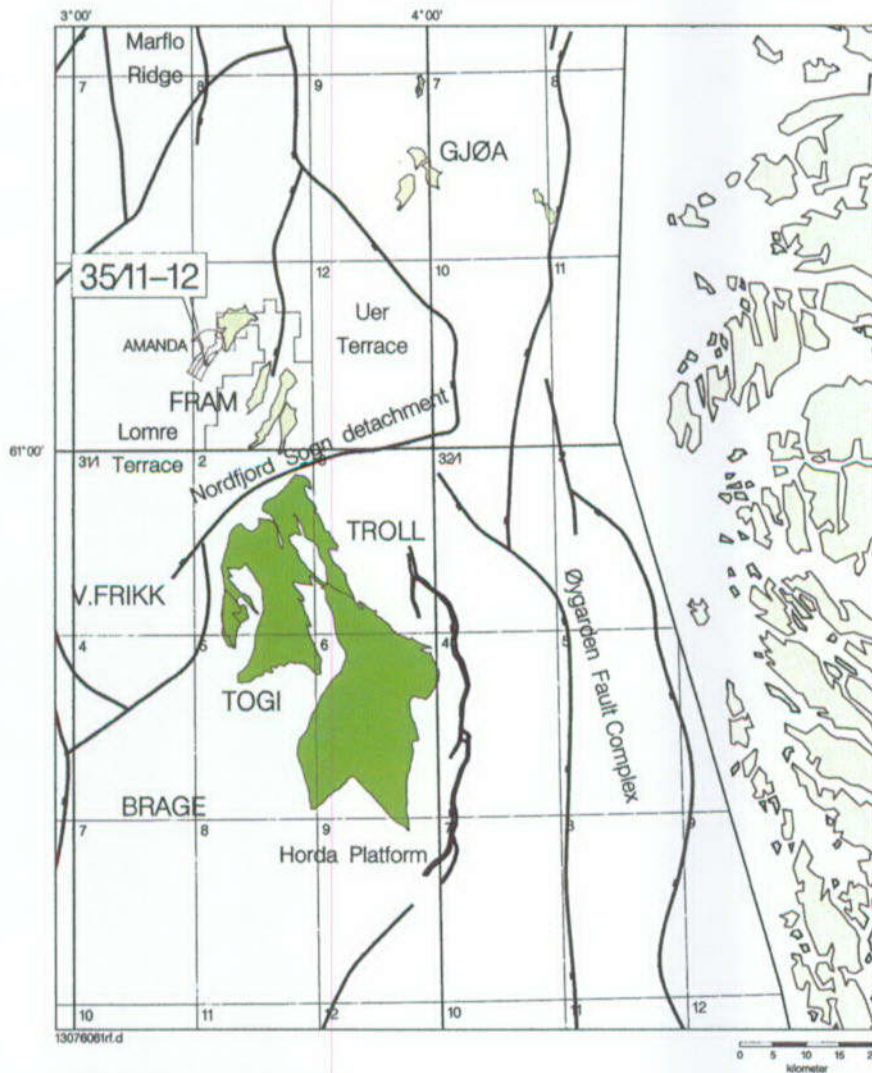




PL 248

Final Well Report 35/11-12



NH-00010150
November 2000

Operator:



Partners:



NORSK HYDRO
FINAL WELL REPORT
WELL 35/11-12

NOVEMBER 2000



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PREFACE

License PL 248 was awarded to the Norsk Hydro/Statoil/Mobil group by Royal Decree of 4 June 1999 with Hydro as the operator.

The licensees' percentage share of the block is as follows:

Norsk Hydro Production a.s. (operator)	20%
Den Norske Stats Oljeselskap a.s. (Statoil)	20%
ExxonMobil	20%
SDØE	40%

The well was drilled by Norsk Hydro ASA, on behalf of the group, during April/May 2000 (see Location Map, page 3).

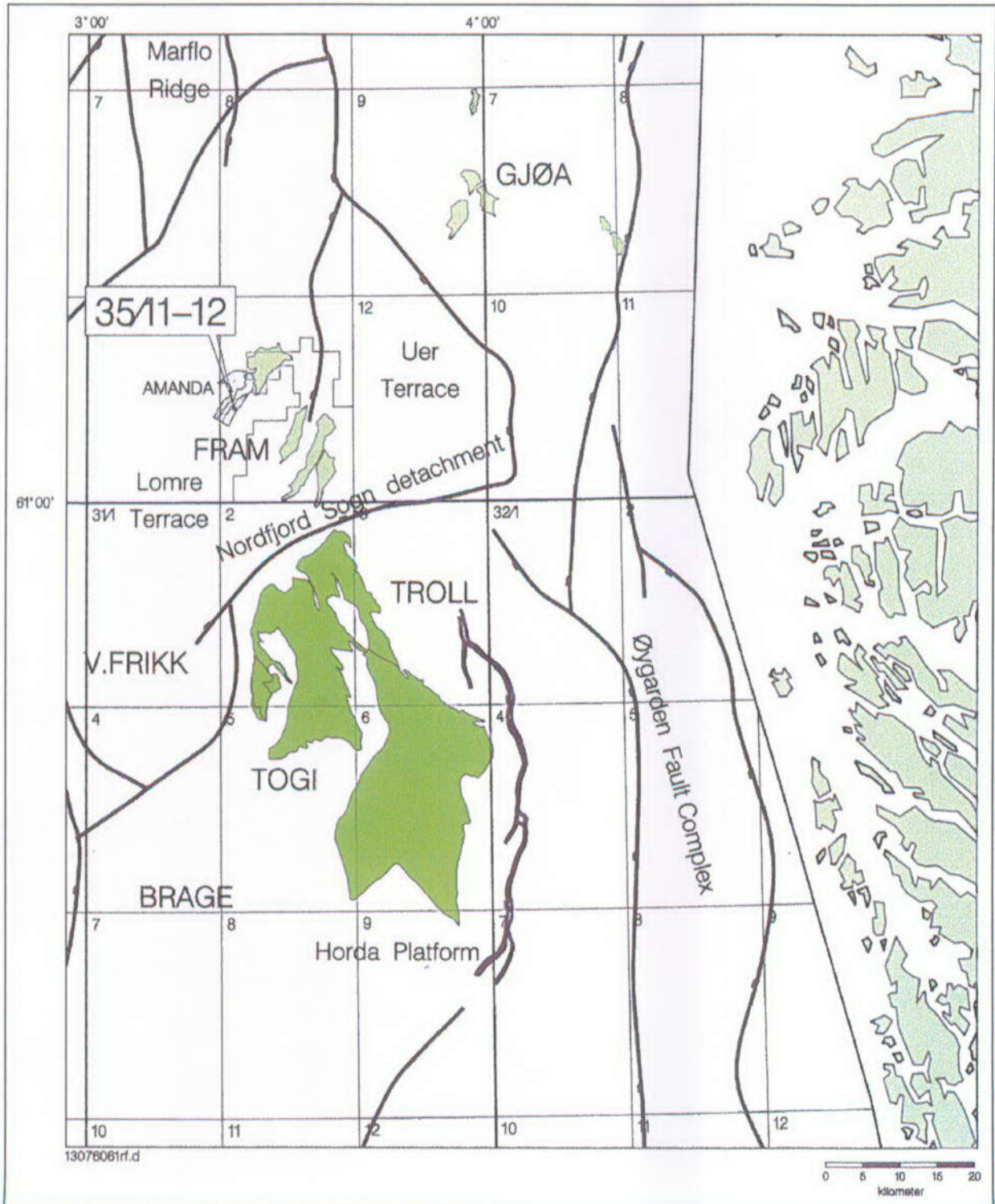
All depths in this report are in mMD RKB (RKB elevation is 24m) unless otherwise stated.



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Location Map



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SUMMARY OF WELL DATA	
LOCATION:	61° 07' 43.45"N 03° 22' 53.60" E UTM 6 777 347.4mN 520 554.2mE ED 50, UTM Zone 31, CM 03°E
OPERATOR: RIG:	Norsk Hydro Transocean Arctic
CONTRACTOR:	Transocean
KB ELEVATION (to MSL):	24m
WATER DEPTH (MSL):	364m
START OF OPERATIONS:	18.04.2000
WELL SPUDDED:	19.04.2000
REACHED TD ON:	08.05.2000
COMPLETED:	14.05.2000
STATUS:	Permanently plugged and abandoned as a dry well.
FORMATION AT TD:	Heather Fm.
TD DRILLER (mRKB):	3378 m
TD LOGGER (mRKB):	3380 m
DRILLING DEPTHS:	9 7/8" to 725.0m 36" to 460.0m 26" to 725.0m 17 1/2" to 1760.0m 12 1/4" to 2822.0m 8 1/2" to 3378.0m
CASING DEPTHS:	30" to 460.0m 20" to 720.0m 13 3/8" to 1755.0m 9 5/8" to 2809.0m



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SECTION A

GEOLOGY



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- II Sidewall core descriptions
- III Well Summary
- Geological Well Summary
- MDT Results



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1 Objectives

The main objectives of the well 35/11-12 are to :

Test the presence- and type of hydrocarbons in the Oxfordian Turbidites in the Amanda prospect.

