent/Shore Hohentor arr. 1300 dept 1330 A Nordic

Ditto 0110

Maersk Shipper arr 1335 Dept 2000 GT

400 12-71. Gordon

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 33

1. Date: Nov 14, 1973 Present operation: Waiting for supply vessel and Test Tools Time 0600
2. Well: 2/4-10 3. P.T.D. 11215 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:
    Cl: Sand: Solids: Ca: Alk: Circulation cycle:
11. Mud cost daily: Cumulative: Rm = at °F
12. Rot hrs: Days since spud: 32 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

3 Waiting on Weather.

7 Install 3½" pipe rams in to BOP. Close blind rams and test 9 5/8" casing , 7" casing and liner pack-off to 2800 psi-OK.

14 Waiting on vessel and 3½" test string.

DW 3150 PW 840 RF 1023 JF 420 gal

Cmt and barite- same

15. Personnel on rig: Contractor: 33 Phillips: 1 Other: 20 (54
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kony~~/~~Shore~~/ Nautic standby

Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 32

1. Date: Nov 13 1973 Present operation: WOW Time: 0600
2. Well: 2/4-10 3. P.T.D. 11215 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. Mw: Vis: same Wl: Fc: pH: Pv: Yp: Oil:
    Cl: Sand: Solids: Ca: Alk: Circulation cycle:
11. Mud cost daily: 0 Cumulative: 135558 Rm = at °F
12. Rot hrs: Days since spud: 31 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

18	Laid down drill pipe and collars
2	Changed out top pipe rams to 3½".
4	WOW

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 28 (63
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v [redacted] Nautic standby

Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 31

1. Date: Nov 12 1973 Present operation: Laying down 5" Drill Pipe.-POOH. Time: 0600

2. Well: 2/4-10 3. P.T.D. 11215 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: Vis: Wl: Fc: same pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

16½ Rig up and run 96 jts 7"- 29 lbs N80 Rng 3 casing liner. Shoe is now set at 11215 RKB, Landing collar at 11178', tie back sleeve at 7591'RKB..

3½ Circulated and reciprocated pipe 20'. Could not hang off pipe. Lowered pipe and set on bottom. Pulled out and then relanded stinger into top of liner. Had difficulty stabbing back into liner. May have bent bottom of stinger

1½ Pumped in 20 bbls water and mixed 100 sxs E Cmt- 14.5 lbs/gal.. Mixed 850 sxs E Cmt at 16.5 lbs/gal. using fresh water. Pumped in 10 bbls water (did not release plug because of possible dent in bottom of stinger). Pumped in 250 bbls mud. Released pressure. Float held OK.

1½ Set packer. Reversed out 20 bbls water and 40 bbls cement.

1 POOH laying down drill pipe.

15. Personnel on rig: Contractor: 15 Phillips: 2 Other: 22

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent/Shore~~ Nautic

DW 3675 PW 1030 1088RF 1220 JF

Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 30

1. Date Nov 11 1973 Present operation: Preparing to run 7" Liner Time 0600

2. Well: 2/4-10 3. P.T.D. 11215 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: 14.3 Vis: 48 Wl: 8.4 HT/HP: 2 pH: 11 Pv: 25 Yp: 8 Oil: 2

Cl: 18000 Sand: 1 Solids: 25 Ca: 400 Alk: 1.2 Circulation cycle:

11. Mud cost daily: 169 Cumulative: 135558 Rm = .35 at 98 °F

12. Rot hrs: NO_3 = 80 ppm Days since spud: 29 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

8½	Ran MPT Log from TD to 9 5/8" Shoe. Ran SSL Log with shot points at 2000, 4000, 550, 7000, 8500, 9916, 10421, 11187
3½	GIH
½	Slip drilling line
1	Finish going in hole
3½	Circulate and condition mud
4	POOH
3	Install 7" rams in top ram unit and test to 2000 psi. Pick up and assemble BOT hanger and running tool.

DW 3750 RF 1090 PW 1124 JF 1210 Cmt same Barite 2060 sxs

15. Personnel on rig: Contractor: 31 Phillips: 3 Other: 23 (57

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v Kent/~~Shore~~/ Nautic- standby Arr 2315 to relieve the S.L. 11 (dept- Ekofisk
Asterturm Arr 2115 Dept 2155 C

Cusack

40- -2.71 Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 29

1. Date Nov 10, 1973 Present operation: Logging well Time 0600 Hrs.
2. Well: 2/4 - 10 3. P.T.D. 11,215' 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. 8302 Mw: 14.3 Vis: 45 Wl: 5.4 Fc: 2/32 pH: 11.2 Pv: 2 Yp: 7 Oil: 2

Cl: 18,000 Sand: 1% Solids: 5 Ca: 400 Alk: 1.8 Circulation cycle.

11. Mud cost daily: $3,872 Cumulative: $ 135,389. Rm = .34 at 96 °F
12. Rot hrs: Days since spud: 28 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

2½ Hrs. Wiper trip to 9 5/8 Casing shoe. no drag ~~ar~~ fill.

1½ Hrs. Circ and cond hole prior to logging.

5 Hrs. COOH, slm string, no change in measurement.

15 Hrs. Running logs, ran IES log from TD, back to 8006',

" BHC " " " " " "

Ran SNT log from TD Back to 9850'.

" FTP " " " " " "

Running MFL log.

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 19 total 55
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v Kent Shore

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 28

1. Date Nov 9,1973 Present operation: Circulating at 11215' TD: Time 0600
2. Well: 2/4-10 3. P.T.D. 11215 4. O.T.D. 10183 5. Progress 432
6. Bit no: 11 Size: 8½ Jets: same Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. 8302 Mw: 14.3 Vis: 48 Wl: 5.6 HT/HP=8.4 Fc: 2 pH: 11.2 Pv: 29 Yp: 6 Oil: 3

Cl: 18000 Sand: 1½ Solids: 27 Ca: 220 Alk: 1 Circulation cycle: 108

11. Mud cost daily: 1300 Cumulative: 131516 Rm = .32 at 110 °F
12. Rot hrs: 22½ (297½ Days since spud: 27 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

22½ Drilling to final TD=11215'.

1½ Circulating to clean hole prior to logging.

LITH: Same as Nov 8 th .to10850.

10850 to 10950 Limestone, white ., hard . Bright yellow Fluorescence, poor cut inCCL4 No oil porosity.

Below 10950- Same as Nov 8 th.

