NORSK HYDRO

FINAL WELL REPORT

WELL 30/9-4

LICENCE 079

December 1985

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PREFACE

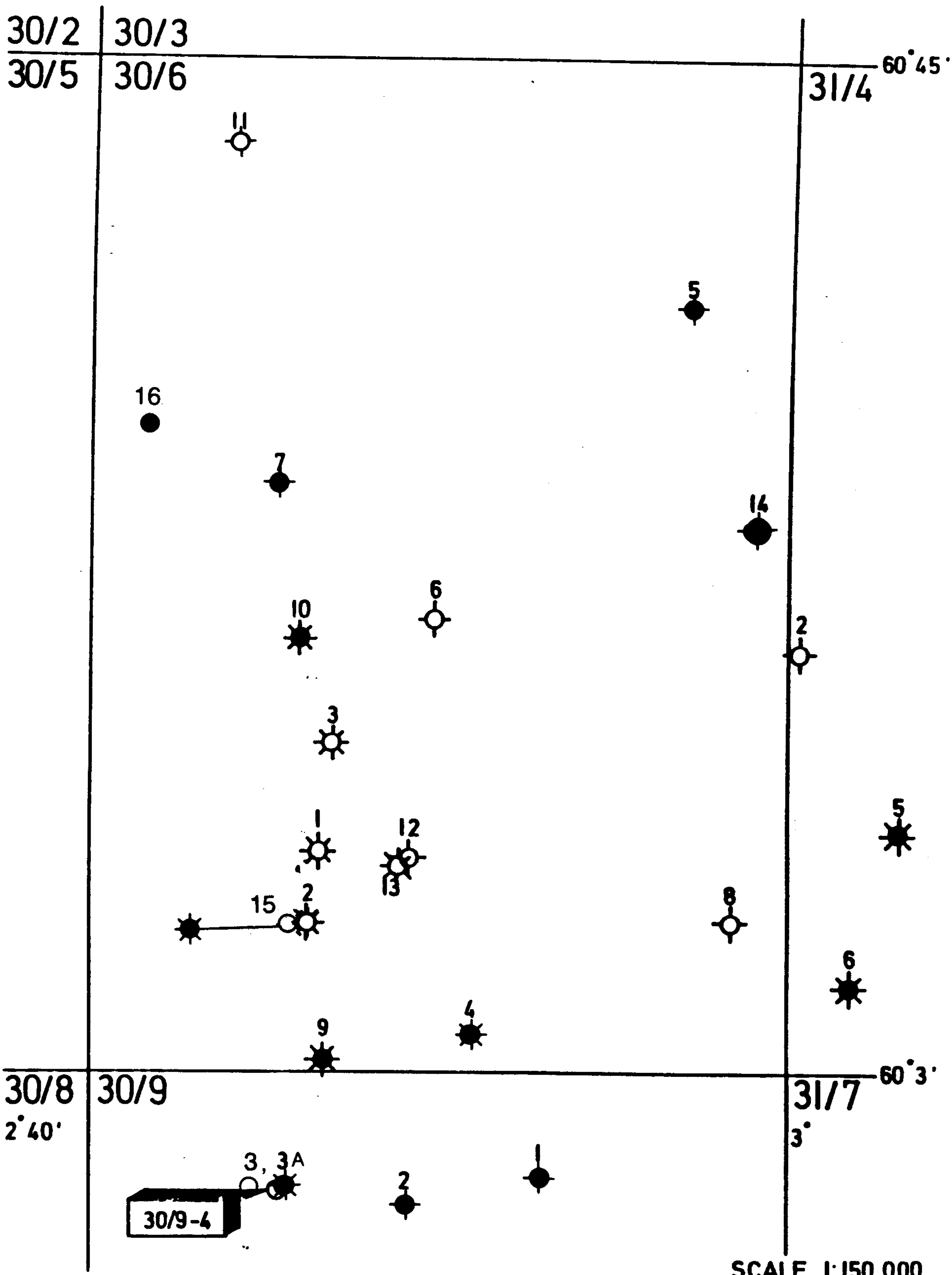
Licence 079 was awarded the Statoil/Hydro/Saga group in 1982 with Norsk Hydro Produksjon a.s. as operator. The licence includes the block 30/9 on the Norwegain Continental shelf.

The group consists of the following companies:

Den Norsk Stats Oljeselskap:	73,5 %
Norsk Hydro Produksjon a.s.:	16,0 %
Saga Petroleum a.s. :	10,5 %

The well 30/9-4 was drilled by Norsk Hydro Produksjon a.s. on behalf of this group.

II



Norsk Hydro Drilling Department	LOCATION MAP WELL 30/9-4	Gr. no.:	Fig.: 1
		Date: Sign: GS	Dwg. no.:

((((ooo) Norsk Hydro	General informations	..Date.. 19850903
	System : Boredata Sandnes	
	Well: 30/9-4 Field: OSEBERG	
	Structure: Gamma	1

Lic: 079 Country: Norway

LOCATION Coordinates		Surface-------->	Target-------->
UTM	N (m):	6703963.6	6704894.62
UTM	E (m):	486742.8	484635.86
Geographical	N :	60dg28'12.83"	60dg28'42".65
Geographical	E :	02dg45'32.05"	02dg43'13".85

Water depth :110 m
Formation at TD :TS

Operator :Hydro 16.0%

Partners, (interests) :Statoil 73.5%
:Saga 10.5%
:

RIG name :Treasure Seeker
RIG contractor :W. Wilhelmsen
MUD contractor :Anch. Drlg. Fluids
CEMENT contractor :Halliburton
EL.LOGG contractor :Schlumberger
MUD LOGG contractor :Exploration Logging
Other contractors:Eastman Whipstock

Total depth (m RKB) :	Measured	Vertical
	4303m	3577m

Rotary Table elevation : 25m

TIME SUMMARY Spudding date:221184 Abandonment date:300385

Operations:	Moving	Drilling	Form.eval	Losttime	Prod.test	PlugAban
Hours :	58	1206	487	713	613	72
Days :	2.4	50.3	20.3	29.7	25.5	3.0
% of total:	2	38	15	23	19	2

TOTAL : 3147hrs 131days

Hole and Casing record

Hole	Depth(m)	Casing	Depth(m)
36	222	30	221
26	630	20	618
17 1/2	1667	13 3/8	1648
12 1/4	3297	9 5/8	3275
8 3/8	4303	7	3558

Well status :Perm. abandoned.
:
:
:

SECTION A
GEOLOGY

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SECTION A

1. OBJECTIVES

Well 30/9-4 is located on the prospect "B" structure, which is an elongated and rotated fault block on the Western Flank of 30/9 bounded by faults in all directions. To the west, the Brent Group is truncated by the Base Cretaceous Unconformity.

The objectives of the well were to:

- Find hydrocarbon accumulation in the Brent Group, secondary in the Statfjord Formation.

- Leave no significant amounts of possible hydrocarbons in an updip, untested position.

- Penetrate the Brent Group in a position where the sand in the upper part of the Ness Formation is preserved.

- Verify the seismic interpretation of the area.

- Give input for further exploration activity on the Western Flank.

The total depth of the well was planned approximately 65 m into the Triassic at a depth of 5045 m MD RKB (± 150,) corresponding to 4100 m TVD RKB.

2. RESULTS

The well 30/9-4 encountered two seperate hydrocarbon reservoirs in the Middle Jurassic Brent Group.

No additional hydrocarbon bearing reservoirs were encountered by this well.

The very lower Ness Formation, the Etive Formation and the Statfjord Formation were found water bearing.

Thirteen conventional cores were cut in the well. Cores no. 1 - 3 (3332-3381 mMD, 2804-2841 mTVD) and 4 - 11 (3432-3500 mMD, 2883.5-2939 mTVD) were cut in the Upper Brent Unit and in the Ness Formation respectively. Core no. 12 (3580-3598.1 mMD, 3002-3016 mTVD) was cut in the Etive Formation and core no. 13 (4268-4277 mMD, 3546-3555 mTVD) was cut in the Statfjord Formation.

The Upper Brent Unit (3295-3379m MD (2773-2841m TVD) sandstones were found to be gas bearing, but no definite gas/fluid contacts were evident. The Ness Formation (3379-3551m MD, 2841-2979m TVD) proved to be oil bearing, but again no OWC could be discerned. Pressure data indicated no communication between the two hydrocarbon columns.

Lithologically, the gas bearing interval (3298-3379 mMD/ 2776-2841 mTVD) is comprised by predominantly sandstones with beds of coal and some claystone/siltstone. The sandstones range in grain size from very fine to locally pebbly, frequently with sedimentary structures as cross-stratification, ripple lamination, lenticular and flaser bedding and bioturbation and local burrows.

Net pay in the gas zone is estimated to be 27.6 m (22.1 mTVD). The average porosity was calculated to 18.6%, and the average water saturation (Sw) to 20.9%.

The oil bearing interval (3379-3549 mMD/2841-2978 mTVD) is comprised by interbedded sandstone, shale and claystone and minor beds of coal, siltstone and limestone. Individual beds are relatively thin in the middle section, and sedimentary structures are far more sparse than in the Upper Brent sandstones.

Net pay in the oil zone is estimated to be 10.9 m (8.8 mTVD). Average porosity is 22.2% and average water saturation is 33.2%. (Cut off values used in log calculations were Ø<12%, Sw = 50% and Vsh>40%).

RFT pressure recordings and sampling were performed through the Brent Group. A gas gradient of 0.239 g/cc is estimated for the Upper Brent sands. No conclusive oil gradient can be estimated for the Ness oil zone. A water gradient reading 1.02 g/cc is obvious for the Lower Ness and Etive Formations.

Two Production tests were performed in the Brent Group.

Production test no. 1 (3416.9-3422.9 mMD, 2871.4-2876.1 mTVD) is in the oil zone. The well produced through a 28.6 mm (72/64") choke oil at a rate of 783.2 Sm^3/Day (4926 STBD) and gas at a rate of $158.6x10^3 Sm^3$/Day. The GOR was 202.5 Sm^3/Sm^3 (1134 SCF/STB). The oil gravity was 0.8 g/cc (41.8 API) and 0.8 (air=1) for the gas. The wellhead pressure was 44 bars (638 PSIA) and the bottom hole temperature (BHT) was 111^{O}C (232^{O}F). The well produced 2.2% CO2 and no H2S.

Production test 2no. 2 (3311.3-3324.3 mMD/2787-2797.7 mTVD) was performed in the gas zone, and produced through a 25.4 mm (64/64") choke gas at a rate of $11.3x10^5 Sm^3$/Day ($40.0x10^6$ SCF/D) and oil at a rate of 333.9 Sm^3/Day (2100 STBD). The GOR was 3384.3 Sm^3/Sm^3 (19048 SCF/STB). The oil gravity was 0.8 g/cc (55.7 API) and the gas gravity was 0.7 (air=1). The WHP was measured at 139.6 bars

(2025 PSIA) and the BHT was 108.4^{O}C (227^{O}F). The well produced 1.5% CO_2 and 0.8 ppm H_2S.

The well was drilled to a total depth of 4303 mMD RKB corresponding to 3577 mTVD, close to 100 m into the Early Jurassic Statfjord Formation. At TD the offset from the wellhead was approximately 2094.7 m to the west and 64.2 m to the north.

Full details on the RFT recordings and Production tests can be studied in a separate report: Formation Evaluation, Well 30/9-4. Details on RFT and DST's are also presented in Appendix III. Core descriptions and sidewall core descriptions can be found in Appendix I and II respectively.

3. STRATIGRAPHY

The Biostratigraphical evaluation of this well was carried out by Robertson Research Int. Ltd, Wales, UK. Basic materials for biostratigraphical evaluations was ditchcuttings. Sidewall cores and chips from conventional cores were utilized when available.

The first analysis were carried out on mixed sand and clay assogned to the Nordland group and of Pleistocene age. Top Tertiary is at 340 m and top of the Utsira Formation is encountered at 595 m. Utsira Formation has predominant fine to coarse sand, but in the upper part a sequence of clay divode the Utsira sand into an upper relative thin sand of Pliocene age and a lower thick sand of apparent Miocene age. Top of the Hordaland group is set to 845 m (843.5 mTVD) were a sharp logbreak occur between the bottom of the Utsira sand and the hydrating clays with occasional sands of Miocene to Eocene age.

Top of the Rogaland Group and the Tuffaceous Balder Formation is encountered at 2366 m (2056 mTVD). At this level a gamma ray spike marks the top of the Balder Formation composed mainly of claystones locally tuffaceous and of late Paleocene age. Top of the Sele Formation is at 2486 m (2143.5 mTVD) and top Lista Formation at 2598 m (227 mTVD). Maureen Formation Eq. which is given an Early Paleocene age is found at 2750 m (2344 mTVD).

An unconformity marked by a wireline log break by the incoming of a massive limestone at 2769 m (2359 mTVD) defines the top of the Cretaceous and the Rogaland Group. The Cretaceous in this well range in age from Maastrichtivan through comparison to Santonian - Turonian. A log break at 3294 m (2773 mTVD) defines the base of the Cretaceous sediments and the top of the Jurassic sediments which are of middle to early Bajocian age. This leaves sediments from Cenomanian to late Bajocian absent in the well. The age and alternating sandstones, claystones and coals are typical for the Ness Formation of the middle Jurassic Brent Group. A log break at 3551 m (2979 mTVD) following a sequence of coal, defines top of the Etive/Rannoch Formation comprising mostly homogenous sandstones with some influx of shaly interval near the top. The age of the Etive/Rannoch Formation is middle to early Bajocian. Top of the Drake Formation of the Dunlin Group is defined by a sharp log break at 3633m (3041.5m TVD) and siltstones of Late to Middle Toarcian age persist down to 3755 m. Shales of Early and Earliest Toarcian are found down to 3870 m and 3895 m respectively. Late Pliensbachian shales persist down to 4050 m.

Top of the sandy Cook Formation is found at 4053 m (3364.5 mTVD). The Cook Formation and the following Burton Formation at 4077 m (3381.5 mTVD) are given a Early Pliensbachian to Late Sinemurian age.

Top Statfjord Formation is encountered at 4175 m (3466.5 mTVD). From Correlating well 30/9-4 with well 30/9-3A the Amundsen Formation is missing in well 30/9-4 as well as the top 100 m of the Statfjord Formation suggesting a fault at top Statfjord level. This leaves a total of 200 m of Amundsen and Statfjord sediments absent in the well.

The Statfjord in this well is typically fine to coarse sandstones alternating with shales of Hettangian to Sinemurian age. No Triassic is found penetrated by the well. Total depth was reached at 4307 m (3057 mTVD).

The Lithostratigraphic nomenclature applied is partly from Deegan and Scull: "Standard Lithostratigraphies Nomenclature for the Control and Northern North Sea", and partly from NPD Bulletin No. 3: " Revised Triassic and

Jurassic Lithostratigraphic nomenclature for the Norwegian North Sea". (Sept. 1984).

4. LITHOSTRATIGRAPHY

This summary is compiled predominantly from ditch cuttings descriptions. Wireline logs were used for assistance in lithological interpretation and to place formation boundaries. Side-wall cores are available from 2739,5 in the Late Paleocene and down to T.D. in the Statfjord Formation. 13 conventional cores are available, 11 in the Ness Formation, one in the Etive Formation and one in the Statfjord Formation.

4.1 QUATERNARY (220-340m)

NORDLAND GROUP (220-845m, 220-843.5mTVD)

220-340m

The predominant lithology in this interval is olive grey to olive black clay. It is soft, sticky and plastic. The clay is very sandy in parts and calcerous. Throughout the interval stringers of sand occur which are composed of clear quarts which is predominantly fine to medium grained, but with some traces of coarse grains. The grains are subangular to subrounded, and moderate to well sorted. Some stringers of white limestone also occurs. The limestone is firm, blocky, microcrystalline and generally sandy. Traces of mica and pebbles of biotite schists, grainitic greisses and crystalline basement occurs together with shell-fragments and traces of lignite.

The interval is of Pleistocene (135-340m) age, and the sediments were laid down in a marine, inner shelf environment.

4.2 TERTIARY (340-2769m)

NORDLAND GROUP (220-845m, 220-843.5mTVD)

340-595m

Lithologically this interval is a continuation of the overlaying unit.

The age of the interval is early to late Pliocene. The depositional environment of this interval is marine inner shelf.

Utsira Formation (595-845m, 595-843.5mTVD)

The dominant lithology of the Utsira Formation is sand, but some olive gray to medium dark gray clay occur near the top of the formation. The clay is soft, sticky, in part very silty and calcaerous.

The sand consists mainly of clear, occasionally light gray and milky quarts grains. The size of the grains are dominantly very fine to medium, rarely coarse. The grains are subangular to subrounded and locally rounded. The sand is dominantly loose occasionally silicous cemented, and is moderate to well sorted.

Foraminifera are found in the upper part, while mica, glauconite and shell fragments occur throughout the formation.

Some rare traces of white, soft, crypto crystalline limestone occurs, as in the overlaying sequence.

The upper part of the Utsira Formation (595-650m) is of Pliocene age (340-650m), and was laid down in a marine, inner shelf environment. The age of the rest of the

Utsira Formation (650-850m) is late to Middle Miocene. It was deposited in a marine, inner to outer shelf, shallowing to inner shelf environment.

HORDALAND GROUP (845-2366m, 843.5-2056mTVD)

845-1490m

This interval consists mainly of olive gray to dusky yellow brown clay with stringers of sandstone and limestone.

The clay is soft to sticky, occasionally swelling, silty and in part very fine sandy. It contains traces of mica, glauconite and shell fragments, and is non calcareous to slight calcarous.

The sandstone consists of quartz grains which in general is clear, occasionally milky or light gray. The dominant size of the grains are medium although it ranges from very fine to locally coarse. The grains are subangular to subrounded, the sandstone is loose and moderate to well sorted.

The limestone varies in colour from light or medium gray to pinkish gray. In top of the interval the limestone is hard, downwards it is becoming moderate hard to soft and sticky. It is blocky, microcrystalline or slightly sucrosic, and in part argillaceous.

The age of the interval is Late to Middle Miocene (650-890m), from 845m to 890m, it was laid down in a marine, inner to outer shelf, shallowing to inner shelf environment. From 890m to 950m the age is Early Miocene. The environment for the deposition was marine, outer shelf shallowing to inner to outer shelf. From 950m to 1490m the age is Late Oligocene (950-1620). This interval was deposit in a marine, outer shelf to upper bathyal shallowing to outer shelf environment.

1490-1531m

This sequence of the Hordaland Group consists mostly of unconsolidated sand with occasional stringers and laminae of claystone.

The sand consists of clear to very light gray quartz grains which are fine to medium in size. The grains are subangular to subrounded and moderate to well sorted. The sand is argillaceous.

The claystone is dusky yellow brown to olive black, soft to moderate hard, blocky and non calcarous. The olive black part of the claystone is very silty and very fine sandy.

This interval is Late Oligocene in age, it was laid down in a marine, outer shelf to upper bathyal shallowing to outer shelf environment.

1531-1790m

This part of the Hordaland Group is very similar to the upper part of the Group. It consists of claystone with stringers of limestone and occasional thin stringers of sandstone.

The claystone is predominantly dusky yellow brown, in some cases olive gray or medium dark gray to grayish black. It is firm, blocky, occasionally silty and non calcarous. The claystone is occasionally micromicaceous and micro-pyritic.

The limestones varies in colour from dark yellow brown to light brown or moderate brown. It is firm to moderate hard, blocky and cryptocrystalline. It is in part dolomitic.

The sandstone is medium to light gray. It consists of very fine to medium clear quartz grains which are subangular to subrounded. The sandstone is very hard, caclcareous cemented and moderate sorted. No visible porosity. It contains small amounts of glauconite and micromica.

The age of the interval from 1531m to 1620m is Late Oligocene, and as in the overlaying interval the environment was marine, outer shelf to upper bathyal shallowing to outer shelf. From 1620m to 1790m the age of the interval is Early Oligocene to Middle-Early? Eocene. The environment was marine, outer shelf to upper bathyal.

1790-1910m

This interval is in general very similar to the one immediately above, but no stringers of sandstone occur here.

A slight colour change is seen from the claystone in the above laying section.

The colour of the claystone which dominates this interval is medium gray to medium dark gray, occasionally it grades into dark brown. The claystone is generally firm but in some parts it also appears to be soft to moderate hard, blocky or occasionally platy to subfissile. It is slightly silty, non-calcareous and slightly micro-micaceous.

The limestone stringers of this interval is light brown to moderate brown in colour. It is firm to moderate hard, blocky, dolomittic and crypto crystalline.

The age of this interval is Early Oligocene to Middle-Early? Eocene (1620-2350). It was laid down in a marine environment, outer shelf to upper bathyal.

1910-2366m

This lowermost part of the Hordaland Group is very similar to the overlaying interval, but again a slight colour change of the claystone is seen.

The interval consists of claystone, with some thin stringers of limestone. At the bottom of this interval some tuffaceous claystone occurs.

The colour of the claystone is olive gray to light olive gray and greenish gray. It is soft to firm, blocky and occasionally sticky, non calcareous and in part slightly silty. Traces of micromica and micro-pyrite occurs throughout this interval, microfossils occur occasionally.

In addition to the previous mentioned claystone, a new moderate brown to dark red-brown claystone occurs at the bottom of this interval. This claystone is firm to soft, blocky, non to slight calcareous and contains traces of micro-mica.

In addition to these claystones, a tuffaceous claystone is also occurring. The tuffaceous material is light gray to medium gray, soft to firm, sticky, non calcareous, and with black specks.

The limestone is light to moderate brown, moderate hard, blocky and crypto-crystalline. It is dolomittic, and in part argillaceous.

This sequence is early Oligocene to Middle-Early? Eocene in age down to 2350m. The environment in which it was deposited was marine, outer shelf to upper bathyal. The age of the rest of the interval, from 2350m to 2366m is Early Eocene, it was laid down in a marine, outer shelf environment.

ROGALAND GROUP (2366-2769m, 2056-2359mTVD)

Balder Formation (2366-2486m, 2056-2143.5mTVD)

The Balder Formation comprises predominantly claystones, occasionally tuffaceous, with rare stringers of limestone.

The claystones are olive gray to dark gray, firm to moderate hard, blocky and occasionally subfissile. They are locally slightly silty and non calcareous.

The tuffaceous claystones are present in trace amounts. They are soft to firm, blocky with black specks and they are non calcareous.

The limestone stringers are light gray to brown gray, firm to moderate hard, blocky, dolomittic and slightly argillaceous. They are cryptocrystalline.

The Balder Formation is of Early Eocene (2350-2366m) and Late Paleocene (2366-2750m) age.

Sele Formation (2486-2598m, 2143.5-2227mTVD)

This formation is made up of claystones with stringers of limestones.

The colour of the claystones are mainly medium dark gray to brown gray and dusky yellow brown. They are firm to moderately hard, subfissile to blocky, in part slightly silty to very silty and non calcaerous. Traces of micromica and pyrite are seen.

The few limestone stringers that are developed are dark gray to dark yellow brown. They are firm to hard, argillaceous, micro crystalline and occasionally grading into dolomite. The Sele Formation is of Late Paleocene age.

Lista Formation (2598-2754m, 2227-2348mTVD)

The Lista Formation very much resembles the overlaying Sele Formation and consists of claystones with stringers of limestone.

The colour of the claystones is predominantly medium dark gray to dark gray, but traces of moderate brown to dusky yellow brown claystones also occur. They are firm to moderate hard, occasionally subfissile, in part slightly silty and micromicaceous and non calcareous.

The limestone stringers are white to light gray, firm to moderate hard, blocky and partly surcrosic. They are generelly slightly argillaceous and are crypto to microcrystalline. Lista Formation is of Late Paleocene and Early Paleocene (2750-2769m) age.

Maureen Formation equivalent

(2754-2769m, 2348-2359mTVD)

The Maureen Formation equivalent consists of claystones generally similar to those of the Lista Formation.

The Rogaland Group is Paleocene in age. The Balder Formation, the Sele Formation and the Lista Formation are all of Late Paleocene age and were laid down in a marine, outer shelf to upper bathyal environment.

The Maureen Formation equivalent do also belong to the Rogaland Group, and the age is Late to Early Paleocene. It was laid down in a marine, outer shelf environment.

4.3 CREATACEOUS (2769-3295m, 2359-2773mTVD)

UPPER CRETACEOUS (2769-3295m, 2359-2773mTVD)

SHETLAND GROUP (2759-3295m, 2359-2773mTVD)

The Shetland Group consists of claystones with stringers and interbeds of limestones with the top 36m being a more or less continuous limestone interval. At the bottom of the Shetland Group some traces of coal and lignite occurs.

The olive gray to olive black claystones are firm to moderate hard, blocky, brittle and occasionally subfissile. They are slightly silty, slight micromicaceous contains traces of pyrite, and are slight to very calcareous. At the bottom of this interval some brownish-black claystone occurs. This is hard to moderate hand, non silty and non calcareous.

The limestones are white to pinkish gray to light gray in colours. They are soft to firm to moderate hard, blocky, occasionally argillaceous and glauconitic, micro-to crypto crystalline and occasionally platy.

Traces of coal/lignite occurs at the bottom of the interval. The colour is brown to black, it is moderate hard to hard, blocky and brittle, vitrinitic, slight silty and slight micromicaceous.

The Shetland Group is Late Maastrichtian (2769-2880m) down to 2880m and Early Maastrichtian (2880-2960m) down to 2960m. The Maastrichtian was deposited in a marine, outer shelf environment. Late Campanian, (2960-3030) and Early Campanian (3030-3247) was deposited in a marine, outer shelf to upper bathyal, shallowing to outer shelf environments. Santonian-Turonian (3247-3295) was deposited in marine, outer shelf to upper bathyal environments.

4.4 JURASSIC (3295-4307m, 2773-3577mTVD)

MIDDLE JURASSIC (3295-3663m, 2773-3041.5mTVD)

BRENT GROUP (3295-3663m, 2773-3041.5mTVD)

Upper Brent Unit (3295-3379m, 2773-2841 mTVD)
Ness Formation (3379-3551m, 2841-2973 mTVD)

The Upper Brent Unit and the Ness Formation consists of interbedded sandstones, shales, siltstones and coal. The sandstone beds range in thickness from a few centimeters up to 15m, commonly between 1 and 6 meters in the Ness Formation. The sandstone beds are generally normal graded medium dark gray to dark brown gray with clear to milky quartz. The sandstones are moderately hard to hard, predominantly very fine to fine grained, also medium to coarse at the base of a few beds. They are subangular to subrounded, generally silica cemented, locally calcaerous cemented, micaceous to very micaceous, traces of carbonaceous material occurs, locally it is silty. The sand is moderate to well sorted, the visible porosity is moderate to poor. Sedimentary structures such as cross stratification and ripple lamination.

The interbedded shales are olive gray to gray black to brown black, becoming dusky yellow brown downwards. They are moderate hard to hard, occasionally blocky, fissile, micromicaceous, silty and non calcaerous. The siltstones have in general the same characteristics as the shales, but they are partly very micaceous and generally carbonaceous. Occasionally they contain coal fragments, and they often grade into very fine sandstone. Both the shale and the siltstone contains plant fossils.

The frequently occurring coal beds are black, moderate hard, blocky and occasionally they contain pyrite modules. They are in part shiny to waxy.

The age of the Upper Brent Unit and the Ness Formation is Middle to Early Bajocian (3295-3633m), it was deposited in a deltaic to marginal marine environment.

The Etive/Rannoch Formation (3551-3663m, 2979-3041.5mTVD)

The Etive/Rannoch Formation consists of sandstones with some interbedded siltstones, mainly in the upper part. The boundary between the Ness and the Etive Formations is placed immediately below the last occurring coal bed.

The sandstones are light gray to pale yellow brown. They consist of clear quartz grains which in general are fine to medium in size, occasionally coarse and pebbly. They are friable to moderate hard, subangular to subrounded, kaolinite, silica and calcite cemented. They contain mica, glauconite, shell fragments. The sandstones are moderate to well sorted with poor, occasionally fair visible porosity.

The siltstones are light gray to light olive gray, soft to moderate hard, carbonaceous and non calcaerous.

The age of the Etive/Rannoch Formations are Middle to Rannoch Early Bajocian, the depositional environment was deltaic to marginal marine.

EARLY JURASSIC (3633-4307m, 3041.5-3557mTVD)

DUNLIN GROUP (3633-4175m, 3041.5-3465.5mTVD)

Drake Formation (3633-4053m, 3041.5-3364.5mTVD)

The Drake Formation consists of interbedded claystones/shales and siltstones with some rare stringers of sandstones and limestones.

The claystones/shales are dusky yellow brown to dusky brown to olive gray, soft, occasionally firm, blocky, fissile and locally very silty grading siltstones. They are locally earthy, micromicaceous and slight calcaerous to calcaerous.

The interbedded siltstones are light olive gray to olive gray becoming gray-black to brown-black downwards. They are firm to moderate hard, blocky, subfissile, micromicaceous, slight carbonaceous to carbonaceous and occasionally argillaceous. They grade into claystones/shales as described above.

The sandstones consist of clear quartz which are very fine to medium, predominantly fine, loose and subangular to subrounded. They contain traces of mica-micromica.

The limestones are white and pale to dark yellowish brown, firm to moderate hard, rarely blocky. They are slight argillaceous to argillaceous, in part grading dolomite, and are micro-to crypto crystalline.

The Drake Formation is of Late-Middle Toarcian (3633-3755m), Early Toarcian (3755-3879), Earliest Toarcian (3870-3895) and Late Pliensbachian (3895-4050) age. The deposition is marine to marginal marine, shallowing to inner shelf.

Cook Formation (4053-4077m, 3364.5-3381.5mTVD)

The Cook Formation consists mainly of sandstone, with some interbedded claystones/shales.

The sandstone consists of light gray to brownish gray quartz grains. It is loose, and the grains are of fine to medium, predominantly fine size, and are subangular to subrounded. There is no hydrocarbon shows in this sandstone.

The claystones/shales are dusky yellow brown to dusky brown, firm to moderate hard blocky to subfissile, silty to very silty, in part, grading siltstone. They are slight micromicaceous to micromicaceous, slight carbonaceous and non calcareous.

The Cook Formation is of Early Pliensbachian - Late Sinemurian (4050-4175m) age, and was deposited in a marginal marine to marine, shallow inner shelf environment.

Burton Formation (4077-4175m, 3381.5-3466.5mTVD)

The lithology of the Burton Formation is claystones/ shales with some stringers of limestone/dolomite and sandstones.

The claystones/shales are dusky yellow brown to dusky brown, firm to moderate hard, blocky to subfissile, silty to very silty, in part grading siltstone. They are slight micromicaceous to micromicaceous, slight carbonaceous and non calcareous.

The dolomites/limestones are white, occasionally pale yellow to dark yellowish brown, firm, occasionally moderate hard, blocky, brittle, in part slight argillaceous and they are micro-to crypto crystalline.

The sandstones contain clear, occasionally milky quartz. The grains are very fine to medium, mainly fine of size, they are subangular to subrounded. The sandstones are moderate to poor sorted.

The age of this Formation is Early Pliensbachian - Late Sinemurian, and was deposited in a marginal marine to marine, shallow inner shelf environment.

Statfjord Formation (4175-4307m, 3466.5-3557mTVD)

The Statfjord Formation consists of predominantly sandstones with interbedded claystones/shales.

The sandstones are medium to dark gray. They consist of clear to milky quartz, which are very fine to medium, rarely coarse, and they are hard. The grains are subangular to subrounded and dolomittic or kaolinittic cemented. The sorting is moderate, and there is no visible porosity. There is no shows of hydrocarbons in these sands.

The interbedded claystones/shales are dusky yellow brown to dark olive gray, firm to hard, generally firm, micromicaceous, locally slight silty, and non calcareous, some brownish-black to brownish-gray shale do also occur. This shale is hard to fissile, occasionally blocky, micromicaceous, carbonaceous, and non calcareous.

The Statfjord Formation is of Sinemurian-Hettangian (4175m-TD) age. It was deposited in a non-marine environment, lacustrine/fluviatile to deltaic and marginal marine.

5. HYDROCARBON SHOWS

The evaluation of hydrocarbon shows at the wellsite was carried out in a conventional manner. A complete hydrocarbon total gas detector (50 units = 1%) was operational together with a gas chromatograph for automatic and continuous gas analysis recorded as ppm by volume of C, through C_5.

Hydrocarbon shows on ditch cuttings were evaluated according to Norsk Hydro's "Wellsite geologist Manual".

5.1 GAS RECORD

222-1665 m

The total gas varied from trace to 0.42% methane (C1) in this section of the Nordland and Hordaland Group clays and sands. The mudweight was kept at 1.05 rd down to 550 m, from where it was progressively raised to 1.15 at at depth of 640 m. This mudweight was maintained down to approx 1580 m, and then rapidly increased to 1.5 rd at approx, 1650 m.

1665-1667

Very restricted occurrence (0.1%) of C1 (methane), C2 (ethane) and C3 (propane).

1667-2067

Total gas remained low, 0.06-0.1% C1, in this interval. Mudweight was kept high, 1.5 rd, throughout the interval. The lithology was claystones with stringers of limestones.

2067-2402 m

Total gas remains fairly constant, 0.06-0.14%, but in this interval C2 (ethane) is present in addition to C1 (methane). The mudweight was generally kept at 1.5 rd, but temporarily raised to 1.51 rd at 2250 only to be reduced to 1.5 rd at approx. 2350 m. The lithology was claystones with stringers of limestone of the Hordaland and uppermost Rogaland Group, with additional traces of tuff in the latter.

2402-2764 m

The total gas reads 0.06-0.12% C1, and the recorded mudweight is 1.5 rd with a temporarily reduction to 1.49 rd at approx. 2650 m. The lithology is claystones with stringers of limestone pertaining to the Rogaland Group.

2764-2840 m

Total gas remains low, 0.04-0.1%, locally C2-NC4. The interval includes the very basal part of the Rogaland Group and the upper part of the Shetland Group. Lithologies are claystones with beds and stringers of limestones.

The mudweight was kept constant at 1.5 rd.

2840-3290 m

Total gas recorded range from 0.06-0.12% C1-C3. The interval approximately covers the remaining part of the Shetland Group, dominated by claystones and occasional beds and stringers of limestones. The mudweight remained constant at 1.5 rd.

3290-3545 m

The total gas generally reads from 0.04-0.2% C1-C3, locally with some IC4-NC4. Two peak values are recorded:

3320 m; 0.42% C1-C3 and

3339 m; 0.3% C1-IC4.

The actual interval approximately covers the Ness Formation of the Brent Group, displaying alternating sandstone/shale with beds of coal. When drilling out of the 9 5/8" csg. shoe (3280m) the mudweight was reduced to 1.27 rd and kept constant through this interval.

3545-3720 m

The total gas recorded varies from 0.04-0.06%, generally C1-C3. Locally C1 may be the only constituent, elsewhere also IC4 may be present in addition to C1-C3. The interval includes the Etive Formation of the Brent Group, predominantly comprised by sandstone, and the upper part of the Drake Formation of the Dunlin Group, dominated by claystones/shale. The mudweight was kept unchanged at 1.27 rd.

3720-4025 m

The amount of total gas is unchanged, 0.04-0.06%, but in addition to C1-C3, IC4 and/or NC4 is also present. The interval represents the remaining part of the Drake Formation except from the very basal section. Claystones, in part shaly, are predominant. Whereas sandstones and stringers of limestone are present but rare. The mudweight remained at 1.27 rd down to approx. 3965 m where it was raised to 1.28 rd.

4025-T.D.

The total gas remains at 0.04-0.06%, C1 being the only continuous constituent. C2, C3 and IC4 occur sporadically with no clear interval pattern. The interval includes the Cook and Burton Formations of the Dunlin Group as well as the upper part of the Statfjord. Predominant lithologies are sandstone beds. Limestone/dolomite are present in very subordinate amounts. The mudweight was kept at 1.28 rd down to approx. 4200 m, then lowered to 1.27 rd and kept unchanged for the remaining section.

5.2 OIL STAIN AND FLUORESCENCE

3332-2261.5mMD (2804-2827mTVD)

The interval represents a section in the upper part of the Ness Formation (Top 3294 mMD, 2773 mTVD), covered by cores 1 and 2. Discontinuous shows were reported from sandstones. Where present, the shows are generally rated as trace quality related to direct fluorescence. There is very locally a trace of black residual oil and none to a weak petroliferous odour. Fluorescence is very dull yellow to yellow, but may locally be absent. A bluish white fluorescent cut range from slightly fast to very slow streaming, predominantly slow streaming. There is no visible cut, and generally only a very weak bluish white fluorescent residue.

3452-3452,30mMD (2899.7-2900mTVD)

A narrow sandstone bed within the central part of the Ness Formation (core no. 6) displays very good shows. It is described as a 100% bright yellow direct fluorescence with a strong fast streaming white yellowish fluorescent cut. There is no visible cut. There was no visible residue, but a strong yellowish white fluorescent residue.

No shows were reported from the Statfjord Formation.

26. CORING

6.1 CONVENTIONAL CORES

A total of thirteen cores were cut in this well. Cores 1-3 represent an upper section in the Ness Formation, cores 4-11 a lower section. Core no. 12 was cut in the central part of the Etive Formation, and core no. 13 was cut well within the Statfjord Formation.

The depth referred to are measured depths.

Core no. 1 was cut from 3332-3350.35 m with a 100% or 18.35 m recovery. Predominant lithology is very fine to trace pebble sandstone both interbedded with and gradational into siltstones. Good trace of coal. Common features are cross-stratification, ripple lamination, bioturbation and local burrows.

Core no. 2 was cut from 3350.35-3368.6 m. The recovery was 18.25 m which again is 100%. With shale substituting for siltstone, the core is lithologically and structurally similar to core no. 1.

Core no. 3 was cut from 3368.6-3381.9 m with a 88% or 9.1 m recovery. The upper five meters are dominated by sandstones with shale lenses. Ripple lamination, low angle cross-stratification, lenticular and flaser bedding present. The lower section is comprised by coal beds and layers of shale/claystones.

Core no. 4 was cut from 3432-3437m. The recovery was 4.7 m which is 94%. The lithology is comprised by shales with beds of siltstone and coal.

Core no. 5 was cut from 3437-3445 m, with a recovery of 93.75% or 7.5 m. Only a slight change in lithology is discerned. There is still shale/claystone with coal beds, but also a few stringers of sandstone. The latter is very fine to fine with roots in situ.

Core no. 6 was cut from 3445-3457 m, and from this core 10.2 m, of 85% was recovered. General lithologies are sandstone with interbeds of shale/siltstone. The sandstone is commonly rippled and locally contains burrows.

Core no. 7 was cut from 3457-3467 m, recovering only 6.25 m or 62.5%. Lithologically identical to the above core, but shale/siltstone predominates. Slickensides were reported from this latter lithology.

Core no. 8 was cut from 3467-3472 m. The recovery was 2.6 m or 52%. The section displays shale with coal beds and stringers of siltstone/shale and sandstone.

Core no. 9 was cut from 3472-3475 m, recovered2.7 m which is 90%. This section was comprised by shale with slickensides.

Core no. 10 was cut from 3475-3484 with a recovery of 8.8 m or 98%. Predominate lithology was shale with thin beds of siltstone and sandstone.

Core no. 11 was cut from 3484-3500 m, 88% or 14.0 m recovered. Predominant lithology was sandstone with some shale and coal beds. Plant fossils are locally abundant in the shale.

Core no. 12 was cut from 35803598.1 m, recovering 18.1 m or 100%. The cut section was completely comprised by a medium grained sandstone, with traces of fine and coarse to pebbly components.

Core no. 13 was cut from 4268-4277 m, recovered 8.5 m which is equivalent to 94.4% recovery. The core consisted of shale with stringers of sandstone. Slickensides were a distinct feature within the shale.

Poor hydrocarbon shows were reported from cores 1-2, and good shows only from a 30 cm thick sandstone layer in core no. 6.

Detailed core description are given in Appendix 1.

6.2 Sidewall cores

Sidewall cores were taken from 2739.5 m in the basal part of the Lista Formation of the Rogaland Group and down to TD. A total of 3 runs were made, with a total recovery of 77 out of 90 shot.

A detailed description of the sidewall cores can be studied in Appendix 2.

7. WIRELINE LOGGING

The following is a summary of wireline logs run in well 30/9-4, and provides the dates, logged intervals and run numbers of each log.

LOG	DATE	LOGGED INTERVAL	RUN NO.
ISF/LLS/GR	26.11.84	221-623 m (GR to 135 m)	1A
DIL/LSS/GR	12.12.84	618-1448 m	2B
"	13.12.84	1397-1645 m	2C
"	02.01.85	1649-3296 m	3D
ISF/LSS/GR/MSFL	10.01.85	3281-3434 m	4E
ISF/LSS/GR/MSFL/CAL	26.01.85	3281-3597 m	5F
ISF/LSS/GR/SP	28.01.85	3555-3679.5 m	6G
DIL/LSS/GR	15.02.85	3588.5-4304.5 m	7H
DIL/MSFL/GR/CAL	29.01.85	3281-3677 m	6A
LDL/GR/CAL	12.12.84	618-1449 m	2A
"	13.12.84	1375-1649 m	2B
LDL/CNL/GR/CAL	02.01.85	1649-3297 m	3C
"	28.01.85	3281.5-3680.5 m	6D
"	15.02.85	3272.4-4305.5 m	7E
SDT/NGT	01.02.85	3281-3681.5 m	6A
NGT	15.02.85	3272.4-4305.5 m	7E
SHDT	30.01.85	3281-3681 m	6A
HDT	16.02.85	3281-4305.5 m	7B
RFT	31.01.85	3296.5-3626.5 m	6A
"	"	Sample at 3421 m	
"	"	Sample at 3319.5 m	6B
"	16.02.85	3595-3259 m	7B
"	17.02.85	Sample at 4207.2 m	7C
CBL/VDL	02.01.85	275-1648 m	3A
CET/CBL	01.02.85	1200-3281 m	6A
CET/GR	28.02.85	3140-3553 m	8B
VSP	17.02.85	1624.5-4307 m	7A

8. SPECIAL STUDIES

The biostratigraphic evaluation has been carried out by Robertson Research Int. Ltd., in Wales. The results of this evaluation are contained in the report:

Norsk Hydro 30/9-4
Norwegian North Sea Well
Biostratigraphy of the interval
230-4307 m (T.D.)