Test the Amanda prospect within the most prominent amplitude anomalies.

Test the largest possible HC - column with a good margin to the mapped spillpoint.

Test the stratigraphic trap component of the Amanda prospect.

Leave acceptable updip volumes.

Secondary objectives:

Test the presence of potentially Callovian turbidites.

The TD criteria is confirmation of Callovian Hot Shale at 3400m MD/TVD.



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2 Results

The well was spudded 19.04. 2000 and reached a total depth of 3378m RKB in claystones of Callovian age on 08.05. 2000. The well was permanently plugged and abandoned as a dry well.

The main results were as follows:

Two turbidite sequences , of Kimmeridgian and Oxfordian age respectively, were penetrated. The sequences contained predominatly claystones, but comprised also thin sandstone beds of very poor reservoir quality. A MDT oil sample was taken within a two meter thick porous sandstone of the Oxfordian sequence.



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3 Biostratigraphy

The biostratigraphical evaluation of well 35/11-12 was carried out by Geostrat Ltd. The analysed interval is 740m - 3378m RKB. Micropaleontological and palynological analyses have formed the basis for the biostratigraphical interpretation of the well. The analyses were carried out on cuttings, core and sidewall core samples. The results are documented in the report: (R-091290) Norsk Hydro 35/11-12, Biostratigraphy of the interval 740m - 3378 m (swc).

Tables 3.1 and 3.2 on page 14 and 15 show a summarised lithostratigraphic and geochronological subdivision of the well. The interpretation is in accordance with Norsk Hydro's standard interpretation for the area, and differs slightly from Geostrat's interpretation.

Some of the major points are summarised below:

The youngest sediments analysed at 740 m are of Pliocene-Late Miocene age.

The oldest sediments at 3378m (swc) are of Early Callovian age.

The Rogaland Group (Balder Fm.) was penetrated at 1727m.

An unconformity was identified between the Rogaland Group and the Shetland Group (Jorsalfare Fm.), which was penetrated at 2019m.

A thin potential reservoir sand was encountered in the Lista Formation of the Rogaland Group. This sand is of Late Palaeocene age and belongs to palynosubzone PT2B-2.

An unconformity is interpreted between the Early Hauterivian sediments and the sediments of latest Ryazanian age. However, some specimens which could be assigned to the Valanginian are present.

A full Late Jurassic sequence of the Draupne and Heather Formation appears to be present. This sequence is of Late Volgian to Early Callovian age.

In the Jurassic sequence two potential reservoir sands were encountered.

A Kimmeridgian turbidite unit occurs within the Draupne Formation and is of Late Kimmeridgian age, palynozone PJ7B.

An Oxfordian turbidite unit occurs within the Heather Formation and is of Oxfordian age, palynozone PJ6C1-PJ6C2.



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LITHOSTRATIGRAPHICAL BREAKDOWN, WELL 35/11-12

GROUP	FORMATION	DEPTH mMDRKB
Nordland	Utsira Formation	869
Hordaland		896
Rogaland	Balder Formation	1727
	Sele Formation	1781
	Lista Formation	1803
	Lista sst	1881-1884
	Våle Formation	1986
-----	-----unconformity-----	-----
Shetland	Jorsalfare Formation	2019
	Kyrre Formation	2095
Cromer Knoll	Rødby Formation	2719
	?Sola Formation	2786
	Upper Mime Formation	2797
	Åsgard Formation	2808
	Lower Mime Formation	2877,5
Viking	Draupne Formation	2891
	"Kimmeridgian Turbidite"	3102-3126
	Heather Formation	3129,5
	"Oxfordian Turbidite Unit"	3151.5-3221
	"Callovian Hot Shale unit "	3370
		TD 3378

Table 3.1: Lithostratigraphy, Well 35/11-12



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SAMPLE DEPTH m	PERIODE	AGE	Palyno Zone	Mikro Zone	
740	TERTIARY	?Pliocene-Late Miocene	uncertain		
890		Middle Miocene	PT10-2		
		----UNCONFORMITY----			
920		Late Oligocene	PT82		
980		Early Oligocene	PT7B2		
1340		Late Eocene	PT6		
1460		Middle Eocene	PT4B-3		
1640		Early Eocene	PT3C-3		
1730		earliest Early Eocene	PT3A-2		
1790		Late Palaeocene	PT2C		
1970	Early Palaeocene	PT1C		MP(P)2	
	----UNCONFORMITY----				
2020	LATE CRETACEOUS	?Late Maastrichtian	?N-PK9B5	MK16	
2090		Early Maastrichtian	N-PK9A		
2160		Late Campanian		MK12b	
2210		Early Campanian-Late Santonian	N-PK8B2		
2510		Early Santonian	N-PK8A2		
2550		Coniacian		MK9-b	
2670		Late Turonian		MK9-a	
2700		Middle-Early Turonian		MK8-b	
2720		?Cenomanian (?Late Albian)	?N-PK6B		
		----?UNCONFORMITY----			
2750	?EARLY CRETACEOUS	Late Albian-Middle Albian	?N-PK5C3		
2780		Early Albian-Late Aptian	N-PK4D		
2810		Early Aptian	N-PK4A1		
2840		Late Barremian/late Hauterivian	N-PK3C		
2870		Early Hauterivian-?Valanginian	N-PK2C1		
		--UNCONFORMITY--			
2890		latest Ryazanian	N-PK1C		
2891.6 (swc)		Late-?Early Ryazanian	N-PK1B		
2900		?LATE JURASSIC	?Late Volgian	?PJ9	
2915		LATE JURASSIC	Late Volgian		MJ15B
2925		latest Middle Volgian		MJ15A	
2950		Middle Volgian	PJ8B		
2980		Early Volgian	PJ7C3		
3024,6		Late Kimmeridgian	PJ7B		
3145,72		Early Kimmeridgian	PJ7A		
3160		Late Oxfordian	PJ6C2		
3190		Middle Oxfordian	PJ6C1		
3260		Early Oxfordian	PJ6B		
3280	MIDDLE JURASSIC	Late Callovian	PJ6A		
3295		Middle Callovian		MJ9A	
3350		Early Callovian	PJ5C		
3378 (swc)TD					

Table 3.2: Geochronological breakdown, Well 35/11-12



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4 Litostratigraphy

All depths are in mMD RKB (RKB is 24m).

This summary is compiled predominantly from ditch cuttings descriptions.

13 sidewall cores were obtained from the well, depths of 10 of the cores are uncertain due to misfires. A total of 1 conventional core were cut between the interval from 3120m to 3147m in the well, see Table 6.1.1 and 6.1.2.

Wireline and MWD logs were used to aid lithological interpretation and the placement of formation boundaries.

The well was drilled with returns to seabed from the seafloor at 364 m to 730 m before setting 20" casing at 720m. Lithology interpretation through this interval is based on MWD logs and drilling parameters. The first drill cuttings samples were taken at 730 m.

4.1 Nordland Group (364 - 896m)

364-730m

This interval was drilled with returns to seabed and is interpreted to consist of clay with minor sand beds.

Age: Quaternary/Pliocene

730-769m

Sandy Claystone and Sand with traces of Limestone

Claystone: Medium grey - medium dark grey, soft - occasional firm, amorphous, slightly sticky, slightly calcareous - calcareous, silty

Sand: Clear translucent - light brown translucent Quartz grains, medium - coarse, occasional fine, occasional very coarse, rounded - subangular, predominantly subrounded, moderate - poorly sorted, as loose grains, Trace of Pyrite, Trace of carbonaceous fragments.



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Limestone: white - light brown, occasional clear, soft - firm,
predominantly microxln, occasional argillacious.

Age: Pliocene

769-869m

Sand with minor Claystone.

Sand: Clear translucent - milky white Quartz grains, medium -
coarse, occasional fine, occasional very coarse,
rounded - subangular, predominantly subrounded,
moderate - poorly sorted, loose grains, Trace of Pyrite,
Trace of carbonaceous Fragments.