15. Personnel on rig: Contractor: 34b Phillips: 2 Other: 17 (53
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kont/Shore~~ Holstentor Arr 1025 Dept 1030 Nordic

S.L. 11 Arr 1510 Dept- On location

Nautic (stand:by) Dept 1530 Eggerson

Caach

400-12-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 27

1. Date Nov 8 1973 Present operation: Drilling Time 0600
2. Well: 2/4-10 3. P.T.D. 10783 4. O.T.D. 10633 5. Progress 150
6. Bit no: same Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.
8. Bit wt: 40 Rpm: 60 Torque: 300 Pump psi: 3100
9. Pump nr. 1 Liner size: 6 Stroke: 51 Gpm: 370 Av: 196
10. Mw: 14.3 Vis: 49 Wl: 5.6 Fc: 2 pH: 11.2 Pv: 25 Yp: 8 Oil: 2

Cl: 18000 Sand: 1 Solids: 24 Ca: 940 Alk: 2 Circulation cycle: 109

11. Mud cost daily: 80 Cumulative: 130219 Rm = .32 at 94 °F
12. Rot hrs: 24 (275 Days since spud: 26 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

24 Drilling

1

LITH: Same

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 15 (51
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v Kent /~~Shore~~ Nautic

Carach

2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 26

1. Date Nov 7,1973 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 10633 4. O.T.D. 10547 5. Progress 86

6. Bit no: 11 Size: 8½ Jets: 3-13 Type: J33 In: 10233 Out: Hr: 49½ Ftg: 400 Cond: inc

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 40000 Rpm: 60 Torque: 300 Pump psi: 3100

9. Pump nr. 1 Liner size: 6 Stroke: 59 Gpm: 440 Av:

10. Mw: 14.4 Vis: 50 Wl: 5.2 Fc: 2 pH: 11.9 Pv: 35 Yp: 9 Oil: 3

Cl: 17000 Sand: 1 Solids: 25 Ca: 920 Alk: 2.5 Circulation cycle: 109

11. Mud cost daily: 2961 Cumulative: 130136 Rm = .36 at 85 °F

NO_3 = 110

12. Rot hrs: 15½ Days since spud: 25 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

5 Drilling

1½ Cut off drilling nipple because of rig settlement

½ Drilling

5 pulled into casing shoe. Cut off drilling nipple . Rewelded flowline into lower position on lower position on drilling nipple. Retighten slings on BOP Stack. Rig seetled total of 3' 8"

1½ GIH

10½ Drilling

LITH: 10542- 10632 Limestone,white, hard- poor porosity, very dull fluorescence.

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 14 (50)

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent Shore~~ NAUTIC

DW 4350 PW 803 RF1037 JF 1484 gal

2000 Barites

12-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 25

1. Date Nov 6, 1973 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 10547 4. O.T.D. 10340 5. Progress 207

6. Bit no: 11 Size: 8½ Jets: 13 Type: J33 In: 10233 Out: Hr: Ftg: inc Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 40 Rpm: 60 Torque: 300 Pump psi: 3100

9. Pump nr. 1 Liner size: 6 Stroke: 59 Gpm: 440 Av: 230

10. Mw: 14.3 Vis: 50 4 Wl: 4 Fc: 2 pH: 11.8 Pv: 35 Yp: 6 Oil: 1

Cl: 20000 Sand: 1 Solids: 26 Ca: 800 Alk: 2 Circulation cycle.

NO_3 = 110 ppm

11. Mud cost daily: 1287 Cumulative: 127175 Rm = .37 at 100 °F

12. Rot hrs: 22½ Days since spud: 24 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

17½ Drilling

1½ Circulate out sample

5 Drilling

LITH: ~~10542-10400 Limestone interbedded with chert- Orange, white, hard~~
Poor porosity , No fluorescence,

10400 - 10440 Marl- gray, soft.

10400-10542 Limestone interbedded with chert, orange, whit ,
hard- Poor porosity. No fluorescence

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 13 (47

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kan / Shore~~ Nautic- Standby

Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 24

1. Date: Nov 5, 1973 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 10340 4. O.T.D. 10180 5. Progress 160

6. Bit no: 10 Size: 8½ Jets: 3-10 Type: GTJ In: 9996 Out: 10233 Hr: 20½ Ftg: 237 Cond: 8 8 IG

Bit no: 11 Size: 8½ Jets: 3-13 Type: J33 In: 10233 Out: inc Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 25-35 Rpm: 40-50 Torque: 250 Pump psi: 2800

9. Pump nr. 2 Liner size: 7 Stroke: 35 Gpm: 350 Av:

10. H Mw: 14.3 Vis: 49 Wl: 42 Fc: 2 pH: 11 Pv: 32 Yp: 8 Oil: 3

Cl: 20000 Sand: 1 Solids: 26 Ca: 600 Alk: 3- 7.4 Circulation cycle: 172

11. Mud cost daily: 2725 Cumulative: 125887 Rm = .32 at 90 °F

No_3- 160 ppm

12. Rot hrs: 16½ (213½) Days since spud: 23 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

5 Drilling with bit no. 10

7 Trip to change bits

½ Circulatte and wash to bottom

11½ Drilling with bit No 11

Lith: 10180- 10210 Shale- dark

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 15 (50

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kont Shore~~ NAUTIC - STANDBY

BEALL

2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 23

Date Nov 4, 1973 Present operation: Drilling Time 0600

W[redacted]l: 2/4-10 3. P.T.D. 10180 4. O.T.D. 9995 5. Progress 185

Bit no: 9 Size: 8½ Jets: 3-10 Type: SDH In: 9800 Out: 9996 Hr: 13½ Ftg: 196 Cond: T4B8 BT

B[redacted]no: 10 Size: 8½ Jets: 3-10 Type: V2H In: 9996 Out: inc Hr: Ftg: Cond:

[redacted] no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

B[redacted]H. Assembly: same Well 3 2.

B[redacted] wt: 30-40 Rpm: 110-140 Torque: 300 Pump psi: 3100

Pump nr. 1 Liner size: 6" Stroke: 44 Gpm: 320 Av: 150

[redacted] Mw: 14.3 Vis: 63 Wl: 3 Fc: 2 pH 11.8 Pv: 38 Yp: 10 Oil: 4

Cl: 20000 Sand: 1 Solids: 26 Ca: 600 Alk: 3.2-7.0 Circulation cycle 163

M[redacted]d cost daily: 2284 Cumulative: 123162 Rm = .68 @ 90 °F

Rot hrs: 15½ (197 Days since spud: 22 Vert dev:

B[redacted]mper Subs: Size: No: Hrs Run: Kick Control: 1350 PSI at 20spm GPM

Report detail: (Post 24 hrs.)

