

BA 00-949-1

28 AUG 2000

REGISTRERT
OLJEDIREKTORATET

Production Licence 088

Phillips 7/8-2

WILL RECORD

CONFIDENTIAL

88-7

3

WELL RECORD

Section No.

Information.

1.	Drilling Prospectus
2.	Location Plat
3.	Casing Record
4.	Bit Record
5.	Detailed Daily Report
6.	Well Completion Report

CONFIDENTIAL

DRILLING PROSPECTUS

ARE 5652

Well: 7/8-2

Prospect: Cero

Location: N 57° 23' 39.5"

E 02° 35' 28.5"

Water Depth : 270 feet

RKB to Mean Sea Level : 89 feet

RKB to Sea Bottom : 359 feet

GENERAL

A 11,500 feet exploratory well is to be drilled in block 7/8 using the semisubmersible rig OCEAN VIKING under contract from Canam Off-shore Limited.

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. Casing and Cementing Program
3. Well Profile
4. Blowout Preventer and Wellhead Program
5. Mud Program
6. Drilling Control
- a) Blowout Drill
- b) Hole fill-up Procedure
- c) Formation Pressure Testing
- d) Drilling Break Procedure
7. Geological Well Program
8. Tight Hole Procedure

A test procedure will be issued later. The Geological Well Program includes Logging, Coring and Sampling Program.

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. Beyond the 9 5/8 inch casing point all mud weights must also 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 as two-three-seven-six. NOT eliminate misunderstandings. This will help to

DRILLING PROCEDURE

1. Drill 36 inch hole with sea water to \pm 110 feet below sea bed (492 feet RKB). Displace hole with 250 bps high viscosity mud using both rig pumps at maximum rate. See Mud Program for make-up of mud.
2. Run and cement 30 inch casing at \pm 110 feet below sea bed according to the Casing and Cementing Program. Space casing so that final position of the 30 inch suspension joint and permanent guide base is approximately 10 feet above sea bed.
3. Pick up the bottom hole assembly shown in the operational plan, and drill out the 30 inch casing. Drill 26 inch hole to 1500 feet RKB.
4. Pump in 250 bps high viscosity 11 ppg mud using both rig pumps at maximum rate. Pull out of hole to 30 inch casing shoe and wait one hour. Go back to bottom and displace hole with 800 bps high viscosity 11 ppg mud using both rig pumps at maximum rate. Come out of hole slowly.
5. Run and cement 20 inch casing as shown in the Casing and Cementing Program.
6. Test 20 inch Hydril BOP on test stump before running. Run BOP, choke and kill line, and 24 inch riser. Test 20 inch casing with 1,000 psi for 30 minutes. Follow standard National procedures for running and testing marine equipment. The initial test is to be conducted at 2,000 psi, the rated W.P. of the hydril.
7. Pick up the bottom hole assembly shown in the operational plan, and drill out the 20 inch casing. Drill ahead to 4,000 feet. Use a drill pipe float above the bit in 17 1/2 inch hole.
8. At 4,000 feet circulate and condition hole for logging. Make short trip to 20-inch-casing-shoe, and circulate one complete round or until shaker cleans up. Come out of hole slowly. Run logs specified in Geological Well Program.
9. Go in hole to 20 inch casing with special 9 nozzle jet cleaning tool on drill pipe and clean riser, BOP stack and 20 inch casing going into hole and coming out. Pump at maximum rate while rotating.
10. Go in hole with bit, circulate and condition mud to run casing. Continue circulating until shaker cleans up. If required by hole condition make short trip to 20 inch casing shoe before running 13 3/8 inch casing. Come out of hole, run and cement 13 3/8 inch casing as shown in the Casing and Cementing Program.

11. Release 13 5/8 inch running tool and wash out cement through choke and kill line. Pull out of hole and go back in hole with rubber nose jet sub to below BOP stack. Close Hydril. Circulate with mud and wash out wellhead and BOP stack. Close in well completely and wait until 8 hours have elapsed from the time the top cementing plug has been bottomed. Observe drill pipe for pressure increase. Pull Drill pipe, unlash 24 inch riser, pull riser and BOP stack.

12. If there is any indication of a pressure build up in the 20 inch - 13 5/8 inch annulus, the 20 inch - 13 5/8 inch National pack-off will be run at this stage. Run the pack off with running tool and one 12 1/4 inch stabilizer as used when running the 13 5/8 inch BOP stack. When the pack off latches, pull until the shear pins on the running tool shear. The pack off is not to be run if the 20 inch - 13 3/8 inch annulus appears to be sealed.

13. Test the 13 5/8 inch BOP stack on the test stump according to National and Phillips procedures. Run BOP stack and choke/kill lines. Test casing to 2500 psi. Run 16 inch riser and nipple up cellar deck. Run initial BOP test according to National and Phillips procedures. The Shafter rams are to be tested to 5000 psi and the Hydril to 2500 psi.

14. Pick up the bottom hole assembly shown in the operational plan and drill out the 13 3/8 inch casing. After conducting a formation pressure test (see attachment 6c) drill 12 1/4 inch hole to the top of the Danian, which is anticipated to be at ± 7400 feet.

15. Test BOP stack and choke manifold each week with 2500 psi. When out of hole close and open each set of rams individually. Leave all rams open after operational test. Do not operate the Hydril unnecessarily as this will reduce its working life.

16. Run intermediate logs as listed in the Geological Well Program.

17. An intermediate string of 9 5/8 inch casing will be run at ± 7400 i.e. before center the Danian.

18. Pick up the bottom hole assembly shown in the operational plan and drill out 9 5/8 inch casing. After conducting a formation pressure test (see attachment 6c) drill 8 1/2 inch hole into the top of the Jurassic which is anticipated to be ± 10,200 feet.

19. Run logs as indicated in the geologic well program.

20. A protective string of 7 inch casing will be run as a liner from the bottom of the 8 1/2 inch hole back to 500 feet into the 9 5/8 inch casing.

21. Drill ahead with 6 inch (nominal) bit to T.D. using the bottom hole assembly in the operational plan. Follow mud program procedures, and run terminal logs as listed.

NOTE: Total depth is programmed to 11,500 feet.

If the Zechstein salt formation is encountered above this depth, penetration into the salt will be limited to 100 feet. Thus T.D. will be 11,500 feet or 100 feet below the top of the Zechstein, whichever occurs the sooner.

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

If a program change is made requiring further salt penetration, it will be necessary to convert to a salt saturated mud.

The following procedure is to be adopted when penetration into the top of the salt is suspected:

(a) Drill 20 feet into the salt, which should be marked by a drilling break.

(b) Pull up above the salt, and circulate out, checking mud chlorides and resistivity.

(c) If salt is indicated, drill a further 80 feet to T.D.

(d) Pull up above the salt, and condition mud to run logs.

22. If log analysis indicates hydrocarbon bearing zones, a 5 inch inner string of casing will be set through the zones. Cementing details will be advised at a later date.

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

24. A hole deviation survey should be made every trip out of the hole, down to 11,000 feet. Intermediate surveys are to be made only if deviation is a problem. If collar assembly is stabilized as detailed, deviation should not be a problem.

CASING AND CEMENTING PROGRAM

1. Casing Program

Size inch	Weight lb/ft	Grade	Threads	Optium Torque ft/lb	Burst psi	PCO Rating Collapse psi	Tension 1000 l
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30	309	J-55 VETCOL		35,000	2883	1415	952
20	133	J-55 S T & C		6,750	3271	1840	450
13 3/8	68	N-80 BUTT		11,000	6090	4484	803
9 5/8	47	N-80 BUTT		5,970	7300	6626	398
7	29	P-110 Hydril-F-J		3,800	11571	12689	211

NOTES: 1. Use light oil only on Vetco Type L threads

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

3. 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.