Claystone: Medium grey - medium dark gry, soft , sticky,
amorphous, very sandy, slightly calcareous - calcareous,
carbonaceous fragments, Trace micaceous.

Age: ?Pliocene - Late Miocene

Utsira Formation (869 - 896m)

Sand with minor Claystone.

Sand: Clear translucent - milky white Quartz grains, medium -
coarse, occasional fine, occasional very coarse,
rounded - subangular, predominantly subrounded,
moderate - poorly sorted, loose grains, Trace of Pyrite,
Trace of carbonaceous Fragments.

Claystone: Medium grey - medium dark gry, soft , sticky,
amorphous, very sandy, slightly calcareous - calcareous,
carbonaceous fragments, Trace micaceous.

Age: ?Pliocene - Middle Miocene



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4.2 Hordaland Group (896 - 1727m)

896-1240m

This interval comprises Claystone and Sand with minor Limestone.

Claystone: Dark greenish grey - greenish black, light brown grey - brown grey, soft - firm, slightly sticky - sticky, amorphous, silty - very silty, non - slightly calcareous, very glauconitic, Trace micromicaceous

Sand: Clear translucent - milky white Quartz grains, fine - medium, occasional coarse, sunbrowned - subangular, well - moderately sorted, loose grains, Trace micaceous, Trace of Pyrite.

Limestone: Light brown grey - very light grey, firm - moderately hard, brittle, blocky, occasional argillaceous.

Age: Middle Miocene - Early Oligocene

1240-1670m

Claystone with minor sand and traces of Limestone.

Claystone: Light brown grey - moderately olive brown - olive grey, becoming grey blue green - green grey, soft - firm, slightly sticky, amorphous - subblocky, silty, non calcareous - calcareous, glauconitic, trace micromicaceous

Sand: Clear translucent Quartz grains, very fine - fine, occasional medium, subrounded - subangular, moderately - well sorted, loose grains, Trace micromicaceous, Trace glauconitic

Limestone: White - dusky yellow - light brown, firm - hard, occasionally argillaceous, microcrystalline.

Age: Early Oligocene - Early Eocene



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1670-1727m

Claystones with minor Sandstone and stringers of Limestone.

Claystone: Green grey - dark green grey, brown grey - olive grey, firm, blocky, occasionally splintery, non - occasionally slightly calcareous, occasionally slightly silty, Trace micromicaceous.

Claystone: Moderately brown, firm, subblocky, non calcareous, occasionally slightly silty, Trace glauconitic.

Sandstone: Clear - translucent Quartz, very fine - fine, subrounded - rounded, well sorted, loose grains, Glauconite

Limestone: White - greyish yellow, occasionally grey, firm - moderately hard, occasionally slightly silty, microcrystallin

Age: Early Eocene

4.3 Rogaland Group (1727 - 2019m)

The Rogaland Group consists of the Balder, Sele, Lista and Våle Fms.

Balder Formation (1727 - 1781m)

Claystone with tuffaceous Claystone and stringers of Limestone

Claystone: Green grey - dark green grey, brown grey - olive grey, firm, blocky, occasionally splintery, non - occasionally slightly calcareous, occasionally slightly silty, Trace micromicaceous.

Tuff. Clst: Light grey - light brown grey, clear - dark grey, soft - firm, amorphous, glass fragments.

Limestone: White - grey yellow, occasionally grey, firm - moderately hard, microcrystallin, occasionally slightly silty.

Age: Early Eocene - earliest Early Eocene



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Sele Formation (1781 - 1803m)

Claystone with with tuffaceous Claystone and rare Limestone Stringers.

Claystone: Light grey - medium dark grey, light green grey - dark green grey - light brown grey, blocky - subblocky, locally subfissile, non - slightly calcareous, rare Carbonaceous.

Tuff. Clst: Light grey - light brown grey, clear - dark grey, soft - firm, amorphous, glass fragments.

Limestone: White - grey yellow, occasionally grey, firm - moderately hard, occasionally slightly silty, microcrystallin.

Age: earliest Early Eocene - Late Paleocene

Lista Formation (1803 - 1986m)

Claystone with stringers of Limestone and Dolomite, trace of Sandstone

Claystone: Light gry - medium dark gry, light green grey - dark green grey, light brown grey, becoming generally olive grey - medium dark grey, blocky - subblocky, locally subfissile, non - slightly calcareous, rare Carbonaceous.

Limestone: Light gry - pale yellow brown, firm, localy argillaceous.

Dolomite: Yellow brown - dark yellow brown, hard - very hard, blocky, locally argillaceous, micro - cryptocrystallin.

Sandstone: Clear - translucent Quartz, firm - medium, trace coarse, subangular - subrounded, loose grains.

Age: Late Paleocene - Early Paleocene

Våle Formation (1986 - 2019m)

Claystone with stringers of Limestone

Claystone: Generally olive grey - medium dark grey - brown grey, trace green grey, blocky - subblocky, locally subfissile, calcareous - very calcareous, locally grading Marl, rare Carbonaceous.



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Limestone: Light grey - pale yellow brown, firm, locally argillaceous.

Age: Early Paleocene

4.4 Shetland Group (2019 - 2719m)

The Shetland Group in this well consists of the Jorsalfare and Kyrre Formations.

Jorsalfare Formation (2019 - 2095m)

Claystone with Limestone stringers, traces of Sand.

Claystone: Light grey - medium dark grey, trace light green grey, firm - soft, very calcareous grading Marl, Trace of Glauconite

Limestone: White - grey white, blocky - platy, firm - soft, slightly argillaceous, cryptocrystallin, Glauconite.

Sandstone: Clear - translucent Quartz, very fine - fine, rare medium, subangular - subrounded, loose, Trace Pyrite, Trace Glauconite, No Shows.

Age: ?Late Maastrichtian - Early Maastrichtian

Kyrre Formation (2095 - 2719m)

2095-2212m.

Claystone with stringers of Limestone, Trace Sandstone.

Claystone: Light grey - medium dark grey, becoming moderate brown, trace light green grey, firm - soft, blocky, locally sticky, very calcareous grading to Marl, Trace glauconite, Trace Pyrite Nodules.

Limestone: White - grey white, blocky - platy, firm - soft, locally slightly argillaceous, cryptocrystallin, Glauconite.

Sandstone: Clear - translucent Quartz, very fine - fine, rare



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medium, subangular - subrounded, loose, Trace
Pyrite, Trace Glauconite, No Shows.

Age: Early Maastrichtian - Early Campanian/Late Santonian

2212 - 2719m.

Claystone with stringers of Limestone and Dolomite, trace of Sandstone.

Claystone: Light grey - medium dark grey, trace moderate
brown, soft - firm, blocky, locally sticky, generally
very calcareous grading to Marl, locally non -
slightly calcareous, rare very fine sandy, local Pyrite
Nodules, Trace Glauconite, rare micromica.

Limestone: Wh - gry white, becomming trace green grey, blocky
- platy, soft - firm, trace argillaceous, cryptocrystallin,
Glauconite.

Dolomite: Dark yellow brown - pale yellow brown, blocky -
angular, hard, micro - cryptocrystallin.

Sandstone: Clear - translucent Quartz, very fine - fine, rare
edium, subangular - subrounded, loose grains,
Trace Pyrite, Trace Glauconite.

Age: Early Campanian/Late Santonian - Middle/Early Turonian

4.5 Cromer Knoll Group (2719 - 2891m)

Rødby Formation (2719 - 2786m)

2719 - 2745m.

Limestone with minor Claystone.

Limetone: White - light grey, light green grey - green grey,
yellow grey - light olive grey, firm - moderate hard,
blocky, occasionally argillaceous, in part very fine
sandy, micromica, Glauconite, No Shows.



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Claystone: Medium grey - medium dark grey - dark grey, olive grey - dark green grey, firm, subblocky - blocky, calcareous - very calcareous, occasionally grading Marl, trace non calc, in part silty, Trace Glauconite, Trace micromica.

Age: ?Cenomanian (?Late Albian)

2745 - 2786m.

Claystone with minor Limestone, trace Dolomite

Claystone: Medium grey - medium dark grey - dark grey, firm, subblocky - blocky, calcareous - very calcareous, occasionally grading to Marl, trace non calcareous, in part silty, Trace Glauconite, Trace micromica.

Limestone: White - light grey, light green grey, light olive grey, firm - moderately hard, in part very fine sandy, occasional dark grey laminations, microcrystallin, occasional Glauconite.