1 Drilling with bit No 9

7 Trip to change bit.

½ Circulate and wash to bottom

15½ Drilling with bit No 10

LITH:))) 9990 to 10180 Shale- dark brown, hard interbedded with siltstone- hard, friable, and glauconitic -

5. Personnel on rig: Contractor: 34 Phillips: 2 Other: 13 (49

6. [redacted]eather: Wind: Waves: Visibility:

7. V[redacted] heave: Roll: Pitch:

8. [redacted]/v K////////// Nautic - standby
Holstentor Arr 0900 Dept 1000 Nordic
Maersk Shipper Arr 1810 Dept 2200 Nordic

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 22

1. Date 3/11/73 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 9995 4. O.T.D. 9770 5. Progress 225

6. Bit no: 8 Size: 8½ Jets: 3x12 Type: SVH In: 9718 Out: 9800 Hr: 12½ Ftg: 82 Cond: Locked

Bit no: 9 Size: " Jets: 3x10 Type: " In: 9800 Out: Hr: Ftg: Cond: inc

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Same as yesterday Well 3 2.

8. Bit wt: 25-45 Rpm: 80-100 Torque: 360-450 Pump psi: 3100

9. Pump nr. 1 Liner size: 6 Stroke: 44 Gpm: 320 Av: 150

10. Mw: 14.3 Vis: 58 Wl: 5.6 Fc: 2 pH: 11.8 Pv: 35 Yp: 8 Oil: 3%

Cl: 19000 Sand: 1 Solids: 24 Ca: 800 Alk: 3.2 Circulation cycle. 115

11. Mud cost daily: 1841. Cumulative: 120,877. Rm = .31 at 85 °F

12. Rot hrs: 16½= =181½ Days since spud: 21 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.) 4 hr. Drilling

7 hr Made trip for new bit.

½ hr Circ & clean bit.

12½ hr. Drilling

Lithology:9770-9990' Shale,gray,black,hard,soft,interbedded w/Limestone& Siltstone

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 13==49

16. Weather: Wind: S -12-24 mph. Waves: 3-4' Visibility: Fair 3,4 miles

17. Vessel heave: Roll: Pitch:

18. ~~M/v Kent Shore~~ Nautic, Johannisturm 1330 1810 Nordic

Hohentor 1350 1355 Ekofisk

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 21

1. Date Nov 2 1973 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 9770 4. O.T.D. 9688 5. Progress 82

6. Bit no: 7 Size: 8½ Jets: 3-10 Type: M44N In: 9688 Out: 9718 Hr: 4 Ftg: 30 Cond: Pc Dolo. locked cones

Bit no: 8 Size: 8½ Jets: 2-12 Type: SVN In: 9718 Out: inc Hr: 8½ Ftg: 55 Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 40-45 Rpm: 90-110 Torque: 450 Pump psi: 3000

9. Pump no. 1 Liner size: 6 Stroke: 54 Gpm: 380 Av: 185

10. Mw: 14.3 Vis: 54 Wl: 5 Fc: 2 pH: 11.8 Pv: 34 Yp: 9 Oil: 3

Cl: 19000 Sand: 1 Solids: 24 Ca: 600 Alk: 3.2-7.2 Circulation cycle: 120

11. Mud cost daily: 1472 Cumulative: 119036 Rm .29 at 80 °F

12. Rot hrs: 12½ (165 Days since spud: 20 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

2 Trip in hole. Cut 150' Drlg Line.

1 Finish trip in hole.

4 Drilling with bit No 7. Bit locked. (chunk dolomite locked cones)

7 Trip for new bit.

½ Circulate and drill to bottom. Had 9' hole fill= large chunks dolo.)

9½ Drilling with Bit No 8

Lith: 9689-9770 Limestone- orange, white, hard, vugs, interbedded with calcareous.

DW 4300 PW 980 RF 1135 JF 1522 gal 2000 sxs E Cmt 200 sxs B Cmt

3300 sxs barite

15. Personnel on rig: Contractor: 34 Phillips: 2 Other: 14 (50

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Rent~~ ~~Shore~~ //////Nautic wstandby Asterturm Arr 2100 Dept 2230 A then Stavanger

[signature]

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 20

1. Date Nov 1, 1973 Present operation: Trip to change bits Time 0600

2. Well: 2/4-10 3. P.T.D. 9688 4. O.T.D. 9285 5. Progress 403

6. Bit no: 6	Size: 8½	Jets: 3-11	Type: M44n	In: 9140	Out: 9688	Hr: 24	Ftg: 548	Cond: T4B7 IG
Bit no: 7	Size: 8½	Jets: 3-10	Type: M44N	In: 9688	Out: inc	Hr:	Ftg:	Cond:
Bit no:	Size:	Jets:	Type:	In:	Out:	Hr:	Ftg:	Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 35000 Rpm: 80-110 Torque: 250 Pump psi: 3100

9. Pump no. 1 Liner size: 7 Stroke: 34 Gpm: 340 Av: 167

10. Mw: 14.3 Vis: 58 Wl: 5.8 Fc: 2 pH: 11.7 Pv: 38 Yp: 9 Oil: 3

Cl: 21000 Sand: 1 Solids: 24 Ca: 700 Alk: 3.4&8 Circulation cycle: 127

11. Mud cost daily: 4782 Cumulative: 117563 Rm = .3 at 80 °F

12. Rot hrs: 18 (152½ Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Post 24 hrs.)

18 Drilling with Bit No 6.

½ Circulate hole.

5½ Making trip to change bits.

LITH: Shale- gray, brown', hard, soft, interbedded with limestome.

DW 4130 1210 PW 1182 RF 1710 gal JF 2000sxs E 200 sxs B 3350 Barite

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 14 (49

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~/////~~ Nautic - standby
S.L.11 Arr 1000 Dept 1120 Eko

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 19

1. Date 31/10/73 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 9285 4. O.T.D. ~~9925~~ 8825 5. Progress 460

6. Bit no: 5 Size: 8½ Jets: 3-13 Type: DGH In: 8046 Out: 9140 Hr: 22 Ftg: 1094 Cond: T6-B8 bt

Bit no: 6 Size: 8½ Jets: 3-11 Type: M44N In: 9140 Out: Hr: Ftg: Cond: inc

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: bit,sub,x-over,6½" DC ,stab,2-DC,stab,3-DC,stab,3DC,stab,3DC stab,3DC,stab,6 DC Well 3 2.

8. Bit wt: 28-30 Rpm: 120 Torque: Pump psi: 3200

9. Pump nr. 1 Liner size: 7" Stroke: 34 Gpm: 340 Av: 161

10. 6875 Mw: 14.3 Vis: 59 Wl: 5.6 Fc: 2 pH: 11 Pv: 36 Yp: 8 Oil: 3%

Cl: 23000 Sand: 1 Solids: 24 Ca: 700 Alk: 3.6 Circulation cycle: 129 min.