2. 30 inch Casing in 36 inch hole at 492 feet

A. Mechanical Accessories: One Float Shoe

B. Running Procedure : Run 30 inch casing and permanent guide base on drill pipe according to Phillips and National procedures.

Run 90 feet of drill pipe below 30 inch handling tool.

C. Cementing Procedure :

Cement with 1000 sacks Class B cement blended with 2% calcium chloride mixed at 15.9 lb/gal

using sea water. Displace cement with sea water. Dry bulk volume

of cement: 1000 sacks Class B with 2% calcium chloride 1020 cubic feet.

3. 20 inch Casing in 26 inch hole at 1500 feet

A. Mechanical Accessories:

1. Subsea cementing plug (top plug only)

11. Float shoe and baffle collar. These will be installed onshore.

3. A Cont.

iii. Five centralizers:

- 7 feet above shoe
- 7 feet above baffle collar
- Top of second joint
- First coupling inside 30" casing
- First coupling below 20" hanger
- bow type
- bow type
- bow type
- positive
- positive

B. Running Procedure :

The shoe and collar will be welded to the casing onshore. Thread lock-compound should be used on first joint above baffle collar.

C. Cementing Procedure :

Use 40 bbl sea water wash in front of cement. Cement blended with 8% bentonite mixed at 13.1 lb/gal using sea water followed by 1000 sacks Class B neat cement mixed at 15.6 lb/gal using sea water. This will give returns to the sea floor plus 100% excess. 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 maximum rate. Bump plug by displacement of volume of casing to baffle collar.

Dry bulk of cement:

- 1250 sacks Class B with 8% bentonite 1350 cu.ft.
- 1000 sacks Class B 1000 cu.ft.

4. 13 3/8 inch casing in 17 1/2 inch hole at 4000 feet

A. Mechanical Accessories:

- i. Subsea cementing plugs
- ii. Conventional float shoe and ~~float collar~~
 - Shoe joint will be made up on shore.
- iii. Five bow type centralizers:
 - 7 feet above shoe
 - 7 feet above float collar
 - Over couplings on top of joints 2, 4 and 6.
- iv. 25 bow type centralizers:
 - One per joint for 1000 ft below 20 inch shoe.
 - 10 scratchers, 10 stop collars on shoe joint.

4. A cont

- vi. 95 scratchers, 95 stop collars, 2 bow type centralizers, 2 positive centralizers, and one metal petal basket around 20 inch casing shoe as shown in attached sketch.
- vii. Five positive centralizers:
One every other joint for 500 feet above 20 inch shoe.
- viii. 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 wellhead. Pick up 2 to 3 feet and circulate one casing volume. Work pipe with 4 to 6 feet stroke while circulating. Hang casing with wellhead 18 inches off-seat while cementing. Land casing shale on last 20 bbl of displacement.

C. Cementing Procedure:

Use 200 sacks Class B neat cement wash mixed at 15.6 lb/gal using sea water. This will give returns to the sea floor plus 50% excess in open hole.
Catch three wet and three dry samples of cement while mixing. Release top plug and pump in 10 bbl fresh water Bump plug with mud using both rig pumps at maximum rate to circulate casing volume.

Dry bulk volume of cement:

- 200 sacks Class B neat (wash) 200 cu.ft.
- 3700 sacks Class B neat 3700 cu.ft.

5. 9 5/8 inch Casing in 12 1/4 inch hole at ± 7400 feet

A. Mechanical Accessories:

- i. Subsea cementing plugs.
- ii. Float shoe and ~~collar~~ *d.f.f. 2 1/2" up collar* joint will be made up on shore.

5. A. cont

iii. Five bow type centralizers:

Seven feet above shoe

Even feet above collar

Over couplings on joints

2, 4 and 6.

Ten bow type centralizers:

One per joint over bottom

400 feet.

Four bow type centralizers:

One per joint below 13 3/8

inch shoe.

Two positive centralizers:

One per joint above 13 3/8

inch shoe.

10 scratchers with stop collars

on shoe joint.

95 scratchers with stop collars

and one metal petal basket

around 13 3/8 inch shoe as shown

on attached sketch.

One positive centralizer on first

coupling below casing hanger.

iv

v

vi

vii

viii

ix

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

wellhead. Pick up 2 to 3 feet and

circulate one casing volume. Work

pipe with four to six foot stroke

while circulating. Hang casing with

wellhead 18 inches above seat while

cementing. Land casing while pumping

last 20 bbls of displacement.

C. Cementing Procedure

:

Use 200 sacks Class B neat cement wa

mixed to 13.5 lb/gal slurry and run

behind the bottom cementing plug.

Cement with 3000 sacks neat Class B.

cement blended with 0.4% R-5 retarder

mixed with sea water to a slurry wet

of 15.6 lb/gal. This will give an

excess of 50% over the volume requir

to cement to the sea floor.

Catch three wet and three dry sample

of cement while mixing. Release top

plug and pump in 10 bbl of fresh wat

Bump plug with [] using rig pumps a

maximum rate to calculated casing

volume.

sea water

Dry bulk volume of cement:

3200 sacks Class B cement = 3200 cu.ft.

6. 7-inch casing run as liner in 8 1/2 inch hole at 10,200 feet

A. Mechanical Accessories:

1. Liner hanger, through drill pipe plugs, liner pack off etc, will depend on availability as to type and manufacture.

11. Float shoe, float collar.

111. Scratchers and centralizers.

Interval

Liner hanger set at \pm 7000 feet Positive centralizers every other joint

Down to 9 5/8 inch shoe

(9 5/8" shoe)

\pm 7500 to \pm 10,200 feet

One bow type centralizer per joint over bottom 200 feet and for 200 feet immediately below 9 5/8 inch shoe.

(Centralizers and scratchers one each per joint will be run over the Danian formation if shows were recovered in that formation)

16 scratchers and stop collars on the two joints of liner which will be set immediately below the 9 5/8 inch shoe.

B. Running Procedure:

Run liner in hole to setting depth. Make up cementing manifold on drill pipe and circulate until mud returns are clean (circulate a minimum of one full cycle). Reciprocate casing 20 feet to 25 feet or until increase in pipe drag.

C. Cementing procedure:

Use 100 sacks Class E cement mixed to a 14.5 ppg slurry with sea water and run behind bottom plug. Cement liner with 800 sacks Class E cement mixed to a 16.5 lb/gal slurry. Release top plug and displace with mud using B-J pumps.

6. Cont

C. cont.

Reciprocate pipe 20 to 25 feet
while displacing unless liner
starts to stick.
Set hanger and pack off. Pick up
out of liner and reverse out excess
cement.
Collect three wet and three dry
samples while cementing.

7. 5 inch liner set to T.D.

This liner job will depend on testing required after log
evaluation. Details on this job will be provided just
prior to the time of running.

WELL PROFILE

ATTACHMENT No. 3

30" 309 lb, cemented to seabed.

429 feet

20" 133 lb/ft J-55 VETCOL connectors, cemented to seabed.

1500 feet

12 3/8" 68 lb/ft J-55, ST & C, cemented to seabed

4000 feet

9 5/8" 47 lb/ft N-80 ~~HT-80~~

cemented to seabed.

± 7400 feet

7" 29 lb/ft N-80 butt liner.

10,200' to 7000' cemented

to 9 5/8"

6.1/8" open hole to T.D.

11,500' T.D.

6,900'	Palaeocene
7,530'	Upper Cretaceous
9,900'	Lower Cretaceous
10,200'	Jurassic
10,400'	Triassic
11,500'	Total Depth

BOP AND WELHEAD PROGRAM

A National Supply subsea wellhead system will be utilized.