Dolomite: Dark yellow brown, hard, blocky - angular, very sucrous, predominantly cryptocrystalline, occasionally microcrystalline

Age: ?Cenomanian (?Late Albian) - Early Albian/Late Aptian

?Sola Formation (2786 - 2797m)

Alternating Claystones with minor Limestone.

Claystone: Medium grey - medium dark grey - dark grey, firm, subblocky, calcareous - very calcareous, occasionally grading to Marl, trace non calcareous, in part silty, Trace Glauconite, Trace micromica.

Claystone: Moderate brown, occasional light brown, firm, occasional moderately hard, subblocky - blocky, very calcareous grading to Marl.

Limestone: White - light grey, light green grey, light olive grey, firm - moderately hard, blocky, in part very fine



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sandy, occasional dark grey laminations, microcrystalline,
occasional Glauconite.

Age: Early Albian/Late Aptian

Upper Mime Formation (2797 - 2808m)

Claystone with interbeds of Limestone, Trace Dolomite.

Claystone: Medium grey - medium dark grey, dark grey, light olive grey - olive grey, firm, subblocky - blocky, predominantly very calcareous grading to Marl, occasional in part very fine sandy, Trace micromica, rare Mica.

Limestone: White - light grey, light green grey, light olive grey, pink grey - yellow grey, firm - moderately hard, blocky, in part very fine sandy, occasional dark grey laminations, microcrystallin, occasional Glauconite.

Dolomite: Dark yellow brown, hard, blocky - angular, very sucrous, predominantly cryptocrystallin, occasional microcrystallin.

Age: Early Albian/Late Aptian

Åsgard Formation (2808 - 2877.5m)

Claystone alternating with Limestones.

Claystone: Medium grey - medium dark grey, dark grey, light olive grey - olive grey, firm, subblocky - blocky, predominantly very calcareous, occasionally grading to Marl, occasionally in part very fine sandy, Trace micromica, rare Mica.

Limestone: White - light grey, firm - moderate hard, subblocky - blocky, microcrystallin, occasional dark laminations, occasional Glauconite.

Limestone: Grey white - white, pink - moderate brown, soft - firm, subblocky - blocky, generally argillaceous grading to very calcareous Claystone, locally



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microcrystallin, local argillaceous laminations,
Trace Pyrite.

Age: Early Albian/Late Aptian - Early Hauterivian/?Valanginian

Lower Mime Formation (2877.5 - 2891m)

Claystone alternating with Limestones.

Claystone: Medium grey - dark grey, firm, subblocky - blocky, predominantly very calcareous, occasionally grading to Marl, occasionally in part very fine sandy, Trace micromica, rare Mica.

Limestone: Grey white - white, pink - moderate brown, soft - firm, subblocky - blocky, generally argillaceous grading to very calcareous Claystone, locally microcrystallin, local argillaceous laminations, Trace Pyrite.

Age: Early Hauterivian/?Valanginian

4.6 Viking Group (2891 - 3378m/TD)

Draupne Formation (2891 - 3129.5m)

2891 - 3005m.

Claystone with minor Limestone stringers.

Claystone: Dark grey - grey black, brown black, firm - moderately hard, blocky - platy, slightly silty, non calcareous, locally earthy texture, carbonaceous, micropyrictic, Trace Pyrite, Trace micromica, Trace carbonaceous/Coal fragments.

Limestone: Grey white - light grey, very hard - hard, blocky - angular, predominantly angular, micro - cryptocrystalline, locally grading Dolomite, Trace argillaceous.

Age: latest/Early Ryazanian - Early Volgian



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3005 - 3129.5m (except 3102 - 3126m)

Claystone with Trace of Limestone.

Claystone: Dark grey - grey black, brown black, becoming predominantly brown black - dusky yellowish brown, firm - moderately hard, blocky - platy, non calcareous, becoming non- slightly calcareous, slightly silty, becoming silty, carbonaceous, micromica, Trace micropyrritic, Trace Pyrite, rare - Trace carbonaceous fragments.

Limestone: Gry white - light grey, light olive grey, moderately hard, blocky - angular, occasionally grading very calcareous Claystone, in part very fine sandy, dark grey laminations, microcrystalline.

Age: Early Volgian - Late Kimmeridgian

"Kimmeridgian Turbidite Unit" (3102 - 3126m)

Claystone with minor Sandstone.

Claystone: Olive black, locally dusky yellowish brown, hard, locally very hard (in core), subblocky - subfissile, locally grading to fissile, non calcareous, slightly silty, abundant micromica, becoming micromica.

Sandstone: Light grey - medium light grey, clear - translucent Quartz, firm - moderately hard, becoming hard - very hard (in core), subangular - angular, very fine - fine, occasionally medium, calcareous cement, argillaceous, Mica, carbonaceous.

Age: Late Kimmeridgian

Heather Formation (3129.5 - 3378m)

3129.5 - 3151.5m

Claystone.



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Claystone: Olive black, locally dusky yellowish brown, hard, locally very hard (in core), subblocky - subfissile, locally grading to fissile, non calcareous, slightly silty, abundant micromica, becoming micromicaceous, micropyrritic, carbonaceous, locally Trace macrofossils.

Age: Late Kimmeridgian - Early Kimmeridgian

"Oxfordian Turbidite Unit" (3151.5 - 3221m)

Claystone with minor Sandstone.

Claystone: Olive black - dusky yellowish brown, becoming olive grey - medium dark grey, firm - moderately hard, subblocky - blocky, generally non calcareous, becoming calcareous, silty grading to Siltstone, very fine sandy laminae, micromicaceous, locally abundant micromicaceous, carbonaceous/carbonaceous laminae, Trace Pyrite.

Sandstone: Light grey - medium dark grey, locally grey white, very fine - fine, firm - moderately hard, locally friable, well sorted, generally calc cemented, trace dolomite cemented, locally very argillaceous, silty, locally very Micaceous, trace carbonaceous.

Sandstone: Clear - translucent Quartz, medium - coarse, loose - friable, moderately sorted, rounded - subrounded, locally calcite cemented, trace of pyrite cement, pyrite coated grains, trace micaceous.

Age: Early Kimmeridgian - Middle Oxfordian

(3221m - 3370m)

Silty Claystone with trace of Sandstone and Limestone stringers.

Claystone: Brown grey - brown black, locally dark grey, locally olive grey - m dark grey, soft - firm, locally moderately hard, subblocky - blocky, occasionally amorphous, becoming in part earthy, very silty grading to siltstone, in part sandy, carbonaceous, micromicaceous, becoming micropyrritic, trace of Pyrite.



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Sandstone: Clear - translucent, occasional milky white, occasional opaque Quartz grains, very fine - fine, becoming fine - medium, rare coarse, subrounded - subangular, in upper part: subangular, locally slightly calcite cemented, argillaceous, carbonaceous.

Limestone: Grey white - light grey, grey orange - dark grey orange, locally pale yellow brown - moderate yellow brown, firm - moderately hard, blocky, locally argillaceous, in part sandy, microcrystalline.

Limestone: Pale yellow brown - moderate yellow brown, firm, blocky - angular, locally argillaceous, microcrystalline.

Age: Middle Oxfordian - Early Callovian

"Callovian Hot Shale Unit Unit" (3370 - 3378m)

Claystone.

Claystone: Brown black - olive black, medium dark grey - dark grey, soft - moderate hard, blocky, in part earthy, rare silty, non - very slightly calcareous, Trace carbonaceous, Trace micropyrrite.

Age: Early Callovian



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5 Hydrocarbon Shows

The evaluation of hydrocarbon shows at the wellsite was carried out in a conventional manner. A Twin FDI (Geoservices) Gas detector was used for automatic and continuous gas analysis, recorded as ppm by volume of C1 through nC5, was operational below 730m down to the TD of the well at 3378m.

Hydrocarbon shows on ditch cuttings, cores and sidewall cores were evaluated according to procedures described in Norsk Hydro's "Wellsite Geologist's Manual".

5.1 Gas Record

388 - 730 m: This interval was drilled with returns to sea bed.

The gas summary for the well is presented in Figures 5.1.1 - 5.1.3 on the next pages.