11. Mud cost daily: 6046. Cumulative: 112,780. Rm = .27 at 80 °F

12. Rot hrs: 14- (134½) Days since spud: 18 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: 1350 PSI at 20 GPM

14. Report detail: (Past 24 hrs.) 8 hr. Drilling
½ hr. Circ. & slugged pipe.
9½ hr. Trip to change bits, & pick up BHA..
6 Hr. Drilling

Lithology: ShaleGray,brown,hard,soft Interbedded w/scattered Limestone

Drill water 2800 bbls,potable water 730 bbls Jet fuel 928 gals Fuel 1710bbl

Barite 4000 sx Cement 2000 E, 200 sx B

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 14= 49

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent Shore~~ Nautic: Johannisturm arr 1625 Deptd 2154 to Ekofisk

Beall

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 18

1. Date Oct 30, 1973 Present operation: Drilling at 8825 Time 0600

2. Well: 2/4- 10 3. P.T.D. 8825 4. O.T.D. 8046 5. Progress 779

6. Bit no: 5 Size: 8½ Jets: 3-13 Type: same Inc. Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit, stab, X-over, 1-6½ collar, X-over, stab, X-over, 17-6½ collars Wall 3 2

8. Bit wt: 25-30000 Rpm: 160-180 Torque: Pump psi: 3000

9. Pump nr. 1 Liner size: 7 Stroke: 40 Gpm: 400 Av: 200

10. Mud: Mw: 14.3 Vis: 66 Wl: 5.8 Fc: 2 pH: 12 Pv: 35 Yp: 10 Oil: 1

Cl: 23000 Sand: 1 Solids: 24 Ca: 500 Alk: 3.8 Circulation cycle:

Nitrate- 300 ppm

11. Mud cost daily: 3224 Cumulative: 106734 Rm .37 at 90 °F

12. Rot hrs: 14 (120½) Days since spud: 17 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

2½ Pick up BHA.

3 GIH to7807. Well back flowed. Picked up kelly.

½ Circulated bottoms up.

3½ Tagged plugs at 7977, shoe at 8016. Drilled to 8060.

½ Pressure tested formation to 650 (pump in pressure). Held at 600 psi

14 Drilling.

Lith: Clay-soft with some gray green clay with small amts. dolomite.

DW 4430 PW 825 RF 500 JF 1710 gal 2900 barite 2000 sxs E Cmt

15. Personnel on rig: Contractor: 33 Phillips: 2 Other: 13 (48

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~[illegible]~~ Nautic - standby

Johanisturm Arr 2100 Dept 2300 Eko

Chaisson

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 17

1. Date Oct 29, 1973 Present operation: Picking up BHA and 8½ bit. Time 0600

2. Well: 2/4-10 3. P.T.D. 8046 4. O.T.D. 5. Progress

6. Bit no: 5 Size: 8½ Jets: 3-13 Type: DGH In: 8046 Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump no: Liner size: Stroke: Gpm: Av:

10. Mud: Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

19½ Test 9 5/8" Csg. to 3500 psi- OK. Had leak on bottom flange of top pipe rams (above blind ram). Repaired by welding and grinding same. Test rams and choke-kill lines to 5000 and hydril to 2000 psi.

½ Install 8½ bore protector.

2½ Laying down 8" collars and BHA.

1½ Pick up 8½ bit and BHA.

DW 4680 PW 900 RF 1055 JF 2016 gal 2200 sxs E Cmt 3550 sxs Barite

15. Personnel on rig: Contractor: 34 Phillips: 1 Other: 16 (51

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Rem. Shore~~ Nautic standby

Jim Cusack

2.71. Gordon

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 16

1. Date Oct 28 1973 Present operation: Nippling up BOPs. Time 0600

2. Well: 2/4-10 3. P.T.D. 8046 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: Vis: Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report details: (Past 24 hrs.)

HRS	
$2\frac{1}{2}$	Finished running 9 5/8" casing. Shoe set at 8016, float at 7978'. Laid down Nat'l Subsea Hanger because hanger sleeve sheared off while going through BOP.
$1\frac{1}{2}$	Rig up halliburton. Circulated one casing volume. Pumped in 25 bbls mud with fine mica.
$3\frac{1}{2}$	Released bottom plug and pumped in 50 bbls water. Cemented with 200 sxs B Cmt.-14.5lbs slurry and 2600 sxs B Cmt 15.6 lbs slurry mixed with fresh water. Pumped in 20 bbls water followed with 565 bbls mud. Bumped plug with 2600 psi. Held for 10 minutes. Released pressure- float held OK. Circulated 20 bbls cmt..
$7\frac{1}{2}$	WOC with 9 5/8" pipe rams closed.
10	Nippling up wellhead and BOPs.

15. Personnel on rig: Contractor: 34 Phillips: 1 Other: 16 (51

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kong Sverre~~ Nautic standby
Johanisturm Dept to Stavanger 2300

Jim Cusack)

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 15

1. Date 27/10/73 Present operation: Running 9-5/8" casing Time 0600

2. Well: 2/4-10 3. P.T.D. 8046 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. Mw: 14.2 Vis: 62 Wl: 4.2 Fc: 2 pH: 12 Pv: 34 Yp: 11 Oil: 0

Cl: Sand: Solids: 19000 Ca: Alk: Circulation cycle:

11. Mud cost daily: $998. Cumulative: $ 103,510. Rm = at °F

12. Rot hrs: Days since spud: 14 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.) 3½ hr. Ran I:E.S, Sonic -gamma ray,caliper.

3 hr. WIH
2½ hr. Circulated
3½ hr. POOH no drag.
1½ hr. Changed rams to 9-5/8", tested BOP.
10 hrs. Running 9-5/8" casing.

Johannisturm	arr. 1540	deptd1610	Ekofisk
Smit Lloyd 11	1155	1220	"
Mærsk Shipper	0320	0325	" Nordic

15. Personnel on rig: Contractor: 34 Phillips: 1 Other: 17=52

16. Weather: Wind: SW 15 mph Waves: SW 6' Visibility: Good

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent Shore~~ Nautic

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 14

1. Date Oct 26,1973 Present operation: Logging Time 0600
2. Well: 2/4-10 3. P.T.D. 8046 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. 1&2 Liner size: 7 Stroke: 72 Gpm: 730 Av: 145
10. H.H: Mw: 142 Vis: 63 Wl: 3 Fc: 2 pH: 12.2 Pv: 36 Yp: 10 Oil: 1
Cl: 20000 Sand: tr Solids: 25 Ca: 60 Alk: 7.2 Circulation cycle:
11. Mud cost daily: 5626 Cumulative: 102511 Rm = .27 at 98 °F
12. Rot hrs: Days since spud: 13 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

HRS	
½	Circulate hole
11½	POOH to clean BHA. GIH to Circulate.
4	Circulate and condition hole
4½	POOH. Measured pipe - no correction
3½	Rig up Schlumberger. Now running logs.