After setting 20" casing, a 20" 2000 psi Hydril with Payne control system and 24" marine riser assembly will be installed and tested according to National procedures.

After setting 13 3/8" casing, one 13 5/8" 10,000 psi Shafter double ram preventor, one 13 5/8" 10,000 psi Shafter single ram preventor, on 13 5/8" 5000 psi Hydril bag type preventor, 10,000 psi choke and kill lines, Payne hydraulic control system and 16" marine riser assembly will be installed and tested according to National procedures and will be used to total depth.

NOTE:

The 20" and 13 3/8" BOP stacks should be washed, tested and serviced as soon as possible after they are pulled to the cellar deck and placed on test stump.

MUD PROGRAM

Well: 7/8-2

30" Casing (36" Hole to 150 m RKB)
 Drill the 36" hole with sea water with returns to the sea floor. Pump slugs of thick mud through the hole frequently to clean and seal off surface sands. After the 36" hole has been drilled fill the hole (300 bbls) with thick mud to run the 30" casing. Mix the thick mud as follows:

<u>Material</u>		<u>Properties</u>	
Sea water	10 to 15 ppb	Weight	0.8 to 9.0 pps
Attapulgite	2 to 3 ppb	Viscosity	thick
Floal		Fluid Loss	no control

Run shearing device on suction pit (400 to 500 psi) to shear floal.

20" Casing (26" Hole to 458 m RKB)
 Drill the 26" hole with sea water with returns to the sea floor. Pump slugs of thick mud through the hole as needed to clean. After the 26" hole has been drilled pump 300 bbls of 11.0 ppg mud into the hole to make a short trip. Pump the entire surface volume (800 bbls) into the hole to run the 20" casing. Mix the thick mud as above and increase to 11.0 ppg with barite for spotting the 300 and 800 bbl volumes. Run shearing device (400 to 500 psi) to shear floal.

13 3/8" Casing (17 1/2" Hole to 1220 m RKB)
 Drill the cement, float with sea water. While drilling the shoe displace the casing with Shale-Trol sea water mud mixed as follows:

<u>Material</u>		<u>Properties</u>	
Sea Water	1 to 2 ppb	Weight	9.0 to 10. ppg
Caustic Soda	10 to 15 ppb	Viscosity	40 to 45 sec/qt.
Bentonite	5 to 6 ppb	Ph.	10.0 to 10.5
Shale Trol		Shale Trol	1/2 to 1 ppb

Maintain the mud properties as follows while drilling the 17 1/2" hole:

Depth	m/RKB	Weight	ppg	Viscosity	sec/qt	Fluid Loss	cc/30 min.
458-1100		9.8 to 10.0	11.0	40-50		12-16	
1100-1220				40-50		12-16	

N.B. It is possible that a high pressure zone may be encountered at 1500' to 1800'. 12.0 ppg mud will contain this zone. Have crews prepared to weigh up.

DRILLING CONTROL

6 (a) BLOW OUT DRILL

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

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 until flow light comes on. 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. 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.
6. The Phillips Drilling Supervisor onboard will determine the maximum rate of descent while going in hole. Avoid pressure surges set up when the bit is snudded 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 POP 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 four. 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.

After drilling out the 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 200 psi stages. When the surface pressure reaches 200 psi, shut the pump down and check for bleed off. Increase surface pressure to 400 psi, 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 100 psi increments.

5. The final pressure to be held on surface will be advised by the Stanger 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.

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 be allowed aboard. An unknown individual wishing to board should carry written permission signed by one of the following:

E.W. Thrall

P.W. Reynolds

J-T Daniels D. L. Cordry

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 Oslo office.

In this respect, reasonable caution is to be practiced 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,

Depths,

Lithology

Shows,

Formation Top,

Mud Weights

(below 9 5/8 inch casing point)

6 (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, notify the Phillips Drilling Supervisor of a drilling break. 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 is considered significant.

PHILLIPS PETROLEUM CO.

GEOLOGIC PROGNOSIS

7 May 1973

Well No. 7/8-2X

Location: Shotpoint 1890

Prospect: Cero

N 57° 23' 47" E 02° 35' 21"

Classification: Wildcat

APE: NW 5652

RKB Elev.: 89'

Water Depth: 270'

A. Projected Total Depth:

11,500' in Triassic

B. Anticipated Formation Tops:

6,900'	Paleocene
7,530'	Danian-Cretaceous
9,900'	Lower Cretaceous
10,200'	Jurassic Sand
10,400'	Triassic
11,500'	F.D.

C. Principal Objective Horizons:

1. Paleocene sands could be developed here, but were tested and found tight in 7/8-1.
2. Danian-Cretaceous chalk had porosity in 7/8-1, but was wet on DST.
3. Jurassic sands, if developed, should have ± 500' of closure.
4. Triassic sands could be oil bearing, especially if overlain by Jurassic shale.

N.B. The logging depths on this prognosis may be modified in line with the casing depths. (see item k)

Continued

D. Logging Program:

Run 1	1500'-4000'	BHCS-GR/cal (Run GR up to sea floor); IES
Run 2	4000'-7500'	BHCS-GR/cal; IES
Run 3	7500'-F.D.	BHCS-GR/cal; IES; CVP; SMC; HDT; FDC and SNP over zones of interest.

* If considered advisable by wellsite geologist.

** From F.D. to a depth picked by wellsite geologist.

E. Distribution of Log Field Prints:

1. One septa for Oslo Office.
2. One paper print for Stavanger Office.
3. One paper print for rig.

The original films stay with Schlumberger in Stavanger until the end of the well. Films will then be sent in final form to the Oslo Office.

F. Casing Program (See Drilling Prospectus for details):

20"	1,500'
13 3/8"	4,000'
9 5/8"	7,500'
7" liner	11,500' (if required)

G. Sample Program:

1. Catch 8 sets of washed and dried samples from below 20" casing at 1,500'. Catch samples at each connection (approx. every 30') down to 7,000', then at 10' intervals, if possible, to F.D. The geologist may call for 5' intervals through zones of interest. Store all samples on rig until well reaches F.D., then send them to Stavanger shorebase for storage and distribution. Samples should be sorted into 8 complete sets prior to shipping to Stavanger.
2. Catch 2 sets of unwashed samples at 30' intervals from 4,000' to F.D. Put these in plastic bags for shipment to:

A) Robertson Research. Ship weekly in metal ammo boxes.

B) Norges Geologiske Undersøkelser. Put these in core boxes marked "Kontinental Sokkelen" and store them on rig until T.D. is reached, then ship to Stavanger shorebase.

*The wellsite geologist will alert Stavanger shorebase whenever samples are due to arrive, by boat or helicopter.

H. Anticipated Cores and Tests:

1. Conventional coring is not anticipated, but a core barrel should be made available in case of need.
2. Sidewall cores will be considered in zones of interest.
3. DST's should be made in all zones having significant hydrocarbon shows. Testing will be through perforations in casing.

I. Anticipated Hole Problems:

1. High pressure, heaving shales are possible in Tertiary strata down to the top of the chalk.

2. Gas increase may be encountered below the chalk in Jurassic shales and/or sandstones.

J. Daily Geological Reports:

A daily geological report will be given in code to the Oslo Office between 8:30 and 9:00 A.M. This should be called in to C. Arcillise.

Home telephone for weekends and nights: C.S. Sanders 14 42 01 C. Arcillise 24 56 47

K. Miscellaneous:

Detailed wellsite instructions will be given separately to those concerned.