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FIG. 5.1.1



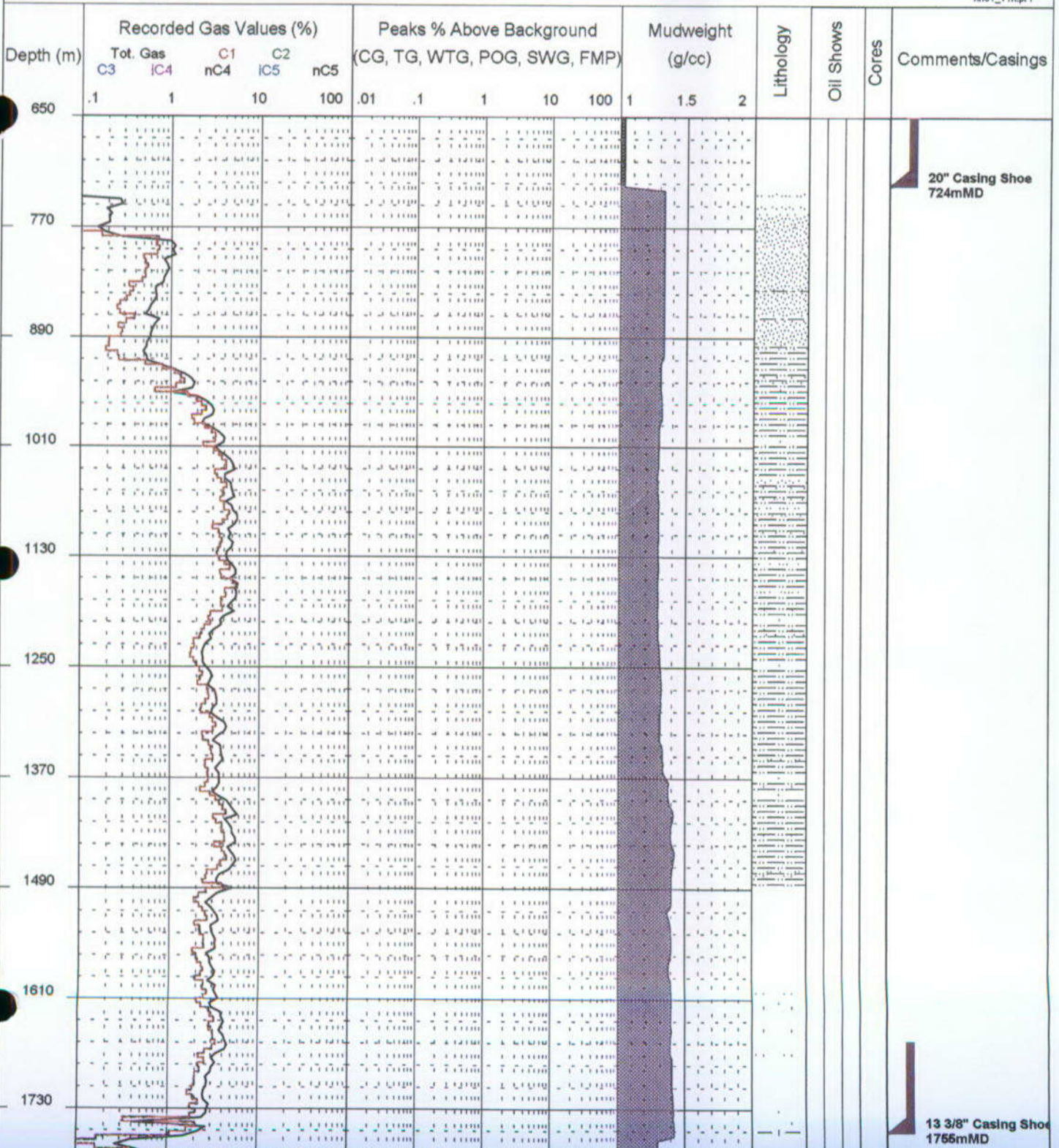
GAS SUMMARY PLOT



Well : 35/11-12

Phase : 17 1/2"

nh01_v1n.pr1





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FIG. 5.1.2



GAS SUMMARY PLOT



Well : 35/11-12

Phase : 12 1/4"

rh61_v1n.pr1

Depth (m)	Recorded Gas Values (%)					Peaks % Above Background (CG, TG, WTG, POG, SWG, FMP)					Mudweight (g/cc)			Lithology	Oil Shows	Cores	Comments/Casings
	Tot. Gas		C1	C2		.01	.1	1	10	100	1	1.5	2				
	C3	IC4	nC4	IC5	nC5												
1730	1	1	10	100	.01	.1	1	10	100	1	1.5	2				13 3/8" Casing Shoe 1765mMD	
1850																	
1970																	
2090																	
2210																	
2330																	
2450																	
2570																	
2690																	
2810																9 5/8" Casing Shoe 3665mMD	



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FIG. 5.1.3



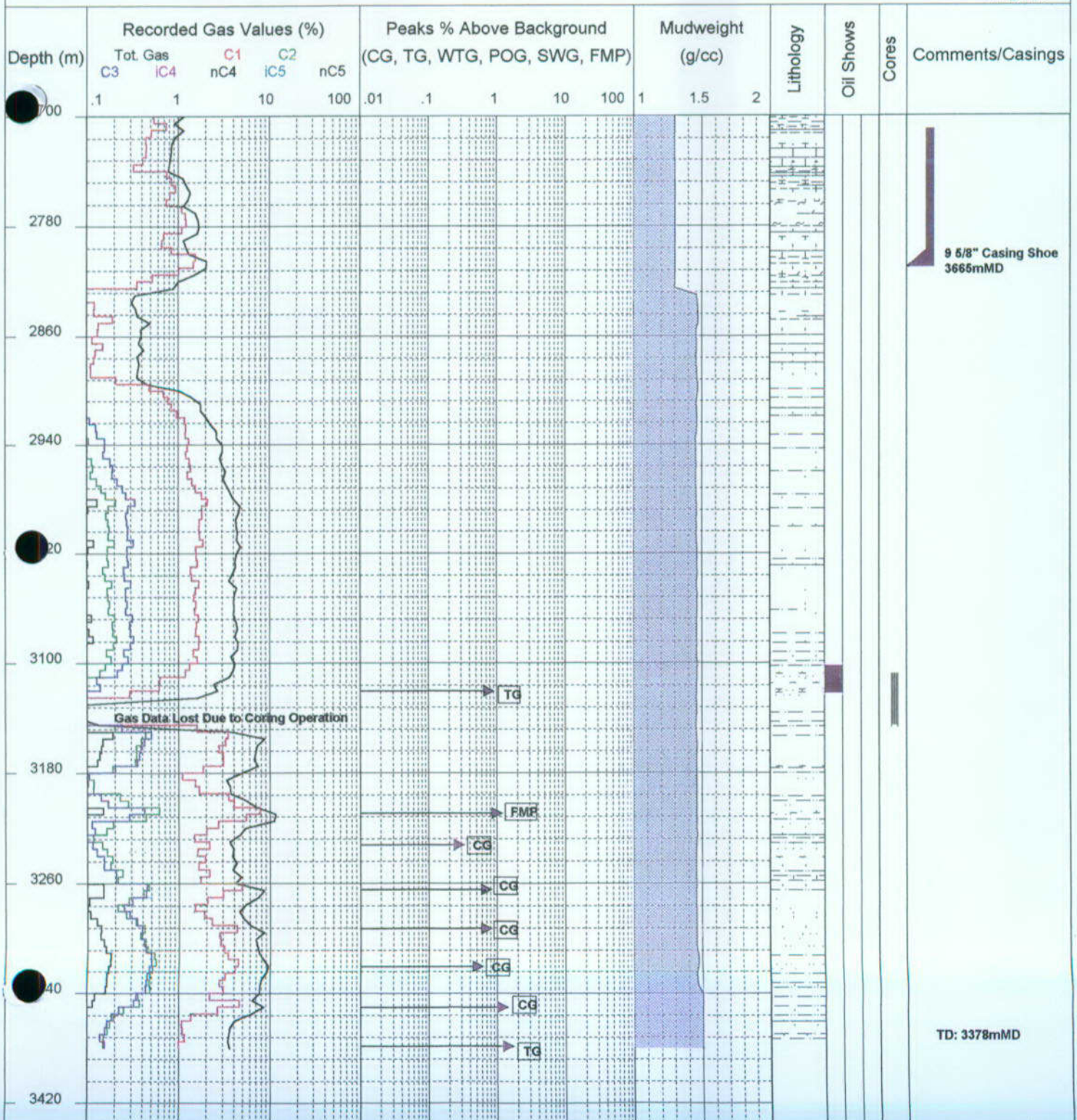
GAS SUMMARY PLOT



Well : 35/11-12

Phase : 8 1/2"

nh81_v1n.pr1





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5.2 Oil stain and Fluorescence

A summary of the observed shows is given in Table 5.2 below:

INTERVAL (mRKB)	SOURCE	LITHOLOGY	SHOWS DESCRIPTION
3119.1 (L. Depth)	Sidewall Core	Sandstone	No o stn, wk pet od, lam dull - bri yel dir flu, v slo bl wh wk flu cut, no vis cut, bl wh flu res, no vis res.
3121 - 3122	Core	Sandstone	No o stn, no pet od, wk - pl yel dir flu, no vis cut, v sl wk blmng bl wh cut flu, no vis crush cut, no fluor crush cut, v wk bl wh res fluor, no vis res.