The results of Log evaluation, RFT-results and Production tests are contained in the report:

Formation Evaluation Report
Well 30/9-4

Other reports on this well:

Water Analysis (Rep.) - CoreLab
Production test 1 and 2 (exprodata system report)
Bestemmelse av kokepunkt, GOR og komp. i RFT-prøve (report)

APPENDIX I
CORE DESCRIPTIONS
(Cores 1-13)

Norsk Hydro
Oslo Norway

WELL : 30/9-4

DEPTH REF K B — ELEVATION K B 25 m

NOT TO SCALE
ALL DEPTH IN METERS (m)

CHRONOSTRATIGRAPHY

SYSTEM	SERIES / STAGE	DEPTH	THICKNESS
QUATERNARY	SEABED	135	
QUATERNARY	PLEISTOCENE	340	205
TERTIARY	PLIOCENE	650	310
TERTIARY	LATE TO MIDDLE MIOCENE	890	240
TERTIARY	EARLY MIOCENE	950	60
TERTIARY	LATE OLIGOCENE	1620	670
TERTIARY	EARLY OLIGOCENE TO MIDDLE-EARLY? EOCENE	2350	730
TERTIARY	EARLY EOCENE	2366	16
TERTIARY	LATE PALEOCENE	2750	384
TERTIARY	EARLY PALEOCENE	2769	19
CRET.	LATE — LATE MAASTRICHT.	2880	111
CRET.	LATE — EARLY MAASTRICHT.	2960	80
CRET.	LATE — LATE CAMPANIAN	3030	70
CRET.	LATE — EARLY CAMPANIAN	3247	217
CRET.	LATE — SANTONIAN-TURONIAN	3294	48
JURASSIC	MIDDLE — MIDDLE-EARLY BAJOCIAN	3633	338
JURASSIC	EARLY — LATE-MIDDLE TOARCIAN	3755	122
JURASSIC	EARLY — EARLY TOARCIAN	3870	115
JURASSIC	EARLY — EARLIEST TOARCIAN	3895	25
JURASSIC	EARLY — LATE PLIENSBACHIAN	4050	155
JURASSIC	EARLY — EARLY PLIENSBACHIAN – LATE SINEMURIAN	4175	125
JURASSIC	EARLY — SINEMURIAN – HETTANGIAN	4303	132
	DRILLERS TD		

LITHOSTRATIGRAPHY

GROUP	FORMATION / MEMBER	DEPTH
NORDLAND GROUP		595
NORDLAND GROUP	UTSIRA FM.	(843.5) 845
HORDALAND GROUP		(2056) 2366
ROGALAND GROUP	BALDER FM.	(2143.5) 2486
ROGALAND GROUP	SELE FM.	(2227) 2598
ROGALAND GROUP	LISTA FM	(2348) 2754
ROGALAND GROUP	MAUREEN FM. EQ.	(2359) 2769
SHETLAND GROUP		(2773) 3295
BRENT GROUP	NESS FM.	(2979) 3551
BRENT GROUP	ETIVE/RANNOCH FM.	3633
DUNLIN GROUP	DRAKE FM.	(3041.5) (3364.5) 4053
DUNLIN GROUP	COOK FM.	(3381.5) 4077
DUNLIN GROUP	BURTON FM.	(3466.5) 4175
	STATFJORD FM.	
	TD LOGGER	(3577) 4307

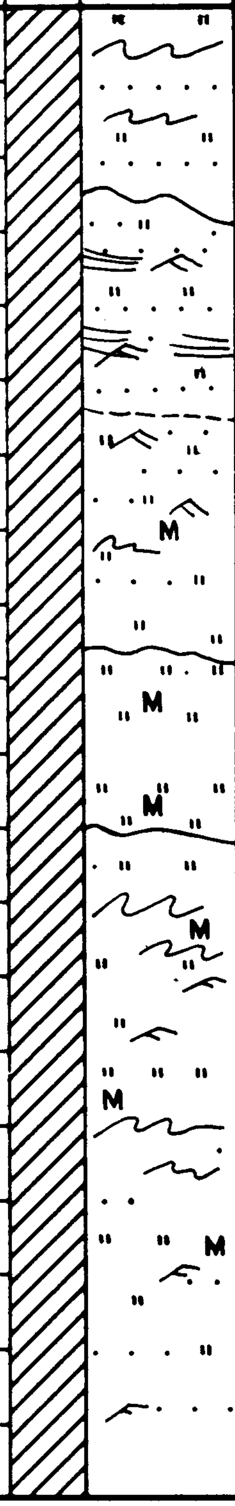
Norsk Hydro

Well no.		Core nos
30/9 – 4	Core report	1

Interval	Area	Cut	Date
3332 – 3337m	Norwegian North Sea	3332 – 3350.35 m	8.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3332 – 3350.35m, 100%	Beckman/Kalgraff

Depth scale: 3332, 3333, 3334, 3335, 3336, 3337



Depths	Lithological descriptions	Shows
3332 – 3332.65	**Sst/Slst:** olv blk – olv gy, hd, v mica, carb, v sdy grdg Sst, vf, non calc. Cntrtd burrowed.	Wk pet odour, dull yel flu, inst strmg bl wh flu cut, no vis cut, bl wh flu resd.
3332.65 – 3333.35	**Sst:** dk brn gy – brn blk, vf, occ f, mod hd, subang, slty, v mica, non calc, mod srtd. Ripple lam, bioturb.	Dull yel dir flu, slow strmg bl wh flu cut, wk bl wh flu resd, wk pet odour.
3333.35 – 3334.15	**Slst/Sst:** dk brn gy, hd, v mica, vf sdy grdg Sst, non calc.	
3334.15 – 3334.75	**Slst:** m gy – brn gy, hd, fis, mica, non calc.	No show.
3334.75 – 3336.7	**Slst/Sst:** brn gy – dk brn gy, hd, v mica, vf sdy grdg Sst, non calc. Cntrt. Ripple lam, occ bioturb.	Wk pet odour, v wk dir flu, no vis flu cut, no vis cut, v wk bl wh flu resd. No show.
3336.7 – 3336.9	Sealed sample	

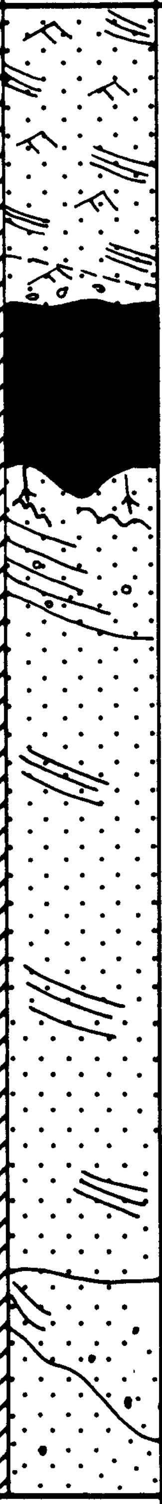
Well	Core report	Core no's
30/9 – 4	1 of 4	1

Norsk Hydro

Well no.	Core report	Core no.s
30/9 – 4		1

Interval	Area	Cut	Date
3337 – 3342m	Norwegian North Sea	3332 – 3350.35 m	8.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3332 – 3350.35m, 100%	Beckman/Kalgraff

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3337				**Sst:** dk brn gy, clr – mlky Qtz, vf, hd, subang – subrnd, v slty grdg Slst, mod srtd, no vis por. Faint ripple lam.	
3338			3338	**Coal:** blk, hd, shiny, occ bds slst: olv gy – brn gy, v hd, v mica, non calc.	No show.
			3338.5	**Sst:** dk brn gy – dk olv gy, clr – mlky Qtz, f – v crs, occ pbly, subang – subrnd, sl silic cmt, tr kao, poss roots, fair vis por.	No dir flu, no flu cut, v lt bl wh flu resd.
3339				**Sst:** f – m, else a/a.	
3340				Poss though x – strat.	
3341			3340.95 Sealed sample 3341.20		
3342					No show.



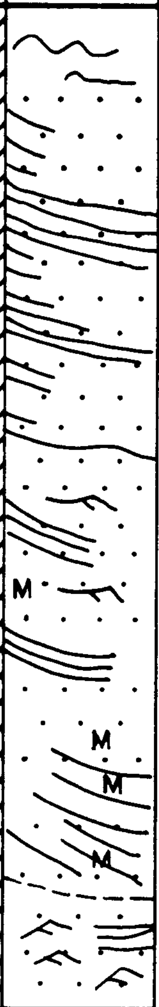
Well	Core report	Core no.s
30/9 – 4	2 of 4	1

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		1

Interval	Area	Cut	Date
3347 – 3350.35m	Norwegian North Sea	3332 –3350.35 m	8.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3332 – 3350.35, 100%	Beckman/Kalgraff

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3347				Cntrtd.	
				Sst: brn gy, clr – lt gy Qtz, vf – f, hd – mod hd, ang - subang, silic cmt, sl mica, mod – w srtd, v pr vis por.	Mod dull yel – yel dir flu, wk slow strmg bl wh flu cut, no vis cut, bl wh flu resd, no vis flu resd.
3348				Faint L angle x – strat.	
				Sst a/a.	
3349				Ripple lam, and occ faint trough x – strat.	
			3349.30		
			Sealed sample		
			3349.60		
3350					
			3350.35		



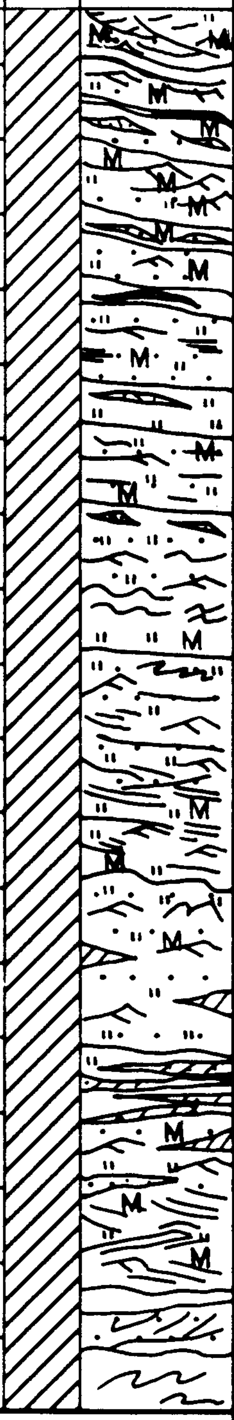
Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		2

Interval	Area	Cut	Date
3350.35 – 3355m	Norwegian North Sea	3350.35 (2818) – 3368 (2832)m	8.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3350.35 – 3368.6m , 100%	Kalgraff/Beckman

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3350					
3350.35					
			3350.70 – Sealed sample 3350.87 –	**Sst/Sh** interlam. **Sst:** gen brn gy, clr – mlky Qtz, vf – f, mod hd, ang subang, dk carb mat, silic cmt, w srtd, no vis por. **Sh:** gy blk, mod hd, fis, sl slty, v mica. Wavy ripple lam occ low angle x – strat, mud drapes, tr burrows, alt len bd.	On **Sst:** mod yel flu, slow bl wh flu cut, no vis cut, bl wh flu resd. On **Sh:** No show.
3351					
3352				Wavy bdg.	
				Burrowed.	
3353				Gen a/a, poss flazer & hummocky x – strat.	
				Burrows.	
3354				Alt Cly/Sd lam, poss swavy bdg.	
			3354.55		
3355					



Norsk Hydro

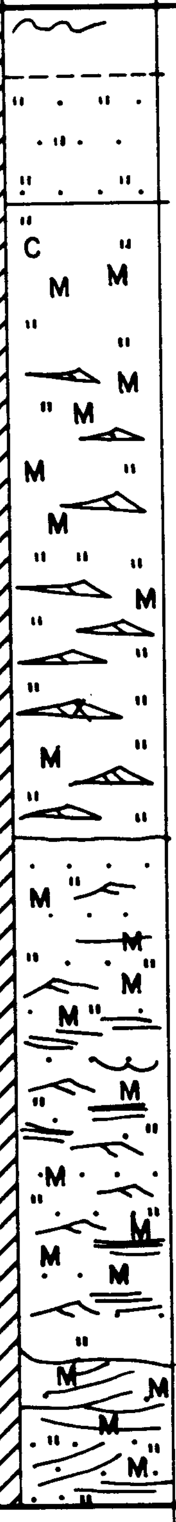
Well no	Core report	Core no s
30/9 – 4		2

Interval	Area	Cut	Date
3355 – 3360m	Norwegian North Sea	3350.35 – 3368.6	8.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3350.35 – 3368.5 100%	Kalgraff/Beckman

Depth scale: 3355, 3356, 3357, 3358, 3359, 3360

Re-covery | Lithological column



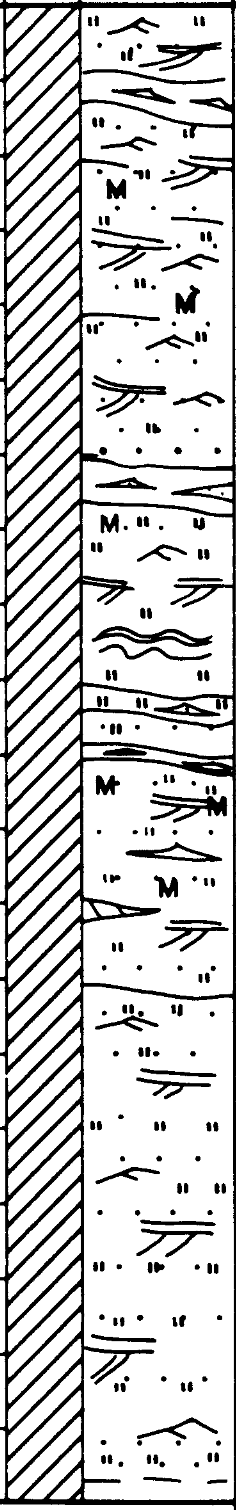
Depths	Lithological descriptions	Shows
	Cntrtd.	
3355.25	**Sst/Slst:** m dk gy, vf, v hd, subang – subrnd, calc cmt, v mica, v slty grdg **Slst**, blk carb mat.	No show
3355.65	**Sh:** gy blk – olv blk, hd fis, slty, v mica, non calc.	
	Sh w thin len **Sst.**	On **Sst:** Dull yel flu, v wk bl wh flu cut, no vis cut, bl wh flu resd.
	Lenticular bd thin len bcm thicker and incr. downwards.	
3357.75	**Sst w/Sh** lam.	
	Sst: brn gy, clr – mlky Qtz, vf f, mod hd – hd, ang-subang, sl mica – v mica, silic cmt, slty, mod srtd, pr vis por.	V dull yel flu, inst bl wh flu cut, no vis cut, bl wh flu resd.
	Ripple lam, sh ptg, cly drapes.	
	Trough x – strat.	

Well	Core report	Core no s
30/9 – 4	2 of 4	2

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		2

Interval	Area	Cut	Date
3360 – 3365m	Norwegian North Sea	3350.35 – 3368.6m	8.1.85
Scale	**Well R.K.B**	**Recovery**	**Geologist**
1:25	25m	3350.35 – 3368.6m 100%	Kalgraff/Beckman



Depth scale	Depths	Lithological descriptions	Shows
3360	3360.0 Sealed sample 3360.24		
		Len bd.	
		Sst gen a/a, v slty grdg **Slst.**	On **Sst** lam: v dull yel flu, wk inst bl wh flu cut, occ no flu cut, no vis cut, gen bl wh flu resd.
		Low angle trough x – strat poss hummocky, grdg ripple lam alt mud drapes.	
3361			
	3361.50	Len.	
3362		**Slst/Sst:** brn gy, hd, fis, occ faint ripple lam, wavy bd, len bd.	
3363			
		Slst/Sst: m gy, hd – v hd, blky, mica, v calc.	No show.
3364			
	3364.65 Sealed sample 3364.84		
3365			

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		2

Interval	Area	Cut	Date
3365 – 3368.6m	Norwegian North Sea	3350.35 – 3368.6m	8.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3350.35 – 3368.6m 100%	Kalgraff/Beckman

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3365				Slst/Sst: m olv gy, hd, mica, non calc.	No show.
				Ripple lam.	
				Poss flazer and wavy bds.	
3366				Len bd.	
			3366.25		
				Sst/Slst a/a intbd w/Sh a/a.	No show.
				Ripple lam, poss hummocky.	
3367				X – strat.	
3368					
			3368.26		No show.
			Sealed sample		
			3368.54		
			3368.60		

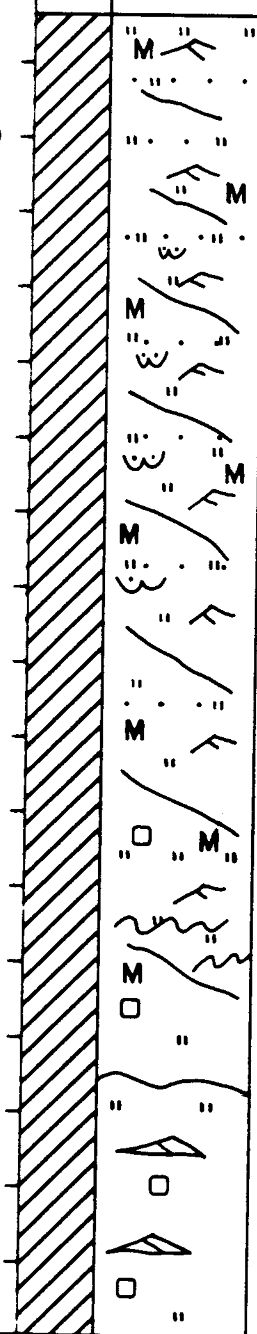
Well	Core report	Core no s
30/9 – 4	4 of 4	2

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		3

Interval	Area	Cut	Date
3368.6 – 3373m	Norwegian North Sea	3368.6 – 3381	9.1.85

Scale	Well R.K.B	Recovery	Geologist
1:25	25m	3368.6 – 3379.5m 88%	Kalgraff/Beckman

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3369 3370 3371 3372 3373			3368.60 3369.75 sealed sample 3369.95 3370.85 Sealed sample 3371.00 3372.15	**Slst/Sst:** m brn gy – m olv gy, mod hd, mica, tr glau, gen vf sdy grdg Sst vf, ripple lam, cly drapes cntrtd, poss flazer and wavy bdg. Len bdg.	No show. No show.

Well	Core report	Core no s
30/9 – 4	1 of 3	3

Norsk Hydro

Core report

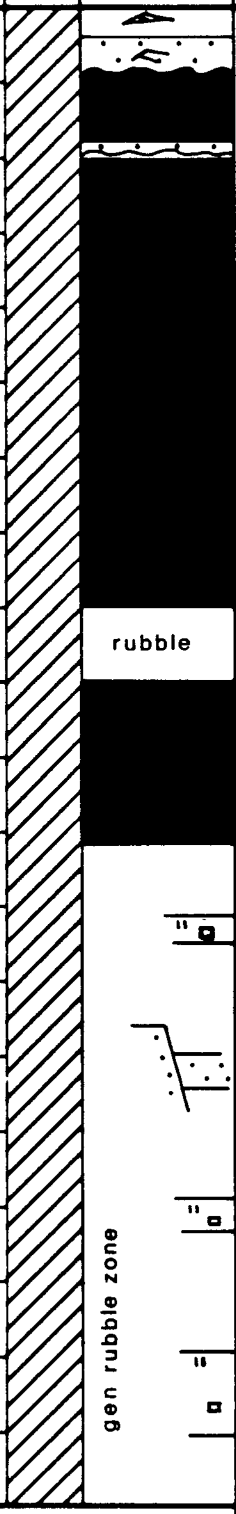
Well no	Core nos
30/9 – 4	3

Interval	Area	Cut	Date
3373 – 3378m	Norwegian North Sea	3368.6 – 3381m	

Scale	Well R.K.B	Recovery	Geologist
1:25	25m	3368.6 — 3379.5m 88%	Kalgraff/Beckman

Depth scale: 3373, 3374, 3375, 3376, 3377, 3378

Re-covery / Lithological column:



Depths	Lithological descriptions	Shows
3373.15		
3373.25	**Coal:** blk, shiny, mod hd – hd, sl slty.	
3373.40		
3373.50		
3373.55	**Sh:** gy blk, mod hd, fis, sl slty, mica, carb, non calc.	No shows.
	Coal: blk, hd, occ wxy, pyr nod.	
	Coal a/a.	
3375.80	**Sh:** olv blk – brn blk, carb, hd,tr slty, non calc.	No shows.

Well	Core report	Core nos
30/9 – 4	2 of 3	3

Norsk Hydro

Well no		Core no s
30/9 – 4	Core report	3

Interval	Area	Cut	Date
3378 – 3379.5m	Norwegian North Sea	3368.6 – 3381 m	9.1.85
Scale	**Well R.K.B**	**Recovery**	**Geologist**
1:25	25m	3368.6 – 3379.5 m, 88%	Kalgraff/Beckman

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3378		rubble		**Sh:** olv blk – brn blk, carb, hd, sl slty, non calc.	No show.
3379			3378.90	**Coal:** blk, hd, pyr, wxy.	
			3379.50		
3380		not recovered			
3381			3381		

Norsk Hydro

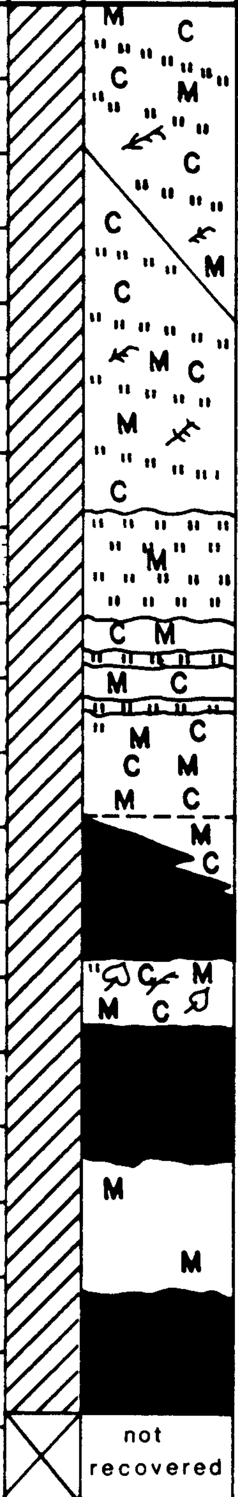
Well no		Core nos
30/9 – 4	Core report	4

Interval	Area	Cut	Date
3432 – 3436.7m	Norwegian North Sea	3432 – 3437m	11.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3432 – 3436.7m, 94%	Beckman/Kalgraff

Depth scale: 3433, 3434, 3435, 3436, 3437

Re-covery / Lithological column:



Depths	Lithological descriptions	Shows
	Sh: brnsh blk, hd, sl slty, mica, carb, f slty lam, occ plant foss.	No show.
	Slickenside.	
3433.70	**Slst:** brnsh gy – dusky yelsh brn, hd – v hd, sl mica, non calc.	
3433.85 – Sealed sample – 3433.95		
3434.05		
3434.15		
3434.20		
3434.30		
3434.35	**Sh:** brn blk, hd, v sl slty, micromic, carb, non calc.	
3434.70		
3435.15	**Sh:** dk brnsh gy, hd, v sl slty, micromic, carb, non calc, plant foss (fern?).	
3435.40	**Coal:** blk, hd, w/foss plant frags.	
3435.85	**Sh/Clyst:** brnsh gy – olv gy, hd, sl micromic, non calc.	
3436.30	**Coal:** blk, hd, shiny.	
3436.70		

Well	Core report	Core nos
30/9 – 4	1of 1	4

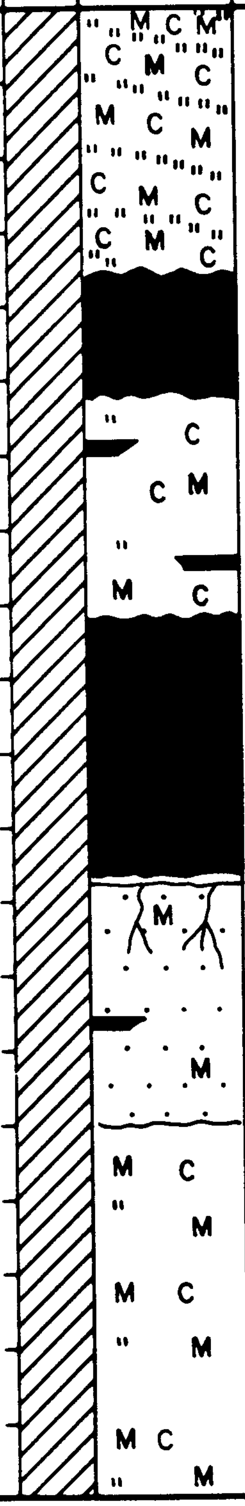
Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		5

Interval	Area	Cut	Date
3437 – 3442m	Norwegian North Sea	3437 – 3445m	11 – 12.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3437 – 3444.5m, 93.7%	Beckman/Kalgraff

Depth scale: 3437, 3438, 3439, 3440, 3441, 3442

Re-covery | Lithological column



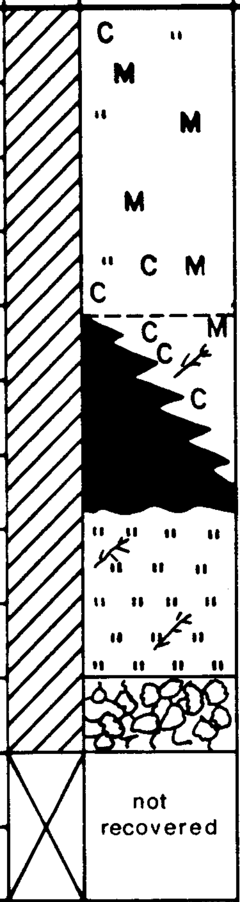
Depths	Lithological descriptions	Shows
3437 – 3437.90	**Sh:** dk gy – gysh blk, sl slty, mica – micromic, carb, non calc. occ foss tr, abn vf lt olv gy slty lam.	No show.
3437.90 – 3438.30	**Coal:** blk, hd – brit, tr pyr.	
3438.30 – 3439.05	**Sh/Clyst:** m dk gy, hd, v sl slty, sl micromic, sl carb, non calc, w/tr coal.	
3439.05 – 3439.90	**Coal:** blk, hd – brit.	
3439.90 – 3439.95	**Sh:** dusky yelsh brn – olv blk, firm, v sl slty, carb, non calc.	
3439.95 – 3440.75 (3440.14 – 3440.36 Sealed sample)	**Sst:** lt brn gy – lt olv gy, fri, clr – mlky – lt gy Qtz, f – vf, subang, occ ang, v wk silic cmt, sl mica, non calc, mod vis por. Roots in situ.	
3440.75 –	**Sh/Clyst:** brnsh gy, hd, sl slty, mica – micromic, non calc w/occ tr blk carb mat.	

Norsk Hydro

Well no	Core report	Core no.s
30/9 – 4		5

Interval	Area	Cut	Date
3442 – 3444.5m	Norwegian North Sea	3437 – 3445m	11 – 12.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3437 – 3444.5m 93.7%	Beckman/Kalgraff



Depth scale	Depths	Lithological descriptions	Shows
3442		**Sh/Clyst:** m dk gy – brnsh gy, hd – mod hd, v sl slty, sl micromic, non calc, w/sl tr blk carb mat.	No show.
3443	3443.05	**Sh:** brnsh blk – blk, hd – mod hd, micromic, v carb, non calc w/plant fos.	
	3443.70	**Coal/Sh:** gysh blk – blk, hd, non slty, sl micromic, non calc.	
3444		**Slst:** m gy, hd, silic cmt, non calc, no vis por w abn fos plant stems.	
	3444.25	Rubble.	
	3444.50		
3445	3445.0		
3446			
3447			

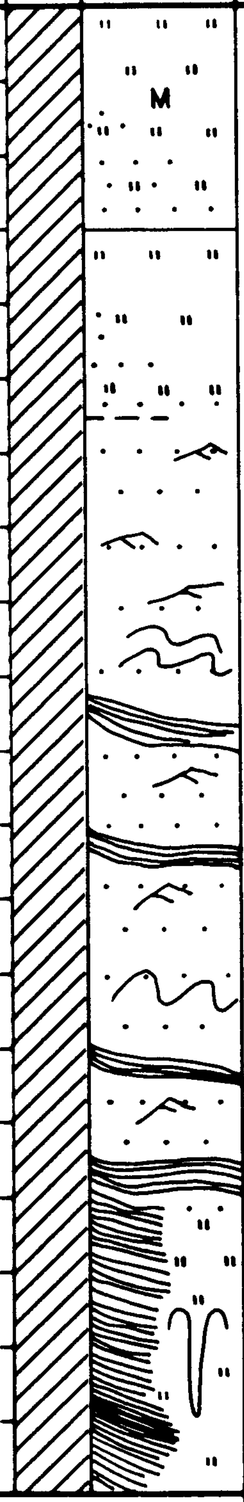
Well	Core report	Core no.s
30/9 – 4	2 of 2	5

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		6

Interval	Area	Cut	Date
3445 – 3450m	Norwegian North Sea	3445 – 3457m	12.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3445 – 3455.25m 85%	Kalgraff/Beckman

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3445				**Sh/Slst:** m dk gy – olv gy, hd, fis, mica, non calc.	
			3445.75	**Sst:** m lt gy, clr – mlky Qtz, vf, mod hd, subang-subrnd, tr mica, silic – kao cmt, w srtd, no vis por.	No shows.
3446				**Sh/Slst:** dusky yel brn, hd, fis, plant frags, carb, slty, incr sdy twds base, non calc.	
				Sst: m dk gy, clr – mlky Qtz, f, mod hd – hd, silic/kao cmt, tr mica, tr carb, w srtd, no vis por.	
3447				Ripple.	
				Cntrtd.	
				Lam Sh/Sd.	
3448			3447.89 Sealed sample 3448.07	**Sst:** m dk gy, clr – mlky Qtz, vf – f, mod hd, subang subrnd, tr carb, tr dol cmt, mica, fair vis por. Rippled, cntrtd.	
					No shows.
3449			3448.80 Sealed sample 3448.98	**Slst/Sst:** brn gy, hd, fis, mica, carb, plant frags, loc v sdy lam, sl dol.	
				Thin lam. Burrowed.	
				Incr Sh downwards.	
3450					



Well	Core report	Core no s
30/9 – 4	1 of 3	6

Norsk Hydro

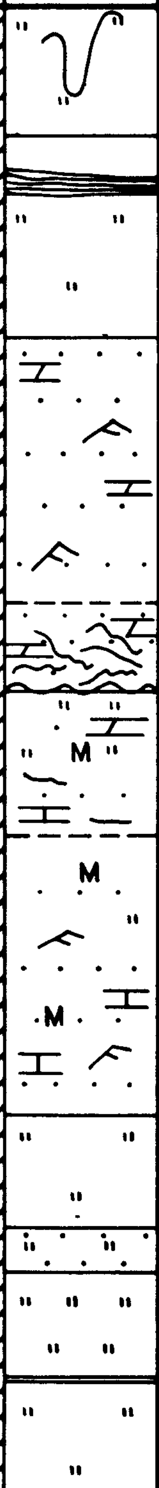
Well no	Core report	Core no.s
30/9 – 4		6

Interval	Area	Cut	Date
3450 – 3455m	Norwegian North Sea	3445 – 3457m	12.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3445 – 3455.25 85%	Kalgraff/Beckman

Depth scale: 3450, 3451, 3452, 3453, 3454, 3455

Lithological column:



Depths	Lithological descriptions	Shows
	Slst/Sst: brn gy, hd, fis, mica, carb, plant frags, loc v sdy, sl dol. Burrows.	No show.
3450.40	**Sst:** m lt gy, vf, hd, subang – subrnd, tr mica, slty, mod srtd.	
3450.67	**Slst/Sh:** dusky yel brn, v hd, fis, thin lam, plant frags, carb, tr dol.	
3451.16 – 3451.17 Sealed sample 3451.32	**Sst:** m lt gy, clr – mlky Qtz, gen f, tr m, gd tr vf, mod hd, subang – subrnd, tr dol cmt, kao, mica, carb, mod srtd, no vis por.	No show.
	Rippled.	
3452	**Sst:** m gy, clr – mlky Qtz, gen f, mod hd, subang-subrnd, dol cmt, kao, carb, plant frags, cntrt, coal frags, mod srtd, no vis por.	100% bri yel dir flu, strong fast strmg wh yel flu cut, no vis cut, strong wh yel flu resd, no vis flu resd.
3452.30	**Slst:** dusky yel brn, hd, fis, micromic, mica, carb, cal/dol.	No show.
3453.07	**Sst:** dk gy, clr – mlky Qtz, vf, mod hd, subang subrnd, tr mica, carb, v calc cmt, no vis por.	
Sealed sample 3453.37	Rippled.	
	Sst: a/a, f, calc cmt.	
3453.72	**Sh:** dusky yel brn, v hd, fis, micromic, carb, slty, sl calc.	
3454.12		
3454.25	**Sst:** dk gy, clr – mlky Qtz, vf – slty grdg Slst, hd, subang – subrnd, v calc, no vis por.	
	Cly: dusky yel brn, sft, stky, sl micromic, v calc, grdg Mrl.	
	Sh: dusky yel brn, hd, fis, mica, carb, non calc.	

Norsk Hydro

Well no	Core report	Core no.s
30/9 – 4		6

Interval	Area	Cut	Date
3455 – 3457m	Norwegian North Sea	3445 – 3457m	12.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3445 – 3455.25m 85%	Kalgraff/Beckman

Depth scale	Recovery	Lithological column	Depths	Lithological descriptions	Shows
3455		M	3455.25	**Sh/Slst:** dusky yel brn, hd, blky, micromic, carb, sl sdy vf, non calc.	
3456		not recovered			
3457			3457.0		

Norsk Hydro

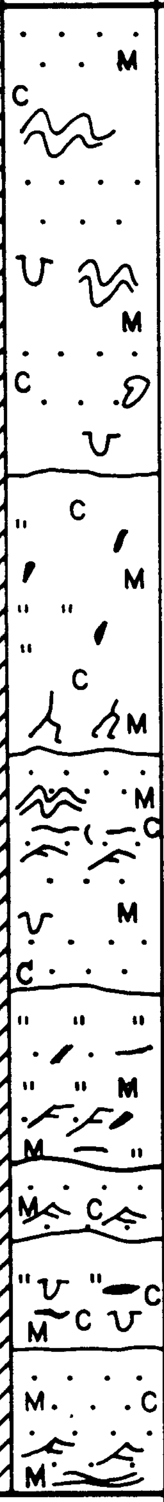
Well no	Core report	Core no s
30/9 – 4		7

Interval	Area	Cut	Date
3457 – 3462m	Norwegian North Sea	3457 – 3467m	20.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3457 – 3463.25m 62.5%	Giskeødegaard/Kalgraff

Depth scale: 3457, 3458, 3459, 3460, 3461, 3462

Re-covery / Lithological column:



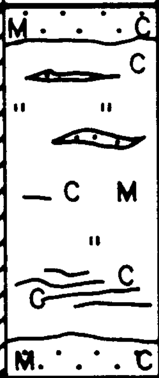
Depths	Lithological descriptions	Shows
3457.1 Sealed sample 3457.35	**Sst:** m lt gy, clr Qtz, vf – f, hd, subang – subrnd, mica - v mica, tr carb, calc cmt, w srtd, no vis por.	No show.
	Cntrtd and burrows.	
	Mud clast.	
3458.55	**Sh:** dusky yel brn – olv blk, hd, fis, loc blky, sl slty, micromic, mica, carb, coal frags, non calc slickensides.	
	Roots.	
3459.50	**Sst:** m dk gy, clr – mlky Qtz, f, tr m, mod hd, subang subrnd, mica, tr carb – v carb, silic cmt, mod srtd, pr vis por Cntrtd and burrows. Ripple lam. **Slst:** olv gy, hd – v hd, fis, v mica, v arg, loc grdg Sh, gen vf sdy, coal frags, non calc. Burrows. Ripple lam. Coal prtgs.	No show.
3460.30		
3460.90	**Sst:** vf – f, pr srtd else a/a. Ripple lam.	No show.
3461.10	**Slst/Sh:** dusky yel brn, hd – v hd, blky, micromic, tr mica, coal frags, sl slty, non calc. Burrows.	
3461.48	**Sst:** m gy, vf – f, tr m, mod hd, subang – subrnd, tr mica – v mica, sl carb, silic cmt, mod srtd, pr vis por. Ripples.	No show

Well	Core report	Core no s
30/9 – 4	1 of 2	7

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		7

Interval	Area	Cut	Date
3462 – 3463.25m	Norwegian North Sea	3457 – 3467m	20.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3457 –3463.25m 62.5%	Giskeødegaard/Kalgraff



Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3462			3462.13	**Sst:** m gy, vf – f, tr m, mod hd, subang – subrnd, tr mica – v mica, sl carb, silic cmt, mod srtd, pr vis por. Len bd.	No show.
				Sh/Slst: dusky yel brn, hd, blky – fis, sl micromic-micromic, tr coal, coal ptgs, vf sd len, non calc.	
3463			3463.13		
			3463.25	**Sst:** f – vf else a/a.	No show.
3464		not recovered			
3465					
3466					
3467					

Well	Core report	Core no s
30/9 – 4	2 of 2	7

Norsk Hydro

Core report

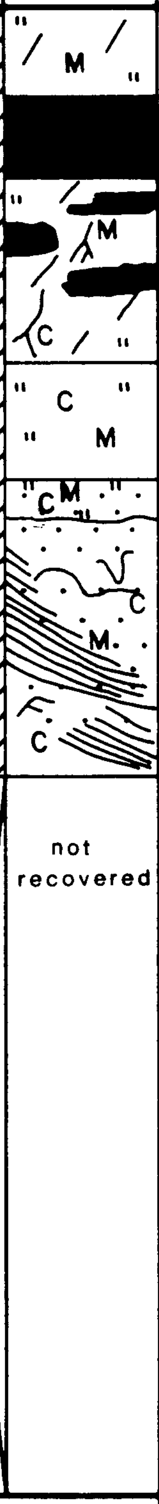
Well no	Core no.
30/9 – 4	8

Interval	Area	Cut	Date
3467 – 3472m	Norwegian North Sea	3467 – 3472 m	21.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3467 – 3469.6m 52%	Kalgraff/Giskeødegaard

Depth scale: 3467, 3468, 3469, 3470, 3471, 3472

Lithological column:



Depths	Lithological descriptions	Shows
3467 – 3467.30	**Sh:** dusky yel brn, mod hd, hd, fis, pl fos, micromic-mica, non calc.	
3467.30 – 3467.60	**Coal:** blk, hd, brit, shiny, i.p. tr shly.	
3467.60 – 3468.20	**Coaly Sh:** olv gy – dusky yel brn, hd, blky – fis, micromic, pl foss, tr slty, roots.	No show.
3468.20 – 3468.60	**Sh/Slst:** olv gy – dusky yel brn, hd, blky – fis, micromic, pl foss, non calc.	
3468.60 – 3468.70	**Slst/sst:** olv gy, hd, blky, micromic, pl foss, v sdy grdg Sst, vf.	
3468.70 – 3469.60	**Sst:** m gy, clr – mlky Qtz, gen f, tr m, hd – mod hd, subang – subrnd, mica – v mica, silic cmt, carb, mod srtd, pr vis por. Trough ripple, cntrtd, burrows.	No show.

Well	Core report	Core no.
30/9 – 4	1 of 1	8

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		9

Interval	Area	Cut	Date
3472 – 3475m	Norwegian North Sea	3472 (2916)– 3475 (2918)m	22.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3472 – 3474.7m 90%	Giskeødegaard/Kalgraff

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3472		M C		**Sh:** olv gy – dusky yel brn, hd, blky – fis, micromic,carb, sl slty, slick, non calc.	
		"			
3473		C		**Sh:** olv gy, mod hd, wh min on surface on slick, else a/a.	
		M			
		"			
3474		C		**Sh:** dusky yel brn – brn blk, hd, blky – fis, micromic, carb, occ slick, non calc.	
		M			
		not recovered	3474.7		
3475			3475.0		
3476					
3477					

Well	Core report	Core no s
30/9 – 4	1 of 1	9

Norsk Hydro

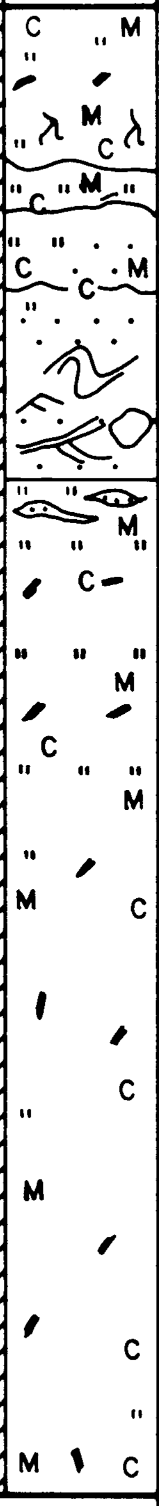
Well no	Core report	Core no.s
30/9 – 4		10

Interval	Area	Cut	Date
3475 – 3480m	Norwegian North Sea	3475 – 3484m	23.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3475 – 3483.8m 98%	Giskeødegaard/Kjøsnes

Depth scale: 3475, 3476, 3477, 3478, 3479, 3480

Lithological column:



Depths	Lithological descriptions	Shows
	Sh: olv gy – lt gy, mod hd – hd, blky, micromic, mica-v mica, carb, slty – v slty in pt, non calc, coal frags, poss roots, slick.	
3475.57	**Slst:** dusky yel brn, mod hd, blky, micromic, carb, pl frags, sl calc.	
3475.65	**Sh:** olv gy – lt gy, mod hd, blky – fis, micromic, v mica, v slty in pt, also vf sdy, pl frags, carb, non calc, grdg to	No show.
3476.4 – Sealed sample – 3476.53, 3476.57	**Sst:** lt gy, clr Qtz, vf – f, hd, subang – submd, mica, micromic, carb, arg lam, mod srtd, calc cmtd, pr – mod vis por, plant frags, ripple, cntrtd pos trough x – strat, mud clast.	No show.
	Len bd.	
	Slst: lt gy – dusky yel brn, mod hd, blky – fis, mica-v mica, micromic, carb, arg, coal frags, non calc. Rich in plant fos.	
	Sh: dusky yel brn, hd, blky, subfis, micromic, carb, plant frags, occ slty, non calc.	
	Sh: v carb rich in pl fos, else a/a.	

Well	Core report	Core no.s
30/9 – 4	1 of 2	10

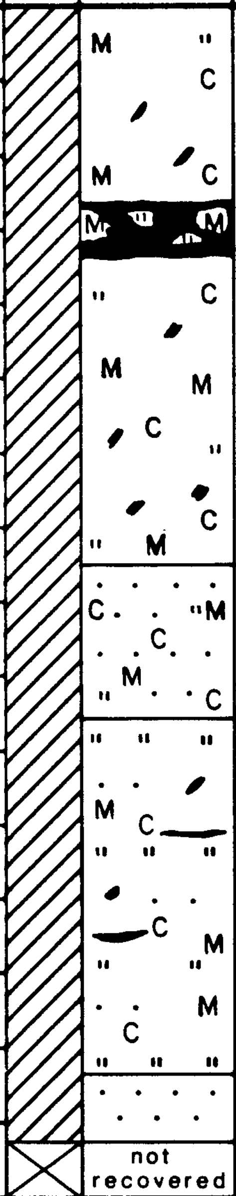
Norsk Hydro

Well no	Core report	Core no's
30/9 – 4		10

Interval	Area	Cut	Date
3480 – 3484m	Norwegian North Sea	3475 – 3484m	23.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3475 – 3483.8m 98%	Giskeødegaard/Kjøsnes

Depth scale: 3480, 3481, 3482, 3483, 3484, 3485

Re-covery / Lithological column:



Depths	Lithological descriptions	Shows
	Sh: dusky yel brn, hd, blky, subfis, micromic, carb – v carb, sl slty, plant foss, non calc.	
3480.70 – 3480.85	**Coaly Sh:** brn blk – olv blk, hd, blky, sl micromic, tr slty, non calc.	
	Sh: olv gy, hd, blky, subfis, micromic, carb, sl slty, v rich in plant fos, non calc.	
3481.90 – 3482.40	**Sst:** lt gy – m gy, clr Qtz, vf, mod hd, subang – subrnd, v mica, micromic, sl slty, carb, kaol silic cmt, occ calc cmt, mod – pr srtd, no vis por.	No show.
	Slst: lt gy – olv gy, mod hd, subfis, micromic, mica – v mica, carb, occ grdg vf Sst, plant frags, non calc.	
	Coal prtgs.	
3483.60 – 3484	**Sst:** lt gy, clr Qtz, vf – f, occ m, hd, subang – subrnd, mica, tr carb, silic/Kao cmt, pr – mod srtd, mod vis por.	No show.