Sub-Division
Of Blocks

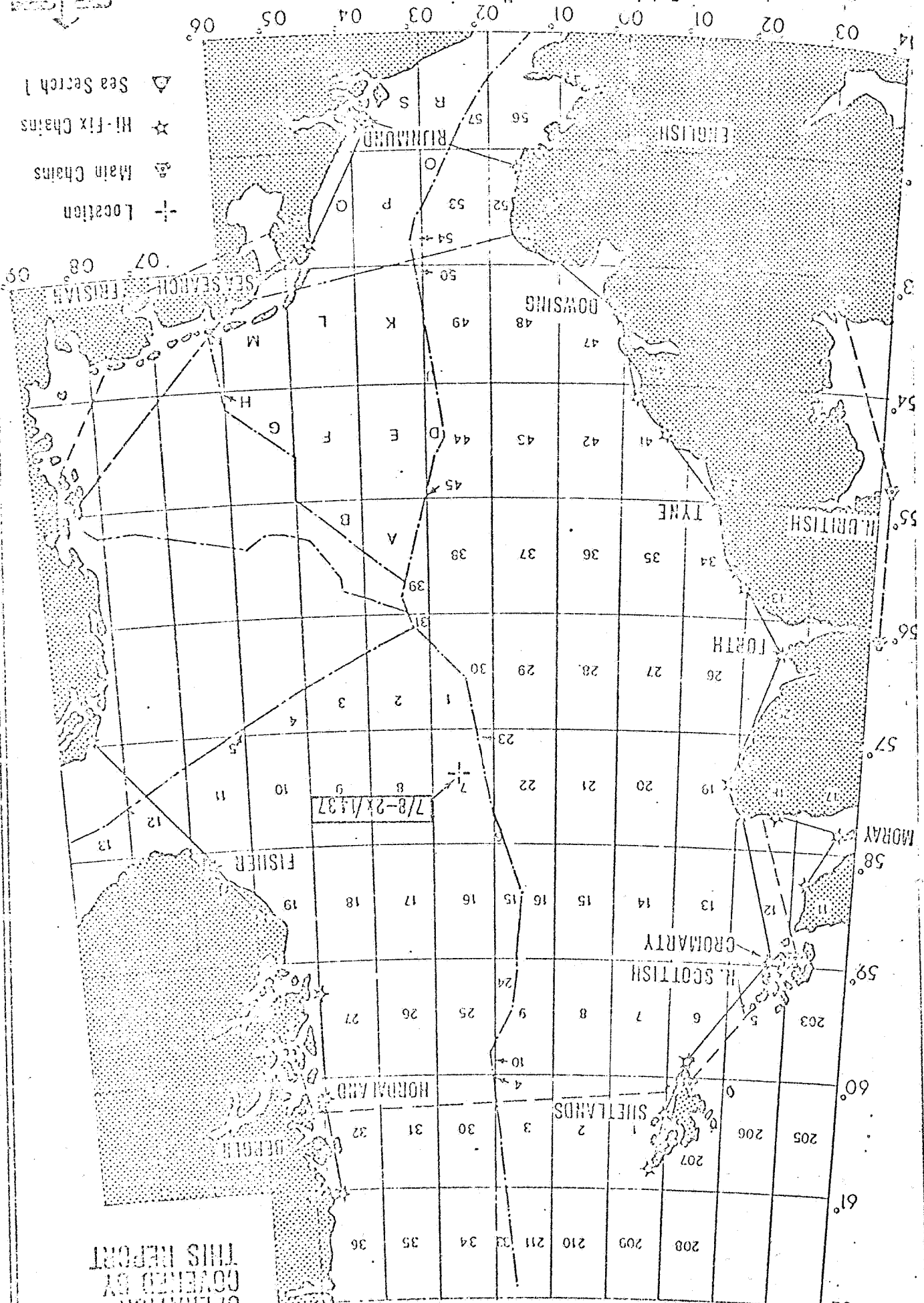
6	5	4
3	2	1

3	2	1
6	5	4
9	8	7

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



- △ Sea Search 1
- ☆ Hi-Fix Chains
- ⊕ Main Chains
- ⊕ Location



LOCATION OF
CREATION
COVERED BY
THIS REPORT

57° 23' 39.349" N
02° 35' 30.214" E

Location
of 7/8-2X

WELL No. 7/8-2x

MEASUREMENT FROM 355' RKB

CASING RECORD

CASING						CEMENT				CASING PULLED	
DATE Day/No/Yr	SIZE Inches	WEIGHT lbs/ft	COND. & GRADE	AMOUNT RUN ft.	DEPTH SET ft.	SACKS No.	TYPE	DEPTH OF PLUG ft.	TOP IN ANNULUS	AMOUNT ft.	DATE Day/No/Yr
25/7/73	30	309	1, 1" wall	124	470	1000	Class "B"	439	Surface	27	29/8/73
28/7/73	20,	133	1, J-55	1088	1434	2000	Class "B"	1392	"	29	28/8/73
3/8/73	13 3/8	68	1, J-55	3621	3968	3900	Class "B"	3213	/"	37	28/8/73
11/8/73	9 5/8	47	1, N-80	6916	7359	3200	Class "B"	7149	"	49	28/8/73

DAILY REPORT DETAILED

LEASE

7/8

WELL NO.

2

SHEET NO.

1

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

24th July, 1973
PTD 0

3 hrs.
9 1/2 hrs.

Under tow to 7/8-2

Waiting on Decapboat Galaway Blax
Blaxer arrived at 1420 23rd July.
Ran buoy pattern. Replaced pendant
wires on anchor No. 5 and 7 repair
Kelly spinner changed swivel pack
ing changed hose from red to green
standpipe changed bodies on bottles
inside choke and top outside kill
valves on 13 3/8 BOP stack.
Made approach to location and drop-
ped. anchors No. 6 and 7
Running anchors 5, 8, 3, 2, 4, and 1
using tug s benny and Michael.
Getting and anchor handling boats.
Reran anchors 6 and 7 tested all
anchors.
Released tug wrestler from centre
tow line to release other tow line
Pumped barge to 80 drilling draft
and now waiting on Hi-fix survey
now picking up BHA.

6 hr.

25th July, 1973
PTD 467

Retensioned anchors picked up BH

Mixed spud mud while waiting for
Deca hi-fix pattern 1.655.93
pattern 2.359.48 Int 57.23.39.34
Long 02 35' 30.2-110' 28 meters
intended location.

1/2 hr.

6 hr.

With spudded in at 1200 noon 24/7
Drilled w/26" bit opening hole w/
hole opener to 467 RMB last 15's
Spotted 100 bbls viscous mud made
short wiper trip

1 hr.

5 1/2 hr.

Spotted 200 bbls viscous mud mess
out of hole no correction
Rigged and ran 2 fts 30" 309 lb/
casing and phase 3 guide base w/
guide and UV lines on 30" snap-
20 auto loc 7 3/4" bumper sub 15'
7 3/4" DC and 5" DP using 88' 5"
stringer (no bridges) Baker float
set at 467 RMB.

1/2 hr.

1/2 hr.

Circ w/ seawater.
Bl cemented w/1000 sx class B.W.
Cat chl. 5.9 ppb; slurry; mixed w/
water. Displaced w/10 bbl sea wa-
ter. Job complete at 0230 hrs 25/7/73

3 1/2 hr.

Released 30" snap loc POCH laid
down landing string unable to
lease 20" auto loc laid running
on cat walk made dive recovered

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

2

SHEET NO. 2

2

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

25th July, 1973

PTD 467 (continued)

cement sample, found guide base at 3' above sea bed.

26th July, 1973

PTD 1381

1 hr. Finished laying down 36" BHA

2 hrs Made up 26" BHA SLM white GIN. Stab

into 30" hanger at 346 RKB tagged to

of cement at 439 RKB.