DW 4910 RF 1215 PW 1173 914 gal JF 3000 sxs B Cmt 1950 sxs Barite

15. Personnel on rig: Contractor: 34 Phillips: 1 Other: 22 (57
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~[illegible]~~/Nautic- standby
Hohentor Dept 1115 Eko
Maersk Shipper Arr 1310 Dept 1340 Eko

Jim Cusac k

4000 2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 13

1. Date: Oct 25, 1973 Present operation: Circulate for wiper trip prior to logging. Time 0600

2. Well: 2/4-10 3. P.T.D. 8046 4. O.T.D 6700 5. Progress 1346

6. Bit no: 4 Size: 12 1/4 Jets: 3-18 Type: S33s In: 5972 Out: 8046 Hr: 31 Ftg: 2074 Cond: inc

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

8. Bit wt: 30000 Rpm: 240 Torque: 650 Pump psi: 3000

9. Pump nr. 1&2 Liner size: 7 Stroke: 80 Gpm: 810 Av: 160

10. Mw: 14 Vis: 72 Wl: 3 Fc: 2 pH: 12.2 Pv: 40 Yp: 16 Oil: 1

Cl: 20000 Sand: 1 Solids: 25 Ca: 0 Alk: 6 Circulation cycle: 73

11. Mud cost daily: 15222 Cumulative: 96885 Rm = .22 at 94 °F

12. Rot hrs: 20½ Days since spud: 12 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: 550 PSI at 30 spm

14. Report detail: (Past 24 hrs.)

HRS

6 Drilling

2½ Circulate and make short trip. _70000 lbs Overpull on stds. 2,3,4,5.

14½ Drilling

1 Circulating

LITH: Clay- dark gray soft with thin interbeds of dolomite

DW 5478 RF 1305 PW 1232 JF 950 gal 2470 sxs barite. ? cmt

15. Personnel on rig: Contractor: 36 Phillips: 1 Other: 17

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/V Jacobiturm Arr 0900 Dept 1545 to Nordic
Holstentor 1930 Still on location- standby
Nautic - Standby Not operational

Jim Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 12

Date Oct 24,1973 Present operation: Drilling Time 0600

2. Well: 2/4-10 3. P.T.D. 6700 4. O.T.D. 5972 5. Progress 728

Bit no: 3 Size: 12 1/4 Jets: 3-18 Type: S33S In: 5972 Out: inc Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: same Well 3 2.

Bit wt 30 Rpm: 240 Torque: 650 Pump psi: 3000

9. Pump nr. * 1&2 Liner size: 7 Stroke: 84 Gpm: 850 Av: 166

Depth: 4777 Mw: 13.7 Vis: 66 Wl: 3.4 Fc: 2 pH: 12.3 Pv: 20 Yp: 22 Oil: 2

Cl: 20000 Sand: 1 Solids: 22 Ca: 0 Alk: 7.5 Circulation cycle: 64

Mud cost daily: 7153 Cumulative: 81633 Rm = 25 at 90 °F

Rot hrs: 11 (86 Days since spud: 11 Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: 400 PSI at 30 SPM

Report detail: (Past 24 hrs.)

HRS

6 Fix BOP and remove crushed wear bushing.

3 Tested BOP and repaired leaking ring gasket.

4 GIH

11 Drilling.

LITH: Clay- gray, brown impure dolomite in thin interbeds.

DW 3320 PW 960 RF 954 JF 1400 CMT 0 Barite 1750 sxs

15. Personnel on rig: Contractor: 37 Phillips: 1 Other: 16

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v ~~Kent/Shore~~ Asterturm Arr 0700 Dept 0710 Nordic
" " 0100 0125 Ekofisk
Inkumturn 1655 2030 Ekofisk
Nautic - standby

Jim Cusack)

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 11

1. Date Oct 23, 1973 Present operation: Working on BOP Time 0600
2. Well 2/4-10 3. P.T.D. 5972 4. O.T.D. 5162 5. Progress 810
6. Bit no: 2 Size: 12 1/4 Jets: 3-20 Type: YT3A In: 4030 Out: 5972 Hr: 26½ Ftg: 192 Cond: B6T7IG
Bit no: 3 Size: 3-18 Jets: 3-18 Type: YT3A In: 5972 Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: same Well 3 2.
8. Bit wt: 30 Rpm: 240 Torque: 600 Pump psi: 3000
120 dropped to 1200
9. Pump nr. 1&2 Liner size: 7 Stroke: 96 Gpm: 980 Av:
10. H.H: 4216 Mw: 13.6 Vis: 58 Wl: 3.8 Fc: 2 pH: 12.2 Pv: 29 Yp: 11 Oil: 2
Cl: 19000 Sand: 1 Solids: 23 Ca: 40 Alk: 5 Circulation cycle: 64
11. Mud cost daily: 23958 Cumulative: 74509 Rm = .282 at 90 °F
12. Rot hrs: 13 (75 Days since spud: 10 Vert dev: 1 3/4 - 5972
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

HRS	
2	Drilling
½	Circulate Prior to making short trip.
2½	Make short trip. Hole free - no drag.
11	Drilling (at reduced pump rate).
7	POOH. Had 120000 lbs drag then freed up after pulling 6 stands.
1	Closed pipe rams to check BOP. Found that wear bushing had been pulled into rams while POOH. Now working on BOP and preparing to remove wear bushing.

DW 3735 PW 1017 RF 1072 JF 1290 gal CMT 0 Barite 1090 sxs

15. Personnel on rig: Contractor: 35 Phillips: 1 Other: 14 (50
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:

M/v ~~Kent/Pole~~ Nautic - standby

v Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 10

1. Date Oct 22 1973 Present operation: Drilling Time 0600
2. Well: 2/4-10 3. P.T.D. 5162 4. O.T.D. 4030 5. Progress 1132
6. Bit no: 2 Size: 12 1/4 Jets: 3-20 Type: YT3AJ In: 4030 Out: inc Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly bit, stab, sub, 1-8" collar, stab, 2-collars, stab, 17-collars, X-over Well 3 2.
8. Bit wt: 25-30000 Rpm: 240 Torque: 650 Pump psi: 3000
9. Pump nr. 1 &2 Liner size: 7 Stroke: 110 Gpm: 1220 Av: 235
10. H.H: 3373 Mw: 12.6 Vis: Wl: 5 Fc: 2 pH: 11.5 Pv: 28 Yp: 11 Oil: 2
Cl: 18000 Sand: 1 Solids: 19 Ca: 0 Alk: 1.6 Circulation cycle: 58
11. Mud cost daily: 9595 Cumulative: 50590 Rm = .44 at 100 °F
12. Rot hrs: 13½ (62) Days since spud: 9 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: 220 PSI at 30 GPM
14. Report detail: (Past 24 hrs.)

3 Test choke manifold to 6000 psi. Test casing to 2000 psi. Hydril to 2000 psi. BOP rams to 5000 psi. TIW Valve to 6000 psi

3 Make up 12 1/4" bit and BHA.

1½ GIH to 3977 And perform simulated control of a blowout.