Well	Core report	Core no's
30/9 – 4	2 of 2	10

Norsk Hydro

Core report

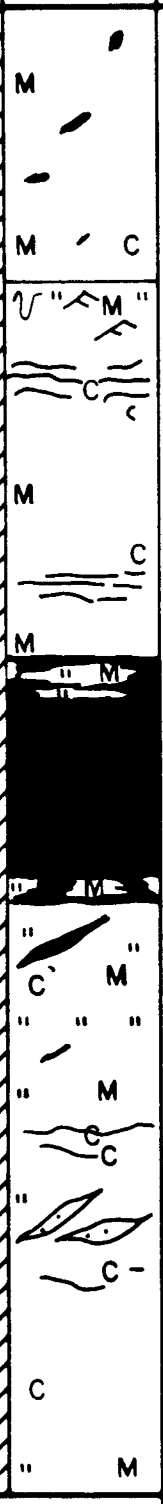
Well no	Core no s
30/9 – 4	11

Interval	Area	Cut	Date
3484 – 3489m	Norwegian North Sea	3484 – 3500m	23.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3484 – 3498.1m 88%	Giskeødegaard/Kjøsnes

Depth scale: 3484, 3485, 3486, 3487, 3488, 3489

Lithological column:



Depths	Lithological descriptions	Shows
	Sh: dusky yel brn – olv gy, wh, hd, fis, micromic, carb, plant frags, non calc.	
3484.95	Bioturbated.	
	Sst: lt gy – m gy, clr Qtz, vf – f, occ m, subang-subrnd, mica, carb, coal frags, kaol/silic cmt, mod – pr srtd, pr – fair vis por.	No show.
3485.26 – Sealed sample – 3485.40		
	Ripples.	
	Lam of Sh.	
3486.20		
	Coal: blk – brn blk, hd, brit, occ fis, shiny, grdg coaly sh in pt.	
3487		
	Slst: olv gy – lt gy, mod hd, fis, micromic, v mica in lam, carb, coal lam, occ grdg Sh, non calc.	No show.
	Len of vf Sst, pos flaser.	
	Sh: dusky yel brn, hd, blky – subfis, carb, micromic, non calc, occ slty in pt.	
	Slick.	

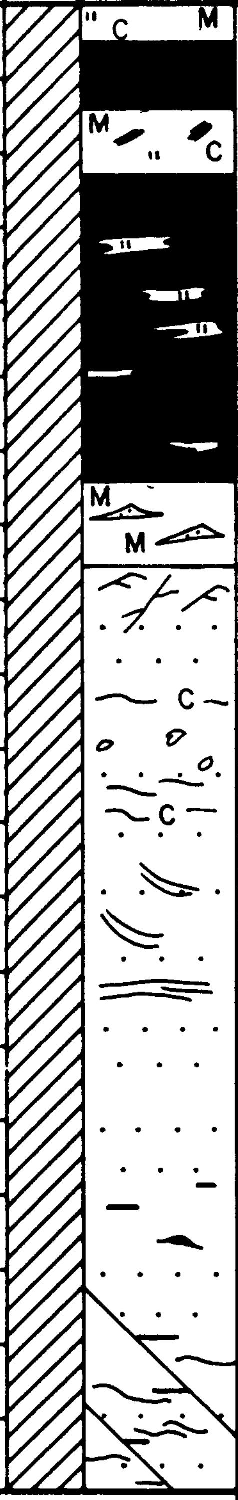
Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		11

Interval	Area	Cut	Date
3489 – 3494m	Norwegian North Sea	3484 – 3500m	23.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3484 – 3498.1m 88%	Giskeødegaard/Kjøsnes

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
3489			3489.10	**Sh:** dusky yel brn, hd, blky – fis, carb, micromic, occ slty in pt, non calc.	
			3489.35	**Coal:** brn blk – blk, hd, fis, shiny, brit.	
			3489.60	**Sh:** m gy – olv gy, hd, blky – subfis, micromic, carb, coal frags, sl slty, non calc.	
3490				**Coal:** brn blk – blk, hd, blky – fis, arg, shiny, shaly/slty in pt.	
			3490.60	**Sh:** dusky yel brn, mod hd, fis, sl micromic, slick, non calc, pos flaser bd.	
3491			3490.90	Microfault.	No show.
				Sst: m gy, clr Qtz, vf – f, occ m hd, subang – subrnd, mica, carb, arg in lam, silic/kaol cmt, pred silic cmt, mod srtd, no – pr vis por.	
				Coal Prtgs.	
3492				Pos trangle bd.	
				Coal lam.	
3493			3493.03 – Sealed sample – 3493.25		
				Faults (50°)	
3494				Coal lam.	

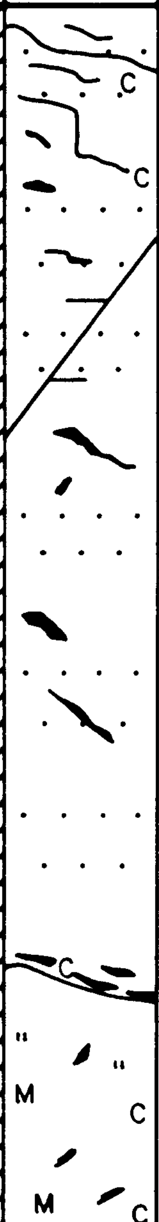


Well	Core report	Core no s
30/9 – 4	2 of 4	11

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		11

Interval	Area	Cut	Date
3494 – 3499m	Norwegian North Sea	3484 – 3500m	23.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3484 – 3498.1m 88%	Giskeødegaard/Kjøsnes

Depth scale	Recovery	Lithological column	Depths	Lithological descriptions	Shows
3494				**Sst:** m gy – lt gy, clr Qtz, vf – f, occ m, mod hd – hd, subang – submd, mica, carb, silic/kaol cmt, pred silic cmt, mod srtd, no – pr vis por. V rich in coal frags.	No show.
3495				Fault (50°)	
3496				**Sst:** lt gy, clr – mlky Qtz, hd – mod hd, f – m, subang-submd, mica, carb – v carb, silic/kaol cmt, mod – pr srtd, pr - fair vis por.	No show.
3497			3497.27	**Sh:** olv gy – dusky yel brn, hd, blky – subfis micromic, tr slty, carb, occ slick, plant foss.	
3498			3498.10		
		not recovered			
3499					

Norsk Hydro

Well no	Core report	Core no:s
30/9 – 4		11

Interval	Area	Cut	Date
3499 – 3500m	Norwegian North Sea	3484 – 3500m	23.1.85
Scale	**Well R.K.B**	**Recovery**	**Geologist**
1:25	25m	3484 – 3498.1m 88%	Giskeødegaard/Kjøsnes

Depth scale	Re-covery	Lithological column	Depths	Lithological descriptions	Shows
		not recovered			
3500			3500		

Well	Core report	Core no:s
30/9 – 4	4 of 4	11

Norsk Hydro

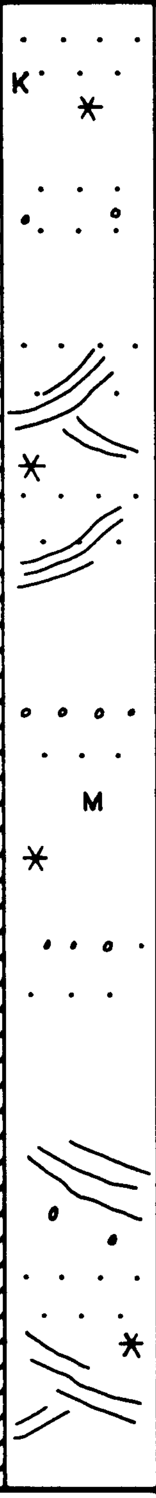
Well no		Core no s
30/9 – 4	Core report	12

Interval	Area	Cut	Date
3580 – 3585m	Norwegian North Sea	3580 - 3598.1m	26.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3580 – 3598.11m 100%	Kjøsnes/Giskeødegaard

Depth scale: 3580, 3581, 3582, 3583, 3584, 3585

Lithological column:



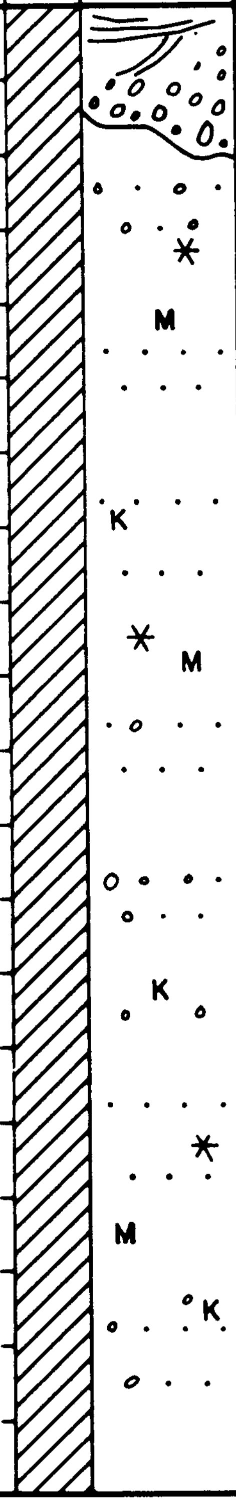
Depths	Lithological descriptions	Shows
	Sst: lt gy – pl yel brn, clr Qtz, f – m, tr crs, firm fri, subang – subrnd, kaol, silic, tr calc cmt, tr glau, mod wl srtd, pr vis por. Yel – brn sptd min flu.	No show.
	Trough x – strat.	
	Sst: a/a, arg in lam.	
	Pbls.	
	Sst: pl yel brn, clr Qtz, f – m, pred m, tr crs, tr pbly, hd, subang – subrnd, mica, calc cmt, mod srtd, no vis por. Even brn min flu.	
3583.77 – Sealed sample – 3583.95		
	Trough x – strat.	No show.
	Pbls.	

Well	Core report	Core no s
30/9 – 4	1 of 4	12

Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		12

Interval	Area	Cut	Date
3585 – 3590m	Norwegian North Sea	3580 - 3598.1m	26.1.85
Scale	**Well R.K.B**	**Recovery**	**Geologist**
1:25	25m	3580 – 3598.11m 100%	Kjøsnes/Giskeødegaard



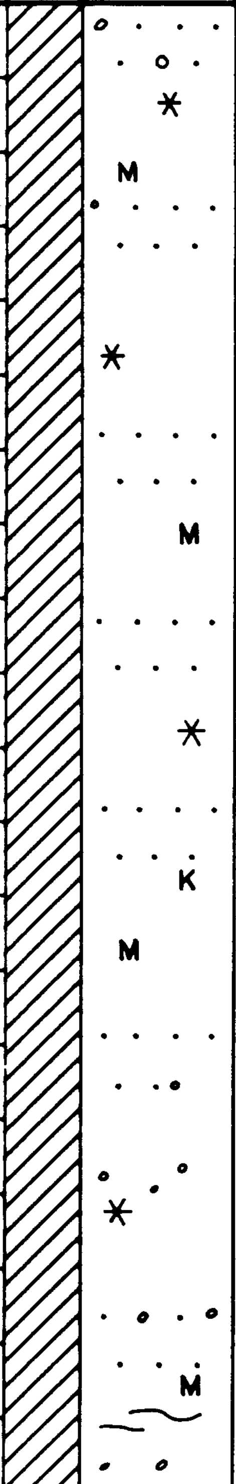
Depth scale	Depths	Lithological descriptions	Shows
3585		Trough x – strat.	
	3585.5	**Sst:** lt gy – pl yel brn, clr Qtz, f – m, pred m, tr crs, tr pbly, subang – subrnd, fri, calc cmtd, kaol, silic cmt in pts, mod wl srtd, v pr srtd in pts. Spotted – even yel – brn min flu, pr – fair vis por.	
3586		**Sst:** f – m, fair vis por else a/a.	No shows.
3587			
3588		**Sst:** pl yel brn, mod hd, pbly, kaol/silic cmt, tr calc, else a/a.	
3589			
3590			

Norsk Hydro

Well no	Core report	Core no.
30/9 – 4		12

Interval	Area	Cut	Date
3590 – 3595m	Norwegian North Sea	3580 - 3598.1m	26.1.85
Scale	**Well R.K.B.**	**Recovery**	**Geologist**
1:25	25m	3580 – 3598.11m 100%	Kjøsnes/Giskeødegaard

Depth scale	Recovery	Lithological column	Depths	Lithological descriptions	Shows
3590				**Sst:** lt gy – lt yel brn, clr Qtz, f – m, pred m, tr pbly, mod hd, subang – subrnd, mica, glau, kaol, silic cmtd, occ calc cmt, mod srtd, fair vis por. Spotted yel – brn min flu.	
3591				**Sst:** a/a calc cmt.	
3592					No shows.
3593				**Sst:** tr crs, pbly, calc cmtd, else a/a.	
			3593.68 – Sealed sample – 3593.87		
3594				Pbls.	
				Arg lam.	
3595				**Sst:** a/a, no vis por.	



Norsk Hydro

Core report

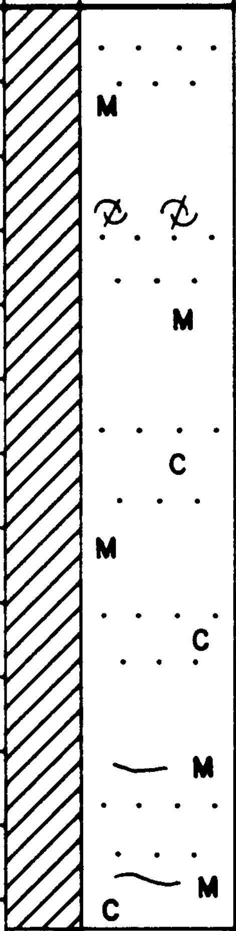
Well no	Core no's
30/9 – 4	12

Interval	Area	Cut	Date
3595 – 3598.11m	Norwegian North Sea	3580 - 3598.1m	26.1.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	3580 – 3598.11m 100%	Kjøsnes/Giskeødegaard

Depth scale: 3595, 3596, 3597, 3598

Re-covery / Lithological column:



Depths	Lithological descriptions	Shows
	Sst: dk yel brn, clr Qtz, f – m, subang – subrnd, mod hd, mica, calc cmt, brackiopods, carb, tr shl frags, pr srtd, pr vis por, brn min flu.	
	Sst: lt gy, clr Qtz, f – m, hd, subang – subrnd, silic/kaol cmt, tr calc cmt, mica, tr carb, mod wl srtd, no vis por. Spotted yel min flu.	
	Sst: calc cmt, else a/a.	No shows.
	Mica in lam.	
3598.11	**Sst:** lt gy – yel brn, carb, else a/a.	

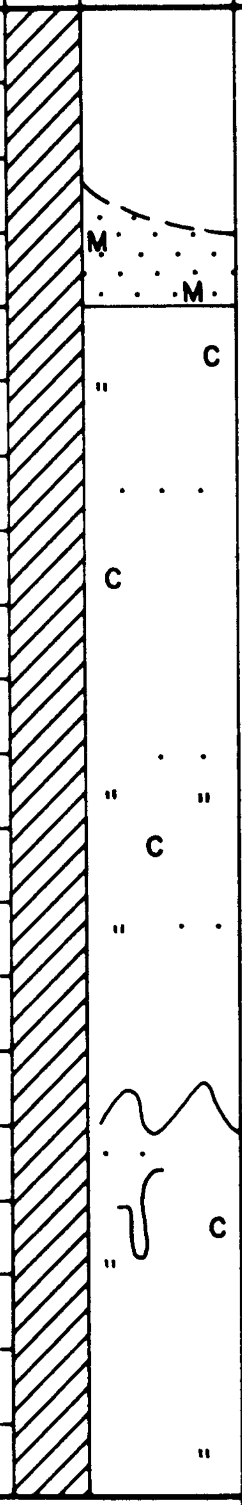
Norsk Hydro

Well no	Core report	Core no s
30/9 – 4		13

Interval	Area	Cut	Date
4268 – 4273m	Norwegian North Sea	4268 – 4277 m	13.2.85

Scale	Well R.K.B	Recovery	Geologist
1:25	25m	4268 – 4276.5m 94.4%	Kalgraff/Sæther

Depth scale: 4268, 4269, 4270, 4271, 4272, 4273



Depths	Lithological descriptions	Shows
	Sh: brnsh blk – brnsh gy, hd, fis, sl micromic, carb, non calc, slick.	
4268.78 – 4269.00	**Sst:** m dk gy, clr – mlky Qtz, vf – f, hd, subang subrnd, kao cmt, v mica, carb, tr grn min (chlor/glau), mod srtd, no vis por, no show.	No show.
	Sh: brnsh blk – brnsh gy, hd, fis, sl micromic, carb, slty, non calc, slick, sd lam.	
	Sh/Slst: dk gy – brnsh blk, hd – v hd, subfis – fis, micromic, carb, v slty, vf sdy, grdg Sst; non calc.	
	Sh: brnsh blk – brnsh gy, tr dusky rd, hd, blky, micromic, carb, slty, cntrt (burr), non calc.	

Norsk Hydro

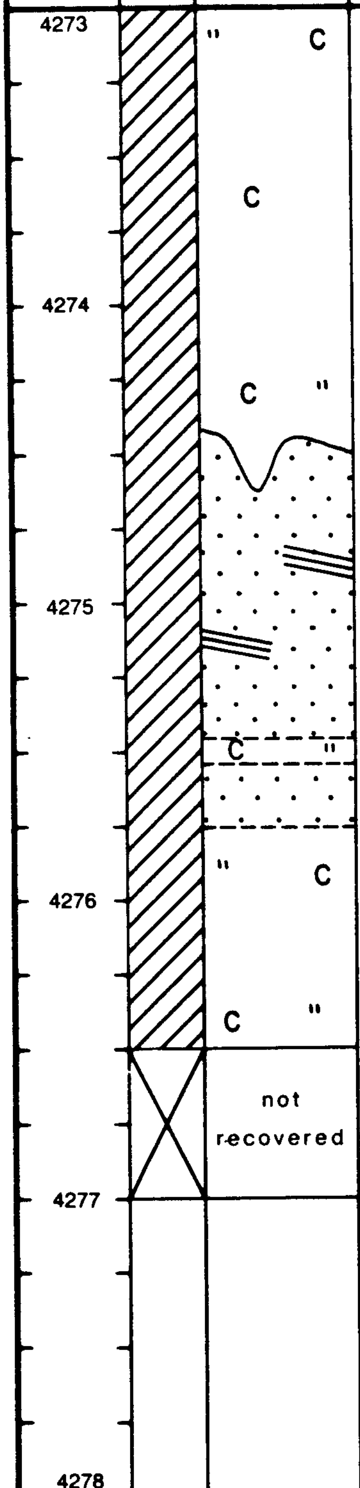
Core report

Well no	Core no.s
30/9 – 4	13

Interval	Area	Cut	Date
4273 – 4277m	Norwegian North Sea	4268 – 4277 m	13.2.85

Scale	Well R.K.B.	Recovery	Geologist
1:25	25m	4268 – 4276.5m 94.4%	Kalgraff/Sæther

Depth scale / Re-covery / Lithological column



Depths	Lithological descriptions	Shows
	Sh: brnsh blk – brnsh gy, hd, fis, sl micromic, carb, non calc, slick.	
	Sh: brnsh blk – brnsh gy, hd, blky, sl micromic, carb, non calc, slick.	
4274.50		
	Sst: m gy, clr – mlky Qtz, vf – m, hd, subang – subrnd, dol cmt, kao cmt, tr grn min (chlor/glau), mod srtd, no vis por, no show.	No show.
4275.45		
4275.55	**Sh:** a/a.	
	Sst: m gy, clr – mlky Qtz, vf – m, hd, subang – subrnd, dol cmt, kao cmt, tr grn min (chlor/glau), mod srtd, no vis por, no show.	
4275.75		
	Sh: brnsh blk – brnsh gy, hd, blky, sl micromic, carb, non calc, slick.	
4276.50		
4277		

APPENDIX II
SIDE-WALL CORES DESCRIPTIONS

Norsk Hydro

SERVICE COMPANY: Schlumb.	
ASKED: 30	
SHOT: 30	
LOST: 0	
EMPTY: 0	
SAMPLES RECOVERED: 30	
GEOLOGIST: Giskeødegaard/Kalgraff	

SIDE WALL CORES DESCRIPTION

WELL: 30/9 – 4	RUN N°: 1
LICENCE: 079	PAGE N°: 1 of 2
	DATE: February 21 – 22, 85

tr : trace - M : medium - G : good

N°	DEPTHS m	REC cm	LITHOLOGY	Fluorescence tr	M	G	CUT
1	4307	2	**Sst:** lt gy – m gy, clr – mlky Qtz, vf – m, pred f, firm, subang – subrnd, mod srtd, silic/ kaol cmt, no vis por.				
2	4302	2	**Sst:** brn blk – brn, clr Qtz, vf – f, pred vf, subang-subrnd, v slty grd **Slst**, v micromic, arg, mod srtd, no vis por.				
3	4295	2.5	**Sh:** dk rd brn – olv gy, dusky yel brn, mod hd, blky-subfis, micromic, non calc.				
4	4292	3.5	**Sh:** dusky yel brn – olv gy, firm – mod hd, blky, occ subfis, micromic, non calc.				
5	4288	2.5	**Sst:** olv gy – lt gy, clr Qtz, vf – m, pred f, hd – mod hd, subang – subrnd, rr micromic, silic/Kaol cmt, porr srtd, w cmt, no vis por.				
6	4283	1	**Sh:** brn gy – olv gy, mod hd, blky, slty, micromic, non calc.				
7	4262	3	**Sh:** olv gy – dk gy, hd – mod hd, subfis – fis, micromic, loc sl slty, non calc.				
8	4253.5	2	**Sst:** lt gy – wh, clr – mlky Qtz, vf – f, occ m, firm-lse, subang – subrnd, rr micromic, pred kaol cmt, mod – pr srtd, poor vis por.				
9	4245	2	**Sh:** olv gy – grn gy, hd, blky, v micromic, v slty in pt, loc grdg vf **Sst**, arg, non calc.				
10	4240	3	**Sst:** lt gy – m dk gy, clr – mlky Qtz, vf – m, pred f, subang – subrnd, silic/kaol cmt, pr – mod srtd, no vis por.				
11	4237.5	1.5	**Sst:** also mica, else a/a.				
12	4233	3	**Sst:** lt gy – wh, clr – mlky Qtz, vf – crs, pred f – m, subang-subrnd, tr micromic, pred kaol cmt, pr srtd, pr vis por.				
13	4228	1.5	**Sst:** also tr Pyr, else a/a.				
14	4223	2.5	**Sh:** dk gy – dk grn gy, mod hd, blky, micromic, occ slty, non calc.				
15	4218	2.5	**Sst:** lt gy – m lt gy, clr – mlky Qtz, vf – m, pred f, subang – subrnd, rr micromic, pred kaol cmt, mod – pr srtd, no vis por.				
16	4210	2	**Sh:** olv gy – brn gy, mod hd, blky, subfis, micromic, in pt slty grdg **Slst**, non calc.				
17	4195.5	2	**Sst:** m gy – m lt gy, clr – mlky Qtz, vf – m, firm – mod hd, subang – subrnd, micromic, tr mica, tr carb, silic/kaol cmt, mod srtd, pr – no vis por.				
18	4191	2.5	**Sst:** also w/len of carb, cly and tr Pyr, occ calc cmt, else a/a.				

VW 81089

Norsk Hydro

SIDE WALL CORES DESCRIPTION

WELL 30/9 -4	RUN N°: 1
LICENCE: 079	PAGE N°: 2 of 2
	DATE: February 21 – 22, 85

SERVICE COMPANY	Schlumb.
ASKED	30
SHOT	30
LOST	0
EMPTY	0
SAMPLES RECOVERED	30
GEOLOGIST	Giskeødegaard/Kalgraff

tr : trace - M : medium - G : good

N°	DEPTHS m	REC cm	LITHOLOGY	Fluorescence	CUT tr M G
19	4177.5	2	**Sst:** gy – m gy, clr – smokey Qtz, f – crs, pred m, mod hd, subang – submd, tr Pyr, tr mica, carb, coal lam, silic cmt, pr srtd, pr vis por.		
20	4174.5	3.5	**Sh:** dusky yel brn – brn blk, firm – mod hd, blky, occ subfis, micromic, slty in pt grdg **Slst**, tr carb, non calc.		
21	4171	1.5	**Sh:** dk gy – dusky yel brn, else a/a.		
22	4168	1.5	**Sh:** dk gy – dusky yel brn, firm – mod hd, blky, occ subfis, micromic, v slty grdg **Slst**, occ vf sdy, tr carb, non calc.		
23	4162	2.5	**Sh:** occ slty, else a/a.		
24	4156	2	**Sh:** dusky yel brn, mod hd, subfis, occ blky, micromic, slty, tr pyr, non calc.		
25	4149	1.5	**Sst:** brn gy – olv gy, clr Qtz, vf – f, mod hd, subang submd, micromic, tr mica, v slty in pt grdg Slst, silic cmt, mod – pr srtd, no vis por.		
26	4139	2	**Sh:** dusky yel brn, mod hd, subfis, blky, micromic, occ v slty grdg **Slst**, non calc.		
27	4130	2	**Slst:** dusky yel brn, mod hd, subfis, blky micromic, tr carb, non calc.		
28	4115	2	**Slst:** a/a.		
29	4102	1.5	**Sh:** dusky yel brn, mod hd, blky, occ subfis, micromic, tr carb, occ v slty grdg **Slst**, non calc.		
30	4088	1.5	**Sh:** a/a.		

Vw 81069

Norsk Hydro

SIDE WALL CORES DESCRIPTION

WELL 30/9 – 4	RUN N°: 2
LICENCE: 079	PAGE N°: 1 of 2
	DATE: February 22, 85

SERVICE COMPANY: Schlumb.
ASKED: 30
SHOT: 30
LOST: 0
EMPTY: 0
SAMPLES RECOVERED: 30

GEOLOGIST: Giskeødegaard/Kagraff

tr : trace - M : medium - G good

N°	DEPTHS m	REC cm	LITHOLOGY	Fluorescence	tr	M	G	CUT
31	4080	2	**Sh:** dusky yel brn – olv gy, mod hd – firm, blky occ subfis, micromic, tr carb, non calc.					
32	4064	3	**Slst:** olv gy – dk gy, mod hd – hd, blky, occ subfis, micromic, tr mica, occ vf sdy grdg **Sst**, sl calc.					
33	4050	2.5	**Sh:** dusky yel brn, mod hd, blky micromic, slty, non calc.					
34	4045	2.5	**Sh:** a/a.					
35	4025	2	**Sh:** a/a.					
36	4003	2.5	**Sh:** dusky yel brn, mod hd, blky, micromic, slty, non calc.					
37	3974	2	**Sh:** a/a.					
38	3955	2	**Sh:** brn blk, mod hd, blky, rr carb, micromic, slty, non calc.					
39	3921	2	**Sh:** dusky yel brn – brn blk, firm – mod hd, blky subfis, slty, in pt v slty grdg **Slst**, micromic, tr carb, mica, rr vf sdy, non calc.					
40	3895	2.5	**Sh:** fis, slty, else a/a.					
41	3870	2	**Sh:** dusky yel brn – brn blk, mod hd, subfis, slty in pt, micromic, tr carb, non calc.					
42	3843	2.5	**Sh:** a/a.					
43	3818	2	**Slst:** brn blk – gy blk, mod hd, blky – subfis, micromic, tr mica, tr carb, occ vf sdy, non – v sl calc.					
44	3791	2.5	**Slst:** rr sdy, no calc, else a/a.					
45	3755	2.5	**Slst:** a/a.					
46	3740	2.5	**Sh:** brn blk – gy blk, mod hd, blky, occ subfis, micromic, tr mica, tr carb, slty grdg Slst, non calc.					
47	3714	2	**Sh:** dusky yel brn – brn blk, mod hd, subfis, occ blky, micromic, tr mica, tr carb, slty in pt grdg **Slst**, non calc.					
48	3679	2	**Sh:** a/a.					

Norsk Hydro

SIDE WALL CORES DESCRIPTION

WELL: 30/9 – 4	RUN N°: 2
LICENCE: 079	PAGE N°: 2 of 2
	DATE: February 22, 85

SERVICE COMPANY	Schlumb.
ASKED	30
SHOT	30
LOST	0
EMPTY	0
SAMPLES RECOVERED	30
GEOLOGIST	Giskeødegaard/Kalgraff

tr : trace - M : medium - G : good

N°	DEPTHS m	REC cm	LITHOLOGY	Fluorescence tr	Fluorescence M	Fluorescence G	CUT
49	3652	3	**Sh:** dusky yel brn – olv gy, mod hd, blky – subfis, micromic, mica, tr carb, slty in pt grdg **Slst**, non calc.				
50	3634	3	**Sh:** grdg **Slst**, else a/a.				
51	3628	2.5	**Slst:** olv gy – dusky yel brn, mod hd, blky, mica, micromic, tr carb, sdy, occ v sdy grdg **Sst**, vf – m, non calc.				
52	3621.5	3	**Sst:** m gy – dk gy, clr – mlky Qtz, vf – m tr crs, firm – mod hd, subang – subrnd, micromic, mica, in pt v arg, cly/silic cmt, pr srtd, pr vis por.				
53	3573	3	**Sst:** m lt gy – gy, clr – mlky Qtz, vf – crs, pred m, subang – subrnd, mica, micromic, carb, kaol/calc cmt, tr grn min, pr srtd, pr vis por.				
54	3566.5	2.5	**Sst:** a/a.				
55	3558	2	**Sst:** lt gy – gy, clr – mlky Qtz, vf – f, firm, mica, micromic, carb, arg, cly/calc cmt, wl srtd, fair – pr vis por.				
56	3523	2	**Slst:** gy – brn gy, mod hd – firm, blky, v micromic, mica, arg, loc vf sdy, grdg **Sst**, non calc.				
57	3509	2	**Sh:** olv gy – dusky yel brn, mod hd, blky, occ subfis, micromic, tr carb, also loc vf sdy grdg **Sst**, non calc.				
58	3416	2	**Sst:** vf – f, cly in lam, else a/a.				
59	3406	3.5	**Sh** w/clasts of **Sst: Sh:** olv gy, firm – mod hd, micromic, slick. **Sst:** vf – m, subang – subrnd, kaol/silic cmt, arg, carb, pr srtd, fair – pr vis por.				
60	3307	2	**Sst:** brn gy – brn blk, clr – smokey Qtz, vf, mod hd, subang – subrnd, micromic, arg, tr carb, silic cmt, fair srtd, fair vis por.				

Norsk Hydro

SIDE WALL CORES DESCRIPTION

WELL: 30/9-4	RUN N°: 3A	SERVICE COMPANY: Schlumb.	
LICENCE: 079	PAGE N°: 1 of 2	ASKED: 30	SHOT: 30
	DATE: January 2, 1985	LOST: 1	EMPTY: 2
		SAMPLES RECOVERED: 27	
		GEOLOGIST: Godvik/Beckman	

tr : trace - M : medium - G : good

N°	DEPTHS m	REC cm	LITHOLOGY	Fluorescence tr	M	G	CUT
61	3285	3	**Clyst:** dk grnsh gy-grnsh blk, mod hd-hd, blky-subfis, non slty, non calc.				
62	3282.5	3.5	**Clyst:** dk grnsh gy-olv blk, hd, blky, non slty, non calc.				
63	3280	1	**Clyst:** dusky brn, mod hd-hd, blky, non slty, non calc.				
64	3275		Empty				
65	3270.6		Empty				
66	3261.5	2.5	**Clyst:** brnsh blk-dk gy, hd-mod hd, non slty, non calc.				
67	3257.5	1.5	As for 3261.5 m.				
68	3253.5	1.5	As for 3261.5 m.				
69	3250.5	1.5	**Clyst:** brnsh blk, hd-mod hd, non slty, v sl calc.				
70	3247.5	1.5	As for 3250.5 m, but sl calc.				
71	3244.5	1.5	As for 3247,5 m.				
72	3239	1.5	As for 3247,5 m.				
73	3230	1.5	As for 3250.5 m.				
74	3213	1	As for 3250.5 m, but non calc.				
75	3192.5	1	As for 3214 m.				
76	3159	2	As for 3213 m.				
77	3144		Lost.				
78	3136	2.5	**Clyst:** m dk gy-dk gy, hd-mod hd, sl slty, sl calc.				

Norsk Hydro

SIDE WALL CORES DESCRIPTION

WELL	30/9-4	RUN Nº	3A
LICENCE	079	PAGE Nº	2 of 2
		DATE	January 2, 1985

SERVICE COMPANY Schlumb.
ASKED 30
SHOT 30
LOST 1
EMPTY 2
SAMPLES RECOVERED 27

GEOLOGIST Godvik/Beckman

tr : trace - M : medium - G good

Nº	DEPTHS m	REC cm	LITHOLOGY	Fluorescence	CUT
79	3129	2	**Clyst:** brnsh blk, hd-mod hd, non slty, non calc.		
80	3121.5	2.5	As for 3129 m, but v sl slty.		
81	3094	2	As for 3129 m, but sl slty, v sl calc.		
82	2820	2	**Clyst:** olv blk, mod hd, sl slty, sl micropyr, v calc.		
83	2809	2	As for 3120 m, grdg Mrl.		
84	2783	3	**Clyst:** m lt gy, mod hd, sl slty, v calc.		
85	2780	2	**Clyst/Sst:** olv blk, hd, appearant pt silic cmt, non calc. **Sd:** vf.		
86	2771.5	2	**Lst:** pinksh gy, mod hd-fri, micro-cryptoxln.		
87	2767.5	2	**Clyst:** olv gy-brnsh gy, mo dhd-hd, non slty, calc.		
88	2760.5	2	As for 2767.5 but v calc.		
89	2753	3	As for 2760.5, but v sl micromic.		
90	2739.5	3	As for 2767.5, but non calc.		

APPENDIX III

WELL SUMMARY

GEOLOGICAL WELL SUMMARY

RFT RESULTS

DST RESULTS

PRELIMINARY WELL SUMMARY

Coord: 60° 28'12.83"N 02° 45'32.05"E UTM: 6 703 963.6mN 486 742.8mE UTM at T.D.: 6 704 025 mN 484 637 mE Line: NH 82 – 064, SP 444 (surface) NH 82 – 065, SP 360 (at T.D.) Rig: Treasure Seeker Water depth: 135 mRKB (-110 mMSL) Stopped in: Statfjord Formation	On location: November 21, 1984 Spudded: November 22, 1984 At T.D.: February 14, 1985 Completed: March 1985 T.D. Driller: 4303 mMD/3577 mTVD T.D. Logger: 4307 mMD Wireline logging: Schlumberger Mud logging: Exploration Logging.

WELL 30/9-4

COUNTRY NORWAY

OPERATOR NORSK HYDRO

LICENCE 079

OWNED BY N. HYDRO/SAGA/STATOIL

TARGETS
PRIMARY: The Brent Group Sandstones
SECONDARY: The Statfjord Formation

RESULTS: Oil and gas was encountered in upper Brent sand and Ness fm. of the Brent grp. The oil and gas column was not in communication. Lower Ness, Etive and Statfjord fm. were water bearing.

	Upper Brent Sand. 3298-3379m(2776-2841mTVD)	Ness 3379-3549m(2841-2978m)
Gross:	81.0(65 TVD)	170m(137mTVD)
Net sd:	30.4 (24.4TVD)	51m(41.1mTVD)
Net pay:	27.6(22.1TVD)	10.9m(8.8mTVD)
Av Sw:	20.9%	33.2%
Av Ø:	18.6%	22.2%

CASING

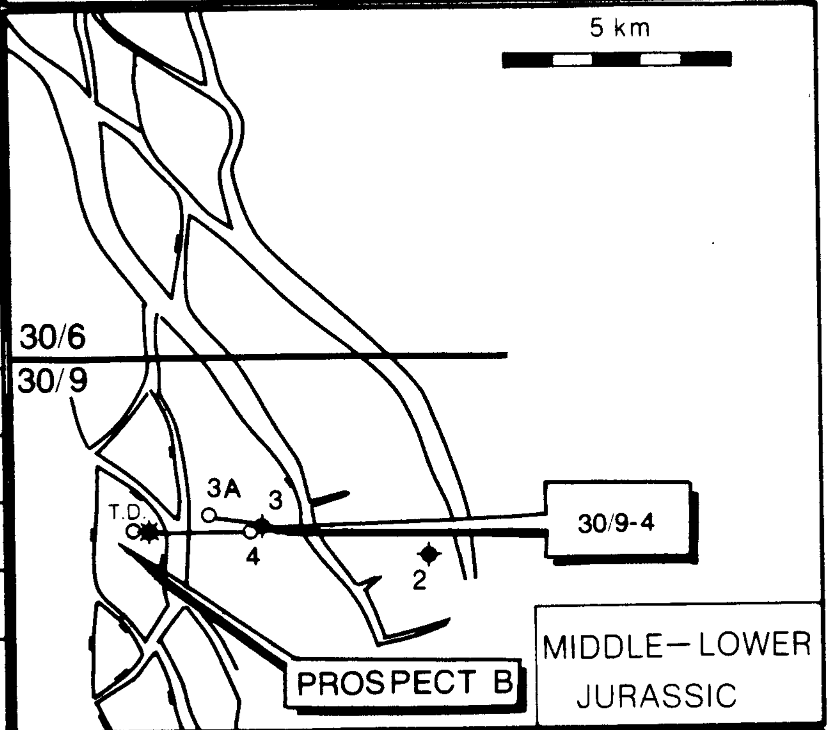
30":	221 mMD
20":	618 mMD
13 3/8":	1648 mMD
9 5/8":	3280 mMD
7" liner:	3553 mMD

CORES

NO 1	3332 – 3350.35 mMD 2804 – 2818.0 mTVD Rec: 100%
NO 2	3350.35 – 3368.6 mMD 2818.0 – 2832.5 mTVD Rec: 100%
NO 3	3368.6 – 3381.0 mMD 2832.5 – 2841.0 mTVD Rec. 88%
NO 4	3432.0 – 3437.0 mMD 2883.5 – 2887.5 mTVD Rec: 94%
NO 5	3437.0 – 3445.0 mMD 2887.5 – 2894.0 mTVD Rec: 93.75%
NO 6	3445.0 – 3457.0 mMD 2894.0 – 2904.0 mTVD Rec: 85%
NO 7	3457.0 – 3467.0 mMD 2904.0 – 2912.0 mTVD Rec: 62.5%
NO 8	3467.0 – 3472.0 mMD 2912.0 – 2916.0 mTVD Rec: 52%
NO 9	3472.0 – 3475.0 mMD 2916.0 – 2918.0 mTVD Rec: 90%
NO 10	3475.0 – 3484.0 mMD 2918.0 – 2926.0 mTVD Rec: 98%
NO 11	3484.0 – 3500.0 mMD 2926.0 – 2939.0 mTVD Rec: 88%
NO 12	3580.0 – 3598.1 mMD 3002.0 – 3016.0 mTVD Rec: 100%
NO 13	4268.0 – 4277.0 mMD 3546.0 – 3555.0 mTVD Rec: 94.4%

GAS RECORD

222 – 1665m: Tr – 0.42% C1
1665 – 1667m: 0.1% C1 – C3
1667 – 2067m: 0.06 – 0.1 % C1
2067 – 2402m: 0.06 – 0.14 % C1 – C2
2402 – 2764m: 0.06 – 0.12 % C1
2764 – 2921m: 0.04 – 0.1 % C1, loc C2 – NC4
2921 – 3290m: 0.06 – 0.12 % C1 – C3
3290 – 3545m: 0.04 – 0.2 % C1 – C3, locI, NC4
Peak: 3320m: 0.42 % C1 – C3
Peak: 3339m: 0.3 % C1 – IC4
3545 – 3730m: 0.04 – 0.6 % C1 -C3 loc IC4
3730 – 4025 m: 0.04 – 0.06 % C1 – C3 loc IC4 and NC4
4025 – 4307m 0.04 - 0.06 % C1 locC2 – C4



LOGS

ISF/LSS/GR	221 – 623m GR to seabed	1A
DIL/LSS/GR	618 – 1448m	2B
"	1397 – 1645m	2C
"	1649 – 3296m	3D
ISF/LSS/GR/MSFL	3281 – 3434m	4E
"	3281 – 3597m	5F
ISF/LSS/GR/SP	3555 – 3679.5m	6G
DIL/LSS/GR	3588.5 4304.5m	7H
DLL/MSFL/GR/CAL	3281 – 3677m	6A
LDL/GR/CAL	618 – 1449m	2A
"	1373 – 1648m	2B
LDL/CNL/GR/CAL	1649 – 3297m	3C
	3281.5-3680.5m	6D
"	3272.4 4305.5m	7E

SDT/NGT	3281 – 3681.5m	6A
NGT	3272.4 – 4305.5m	7E
SHDT	3281 – 3681m	6A
HDT	3281 – 4305.5m	7B
RFT	3296.5 – 3626.5m	6A
	Sample at 3421m	
"	Sample at 3319.5m	6B
"	3595 – 4259m	7B
"	Sample at 4207.2m	7C
CBL/VDL	275 – 1648m	3A
CET/CBL	1200 – 3281m	6A
"	3140 – 3553m	8B
VSP	1624.5 – 4307m	7A
Shot/Rec	CST	
30/27	2739.5 3285m	3A
30/30	4088 – 4307m	7B
30/20	3307 – 4080m	7C

OIL SHOWS

On Sst in cores (locally):
Int. 3332 – 3361.5 mMD (2804–2827 mTVD):
Weak petr odour, dull yel dir flu, weak fast – slow strmg bl wh flu cut, no vis cut, occ bl wh flu resd, no vis resd.
Int. 3452 – 3452.3 mMD (2899.8 – 2900 mTVD):
100% bright yel dir flu, strong fast strmg wh yel flu cut, no vis cut, strong yel wh flu resd, no vis resd.

PRELIMINARY GEOLOGICAL WELL SUMMARY

LOCATED ON	LINE	SP
SURFACE:	NH 82 064	444
T.D.:	NH 82 065	360
WATER DEPTH	110m (MSL)	

WELL 30/9-4

DEPTH m RKB | LITHO SECTION | SYSTEM | SERIES/STAGE | FORMATION | DESCRIPTIONS. mMD (mTVD) | SHOWS

SEA BED 135 mRKB

Drilled w/returns to seabed.

30" 221

QUATERNARY — PLEISTOCENE — NORDLAND GROUP

Sdy Cly: olv gy – olv blk, m dk gy, sft, plas, stky, tr mica, tr lig, tr shell frags. **Sd**: clr Qtz, f m, tr crs, loc pbls, subang – subrnd, tr mica, tr lig, mod – wl srtd.

Tr Pyr.

PLIOCENE

Cly: m dk gy, sft, stky, sl calc.

20" 618

595 (595)

Cly: olv gy – m dk gy, slty, calc.

UTSIRA FORMATION — MIOCENE — TERTIARY

Sd: clr, occ mlky Qtz, vf – crs, pred m, lse, subang – subrnd, glau, mica, mod – loc wl srtd.

Loc tr Shell frags.