3 hr. Drilled 29 cmt (hard) and shoe set

470 RKB.

7 1/2 hr. Drilled 26" hole to 765

2 hr. Made short trip to reposition bumper

sub.

8 1/2 hr. Drilling 26" hole to 1381.

1 1/2 hr. Drilling 26" hole to 1476.

1 1/2 hr. Circ w/ seawater then spotted 250 bl

11.0 lb. Viscous mud and pulled bit

30" csg. shoe took SLM no depth

correction necessary.

2 hr. Conditioned mud in pits and build m

volume.

19 hr. WOV 55mph winds 28 seas.

4 hr. Finished WOV max wind 50 knots sea

while WOV tested 20 BOP 2000 psi rei

latch dogs from 20" hanger.

1 hr. WIH.

2 1/2 hr. Washed bridge from 1252-1476 spotte

800 bbl viscous mud.

3 hr. POOH laid down BHA and 8 jts X-105

3 1/2 hr. Made up 20" landing jt/B.J. cement

on running tool rigged up to run 20"

pumped thru shoe and collar jts.

8 1/2 hr. Ran 28 jts 20" 133 lb/ft casing w/V

L conn. on 7 3/4" bumper sub & X105

Weatherford positive centralizer for

to inter 30" well head, pulled and

reran casing w/o positive centralizer

Howco shoe and collar at 1434 1392

Row type centralizers as per program

filled casing w/seawater while iron

1 1/2 hr. Rigged up surface lines BJ pumped

4 Is seawater and cemented w/1000 ex

B w/8% gel followed by 1000 ex clas

heat mixed w/seawater slurry 13.1.8

15.5 ppg BJ displaced w/10 bbls wat

shearing top plug w/1000 psi displa

354 bbls seawater w/2 rig pumps dis

hump plug. Released pressure, float

OK. Job complet at 0600 hrs. 28/7/73

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 3

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

29th July, 1973
PTD 1476

1 1/2 hr.

2 hr.

1/2 hr.

3 hr.

8 1/2 hr.

8 hr.

1/2 hr.

4 hr.

3 hr.

3 hr.

3 1/2 hr.

1/2 hr.

1/2 hr.

3 hr.

1/2 hr.

5 hr.

Released and pooh w/20" running tool
Moved 20" Hydril on test stump to
sliding beams.

Tested hydril to 2000 psi Held OK
Picked up and attached running tool
20" hydril. Removed test stump and
installed new Laurent ring in lower
connector. Installed new slotted sh
base below hydril.

Ran jet sub on 5" DP stabbed into an
cleaned well head POOH w/jet sub. Ran
hydril BOP stack choke and kill line
w/jet sub. Ran hydril bop stack, ch
and kill lines with 20" running auto
lock 7 3/4" B. Sub and one stand of
7 3/4" collars and 5" D. pipe latched
bottom autolock and pull tested w/100
lbs above wt. of D pipe closed hydril
and tested csg and autolock at 1000
held OK. POOH w/ running auto lock.

Ran 24" mud riser latched autolock
BOP stack and pull tested to 100000
OK nipple up cellar deck. Filled w
Cans w/ 18-20 lbs mud.
Picking up 20" test plug to run initi
BOP test.

Made two trips w/ test plug damaged
rings on first trip installed stand
and DP below test plug on second tri
Made initial BOP test 2000 psi.
Made up 17 1/2" BHA WITH tagged top of
cement at 1326 RAB.

Dilled top plug cement and baffle co
ar at 1392 and cement to 1407 tested
casing w/1000 psi. finished drilling
cement displaced water w/ mud drilled
shoe at 1434 washed 26" open hole to
1476.

Dilled to 1919.
Dumping and cleaning Possum belly.
Dilled to 2008
Circulating out mud rings working on
vlave under possum belly.

Dilled to 2452
Circulating out mud rings dumping po
belly
Drilling at 2928.

30th July, 1973
PTD 2928

DAILY REPORT DETAILED

LEASE

7/8

WELL NO.

2

SHEET NO.

4

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

31st July, 1973
PTD 3831

5 hr.

Drilling 1 1/2 hrs circ out big mud rin

1/2 hr.

Drilled.

1/2 hr.

Circ out mud ring 3338

1 hr.

Drilling.

1 hr.

Circ out mud ring 3395

1/2 hr.

Drilling

1/2 hr.

Circ out mud ring 3428

1 1/2 hr.

Drilling W/controlled penetration ra

1/2 hr.

60 ft/hr.

1/2 hr.

Circ out mud ring 3484

3 1/2 hr.

Drilling

1/2 hr.

Circ out mud ring 3638

4 hr.

Drilling.

1 hr.

Circ out mud ring conditioned hole

1/2 hr.

Dropped totco

2 hr.

POOH SIM over pull from 50-125,000 I

1st August, 1973
PTD 4000

3 hr.

Drilling to 4000

6 1/2 hr.

COOH all BHA and collars balled up

2nd August, 1973
PTD 4030

1 1/2 hr.

Finished running sonic GR log from

3985 to 1435 POOH lost logging tools

5 hr.

stabilizer (75% rubber 25% metal

2 hr.

Washed out BOP and 20" csg to 1344 w

2 hr.

hole jet sub. POOH

2 hr.

Rig up 13 3/8" csg running tool w/16

2 1/2 hr.

3/4" rubber stab bumper sub and jt

2 1/2 hr.

X-105 drill pipe on 13 3/8 casing hr

2 1/2 hr.

er. Loaded BJ cmts plugs and set ass

2 1/2 hr.

W/17 1/2 bit and BHA no fillon bot

2 1/2 hr.

Circ and cond. hole.

1 hr.

RU to run csg.

7 hr.

Running 13 3/8 casing 15 joints rem

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 5

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

3 hr.

3rd August, 1973
PTD 4000

Finished running 94 jts. 13 3/8 68 1
55 STC range 3 casting. float coil
at 3928 float shoe at 3968. Weath.
scratchers and centre. ran as per
procedure.

1/2 hr.

RU BJ Lines and cmtg head.
Circ. Casting vol and recipr csg 6
Cemented csg w/200 sxs 13.5 lb
B cmt. followed by 3700 sxs B cmt-15
lb using fresh water sheared top pit
w/2200 psi pumped in 10 bbls. Water
followed by 2620 strokes mud pump d
lacement. Did not pump plug. Release
press. Plug held OK job complete 130
2/8/73

2 1/2 hr.

Washed BOP mud riser ad choke and ka
lines. Released 12 5/8 running tool
POOH ran jet sub washed bop stack at
well head. Closed hydrill. Observed
no press. build up.
POOH w/jet sub pull 24" riser.
Pull choke and kill lines
GIH w/20" auto lock 1 std collars B
sub and 5" D. Pipe latched auto lock.
Released lower auto lock (below Hydr
pulled 20" BOP stack Now running 13
BOP stack.

8 hr.

5 1/2 hr.

1 1/2 hr.

2 hr.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 6

4th August, 1973

1 1/2 hr.

8 hr.

9 hr.

5 1/2 hr.

Finished pulling 20" Bop stack, se
 on skid beams, tested w/2000 psi.
 moved and secured on cellar deck.
 Ran jet sub, and washed top of well
 head. Rigged and ran aux wellhead
 w/ long stinger. Divers cleaned
 and checked wellhead, latched auto
 loc on aux wellhead, pull tested
 w/100,000 lbs, pressure tested
 w/ 2500 psi, released pressure,
 divers closed hydraulic valve on
 auto-loc, trapping 1000 psi, dis-
 connected hose. Released running
 tool, POOH.
 Moved 13 5/8" Bop stack to skid
 beams, tested blind rams, pipe ram
 choke and kill lines to 5000 psi,
 hydrill to 2300 psi. Rigged and re
 BOP w/ long stinger, pipe rams etc
 on safety stinger, latched auto-loc
 pull tested w/ 100,000 lbs, pressure
 tested w/ 2500 psi, OK, detected
 small leak on TV while building up
 press. Checked several times, see
 would leak at 1000 psi and stop at
 1500 psi.
 Released & pulled Bop stack, choke
 & kill lines to cellar deck,
 changed Laurent seal to rubber seal
 divers checked wellhead, re-ran Bop
 stack.