2 Drill out float collar and shoe (4015) and 8' of cmt below shoe.

1 Drill 10' formation and performed bled - off test. Pumped in 4½ bbls mud . Pressure built to 1000. then bled back to 900. Repressured to 1000 psi . then bled to 850.

13½ Drilling.

LITH. Clay- grey, brown, soft, soluble, non calcareous w/ trace sandstone

DW1500 PW 1094 RF 1110 JF 1290 gal BARITE 2900 sxs CMT.-0-

15. Personnel on rig: Contractor: 35 Phillips: 1 Other: 16
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Holstenter~~ Holstenter Arr 0730 Dept 1800 Nordic
Johanisturm Arr 1020 Dept 1035 Viking
Nautic - standby

(Jim Cusack)

420 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 9

1. Date: Oct 21 1973 Present operation: Testing BOP Time 0600
2. Well: 2/4-10 3. P.T.D. 4030 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. H.H: Mw: 11.5 Vis: 54 Wl: 6.6 Fc: 2 pH: 11.4 Pv: 19 Yp: 20 Oil: 3
Cl: 18000 Sand: 1 Solids: 17 Ca: 0 Alk: 3.2 Circulation cycle:
11. Mud cost daily: 319(lost on boat) Cumulative: 40995 Rm = .33 at 80 °F
12. Rot hrs: 48½ Days since spud: 8 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

½ Repair HOWCO Lines

1 Circulate casing and pump in 25 bbl. mud slug with fine Mica.

3½ Pump in 50 bbls Water, release bottom plug. Mix 13.5 Lbs/gal -200 sxs B Cmt. spacer and 2800 sxs B Cmt (15.6 Lbs/gal.). Release top plug, pump in 10 bbls water and displace with 591 bbls mud. Estimated loss of 25% returns near end of job.). Bump plug with 1600 psi. Released pressure. Float held OK. Backed out Sub-sea Hanger and circulated out with water- no cement only fine mica. Relatched into hanger and tested to 2000 psi.- OK.

5 Rig down 20" BOP Stack.

4 Dress 13 3/8" Casing and install Wellhead. Tested same to 1500 psi-OK.

9 Nipple up 13 5/8" BOP Stack.

1 Testing BOP Stack.

DW 3818 PW 1190 FUEL 1168 JF 1290 CMT 0 Barite 3500 sxs

15. Personnel on rig: Contractor: 35 Phillips: 1 Other: 17 (53
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kelly/Shore~~ Nautic - Standby Cusack

400 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 8

1. Date 20/10/73 Present operation: Circulating 13-3/8 casing Time 0600
2. Well: 2/4-10 3. P.T.D. 4030 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. H.H: 2409 Mw: 11.5 Vis: 52 Wl: 6.6 Fc: 2 pH: 11.2 Pv: 17 Yp: 20 Oil: 3
    Cl: 18000 Sand: 1 Solids: 17 Ca: 0 Alk: 3.2 Circulation cycle:
11. Mud cost daily: $1479. Cumulative: $40635 Rm = .34 at 90 °F
12. Rot hrs: Days since spud: 7 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.) 2 hr. POOH 5 hr. Rigged up & ran IES, Sonic Gamma-ray rigged down Schlumberger. 1½ hr. WIH - no fill. 2 hr. Circ. 3 hr. POOH , laid down 9½" DC 10 hr. Rigged up & ran 105 jts Buttress 68 lb casing. Shoe set at 4015' collar at 3977' RKB. ½ hr. Rigged up HOWCO lines, circulating casing.

15. Personnel on rig: Contractor: 35 Phillips: 1 Other: 18= 54
16. Weather: Wind: WNW 5-10 mph. Waves: 3' Visibility: Good
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kent Shore~~ Nautic

Smit Lloyd 11 arr. 0900 deptd 1320

Cusack

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 7

1. Date: Oct. 19, 1973 Present operation: Circulating at 4030 to run logs Time: 0600
2. Well: 2/4-10 3. P.T.D. 4030 4. O.T.D. 3915 5. Progress 125
6. Bit no: 2 Size: 17½ Jets: 3-22 Type: S35J In: 1630 Out: 4030 Hr: 26 Ftg: 2400 Cond: B4T4IG

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit, Sub, 1- 9½ collar, 17½" stab, 5-9½" collars Well 3 2.
8. Bit wt: 30000 Rpm: 240 Torque: 750 Pump psi: 2100
9. Pump nr. 1 and 2 Liner size: 7 Stroke: 120 Gpm: 1176 Av: 103
10. H.H: 2409 Mw: 11.5 Vis: 49 Wl: 5.8 Fc: 2 pH: 10.7 Pv: 20 Yp: 17 Oil: 3

Cl: 18000 Sand: 1¼ Solids: 20 Ca: o Alk: 2.4 Circulation cycle: 67

11. Mud cost daily: $ 10 000 Cumulative: $ 39 155 Rm = .36 at 85 °F
12. Rot hrs: 3 (48½) Days since spud: 6 days Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: 175 PSI at 30 SPM ~~GPM~~
14. Report detail: (Past 24 hrs.)

3 hrs, drilling 1 hr. circulating to clean hole. 4½ hrs. Drop totco POOH. 135000 No. over pull. 3 hrs. clean BHA repair torque guage. 3 hrs. GIH. Ran through tight spots. 2½ hrs, Condition mud. 2½ hrs, POOH. No drag. 2 hrs, Attempted to run schlumberger IES log tool stopped at 2250" POOH. 1½ hr, GIH w/bit. 2hrs, Ciruclated and cond. hole.

15. Personnel on rig: Contractor: 35 Phillips: 2 Other: 18 (55)
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kem Shore~~ Hohentur Arv 1000 Dept 1100 Zapata Expl.

Nautic - Standby

3500 S x s Barite

3200 s x s "B" Cement. (Cusack)

400-2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 6

1. Date 18 Oct.73 Present operation: Drilling Time 0600
2. Well: 2/4-10 3. P.T.D. 3915 4. O.T.D. 2354 5. Progress 1561
6. Bit no: 2 Size: 17½ Jets: 3-22 Type: S3SJ In: 1630 Out: Hr: 23½ Ftg: 2285 Cond: inc
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Same as yesterday Well 3 2.
8. Bit wt: 30 Rpm: 240 Torque: 500-750 Pump psi: 2100
9. Pump nr. 1&2 Liner size: 7" Stroke: 120 Gpm: 1176 Av: 103
10. H.H: 2330 Mw: 11.4 Vis: 47 Wl: 8.6 Fc: 3 pH: 9.2 Pv: 18 Yp: 11 Oil: 3%
Cl: 18000 Sand: 1-1/4 Solids: 14 Ca: 200 Alk: 2.i Circulation cycle: 57
11. Mud cost daily: $18449. Cumulative: $$29145. Rm = at °F
12. Rot hrs: 18½-45½ Days since spud: 5 Vert dev: å degree 3140'
13. Bumper Subs: Size: No: Hrs Run: Kick Control: 175 PSI at 30 spm ~~GPM~~
14. Report detail: (Past 24 hrs.) 6 Hr. Drilling.