Tr – 0.42% C1

845 (843.5)

Cly: olv gy, dusky yel brn, sft – firm, stky, slty, sdy, glau, micromic, occ carb, sl calc.

LATE OLIGOCENE — HORDALAND GROUP

Sd: vf – crs a/a.

Strgs Lst: pale yel brn, m lt gy, mod hd – firm, blky, slty & arg in pt, sl glau, microxln.

Depths: 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250

Depths: 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2150, 2200, 2250, 2300, 2350, 2400, 2450

LATE OLIGOCENE

Sd: clr, v lt gy Qtz, f – m, occ crs, lse, subang – subrnd, mod – poor srtd.

Tr – 0.42% C1

$13\frac{3}{8}$" 1646 (1518)

Clyst: dusky yel brn – olv blk, firm – mod hd, blky, slty, loc pyr, loc micromic, non calc.

1665
1667 m
0.1% C1 – C3

HORDALAND GROUP

Strgs Lst: lt brn mod brn, mod hd, blky, dol, crpxln.

Clyst: m gy – m dk gy, sft – firm, blky – occ subfis, sl stky, in pt sl slty, non calc.

0.06 0.1% C1

TERTIARY — M.-E. EOCENE

Clyst: olv gy – dk grn gy a/a.

E. OLIGOCENE – E. OLIGOCENE

Lst a/a.
Rr **Sd**: clr Qtz, vf – f, subrnd – rnd.

0.06 – 0.1% C1 – C2

Clyst: mod brn – dk red brn, firm – sft, blky, sl micromic, non – sl calc.

2366 (2056)

LATE PALEOCENE — BALDER FM.

Clyst: olv gy – dk gy, firm – mod hd, occ hd, blky subfis, loc slty, non calc.

Tr Tuff **Clyst**: lt gy – m gy, sft – firm, stky, blk specs, non calc.

Strgs Lst: lt gy wh, arg.

2486 (2143.5)

SELE

Clyst: m dk gy – brn gy, dusky yel brn, rr micropyr, else a/a.

0.06 – 0.12% C1

PRELIMINARY GEOLOGICAL WELL SUMMARY

LOCATED ON	LINE	SP
SURFACE:	NH 82 064	444
T.D.:	NH 82 065	360
WATER DEPTH	110 m(MSL)	

WELL **30/9-4**

DEPTH m RKB | LITHO SECTION | SYSTEM | SERIES/STAGE | FORMATION | DESCRIPTIONS. mMD (mTVD) | SHOWS

Depth scale: 2500, 2550, 2600, 2650, 2700, 2750, 2800, 2850, 2900, 2950, 3000, 3050, 3100, 3150, 3200, 3250, 3300, CORES 1 – 3, 3350, 3400, CORES 4 – 11, 3450, 3500, 3550, CORE # 12, 3600, 3650, 3700

TERTIARY; LATE CRETACEOUS; MIDDLE JURASSIC; E.JURA.

Series/Stage: LATE PALEOCENE; E PAL; LATE MAASTRICHTIAN; EARLY MAASTRIC; LATE CAMPANIAN; EARLY CAMPANIAN; SANT.-TUR.; 9 5/8 (3280); EARLY – BAJOCIAN; MIDDLE; MIDDLE - LATE TOARCIAN

Formation: SELE FM.; LISTA FM.; M; SHETLAND GROUP; NESS FORMATION; ETIVE FM.; DRAKE FM.

Clyst: olv gy – m dk gy, brn gy – dusky yel brn, firm mod hd, blky – subfis, tr micromic, tr pyr, in pt v slty, non calc.

Strgs Lst: lt gy – dk yel brn, firm – hd, arg, loc grdg Dol.

2598 (2227)
Clyst: gen a/a, also tr mod brn.

Clyst:m dk gy ¬dk gy a/a.

2754.5 (2348)
2769 (2359) **Clyst**: brn gy – red brn.

Lst: wh, sft – firm, loc sl arg,occ glau, micro – cryptoxln.

Clyst: olv gy – olv blk, grn gy, firm – mod hd, blky – occ subfis. sl slty, sl micromic, tr pyr, sl – loc v calc, grdg Mrl.

Clyst: gen a/a slty, loc tr carb, non – sl calc.

3294 (2773)
Alt Sst, Sh w/bds of Coal.
Sst: gy brn stn, clr – mlky Qtz, vf – f, occ m – crs, mod hd – fri, subang – subrnd, loc silic cmt, loc arg mtx, tr carb mat, mod – loc wl srtd, poor – mod vis por. Com x-strat & rpl lam. Occ poor – fair HC shows down to 3452.3m.

Sh: olv blk – brn, olv gy – m gy, carb.
Slst: olv blk – dusky yel brn, carb.

Coal: blk, hd, loc shiny, loc grdg coaly Sh.

3551 (2979)
Sst: lt gy - pl yel brn, clr Qtz, f - crs, loc vcrs - pbly, fri, subang - subrnd, loc silic / calc cmt. tr kao mtx mod - poor srtd, pr - fair vis por

3633 (3041.5)

Clyst/Sh: dusky yel brn brn blk, olv gy – olv blk, firm, earthy, carb, gen v slty grdg Slst, non – loc sl calc.

Shows: 0.06 – 0.12% C1; 0.04 – 0.1% C1, loc C2 – C4; 0.06 - 0.12% C1 – C3; 0.04 – 0.42% C1 – C3, loc IC4,NC4; 0.04 – 0.6% C1 – C4; 0.04% C1 – occ C4

Depth scale: 3750, 3800, 3850, 3900, 3950, 4000, 4050, 4100, 4150, 4200, 4250, CORE # 13, 4300, 4350, 4400, 4450, 4500, 4550, 4600, 4650, 4700, 4750, 4800, 4850, 4900, 4950

EARLY JURASSIC

Series/Stage: M – L TOARCIAN; EARLY TOARCIAN; LATE PLEINSBACHIAN; EARLY PLEINSBACHIAN – LATE SINEMURIAN; SINEMURIAN – HETTANGIAN

Formation: DRAKE FORMATION; Cook Fm; BURTON FM.; STATFJORD FM.

Rr Sst: clr Qtz, f – m, lose, subang, mica, poor srtd.

Occ strgs Lst: wh – lt gy, sft firm, microxln.

Clyst: dusky yel brn – brn blk, firm mod hd, blky subfis, loc sl slty, sl micromic, non calc.

4053 (3364.5)
Sst: lty gy – brn gy Qtz, f – m, pred f,
4077 (3384.5) lse, subang - subrnd.
Clyst/Sh: dusky yel brn, dusky brn, firm – mod hd, blky – subfis, loc v slty, micromic, tr carb, non calc.
Tr Dol/ Lst: wh – dk yel brn, arg.

4175 (3466.5) (Fault)
Sst: clr Qtz, tr Fldsp, vf- crs, lse, subang - suvrnd, loc silic cmt, tr Mica, tr Pyr, loc arg, poor – loc mod srtd.
Clyst/St: dusky yel brn – brn blk, dk gy, hd, loc slty, micromic,non calc.

Drillers T.D.: 4303 (3577)
Loggers T.D.: 4307

OFFSET AT T.D.:
West: 2106m
North: 61 m
COORDINATES AT T.D.:
6 704 025 mN
484 637 mE

Shows: 0.04 – 0.06% C1 – C3, loc iC4 / nC4; 0.04 – 0.06% C1, loc C2 – iC4

RFT RESULTS SAMPLES

WELL 30/9 – 4

SAMPLES ARE TAKEN IN THE NESS FORMATION

SEGREGATED SAMPLE NO 1 AT 3421 MRKB (RUN NO 6A)

		1ST CHAMBER	2ND CHAMBER
CHAMBER VOL., GAL	:	2 3/4	1
FILLING TIME, MIN	:	6.0	4.0
P CHAMBER, PSIG	:	1995.3	1987.3
GAS VOL., SCF	:	36.8	
CONC/OIL VOL., LITER	:	5.0	
OIL GRAVITY, API	:	41.0	
WATER FILT., LITER	:	1.6	
WATER FILT., PPM CL.	:	32000.0	
REMARKS	:		

SEGREGATED SAMPLE NO 2 AT 3319.5 MRKB (RUN NO 6B

		1ST CHAMBER	2ND CAMBER
CHAMBER VOL., GAL	:	2 3/4	1
FILLING TIME, MIN	:	6.0	6.0
P CHAMBER, PSIG	:	2335.3	2523.3
GAS VOL., SCF	:	74.5	
OIL VOL., LITER	:	0.8	
OIL GRAVITY, API	:	36.0	
WATER FILT., LITER	:	0.5	
WATER FILT., PPM CL	:		*

REMARKS : * Transferred to 700 cc for PVT – analysis

RFT RESULTS SAMPLES

WELL 30/9 – 4

SAMPLE IS TAKEN IN THE **STATFJORD** FORMATION

SEGREGATED SAMPLE NO **3** AT**4207.2**MRKB (RUN NO **7**)

		1ST CHAMBER	2ND CHAMBER
CHAMBER VOL. GAL	:	2 3/4	1
FILLING TIME. MIN	:		
P CHAMBER. PSIG	:		
GAS VOL.. SCF	:		
OIL VOL. LITER	:		
OIL GRAVITY. API	:		
WATER FILT.. LITER	:		
WATER FILT.. PPM CL.	:		*

REMARKS :

* Drained on rig floor. Water sample analysed by Corelab and Geco.

DST RESULTS	WELL 30/9-4

DST NO 1

Perforated interval: 3416.9 – 3422.9 mMD (2871.4 – 2876.1 mTVD)

	Flow no 1	Flow no 2	Flow no 3
Choke size. mm (inch):	7.9 (20/64")	28.6 (72/64")	7.9 (20/64")
Cond flow rate, Sm^3/D(BD):	241.7 (1520)	783.2 (4926)	217.8 (1370)
Gas flow rate. Sm^3 D:	44.2×10^6	158.6×10^3	37.1×10^3
Gas flow rate. SCF D:	1.6×10^6	5.6×10^6	1.31×10^6
GOR. Sm^3 Sm^3 (SCF B):	182.9 (1026)	2025 (1137)	170.3 (9560)
Oil gravity. g cc (° API):	0.8 (43.3)	0.8 (41.8)	0.8 (43.3)
Gas gravity. (Air = 1)	0.8	0.8	0.8
WHP. bar (PSIA):	1995.0	638.0	1685.0
FBHFP. bar (PSIA):	298.2	226.7	275.4
FBHSIP. bar (PSIA):	304.3	281.4	281.0
WHT. °C(° F):	24.6 (76.0)	57.1 (134.0)	20.2 (68.0)
BHT. °C (° F):	227.0	232.0	232.0
BS&W. %	0.1	none	0.1
CO_2. %	2.5	2.2	2.0
H_2S. ppm	none	none	none

Flowing time: 28 hrs 46 min

Build up time: 43 hrs 21 min

DST RESULTS

WELL 30/9-4

DST NO 2

Perforated interval: **3311.3 – 3324.3 mMD (2787.0 – 2797.7 mTVD)**

	Flow no 1	Flow no 2
Choke size. mm (inch):	**25.4 (64/64")**	**17.5 (44/64")**
Cond flow rate, $Sm^3/D(BD)$	**333.9 (2100)**	**240.9 (1515)**
Gas flow rate. Sm^3 D:	**11.3×10^5**	**7.2×10^5**
Gas flow rate. SCF D:	**40.0×10^6**	**25.3×10^6**
GOR. Sm^3 Sm^3 (SCF B):	**3384.3 (19048.0)**	**2988.8 (16700.0)**
Oil gravity. g cc (° API):	**0.8 (55.7)**	**0.8 (55.7)**
Gas gravity. (Air = 1)	**0.7**	**0.7**
WHP. bar (PSIA).	**139.6 (2025.0)**	**193.1 (2800.0)**
FBHFP. bar (PSIA):	**288.21 (4179.1)**	**291.29 (4223.7)**
FBHSIP. bar (PSIA):	**297.6 (4315.8)**	**296.6 (4301.3)**
WHT. °C(° F):	**63.3 (1450)**	**67.8 (153.0)**
BHT. °C (° F):	**108.4 (227.0)**	**109.0 (228.3)**
BS&W. %	**0.2**	**0.5**
CO_2. %	**1.5**	
H_2S. ppm	**0.8**	**0.7**

Flowing time: **16 hrs 17 min.**

Build up time: **17 hrs 35 min**

SECTION B
OPERATIONS

1162M

1162M

LIST OF CONTENTS

SECTION B

1162M

1. LOCATION SURVEY

The site survey for the 30/9-4 location was performed between October 3rd and October 14th, by A/S GEOTEAM from the survey vessel m/v GEO SURVEYOR. The coordinates for the well were given as:

Latitude:	60° 28' 12.6" N
Longitude:	02° 45' 31.9" E

The surveyed area of approximately 4 x 4 km, was covered by 30 North-South lines. The 4 centre lines had a spacing of 100 m and the other 26 had a spacing of 150 m. The 5 East-West lines had a spacing of 150 m.

Sub-seabed geology according to the survey.

110 m:	Water depth (135 m RKB)
135-165 m:	Soft clays with silt and sand layers. The base of the unit is a channelized erosion surface with possible sands that might have been gas charged.
165-215 m:	Soft clays.
215-286 m:	Interbedded sands and clays. Reflection anomalies representing possible gas was observed at 305 m.
286-300 m:	Clay
300-306 m:	Sand
306-594 m:	Clays with stringers of sand. Reflection anomalies for the shallow seismic indicated possibilites of shallow gas at appr. 375 m.

594-636 m: Clays with interbedded sands

636-843 m: Sands (Utsira Formation)

General

At the proposed well location the water depth should be 110 m. The water depth within the area surveyed varied from 105 m in the north of the location (the "plateau") to 114 m to the east of location (the "basin").

At the location, the maximum slope was found to be 0.3 % towards the east.

The sea bed comprised fine to medium sand with occasional patches of coaser material.

No problems occured when drilling through the surveyed section.

2. POSITIONING AND ANCHORING OF THE RIG

The location of the well 30/9-4 was defined as shot point 444 on seismic line NH 82-064. The well was planned to be spudded within the area of a circle with a radius of 50 metres.

Planned position of the well:

	Geogr.	UTM
Lat :	60° 28' 12.6" N	6.703.957 m N
Long:	02° 45' 31.9" E	486.739 m E

The equipment onboard the rig for navigation and positioning was Puls-8 and Syledis

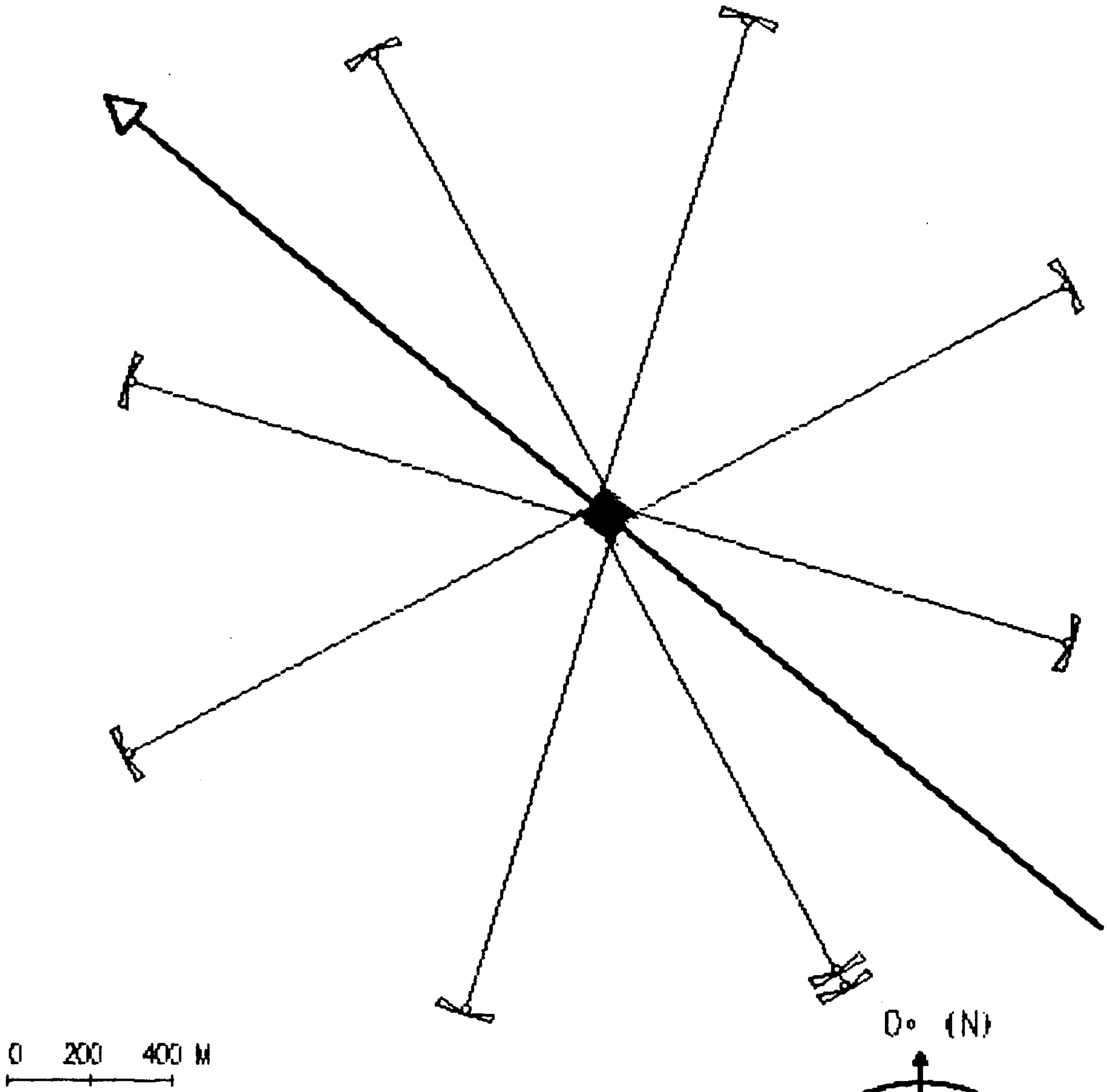
Final position of the well:

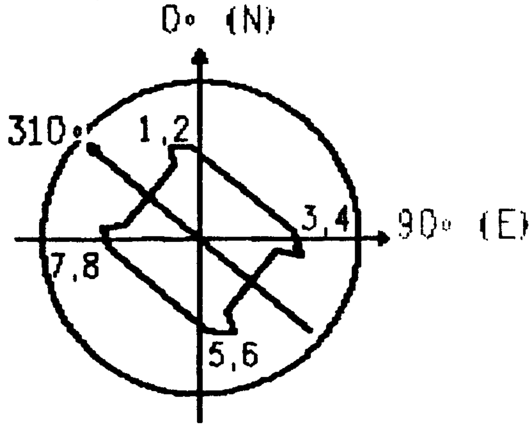
	Geogr.	UTM
Lat :	60° 28' 12.83"	6.703.963,6 m N
Long:	02° 45' 32,05"	486.742,8 m E

The rig heading was 310° and the distance from the intended location was 7,5 m in direction 7,19°.

Prior to drilling the 36" hole, the anchors were pretensioned to 800 kN.

The mooring line pattern is shown in Fig. B-1, next page.





ANCHOR NO	DIRECTION DEGREES	LENGTH METERS
1	332	1181
2	17	1177
3	62	1160
4	107	1076
5	152	1159
6	197	1172
7	242	1216
8	287	1117

NORSK HYDRO
DRILLING DEP.

MOORING LINE PATTERN

TREASURE SEEKER

30/9-4

Fig. B-

GS

3. OPERATION RESUME

3.1 Summary Drilling

Treasure Seeker arrived the 30/9-4 location on November 21st.

36" Hole Section

The well was spudded at 03:30 hours on November 22nd, 1984. The 36" hole was drilled from 135 m to 222 m. The 30" casing was run and landed with the shoe at 221 m and cemented back to the sea bed.

26" Hole Section

The 21" riser was run and the 17 1/2" pilot hole was drilled to 625 m and logged with a ISF/LSS/GR log before it was underreamed to 26". The hole was then underreamed to 26" and deepened to 630 lu.

The riser was pulled and the 36" casing was grouted from 28 m below the wellhead. A wiper trip was performed with a 26" bit to 630 m . The 20" casing was run and landed with the shoe at 618 m and cemented back to the sea bed. The BOP was run and tested before drilling, out of the 20" casing.

17 1/2" Hole Section

Prior to drilling out of the 20" casing, the hole was displaced to oil based mud.

Drilled the 17 1/2" hole to 632 m. Performed a leak-off to 1.40 rd equivalent mud weight. Started the kick off at 700 m MD and continued drilling to 1667 m MD after having built the angle to approx. 38°. The hole was logged with DIL/LSS/GR and LDT/CAL/GR logs before running the 13 3/8" casing.

Due to hole problems when running the logs, it was necessary to wash and ream several times. Three attempts were made to get the logs to the bottom. Made a wiper trip to 1667 m MD before running the 13 3/8" casing. The 13 3/8" casing was run and landed with the shoe at 1648 m MD and cemented back to 335 m. Tested the casing and the BOP.

12 1/4" Hole Section

Drilled cement from 1623 m MD to 1667 m MD. The hole packed off and the return was lost. Had to fish because one core on the bit was left in the hole. Drilled 12 1/4" hole from 1667 m MD to 1669 m MD. Perfomed a formation integrity test to 1.66 rd equivalent mud weight. Drilled from 1669 m MD to 2067 m MD. Continued drilling with turbine from 2067 m MD to 3297 m MD. The hole was logged with DDL/LSS/GR, LDT/CNL/CAL/GR, CST and CBL/VDL logs. The 9 5/8" casing was run and landed with the shoe at 3275 m MD and cemented back to 1645 m. Tested the casing and the BOP.

8 3/8" Hole Section

The hole was dicplaced with Nacl mud before drilling out the cement. The cement was drilled from 3237 m MD to 3297 m MD. Drilled 8 3/8" hole to 3301 m MD. Performed a leak off test to 1,75 rd equivalent mud weight. Continued drilling to 3332 m MD where the coring started. The cores no. 1,2 and 3 were cut from 3332 m MD to 3381 m MD. The 8 3/8" hole was then drilled to 3432 m MD. Ran ISF/LSS/MSFL/GR/SP log and cut the cores no. 4,5 and 6 from 3432 m MD to 3457 m MD. Had a 12 bar pressure drop during the coring. After the coring the pipe was plugged waith plastic coating from the drill pipe. Due to BOP failure, cement plugs were set from 3200 m MD and 3100 m MD to be able to pull of the BOP. Max test pressure for the plugs were only 124 bar and 121 bar, and an EZ-SV packer was therefore set at 685 m MD and tested to 200 bar. Pulled, repared and tested the BOP.

Cut the cores no. 7, 8, 9, 10 and 11 from 3457 m MD to 3500 m MD. Drilled from 3500 m MD to 3580 m MD and cut core no. 12 from 3580 m MD to 3598 m MD. Drilled to 3680 m MD and ran ISF/SONIC/LSS/GR, LDT/CNL, CAL/
GR and DLL/MSFL/GR/CAL logs. Had to wash and ream several times from 3305 m MD. to 3680 m MD due to hole problems when running SHDT/GR and RFT/GR. Ran SDT/NGT and CET/CBL. The hole was displaced with oil based mud before drilling was continued. Drilled to 4303 m MD which was the TD of the well. Core no. 13 was cut from 4268 m MD to 4277 m MD. At 4303 m MD DIL/LSF/GR , LDT/CNL/NGT/SDT, HDT, VSP and RFT logs were run. The RFT log was stuck at 4207 m MD. Had to strip over the cable to pull out the RFT. Ran CST at 4303 m MD. The hole was then plugged back. Cement plug no. 1 was set from 4300 m to 4000 m and cement plug no.2 was set from 3680 m to 3553 m MD. Due to cement inside the drill pipe, new drillpipe had to be made up. A 7" liner was set for production testing. The liner hanger did not set and the liner had to be set on the bottom at 3553 m MD. It was cemented back to the liner top at 3167 m MD.

The well was production tested from February 22nd until March 23rd. (ref. Production test summary).

The well was plugged back and permanently abandoned as described in chapter 4 and fig. B-3.

T. Seeker left the 30/9-4 location 30.03.1985.

3.2 Summary Production Testing

After completing drilling to TD and final logging of the 8 3/8" hole section, 7" liner was set at 3553.

Two production tests were performed.

DST # 1

Zone no. 1 was perforated underbalanced with tubing conveyed guns from 3416.9 m MD to 3422.9 m MD (oilzone). Installed gauges in F-nipple. Opened the well on 28/64" adjustable choke. Reduced the choke to 20/64" fixed choke throughout the initial flowperiod. Had initial build up. Opened the well on adjustable choke, gradually incrasing to 72/64" fixed choke.

Final flow data:

Oil rate	5025	stb/d
Gas rate	5.764	mmscf/d
GOR	1146	scf/stb
WHP	674	psig

Closed the well at the testervalve and the choke manifold. Killed the well temporary due to bad weather. Due to the testresults so far, it wes decided to kill and POOH.

DST # 2

Sat a cement retainer at 3350 m and squeezed off the perforations. RIH the teststring for DST # 2. Perforated in the gas zone from 3311.3 m MD to 3324.3 m MD. Installed gauges in the F-nipple. Opened the well on adjustable choke, and increased to 64/64" fixed choke.

Flowdata flow no. 1.

Gas rate	40.00 mmscf/d
WHP	2015 psig

Closed the testervalve for buildup in 18 hours. Opened up for 2nd flow. Flowed the well on 44"/64" fixed choke.

Flowdata flow no. 2

Gas rate	25.00	mmsdf/d
Q oil	1550	stb/d
GOR	16000	scf/stb
WHP	2805	psig.

Closed the testervalve for 8 hours buildup. Retrieved the gauges at end of buildup, killed and abandoned the well.

(((ooo)	Daily report	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	

	Casing Size (in):	30	20	13 3/8	9 5/8	7
Norsk Hydro	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
1	0	0		02:15	The operations on well 16/4-1 were finished.
				24:00	The rig was in transit to the new location.
2	0	0	1.03	04:30	The rig was in transit to the new location.
				18:15	Arrived the anchor drop position for well 30/9-4.Started the anchor handling and had the last anchor on the bottom at 15:00 hrs. Ballasted the rig down to 21.3 m(70 ft) draft and pretensioned the anchors to 800 kN.
				22:15	Made up the 30" casing and hung it off in the moonpool.
				24:00	Made up the 36" bottom hole assembly and ran into the sea.
3	171	1.03	1.03	03:30	Continued running in the sea and tagged the seabed at 135 m RKB.
				10:45	Drilled 36" hole from 135 m to 164 m.
				11:00	Displaced the hole with high viscous mud and pulled out to 140 m.
				20:15	Waited on the weather for 9 1/4 hrs.
				21:45	Ran into the hole. Washed and reamed from 140 m to 164 m.
				22:30	Displaced the hole with high viscous mud. Dropped the survey and performed a wipertrip to 142 m to retrieve the survey.
				24:00	Ran in the hole to the bottom.Drilled 36" hole from 164 m to 171 m.
4	222	1.03	1.03	08:15	Drilled 36" hole from 171 m to 222 m.
				09:00	Pumped 8 m3 high viscous mud around and displaced the hole with 59 m3 of the same mud.
				10:45	Dropped and retrieved the survey.
				11:30	Pulled out of the hole with the 36" bottom hole assembly.
				14:15	Rigged up and ran the 30" casing with the shoe at 221m.
				16:30	Cemented the 30" casing.
				17:30	Pulled out of the hole with the running tool and the cement stinger.
				20:00	Installed the support ring.
				24:00	Rigged up and ran the 30" hydraulic latch and the 21" riser.
5	617	1.03	1.09	04:30	Ran the 30" hydraulic latch and the 21" riser.

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Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				05:15	Laid down the 36" bottom hole assembly.
				07:15	Made up the 17 1/2" bit and ran into the hole to 216 m.
				08:45	Installed the diverter packer and pressure tested it to 3.4 bar.Flushed the overboard lines.
				10:15	Drilled cement from 216 m to 222 m.
				24:00	Drilled 17 1/2" pilot hole to 617 m.
6	617	1.03	1.10	00:15	Drilled 17 1/2" pilot hole to 625 m.
				01:15	Flow checked for 10 min. and circulated high viscous mud.
				03:15	Dropped the multishot survey. Made a wipertrip to the 30" casing shoe. Max. overpull was 267 kN at 480 m. Retrieved the multishot survey.
				05:15	Ran into the hole to 595 m. Displaced the riser with sea water and observed the well for 15 min.-OK. Opened the dump valve and observed the well on the sub sea tv for 30 min.-OK. Displaced the riser with mud. Washed and reamed down
				05:45	Circulated high viscous mud.
				07:15	Pulled out of the hole to log.
				11:45	Ran the ISF/LSS/GR logs.
				16:00	Laid down excess drill pipe. Made up the underreaming assembly and ran in the hole.
				24:00	Underreamed to 26" hole from 216 m to 442 m.
7	630	1.03	1.10	06:00	Underreamed to 26" hole from 442 m to 625 m.
				07:00	Drilled 26" hole from 625 m to 630 m.
				07:45	Pumped high viscous mud.
				08:45	Pulled out of the hole to 136 m.
				09:30	Displaced the riser to sea water and observed the well.
				10:30	Continued pulling out of the hole.
				16:00	Pulled the riser and the hydraulic latch.
				24:00	Ran in with grouting assembly to 28 m below the wellhead and pumped the cement. Inspected the result of the grouting.
8	630	1.03	1.10	04:30	Waited on the cement to set up and grouted the 36" by 30" annulus. Pulled out with the grouting stinger.
				06:30	Made up the cement plugs in the 18 3/4" housing and the cementing head.

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				07:30	Rigged down the guide frame for the grouting stinger.
				08:00	Made up a 26" bit.
				23:30	Waited on weater for 15.5 hrs.
				24:00	Ran in with the 26" bit.
9	630	1.03		00:30	Continued running in to 124 m.
				02:00	Changed the lamp on the sub sea TV camera and repaired the TV guide frame.
				02:15	Stabbed into the 30" casing and ran in to 164 m.
				03:15	Slipped and cut the drilling line.
				07:30	Continued running in to 630 m. Circulated and pulled out of the hole.
				15:15	Ran the 20" casing with the shoe at 618 m.
				24:00	Mixed and pumped the cement.Pulled out with the running tool.
10	630	1.03		02:00	Rigged up to run the riser.
				16:00	Waited on weather for 14 hrs.
				24:00	Prepared running the BOP. Function tested the BOP and the pods. Tested the kill and choke stabs to 517 bar.
11	630	1.04	1.15	24:00	Waited on weather to run the BOP.
12	630	1.04	1.15	24:00	Waited on weather to run the BOP.
13	630	1.04	1.15	15:30	Waited on weather to run the BOP.
				24:00	Ran the BOP and tested the kill and choke lines to 517 bar. Landed the BOP and pull tested it to 222 kN overpull.
14	700	1.04	1.15	00:30	Installed the diverter assembly.
				06:45	Tested the kill and choke hoses to 517 bar. Ran in with the test plug and tested the BOP. Pulled the test plug and set the wear bushing.
				09:00	Made up the 17 1/2" bottom hole assembly and ran in the hole with bit no. 3 to 588 m.
				11:15	Displaced the hole to oil based mud.
				17:30	Drilled 17 1/2" hole to 632 m.
				20:45	Circulated and conditioned the hole and performed a formation integrity test to 1.40 rd equivalent mud density.
				23:45	Drilled from 632 m to 700 m.
				24:00	Circulated bottoms up.
15	885	1.04	1.15	01:00	Continued circulating and dropped the

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Hydro	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					survey.
				08:30	Pulled out of the hole. Made up the kick off assembly with bit no. 4 and ran in the hole to 608 m.
				09:00	Slipped the drilling line.
				09:45	Continued running in to 700 m and oriented the tool for kick-off.
				16:00	Drilled to 816 m.
				19:30	Circulated and dropped the survey. Made a wiper trip to the 20" casing shoe and retrieved the survey. It was a misrun.
				24:00	Drilled from 816 m to 885 m.
16	1076	1.03	1.15	00:30	Drilled to 893 m.
				01:00	Worked on the air supply line for the heave compensator.
				03:00	Drilled to 921 m.
				04:45	Circulated and dropped the survey.
				14:00	Pulled out of the hole. Laid down the mud motor and the bent sub. Ran in the hole with bit no. 5 to 720 m. Washed and reamed to 800 m and continued running in the hole.
				24:00	Drilled 17 1/2" hole to 1076 m.
17	1227	1.03	1.15	09:15	Drilled to 1133 m.
				10:45	Circulated and dropped the survey.
				17:30	Pulled out of the hole to change the bottom hole assembly. Ran in the hole with bit no. 6.
				24:00	Drilled from 1133 m to 1227 m.
18	1354	1.03	1.15	06:30	Drilled to 1338m.
				06:45	Took a survey.
				09:15	Drilled to 1354 m.
				10:30	Circulated and conditioned the hole.
				10:45	Dropped the survey.
				17:00	Pulled out of the hole. Made up the mud motor and the 1.5 deg. bent sub.
				20:30	Changed out the damaged MWD tool.
				21:45	Ran in with bit no. 7 to 600 m.
				22:15	Slipped the drilling line.
				24:00	Continued running in the hole. Washed and reamed from 1335 m to 1354 m.
19	1444	1.03	1.15	03:45	Drilled 17 1/2" hole to 1404 m.
				05:00	Circulated to clean the hole.
				10:00	Drilled to 1444 m.
				12:30	Circulated to clean the hole.
				12:45	Dropped the survey.
				21:45	Pulled out of the hole to change the

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Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					bottom hole assembly. Ran in the hole with bit no. 7.
				24:00	Reamed from 1363 m to 1379 m.
20	1581	1.06	1.15	07:00	Continued reaming down to 1444 m.
				19:30	Drilled 17 1/2" hole to 1581 m.
				21:15	Circulated bottoms up.
				24:00	Pulled out to 600 m. Max. overpull was 311 kN.
21	1667	1.07	1.18	03:15	Repaired lower hose guard and ran in to 1508 m.
				09:15	Reamed and washed to 1543 m where the pipe packed off. Worked the pipe free and continued reaming and washing down to 1581 m.
				17:45	Drilled to 1667 m where the penetration stopped.
				18:30	Circulated and conditioned the hole.
				20:15	Pulled out to 600 m.
				20:45	Slipped the drilling line.
				24:00	Ran in the hole to 1480 m. Washed and reamed to 1495 m.
22	1667	1.07	1.20	08:15	Continued washing and reaming to 1553 m. Ran in the hole to 1593 m. Washed and reamed to 1667 m.
				10:45	Pumped a high viscosity pill and circulated the hole clean.
				11:15	Dropped the survey.
				15:00	Pulled out of the hole.
				18:45	Rigged up and ran the ISF/SONIC/GR-logs. Was not able to pass 1284 m. Pulled out and rigged down the wireline equipment.
				21:30	Ran in the hole with bit no.6 (re-run 1)
				24:00	Washed and reamed from 1227 m to 1321 m.
23	1667	1.07	1.20	00:15	Continued washing and reaming to 1331 m.
				00:45	Ran in to 1516 m.
				02:00	Washed and reamed to 1532 m.
				02:15	Ran in to 1593 m.
				07:30	Washed and reamed to 1667 m.
				09:45	Circulated and spotted a high viscosity pill on the bottom.
				10:00	Dropped the survey.
				13:30	Pulled out of the hole.
				21:00	Rigged up and ran the DIL/LSS/GR and LDL/CAL/GR-logs. The logs stopped at 1449 m.
				23:00	Made up the casing hanger.
				24:00	Ran in the hole with bit no.5 (re-run 1)

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Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
24	1667	1.07	1.25	01:00	Continued running in to 610 m.
				02:00	Slipped and cut the drilling line.
				05:15	Laid down 48 joints of drill pipe and continued running in.
				12:15	Washed and reamed from 1448 m to 1667 m.
				15:15	Circulated and spotted high viscous mud on the bottom.
				18:15	Pulled out of the hole.
				24:00	Rigged up and ran the DIL/LSS/GR and LDT/CAL/GR-logs.
25	1667	1.07	1.25	10:45	Made up bit no. 5 (re-run 2) and performed a wiper trip to 1667 m. Circulated and spotted high viscous mud on the bottom.
				12:30	Ran in with jet sub and washed the well-head.Retrieved the seat protector.
				19:00	Ran the 13 3/8" casing to 324 m.
				20:00	Repaired an air control valve on the casing elevator.
				24:00	Continued running the 13 3/8" casing.
26	1667	1.07	1.27	05:30	Continued running the 13 3/8" casing with the shoe at 1648 m.
				19:00	Installed the cementing head and circulated. Tested the cement lines and pumped the cement. Pressure tested the casing to 138 bar.
				24:00	Installed the seal assembly and tested it to 345 bar. Pressure tested the shear rams. Ran in with the test plug and tested the BOP.
27	1667	1.07	1.50	05:00	Continued testing the BOP. Pulled out with the test plug and set the wear bushing. Tested the surface equipment to 345 bar.
				10:00	Laid down the 17 1/2" bottom hole assembly.
				19:00	Made up the new bottom hole assembly and ran in the hole with bit no.9 to 419 m.
				19:30	Slipped the drilling line.
				21:00	Continued running in the hole.
				24:00	Drilled cementing plugs and float from 1623 m to 1624 m.
28	1667	1.07	1.50	03:15	Continued drilling out of the 13 3/8" casing and washed down to the bottom at 1667 m.
				07:00	The hole packed off. Lost the return

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					and pulled out to 1593 m. Regain the circulation and washed back to the bottom.
				07:00	Attempted to drill but had no penetration.
				17:30	Pulled out of the hole. Found that one cone on the bit was left in the hole.
				24:00	Made up a new circulating junk basket and junk sub. Ran in with bit no. 10 to 1667 m. Worked the junk sub. Dropped the ball and worked the reverse circulating junk basket. Pulled out of the hole.
29	1837	1.20	1.50	02:00	Continued pulling out of the hole and retrieved the lost cone.
				06:30	Made up a new bottom hole assembly and ran in with bit no. 10(re-run 1) to 1623 m.
				07:00	Slipped the drilling line.
				07:30	Washed down to the bottom.
				09:00	Drilled 12 1/4" hole from 1667 m to 1669 m.
				11:00	Circulated and conditioned the hole. Performed a formation integrity test to 1.66 rd equivalent mud density.
				24:00	Drilled from 1669 m to 1837 m.
30	2067	1.26	1.50	07:00	Drilled to 1953 m.
				10:30	Circulated and dropped the survey. Made a wiper trip to the shoe and retrieved the survey.
				16:00	Drilled from 1953 m to 2067 m.
				18:00	Circulated and dropped the survey.
				24:00	Pulled out of the hole. Made up and function tested the turbine assembly.
31	2211	1.26	1.50	03:45	Ran in with bit no. 11 to 1645 m.
				04:15	Slipped the drilling line.
				06:45	Continued running in the hole. Washed and reamed from 2024 m to 2067 m.
				10:15	Drilled 12 1/4" hole to 2116 m.
				10:45	Took and checked the survey using the MWD tool.
				16:30	Drilled to 2211 m.
				18:00	Circulated high viscous mud.
				18:15	Dropped the survey.
				24:00	Pulled out of the hole and rearranged the bottom hole assembly. Ran in the hole with bit no. 12.
32	2402	1.26		00:45	Continued running in the hole to 1625 m.

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				01:45	Slipped and cut the drilling line.
				03:45	Continued running in the hole. Washed and reamed from 2147 m to 2211 m.
				05:15	Drilled to 2230 m.
				08:15	Changed leaking wash pipe.
				15:00	Drilled to 2325 m.
				15:30	Changed suction dampener on mud pump no. 2.
				24:00	Drilled to 2402 m.
33	2464	1.26	1.50	06:15	Drilled to 2455 m.
				08:00	Circulated high viscous mud.
				08:15	Dropped the survey.
				17:30	Pulled out of the hole. Had 311 kN overpull at 2060 m. Ran in the hole with bit no. 13 to 1624 m.
				18:00	Slipped the drilling line.
				19:45	Continued running in the hole.
				20:45	Washed and reamed from 2393 m to 2455 m.
				24:00	Drilled 12 1/4" hole from 2455 m to 2464 m.
34	2477	1.26	1.50	03:15	Drilled to 2477 m.
				05:00	Circulated high viscous mud.
				05:15	Dropped the survey.
				09:15	Pulled out of the hole.
				17:00	Retrieved the wear bushing. Ran in with the test plug and tested the BOP. Pulled out with the test plug and set the wear bushing.
				19:15	Tested the surface equipment.
				24:00	Changed the bearing section on the turbine and ran in the hole with bit no. 14.
35	2576	1.30	1.50	02:45	Continued running in the hole. Washed and reamed from 2439 m to 2477 m.
				24:00	Drilled 12 1/4" hole to 2576 m.
36	2693	1.30	1.50	24:00	Drilled 12 1/4" hole to 2693 m.
37	2738	1.30	1.50	00:30	Drilled to 2695 m.
				01:45	Circulated high viscous mud.
				03:45	Dropped the survey. Pulled out to 1625 m and retrieved the survey.
				04:15	Slipped the drilling line.
				05:00	Ran in the hole.
				06:45	Washed and reamed from 2050 m to 2145 m.
				07:30	Continued running in the hole.
				09:30	Washed and reamed from 2669 m to 2695 m.
				11:00	Drilled 12 1/4" hole to 2699 m.

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				11:30	Circulated and checked sound from mud pump no. 2.
				20:30	Drilled to 2729 m.
				21:00	Changed a broken piston on mud pump no. 2.
				24:00	Drilled to 2738 m.
38	2780	1.30	1.50	06:45	Drilled to 2757 m.
				09:00	Circulated high viscous mud.
				09:15	Dropped the survey.
				14:00	Pulled out of the hole. Laid down the turbine and ran in the hole with bit no. 15.
				20:15	Washed and reamed from 2727 m to 2757 m.
				24:00	Drilled 12 1/4" hole to 2780 m.
39	2921	1.30	1.50	24:00	Drilled 12 1/4" hole to 2921 m.
40	3087	1.30	1.50	05:30	Drilled to 2962 m.
				06:30	Circulated bottoms up.
				07:15	Performed a wiper trip to 2736 m.
				24:00	Drilled from 2962 m to 3087 m.
41	3151	1.30	1.50	07:00	Drilled to 3151 m.
				09:30	Circulated and checked noise from the rotary table. Found that the bearing on the pinion shaft was worn out.
				11:30	Pulled out to 1488 m.
				24:00	Disassemblied the rotary table and changed out the pinion shaft.
42	3253	1.30	1.50	06:00	Continued repairing the rotary table.
				07:15	Waited on the weather for 1 1/4 hrs.
				10:15	Ran in the hole. Washed and reamed from 3130 m to 3151 m.
				24:00	Drilled 12 1/4" hole to 3253 m.
43	3297	1.30	1.50	06:15	Drilled to 3297 m.
				09:00	Circulated for samples.
				11:15	Pulled out to 1641 m.
				11:45	Slipped the drilling line.
				13:00	Ran in the hole to 3293 m.
				16:00	Washed to the bottom. Circulated and conditioned the hole.
				16:30	Dropped the survey.
				21:15	Pulled out of the hole to log.
				24:00	Rigged up and ran log no.1: DLL/LSS/GR.
44	3297	1.30	1.50	19:30	Continued running log no. 1. Ran log no. 2: LDT/CNL/CAL/GR, log no. 3: CST and log no. 4: CBL/VDL.