Table 5.2 Shows summary 35/11-12



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6 Coring

6.1 Conventional Cores

A total of 1 core (90') were cut. The core is presented in Tables 6.1.1 and 6.1.2 below, and the core description can be found in Appendix I.

No	C: Cut(m) R: Recovery(m)	Rec. %	Lithology	Group/Formations
1	C:3120.0 - 3147.0 R:3120.0 - 3146.04	96.4	Claystone/Sandstone	Draupne/Heather Fms

Table 6.1.1: Conventional Cores 35/11-12

Core no.	top (m RKB)	bottom (m RKB)	recovery (%)	depth shift (m)
1	3120,00	3146,04	96.4%	
1	3120,00	3123,00	-	+ 1.0
1	3123,00	3123,60	-	+ 1.2
1	3123,60	3146,04	-	+ 0.8

Table 6.1.2: Core Depth Shift 35/11-12

6.2 Sidewall Cores

Sidewall cores were taken at TD from 3378 m to 2891.6 m. But due to misfires only 13 of 30 sidewall cores were recovered and 10 of the cores were of unreliable depths. Details of recovery are given in Table 6.2 below.

Descriptions of the sidewall cores are listed in Appendix II, and gross lithology is reported on the Completion Log.

Run	Requested	Misfired	Lost	Empty	Recovered	Rec %
1A	30	15	1	1	13	43.3

Table 6.2: Sidewall cores



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7 Logging

7.1 MWD Logs

A MWD service (Schlumberger Anadrill) yielding gamma ray, resistivity, sonic, density, neutron and survey measurements was run in the following sections:

Run no.	Bit Depth Interval m RT	Hole section	Tool	Comments
1	388 - 725	9 7/8" p.	MWD-CDR	
2	388 - 461	36"	MWD	
3	461 - 725	26"	MWD	
4	725 - 1760	17 1/2"	MWD-CDR	
5	1760 - 2822	12 1/4"	MWD-CDR-ISONIC	Real time Sonic data lost at 1830 m, data in memory
6	2822 - 3120	8 1/2"	MWD-V675R-GST-ADN	
7	3120 - 3378	8 1/2"	MWD-V675R-GST-ADN	Reamed cored interval

Table 7.1: MWD runs

More detailed MWD results can be found in the report "End of Well Report/Logs, (Schlumberger/Geoservices) Well 35/11-12."

7.2 Wireline Logs

The following table is a summary of wireline logs run in the well and shows log type, date run, logged intervals and run number for each log.

Logs	Date	Logged interval (mRKB)	Run / Comments
DSI/GR	09.05.00	3380.0-2600.0	1A
MDT/GR/AMS	09.05.00	3124.0-3211.5	1A, 2 p.p., 6 attempts, 1 sample @ 3211 m



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VSP/GR (Read)	10.05.00	3360.0-2570.0	1A, 4 satellites, ch. 4 failed
CST/GR	10.05.00	3378.0-2891.6	1A, see § 6.2

Table 7.2: Wireline logs 35/11-12

7.3 MDT Sampling

Samples were collected at depth 3211 m RKB. The sampling was performed using low shock sampling technique. Total of 33 litres were pumped before start to filling bottle no. 1 in multisampler number 1.

The rest of the bottles were not filled. The large diameter probe was used for pretest and sampling.

Maximum draw down during pumping was approximately 110 bar and the maximum temperature recorded was 107.5 C°.

The sample was sent to Norsk Hydro F-Senter.

No mini tests were performed.

Appendix III gives a summary of the sampling.

7.4 Velocity Surveys

Read Well Services was contracted to acquire and process a VSP in well 35/11-12. The survey was performed with a 4 level receiver tool and a 3x150 cu. in. source. The data quality was very good during the whole survey, and the travel times have good match with the prognosis.

For more information see the VSP report.

7.5 Bottom Hole Temperatures From Wireline Logs

The table on next page gives a summary of the bottom hole temperatures measured from wireline logs.



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Log suite	Run	Depth (mRKB)	Temp °C	Time since circ. (hrs)
DSI/GR	1A	3 376	96	7hrs 20 min
MDT/GR/AMS	1A	3211.5	105	15 hrs 50 min
CST/GR	1A	3 379	105	30 hrs 25 min

Table 7.5: Bottom Hole Temperatures 35/11-12



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8 Petrophysical Results

8.1 Summary

Well 35/11-12 penetrated one potential reservoir interval; the Oxfordian Turbidite in the Viking Group. The reservoir was water-wet, with traces of hydrocarbons. This was verified by logs, a fluid sample and cores/cuttings.

The Oxfordian Turbidite was evaluated with respect to porosity, saturation, net reservoir and net pay. The reservoir properties were generally poor. A total of 6.7 m of net reservoir was interpreted. This sand quality was considered fair, with an average porosity of 16.6 %.

An average water saturation of 67 % suggested that residual hydrocarbons were present. This was supported by a MDT fluid sample, which contained water with traces of oil. Water was still the movable fluid. The reservoir was fairly tight, and the pressure data suggests a slightly overpressured system. No fluid contacts or fluid gradients were identified from the log and pressure data.

The petrophysical evaluation was based on an integrated analysis of logs, core, PVT analysis of fluid sample and formation pressure data. A detailed description of the analysis is given in Ref./8-1/ in Ch. 8.8.

8.2 Log Data Acquisition

Tables 7.1 and 7.2 summarize the logs acquired in well 35/11-12.

There were no significant operational problems associated with the logging. The well was drilled with KCl mud and hole conditions were good. Anadrill's MWD/LWD tools were run throughout the well, and the overall log quality was considered very good, see Ref./8-1/. An Azimuthal Density Neutron tool was run over the reservoir section in the 8 1/2" hole.

Reservoir logging was performed using Anadrill's Vision675 tool. According to tool performance specifications, the phase resistivity has a higher accuracy and vertical resolution, but a shallower and smaller depth of investigation than the attenuation resistivity. The logs clearly show that the phase resistivity has a higher vertical resolution than the attenuation resistivity. The 2 MHz resistivity is more influenced by mud invasion (KCl) than the 400 kHz resistivity. The 400 kHz (low) frequency logs were applied as input to the petrophysical model.

The wireline sonic data acquired in run 1A DSI/GR was generally of high quality below 2809 m MD RKB(9 5/8" casing shoe). In casing, the data required post-processing due to erroneous labelling. Anadrill's MWD Isonic tool was run in the 12 1/4" hole. Post-processing is required in the



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Formations Sele to Våle (section 1755 - 1990 m MD RKB). Apart from this, the Isonic data was of good quality.

All data were subjected to quality control. A continuous composite log was generated by editing, depth shifting and merging the individual MWD and wireline runs.

8.3 Core Data

One core was cut in the upper Oxfordian Turbidite. A total of 11 core plugs were subjected to conventional core analysis, see Ref./8-2/. The program included measurements of horizontal and vertical porosity, Klinkenberg corrected horizontal and vertical air permeabilities and grain density. Using the Review software, the core gamma log was depth shifted to match the reference wireline gamma log. For cored interval, recovery factor and applied depth shifts, see section 6.

8.4 MDT Pressure and Sampling

One MDT (Modular formation Dynamics Tester) run was carried out in well 35/11-12. This run covered the reservoir sections of the Oxfordian Turbidite. As expected, the reservoir was fairly tight. Of 6 attempted pressure tests, only 2 were successful. The formation pressure quality control is summarised in Table 8.7.1.

To determine the movable fluid, a MDT fluid sample was gathered in the better sand at 3211.0 m MD RKB. This sample contained water with traces of oil. The reservoir pressure was measured to 359.23 bar at 3211.0 m MD RKB, which indicates a slightly overpressured system. No fluid contacts or fluid gradients was identified from the log and pressure data. Figure 8.1 suggests that well 35/11-12 do not communicate laterally with the wells on the H-structure (Fram) or any of the other wells on nearby structures.