½ Hr. Circ for survey

4½ Hr.POOH 140,000 lb drag. ~~WIH~~

½ hr. Cleaned bit on bottom

12½ Hr. Drilling

15. Personnel on rig: Contractor: 32 Phillips: 1 Other: 15 =48
16. Weather: Wind: N 20-25 mph Waves: 7-10' Visibility: good
17. Vessel heave: Holstentor, Nautic, Roll: Asterturm dep at 2400 for Platform A Pitch:
18. M/v Kent Shore

Cusack.

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 5

1. Date: Oct 17, 1973 Present operation: Drilling Time: 0600
2. Well: 2/4-10 3. P.T.D. 2354 4. O.T.D. 1630 5. Progress 720
6. Bit no: 2 Size: 17½ Jets: 3-22 Type: ? In: Inc Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
   Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Bit, sub , X-over, stab, X-over, 1- 9½ D. Collar, X-over, Stab. X-over, 5-9½ D. Collars, X-over
8. Bit wt: 20000 Rpm: 240 Torque: 500 Pump psi: 2000
9. Pump nr. 1&2 Liner size: 7 Stroke: 120 Gpm: 1176 Av: 103
10. H.H: 1330 Mw: 10.6 Vis: 43 Wl: 17 Fc: 3 pH: 9.2 Pv: 10 Yp: 9 Oil: 0
    Cl: 18000 Sand: Tr Solids: 13 Ca: 1000 Alk: .3 Circulation cycle: 41
11. Mud cost daily: Cumulative: same Rm = at °F
12. Rot hrs: 5 (27) Days since spud: 4 Vert dev: 1½
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

HRS:

6½ Welding on 20" Wellhead.

½ Test head to 600 psi - held OK.

2 Nipple up 20" BOP Stack

4½ GIH with BHA. Could not run inside 20" wellhead because of oversized stabilizer. Redress same. GIH. Test casing to 1200 psi Held OK. Hit cement stringers at 1480'. Hard cement at1500.

4½ Drill hard cement , float and shoe to 1603.

1 Drilled to 1650. Closed BOP and pumped in 4 bbls mud. Pressure increased steadily to 100 psi then leveled off with continued pumping. Pressure dropped to 80 psi and held steady. Pumped in 1½ more bbls. Pressure increased and held at 100 psi then bled back to 80 psi.

5 Drilling

LITH: Grey clay- Non- calcarious

DW 5500 PW 1170 Fuel 1101 JF 1101 gal 0 CMT 3600 BARITE

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 15 (49
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kent Shore~~ Jacobiturm arr 1040 Dept Ekofisk
    Holstentor arr 0530 Dept Ekofisk
    Nautic standby

Cusack

4031 2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 4

1. Date Oct 16, 1973 Present operation: Welding on 20" Wellhead Time 0600
2. Well: 2/4- 10 3. P.T.D. 1630 4. O.T.D. 5. Progress
6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:
7. B. H. Assembly: Well 3 2.
8. Bit wt: Rpm: Torque: Pump psi:
9. Pump nr. Liner size: Stroke: Gpm: Av:
10. H.H: Mw: 10.5 Vis: 49 Wl: Fc: pH: 9.8 Pv: 8 Yp: 21 Oil:
Cl: 18000 Sand: tr Solids: 12 Ca: 800 Alk: .6 Circulation cycle:
11. Mud cost daily: 3911 Cumulative: 10695 Rm = at °F
12. Rot hrs: Days since spud: 3 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

4½ hrs Ran 20" Casing. Shoe at 1603, Float at 1560, Sub-sea hanger-325.

1 hr Circulate one casing volume.

2½ hrs Cement with 1600 sxs B + 8% gel (13.1 lbs) and 800 sxs B (15.6) (717 bbls slurry vol.) Displaced with 527 bbls water.

9 hrs WOC

7 hrs Cut off 30" and 20" casings and now welding on 20" wellhead.

DW 1510 PW 1235 F 1139 JF 340 CMT 0 Barite 1750 sxs

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 17 (51
16. Weather: Wind: Waves: Visibility:
17. Vessel heave: Roll: Pitch:
18. M/v ~~Kent/Shore~~ Paciturm arr 1140 Dept to Ekofisk 1240
Jacobiturm arr 0500
Nautic Standby

Cusack

400 2-71. Gordum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 3

1. Date: 15 Oct 73 Present operation: running 20" casing Time: 0600
2. Well: 2/4-10 3. P.T.D. 1630 4. O.T.D. 600 5. Progress 1030
6. Bit no: RR1 Size: 26 Jets: reg Type: DS In: 436 Out: 1630 Hr: 19½ Ftg: 1194 Cond: good

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: 26"bit, 6 point Stab., bit sub, 1-9½" D.C., X-O, 3 pt. stab., X-O, 5-9½ D.C., X-O. Well 3 2.
8. Bit wt: 10-25 Rpm: 150 Torque: 500-600 Pump psi: 1200
9. Pump nr. 1 and 2 Liner size: 7 Stroke: 120 Gpm: 1200 Av: 44
10. H.H: Mw: 11 Vis: 53 Wl: Fc: pH: 9 Pv: 8 Yp: 8 Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 4,844 Cumulative: 6,784 Rm = at °F
12. Rot hrs: 17 Days since spud: 2 Vert dev:
13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM
14. Report detail: (Past 24 hrs.)

17 drilled to 1630 feet

1½ trip to drill collars, hole OK.

1 circulate and mix mud

1½ spot 800 bbls 11 ppg mud

1½ pulled out of hole

½ rig up to run casing

2 running 20" casing

Boats:

Maersk shipper arrived 1700 departed for Stavanger 1715.

Nautic on location as stand-by boat

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 15 total 49
16. Weather: Wind: NNE 10-12 Waves: 3-4 Visibility: 10 miles
17. Vessel heave: Roll: Pitch:
18. M/v Kent Shore

400 2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 2

1. Date: Oct 14 1973 Present operation: Drilling Time: 0600

2. Well: 2/4-10 3. P.T.D. 600 4. O.T.D. 436 5. Progress 164

6. Bit no: RR1 Size: 26 Jets: Reg Type: DS In: 436 Out: Inc Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: Bit, 26" point Stabilizer bit sub, 1-9½ Collar, X-over, Stab, X-over, 5-9½ Collars, X-over Well 3 2.