(((ooo)	**Daily report**	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	

Norsk Hydro	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				20:30	Slipped and cut the drilling line.
				22:30	Made up the 9 5/8" casing hanger and the running tool.
				24:00	Laid down the 12 1/4" bit and the turbine.
45	3297	1.30	1.50	06:45	Ran in with bit no. 13 (re-run 1) to 3280 m. Washed and reamed to 3297 m.
				09:15	Circulated and conditioned the hole.
				13:45	Pulled out of the hole.
				14:15	Slipped the drilling line.
				24:00	Retrieved the wear bushing. Rigged up and ran the 9 5/8" casing.
46	3297	1.30	1.50	08:00	Continued running the 9 5/8" casing and landed it with the shoe at 3275 m.
				17:00	Circulated and cemented the casing. Tested the casing to 441 bar.
				23:30	Pulled out with the running tool. Ran in the hole and installed the seal assembly
				24:00	Ran in the hole with the test plug.
47	3297	1.30	1.27	03:30	Tested the BOP and pulled out with the test plug.
				04:30	Changed the kelly spinner.
				07:15	Tested the surface equipment.
				08:30	Set the wear bushing.
				13:00	Laid down the 8" drill collars.
				22:45	Made up the 8 3/8" bottom hole assembly. Had to change the MWD tool due to tool failure. Ran in with bit no. 16 to 3237 m.
				24:00	Displaced the hole with NaCl mud.
48	3301	1.30	1.27	01:00	Continued displacing the hole with NaCl mud.
				02:30	Cleaned out the shaker pits.
				03:15	Tested the casing to 517 bars.
				10:30	Drilled out of the casing and cleaned out the rat hole down to 3297 m.
				11:00	Drilled 8 3/8" hole to 3301 m.
				13:00	Pulled out to the casing shoe and circulated.
				13:45	Performed a leak off test resulting in a leak off at 1.75 rd equivalent mud density.
				15:00	The pump pressure increased to 300 bar when circulating.
				16:00	Pulled out to 2833 m where the retracting system for the travelling block broke down.

	Daily report	..Date..
((((ooo)	System : Boredata Sandnes Well: 30/9-4	19851023

Norsk Hydro	Casing Size (in):	30	20	13 3/8	9 5/8	7	
	Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				19:45	Replaced the cylinder packing box on the upper retracting cylinder.
				24:00	Continued pulling out of the hole. Found that two nozzles on the bit were plugged. Ran in the hole with bit no.17.
49	3340	1.11	1.27	01:15	Continued running in the hole.
				01:30	Calibrated the mud loggers kelly height device.
				03:30	Continued running in the hole to 3250 m.
				04:30	Slipped and cut the drilling line.
				04:45	Continued running in to 3301 m.
				09:45	Drilled 8 3/8" hole to 3332 m.
				11:30	Circulated bottoms up for samples.
				20:45	Pulled out of the hole.Made up the 60 ft. core barrel and ran in the hole with bit no. 18 (core head no 1) to 3332 m.
				24:00	Cut core no. 1 from 3332 m to 3340 m.
50	3368	1.11	1.27	04:15	Continued cutting core no. 1 to 3250 m.
				04:30	Pulled out to 3265 m.
				05:00	Slipped the drilling line.
				08:45	Continued pulling out of the hole.
				09:45	Recovered core no. 1 (100 % recovery). Serviced the core barrel.
				14:00	Ran in the hole with bit no. 19 (core head no. 2).
				15:30	Washed and reamed from 3339 m to 3350 m.
				18:30	Cut core no. 2 from 3350 m to 3368 m.
				19:00	Dropped the survey.
				22:30	Pulled out of the hole.
				23:30	Recovered core no. 2 (100 % recovery) and serviced the core barrel.
				24:00	Ran in the hole with bit no. 19 (core head no. 2, re-run 1).
51	3387	1.11	1.27	03:00	Continued running in the hole to 3272 m.
				03:30	Slipped the drilling line.
				04:15	Continued running in the hole.
				05:30	Cut core no. 3 from 3368 m to 3372 m.
				05:45	Flow checked. Max. gas when circulating bottoms up was 725 units.
				08:30	Continued cutting core no. 3 to 3381 m.
				13:15	Pulled out of the hole.
				14:00	Recovered core no. 3 (100 % recovery).
				19:30	Ran in the hole with bit no.17(re-run 1) to 3334 m.
				22:00	Reamed down to 3381 m.
				24:00	Drilled 8 3/8" hole from 3381 m to 3387 m.

(((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	

	30	20	13 3/8	9 5/8	7
Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
52	3432	1.11	1.27	06:45	Drilled to 3413 m.
				08:15	Circulated bottoms up for samples.
				12:00	Drilled to 3432 m.
				13:30	Circulated bottoms up for samples.
				14:00	Pulled out to 3260 m. Max. overpull was 756 kN.
				15:00	Slipped and cut the drilling line.
				15:15	Ran in to 3432 m.
				16:30	Circulated and conditioned the hole.
				20:30	Pulled out of the hole.
				24:00	Rigged up and ran the ISF/LSS/MSFL/GR/SP logs.
53	3445	1.11	1.27	00:30	Rigged down the wireline equipment.
				04:30	Made up the core assembly and ran in the hole with bit no. 19 (core head no 2, re-run 2).
				05:00	Held a kick drill.
				05:30	Continued running in the hole.
				06:30	Cut core no. 4 from 3432 m to 3437 m.
				13:15	Had 12 bar pressure drop. Checked the surface equipment for leaks. Pulled out of the hole and checked for washouts.
				13:45	Recovered core no. 4 (94 % recovery) and serviced the core barrel.
				14:45	Ran in the hole with bit no. 19 (core head no. 2, re-run 3).
				15:15	Installed the kelly to check the jars for washout.
				15:45	Ran in the hole to 570 m.
				16:15	Slipped and cut the drilling line.
				19:00	Continued running in the hole.
				24:00	Cut core no. 5 from 3437 m to 3445 m.
54	3457	1.11	1.27	00:15	The core jammed. Was unable to restart.
				04:30	Pulled out of the hole.
				06:00	Recovered core no. 5 (94 % recovery) and serviced the core barrel.
				09:15	Ran in the hole with bit no. 20 (core head no. 3).
				09:45	Slipped and cut the drilling line.
				10:45	Continued running in the hole.
				15:30	Cut core no. 6 from 3445 m to 3457 m.
				20:00	Pulled out of the hole.
				21:00	Recovered core no. 6 (85 % recovery).
				24:00	Ran in the hole with bit no. 20.
55	3457	1.11	1.27	02:30	Continued running in the hole to 3265 m.
				02:45	Slipped the drilling line.
				03:00	Filled up the drill pipe with mud. The

((((ooo) Norsk Hydro	Daily report					..Date.. 19851023
	System : Boredata Sandnes					
	Well: 30/9-4					
	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					pressure increased when the pipe was full of mud. Was not able to get circulation.
				08:45	Attempted to work the string. Pressured up to 4000 psi but the pipe was still plugged. Pulled out of the hole and found that the drill pipe was plugged above the Totco ring with plastic coating from the drill pipe.
				16:30	Retrieved the wear bushing. Ran in the hole with the test plug and tested the BOP - ok. Pulled out with the test plug.
				22:45	Laid down the drill pipe.
				23:45	Set the wear bushing.
				24:00	Ran in the hole with open ended drill pipe.
56	3457	1.11	1.27	01:30	Continued running in the hole to 1880 m.
				08:30	Picked up new drill pipe and continued running in the hole to 3274 m.
				09:45	Circulated and conditioned the hole.
				12:00	Set a high viscous pill from 3274 m to 3200 m and a balanced cement plug from 3200 m.
				13:15	Pulled out to 2900 m and reverse circulated.
				14:15	Pulled out to 1900 m.
				15:15	Slipped and cut the drilling line.
				22:30	Laid down 198 joints of 5" drill pipe and picked up 24 joints of new drill pipe.
				23:30	Attempted to test the cement plug. Had only 124 bar pressure when leveling out.
				24:00	Continued picking up 5" drill pipe.
57	3457	1.11	1.27	04:00	Continued picking up 5" drill pipe. Retested the cement plug. Max. pressure was only 124 bar.
				07:30	Ran in the hole with open ended drill pipe to 3100 m.
				08:45	Circulated bottoms up.
				12:00	Set a cement plug. Pulled out to 3025 m and reverse circulated.
				15:00	Pulled out of the hole.
				15:30	Slipped the drilling line.
				20:00	Waited on the cement.
				22:00	Attempted to test the second cement plug twice, but max. pressure was 121 bar.
				23:15	Ran in the hole with bit no. 21 (re-run 1) and casing scraper to 700 m.
				24:00	Circulated to clean the hole.

(((ooo) Norsk Hydro	Daily report — System : Boredata Sandnes, Well: 30/9-4						..Date.. 19851023
	Casing Size (in):	30	20	13 3/8	9 5/8	7	
	Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
58	3457	1.11	1.27	00:30	Continued circulating.
				01:30	Pulled out of the hole.
				04:30	Made up an EZ-SV packer on drill pipe. Ran in the hole and set the packer at 685 m. Tested the packer to 200 bar. Pulled out of the hole and displaced the riser to sea water.
				24:00	Pulled the BOP and the riser. Inspected the BOP and found shorted battery terminals. Changed the battery pack and reterminated the electric unit.
59	3457	1.11	1.27	15:30	Function tested the BOP and tested the acoustic system. Ran the BOP and tested the kill and choke lines to 517 bar. Landed the BOP and pull tested it to 222 kN overpull. Function tested the acoustic system.
				21:45	Installed the diverter. Retrived the wear bushing. Ran in the hole with the test plug and tested the BOP. Pulled out with the test plug and set the wear bushing.
				24:00	Ran in the hole with the stinger and stung into the packer. Closed the upper annular preventer and pressured up the annulus to 35 bar.
60	3457	1.11	1.27	00:30	Tested the EZ-SV packer from below to 200 bar.
				01:45	Pulled out of the hole with the stinger.
				04:30	Ran in the hole with bit no. 22 (junk mill) to 685 m. Circulated slowly and held a kick drill.
				11:15	Milled on the EZ-SV packer. Circulated a high viscous pill around.
				13:45	Pulled out of the hole. Ran in the hole with bit no. 23 (junk mill) to 685 m.
				16:15	Broke the circulation and continued milling on the packer.
				16:45	Pumped viscous pill around.
				17:30	Pressure tested the casing to 193 bar.
				20:15	Ran in the hole and tagged the top of the cement at 3123 m.
				24:00	Drilled cement from 3123 m to 3161 m. Pumped high viscous pill at 3130 m.
61	3457	1.11	1.27	09:15	Milled cement to 3180 m. Washed and reamed to 3385 m.
				13:45	Pulled out of the hole. Slipped and cut

((((ooo) Norsk Hydro	Daily report					..Date.. 19851023
	System : Boredata Sandnes					
	Well: 30/9-4					
	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					the drilling line on the way out.
				14:45	Laid down the mill and the junk subs.
				19:30	Made up bit no. 21 (re-run 2) and ran in the hole to 3306 m. Held a kick drill.
				24:00	Reamed and washed from 3306 m to 3427 m.
62	3467	1.11	1.27	01:15	Reamed and washed to 3457 m.
				03:15	Circulated high viscous pill around.
				03:45	Dropped the survey.
				04:00	Pulled out of the hole to 3270 m.
				04:30	Slipped the drilling line.
				08:15	Pulled out of the hole.
				12:00	Made up the core barrel and ran in the hole with bit no. 18 (core head no. 1, re-run 1).
				16:30	Replaced upper racking arm. Circulated while changing the arm.
				18:00	Run in the hole to 3440 m.
				19:15	Reamed to the bottom.
				23:30	Cut core no. 7 from 3457 m to 3467 m. The core jammed.
				24:00	Pulled out of the hole to 3250 m.
63	3472	1.11	1.27	03:15	Continued pulling out of the hole.
				04:15	Recovered core no. 7 (62.5 % recovery).
				07:45	Serviced the core barrel and ran in the hole with bit no. 20 (core head no. 3, re-run 1) to 3240 m.
				08:45	Slipped and cut the drilling line.
				09:15	Continued running in the hole to 3465 m.
				10:00	Circulated and dropped the ball.
				13:30	Cut core no. 8 from 3467 m to 3472 m. The core jammed.
				17:45	Pulled out of the hole.
				18:30	Recovered core no. 8 (52 % recovery).
				22:00	Ran in the hole with bit no 20 (core head no. 3, re-run 2) to 3230 m.
				22:30	Slipped the drilling line.
				23:00	Continued running in the hole.
				24:00	Washed from 3430 m to 3472 m.
64	3484	1.11	1.27	00:30	Circulated and dropped the ball.
				04:15	Cut core no. 9 from 3472 m to 3475 m. The core jammed.
				08:00	Pulled out of the hole.
				09:00	Recovered core no. 9 (90 % recovery) and serviced the core barrel.
				12:30	Ran in the hole with bit no. 24 (core head no. 4).
				14:15	Circulated high viscous pill around.
				20:00	Cut core no. 10 from 3475 m to 3484 m.

	Daily report	..Date..
((((ooo)	System : Boredata Sandnes Well: 30/9-4	19851023

Norsk Hydro						
Casing Size (in):	30	20	13 3/8	9 5/8	7	
Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				24:00	Pulled out of the hole to 400 m.
65	3500	1.11	1.27	00:45	Continued pulling out of the hole.
				01:45	Recovered core no. 10 (98 % recovery) and serviced the core barrel.
				05:00	Ran in the hole with bit no. 24 (core head no. 4, re-run 1).
				05:30	Slipped the drilling line.
				06:00	Continued running in the hole.
				07:00	Circulated and dropped the ball.
				10:00	Cut core no. 11 from 3484 m to 3500 m.
				11:00	Circulated and dropped the survey.
				14:30	Pulled out of the hole.
				16:15	Recovered core no. 11 (88 % recovery).
				22:00	Ran in the hole with bit no. 25 to 3346 m.
				24:00	Washed and reamed to 3372 m.
66	3558	1.11	1.27	05:00	Continued washing and reaming to 3500 m.
				09:00	Drilled from 3500 m to 3520 m.
				11:00	Flow checked and circulated for sample.
				15:00	Drilled from 3520 m to 3533 m.
				16:30	Flow checked and circulated for sample.
				21:00	Drilled from 3533 m to 3552 m.
				22:45	Flow checked and circulated for samples.
				23:45	Drilled from 3552 m to 3558 m.
				24:00	Circulated for samples.
67	3580	1.11	1.27	01:30	Continued circulating for samples.
				02:30	Drilled from 3558 m to 3564 m.
				04:15	Circulated for sample.
				05:00	Drilled from 3564 m to 3570 m.
				06:30	Circulated for sample.
				09:45	Drilled from 3570 m to 3580 m.
				11:30	Circulated for sample.
				12:00	Dropped the survey tool.
				12:30	Pulled out of the hole to 3250 m.
				13:30	Slipped and cut the drilling line.
				17:30	Pulled out of the hole.
				19:00	Retrieved wearbushing.
				24:00	Tested the BOP.
68	3598	1.11	1.27	01:30	Attemted to set the wear bushing. Snap ring failed.
				03:30	Tested surface equipment.
				04:30	Set the wear bushing.
				06:00	Serviced the core barrel.
				11:00	Ran in the hole with bit no. 24 (core head no. 4, re-run 2).
				13:00	Washed and reamed.
				15:00	Cut core no. 12.

((((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				16:45	Circulated bottoms up.
				20:15	Pulled out of the hole.
				21:30	Recovered the core (100% recovery).
				24:00	Rigged up and ran ISF/MSFL/GR logs.
69	3664	1.11	1.27	02:30	Continued running ISF/SONIC/MSFL/GR logs
				07:00	Ran in the hole with bit no. 26 to 3250 m.
				07:30	Slipped and cut the drilling line.
				08:00	Continued running in the hole.
				09:00	Reamed and washed to 3598 m.
				24:00	Drilled from 3598 m to 3664 m.
70	3680	1.11	1.27	04:00	Continued drilling from 3664 m to 3680 m.
				05:45	Ciculated and conditioned the hole.
				07:15	Made wiper trip to shoe. No fill.
				09:45	Circulated and conditioned the hole.
				10:15	Dropped the survey.
				24:00	Rigged up and ran the following logs: Run no. 1: ISF/SONIC/LSS/GR. Run no. 2: LDT/CNL/CAL/GR. Run no. 3: DLL/MSFL/GR/CAL.
71	3680	1.11	1.27	04:30	Continued logging.
				18:00	Attempted to run SHDT log. The log was not able to pass 3305 m. Run in the hole with SDT/NGT log. The tool failed. Attempted to run RFT tool. The tool was not able to pass 3305 m.
				21:30	Ran in the hole on wiper trip to 3125 m with bit no. 25 (re-run 1).
				22:00	Slipped the drilling line.
				22:15	Continued running in the hole.
				22:45	Washed and reamed from 3295 m to 3342 m.
				23:00	Continued running in the hole to 3390 m.
				24:00	Washed and reamed to 3406 m.
72	3680	1.11	1.27	01:00	Continued washing and reaming to 3450 m.
				01:15	Ran in the hole to 3463 m.
				04:15	Washed and reamed from 3463 m to 3565 m.
				04:45	Ran in the hole to 3650 m.
				05:30	Washed and reamed from 3650 m to 3680 m.
				07:15	Circulated and conditioned the hole.
				08:45	Made wiper trip to 9 5/8" casing shoe. Max. overpull at 3567 m = 406 kN. Ran in the hole.
				09:00	Washed and reamed from 3558 m to 3574 m.
				09:15	Continued running in the hole to 3680 m.
				11:00	Circulated and conditioned the hole.

	Daily report	..Date..
(((ooo)	System : Boredata Sandnes Well: 30/9-4	19851023

Norsk Hydro	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				15:15	Pulled out of the hole.
				24:00	Rigged up and ran the folloving logs: Run no. 4: SHDT/GR. Run no. 5: RFT/GR.
73	3680	1.11	1.27	21:30	Continued running Schlumberger logs. Run no. 5: RFT/GR. Run no. 6: RFT/GR.
				23:00	Ran in the hole to 325 m with bit no. 25 (re-run 2).
				24:00	Slipped and cut the drilling line.
74	3680	1.11	1.27	00:45	Repaired grating in the derreck.
				04:15	Ran in the hole.
				04:45	Washed and reamed.
				05:00	Ran in the hole.
				06:45	Washed and reamed.
				11:15	Pulled out of the hole.
				23:00	Ran in the hole with the folloving logs: Run no. 1: SDT/NGT. Run no. 2: CET/CBL.
				24:00	Ran in the hole with bit no. 21 (re-run 3).
75	3680	1.11	1.27	01:45	Continued running in the hole.
				02:15	Slipped the drilling line.
				03:45	Continued running in the hole.
				08:15	Displaced the hole with oil based mud and circulated bottom up.
				12:15	Pulled out of the hole.
				18:15	Tested the BOP.
				20:00	Tested surface equipment.
				24:00	Made up bit no. 27 and ran in the hole.
76	3871	1.11	1.27	01:30	Continued running in the hole.
				02:00	Slipped the drilling line.
				03:00	Continued running in the hole. Tested the Teleco tool.
				24:00	Drilled from 3680 m to 3871 m.
77	3972	1.11	1.27	04:45	Drilled from 3871 m to 3913 m.
				05:45	Circulated and conditioned the hole.
				06:00	Dropped the survey.
				10:30	Pulled out of the hole.
				14:15	Replaced no. 1 string stabilizer and ran in the hole with bit no. 27 (re-run 1).
				14:45	Slipped the drilling line.
				16:00	Continued running in the hole. Tested the Teleco tool at 3900 m.
				24:00	Drilled from 3913 m to 3972 m.

((((ooo) Norsk Hydro	Daily report System : Boredata Sandnes Well: 30/9-4						..Date.. 19851023
	Casing Size (in):	30	20	13 3/8	9 5/8	7	
	Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
78	4046	1.11	1.27	08:00	Continued drilling to 4028 m.
				09:00	Circulated and conditioned the hole.
				09:30	Dropped the survey.
				10:30	Pulled out of the hole.
				11:30	Slipped and cut the drilling line.
				14:30	Continued pulling out of the hole.
				19:15	Changed bottom hole assembly and ran in the hole with bit no. 27 (re-run 2).
				24:00	Drilled from 4028 m to 4046 m.
79	4120	1.11	1.27	13:45	Continued drilling to 4120 m.
				14:15	Circulated and conditioned the hole.
				14:45	Dropped the survey.
				20:30	Pulled out of the hole.
				24:00	Made up new bottom hole assembly and ran in the hole with bit no. 28.
80	4163	1.11	1.27	00:30	Continued running in the hole to 588 m.
				01:30	Slipped and cut the drilling line.
				04:45	Continued running in the hole to 4120 m.
				05:30	Dropped the survey.
				23:45	Drilled from 4120 m to 4163 m.
				24:00	Slugged the pipe.
81	4166	1.11	1.27	01:15	Pulled out of the hole to 3266 m.
				01:45	Slipped the drilling line.
				05:15	Continued pulling out of the hole.
				11:30	Ran in the hole with bit no. 29 and 1 1/2 degree bent sub.
				12:45	Circulated and oriented the bent sub.
				17:30	Drilled from 4163 m to 4166 m.
				19:45	Slugged the pipe and pulled out of the hole to 3260 m.
				20:15	Slipped the drilling line.
				24:00	Continued pulling out of the hole.
82	4189	1.11	1.27	04:30	Ran in the hole to 4166 m with bit no. 30.
				05:15	Circulated and oriented the bent sub.
				15:30	Drilled from 4166 m to 4189 m.
				16:00	Dropped the survey.
				17:30	Pulled out of the hole to 3230 m.
				18:00	Slipped the drilling line.
				21:30	Continued pulling out of the hole.
				24:00	Ran in the hole with bit no. 31 and 2 degree bent sub.
83	4218	1.11	1.27	02:45	Continued running in the hole to 4189 m.
				03:45	Oriented the tool face.
				16:15	Drilled from 4189 m to 4218 m.
				16:45	Circulated and conditioned the hole.

	Daily report	..Date..
((((ooo) Norsk Hydro	System : Boredata Sandnes Well: 30/9-4	19851023

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				17:45	Pulled out of the hole to 3230 m.
				18:45	Slipped and cut the drilling line.
				22:30	Continued pulling out of the hole.
				23:30	Retrieved the wear bushing and ran in the hole with BOP test plug.
				24:00	Tested the BOP.
84	4228	1.09	1.27	03:30	Tested the BOP. The rams and the fail-safe valves were tested to 431 bars, the annulars to 241 bars.
				04:30	Retrieved the test plug and set the wear bushing.
				05:45	Tested surface equipment to 345 bars.
				12:00	Made up new bottom hole assembly and ran in the hole with bit no. 32 to 4110 m.
				16:30	Reamed and washed from 4110 m to 4218 m.
				16:45	Took survey.
				24:00	Drilled from 4218 m to 4228 m.
85	4268	1.09	1.27	22:30	Drilled from 4228 m to 4268 m.
				24:00	Circulated and took survey.
86	4277	1.09	1.27	01:30	Pulled out of the hole to 3266 m.
				02:00	Slipped the drilling line.
				05:30	Continued pulling out of the hole.
				10:00	Ran in the hole with bit no. 33 (core head no. 5).
				10:45	Circulated.
				17:00	Cut the core no. 13 from 4268 m to 4277 m. The core jammed.
				18:30	Pulled out of the hole to 3260 m.
				19:00	Slipped the drilling line.
				22:15	Continued pulling out of the hole.
				22:45	Recovered the core (94% recovery).
				24:00	Serviced the core barrel.
87	4303	1.09	1.27	05:15	Made up new bottom hole assembly and ran in the hole with bit no. 34.
				05:45	Slipped the drilling line.
				06:30	Continued running in the hole.
				07:00	Reamed from 4247 m to 4277 m.
				22:15	Drilled from 4277 m to 4303 m. The bit torqued up.
				24:00	Circulated bottom up.
88	4303	1.09	1.27	00:30	Circulated for the survey.
				02:30	Pulled out of the hole.
				03:30	Cut and slipped the drilling line.
				06:00	Continued pulling out of the hole.
				24:00	Ran the following logs: Run no. 1: DIL/LSF/GR

	Daily report	..Date..
(((ooo)	System : Boredata Sandnes	19851023
	Well: 30/9-4	

Norsk Hydro	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					Run no. 2: LDT/CNL/NGT/SDT Run no. 3: HDT
89	4303	1.09	1.27	24:00	Continued running the folloving logs: Run no. 3: HDT Run no. 4: RFT - misrun Run no. 5: RFT Run no. 6: VSP
90	4303	1.09	1.27	21:30	Continued running the folloving logs: Run no. 6: VSP Run no. 7: RFT
				24:00	RFT tool stuck at 4207 m. Attemted to free the tool. Did not succeed.
91	4303	1.09	1.27	24:00	Waited on weather with the RFT tool stuck at 4207 m.
92	4303	1.09		22:00	Waited on weather to cut and thread for the stuck RFT tool.
				24:00	Rigged up to streap over the cable.
93	4303	1.09	1.27	00:30	Continued rigging up to strip over the cable.
				06:30	Stripped over the cable to 1245 m.
				07:30	Changed out broken hose on upper retracting cylinder on travelling block.
				17:30	Continued stripping over the cable to 4200 m.
				20:15	Ciculated above the fish and caught fish at 4207 m. Broke wireline at weak point.
				24:00	Pulled out of the hole with the fish to 1201 m.
94	4303	1.09	1.27	01:15	Continued pulling out of the hole.
				02:30	Released fish and retrieved fluid sample
				06:00	Laid down the core barrel.
				06:00	Laid down heavy wate drill pipe, monel's and stab's and core barrel.
				10:15	Made up new bottom hole assembly and ran in the hole with bit no 34 (re-run 1) to 3251 m.
				12:15	Circulated at the casing shoe.
				13:15	Continued running in the hole.
				14:00	Reamed and washed from 4287 m to 4303 m.
				16:30	Circulated and conditioned the hole. Max. gas at bottom up was 31 units. The flow check was negativ.
				20:30	Pulled out of the hole.
				24:00	Ran in the hole with CST no. 1.

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Norsk Hydro

D a i l y   r e p o r t

System : Boredata Sandnes
Well: 30/9-4

..Date..
19851023

Casing Size (in):	30	20	13 3/8	9 5/8	7	
Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
95	4303	1.09	1.27	08:00	Continued running CST no. 1 (100% recovery). Ran CST no. 2 (100% recovery).
				12:00	Ran in the hole with open ended drill pipe.
				12:30	Slipped the drilling line.
				14:15	Continued running in the hole.
				16:00	Circulated the hole.
				24:00	Set cement plug no. 1 from 4300 m to 4000 m in two steps.
96	3553	1.09	1.27	08:00	Spotted high viscous pill from 3755 m to 3680 m. Set cement plug no. 2 from 3680 m to 3545 m.
				10:00	Circulated the hole.
				16:45	Pulled out of the hole.
				18:30	Washed the wellhead and retrieved the wearbushing.
				23:30	Ran in the hole and set the test plug. Tested the BOP. Retrieved the test plug and set the wearbushing.
				24:00	Tested the surface equipment.
97	3553	1.09	1.27	02:00	Continued testing the surface equipment to 345 bars.
				03:00	Picked up cement kelly, installed the kelly bushings and checked all connections.
				08:00	Ran in the hole with bit no. 34 (re-run 2) and 9 5/8" scraper to 3270 m.
				09:00	Slipped and cut the drilling line.
				09:45	Laid down 20 joints 5" drillpipe.
				10:15	Continued running in the hole.
				15:00	Circulated and conditioned the mud.
				23:30	Pulled out of the hole. Found cement inside the pipe after 59 stands.
				24:00	Ran in the hole with the drill pipe to check for cement contamination.
98	3553	1.09	1.27	01:00	Ran in the hole with the bottom hole assembly and laid down 5" drillpipe due to possible cement inside.
				08:30	Pulled out of the hole.
				24:00	Ran in the hole with bit no. 34 (re-run 3). Picked up 5" drillpipe to make up new drill string.
99	3553	1.09	1.27	00:15	Continued running in the hole .
				05:00	Circulated and conditioned the hole.
				05:45	Pulled out of the hole.
				06:15	Slipped the drilling line.
				09:30	Pulled out of the hole.

	Daily report	..Date..
((((ooo) Norsk Hydro	System : Boredata Sandnes Well: 30/9-4	19851023

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				22:00	Rigged up and ran 7" liner. Broke the circulation at 9 5/8" casing shoe.
				23:00	Circulated to clean annulus between 7" liner and the hole.
				24:00	Dropped the liner setting ball.
100	3553	1.09	1.27	05:00	Attempted to set the liner hanger. Did not succeed.
				06:00	Set the liner on the bottom. Verified circulation and released the running tool.
				07:15	Cemented the liner with 17.3 m3 cement slurry (1.9 rd).
				08:45	Displaced the cement with 33.7 m3 mud.
				11:15	Pulled out of the hole to 2890 m and reverse circulated.
				14:15	Pulled out of the hole with the liner running tool.
				18:00	Ran in the hole to 3088 m with bit no 35 and 9 5/8" casing scraper.
				18:45	Washed to 3142 m and reamed to 3167 m.
				21:00	Circulated bottom up.
				21:45	Tested the overlap to 297 bars.
				24:00	Pulled out of the hole to 3137 m with the bit and the scraper.
101	3553	1.09	1.27	02:45	Continued pulling out of the hole.
				04:00	Laid down the cementing kelly.
				12:00	Ran in the hole to 3410 m with bit no. 36.
				12:30	Washed and scraped from 3410 m to 3476 m
				14:45	Circulated bottom up.
				18:45	Pulled out of the hole.
				24:00	Rigged up and ran CET/CBL/VDL/GR logs.
102	3553	1.09	1.27	01:45	Continued running CBL/CET/GR logs.
				02:45	Made up the surface test tree (STT).
				17:15	Picked up 5" test string.
				24:00	Pikced up and ran the sub sea test tree (SSTT) on a dummy run. It was impossible to pull the SSTT out because it had unlatched. Ran in the hole with a back-up latch and pulled the SSTT out.
103	3553	1.09	1.27	02:30	Changed latch on the SSTT.
				06:00	Pulled out of the hole.
				09:15	Ran the gauge ring and the junk basket.
				17:45	Tested the BOP to 517 bar on rams and 241 bar on annulus. Tested the surface equipment to 344 bar.
				21:45	Made two dummy run with the sub sea test

(((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes	
	Well: 30/9-4	

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					tree (SSTT). Were not able to get marks from middle pipe ram. Pressure tested below middle pipe ram to 172 bar. Pulled out and laid down the SSTT.
				24:00	Ran in the hole for drill stem test no. 1.
104	3553	1.09	1.27	16:30	Continued running in the hole for drill stem test no. 1. Tested the bottom hole assembly to 418 bar. Were not able to pass bridge at 3206 m.
				19:30	Opened circulation valve and reversed out 26.2 m3 diesel cushion from the string. Burned off over board.
				24:00	Slugged the string and pulled out of the hole to 407 m.
105	3553	1.09	1.27	03:45	Continued pulling out of the hole.
				06:30	Ran in the hole with bit no. 36 (re-run 1) and 7" scraper to 1940 m.
				07:00	Slipped the drilling line.
				10:30	Continued running in the hole to 3160 m.
				14:30	Washed and scraped the 7" liner from 3160 m to 3409 m.
				15:00	Replaced stripping bolts on the maritime hydraulic arm.
				15:45	Washed and scraped from 3409 m to 3476 m.
				16:45	Circulated bottom up.
				20:30	Pulled out of the hole.
				21:00	Slipped the drilling line.
				24:00	Waited on weather to run the test string
106	3553	1.09	1.27	12:00	Continued waiting on weather.
				19:00	Picked up test tools and tested bottom hole assembly to 414 bar.Opened the multi opening reversing valve and pumped high viscous slug across the bottom hole assembly.
				24:00	Ran in the hole with 5" tubing. Function tested the sub sea test tree.
107	3553	1.09	1.27	04:00	Displaced the string with diesel and ran in the hole with the landing string. Made up and function tested the lubri-cator valve and landed the string in the wear bushing.
				08:15	Rigged up and ran CCL/GR logs for correlation.
				09:00	Pulled out of the hole with the landing string to correct space out.

(((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes	
	Well: 30/9-4	

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				12:00	Made up the sub sea test tree and tested the tree to 414 bar. Ran in the hole with the landing string and rigged up surface equipment.
				21:00	Rigged up and ran CCL/GR log. Adjusted the packer setting depth. Did not succ-seed in setting the packer.
				24:00	Pulled out of the hole. Broke out tubing below surface test tree. Straightened twisted controlhoses for the lubricator valve and the sub sea test tree.
108	3553	1.09	1.27	05:30	Laid down the surface test tree. Pulled out of the hole with the landing string. Laid down the lubricator valve and the sub sea test tree.
				08:45	Opened the multi opening reversing valve and reversed out diesel cushion in the string. Circulated until mud weight in was equal to mud weight out (1.27 rd).
				16:45	Pulled out of the hole with the test string and laid down the test tools.
				17:45	Slipped and cut the drilling line.
				18:15	Serviced the perforation gun.
				23:00	Made up test tools and ran in the hole to 383 m.
				24:00	Filled the string with mud and rigged up to test the bottom hole assembly.
109	3553	1.09	1.27	00:45	Pressure tested the bottom hole assembly to 414 bar and opened the multi opening reversing valve.
				06:30	Ran in the hole with the test string. Picked up and function tested the sub sea test tree.
				09:00	Displaced the string with diesel. Closed the multi opening reversing valve and tested the string to 414 bar. Tested the sub sea test tree from below.
				10:30	Had hydraulic leak in the slipring on the sub sea test tree hose reel.
				15:15	Ran in the hole with the landing string, picked up the lubricator valve and the sub sea test tree. Landed the test string in the wellhead and picked up the surface equipment.
				19:00	Tested the landing string and the sur-face equipment to 414 bar.
				24:00	Ran in the hole with CCL/GR log. Sat the packer and confirmed the setting depth with the log.

((((ooo) Norsk Hydro	Daily report					..Date.. 19851023
	System : Boredata Sandnes					
	Well: 30/9-4					
	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
110	3553	1.09	1.27	01:30	Pulled out of the hole with the CCL/GR log. Pressure tested the flexihose to 414 bar.
				15:30	Waited on weather to perforate.
				18:00	Rigged up to perforate. Opened up the pressure control test valve. Perforated the 7" liner.
				24:00	Rigged up to run wireline. Ran in the hole and sat the gauge in the "F" nipple
111	3553	1.09	1.27	08:30	Rigged up wireline equipment. Tested the lubricator valve and ran in the hole with the "must" tool. The tool failed while running in the hole. Pulled out of the hole and rigged down the wireline.
				09:30	Changed out the hydraulic control line to the flow line fail safe valve on the surface test tree.
				14:45	Opened the well for initial flow on 20/64" choke.
				22:30	Shut in the well for initial build up.
				24:00	Opened the well for main flow on 72/64" choke.
112	3553	1.09	1.27	18:00	Continued flowing the well on 72/64" choke with 4902 barrels/day oil and 7.9 million standard cubic feet/day gas.
				24:00	Shut in the well at the pressure control test valve and the choke manifold for final build up.
113	3553	1.09	1.27	24:00	The well was shut in for the final build up drill stem test no. 1.
114	3553	1.09	1.27	01:45	The well shut in at the pressure control test valve and the choke manifold for the final build up test.
				05:45	Flew the well on 20/64" choke.
				07:00	Shut in the well and prepared to retrieve the pressure gauges. Tested the wireline lubricator to 345 bar.
				10:45	Waited on weather.
				16:30	Killed the well due to bad weather. Bullheaded down the tubing and into the formation. Opened the multi opening reversing valve and reversed out. Closed and tested the valve to 414 bar.
				19:30	Rigged up to retrieve the down hole gauges. Ran in the hole with wireline to 3000 m.

Daily report

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((((ooo)
Norsk Hydro

System : Boredata Sandnes
Well: 30/9-4

Casing Size (in):	30	20	13 3/8	9 5/8	7	
Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				22:30	Opened the multi opening reversing valve and equalized the pressure across the pressure control test valve.
				24:00	Attempted to open the pressure control test valve. Did not manage to open it.
115	3553	1.09	1.27	02:00	Attempted to retrieve down hole gauges- no success. Pulled out of the hole with the wireline retrieving tool and rigged it down.
				12:30	Flushed the surface lines with water. Opened the pressure control test valve (PCT) and bullheaded 4 m3 mud down the tubing. Closed the PCT and reversed out one string volume, unseated the packer and bullheaded 2.4 m3 mud down annulus.
				22:00	Pulled out of the hole with the test string, laid down the lubricator valve and the sub sea test tree. Retrieved the down hole gauges. Found the tail pipe assembly left in the hole.
				24:00	Ran in the hole with bit no. 36 (re-run 2) and scraper to check the top of the fish.
116	3350	1.09	1.27	02:45	Continued running in the hole.
				03:15	Slipped the drilling line.
				04:00	Continued running in the hole.
				05:00	Tagged the top of the fish and set down 222 kN. Was not able to push the fish down.
				09:30	Pulled out of the hole.
				13:15	Ran and set the packer at 3350 m and pulled out of the hole.
				17:45	Ran in the hole with the stinger.
				20:00	Established injection rate. Mixed and pumped cement. Stung into the packer and sqeezed 3.7 m3 into the perforations.
				21:30	Stung out and reverse circulated 34 m3. Tested the packer to 241 bar.
				24:00	Pulled out of the hole to 994 m.
117	3350	1.09	1.27	01:30	Continued pulling out of the hole with the stinger. Drifted 4 3/4" drill collar
				03:00	Ran in the hole with the BOP test plug.
				05:45	Tested the BOP and found a leakage in the kill line.
				06:00	Pulled out with the test plug.
				06:30	Pressure tested the packer against the shear ram to 241 bar.
				24:00	Displaced the riser with seawater and

(((ooo) Norsk Hydro	Daily report System : Boredata Sandnes Well: 30/9-4						..Date.. 19851023
	Casing Size (in):	30	20	13 3/8	9 5/8	7	
	Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
					pulled lower marine riser package. Changed out the leaking kill line flex hose. Repaired the SPM valve on blue pod. Ran lower marine riser package.
118	3350	1.09	1.27	05:30	Continued running lower marine riser package. Made up kill, choke and bod-steel lines. Latched and pull tested lower marine riser package.
				06:00	Ran in the hole with the BOP test plug.
				08:00	Tested the BOP.
				12:00	The kill line started leaking while testing. Located the leak on no. 4 riser joint from the surface.
				12:30	Pulled out of the hole with the BOP test plug.
				21:45	Pulled 4 joints riser, changed seals in the kill and choke line stab's. Ran and latched lower marine riser package and pull tested.
				22:15	Ran in the hole with the BOP test plug.
				24:00	Found leakage in the kill line goosneck when attempting to test. Started to repair.
119	3348	1.09	1.27	02:00	Changed out the goosneck on the kill line and tested it to 552 bar.
				03:00	Finished testing the BOP.
				04:15	Retrieved the test plug and innstalled the wear bushing.
				06:30	Ran the junk basket and the gauge ring.
				12:00	Ran in the hole with the test string.
				15:30	Tested the bottom hole assembly. Laid down leaking slip joint.
				24:00	Continued running in the hole with the tubing to 3197 m and filled the string with water cushion. Picked up the sub sea test tree.
120	3348	1.09	1.27	04:00	Tested the string and the sub sea test tree. Continued running in the hole with the test string. Tested the lubricator valve.
				04:30	Picked up the surface test tree. Landed the string with the sub sea test tree in the wear bushing.
				05:15	Rigged up the choke manifold and the kill line.
				11:15	Pressure tested the string and the surface equipment.

(((ooo)	**D a i l y r e p o r t**	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	
Norsk Hydro	Casing Size (in): 30 / 20 / 13 3/8 / 9 5/8 / 7 Setting depth (m): 221 / 618 / 1648 / 3275 / 3558	

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				16:15	Rigged up and ran GR/CCL log to correlate the setting depth for the packer. Set the packer at 3277 m. Pulled out of the hole.
				18:45	Rigged up and tested the wireline lubricator. Perforated from 3310.5 m to 3323.5 m.
				22:00	Installed downhole pressure gauges.
				23:30	Opened the well for initial flow on 64/66" choke.
				24:00	Flowed thru the separator.
121	3348	1.09	1.27	06:15	Continued flowing the well on 64/64" choke.
				22:30	Shut in the well at the pressure control valve and the choke manifold for build up test.
				23:45	Injected 0.8 m3 glycol into the string from the sub sea test tree to the surface.
				24:00	Opened the well for final flow on 44/64" choke.
122	3348	1.09	1.27	08:15	Continued flowing the well on 44/64" choke. Took surface samples at the separator.
				16:45	Closed in the well at the pressure control test valve and the choke manifold for a final build up.
				20:45	Retrieved the down hole gauges.
				22:00	Checked the gauges and flushed the surface lines.
				23:30	Killed the well down the tubing with 33.4 m3 mud (1.27 rd).
				24:00	Observed the well. The hole was static.
123	3348	1.09	1.27	02:45	Sheared the single shot anulus reversing valve by 3700 psi. Reverse circulated 2 x tubing volume. Max gas 180 units.
				03:00	Unseated the packer. Rigged down the surface test tree, kill and flow lines.
				06:45	Bullheaded 30 barrels into the formation and got 10 barrels back. Circulated the long way through the choke. Max gas was 190 units. Opened the middle pipe ram and circulated through the riser.
				07:00	Flow checked-ok.
				16:30	Pulled out of the hole and laid down the test string. Rigged up and ran the junk basket and the gauge ring to 3310 m Set the sqeeze packer at 3305 m.

	Daily report	..Date..
(((ooo)	System : Boredata Sandnes Well: 30/9-4	19851023

Norsk Hydro	Casing Size (in):	30	20	13 3/8	9 5/8	7
	Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				21:45	Rigged down the wireline equipment.
				22:15	Slipped the drilling line.
				24:00	Made up the stinger and ran in the hole to 550 m to sqeeze the perforations.
124	3348	1.09	1.27	02:30	Continued running in the hole with the stinger to 3300 m.
				04:30	Stung into the packer, established injection rate and pumped and sqeezed 2.6 m3 cement into the perforations. Left 0.8 m3 cement on the top of the sqeeze packer.
				05:30	Pulled out of the hole to 3225 m. Reverse circulated and tested the packer to 69 bar above the injection pressure.
				10:15	Continued pulling out of the hole.
				13:15	Ran in the hole with the test tubing to 2874 m.
				14:15	Slipped and cut the drilling line.
				21:45	Pulled out of the hole and laid down 5" test pipe.
				24:00	Ran in the hole with 6 stands open ended 3 1/2" drill pipe on 5" drill pipe to 2311 m.
125	3117	1.09	1.27	00:30	Continued running in the hole to 3217 m.
				01:45	Circulated bottoms up.
				02:45	Flushed and tested the cement lines to 207 bar. Set a cement plug from 3217 m to 3117 m.
				09:00	Pulled out of the hole to 3075 m. Reverse circulated and pulled out of the hole.
				11:30	Ran in the hole and perforated 9 5/8" casing at 1547 m to squeese of 9 5/"x 13 3/8" annulus.
				13:30	Pulled out of the hole with the perfo-ration gun and tried to establish injec-tion rate. Not possible to inject with 131 bar.
				15:15	Ran in the hole and perforated 9 5/8" and 13 3/8" casing at 160 m. Got no indication of gas.
				19:45	Laid down the drill pipe.
				23:00	Made up and ran in the hole with the cutting assembly.
				24:00	Cut the 9 5/8" and the 13 3/8" casing at 380.5 m.
126	180	1.03		01:30	Pulled out of the hole with the casing cutter assembly.