8.5 Petrophysical Evaluation Procedure

The Oxfordian Turbidite consists of interbedded sandstones, siltstones and shales. Log analysis was conducted using an effective porosity approach with shale volume determined from the gamma ray log and the neutron-density log, porosity from the density log and water saturation from the Indonesia equation, see Ref./8-1/. The initial log derived porosity was calibrated to overburden corrected core porosity to yield a final log porosity. The final water saturation was then computed using the final log derived porosity.



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Net reservoir cut-off criteria were defined using shale volume and effective porosity as discriminators. Likewise net pay criteria were defined using net reservoir and effective water saturation. The following cut-off criteria's were applied to evaluate the Oxfordian Turbidite with respect to average effective porosity, average effective water saturation, net reservoir and net pay:

Oxfordian Turbidite cutoff criteria:

net sand > 12% ϕ_e and < 50% V_{sh}

net pay > 12% ϕ_e and < 50% V_{sh} and < 60 % S_{we}

8.6 Petrophysical Results

The results are reported as averages according to the zonation and graphically displayed as a computer processed interpretation (CPI), see Table 8.7.2 and Figure 8.2. In the Oxfordian Turbidite, a total of 6.7 m of net reservoir was interpreted. This sand quality is considered fair, with an average porosity of 16.6 %. An average water saturation of 67 % suggests that residual hydrocarbons are present.

A hydrocarbon-water contact was not encountered in this well.

8.7 Tables

Run 1A Test #	Depth (m MD RKB)	Drawdown mobility (mD/cp)	Initial mud Pressure CQG (bar)	Final mud Pressure CQG (bar)	Formation Pressure CQG (bar)	Draw-down Pretest Type
1	3124.0	-	457.99	457.98	-	Tight
2	3125.5	-	458.20	458.33	-	Tight
3	3201.3	-	469.19	469.17	-	Tight
4	3209.8	-	470.49	470.38	-	Tight
5	3211.5	6.3	470.67	-	359.3	Good
6	3211.0	15.2	470.70	470.48	359.23	Good (Sample)

Table 8.7.1: Formation pressure data in well 35/11-12.



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Zonal Averages, Well 35/11-12						
Formation	Interval (m MD RKB)	Gross (m MD RKB)	Net Res (m)	Phie (frac)	Swe (frac)	Net Pay (m)
Oxfordian Turbidite	3102.0 - 3221.0	119.0	6.7	0.17	0.67	3.0

Table 8.7.2: Net Sand and Net Pay Averages (from log).

8.8 References

/8-1/ End of well report/Logs, 35/11-12, Schlumberger/Geoservices, 2000

/8-2/ Conventional Core Analysis -Well 35/11-12, Corpro, 2000



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8.9 Figures

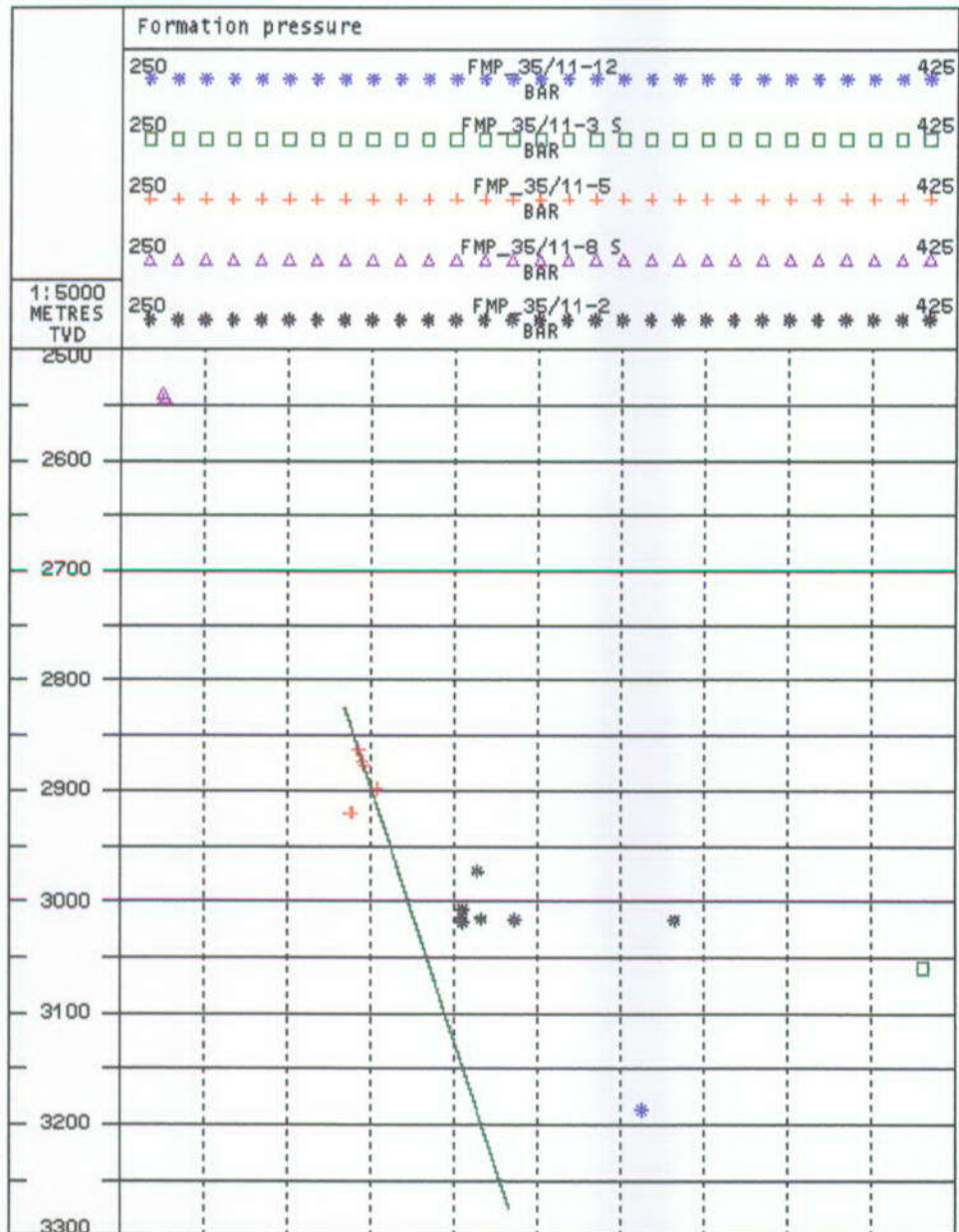


Figure 8.9.1: Formation pressure plot.



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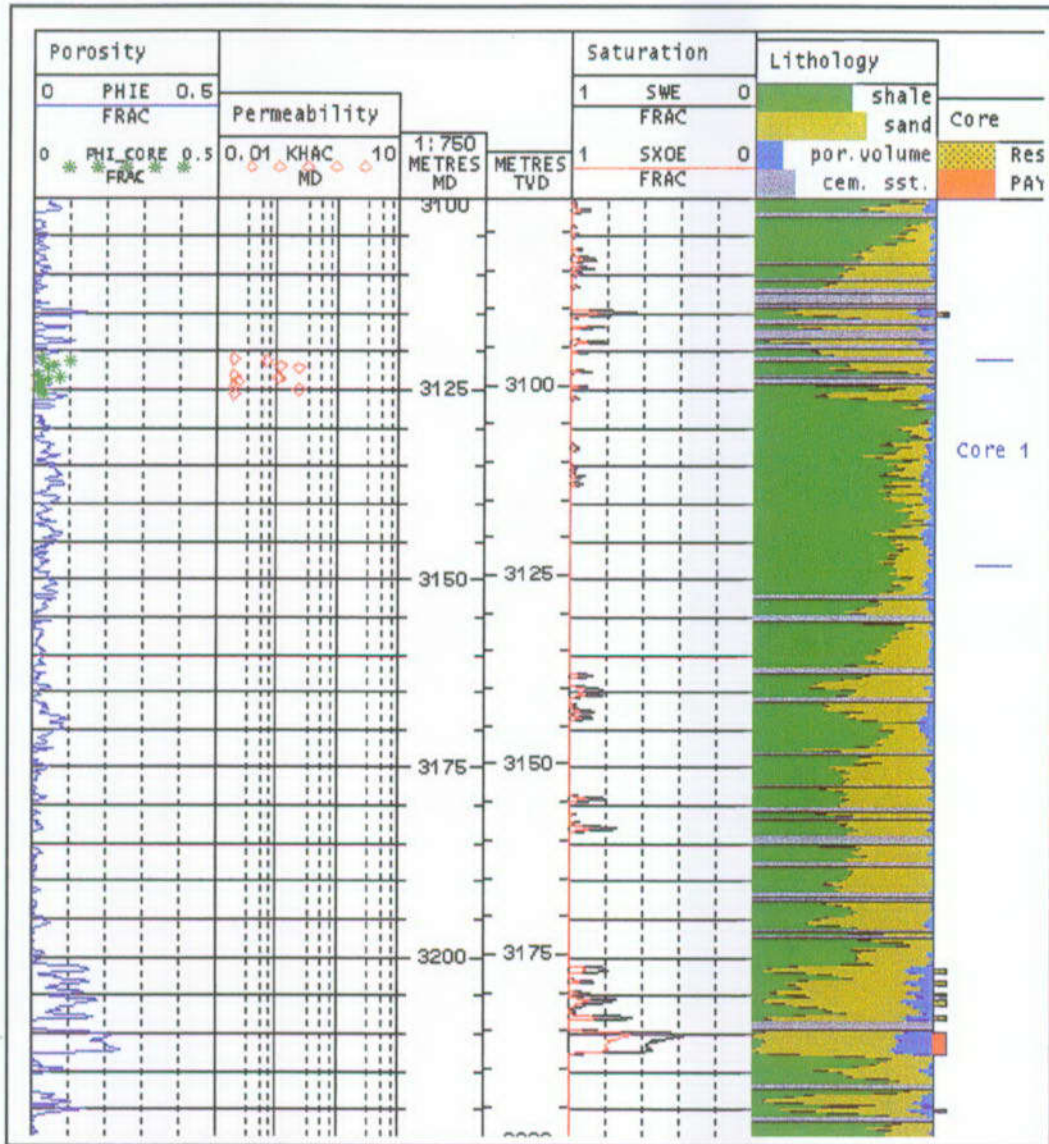