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 7

NATURE OF WORK PERFORMED	TOTAL DEPTH	DATE
--------------------------	-------------	------

Ran BOP. Latched and pull teste to 100,000 lbs. Tested casing and hop to 2500 lbs. Held OK. Pulled and laid down running tool joint. Ran flex jt. and one jt. of riser - 16".

Dropped starboard side crane when brake failed to hold during off-loading operations. Bent bottom section of crane boom. Cut hole in mud room and moved mud riser to port side crane for transfer to catwalk.

Finished running 16" mud riser. Pull tested to 100,000 lbs. Nipped up cellar deck.

Ran test plug and tested bottom pipe rams and inside and outside kill line valves. Test plug OK. Ring leaked. POOH. Changed O-rings. Retested same to 5000 ps Held OK.

Ran long bore protector and nipped up cellar deck.

Picked up 12 1/4" BHA. Stripped 32'. Drilling time. GIH to top of cmt. at 3213'. Drilled plug and cement. Now drilling cement.

Drilling GMT. to 3232'. POOH. Layed down stabilizers and repositioned bumper sub to 6 D. Collars above bit. Drilling 750' cmt. float collar (3928') & shoe (3968'). Drilled to 4000'. Pulled bit into 13 3/8" CSG. and pressure tested formation to 1000 psi. Formation held OK. Drilling formation.

6th August, 1973

1 1/2 hr.
2 1/2 hr.
4 1/2 hr.
2 hr.
2 hr.
1 hr.
1 1/2 hr.
1 1/2 hr.
1 1/2 hr.
10 1/2 hr.
1/2 hr.
1/2 hr.
1 hr.

5th August, 1973

DAILY REPORT DETAILED

LEASE

7/8

WELL NO.

2

SHEET NO.

8

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

7th August, 1973

11 hr.

1/2 hr.

12 hr.

1/2 hr.

Drilling to 5027'.
Circ out small mud ring.
Drilling to 5853'.
Circ out before trip for new bit

8th August, 1973

7 1/2 hr.

4 hr.

5 hr.

1 hr.

6 1/2 hr.

POOH slowly, 80,000 to 100,000 lbs over pull from 5000' to casing shoe. Cleaned entire BHA, Drill collars 75%, Bit & stabilizers 100% balled up. GIH, washed & reamed from 5716' to 5853'.
Drilled from 5853' to 6160'.
Changed swivel packing.
Drilled from 6160' to 6498'.

9th August, 1973

1 1/2 hr.

4 1/2 hr.

1/2 hr.

7 1/2 hr.

1/2 hr.

Finished changing liner packing in no. 1 pump.
Drilled from 6498-6672'.
Changed liner packing in no. 2
Drilled to 7027'.
Changed liner packing in other side of no. 2 pump.
Drilled to 7175'.
Disconnected and cleaned out plugged flow line.
Drilled to 7192'.
Changed swivel packing.
Drilling at 7220'.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 9

NATURE OF WORK PERFORMED

TOTAL
DEPTH

DATE

10th August, 1973

7 1/2 hr.

2 hr.

6 hr.

7 1/2 hr.

1 hr.

Drilling from 7220 to 7400.
 Circ. and Cond. Hole for Logging.
 Dropped Totco. POOH. BHA was
 clean. SLM- No correction.
 (12' deeper but strapped out in
 40 MPH wind)
 Rigged up Schlumberger. Ran IES.
 Stopped at 172'. POOH.
 Circulated through choke and kill
 lines to clean mud riser. Ran
 IES from 7412 to 3974. BHC-GR-Cat
 from 7412 to 3974.
 Picking up 9 5/8" Running tool.
 hanger. and BJ Cementing tools.

DAILY REPORT DETAILED

LEASE 7/8

WELL NO. 2

SHEET NO.

10

NATURE OF WORK PERFORMED

TOTAL
DEPTH

11. August 1973

NATURE OF WORK PERFORMED	TOTAL DEPTH	DATE
Assembly 9 5/8 running tools B.J. CMT. Plugs hanger JTS G.I.H. Bit no. 6 RR. Circ & cond. hole to run 9 5/8 CSG. Recoverer large amount clay over shakers. P.O.O.H.	1 1/2 hrs. 3 1/2 hrs. 1 1/2 hrs.	11. August 1973
Attempted to pull long well bore no success do to clay inside 16" mud riser 20000lbs. Pull retrieve tool. Slip drig. line finish P.O.O.H.	1 hrs. 3 1/2 hrs.	11. August 1973
get clean 16" mud riser w/ 9 1/2 jet sub. Ran stringer & 2 Std 7 3/4 D.C. Below bore protec retrieve bore protector stand back D.C. 5" DP. string.	1 1/2 hrs. 1 1/2 hrs.	11. August 1973
Rig to run 9 5/8" CSG. circ. shoe float jts. Running 9 5/8 2 CSG.	1 hrs. 1 1/2 hrs.	11. August 1973
Change out spider slip segmen wore out. Running 9 5/8 2 CSG. 70 jts.	3 1/2 hrs.	11. August 1973
to get off do to being bent hole 0600 CSG. protectors have handling and some threads are rusty.	8 hrs.	11. August 1973
Ran total of 182 jts. 9 5/8 cs 67 lbs N80 Rng. 3, Baker flo and guide shoe. Baker Pedal Basket. Weath. scratchers an centr. as per program. Shoe at 7359 RKB. Float collar se at 7318' RKB.	1 hr.	11. August 1973
Circ vol. of csg. Reciprocate 6' while circulating. Using seawater, Bf Cmt. CSG. 200 sxs B Cmt. w/ 4% R5 Retard this wash slurry weighed 13.5 / gal. Followed by 3000 sxs Cmt. w/ 4% R5 Retarder Weigh 15.6lbs/gal. Reciprocated w/ stroke while cmts. Continued until 10 BBLs prior to bumpin plus. Top ping sheared w/ 18 pst. Followed top ping w/ 10 BBLs water. Displ. w/ 506 BE mud using rig pumps. Stayed full. Landed hanger. Did no bump ping. Released pressure BPV held OK. Job complete	2 1/2 hrs.	11. August 1973

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 10a

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

12. August 1973

12 1/2 hrs.

Circ thru choke and kill lines
 Recovered some shale but no cement. 200H w/ 9 5/8" running tool. Ran jet sub and cleaned wellhead & BOPs. Ran 9 5/8 x 13 3/8" Natl. Pak-off Assembly. Ran short bore protector and test plug on 5" D. Pipe. Shear red off of bore protector and tested pak-off, lower pipe ram and choke & kill valves to 500 psi. Held OK. Found leak in swidge in cellar deck kill in. Layed down 7 5/8 collars while Rprg. Leak in 2" x 4" swedge. Reran test plug and finished BOP Test. Hydril tested to 250 psi. Other BOP's tested to 500 psi. All BOP's held OK. POOH w/ test plug. GIN installing pipe rubbers. Hit top Cement plug at 7149. Drilled top plug and firm cement Baker float collar was at 7318 Drilled firm cement to 7312. Tested casing to 2000 psi. OK. Drilled 1/2" hole to shoe at 7359. Washed hole to 7400' RKB. Drilled 8 1/2" hole to 7410. Pulled up into 9 5/8" CSG. Formation pressure test. Pres. ured formation w/ 925 psi at 7410. Bpm rate in stages of 100 to 925 psi increments. Held 925 psi Used 5 BBLs, mud for compress. BHP was equal to hole full of 14.3 lb. mud. Hydril and chok and kill line valves held OK. Drilling from 7410' to 7525' 8 hrs.