(((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes	
	Well: 30/9-4	

Casing Size (in):	30	20	13 3/8	9 5/8	7	
Setting depth (m):	221	618	1648	3275	3558	

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				05:00	Ran in the hole with wear bushing retrieving tool and retrieved the wear bushing and 9 5/8" casing.
				07:00	Ran in the hole with 13 3/8" casing spear assembly. Attempted to retrieve 13 3/8" casing. Did not manage to re-trieve the casing.
				11:00	Ran in the hole with casing cutter and cut the 13 3/8" casing at 240 m. Pulled out of the hole.
				13:30	Ran in the hole with 13 3/8 casing spear assembly. Attempted to retrieve 13 3/8" casing. Had 1575 kN overpull and 55 bar on the pumps. Did not manage to retrieve the casing.
				16:00	Ran in the hole with cutting assembly and cut the 13 3/8" casing at 219 m. Pulled out of the hole.
				18:45	Ran in the hole with the spear assembly and retrieved the 13 3/8" casing.
				19:30	Ran in the hole with open ended drill pipe to 380 m.
				20:00	Circulated with seawater.
				21:15	Tested the surface lines and set a balanced cement plug from 380 m to 180 m.
				22:15	Pulled out to 140 m and reverse circu-lated. Circulated and cleaned up the BOP and the riser.
				24:00	Laid down 5" drill pipe and 5" heavy wate drill pipe.
127	0	0		00:30	Slipped the drilling line.
				05:30	Unlatched and pulled the BOP and the riser.
				07:15	Prepared to move the lower marine riser package onto the stub.
				09:00	Cable jumped out of the upper sheave on the aft BOP crane. Had to cut and repair the cable.
				12:00	Moved the lower marine riser package to the stunp and put the BOP on the stump. Laid down the last riser joints and the handling tools.
				14:00	Rigged up the wellhead severance tool. Ran in the hole on the sandline. Blasted the wellhead with 20" and 30" casing 5 m below the seabed.
				18:00	Ran in the hole with 20" spear assembly and retrieved the wellhead and casing stumps.

((((ooo) Norsk Hydro	Daily report	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4	

Casing Size (in):	30	20	13 3/8	9 5/8	7
Setting depth (m):	221	618	1648	3275	3558

Report number	Mid depth (m)	EST.PORE PRESSURE (SG)	Mud dens. (SG)	Stop time	Short Summary
				23:15	Laid down the spear assembly, cutting assembly and the remaining pipe. Released 20" and 30" casing from the permanent guide base.
				24:00	Waited on weather to pull the anchors.
128	0	0		08:45	Waited on weather with the rig at 55 feet draft.
				13:30	Deballasted the rig and pulled anchor no. 2 and 6.
				24:00	Waited on weather, ballasted the rig to 69 feet.
129	0	0		24:00	Waited on weather.
130	0	0		24:00	Waited on weather.
131	0	0		03:30	Waited on weather.
				16:30	Deballasted the rig and pulled the remaining anchors no. 1, 3, 4, 5, 7, 8. The last anchor was on the bolster at 16.30 hours.

3.4 Time distribution

The total time used to move the rig to the location, drill the well, production test and permanently plug and abandon the well 30/9-4 was 131,2 days.

The time distribution is shown in Table B-1 and fig. B-2.

The operation can be broken down into the following main groups:

- Moving and positioning of the rig	:	2,4 days
- Drilling the well to TD	:	50,3 days
- Formation evaluation	:	20,3 days
- Downtime	:	29,7 days
- Production testing	:	25,5 days
- Plugging and abandonment	:	3,0 days

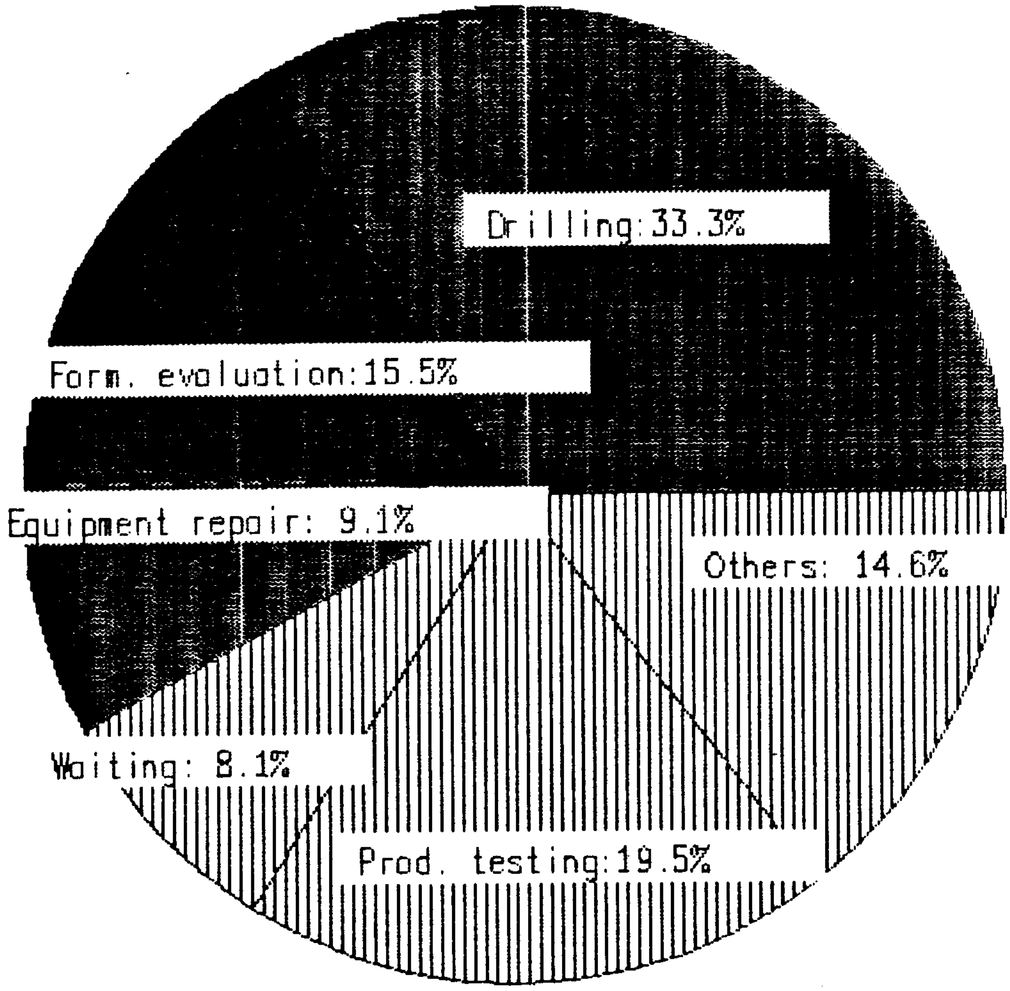
TABLE B-1

(((ooo) Norsk Hydro	Time distribution	..Date.. 19851023
	System : Boredata Sandnes Well: 30/9-4 Rig name: Treasure Seeker	6

Operations	Hrs	%	Subtotal	
Rig moving				
Rig moving	26.3	.83		
Mooring	31.5	1.00		
Sum			57.75	57.75
Drilling				
Drilling	541.3	17.20		
Tripping	280.5	8.91		
Underreaming	14.0	.44		
Circ. and cond. hole and mud	40.8	1.29		
Slip and cut drilling line	17.8	.56		
Sub sea equipment handling	30.8	.98		
BOP testing/activities	72.0	2.29		
Other equipment testing	5.0	.16		
Surveying	34.0	1.08		
Formation leak off test	6.0	.19		
Running casing	109.5	3.48		
Primary cementing	33.5	1.06		
Squeezing	13.5	.43		
Pressure detection	4.5	.14		
Other	3.0	.10		
Sum			1206.00	1263.75
Formation evaluation				
Coring	76.8	2.44		
Tripping	168.0	5.34		
Circ and cond mud/hole	23.3	.74		
Circulating for samples	19.5	.62		
Slip and cut drilling line	5.5	.17		
Logging	193.5	6.15		
Sum			486.50	1750.25
Downtime				
Sub sea equipment repair	159.8	5.08		
Moving equipment repair	1.8	.06		
Drilling equipment repair	107.3	3.41		
Production test equip repair	11.0	.35		
Downtime equipment repair	.8	.02		
Slip and cut drilling line	6.0	.19		
Reaming	74.0	2.35		
Wiper trip	45.0	1.43		
Lost circulation	3.8	.12		
Waiting on weather	235.0	7.47		
Waiting on weather,prod test	18.8	.60		
Fishing> due to RFT/FIT	30.0	.95		
Fishing> due to hole equipment	19.5	.62		
Sum			712.50	2462.75
Production testing				
Circulating	58.8	1.87		
Slip and cut drilling line	5.5	.17		
Wire line operations	85.5	2.72		
Tripping workstring	131.5	4.18		
Tripping other	60.3	1.91		
Rigging up/down	10.3	.33		
Flowing/injection	45.5	1.45		
Pressure build up/fall off	64.3	2.04		
Equipment testing	83.3	2.65		

(((ooo)	**T i m e d i s t r i b u t i o n**	..Date.. 19851023
Norsk Hydro	System : Boredata Sandnes Well: 30/9-4 Rig name: Treasure Seeker	6

Operations		Hrs	%	Subtotal	
Plugging and squeezing	:	20.3	.64		
Other	:	47.8	1.52		
Sum				612.75	3075.50
Plug and abandonment					
Tripping	:	14.5	.46		
Circ and cond mud/hole	:	2.8	.09		
Perforating	:	4.3	.14		
Cement plug	:	8.5	.27		
Squeezing	:	2.0	.06		
Cutting	:	9.5	.30		
Equipment recovery	:	29.8	.95		
Slip and cut drilling line	:	.5	.02		
Sum				71.75	3147.25
Total time					3147.25



TOTAL WELL TIME (HRS)	3147
OTHERS	14.6%
Rig moving:	1.8 %
Casing & Cement:	5.0 %
P & A:	2.3 %
Hole problems:	3.9 %
Fishing:	1.6 %

NORSK HYDRO DRILLING DEP.	TOTAL TIME DISTRIBUTION WELL: 30/9-4	Fig. B-2	
		GS	

TABLE B-2

((((ooo) Norsk Hydro	Hole deviation System : Boredata Sandnes Well: 30/9-4	..Date.. 19851206 11

Measured Depth (m)	Incli-nation (deg)	Direction (deg)	Surveytool	Coordinates North (m)	Coordinates East (m)	True Vert Depth (m)	Dogleg Severity deg/30m
690.0	0.7	262.4	MWD	-.56	-4.18	690	.03
710.0	1.9	254.2	MWD	-.66	-4.62	710	1.82
719.0	2.5	254.9	MWD	-.76	-4.95	719	2.00
728.0	3.3	258.1	MWD	-.86	-5.39	728	2.72
738.0	4.9	257.7	MWD	-1.01	-6.09	738	4.80
747.0	4.7	257.4	MWD	-1.17	-6.83	747	.67
757.0	5.5	259.1	MWD	-1.35	-7.70	757	2.44
766.0	6.3	261.8	MWD	-1.50	-8.61	766	2.82
775.0	7.0	263.0	MWD	-1.64	-9.64	775	2.38
785.0	7.8	263.6	MWD	-1.79	-10.92	785	2.41
794.0	8.9	263.6	MWD	-1.94	-12.22	794	3.67
804.0	9.8	263.9	MWD	-2.11	-13.84	803	2.70
813.0	10.9	263.6	MWD	-2.29	-15.44	812	3.67
823.0	12.0	262.5	MWD	-2.53	-17.41	822	3.36
833.0	13.0	263.6	MWD	-2.79	-19.56	832	3.08
842.0	13.5	263.2	MWD	-3.03	-21.61	841	1.69
852.0	13.8	262.2	MWD	-3.33	-23.95	850	1.15
861.0	14.5	261.8	MWD	-3.64	-26.13	859	2.36
871.0	14.5	262.9	MWD	-3.97	-28.61	869	.83
880.0	16.4	263.9	MWD	-4.24	-30.99	877	6.40
890.0	18.2	265.0	MWD	-4.53	-33.95	887	5.49
899.0	18.2	265.0	MWD	-4.78	-36.75	896	.00
927.0	19.9	260.8	MWD	-5.92	-45.82	922	2.34
937.0	20.3	261.1	MWD	-6.46	-49.21	931	1.24
946.0	20.7	260.4	MWD	-6.97	-52.32	940	1.56
966.0	21.6	260.8	MWD	-8.14	-59.44	958	1.37
984.0	22.7	260.8	MWD	-9.23	-66.14	975	1.83
1004.0	24.2	261.8	MWD	-10.43	-74.01	993	2.33
1022.0	25.6	261.8	MWD	-11.51	-81.51	1010	2.33
1041.0	27.0	261.5	MWD	-12.73	-89.84	1027	2.22
1061.0	28.7	261.5	MWD	-14.12	-99.08	1045	2.55
1080.0	30.1	262.2	MWD	-15.44	-108.31	1061	2.28
1099.0	31.9	262.2	MWD	-16.76	-118.00	1077	2.84
1137.0	33.9	263.2	MWD	-19.38	-138.48	1109	1.64
1147.0	33.7	263.2	MWD	-20.04	-144.00	1118	.60
1157.0	33.8	263.6	MWD	-20.68	-149.52	1126	.73
1166.0	33.6	263.2	MWD	-21.25	-154.48	1133	1.00
1175.0	33.8	263.6	MWD	-21.83	-159.44	1141	1.00
1185.0	33.9	263.6	MWD	-22.45	-164.98	1149	.30
1204.0	34.1	263.2	MWD	-23.67	-175.53	1165	.47
1223.0	34.8	263.6	MWD	-24.90	-186.21	1181	1.16
1242.0	35.1	263.6	MWD	-26.12	-197.02	1196	.47
1261.0	35.9	264.3	MWD	-27.28	-207.99	1212	1.42

((((ooo) Norsk Hydro	Hole deviation System : Boredata Sandnes Well: 30/9-4	..Date.. 19851206 11

Measured Depth (m)	Incli- nation (deg)	Direction (deg)	Surveytool	Coordinates North (m)	East (m)	True Vert Depth (m)	Dogleg Severity deg/30m
1280.0	36.3	263.6	MWD	-28.46	-219.13	1227	.91
1299.0	37.0	263.6	MWD	-29.72	-230.40	1242	1.11
1318.0	37.6	263.2	MWD	-31.05	-241.83	1257	1.02
1331.0	38.3	264.7	MWD	-31.89	-249.78	1268	2.67
1357.0	38.5	266.8	MWD	-33.09	-265.89	1288	1.52
1366.0	36.9	268.2	MWD	-33.33	-271.39	1295	6.05
1376.0	35.8	269.9	MWD	-33.43	-277.31	1303	4.47
1382.0	35.9	271.0	MWD	-33.40	-280.83	1308	3.26
1395.0	36.4	271.3	MWD	-33.24	-288.49	1318	1.22
1405.0	37.1	271.3	MWD	-33.11	-294.47	1327	2.10
1414.0	37.6	270.6	MWD	-33.02	-299.93	1334	2.19
1422.0	38.0	270.6	MWD	-32.97	-304.84	1340	1.50
1441.0	37.4	273.1	MWD	-32.59	-316.45	1355	2.59
1450.0	37.3	274.1	MWD	-32.25	-321.90	1362	2.05
1460.0	37.2	274.1	MWD	-31.82	-327.93	1370	.30
1470.0	37.4	274.1	MWD	-31.38	-333.98	1378	.60
1479.0	37.4	274.5	MWD	-30.98	-339.43	1385	.81
1488.0	37.5	274.5	MWD	-30.55	-344.89	1392	.33
1498.0	37.5	274.5	MWD	-30.07	-350.95	1400	.00
1508.0	37.7	274.5	MWD	-29.59	-357.04	1408	.60
1518.0	37.8	274.5	MWD	-29.11	-363.14	1416	.30
1536.0	38.0	274.1	MWD	-28.28	-374.17	1430	.53
1555.0	38.1	274.1	MWD	-27.44	-385.85	1445	.16
1575.0	38.1	274.5	MWD	-26.52	-398.15	1461	.37
1584.0	38.1	274.1	MWD	-26.10	-403.69	1468	.82
1603.0	38.1	274.5	MWD	-25.22	-415.38	1483	.39
1622.0	38.1	274.1	MWD	-24.34	-427.07	1498	.39
1642.0	38.1	274.5	MWD	-23.42	-439.38	1514	.37
1714.0	39.3	275.9	MWD	-19.33	-484.21	1570	.62
1761.0	39.6	275.6	MWD	-16.34	-513.92	1606	.23
1799.0	39.8	275.6	MWD	-13.97	-538.08	1635	.16
1874.0	40.9	276.3	MWD	-8.93	-586.37	1693	.48
1923.0	41.0	275.6	MWD	-5.60	-618.31	1730	.29
1932.0	41.1	275.6	MWD	-5.03	-624.20	1736	.33
1970.0	41.7	275.6	MWD	-2.58	-649.21	1765	.47
1989.0	41.7	275.2	MWD	-1.39	-661.79	1779	.42
2017.0	42.0	274.8	8WD	.24	-680.40	1800	.43
2046.0	42.2	273.8	MWD	1.70	-699.79	1822	.72
2067.0	42.5	275.9	MWD	2.90	-713.88	1837	2.07
2081.0	42.4	274.8	MWD	3.78	-723.29	1847	1.61
2100.0	42.5	274.5	MWD	4.82	-736.07	1861	.36
2121.0	42.8	274.5	MWD	5.93	-750.25	1877	.43

((((ooo) Norsk Hydro	Hole deviation System : Boredata Sandnes Well: 30/9-4	..Date.. 19851206 11

Measured Depth (m)	Incli-nation (deg)	Direction (deg)	Surveytool	Coordinates North (m)	Coordinates East (m)	True Vert Depth (m)	Dogleg Severity deg/30m
2149.0	42.7	273.8	MWD	7.31	-769.21	1897	.52
2178.0	43.1	274.8	MWD	8.79	-788.89	1919	.82
2211.0	43.2	274.5	MWD	10.62	-811.39	1943	.21
2224.0	43.2	273.1	MWD	11.21	-820.27	1952	2.21
2241.0	43.2	273.1	MWD	11.84	-831.89	1965	.00
2264.0	43.2	273.8	MWD	12.79	-847.60	1981	.63
2283.0	43.1	272.0	MWD	13.44	-860.58	1995	1.95
2302.0	43.1	272.0	MWD	13.90	-873.56	2009	.00
2321.0	43.4	272.7	MWD	14.43	-886.56	2023	.89
2340.0	43.3	272.0	MWD	14.96	-899.59	2037	.77
2359.0	43.0	270.6	MWD	15.26	-912.58	2051	1.58
2388.0	43.0	270.6	MWD	15.47	-932.36	2072	.00
2397.0	43.0	271.0	MWD	15.55	-938.50	2078	.91
2417.0	42.9	270.3	MWD	15.71	-952.13	2093	.73
2455.0	43.3	269.2	MWD	15.59	-978.09	2121	.67
2508.0	42.2	269.9	MWD	15.31	-1014.06	2160	.68
2537.0	41.5	269.6	MWD	15.22	-1033.41	2181	.75
2562.0	41.4	271.0	MWD	15.31	-1049.96	2200	1.12
2583.0	40.9	269.9	MWD	15.42	-1063.78	2216	1.26
2623.0	40.3	270.3	MWD	15.46	-1089.81	2246	.49
2642.0	40.0	269.6	MWD	15.45	-1102.06	2261	.86
2660.0	39.7	269.2	MWD	15.33	-1113.59	2275	.66
2688.0	39.4	269.6	MWD	15.15	-1131.42	2296	.42
2707.0	39.2	269.6	MWD	15.06	-1143.45	2311	.32
2758.0	38.1	269.2	MWD	14.73	-1175.30	2351	.66
2787.0	38.7	269.2	MWD	14.48	-1193.31	2373	.62
2815.0	38.7	269.6	MWD	14.30	-1210.82	2395	.27
2843.0	38.7	269.9	MWD	14.22	-1228.33	2417	.20
2872.0	38.9	271.3	MWD	14.41	-1246.50	2440	.93
2890.0	38.8	271.0	MWD	14.64	-1257.79	2454	.36
2919.0	38.7	271.0	MWD	14.95	-1275.93	2476	.10
2938.0	38.6	270.6	MWD	15.12	-1287.80	2491	.42
2967.0	38.4	270.6	MWD	15.31	-1305.85	2514	.21
2995.0	38.1	269.2	MWD	15.28	-1323.19	2536	.98
3024.0	38.00	269.6	MWD	15.09	-1341.06	2559	.28
3064.0	38.1	270.3	MWD	15.07	-1365.71	2590	.33
3080.0	37.8	269.2	MWD	15.03	-1375.55	2603	1.39
3109.0	37.5	268.5	MWD	14.67	-1393.26	2626	.54
3128.0	38.0	269.6	MWD	14.48	-1404.89	2641	1.32
3159.0	37.5	268.3	MWD	14.13	-1423.87	2665	.91
3185.0	37.4	269.6	MWD	13.84	-1439.67	2686	.92
3214.0	36.9	268.9	MWD	13.62	-1457.18	2709	.68
3243.0	36.7	270.6	MWD	13.54	-1474.55	2732	1.07

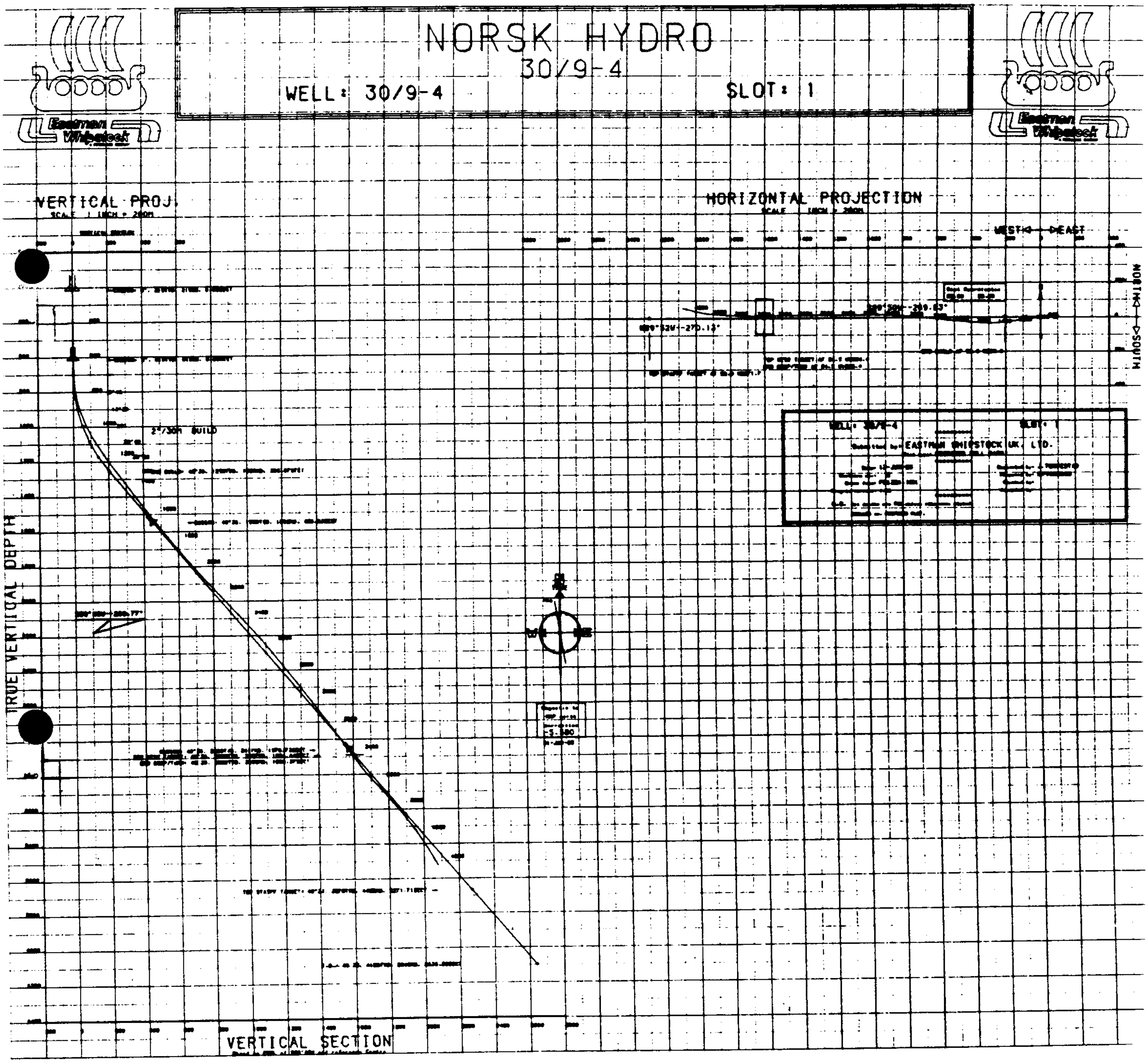
((((ooo) Norsk Hydro	Hole deviation System : Boredata Sandnes Well: 30/9-4	..Date.. 19851206 11

Measured Depth (m)	Incli-nation (deg)	Direction (deg)	Surveytool	Coordinates North (m)	East (m)	True Vert Depth (m)	Dogleg Severity deg/30m
3271.0	36.4	269.9	MWD	13.61	-1491.23	2755	.55
3309.0	36.7	269.2	MWD	13.43	-1513.86	2785	.41
3316.0	37.0	267.8	MWD	13.32	-1518.05	2791	3.82
3346.0	37.4	268.9	MWD	12.80	-1536.18	2815	.78
3356.0	37.5	268.5	MWD	12.66	-1542.26	2823	.79
3378.0	37.4	268.5	MWD	12.31	-1555.64	2840	.14
3384.0	37.2	268.9	MWD	12.23	-1559.27	2845	1.57
3394.0	36.6	268.9	MWD	12.12	-1565.27	2853	1.80
3403.0	36.3	268.5	MWD	11.99	-1570.62	2860	1.28
3484.0	35.8	269.6	MWD	11.20	-1618.28	2926	.30
3513.0	35.8	270.3	MWD	11.19	-1635.24	2949	.42
3537.0	37.3	269.9	MWD	11.21	-1649.53	2969	1.90
3560.0	39.2	270.6	MWD	11.28	-1663.77	2987	2.54
3582.0	41.1	271.3	MWD	11.51	-1677.95	3003	2.66
3607.0	41.8	271.0	MWD	11.84	-1694.50	3022	.87
3635.0	42.7	271.0	MWD	12.17	-1713.32	3043	.96
3663.0	43.2	270.6	MWD	12.44	-1732.40	3063	.61
3693.0	43.2	272.7	MWD	13.03	-1752.93	3085	1.44
3730.0	42.0	272.0	MWD	14.06	-1777.95	3112	1.05
3768.0	41.2	272.4	MWD	15.03	-1803.16	3141	.67
3797.0	40.5	274.1	MWD	16.10	-1822.09	3163	1.36
3826.0	40.0	274.8	MWD	17.55	-1840.78	3185	.70
3855.0	39.5	273.4	MWD	18.88	-1859.27	3207	1.06
3883.0	38.5	273.8	MWD	19.99	-1876.86	3229	1.10
3930.0	37.5	275.9	MWD	22.43	-1905.69	3266	1.04
3959.0	37.4	275.9	MWD	24.24	-1923.23	3289	.10
3997.0	36.7	277.7	MWD	26.95	-1945.96	3319	1.02
4007.0	36.2	280.1	MWD	27.86	-1951.83	3327	4.53
4027.0	35.4	281.2	MWD	30.03	-1963.32	3344	1.54
4046.0	35.0	281.2	MWD	32.15	-1974.07	3359	.63
4065.0	35.2	280.9	MWD	34.25	-1984.79	3375	.42
4112.0	33.7	283.6	MWD	39.87	-2010.77	3413	1.37
4119.0	33.2	284.7	MWD	40.82	-2014.51	3419	3.37
4128.0	32.8	284.3	MWD	42.04	-2019.26	3427	1.52
4140.0	32.4	286.1	MWD	43.74	-2025.49	3437	2.62
4163.0	31.2	285.0	MWD	46.99	-2037.17	3457	1.74
4178.0	30.7	284.3	MWD	48.94	-2044.63	3469	1.23
4188.0	30.5	283.3	MWD	50.16	-2049.58	3478	1.64
4197.0	30.7	282.9	MWD	51.19	-2054.04	3486	.95
4218.0	30.4	281.5	MWD	53.45	-2064.47	3504	1.10
4228.0	30.2	281.9	MWD	54.47	-2069.41	3512	.85
4239.0	30.0	282.6	MWD	55.64	-2074.80	3522	1.10

((((ooo) Norsk Hydro	Hole deviation	..Date.. 19851206
	System : Boredata Sandnes	
	Well: 30/9-4	11

Measured Depth (m)	Incli- nation (deg)	Direction (deg)	Surveytool	Coordinates North (m)	East (m)	True Vert Depth (m)	Dogleg Severity deg/30m
4245.0	29.8	283.3	MWD	56.31	-2077.72	3527	2.01
4303.0	29.8	283.3	MWD	62.94	-2105.77	3578	.00

FIG. B-3


NORSK HYDRO
30/9-4
WELL: 30/9-4
SLOT: 1
Eastman Whipstock
VERTICAL PROJ.
HORIZONTAL PROJECTION
WEST EAST
NORTH SOUTH
2°/30M BUILD
EASTMAN WHIPSTOCK UK. LTD.
TRUE VERTICAL DEPTH
VERTICAL SECTION

4. PERMANENT ABANDONMENT OF THE WELL

The permanent abandonment program is shown in fig. B-3 and was carried out in the following way (all depths in MD):

1. Set a cement plug in open hole from 4300 m to 4000 m.

2. Set a cement plug in open hole from 3680 m to 3553 m.

3. Did not drill out of the 7" liner. Remaining cement plug from 3553 m to 3476 m inside the 7" liner.

4. Set a squeeze packer at 3350 m after DST no.1 and squeezed 3,7 m^3 into the perforations.

5. Set a sqeeze packer at 3305 m after DST no. 2 and squeezed 2,6 m^3 into the perforations. Left 0,8 m^3 on top of the packer. Top of the plug at 3264 m.

6. Set a cement plug across the liner top from 3217 m to 3117 m.

7. Perforated 9 5/8" casing at 1547 m to squeeze into the 9 5/8" x 13 3/8" annulus. Not possible to inject with 131 bar. Did not try to squeeze again.

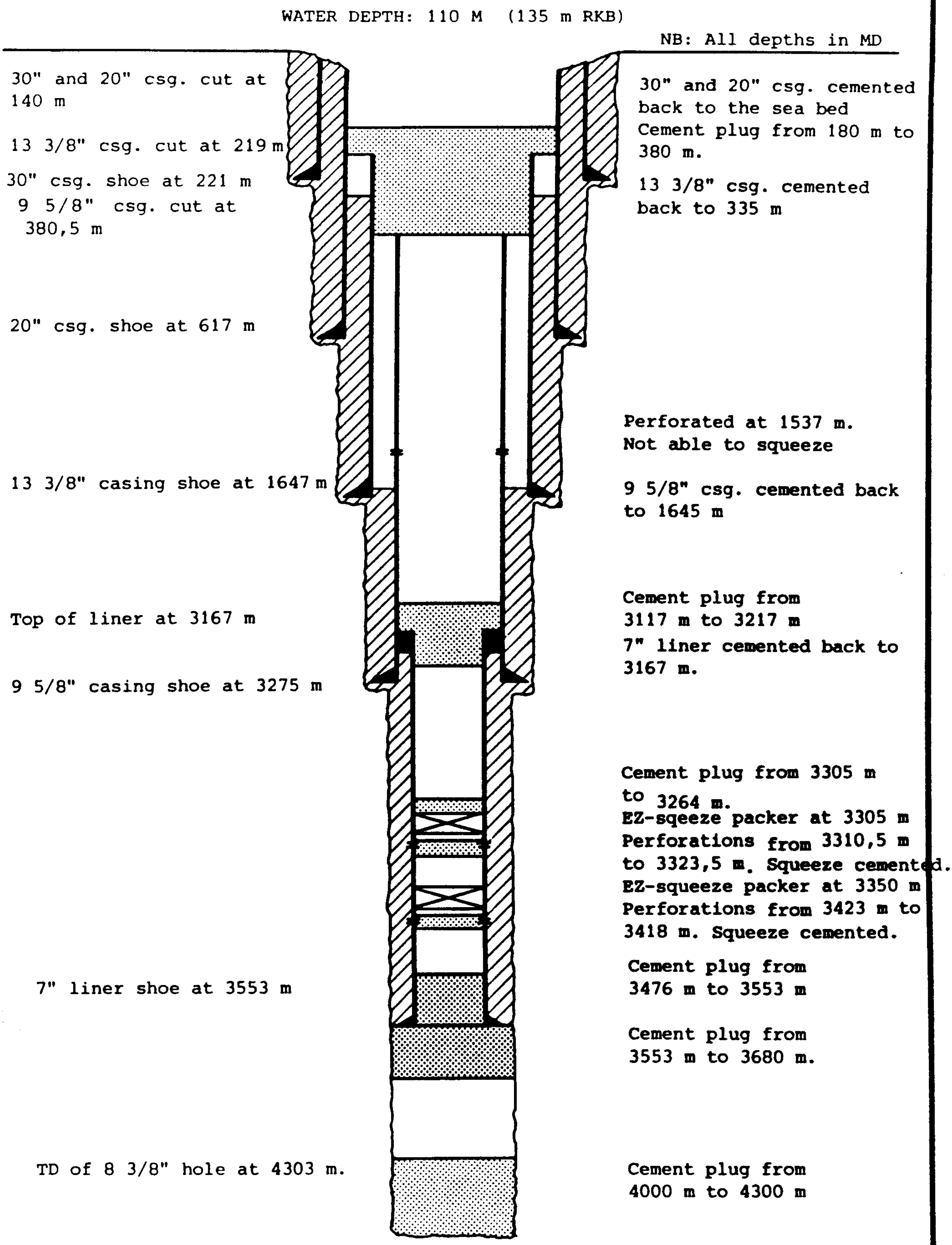
8. Perforated the 9 5/8" and 13 3/8" casing at 160 m to check for gas. Cut the 9 5/8" and the 13 3/8" casing at 380,5 m. Retrieved the 9 5/8" casing but were not able to retrieve the 13 3/8" casing.

9. Cut the 13 3/8" casing at 240 m but were not able to retrieve it.

10. Cut the 13 3/8" casing at 219 m. Retrieved the casing.

11. Set a cement plug from 380 m to 180 m.

12. Cut the 20" and 30" casing at 140 m (5 m below the seabed).



Norsk Hydro Drilling Department	PERMANENT ABANDONMENT WELL 30/9-4	Gr. no.: 7	Fig.: B-4
		Date: 31.07.85. Sign: GS/ SF	Dwg. no.: 111

5. PORE PRESSURE AND FORMATION INTEGRITY TEST

5.1 Pore pressure, 30/9-4

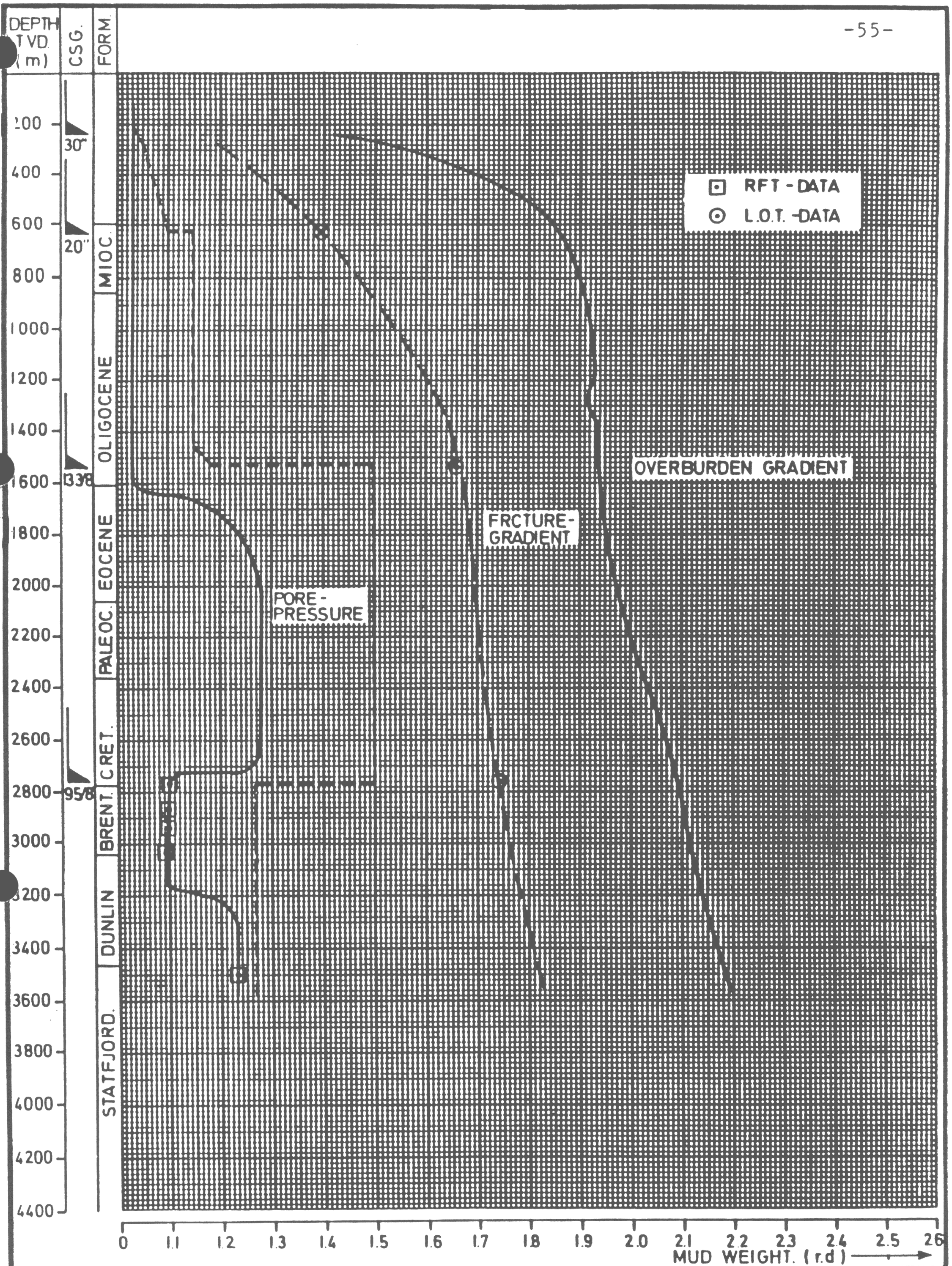
When estimating the pore pressure in well 30/9-4, main emphasis has been put on the Sonic log. The reason for this being that frequent use of downhole motors and PDS-bits make the dc-exponent very erratic and unreliable. However, careful interpretation is possible, and it is off course the basis for the estimates done while drilling.

From the seabed and down to the top Eocene there is no sign of overpressure. In the top Eocene both the dc-exponent and the Sonic log indicate a pressure increase. This is supported by an incrase in background gas readings. A maximum valve of 1.28 rd is reached in the top Paleocene and this gradient seems to remain stable through the Paleocene and down to the base Cretaceous.

FRT measurements in the Brent sand give valves of 1.10 rd. This means that a rapid pressure decrease must have taken place in the base Cretaceous. A phenomenona that is believed to be typical for the area. The gradient decreases slightly through the Brent formation and into the Dunlin. The Sonic log indicate a pressure incrase around 3200 m TVD in the Dunlin shale. This is confimed by RFT measurements of 1.23 rd in the Statfjord sand.