8. Bit wt: 10-25 Rpm: 120 Torque: 250 Pump psi: 450

9. Pump no 1&2 Liner size: 7 Stroke: 120 Gpm: 1200 Av: 44

10. H.H: Mw: 9.4 Vis: 70 Wl: uncontrolled Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: 1940 Cumulative: 1940 Rm = at °F

12. Rot hrs: 2½ (5 ½ Days since spud: 1 Vert dev: 1°-436'

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

1 hr Totco Survey at 436- 1°

1½ hr Rig up to run 30" Casing

17 hrs Run and weld 12- jts. 30" Casing. Drive from 370 to 448 ft. FINAL 30" SETTING DEPTH 448' RKB -255 BPF. (112'- penetration D44 Hammer). Cut 30" -36'-3" below table. Rig up to drill 26" hole.

1 hr Pick up 26" bit and BHA: GIH to 363

1 hr Reaming from 363 to 436.

2½ hrs Drilling 26" hole.

DW 5625 PW 1250 Fuel 1234 JF 458 gal B- CMT-830 B+8% gel-1600

15. Personnel on rig: Contractor: 32 Phillips: 2 6 cater Other: 15 (55

16. Weather: Wind: Waves: Visibility:

17. Vessel heave: Roll: Pitch:

18. M/v /Kehf/Shprf Nautic standby S.L 11 Arr 1525 Dept to Stavanger 2035
Arsterturm Arr 0800 Dept Gulftide 0815
Hohentor Arr 1520 Dept Nordic 1545
Maersk Shipper Arr 2130 Dept B Plat. 0600

John Beall.

400 2-71. Gardum

PHILLIPS PETROLEUM COMPANY - Norway

Daily drilling report No. 1

1. Date: 13 Oct 73 Present operation: spotting mud Time: 0600

2. Well: 2/4 10 3. P.T.D. 436 4. O.T.D. 5. Progress

6. Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

Bit no: Size: Jets: Type: In: Out: Hr: Ftg: Cond:

7. B. H. Assembly: 26" bit, bit sub, 6-9½" DC, X-O — Well 3 2.

8. Bit wt: Rpm: Torque: Pump psi:

9. Pump nr. Liner size: Stroke: Gpm: Av:

10. H.H: Mw: 9.4 Vis: 45 Wl: Fc: pH: Pv: Yp: Oil:

Cl: Sand: Solids: Ca: Alk: Circulation cycle:

11. Mud cost daily: Cumulative: Rm = at °F

12. Rot hrs: Days since spud: "0" Vert dev:

13. Bumper Subs: Size: No: Hrs Run: Kick Control: PSI at GPM

14. Report detail: (Past 24 hrs.)

6 under tow from 2/4 - 9. On location at 1120 hours.
6 pre-loaded to 6 MM pounds, waited with pre-load ½ hour, skid derrick back and dumped pre-load water then jacked up to 63' air gap.
3 connected service lines, rigged up derrick flood and off loaded boats.
6 off loaded mud material, mixed mud, picked up BHA and tagged ocean floor at 336' RKB.
3 drilled to 436'.

Drill Water 3400
Potable Water 1200
Rig fuel 1032
jet fuel 458 gals.
no cement
barite3500 sx

BOATS:

Jacobturm arrived 1930 departed 0240 (ekofisk)
Arsturm arrived 0320 departed 0510 (nordic)
Smit lloyd arrived 0550 still on location

15. Personnel on rig: Contractor: 32 Phillips: 2 Other: 19 total 53

16. Weather: Wind: 2 to 3 Waves: calm Visibility: good

17. Vessel heave: Roll: Pitch:

18. M/v Kent Shore

Beall

PHILLIPS PETROLEUM COMPANY

COMPOSITE LOG

COMPANY Phillips Petroleum Company WELL NUMBER 2/4-10
COUNTRY Norway
CO-ORDINATES 56°40'41.5" N PRODUCTION LICENCE
03°13'21.6" E LICENCE BLOCK 2/4

DATE SPUDDED 13 Oct. 73 DATE COMPLETED 20 Dec. 73

ELEVATION: KB 115 DF 114 WATER DEPTH -221

TOTAL DEPTH 11215 PBTD STATUS

CASING RECORD 20" 1603, 13 3/8 4014, 9 5/8 8016

GEOLOGIST B.Byrd, C J Daigle

REMARKS Rig "Zapata Explorer"

TESTING AND COMPLETION SUMMARY

LEGEND

Limestone	Conglomerate	Percentage of Drill Cuttings with Porosity (one dot = 5%) (Trace, Poor, Fair, Good, Excel.)
Dolomite	Breccia	Oil Stain or Oil Fluorescence and Cut in CCl_4
Dolomitic Limestone	Granite Wash (Arkose)	Gas show in Mud or Cuttings
Argillaceous Limest.	Sandstone	Gas (positive D.S.T.)
Sandy Limestone	Siltstone	Oolites
Silty Limestone	Sandy Shale	Fossils
Coquina Limestone (50% + fossil frag)	Silty Shale	Pyrite
Chalk	Shale & Clay, light grey, green, red, brown	Glauconite
Marl	Shale, dark grey - black	Siderite
Gypsum	Calcareous Shale	Limonite Nodules
Anhydrite	Dolomitic Shale	Phosphate
Salt (NaCl)	Coal, Lignite	Carbonate Nodules
Salt casts	Chert	No Samples
Polyhalite, Sylvite (potassium-salts)	Bentonite	

SCALE 1:500

WELL HISTORY AND DRILLING RATE (Minutes / 5 Feet)	DEPTH AND GRAPHIC LOG	POROSITY AND SHOWS (Trace, Poor, Fair, Good, Excel.)	LITHOLOGIC DESCRIPTION	CORES AND TESTS

SPONTANEOUS POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms - m²/m	CONDUCTIVITY millimhos/m = 1000 / ohms - m²/m
– 4 +		A - 16" - M SHORT NORMAL 0–10, 0–100; INDUCTION 0–10, 0–100; 0 AMP. SHORT NORMAL 2	6FF40 INDUCTION 2000–0, 4000–2000

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms - m²/m	CONDUCTIVITY millimhos/m = 1000 / ohms - m²/m
– 4 +		0 AMP. SHORT NORMAL 2; A-16"-M SHORT NORMAL 0–10, 0–100; INDUCTION 0–10, 0–100	6 FF40 INDUCTION 2000–0, 4000–2000

COMPANY PHILLIPS PETROLEUM COMPANY NORWAY
WELL 2/4-10
FIELD NORTH WEST TOR
COUNTY NORWAY STATE NORTH SEA

SCHL. FR 11192
SCHL. TD 11206
DRLR TD 11215
Elev: KB 115, DF 114, GL -221