8 hrs.

3 1/2 hrs.

5 1/2 hrs.

7 hrs.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO.

11

August 14, 1973

DATE
TOTAL DEPTH

1 hr.	1 hr.
6 hrs.	1 hr.
1 1/2 hrs.	1 hr.
11 hrs.	1 1/2 hrs.
4 1/2 hrs.	4 1/2 hrs.

NATURE OF WORK PERFORMED

Drilling with bit no. 7
POOH changed bits R.I.G. to shoe.
Cut 96 ft. of drill line & slipped line 32 ft.
Finished trip in hole
Drilling with bit no. 8
POOH to change bits.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 12

August 15, 1973

TOTAL
DEPTH

1 1/2 hrs.
22 1/2 hrs.

Fin. GIH
Drilling

NATURE OF WORK PERFORMED

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO.

13

August 16, 1973

1 1/2 hrs.
7 hrs.
15 hrs.

Drilling
POH and GIH w/ new bit,-
no hole problems
Drilling

DATE
TOTAL
DEPTH

NATURE OF WORK PERFORMED

000

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 13

NATURE OF WORK PERFORMED	TOTAL DEPTH	DATE
Drilling	3 hrs.	August 17, 1973
POH	2 hrs.	
Slip drilling, Line 30',	1/2 hr.	
Finished POH, changed bit & GIH	4 hrs.	
Changed swivel packing.	1 hr.	
Drilling.	13 hrs.	

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 14

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

August 18, 1973

1 hr. 7/2 hrs.

Drig.

Trip for new bit - broke and dored all D.C. and Su

August 19, 1973

1 5/2 hrs. 24 hrs.

Drig. Drilling

August 20, 1973

24 hrs.

Drig.

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 15

NATURE OF WORK PERFORMED

TOTAL DEPTH DATE

August 21, 1973

3 1/2 hrs.

2 hrs.

9 1/2 hrs.

1 hrs.

5 1/2 hrs.

2 1/2 hrs.

2 hrs.

3 hrs.

2 1/2 hrs.

1 1/2 hr.

2 1/2 hrs.

5 hrs.

8 1/2 hrs.

4 1/2 hrs.

August 22, 1973

4 hrs.

2 1/2 hrs.

2 1/2 hrs.

5 hrs.

8 1/2 hrs.

August 23, 1973

4 hrs.

6 hrs.

1 1/2 hrs.

1 1/2 hrs.

1 hrs.

2 hrs.

3 1/2 hrs.

Drilling 9382 to 9437.

Short trip no drag.

Drilling 9437 to 9382.

Circ. bottoms up.

Dropped Totco and POH -

broke and doped all D.C.

GIH w/bit ~~XXXXXXXXXX~~

setx slip drilling line

changed out bumper sub

Finished GIH, washed 2 ft

to bottom.

Drilling 9542 to 9592, 1

10' drilling break.

Circ up samples

Drilling 9592 to 9610, 1

4' drilling break.

Circ up samples, cond hol

for logs.

Totco and POH, slm no cor

Logging, Schl TD 9618, 1

9617 to 7359.

Schl. logging - depmeter

9617 to 7359. Ran FDC,

Stuck at 8917, worked in

tool not operations propo

GIH w/bit no. 13.

Drilling 9610 to 9710.

Circ. and cond. mud

POH

Slip and cut drilling in

Finish POH

Schl. logging -- FDC 9712

to 7700.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO.

18

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

August 24, 1973

1 hr.	1 hr.	GIH w/ BHA and test plug
1/2 hr.	1/2 hr.	Ran weekly BOP test at 2500 psi - ch, pulled and test plug.
1/2 hrs.	1/2 hrs.	GIH to 9 5/8" shoe.
1 hr.	1 hr.	Ran formation pressure test, pumped in w/ 750 at 0.3 bpm, held 5 min; 510 psi.
1 1/2 hrs.	1 1/2 hrs.	Finished GIH and washed 60'.
8 1/2 hrs.	8 1/2 hrs.	Drilling 9710' to 9829' last 10' drilling break
1 hr.	1 hr.	Circ up samples.
1 hrs.	1 hrs.	Drilling 9829 to 9863'.
1 hr.	1 hr.	Started POH for bit cha
		Geologist wanted to log GIH to bottom.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO. 2

SHEET NO. 16

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

August 25, 1973

1 1/2 hrs.

3 1/2 hrs.

4 1/2 hrs.

7 hrs.

4 hrs.

3 hrs.

1 1/2 hrs.

1 1/2 hrs.

1 1/2 hrs.

2 hrs.

1 1/2 hrs.

2 1/2 hrs.

8 hrs.

3 1/2 hrs.

2 hrs.

1 1/2 hrs.

1 1/2 hrs.

3 hrs.

August 27, 1973

August 26, 1973

August 25, 1973

Circ and condition hole.
 POH
 Logging Schlumberger to
 9862', IES 9862/9613',
 GR/Sonic 9862/9613.
 L.D. 15 16 1/2 D.C. Clean
 Auto Loks while W.O. SSL
 R.U. and checking out SS
 equipment.
 Running VEL. Survey 200
 4000', 5500', 6770', 77
 8720', 9229', 9590', 984
 R.D. Schlumberger and SS
 GIH w/ open ended DP.
 Finished GIH w/ DP open
 ended to 7559'.
 Mixed and spotted 133 sx
 Class B 15.6 ppg, 7559'
 7159', pulled 6 stds at
 reversed out at 0900 hrs
 POH
 Schl. Ran and set Howco
 Drilling squeeze packer
 4000', R.D. Schl. Press
 tested w/ 1500 psi - OK
 GIH w/ D.P. Open ended
 4000', mixed and spotted
 200 sxs. Class B cnt.
 15.6 ppg at 4000' to 341
 pulled 8 stds and reverse
 out at 1500 hrs.
 L.D. 5" D.P. and 6 1/2" (1
 D.C.
 Displaced 16" Riser w/
 water, jet cleaned BOP
 stack, P.U. contd. retrid
 tool and retrieved bore
 protector, 9 5/8" pack-
 L.D. samecontd.
 N.d. Choke and kill line
 and layed down same.
 R.D. Flow line, R.U. to
 pull riser and now pull
 riser.
 Pumped diver to free PO
 Hose.
 Finished pulling and L.
 16" mud riser.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO.

2

SHEET NO.

17

TOTAL
DEPTH

DATE

August 27, 1973

6 1/2 hrs.

M.U. Rubber nose retaining
on auto lock and GIH on
7 3/4" Bumper Sub, 1 std
7 3/4" DC, and D.P. late
onto 13 5/8" stack and
pulled w/ 250,000 lb, CLOS
rams on safety stringer,
released auto lock and
pulled stack. Tested st
w/ 5000 psi and Hydril w
2500 psi, OK. Secured
stack on cellar deck.
4 hrs. GIH w/jet sub and stringe
as above. UTV went out,
unable to repair. Tried
other cable, N.G.
4 hrs. Install 2 man guide and r
in w/ same BHA, made div
stabbed auto-lock w/ div
assistance. Pulled and
tested w/ 200,000 psi.
diver connected control
hose, released aux. well
head, pulled and L.D. sa
P.U. 7 3/4" D.C. and sta
back in derrick, P.U. 9
" A-1 casing cutter, spa
sub, 1 Hoint 5" D.P. ar
marine swivel. Ran thro
rotary table and now har
ing off above sea level
W.O. UTV Man - preparing
rig to move to new locati
seaman arrived at 0315
8/27 Yorkshiraman arrive
at 0500 hrs. 8/27 Super
Inroute.