5.2 Formation integrity results

Casing (")	Shoe depth (m TVD)	Open hole depth (m TVD)	Leak off (r.d.)
20"	619	632	1.40
13 3/8"	1518	1531	1.66
9 5/8"	2757	2773	1.75



Norsk Hydro Drilling Department	PORE PRESSURE, MUD DENSITY, FORMATION INTEGRITY, OVERBURDEN WELL 30/9-4	Gr. no.: 7 Date: 30.07.85. Sign: AH/SF	Fig.: B-5 Dwg. no.: 109

TABLE B-3

((((ooo) Norsk Hydro	Pore pressure System : Boredata Sandnes Well: 30/9-4 Seabed at: 135 mRKB Total depth: 4303 m,MD,RKB	..Date.. 19851001

Depth meas (m)	Pore pressure from soniclog (SG)	Pore pressure from DC-exp. (SG)	RFT/FMT (SG)	Most probable pore pressure (SG)	Actual mud density used (SG)
904	1.03	1.03		1.03	1.15
1126	1.03	1.03		1.03	1.15
1372	1.03	1.03		1.03	1.15
1624	1.03	1.07		1.03	1.18
1884	1.19	1.22		1.19	1.50
2153	1.26	1.28		1.26	1.50
2427	1.28	1.30		1.28	1.50
2693	1.28	1.30		1.28	1.50
2949	1.28	1.30		1.28	1.50
3289		1.30	1.10	1.10	1.50
3411		1.11	1.10	1.10	1.27
3494		1.11	1.10	1.10	1.27
3617		1.11	1.09	1.09	1.27
3833		1.11		1.15	1.27
4203		1.09	1.23	1.23	1.27
4259		1.09	1.23	1.23	1.27
4300		1.09		1.23	1.27

6. Material report

6.1 Main consumption casing and wellheads.

6.2 Main consumption cement and additives.

6.3 Bottom hole assembly.

6.4 Mud report.

6.5 Cement report.

((((ooo) Norsk Hydro	**Main consumptions** System : Boredata Sandnes Well: 30/9-4 Wellhead:	..Date.. 19851023 5

Casing

size (in)	grade	weight kg/m	threads type	length (m)
30		234.7	ADT	74.8
30		349.1	ADT	13.2
20	X-56	197.9	ALT-2/LS	487
13 3/8	N-80	107.1	Buttress	1515
9 5/8	P-110	69.9	Buttress	3149
7	N-80	43.2	Buttress	6.7
7	C-95	43.2	Buttress	380

((((ooo) Norsk Hydro	Main consumptions	..Date.. 19851023
	System : Boredata Sandnes	
	Cement contractor: Halliburton	5

Casing size (in)	Additive name	Total used (l)
30		
Spacer	Class G	5100
Lead-	CEMENT	8540
	Salt WATER	17028
	Econolite	4223
Tail-	CEMENT	7905
	Salt WATER	10657
	CaCl2	1195
Flush	Class G	5100
20		
Spacer		0
Lead-	CEMENT	33397
	Salt WATER	114458
	Econolite	3408
Tail-	CEMENT	4095
	Salt WATER	5880
Flush		0
13 3/8		
Spacer	SAM 4	6400
Lead-	CEMENT	36825
	Fresh WATER	82012
	Econolite	3086
	HR-6L	406
Tail-	CEMENT	10159
	Fresh WATER	14602
	CFR-2L	438
	Halad-10L	1139
Flush	SAM 4	1600
9 5/8		
Spacer	SAM 4	6400
Lead-	CEMENT	24127
	Fresh WATER	54568
	CFR 2L	676
	HR-6L	334
Tail-	CEMENT	4444
	Fresh WATER	5279
	CFR-2L	270

((((ooo) Norsk Hydro	Main consumptions System : Boredata Sandnes Cement contractor: Halliburton	..Date.. 19851023 5

Casing size (in)	Additive name	Total used (l)
	Halad-10L	869
Flush	SAM 4	1600
7		
Spacer	Dual Spacer	4800
Lead-	CEMENT	7175
	Fresh WATER	9691
	CFR 2L	443
	Halad 22A	181
Tail-	CEMENT	0
	WATER	0
Flush	Dual Spac.	1600

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orsk
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B i t   r e c o r d

System : Boredata Sanines

Well: 30/9-4

..Date.. 19850729

4

..Date.. 19850729

4

TABLE B-4

BIT NUMBER	BIT/HO/UR SIZE (in)	Manu-fact-urer	Trade Name	Serial number	IADC Code	Nozzles size diameter (../32")	Depth out (m)	Meter drilled (m)	Drill time (hrs)	Rot. hours (hrs)	ROP (m/h)	Rotation min/max (rpm)	Total bit revol.	Weight min/max (KN)	Flow min/max (m3/hrs)	Wear T	Wear B	Wear G	Wear Other	Remarks
	26	REED	Y11	L 30262	111	20/20/20/20	222	87	16.5	14.6	6.0	40/80	48900	25	221	3	3	0		
P	17 1/2	SERVCO	X3A	861 CL	114	22/22/22	625	403	14	9	44.8	70/140	59900	89	246	2	2	0		
UR	26	TRISTA					630	5	16.5	13.75	.4	140		10	246	4	8			
	17 1/2	HTC	X3A	766 YF	114	24/24/24	700	112	6.7	3.25	34.5	60/100	23963	10/44	221	2	2	0	B/T	Cmnt+form
	17 1/2	HTC	XDG	373 FL	135	24/24/24	921	221	13.75	9.6	23.0	320/380	200959	10/45	152	4	3	0		
	17 1/2	HTC	XDG	371 FL	135	24/24/24	1133	212	19.25	14.6	14.5	80/140	94298	45	209	2	3	0		
	17 1/2	SEC	M 44 NG	195830	215	24/24/28	1354	221	15.5	12.1	18.3	60	52580	200	213	2	2	0		
	17 1/2	SMITH	SDGH	XC 7116	135	24/24/28	1444	90	8.75	7.8	11.5	200	130216	160/200	184	5	3	0		
	17 1/2	CHRIST	R 422	106182601			1667	223	16.5	14.8	15.1	80/100	100543	200/240	195				30% worn	
RR1	17 1/2	SEC.	M 44 NG	195830	215	24/24/28	1667	0				70		0/89	202	2	3	2		Reaming.
RR1	17 1/2	HTC	XDG	371 FL	135	28/28/28	1667	0				75		0/135	195	2	3	0		Reaming.
RR2	17 1/2	HTC	XDG	371 FL	135	28/28/28	1667	0				75		0	191					Reaming.
	12 1/4	HTC	XDG	012 FL	135	12/12/12	1667	44				6/130		0/270	112	8	8			Drlg.cmnt.
	12 1/4	REED	FP 52	MWT 1053	517	12/12/12	2067	400	27	14.6	27.4	120	101519	200	112	6	4	0	BT	
	12 1/4	HYC	DS 18	5229			2211	144	9.3	4.4	32.7	700	192327	27	139			0	10% worn	
	12 1/4	HYC	DS 18L	2929			2455	244	23	15.8	15.4	700	663640	35	139			2	50% worn	
	12 1/4	REED	FP 52	MWT 1054	517	12/12/12	2477	22	6.5	5.68	3.9	85/120	36147	50/150	111	1	1	0		
	12 1/4	CHRIST	S 284	114650			2757	280	66	59.6	4.7	650	2410633	89/155	122			0	25% worn	
	12 1/4	HYCALO	DS 23	5664			3297	540	73	64.6	8.4	140	671600	222	120			0	25% worn	Drlg.cmnt.
RR1	12 1/4	REED	FP 52	MWT 1054	517		3297	0	0	0		90		0/44						Wiper trip
	8 3/8	SMITH	SVH	CF 1466	225	9/9/10	3301	64	0.5	0.3	213.3	50/60		100/125	68					Cmnt+form
	8 3/8	HTC	J 33	213 JS	537	11/11/11	3332	31	6.5	3.6	8.6	65	13692	120/133	91	1	1	0		
C	8 3/8	CHRIST	C 22	113433	DIA		3350	18	7	6.7	2.7	90/100	37170	60/70	66				55% wear	100% rec.
C	8 3/8	CHRIST	RC 476	113436	PDC		3368	18	3	2.8	6.4	90	15269	90	66				15% wear	100% rec.
C RR1	8 3/8	CHRIST	RC 476	113436	PDC		3381	13	4	3.6	3.6	90	18770	75/90	64				15% wear	88% rec.
RR1	8 3/8	HTC	J 33	213 JS	537	11/11/11	3432	51	10.6	10.5	4.9	70	65943	165/218	91/97	1	2	0		
C RR2	8 3/8	CHRIST	RC 476	113436	PDC		3437	5	1.6	1.4	3.6	90/110	7816	45/90	64					94% rec.
C RR3	8 3/8	CHRIST	RC 476	113436	PDC		3445	8	4.6	4.4	1.8	90/110	24936	44/71	68				15% worn	94% rec.
C	8 3/8	CHRIST	C 22	113432	DIA		3457	12	5	4.5	2.7	90	28538	50/80	68				10% worn	85% rec.
	8 3/8	HTC	J 33	212 JS	537	11/11/11		0												Pipe plugg
RR1	8 3/8	HTC	J 33	212 JS	537	11/11/11		0												Scrape csg
	8 3/8	SEMCO	MILL				686	0				60/130		113					40% worn	MIll EZSV
	8 3/8	SEMCO	MILL				3385	0				60/130		10/180					80% worn	MIll EZ+CT
RR2	8 3/8	HTC	J 33	212 JS	537		3457	0				80		0/45						Reaming.
C RR1	8 3/8	CHRIST	C 22	113433	DIA		3467	10	4.2	3.8	2.6	60/80	22720	45/110	68				60% worn	62% rec.
C RR1	8 3/8	CHRIST	C 22	113432	DIA		3472	5	3.5	3.0	1.7	90	15623	60/90	68				15% worn	52% rec.
C RR2	8 3/8	CHRIST	C 22	113432	DIA		3475	3	3.75	3.6	.8	60/110	18302	60/130	68				15% worn	90% rec.
C	8 3/8	CHRIST	RC 476	120840	PDC		3484	9	5.75	5.0	1.8	95/130	37522	60/140	72				10% worn	98% rec.
C RR1	8 3/8	CHRIST	RC 476	120840	PDC		3500	16	3.05	3.0	5.3	75/130	19959	60/140	72				15% worn	38% rec.
	8 3/8	HTC	J 33	210 J3	527	11/11/11	3581	81	10.5	16.3	5.0	60/100		41/180	72/76	4	4	3		
C RR2	8 3/8	CHRIST	RC 476	120840	PDC		3598	18	2.0	1.7	10.6	60/120	113325	10/70	73				15% worn	100% rec.
	8 3/8	HYCALO	DS 23	5615	PDC		3680	82	19	17	4.6	120/160	146683	50/80	73				20% worn	
RR1	8 3/8	HTC	J 33	210 J3	527	11/11/11	3580	0				60/140		22/111	73					Reaming.

((((505)
Norsk Hydro

Bit record

..Date..
19850729

System : Borelata Sandnes

Well: 30/9-4

4

BIT NUMBER	BIT/HO/UR SIZE (in)	Manu-fact-urer	Trade Name	Serial number	IADC Code	Nozzles size diameter (../32")			Depth out (m)	Meter drilled (m)	Drill time (hrs)	Rot. hours (hrs)	ROP (m/h)	Rotation min/max (rpm)	Total bit revol.	Weight min/max (KN)	Flow min/max (m3/hrs)	Wear T	B	G	Other	Remarks
25 RR2	8 3/8	HTC	J 33	210 JS	527	11	11	11	3680	0						145						Reaming.
21 RR3	8 3/8	HTC	J 33	212 JS	537	16	16	16	3680	0						145						Wiper trip
27	8 3/8	HYCALO	DS 23	5385	PDC				3913	233	25.7	20.0	11.6	150/240	248390	90/110	76				15% worn	
27 RR1	8 3/8	HYCALO	DS 23	5385	PDC				4028	115	16	13	8.0	120/200	125150	111	76				20% worn	
27 RR2	8 3/8	HYCALO	DS 23	5385	PDC				4120	92	18.5	16.2	5.7	100	112300	155	76				50% worn	
28	8 3/8	SMITH	SVH	CR 8908	225	12	12	12	4163	43	18.3	13.2	3.3	350	286933	53/111	78	4	7	0		Mudmotor.
29	8 3/8	CHRIST	R448	118213	PDC				4156	3	4.0	2.5	1.2	350	65700	0/44	76				Inserts	Bit probl.
30	8 3/8	SMITH	SVH	AL 7759	225	12	12	12	4109	23	10.3	8.2	2.8	300	172300	66/133	81	8	4	3	L	Mudmotor.
31	8 3/8	SMITH	SVH	214 RR	225	12	12	12	4218	29	12.5	10.5	2.8	300	182750	66/133	67	5	3	3		Mudmotor.
32	8 3/8	HTC	J 33	248 HK	527	11	11	11	4268	50	29.8	26.7	1.9	50	86747	133/178	76	1	3	0		
33 C	8 3/8	CHRIST	SC 226	114648					4277	9	6.3	6.0	1.5	80/130	45097	90/111	67				35% worn	94% rec.
34	8 3/8	SMITH	F 3	CR 4083	537	11	11	11	4303	26	15.3	12.9	2.0	55/65	44278	44/178	75	1	3	0		
34 RR1	8 3/8	SMITH	F 3	CR 4083	537	11	11	11	4303	0												Reaming.
34 RR2	8 3/8	SMITH	F 3	CR 4083	537	11	11	11	3548	0												Check cmnt
34 RR3	8 3/8	SMITH	F 3	CR 4083	537	11	11	11	3548	0												Cond. hole
35	8 3/8	HTC		404 BF		15	15	14	3167	0												Ream+dg ct
36	6	HTC	JP	DJ 279					3476	0												Ream+scrp.
36 RR1	6	HTC	JP	DJ 279					3476	0												Reaming.
36 RR2	6	HTC	JP	DJ 279					3386	0												Check fish

Bit no.: 1 — Bit size: 26 (in)

1-Bit	*	0.61	6-Drill.collar	*	36.23
2-Other	*	2.11	7-X-over	*	0.75
3-Non-magn.collar	*	8.90	8-Drill.collar	*	70.64
4-Drill.collar	*	8.88	9-X-over	*	1.03
5-Steelstab	*	2.04	10-HWDP	*	82.38

Bit no.: 2P — Bit size: 17 1/2 (in)

1-Bit	*	0.40	6-Drill.collar	*	36.23
2-Other	*	1.44	7-X-over	*	0.75
3-Non-magn.collar	*	8.90	8-Drill.collar	*	70.64
4-Drill.collar	*	8.88	9-X-over	*	1.03
5-Steelstab	*	1.69	10-HWDP	*	137.21

Bit no.: 2UR — Bit size: 26 (in)

1-Bit	*	0.40	7-Drill.collar	*	36.23
2-Other	*	2.75	8-X-over	*	0.75
3-Other	*	1.44	9-Drill.collar	*	70.64
4-Non-magn.collar	*	8.90	10-X-over	*	1.03
5-Drill.collar	*	8.88	11-HWDP	*	137.21
6-Steelstab	*	1.69			

Bit no.: 3 — Bit size: 17 1/2 (in)

1-Bit	*	0.40	7-X-over	*	0.75
2-Other	*	1.44	8-Drill.collar	*	26.18
3-Non-magn.collar	*	8.90	9-Jar	*	11.24
4-Drill.collar	*	8.88	10-Drill.collar	*	26.28
5-Steelstab	*	1.69	11-X-over	*	0.83
6-Drill.collar	*	36.24	12-HWDP	*	137.21

Bit no.: 4 — Bit size: 17 1/2 (in)

1-Bit	*	0.40	8-Non-magn.collar	*	17.70
2-Mudmotor	*	7.47	9-X-over	*	0.75
3-Other	*	0.77	10-Drill.collar	*	53.17
4-Non-magn.collar	*	9.34	11-Jar	*	11.24
5-Other	*	0.74	12-Drill.collar	*	26.28
6-MWD	*	10.64	13-X-over	*	0.83
7-Other	*	0.79	14-HWDP	*	137.21

Bit no.: 5 — Bit size: 17 1/2 (in)

1-Bit	*	0.40	9-Non-magn.collar	*	8.90
2-Nearbitstab	*	1.98	10-Drill.collar	*	45.11
3-Non-magn.collar	*	9.34	11-X-over	*	0.75
4-X-over	*	0.74	12-Drill.collar	*	79.67
5-MWD	*	10.64	13-Jar	*	11.24
6-Nonmagstab	*	1.71	14-Drill.collar	*	26.28
7-Non-magn.collar	*	9.02	15-X-over	*	0.83
8-Nonmagstab	*	1.92	16-HWDP	*	137.21

((((ooo) Norsk Hydro	Bottom hole assembly	..Date.. 19851024
	System : Boredata Sandnes	
	Well: 30/9-4	7

Bit no.: 5RR1 Bit size: 17 1/2 (in)

1-Bit	*	0.40	10-Nonmagstab	*	1.92
2-Nearbitstab	*	1.53	11-Non-magn.collar	*	17.58
3-Drill.collar	*	2.86	12-Drill.collar	*	45.11
4-Non-magn.collar	*	2.92	13-X-over	*	0.75
5-Other	*	2.00	14-Drill.collar	*	79.67
6-Non-magn.collar	*	9.34	15-Jar	*	11.24
7-Nonmagstab	*	1.71	16-Drill.collar	*	26.28
8-X-over	*	0.74	17-X-over	*	0.83
9-MWD	*	10.64	18-HWDP	*	137.21

Bit no.: 5RR2 Bit size: 17 1/2 (in)

1-Bit	*	0.40	10-Nonmagstab	*	1.92
2-Nearbitstab	*	1.53	11-Non-magn.collar	*	17.58
3-Drill.collar	*	2.86	12-Drill.collar	*	45.11
4-Non-magn.collar	*	2.92	13-X-over	*	0.75
5-Other	*	2.00	14-Drill.collar	*	26.28
6-Non-magn.collar	*	9.34	15-Jar	*	11.24
7-Nonmagstab	*	1.71	16-Drill.collar	*	26.28
8-X-over	*	0.74	17-X-over	*	0.83
9-MWD	*	10.64	18-HWDP	*	137.21

Bit no.: 6 Bit size: 17 1/2 (in)

1-Bit	*	0.40	9-Non-magn.collar	*	8.90
2-Nearbitstab	*	1.58	10-Drill.collar	*	45.11
3-Non-magn.collar	*	2.12	11-X-over	*	0.75
4-X-over	*	0.74	12-Drill.collar	*	79.67
5-MWD	*	10.64	13-Jar	*	11.24
6-Nonmagstab	*	1.70	14-Drill.collar	*	26.28
7-Non-magn.collar	*	9.02	15-X-over	*	0.83
8-Nonmagstab	*	1.92	16-HWDP	*	137.21

Bit no.: 6RR1 Bit size: 17 1/2 (in)

1-Bit	*	0.40	10-Nonmagstab	*	1.92
2-Nearbitstab	*	1.53	11-Non-magn.collar	*	17.58
3-Other	*	2.86	12-Drill.collar	*	45.11
4-Non-magn.collar	*	2.92	13-X-over	*	0.75
5-Other	*	2.00	14-Drill.collar	*	79.67
6-Non-magn.collar	*	9.34	15-Jar	*	11.24
7-Nonmagstab	*	1.71	16-Drill.collar	*	26.28
8-X-over	*	0.74	17-X-over	*	0.83
9-MWD	*	10.64	18-MWD	*	137.21

Bit no.: 7 Bit size: 17 1/2 (in)

1-Bit	*	0.40	9-Drill.collar	*	18.05
2-Mudmotor	*	7.90	10-X-over	*	0.75
3-Other	*	0.77	11-Drill.collar	*	53.17
4-Non-magn.collar	*	9.34	12-Jar	*	11.24
5-Other	*	0.74	13-Drill.collar	*	26.28

6-MWD	*	10.64	14-X-over	*	0.83
7-Other	*	0.79	15-HWDP	*	137.21
8-Non-magn.collar	*	17.58			

Bit no.: 8 Bit size: 17 1/2 (in)

1-Bit	*	0.93	10-Nonmagstab	*	1.92
2-Nearbitstab	*	1.98	11-Non-magn.collar	*	17.58
3-Drill.collar	*	2.86	12-Drill.collar	*	45.11
4-Non-magn.collar	*	2.92	13-X-over	*	0.75
5-Other	*	2.00	14-Drill.collar	*	79.67
6-Non-magn.collar	*	9.34	15-Jar	*	11.24
7-Nonmagstab	*	1.71	16-Drill.collar	*	26.28
8-X-over	*	0.74	17-X-over	*	0.83
9-MWD	*	10.64	18-HWDP	*	137.21

Bit no.: 9 Bit size: 12 1/4 (in)

1-Bit	*	0.30	10-Steelstab	*	1.70
2-Nearbitstab	*	1.52	11-Drill.collar	*	17.87
3-Other	*	0.54	12-Steelstab	*	1.71
4-Non-magn.collar	*	2.48	13-Drill.collar	*	195.42
5-Steelstab	*	1.70	14-Jar	*	11.23
6-Non-magn.collar	*	9.31	15-Drill.collar	*	26.28
7-Nonmagstab	*	1.65	16-X-over	*	0.83
8-X-over	*	0.67	17-HWDP	*	137.21
9-MWD	*	9.12			

Bit no.: 10 Bit size: 12 1/4 (in)

1-Bit	*	0.30	9-Nonmagstab	*	1.70
2-Nearbitstab	*	1.82	10-Non-magn.collar	*	17.87
3-Other	*	0.54	11-Nonmagstab	*	1.71
4-Non-magn.collar	*	2.48	12-Drill.collar	*	195.42
5-Other	*	1.70	13-Jar	*	11.23
6-Nonmagstab	*	1.65	14-Drill.collar	*	26.28
7-X-over	*	0.67	15-X-over	*	0.83
8-MWD	*	10.73	16-HWDP	*	137.21

Bit no.: 11 Bit size: 12 1/4 (in)

1-Bit	*	0.43	8-MWD	*	10.73
2-Nearbitstab	*	0.63	9-Nonmagstab	*	1.70
3-Turbine	*	15.62	10-Non-magn.collar	*	17.87
4-X-over	*	0.63	11-Drill.collar	*	8.76
5-Steelstab	*	1.80	12-Jar	*	11.23
6-Non-magn.collar	*	9.31	13-Drill.collar	*	26.28
7-X-over	*	0.67	14-HWDP	*	137.87

Bit no.: 12 Bit size: 12 1/4 (in)

1-Bit	*	0.78	8-Nonmagstab	*	1.70
2-Turbine	*	15.62	9-Non-magn.collar	*	17.87
3-X-over	*	0.63	10-Drill.collar	*	8.76
4-Steelstab	*	1.80	11-Jar	*	11.23

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5-Non-magn.collar	*	9.31	12-Drill.collar	*	26.28
6-X-over	*	0.67	13-HWDP	*	137.87
7-MWD	*	10.73			

Bit no.: 13 Bit size: 12 1/4 (in)

1-Bit	*	0.32	10-Non-magn.collar	*	17.87
2-Nearbitstab	*	1.82	11-Drill.collar	*	8.76
3-Drill.collar	*	4.75	12-Steelstab	*	1.71
4-Steelstab	*	1.80	13-Drill.collar	*	186.53
5-Non-magn.collar	*	9.31	14-Jar	*	11.23
6-Nonmagstab	*	1.64	15-Drill.collar	*	26.28
7-X-over	*	0.67	16-X-over	*	0.83
8-MWD	*	10.73	17-HWDP	*	137.21
9-Nonmagstab	*	1.70			

Bit no.: 13RR1 Bit size: 12 1/4 (in)

1-Bit	*	0.32	8-Steelstab	*	1.71
2-Nearbitstab	*	1.82	9-Drill.collar	*	195.29
3-Drill.collar	*	2.48	10-Jar	*	11.23
4-Nonmagstab	*	1.70	11-Drill.collar	*	26.28
5-Non-magn.collar	*	9.31	12-X-over	*	0.83
6-Nonmagstab	*	1.69	13-HWDP	*	137.21
7-Non-magn.collar	*	17.87			

Bit no.: 14 Bit size: 12 1/4 (in)

1-Bit	*	0.51	8-MWD	*	10.73
2-Turbine	*	15.62	9-Non-magn.collar	*	17.87
3-X-over	*	0.63	10-Drill.collar	*	62.18
4-Steelstab	*	1.80	11-Jar	*	11.23
5-Non-magn.collar	*	9.31	12-Drill.collar	*	26.28
6-Nonmagstab	*	1.64	13-X-over	*	0.83
7-X-over	*	0.67	14-HWDP	*	137.21

Bit no.: 15 Bit size: 12 1/4 (in)

1-Bit	*	0.34	9-Nonmagstab	*	1.69
2-Nearbitstab	*	1.82	10-Non-magn.collar	*	17.87
3-Non-magn.collar	*	2.48	11-Steelstab	*	1.71
4-Nonmagstab	*	1.70	12-Drill.collar	*	195.29
5-Non-magn.collar	*	9.31	13-Jar	*	11.23
6-Nonmagstab	*	1.64	14-Drill.collar	*	26.28
7-X-over	*	0.67	15-X-over	*	0.83
8-MWD	*	10.73	16-HWDP	*	137.21

Bit no.: 16 Bit size: 8 3/8 (in)

1-Bit	*	0.23	10-X-over	*	1.13
2-Nearbitstab	*	1.51	11-Drill.collar	*	208.44
3-Non-magn.collar	*	9.29	12-X-over	*	0.61
4-Nonmagstab	*	1.44	13-Jar	*	10.68
5-MWD	*	10.34	14-X-over	*	1.06
6-Nonmagstab	*	1.42	15-Drill.collar	*	26.86

7-Non-magn.collar	*	8.92	16-X-over	*	1.15
8-Nonmagstab	*	1.43	17-HWDP	*	137.21
9-Non-magn.collar	*	9.78			

Bit no.: 17 Bit size: 8 3/8 (in)

1-Bit	*	0.23	10-X-over	*	1.13
2-Nearbitstab	*	1.51	11-Drill.collar	*	208.44
3-Non-magn.collar	*	9.29	12-X-over	*	0.61
4-Nonmagstab	*	1.44	13-Jar	*	10.68
5-MWD	*	10.84	14-X-over	*	1.06
6-Nonmagstab	*	1.42	15-Drill.collar	*	26.86
7-Non-magn.collar	*	8.92	16-X-over	*	1.15
8-Nonmagstab	*	1.43	17-HWDP	*	137.21
9-Non-magn.collar	*	9.78			

Bit no.: 17RR1 Bit size: 8 3/8 (in)

1-Bit	*	0.23	10-Non-magn.collar	*	18.70
2-Nearbitstab	*	1.49	11-X-over	*	1.13
3-Non-magn.collar	*	5.53	12-Drill.collar	*	208.44
4-X-over	*	0.98	13-X-over	*	0.61
5-Nonmagstab	*	1.42	14-Jar	*	10.68
6-Non-magn.collar	*	9.29	15-X-over	*	1.06
7-Nonmagstab	*	1.44	16-Drill.collar	*	26.86
8-MWD	*	10.84	17-X-over	*	1.15
9-Nonmagstab	*	1.43	18-HWDP	*	137.21

Bit no.: 18C Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	8.92	10-X-over	*	1.06
4-Nonmagstab	*	1.43	11-Drill.collar	*	26.86
5-Non-magn.collar	*	9.78	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.44			

Bit no.: 18CRR1 Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	9.35	10-X-over	*	1.06
4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 19C Bit size: 8 3/8 (in)

1-Corebit	*	0.23	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	8.92	10-X-over	*	1.06
4-Nonmagstab	*	1.43	11-Drill.collar	*	26.86
5-Non-magn.collar	*	9.78	12-X-over	*	1.06

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6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.44			

Bit no.: 19CRR1 Bit size: 8 3/8 (in)

1-Corebit	*	0.23	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	8.92	10-X-over	*	1.06
4-Nonmagstab	*	1.43	11-Drill.collar	*	26.86
5-Non-magn.collar	*	9.78	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.44			

Bit no.: 19CRR2 Bit size: 8 3/8 (in)

1-Corebit	*	0.23	7-X-over	*	0.61
2-Corebarrel	*	19.60	8-Jar	*	10.68
3-Non-magn.collar	*	18.70	9-X-over	*	1.06
4-Nonmagstab	*	1.43	10-Drill.collar	*	26.86
5-X-over	*	1.13	11-X-over	*	1.15
6-Drill.collar	*	208.44	12-HWDP	*	137.21

Bit no.: 19CRR3 Bit size: 8 3/8 (in)

1-Corebit	*	0.23	7-X-over	*	0.61
2-Corebarrel	*	19.60	8-Jar	*	10.86
3-Non-magn.collar	*	18.70	9-X-over	*	1.06
4-Steelstab	*	1.43	10-Drill.collar	*	26.86
5-X-over	*	1.13	11-X-over	*	1.15
6-Drill.collar	*	208.44	12-HWDP	*	137.21

Bit no.: 20C Bit size: 8 3/8 (in)

1-Corebit	*	0.23	7-X-over	*	0.61
2-Corebarrel	*	19.60	8-Jar	*	10.68
3-Non-magn.collar	*	18.70	9-X-over	*	1.06
4-Steelstab	*	1.43	10-Drill.collar	*	26.86
5-X-over	*	1.13	11-X-over	*	1.15
6-Drill.collar	*	208.44	12-HWDP	*	137.21

Bit no.: 20CRR1 Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	9.35	10-X-over	*	1.06
4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 20CRR2 Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.68
3-Non-magn.collar	*	9.35	10-X-over	*	1.06

4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 21 Bit size: 8 3/8 (in)

1-Bit	*	0.23	10-X-over	*	1.13
2-Nearbitstab	*	1.49	11-Drill.collar	*	208.44
3-Non-magn.collar	*	9.29	12-X-over	*	0.61
4-Nonmagstab	*	1.43	13-Jar	*	10.68
5-MWD	*	10.84	14-X-over	*	1.06
6-Nonmagstab	*	1.43	15-Drill.collar	*	26.86
7-Non-magn.collar	*	8.92	16-X-over	*	1.15
8-Nonmagstab	*	1.44	17-HWDP	*	137.21
9-Non-magn.collar	*	9.78			

Bit no.: 21RR1 Bit size: 8 3/8 (in)

1-Bit	*	0.23	4-X-over	*	0.59
2-Other	*	1.05	5-Drillpipe	*	699.09
3-Other	*	1.24			

Bit no.: 21RR2 Bit size: 8 3/8 (in)

1-Bit	*	0.23	7-X-over	*	0.61
2-Junksub	*	0.56	8-Jar	*	10.68
3-Nearbit stab	*	1.52	9-X-over	*	1.06
4-Non-magn.collar	*	18.12	10-Drill.collar	*	27.18
5-X-over	*	1.13	11-X-over	*	1.15
6-Drill.collar	*	208.43	12-HWDP	*	137.21

Bit no.: 21RR3 Bit size: 8 3/8 (in)

1-Bit	*	0.24	6-X-over	*	1.06
2-Nearbitstab	*	1.49	7-Drill.collar	*	27.18
3-Drill.collar	*	190.26	8-X-over	*	1.15
4-X-over	*	0.61	9-HWDP	*	137.21
5-Jar	*	10.73			

Bit no.: 22 Bit size: 8 3/8 (in)

1-Other	*	0.20	6-Jar	*	10.68
2-Junksub	*	1.33	7-X-over	*	1.06
3-Other	*	1.24	8-Drill.collar	*	26.86
4-Drill.collar	*	199.37	9-X-over	*	1.15
5-X-over	*	0.61	10-HWDP	*	137.21

Bit no.: 23 Bit size: 8 3/8 (in)

1-Other	*	0.20	6-Jar	*	10.68
2-Junksub	*	1.33	7-X-over	*	1.06
3-Other	*	1.24	8-Drill.collar	*	26.86
4-Drill.collar	*	199.37	9-X-over	*	1.15
5-X-over	*	0.61	10-HWDP	*	137.21

((((ooo) Norsk Hydro

Bottom hole assembly

System : Boredata Sandnes

Well: 30/9-4

..Date..
19851024

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Bit no.: 24C   Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.69
3-Non-magn.collar	*	9.35	10-X-over	*	1.06
4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 24CRR1   Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.69
3-Non-magn.collar	*	9.35	10-X-over	*	1.06
4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 24CRR2   Bit size: 8 3/8 (in)

1-Corebit	*	0.28	8-X-over	*	0.61
2-Corebarrel	*	19.60	9-Jar	*	10.79
3-Non-magn.collar	*	9.35	10-X-over	*	1.06
4-Nonmagstab	*	1.44	11-Drill.collar	*	27.18
5-Non-magn.collar	*	9.35	12-X-over	*	1.15
6-X-over	*	1.13	13-HWDP	*	137.21
7-Drill.collar	*	208.43			

Bit no.: 25   Bit size: 8 3/8 (in)

1-Bit	*	0.24	10-Non-magn.collar	*	9.35
2-Nearbitstab	*	1.52	11-X-over	*	1.13
3-Non-magn.collar	*	9.29	12-Drill.collar	*	208.43
4-Non-magn.collar	*	5.53	13-X-over	*	0.61
5-Nonmagstab	*	1.44	14-Jar	*	10.68
6-MWD	*	10.84	15-X-over	*	1.06
7-Nonmagstab	*	1.44	16-Drill.collar	*	27.18
8-Non-magn.collar	*	9.35	17-X-over	*	1.15
9-Nonmagstab	*	1.44	18-HWDP	*	137.21

Bit no.: 25RR1   Bit size: 8 3/8 (in)

1-Bit	*	0.24	8-X-over	*	0.61
2-Nearbitstab	*	1.49	9-Jar	*	10.79
3-Drill.collar	*	9.06	10-X-over	*	1.06
4-Steelstab	*	1.39	11-Drill.collar	*	27.18
5-Drill.collar	*	9.06	12-X-over	*	1.15
6-Steelstab	*	1.34	13-HWDP	*	137.21
7-Drill.collar	*	172.14			

Bit no.: 25RR2   Bit size: 8 3/8 (in)

((((ooo) Norsk Hydro	**B o t t o m h o l e a s s e m b l y** System : Boredata Sandnes Well: 30/9-4	..Date.. 19851024 7

1-Bit	*	0.24	6-X-over	*	1.06
2-Nearbitstab	*	1.49	7-Drill.collar	*	27.18
3-Drill.collar	*	190.26	8-X-over	*	1.15
4-X-over	*	0.61	9-HWDP	*	137.21
5-Jar	*	10.73			

Bit no.: 26 Bit size: 8 3/8 (in)

1-Bit	*	0.25	9-Drill.collar	*	208.43
2-Nearbitstab	*	1.52	10-X-over	*	0.61
3-Non-magn.collar	*	9.29	11-Jar	*	10.79
4-Nonmagstab	*	1.44	12-X-over	*	1.06
5-MWD	*	10.84	13-Drill.collar	*	27.18
6-Nonmagstab	*	1.44	14-X-over	*	1.15
7-Non-magn.collar	*	18.70	15-HWDP	*	137.21
8-X-over	*	1.13			

Bit no.: 27 Bit size: 8 3/8 (in)

1-Bit	*	0.26	10-Non-magn.collar	*	18.70
2-Nearbitstab	*	1.49	11-X-over	*	1.13
3-X-over	*	0.98	12-Drill.collar	*	208.43
4-Non-magn.collar	*	2.72	13-X-over	*	0.61
5-Nonmagstab	*	1.44	14-Jar	*	10.73
6-Non-magn.collar	*	9.29	15-X-over	*	1.06
7-Nonmagstab	*	1.44	16-Drill.collar	*	27.18
8-MWD	*	10.82	17-X-over	*	1.15
9-Nonmagstab	*	1.44	18-HWDP	*	137.21

Bit no.: 27RR1 Bit size: 8 3/8 (in)

1-Bit	*	0.26	10-Non-magn.collar	*	18.70
2-Nearbitstab	*	1.49	11-X-over	*	1.13
3-X-over	*	0.98	12-Drill.collar	*	208.43
4-Non-magn.collar	*	2.72	13-X-over	*	0.61
5-Nonmagstab	*	1.44	14-Jar	*	10.73
6-Non-magn.collar	*	9.29	15-X-over	*	1.06
7-Nonmagstab	*	1.44	16-Drill.collar	*	27.18
8-MWD	*	10.82	17-X-over	*	1.15
9-Nonmagstab	*	1.44	18-HWDP	*	137.21

Bit no.: 27RR2 Bit size: 8 3/8 (in)

1-Bit	*	0.26	9-X-over	*	1.13
2-Nearbitstab	*	1.52	10-Drill.collar	*	208.43
3-Steelstab	*	1.72	11-X-over	*	0.61
4-Non-magn.collar	*	9.29	12-Jar	*	10.73
5-Nonmagstab	*	1.44	13-X-over	*	1.06
6-MWD	*	10.82	14-Drill.collar	*	27.18
7-Nonmagstab	*	1.44	15-X-over	*	1.15
8-Non-magn.collar	*	18.70	16-HWDP	*	137.21

Bit no.: 28 Bit size: 8 3/8 (in)

1-Bit	*	0.23	9-X-over	*	1.13

	Bottom hole assembly	..Date..
((((ooo) Norsk Hydro	System : Boredata Sandnes	19851024
	Well: 30/9-4	7

2-Mudmotor	*	8.14	10-Drill.collar	*	208.43
3-X-over	*	0.59	11-X-over	*	0.61
4-Other	*	0.73	12-Jar	*	10.73
5-Non-magn.collar	*	9.29	13-X-over	*	1.06
6-MWD	*	10.85	14-Drill.collar	*	27.18
7-Other	*	0.64	15-X-over	*	1.15
8-Non-magn.collar	*	18.70	16-HWDP	*	137.21

Bit no.: 29 Bit size: 8 3/8 (in)

1-Bit	*	0.32	9-X-over	*	1.13
2-Mudmotor	*	8.14	10-Drill.collar	*	208.43
3-X-over	*	0.59	11-X-over	*	0.61
4-Other	*	0.74	12-Jar	*	10.73
5-Non-magn.collar	*	9.29	13-X-over	*	1.06
6-MWD	*	10.85	14-Drill.collar	*	27.18
7-Other	*	0.64	15-X-over	*	1.15
8-Non-magn.collar	*	18.70	16-HWDP	*	137.21

Bit no.: 30 Bit size: 8 3/8 (in)

1-Bit	*	0.23	9-X-over	*	1.13
2-Mudmotor	*	8.14	10-Drill.collar	*	208.43
3-X-over	*	0.59	11-X-over	*	0.61
4-Other	*	0.74	12-Jar	*	10.73
5-Non-magn.collar	*	9.29	13-X-over	*	1.06
6-MWD	*	10.85	14-Drill.collar	*	27.18
7-Other	*	0.64	15-X-over	*	1.06
8-Non-magn.collar	*	18.70	16-HWDP	*	137.21

Bit no.: 31 Bit size: 8 3/8 (in)

1-Bit	*	0.23	9-X-over	*	1.13
2-Mudmotor	*	8.14	10-Drill.collar	*	208.43
3-X-over	*	0.59	11-X-over	*	0.61
4-Other	*	0.74	12-Jar	*	10.73
5-Non-magn.collar	*	9.29	13-X-over	*	1.06
6-MWD	*	10.85	14-Drill.collar	*	27.18
7-Other	*	0.64	15-X-over	*	1.15
8-Non-magn.collar	*	18.70	16-HWDP	*	137.21

Bit no.: 32 Bit size: 8 3/8 (in)

1-Bit	*	0.23	10-Steelstab	*	1.72
2-Nearbitstab	*	1.49	11-X-over	*	1.13
3-Non-magn.collar	*	5.53	12-Drill.collar	*	208.43
4-X-over	*	0.59	13-X-over	*	0.61
5-Non-magn.collar	*	9.29	14-Jar	*	10.73
6-Nonmagstab	*	1.44	15-X-over	*	1.06
7-MWD	*	10.85	16-Drill.collar	*	27.18
8-Nonmagstab	*	1.44	17-X-over	*	1.15
9-Non-magn.collar	*	18.70	18-HWDP	*	137.21

Bit no.: 33C Bit size: 8 3/8 (in)

((((ooo) Norsk Hydro	**B o t t o m h o l e a s s e m b l y** System : Boredata Sandnes Well: 30/9-4	..Date.. 19851024 7

1-Corebit	*	0.28	7-X-over	*	0.61
2-Corebarrel	*	19.60	8-Jar	*	10.73
3-X-over	*	1.12	9-X-over	*	1.06
4-Drill.collar	*	8.96	10-Drill.collar	*	27.18
5-Steelstab	*	1.34	11-X-over	*	1.15
6-Drill.collar	*	190.40	12-HWDP	*	137.21

Bit no.: 34   Bit size: 8 3/8 (in)

1-Bit	*	0.23	9-X-over	*	1.13
2-Nearbitstab	*	1.92	10-Drill.collar	*	208.43
3-Steelstab	*	1.55	11-X-over	*	0.61
4-Non-magn.collar	*	9.29	12-Jar	*	10.73
5-MWD	*	10.85	13-X-over	*	1.06
6-Nonmagstab	*	1.44	14-Drill.collar	*	27.18
7-Non-magn.collar	*	18.70	15-X-over	*	1.15
8-Steelstab	*	1.72	16-HWDP	*	137.21

Bit no.: 34RR1   Bit size: 8 3/8 (in)

1-Bit	*	0.23	7-Jar	*	10.73
2-Nearbitstab	*	1.49	8-X-over	*	1.06
3-Drill.collar	*	18.04	9-Drill.collar	*	27.18
4-Steelstab	*	1.34	10-X-over	*	1.15
5-Drill.collar	*	172.27	11-HWDP	*	137.21
6-X-over	*	0.61			

Bit no.: 34RR2   Bit size: 8 3/8 (in)

1-Bit	*	0.23	9-Drill.collar	*	27.18
2-Nearbitstab	*	1.49	10-X-over	*	1.15
3-Drill.collar	*	18.04	11-HWDP	*	137.21
4-Steelstab	*	1.34	12-DP	*	87.39
5-Drill.collar	*	90.89	13-X-over	*	0.34
6-X-over	*	0.67	14-Other	*	1.06
7-Jar	*	10.73	15-Other	*	1.23
8-X-over	*	1.06	16-X-over	*	0.59

Bit no.: 34RR3   Bit size: 8 3/8 (in)

1-Bit	*	0.23	7-Jar	*	10.73
2-Nearbitstab	*	1.49	8-X-over	*	1.06
3-Drill.collar	*	18.04	9-Drill.collar	*	18.04
4-Steelstab	*	1.34	10-X-over	*	1.15
5-Drill.collar	*	90.84	11-HWDP	*	136.69
6-X-over	*	0.61	12-Other	*	1.86

Bit no.: 35   Bit size: 8 3/8 (in)

1-Bit	*	0.23	7-X-over	*	0.69
2-Other	*	1.06	8-Jar	*	10.73
3-Nearbitstab	*	1.49	9-X-over	*	1.06
4-Drill.collar	*	18.04	10-Drill.collar	*	18.04
5-Steelstab	*	1.34	11-X-over	*	1.15
6-Drill.collar	*	90.89			

Bit no.: 36			Bit size: 6 (in)		
1-Bit	*	0.18	5-DP	*	56.66
2-Other	*	0.85	6-X-over	*	0.80
3-Other	*	0.60	7-HWDP	*	156.69
4-Drill.collar	*	284.05			

Bit no.: 36RR1			Bit size: 6 (in)		
1-Bit	*	0.18	5-Drill.collar	*	284.05
2-Junksub	*	1.04	6-DP	*	56.66
3-Other	*	0.85	7-X-over	*	0.80
4-Other	*	0.91	8-HWDP	*	136.69

Bit no.: 36RR2			Bit size: 6 (in)		
1-Bit	*	0.18	5-DP	*	56.66
2-Other	*	0.85	6-X-over	*	0.80
3-Other	*	0.91	7-HWDP	*	136.69
4-Drill.collar	*	284.05			

1162M

6.4 Mud report

Drilling fluids used

Hole section:	Mud:
36"	Spudmud
26"	Spudmud
17 1/2"	Low toxic oilmud
12 1/4"	Low toxic oilmud
8 3/8"	NaCl-mud to 3680 m
	Low toxic oil mud to 4303 m

36" hole section:

The well was spudded 22.11.84 at 03:30 hrs. Seabed at 135 m RKB. 36" hole was drilled with seawater to 164 m. Pumped 2 m^3 hivis pill. Ran in hole and had tight spot at 143 m, 1100 KN overpull. Washed and reamed from 140 m to 164. Made a wipertrip to 142 m. Ran in hole to bottom, no fill. Drilled 36" hole to 222 m. Pumped 3 m^3 hivis mud on each connection. Pumped 8 m^3 hivis pill and displaced w/59 m^3 hivis mud. Made a wipertrip to 140 m. Ran in hole to T.D. Pumped 55 m^3 seawater and displaced hole w/59 m^3 hivis mud. Ran 30" casing.

Materials used in this section: Bentonite, Barite, Caustic Soda, Soda Ash.

26" hole section

Drilled 17 1/2" pilot hole from 222 m to 625 m. Pumped 8 m hivis pill. Made wipertrip to 30" shoe, max. overpull 267 KN. Tight hole at 480 m. Ran in hole 595 m, 30 m fill to 625 m. Pumped 16 m^3 hivis pill. Ran logs. Underreamed cement to 221 m. Underreamed to 26" hole from 221 m to 442 m. Ream 17 1/2" hole to 26" from 442 m to 625 m. Drilled 26" hole from 625 m to 630 m.

1162M

Pumped 16 m^3 hivis pill. Ran in hole with 26" bit to 24 m. Continued to run in hole to T.D. Washed and reamed, fill last 3 m. Pumped 16 m^3 hivis pill. Ran 20" casing.

Materials used in this section: Bentonite, Barite, Caustic Soda, Soda Ash.

17 1/2" hole section

Prior to drilling the 17 1/2" hole, the hole was displaced with oil based mud. Drilled the 17 1/2" hole from 630 m to 1667 m. The intervall 630 m to 1571 m was drilled with 1,15 rd mud. During the intervall 1571 m to 1667 m the mud weight was incrased to 1,17 rd. The mud weight was then gradually incrased to 1,27 rd during the next five days. During the drilling, the following operations were carried out: Had tight spots at 720 m and tight hole from 1320 m. Had to wash and ream several times. At 1667 m the drilling rate dropped to zero and the hole was circulated clean. Max. overpull when pulling out of the hole was 445 KN. Washed and reamed from 1480 m to TD. Pumped high visc. pill and circulated the hole clean. Not able to pass 1284 m with logs. Washed and reamed to TD. The logging tools stopped at 1449 m. Bridge at 1448 m and 1571 m and tight hole from 1603 m. Washed and reamed. Circulated 9 m^3 high visc. pill and spotted 22 m^3 high visc. pill on bottom before running the 13 3/8" casing.