3 hrs.

2 hrs.

4 hrs.

4 hrs.

DAILY REPORT DETAILED

LEASE 7/8 WELL NO. 2 SHEET NO. 19

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

August 28, 1973

3 1/2 hrs.

Repairing UTV - Transform burned out.

2 1/2 hrs.

GIH with 9 5/8" cutting cut 9 5/8" at 415' RKB DO

5 1/2 hrs.

P.U. Spear GIH and retr. 49' 9 5/8" CSG. GIH w/ csg. cutting tool 13 3/8" at 403' RKB FOR P

5 1/2 hrs.

Spear GIH and treived 37' 13 3/8" CSG. GIH and cut 20" CSG at 39

4 1/2 hrs.

29' 20" CSG. P.U. 27 joints 3 1/2" tubing 823', GIH, M.U. 30" Cutti

tool and P.U. 30" Snap to w/ 20" Auto lock.

DAILY REPORT DETAILED

LEASE

7/8

WELL NO.

2

SHEET NO.

20

NATURE OF WORK PERFORMED

TOTAL DEPTH

DATE

August 29, 1973

18 1/2 hrs.

Finished GIH w/ 30" cutter
 tool cut 30" at 384', at
 pted to pull 30", could n
 pulled to 400,000lb, POH,
 checked cutters, indicati
 CSG cut, L.D. stab and m
 cutter up hole, WIH, ate
 ted to cut casing, broke
 blade on cutter, POH, re-
 dressed cutter, WIH, unat
 to cut casing in old cut,
 POH, PU stab below cutter
 and changed to longer bla
 WIH sut CSG at 373' RKB I
 w/CSG. and L.D. same.
 Cmt w/ 600 sxs Class B,
 15.6 pps, from 823' to so
 bed.
 jumped diver, checked sea
 and cut off CSG, all clea
 Pumping barge to towing
 Level hooked tug Yorkshir
 man to center tow line.

1/2 hr.

1 hr.

4 1/2 hrs.

Production Licence 088

Phillips 7/8-2

WELL COMPLETION REPORT

CONFIDENTIAL

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SUMMARY

Phillips 7/8-2

Exploratory

Block 7/8 License 088

ODECO (Ocean Viking)

57° 23' 39.349"N, 02° 35' 30.214"E

266' (81.1 meters)

355' (108.2 meters) above ~~sea~~ ^{floor}

Objective:

To test as primary objectives, the sands of Paleocene, Jurassic and Triassic and as a secondary objective the Danian-Cretaceous limestone.

Results:

No shows of hydrocarbon were encountered

Status:

Plugged and Abandoned

Total Depth:

9863' (3006 meters)

DRILLING HISTORY

Dates of Operations

Spud

July 24, 1973

At total depth:

August 24, 1973

Completed:

August 29, 1973

Depth	1/500	1/200	
1,436' - 9,861'	x	x	IES
1,436' - 9,859'	x	x	BHCS
Sea Floor - 9,859'	x	x	GR
7,700' - 9,812'	x	x	FDC
1,500' - 9,863'	x		MUD
4,000' - 9,863'	x		LITHOLOGY
7,363' - 9,616'		x	HDT

LOGGING PROGRAM

DEPTH	WEIGHT	VISCOSITY	PV	YP	WATER LOSS
0 - 1476 ft. (Sea water with periodic spotting of high viscosity mud)					
1476 - 2500 ft.	10.	42	14	7	4.2
2500 - 3831 ft.	11.2	42	17	8	6.7
3831 - 4000 ft.	11.	43	17	8	6.2
4000 - 7400 ft.	13.	56	28	17	4.2
7400 - 8350 ft.	12.	48	21	10	6.8
8350 - 8717 ft.	12.2	48	22	10	6.4
8717 - 9050 ft.	12.7	50	24	10	5.6
9050 - 9710 ft.	13.	50	24	14	4.8
9710 - 9863 ft.	13.7	50	26	15	5.5

MUD PROGRAM

HOLE DEVIATION

Maximum vertical deviation is 2 1/2° at 1476', 3° at 3831',
4° at 4000', 4° at 7400', and 4° at 9610'.

Lost Circulation

No lost circulation problems occurred.

Coring

No cores were taken.

Testing

No drill stem tests were run.

Plugging and Abandonment

The following cement plugs were set:

7559' - 7159'	133 sxs class "B" cement
4000' - 3426'	200 sxs class "B" cement
823' - Sealed	600 sxs class "B" cement

The casing was cut at the following points:

9 5/8"	at 415' RKB
13 3/8"	at 403' RKB
20"	at 395' RKB
30"	at 373' RKB

The seabed was returned to its natural state after spotting the top plug.

The Cero (7/8-2) well was drilled on a domal structure approximately 4 miles long by 4 miles wide, situated in the Tertiary Basin of the North Sea. It was estimated that at Paleocene depth there would be 15 square miles of closure with 450 feet of vertical relief and at Lower Cretaceous depth 10½ square miles of closure with 500 feet of vertical relief. The principal objective horizons were the Paleocene, Jurassic and Triassic sands with the Danian-Cretaceous limestone as a possible secondary objective.

The well had no shows and no drill stem testing was carried out.

In the Paleocene no sand beds were developed, although sand was present as a loose, unconsolidated constituent in most of the clays and shales.

The Danian and Upper Cretaceous limestones were tight. The Upper

Cretaceous section was 500' thinner than anticipated due to the erosion of the Cretaceous and Cenomanian formations at the base.

The Jurassic succession was encountered at 9,212' (-9,123') with a thick 85' sand being developed between 9,550' (-9,461') and 9,635'

(-9,546').

A thick 80' Triassic sand was present between 9751' (-9,662') to

9,831' (-9,742'). The Triassic section was thinner than expected, being truncated at 9,831' (-9,742') by the Permian Zechstein.

The well was abandoned in the Zechstein Anhydrite at 9,863' (-9,774').

As this well and the Chub (7/8-1) were dry, it is anticipated that

no future wells will be drilled on either structural crest. However, due to the presence of potential reservoir sands in this area, more

attention will be focused on the flanks of the structures as the

possibility does exist that stratigraphic entrapment of hydrocarbons

may have occurred off the structural crests. Perhaps the Basin may

be a study of the North Sea Jurassic System, presently underway,

will give a better understanding as to the sand conditions on the

flanks of the structures in this area of the North Sea.

FORMATION RKB SUB SEA THICKNESS

FORMATION	RKB	SUB SEA	THICKNESS
Eocene	6,253	- 6,164	928
Paleocene	7,181	- 7,092	499
Danian Marl.	7,680	- 7,591	82
Danian Limestone	7,762	- 7,673	245
Upper Cretaceous	8,007	- 7,918	711
Maastrichtian	8,007	- 7,918	454
Campanian-Santonian	8,481	- 8,372	221
Coniacian	8,682	- 8,593	36
Lower Cretaceous	8,718	- 8,629	494
Albian-Aptian	8,718	- 8,629	163
Barremian	8,881	- 8,792	176
Lower Barremian-Hauterlyvian	9,057	- 8,968	155
Jurassic	9,212	- 9,123	423
Kimmeridgian	9,212	- 9,123	48
Jurassic Undifferentiated	9,260	- 9,171	198
T. Liassic - Rhaetic	9,458	- 9,369	177
Triassic	9,635	- 9,546	196
Permian	9,831	- 9,742	32 +
Zechstein	9,863	- 9,774	

NB For a detailed lithological report, please see the composite and Lithology logs.