Materials used in this section: Barite, Safemul B, Safemul PE, Safemul SE, Safemul OW, Safemere OMC, Safemul vis, Safetone L, $CaCl_2$, Lime.

12 1/4" hole section

Prior to drilling the 12 1/4" hole, the mud weight was incrased to 1,50 rd. Drilled cement from 1623 m to 1667 m. The 12 1/4" hole was drilled to 3297 m. During the drilling the following were carried out: Circulated 7 m^3 high visc. pill at 1876 m and 8 m^3 high visc. pill at 2067 m.

1162M

Had 1 m fill when washing and reaming from 2439 m to 2477 m. Pumped 8 m^3 high visc. pill at 2695 m. Had 53 KN overpull at 2610 m and at 2410 m when pulling out of the hole. Tight spot at 2050 m. Hit a bridge at 3280 m when running in the hole. Washed and reamed several times. Ran 9 5/8" casing.

Materials used in this section: Barite, Safemul B, Safemul PE, Safemul SE, Safemul OW, Safemere OMC, Safemul vis., Safetone L, $CaCl_2$, Lime.

8 3/8" hole section

The 8 3/8" hole was drilled from 3297 m to 4303 m. Down to 3680 m NaCl-polymer mud with mud weight of 1,27 rd was used. The intervall 3680 m to 4303 m was drilled with 1,27 rd oil based mud. During the drilling, the following operations were carred out: Cut cores from 3332 m to 3381 m. Had max. overpull of 756 KN when pulling out of the hole prior to running logs. Cut cores from 3432 m to 3454 m. Set cement plugs at 3200 m and 3100 m and EZSV packer at 685 m. Pulled and tested the BOP. After milling the packer, high visc. pill was circulated. Drilled the cement plugs. Circulated high visc. pill at 3130 m. Washed and reamed to the bottom and circulated high visc. pill. Cut cores from 3457 m to 3598 m. Had tight hole at 3346 m to 3598 m Had tight hole at 3346 m and 662 KN overpull. Intermediate washing and reaming during the coring. Circulated high visc. pill at 3680 m Logged. Unable to pass 3305 m with RFT tool. Washed and reamed. Logged. Before the drilling was continued, the hole was displaced with oil based mud. Cut one core from 42368 m to 4277m Bridge at 4287 m. Washed and reamed to the bottom and pumped 8 m^3 high visc. pill. Ran logs and sat 7" liner. Tested.

Materials used in the section 3297 m - 3680 m: Barite, Soda Ash, Sodium bicarb., Caustic Soda, NaCl, Anco biovis, CMC L.V., AA 100 L.V., AA 100 reg., Ancomul, Ancotemp., NaCl- brine, Bentoite, Ancolube.

Materials used in the section 3680 m - 4303 m: Barite, Safemul B, Safemul PE, Safemul SE, Safemul OW, Safemul OMC, Safemul Polyvis, Safemul vis, Safetone L, $CaCl_2$, Lime.

Well testing intervall

An oil based mud of 1,27 rd was used in the hole during the testing. The well was killed with 1,27 rd mud after two drillstem tests.

Materials used in the testing interval: Barite, Safemul B, Safemul vis, Safemere OMC, Safetone L, Lime, Caustic, XC-polymer.

((((ooo) Norsk Hydro	Daily mud properties System : Boredata Sandnes Well: 30/9-4 Mud Contractor: Anch. Drlg. Fluids	..Date.. 19850815	3

..Date.. 19850815

Date	Mid depth (m)	Mud dens. (r.d)	PV cps	YP mPa	GEL 0 mPa	GEL 10 mPa	Ph	100 psi (cc)	HP/HT (cc)	Cl- inn/out mg/l	Alkalinity Pf	Pm	Mf	Ca++ inn/out mg/l	Oil %	Sol %	H2O %	V.G. meter at 115AF 600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	Mud type
841120	0																100							
841121	0	1.03															100							Spud mud
841122	171	1.03															100							Spud mud
841123	222	1.03															100							Spud mud
841124	617	1.09	7	20	10	15	9.5			13000	0.1			520	0	5	95	54	47				20	Gel-S.W
841125	442	1.10	6	15	8	10	9.0			16000	0.1			800	0	5	95							Gel-S.W
841126	630	1.10	6	16	7	11	8.8			16000	0.1			880	0	5	95							Gel-S.W
841127	630	1.10	6	16	9	10	8.5			15000	0.1			800	0	6	94							Gel-S.W
841128	630																100							Seawater
841129	630																100							Seawater
841130	630	1.15	13	4	1	2				99000					67	7	26	34	21			3	2	Safemul
851201	630	1.15	14	4	1	2				99000					67	7	26	37	23					Safemul
841202	630	1.15	14	4	1	2				32000				68000	64	10	26	35	21					Safemul
841203	700	1.15	14	5	1	2			6.0	30000				65000	63	10	27	37	23					Safemul
841204	885	1.15	17	9	3	5			6.0	35000				75000	63	10	27	52	35					Safemul
841205	1076	1.15	20	9	4	7			5.8	34000				71000	63	10	27	57	37					Safemul
841206	1227	1.15	22	12	4	5			3.0	30000				75000	62	11	27	68	46					Safemul
841207	1354	1.15	22	13	5	5			3.2	30000				63000	62	12	26	69	47	37	27	8	7	Safemul
841208	1444	1.15	22	13	5	5			3.0	29000				62000	62	12	26	69	47	37	27	8	7	Safemul
841209	1581	1.15	23	16	5	7			3.5	30000				64000	62	12	26	77	54	44	32	10	9	Safemul
841210	1667	1.18	25	16	5	6			4.0	30000				64000	61	13	26	80	55	44	22	10	9	Safemul
841211	1667	1.20	26	13	5	5			4.0	28000				61000	60	14	26	77	51	41	28	8	7	Safemul
841212	1667	1.20	27	11	5	5			4.2	29000				62000	60	15	25	77	50					Safemul
841213	1667	1.25	34	13	4	5			4.0	28000				61000	59	16	25	93	59	45	30	8	2	Safemul
841214	1667	1.25	37	13	5	6			3.9	29000				62000	59	17	24	100	63					Safemul
841215	1667	1.27	37	14	5	7			4.0	29000				61000	58	18	24							Safemul
841216	1667	1.50	46	15	5	5			3.5	30000				65000	55	21	24	123	77	58	38	9	8	Safemul
841217	1667	1.50	45	17	6	7			3.5	30000				63000	54	24	22	124	79	63	43	13	11	Safemul
841218	1837	1.50	33	12	5	6			3.5	34000				73000	53	26	21	90	57					Safemul
841219	2067	1.50	53	14	6	7			3.4	37000				79000	54	24	22	105	67	53	37	14	11	Safemul
841220	2211	1.50	45	12	6	7			3.0	33500				71500	55	23	22	90	57	45	31	11	9	Safemul
841222	2464	1.50	34	11	8	9			3.0	38000				80000	53	25	22	90	56	44	29	11	9	Safemul
841223	2477	1.50	36	12	6	7			3.0	34000				73000	56	23	21	97	61	48	32	11	9	Safemul
841224	2576	1.50	36	14	7	8			2.8	34000				73000	55	23	22	101	65	52	36	14	12	Safemul
841225	2693	1.50	40	17	8	8			2.8	35000				74000	55	23	22	116	76	61	43	18	11	Safemul
841226	2738	1.50	40	17	8	8			2.8	41000				87000	55	23	22	116	76	61	43	18	11	Safemul
841227	2780	1.50	42	16	8	9			2.6	40000				86000	56	22	22	118	76				16	Safemul
841228	2921	1.50	45	18	8	8			2.4	39600				84400	54	25	21	128	83				21	Safemul
841229	3087	1.50	43	15	9	10			2.4	41000				88000	55	24	21	117	74					Safemul
841230	3151	1.50	39	16	8	9			2.6	40000				85000	55	24	21	111	72					Safemul
841231	3253	1.50	42	16	10	10			2.8	41500				88500	55	23	22	118	76					Safemul
850101	3297	1.50	39	16	9	10			3.0	40000				85000	54	24	22	111	72				18	Safemul
850102	3297	1.50	40	17	9	10			3.0	40000				85000	54	24	22	115	75					Safemul

TABLE B-5

((((ooo) Norsk Hydro

D a i l y   m u d   p r o p e r t i e s

..Date.. 19850815

System : Boredata Sandnes
Well: 30/9-4
Mud Contractor: Anch. Drlg. Fluids

3

..Date.. 19850815

Date	Mid depth (m)	Mud dens. (r.d)	PV cps	YP mPa	GEL 0 mPa	GEL 10 mPa	Ph	100 psi (cc)	HP/HT (cc)	Cl- inn/out mg/l	Alkalinity Pf	Pm	Mf	Ca++ inn/out mg/l	Oil %	Sol %	H2O %	V.G. meter at 115AF 600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	Mud type
850103	3297	1.50	40	17	9	10			3.0	40000				85000	54	24	22	115	75					Safemul
850104	3297	1.50															100							Safemul
850105	3297	1.27	20	7	1	1	10.9	5.0	12	63000	0.3		0.9	160			100	53	33	23	13	2	1	NaCl/polym.
850106	3301	1.27	19	8	1	1	10.9	4.0	12.1	66000	0.5		1.2	300			100	53	34	23	13	1	1	NaCl/polym.
850107	3340	1.27	20	8	1	1	11.2	2.6	10.0	62000	0.3			180			100	56	36					NaCl/polym.
850108	3368	1.27	23	9	1	1	11.0	2.9	10.4	64000	0.3		0.7	210			100	65	42	32	20	3	2	NaCl/polym.
850109	3387	1.27	21	8	1	1	11.0	2.8	12.1	64000	0.3		0.7	200			100	59	38	29	18	2	1	NaCl/polym.
850110	3432	1.27	25	11	2	2	10.3	3.2	12.9	64000	0.3		0.7	320			100	73	48	37	24	4	3	NaCl/polym.
850111	3445	1.27	25	11	2	2	10.3	3.2	12.9	64000	0.3		0.7	240			100	73	48	37	24	4	3	NaCl/polym.
850112	3457	1.27	22	8	1	1	10.1	3.0	12.8	62000	0.2		0.5	300			100	61	39	29	18	2	1	NaCl/polym.
850113	3457	1.27	17	6	1	1	10.4	2.8	15.0	59000	0.2		0.4	300			100	45	28	19	11	1	1	NaCl/polym.
850114	3457	1.27	18	6	1	1	10.3	3.2	14.4	58000	0.2		0.5	360			100	48	30	21	12	1	1	NaCl/polym.
850115	3457	1.27	20	7	1	1	11.0	3.0	14.4	59000	0.5		0.8	60			100	54	34					NaCl/polym.
850116	3457	1.27	19	8	1	1	10.8	2.8	14.4	58000	0.4		0.6	120			100	53	34	24	14	1	1	NaCl/polym.
850117	3457	1.27	19	8	1	1	10.9	2.8	14.0	58000	0.4		0.6	200			100	55	36	25	15	2	1	NaCl/polym.
850118	3457	1.27	19	7	1	1	11.2	3.4	14.0	58000	0.5		0.7	300			100	52	33	24	14	2	1	NaCl/polym.
850119	3457	1.27	22	6	1	1	11.7	3.7	15.8	61000	1.4		1.8	120			100	55	33	24	14	2	1	NaCl/polym.
850120	3467	1.27	22	5	1	1	11.7	4.0	17.0	60000	1.6		2.1	100			100	54	32	23	14	1	1	NaCl/polym.
850121	3472	1.27	21	5	1	1	12.0	3.7	18.4	61000	1.7		2.2	80			100	52	31	22	12	1	1	NaCl/polym.
850122	3484	1.27	19	5	1	1	11.4	4.2	18.0	59000	1.1		1.7	40			100	48	29				2	NaCl/polym.
850123	3500	1.27	18	5	1	1	11.4	4.1	18.4	58000	1.1		1.9	40			100	46	28				2	NaCl/polym.
850124	3558	1.27	21	6	1	2	11.2	4.1	15.4	59000	0.6		1.5	80			100	55	34				2	NaCl/polym.
850125	3580	1.27	21	8	1	2	10.8	4.2	14.8	59000	0.4		1.0	160			100	59	38					NaCl/polym.
850126	3598	1.27	23	7	1	3	10.6	4.3	15.0	59000	0.4		1.0	120			100	60	37					NaCl/polym.
850127	3664	1.27	20	7	1	2	10.3	4.4	15.5	60000	0.2		0.6	120			100	53	33	25	16	2	1	NaCl/polym.
850128	3680	1.27	21	7	1	3	10.2	4.6	15.8	59000	0.2		0.5	160			100	55	34	25	17	2	1	NaCl/polym.
850129	3680	1.27	21	7	1	3	10.0	4.2	15.2	59000	0.2		0.4	160	2	10	88	56	35	26	18	3	2	NaCl/polym.
850130	3680	1.27	22	6	1	3	10.0	4.4	15.8	61000	0.2		0.5	160	2	11	87	56	34	24	17	3	1	NaCl/polym.
850131	3680	1.27	22	7	1	3	10.0	4.6	16.0	60000	0.2		0.4	160	2	11	87	58	36	25	18	3	1	NaCl/polym.
850201	3680	1.27	22	7	1	3	10.0	4.4	16.0	59000	0.1		0.4	200	2	11	87	57	35	24	18	3	1	NaCl/polym.
850202	3680	1.27	33	13	8	9			9.0	46000				99000	60	15	25	91	58					Safemul
850203	3871	1.27	27	13	6	7			6.2	42000				89000	59	16	25	88	53	37	28	12	12	Safemul
850204	3972	1.27	28	12	8	7			8.5	46000				98000	59	14	27	80	52					Safemul
850205	4046	1.27	26	11	10	5			7.9	45000				95000	60	15	25	74	48					Safemul
850206	4120	1.27	31	11	11	6			8.3	45000				95000	59	17	24	84	53					Safemul
850207	4163	1.27	35	11	14	6			5.8	48000				10100	58	15	27	93	58	44	30	14	14	Safemul
850208	4166	1.27	30	10	14	6			6.0	46000				99000	60	15	25	80	50	39	27	13	13	Safemul
850209	4189	1.27	31	11	17	6			4.0	48000				101000	58	17	25	85	54	42	30	16	16	Safemul
850210	4218	1.27	31	11	17	6			4.0	49500				105500	60	16	24	83	52	40	28	14	14	Safemul
850211	4228	1.27	37	10	15	6			6.0	54000				115000	59	17	24	94	57	43	28	12	12	Safemul
850212	4268	1.27	32	10	15	6			4.0	55000				117000	60	17	23	84	52	39	26	13	13	Safemul
850213	4277	1.27	30	9	14	6			3.6	54500				116500	61	17	22	79	49	37	26	14	13	Safemul

((((ooo) | Norsk Hydro

Daily mud properties

..Date.. 19850815

System : Boredata Sandnes
Well: 30/9-4
Mud Contractor: Anch. Drlg. Fluids

3

..Date.. 19850815

Date	Mid depth (m)	Mud dens. (r.d)	PV cps	YP mPa	GEL 0 mPa	GEL 10 mPa	Ph	100 psi (cc)	HP/HT (cc)	Cl- inn/out mg/l	Alkalinity Pf	Pm	Mf	Ca++ inn/out mg/l	Oil %	Sol %	H2O %	V.G. meter at 115AF 600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	Mud type
850214	4303	1.27	31	10	15	6			4.8	49500				105500	60	17	23	83	52	40	28	16	15	Safemul
850215	4303	1.27	35	10	10	6			4.8	53000				112000	60	16	24							Safemul
850216	4303	1.27	36	10	10	5			4.5	53000				112000	60	16	24							Safemul
850217	4303	1.27	35	9	10	7			5.0	53000				112000	60	16	24							Safemul
850218	4303	1.27	35	9	10	7			5.0	53000				112000	60	16	24							Safemul
850220	4303	1.27	37	11	15	21			5.2	51000				109000	59	16	25							Safemul
850221	4303	1.27	38	11	15	23			5.4	49500				105500	58	16	26							Safemul
850222	4303	1.27	38	9	13	15			4.8	52500				111500	58	16	26	95	57	44	29			Safemul
850223	3553	1.27	39	12	18	23			5.6	52000				111000	56	18	26							Safemul
850224	3553	1.27	29	7	8	11			5.8	52000				111000	59	15	26							Safemul
850225	3553	1.27	31	6	6	13			6.6	51000				109000	59	15	26							Safemul
850226	3553	1.27	20	5	5	13			6.8	49500				105500	59	15	26	50	30					Safemul
850227	3553	1.27	24	5	6	15			6.4	48000				102000	59	16	25	59	35					Safemul
850228	3553	1.27	28	5	6	15			6.5								100							Safemul
850301	3553	1.27	24	5	6	13			6.5						59	16	25	58	34	25	16	5	5	Safemul
850302	3553	1.27	25	5	6	13			6.5	48000				102000	59	16	25	60	35	26	16	5	5	Safemul
850303	3553	1.27	24	5	6	13			6.6	43500				92500	59	16	25	57	33	25	15	5	5	Safemul
850304	3553	1.27	23	6	5	13			6.4	43500				92500	59	15	26	58	35	26	16	5	5	Safemul
850305	3553	1.27	23	6	5	13			6.5	43500				92500	59	15	26	58	35	26	16	5	5	Safemul
850306	3553	1.27	23	6	5	13			6.5	43500				92500	59	15	26	58	35	26	16	5	5	Safemul
850307	3553	1.27	29	7	5	13			6.8	42500				90500	58	15	27	71	42					Safemul
850308	3553	1.27	25	6	5	13			6.9	42500				90500	59	15	26	62	37	28	17	5	5	Safemul
850309	3553	1.27		8	7	13			4.2	37000				79000	56	14	30	83	50	37	24	9	9	Safemul
850310	3553	1.27	24	6	5	11			6.8	37000				79000	56	14	30	59	35	26	16	5	5	Safemul
850311	3553	1.27	24	6	5	11			6.9	36000				76000	56	14	30	59	35	26	16	5	5	Safemul
850312	3553	1.27	24	6	6	12			7.0	37000				78000	55	15	30							Safemul
850313	3553	1.27	24	64	7	14			7.0	37000				78000	54	15	31							Safemul
850314	3553	1.27	36	6	5	14			7.4	34500				73500	53	14	33	84	48					Safemul
850315	3350	1.27	34	6	5	12			7.4	34500				73500	53	14	33							Safemul
850316	3350	1.27	33	7	6	15			8.0	33500				71500	53	14	33							Safemul
850317	3350	1.27	47	8	8	15			8.2	33000				70000	54	14	32							Safemul
850318	3348	1.27	25	5	4	7			7.2	29000				62000	57	13	30	61	36					Safemul
850319	3348	1.27	24	5	4	7			7.4	29000				62000	57	13	30	58	34					Safemul
850320	3348	1.27	25	4	3	5			6.8	23000				48000	49	14	37	59	34	24	14	4	3	Safemul
850321	3348	1.27	23	4	2	4			7.0	23000				48000	55	13	32	55	32	23	14	4	3	Safemul
850322	3348	1.27	29	4	4	8		5	6.8	23000				50000	51	13	36	68	39	29	18	6	5	Safemul
850323	3348	1.27	31	5	4	8			6.4	23500				50500	50	13	37	71	40					Safemul
850324	3117	1.27	32	5	5	9			6.4	23500				50500	49	14	37	74	42					Safemul
850325	180																100							
850326	0																100							
850327	0																100							
850328	0																100							

TABLE B-6

MUD MATERIAL CONSUMPTION

Material	Quantity	Unit/Weight
A.A 100 L.V	50	25 kg/sx
A.A 100 reg.	75	25 kg/sx
Anco Biovis	65	25 kg/sx
Ancolube	1	200 l/drum
Ancomul	4	200 l/drum
Ancotemp	16	25 l/can
Barite	942	MT
Bentonite	66	MT
C_aCl_2	544	50 kg/sx
Caustic Soda	93	25 kg/sx
CMC L.V	50	25 kg/sx
Lime	1011,3	40 kg/sx
NaCl	219	50 kg/sx
NaCl brine	159	m^3
Oilbased premix	384	m^3
Safemere OMC	2	200 l/drum
Safemul B	770	m^3
Safemul OMC	2	200 l/drum
Safemul OW	122	25 l/can
Safemul PE	85,5	200 l/drum
Safemul polyvis	33,5	50 l/can
Safemul SE	51	200 l/drum
Safemul vis	745	25 kg/sx
Safetone L	35	200 l/drum
Soda Ash	15,4	50 kg/sx
Sodium bicarb.	45	50 kg/sx
XC-polymer	4	50 lbs/sx

(((ooo) Norsk Hydro	Cement reports	..Date.. 19851023
	System : Boredata Sandnes	
	Well: 30/9-4	
	Cement contractor: Halliburton	10

Casing Size (in)	SLURRY VOLUME (m3)	SLURRY DENSITY (SG)	Thickening Time (hrs:min)	BHST (deg.C)	Additive name	Compo- sition (1/100kg)	Total used (l)
Lead-30	29	1.68	03.30	7	Econolite	15.7	4223.3
Tail-30	19	1.9	04.33	7	CaCl2	4.8	1195.2
Lead-20	152	1.50	05.50	25	Econolite	3.24	3408.5
Lead-13 3/8	119	1.68	06.36	57	Econolite	2.66	3085.6
					HR-6L	0.35	406.0
Tail-13 3/8	25	1.9	04.31	57	CFR-2L	1.37	438.4
					Halad-10L	3.56	1139.2
							.0
Lead-9 5/8	79	1.68	05.44	107	CFR 2L	0.89	676.4
					HR-6L	0.44	334.4
Tail-9 5/8	11	1.9	04.17	107	CFR-2L	1.93	270.2
					Halad-10L	6.21	869.4
Lead-7	17	1.9	03.20	111	CFR 2L	1.96	443.0
					Halad 22A	0.80	180.8

Cement reports

..Date.. 19851023

(((ooo)

Norsk Hydro

System : Boredata Sandnes

Well: 30/9-4

Cement contractor: Halliburton

10

Type of Job	Depth (m)	Slurry Volume (m3)	Slurry Density (SG)	Compress. strenght (bar/hrs)	Thickening time (hrs:min)	Additive name	Compo-sition (l/100kg)	Total used (l)
Grout.1		11	1.9	94.3	04.33	Salt	32.83	9849
						CaCl2	3.7	1110
Grout.2		5.5	1.9	94.3	04.33	Salt	30.35	5160
						CaCl2	1.9	323
Grout.3		42	1.9	94.3	04.33	Salt	42.31	22001
						CaCl2	4.79	2491
Plug	3200	2.9	1.9	241/16	03.15	Fresh	45.95	1700
						CFR-2L	1.89	70
						Halad 10L	6.22	230
Plug	3100	2.9	1.9			Fresh	43.78	1620
						CFR-2L	1.35	50
						HR-6L	0.35	13
Plug	4300	12	1.9		04.30	Fresh	44.23	7077
						HR-12L	1.06	170
Plug	3680	6.0	1.9		04.30	Fresh	44.23	3450
						HR-12L	1.06	83
Squeeze	3423	4.4	1.9		03.21	Fresh	43.86	2500
						CFR-2L	1.33	76
						Halad 22A	0.56	32
Squeeze	3323		1.9	197/12	03.21	Fresh	43.86	2500
						CFR-2L	1.33	76
						Halad 22A	0.56	32
Plug	3305		1.9	197/12	03.21	Fresh	43.86	2500
						CFR-2L	1.33	76
						Halad 22A	0.68	39
Plug	3217		1.9	130/12	02.37	Fresh	44.21	0
						CFR-2L	0.44	0
						Halad 22A	0.56	0
Plug	380		1.9	119/24	04.00	Salt	46.08	0

7. Cost report

Period from	to	Total operation
20.11.84	22.02.85 08.00 hrs.	days 101,021
23.03.85 21.45 hrs.	30.03.85 16.30 hrs.	

	Final estimated cost (1000 NOK)	
Site survey	1.200	
Resurvey	-	
Location clean up	-	
Positioning	300	
Sub total		1.500
Rig costs	41.155	
Drilling tools, equipment and services	7.940	
Wellheads	1.500	
Casing and casing services	4.890	
Cement and cementing services	3.100	
Mud and mud services	6.920	
Wire-line logging	11.100	
Testing tools, equipment and services	670	
Norsk Hydro offshore personell	4.380	
Other costs	2.805	
Sub total		84.460
Supply boats cost	10.615	
Standby boats cost	4.630	
Helicopter costs	1.615	
Sub total		16.860

1162M

Warehouse costs	4.560	
Drlg. dept. adm. and facilities	7.180	
Onshore drilling supervision	1.515	
Onshore geology and reserevoar	1.425	
Lab. studies geology and reservoar	1.500	
Sub total		16.180
Total		119.000

1162M

Test period from	to	Total operation	
22.02.85 08.00 hrs.	23.03.85 21.45 hrs.	days 29.573	

	Final estimated cost (1000 NOK)	
Site survey	-	
Resurvey	-	
Location clean up	-	
Positioning	-	
Sub total		-
Rig costs	11.995	
Drilling tools, equipment and services	200	
Wellheads	100	
Casing and casing services	970	
Cement and cementing services	620	
Mud and mud services	445	
Wire-line logging	2.100	
Testing tools, equipment and services	10.330	
Norsk Hydro offshore personell	900	
Other costs	960	
Sub total		28.620
Supply boats costs	2.980	
Standby boats costs	1.350	
Helicopter costs	550	
Sub total		4.880
Warehouse costs	1.500	
Drlg. dept. adm. and facilities	2.100	
Onshore drilling supervision	900	
Onshore geology and reservoar	-	
Lab. studies geology and reservoar	-	
Sub total		4.500
Total		38.000

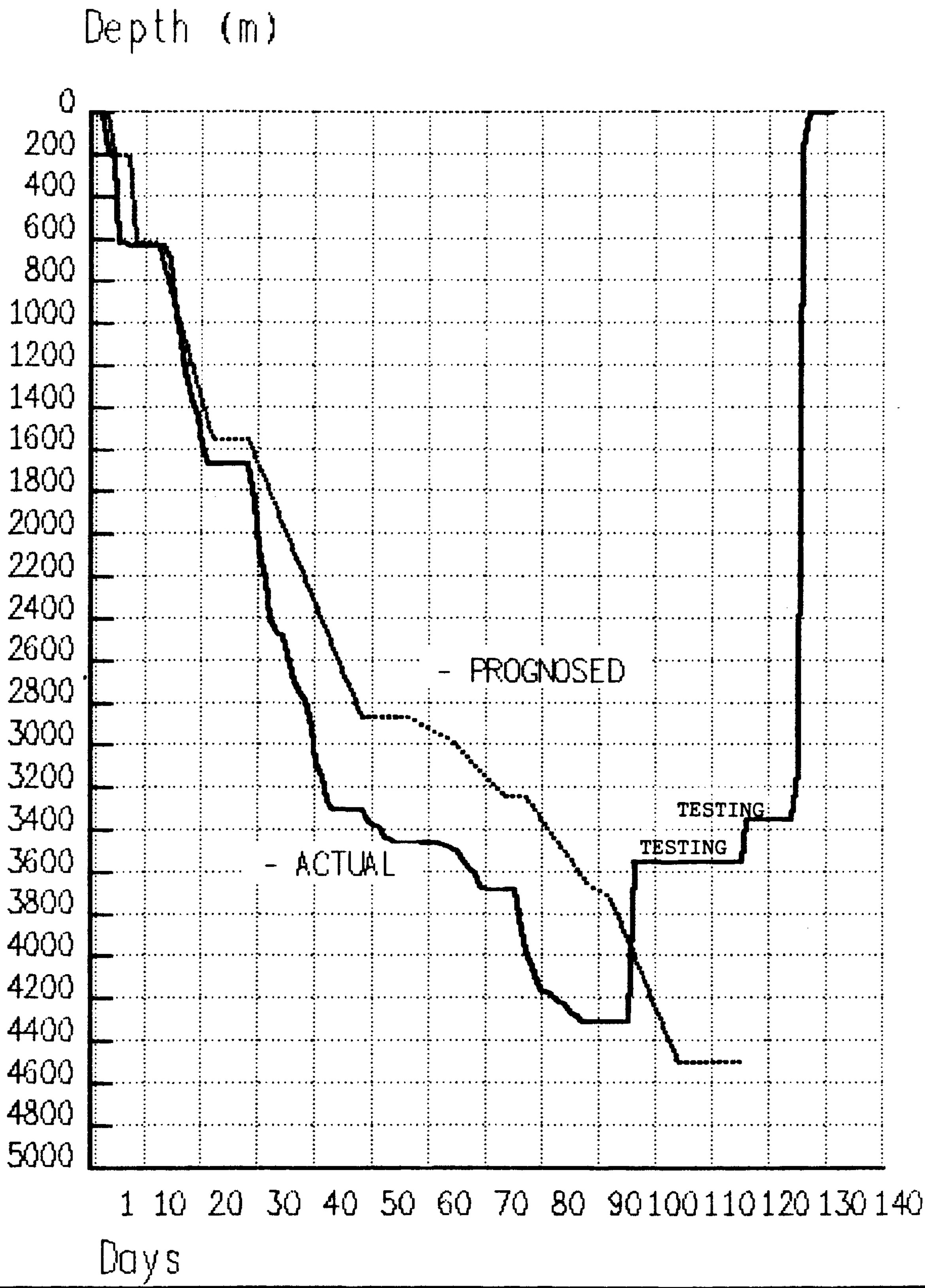
8. DRILLING EQUIPMENT FAILURES AND PROBLEMS

DATE	EQUIPMENT	FAILURE
23.11.84	Cement Bulk Lines.	Plugged.
27.11.84	Hydraulic motor Scorpio on BTM with power failure unable to pull out of water due to winch failure.	Broken down.
28.11.84	Sub Sea TV.	Changed lamp and repaired guide frame.
07.12.84	MWD-tool and monel.	Thread damage.
10.12.84	Lower Dolly House Gard.	Broken.
14.12.84	Air control valve on 500 T casing elevator.	Damaged.
18.12.84	Bit no. 9.	One core broken off and left in the hole.
21.12.84	Suction damper on mudpump no. 2.	Failure.
23.12.84	Turbine.	Failure Changed bearing section.
26.12.84	Piston on mudpump no. 2.	Broken.
30.12.84	Pinion shaft on rotary table drive.	Worn out. Several rollers missing and several rollers turned 180° around the length axis.

DATE	EQUIPMENT	FAILURE
06.01.85	Retract system for travelling block.	Broken down. Cylinder packing-bot on upper re-tracting cylinder replaced.
06.01.85	Bit no. 16.	Two nozzles plugged. Nozzles size 9/32.
13.01.85	BOP aucustic control system.	Unable to function. Burned out connection on battery package between battery package and electric unit. New battery, package/electronic unit combination installed.
20.02.85	Retracting cylinder on travelling block.	Broken.
04.03.85	Maritim hydraulic arm.	Stripping bolts replaced.
07.03.85	Perforation gun.	Packer damaged.
08.03.85	Sub sea test tree.	Hydraulic leak on the slipring.
10.03.85	Surface test tree.	Changed out hydr. control line to flow line fail safe valve.

1162M

DATE	EQUIPMENT	FAILURE
16.03.85	Kill line.	Leakage in coflex hose.
17.03.85	Kill and choke line.	Leakage in stabs on riser.
18.03.85	Kill line.	Leakage in the gooseneck.
19.03.85	Sub sea test tree.	Leakage in the check valve.
19.03.85	Howco unit.	Leakage.



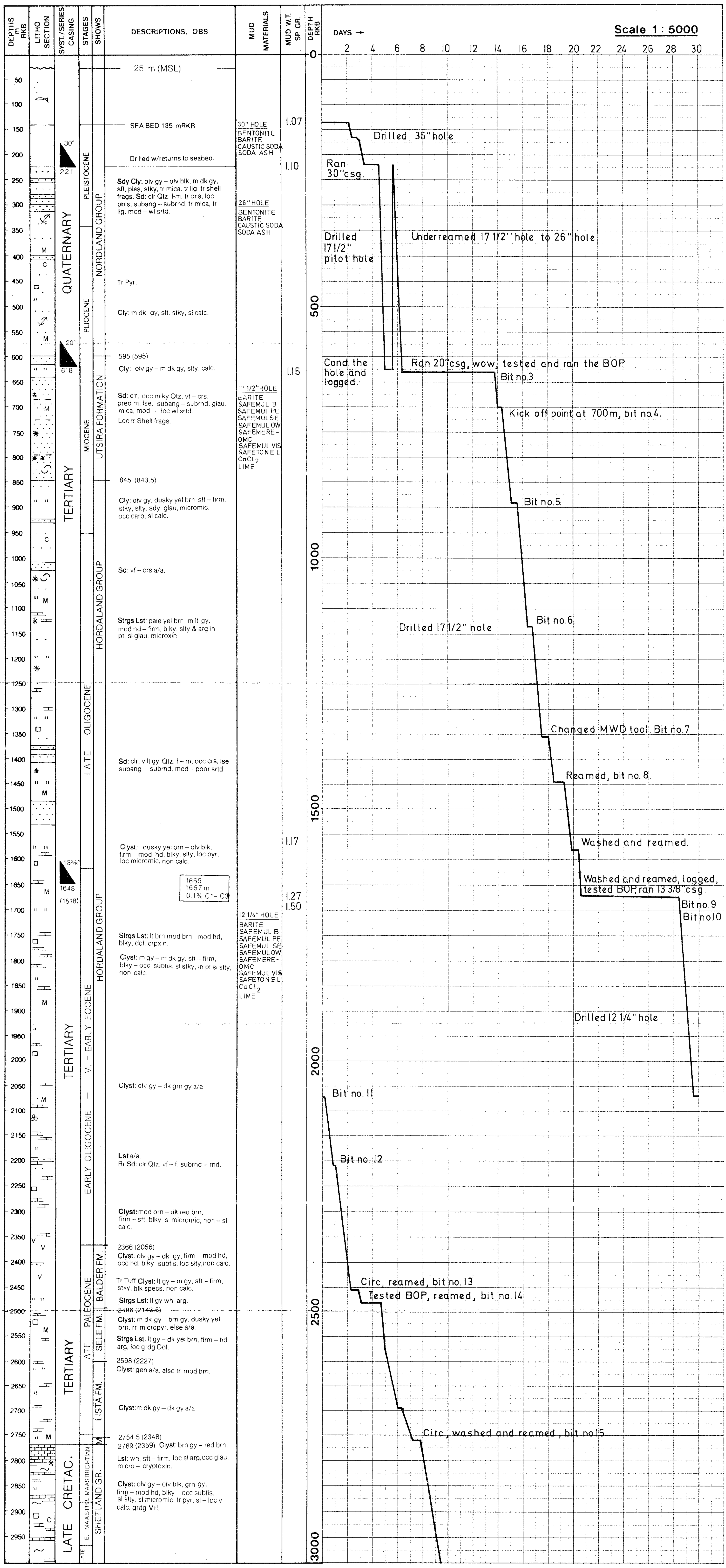
NORSK HYDRO DRILLING DEP.	PROGNOSED AND ACTUAL DRILLING CURVES WELL: 30/9-4	Fig B-6	
		GS	

Norsk Hydro

Oslo - Norway

DRILLING PROGRESS, WELL 30/9-4

OPERATOR	NORSK HYDRO A/S	SPUD IN	22.11.84
COORDINATES	60 28' 12,6" N	WELL COMPL.	30.03.85
	02 45' 31,9" E	RIG	TREASURE SEEKER
WATER DEPTH	110m	RKB to MSL	25m
RKB to SEABED	135m		

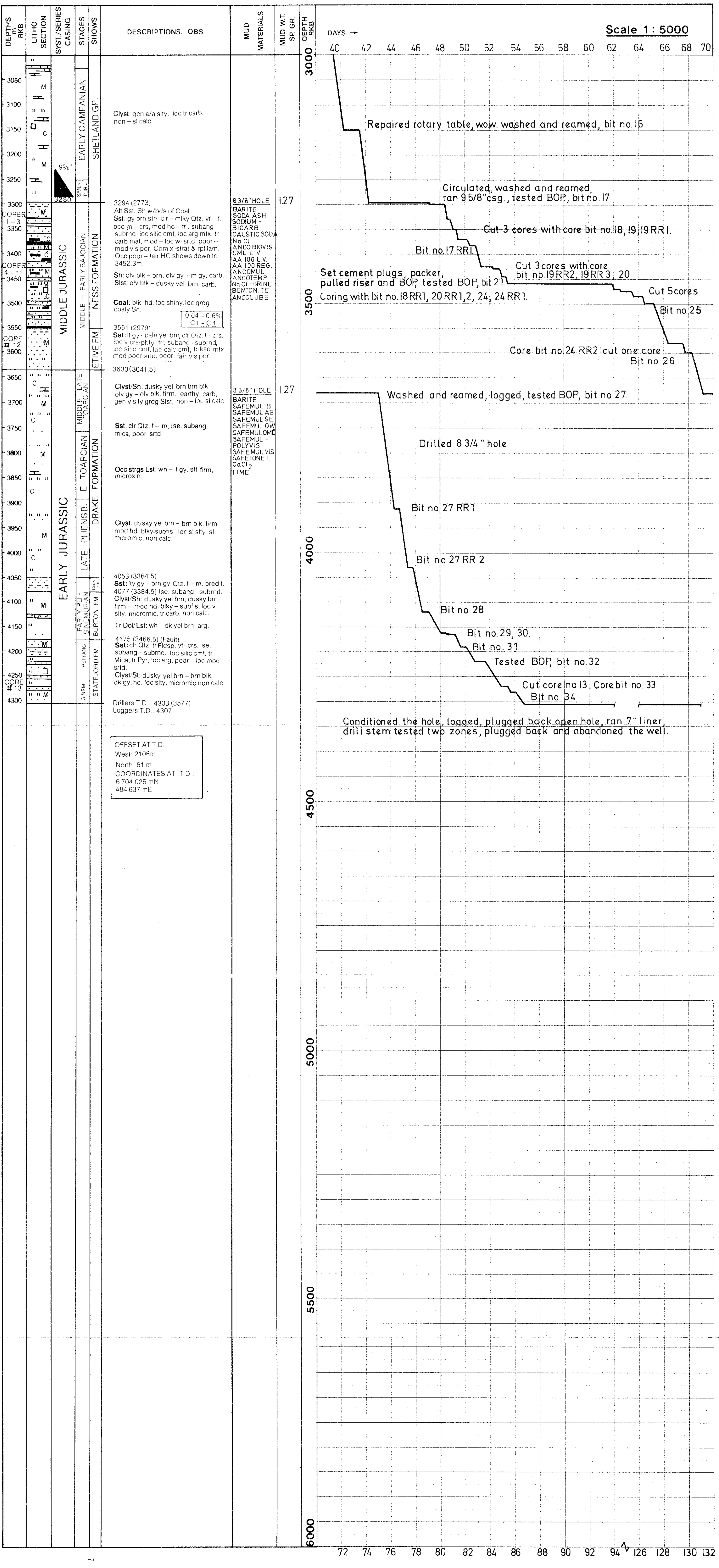


Norsk Hydro

Oslo - Norway

DRILLING PROGRESS, WELL 30/9-4

(CONTINUED)



L 063351

Norsk Hydro
Bergen – Norway

Completion log

Scale 1:500

Well: 30/9-4

Location map

Scale: 1 : 1,000,000

Country:	NORWAY
Licence:	079
Owners:	NORSK HYDRO / STATOIL / SAGA
Field:	Exploration
Date Spudded:	November 22, 1984.
Reached Total Depth:	February 14, 1985.
Completed:	March 30, 1985.
Well Status:	Plugged and abandoned with oil and gas discovery in the Brent Group.
Rig:	Treasure Seeker.
Contractor:	W. Wilhelmsen.
Mudlogging Company:	Exploration Logging.
Logging Company:	Schlumberger.
Geologists:	K. Kjøsnes, J. Godvik, L. Beckmon, K.L. Kalgraff, O. Giskeødegaard, H. Sæther.
Prepared by:	A.G. Lauvås, K. Kjøsnes, B. Tollefsen.
Date:	September 30, 1985.

Coordinates:	60° 28' 12.83"N 02° 45' 32.05"E
UTM:	6703963.6mN 486742.8mE
Elevation K B:	25m
Water Depth:	110m
Total Depth (Driller):	4303m MD (3577m TVD)
Total Depth (Logger):	4307m MD
Formation at Total Depth:	Statfjord Formation.

Casing Records:

30"	at	221m MD
20"	at	618m MD
13 3/8"	at	1648m MD
9 5/8"	at	3273m MD
7" liner at		3558m MD

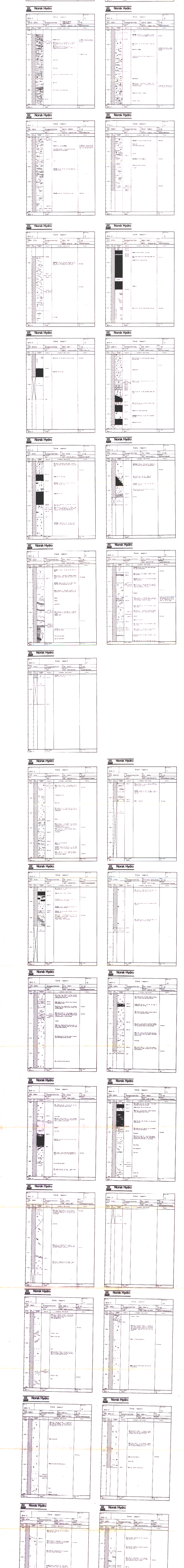
Comments:

Logs Run

ISF/LSS/GR/MSFL*	DLL/MSFL/GR/CAL	SHDT	RFT	CBL/VDL/GR/CCL	VSP
1A. 221 - 623m *4E. 3281 - 3434m *5F. 3281 - 3597m 6B. 3555 - 3679.5m	6A. 3281 - 3677m	6A. 3281 - 3681m	6A. 3296.5 - 3626.5m Sample at 3401m 6B. Sample at 3319.5m 7B. 3595 - 4259m Sample at 4207.2m	3A. 272 - 1648m 6D. 1200 - 3261m 8C. 3167 - 3475m	7A. 1624.5 - 4307m
DIL/LSS/GR	LDL/GR/CAL (CNL*)	HDT		CET / GR	CST
2B. 618 - 1448m 2C. 1397 - 1645m 3D. 1649 - 3296m 7H. 3588.5 - 4304.5m	2A. 618 - 1459m 2B. 1373 - 1648m *3C. 1645 - 3297m *6D. 3281.5 - 3680.5m *7E. 3272.4 - 4305.5m	7B. 3281 - 4305.5m		6A. 1200 - 3261m 8B. 3167 - 3475m	3A. 2739.5 - 3285m 7B. 4088 - 4307m 7C. 3307 - 4080m
		NGT (SDT*)			
		*6A. 3281 - 3681.5m 7E. 3272.4 - 4305.5m			

Legend

CORE REPORTS



RFT AND DST RESULTS.