Figure 8.9.2: Graphical display (CPI) of the Oxfordian Turbidite in the Viking Group.



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9 Estimated Pore Pressure, Fracture, Overburden and Temperature Gradients

9.1 Pore Pressure

The pore pressures in well 35/11-12 are based on wellsite calculations, gas data, MDT pressure readings, hole instability and E-logs. All depths are quoted in mRKB.

Shallow gas was not observed in the upper sediments. Due to possible shallow water flow as often seen in this region the mudweight was raised at 720m before entering the shallow sands. Any presence of pressurised water can therefore not be ruled out.

From seabottom to 1400m a hydrostatic pressure is regarded as most likely. Trend shifts in sonic and dxc indicates a pressure increase from 1,03sg at 1400m to a maximum of 1,20sg at 1600m. A drop back to hydrostatic pressure is estimated from 1950m to 2030m. A pressure transition zone from 1,03sg is predicted from 2750m to 1,16sg at top reservoir (3102m). Pressure in top reservoir is based on a pressure point of 1,14sg at 3211m with a gradient of 0.078bar/m. From top reservoir to TD it is calculated a drop in pore pressure gradient from 1.16sg to 1.12sg at TD.

When drilling in top reservoir the prognosed maximum pore pressure was 1.38sg. No indications of over- or underbalanced situation. At rigsite a number of connection gases were observed from 3232m to 3334m leading to the interpretation that the well was close to balance with 1.46sg mud in the hole. The mudweight was raised to 1.50sg to balance this. With an ECD of 1.64sg losses were experienced and the gas peak from connection at 3350m increased. At connection at 3379m the well kicked and 8 bar SIDP was recorded giving a pressure of 1.52sg. After circulating and measuring of SIDP it was evident that the kick was a result of mudcharged formation and not as a result of increased pore pressure.

In a regional context of pore pressure this well seems to correlate in between the high pressure well to the south and low to hydrostatic pore pressures seen in the wells to the east (i.e. 35/11-7). The Pore pressure-, Fracture- and Overburden gradients are plotted in Fig. 9.1.

9.2 Formation Strength

Normal LOT was performed to 1,64 sg at 729m (higher than prognosed) and 1,756 sg at 2825m TVD (as prognosed). ELOT was not performed. Four inconclusive tests were done at 1763m giving as a final result 1,40 sg. This is much lower than prognosed and most likely linked to fractured formation giving mudlosses seen at around 1760m in the 17 1/2" section.



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The reason for fracturing the formation at 1763m is not clear and likewise the fracture pressure is not known but should be considerably higher than 1,40sg.

The incoming of ballooning gas at 3232 m indicates a lower fracture gradient than expected. The reduced fracture gradient compared to prognosis is of uncertain nature.

Losses while pumping with 2800 l/min close to TD (3334m) indicates that the ECD of 1,64sg was equivalent to the fracture gradient.

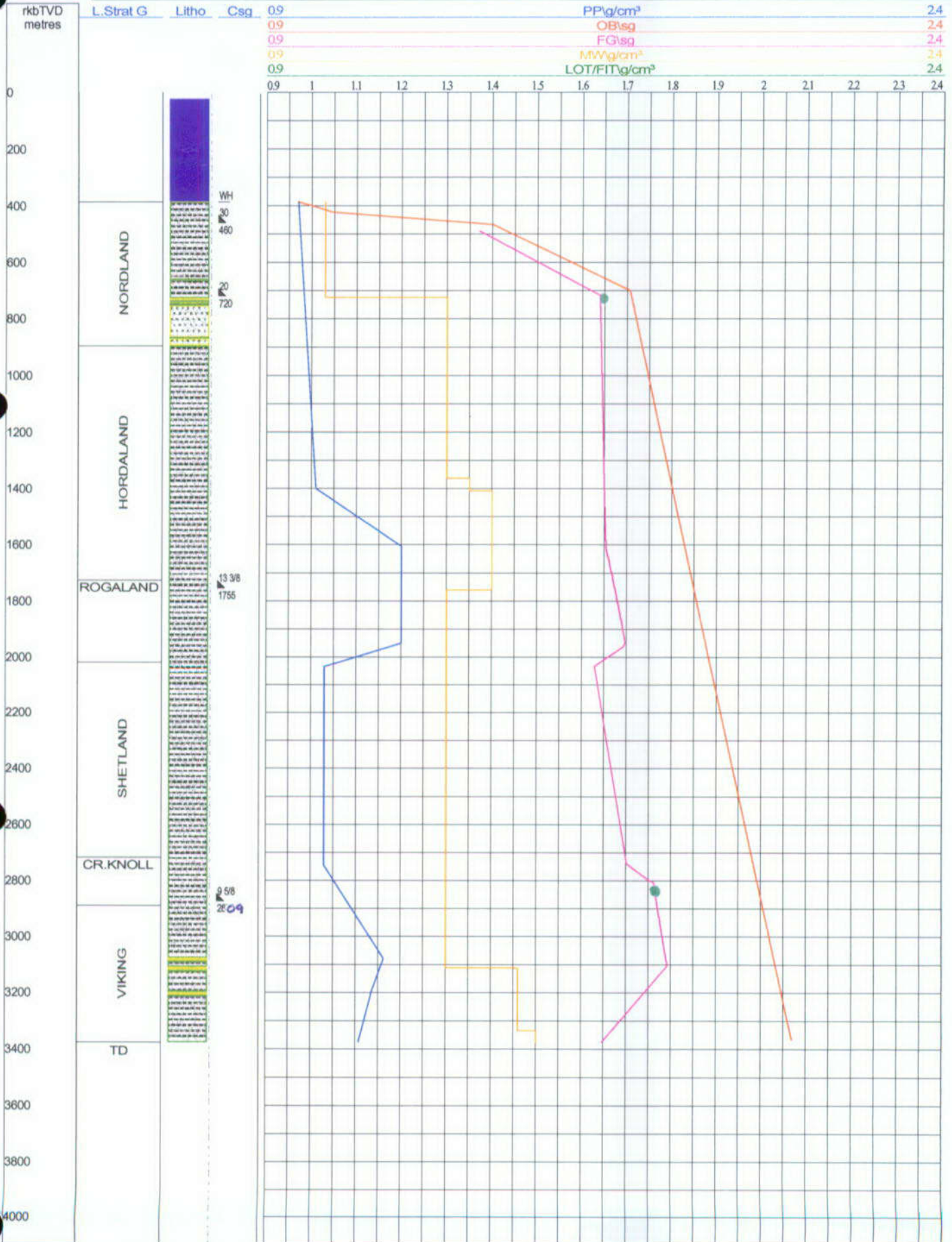
9.3 Overburden Gradient

Overburden gradient is based on results from nearby wells, density log and theoretical adjustments.

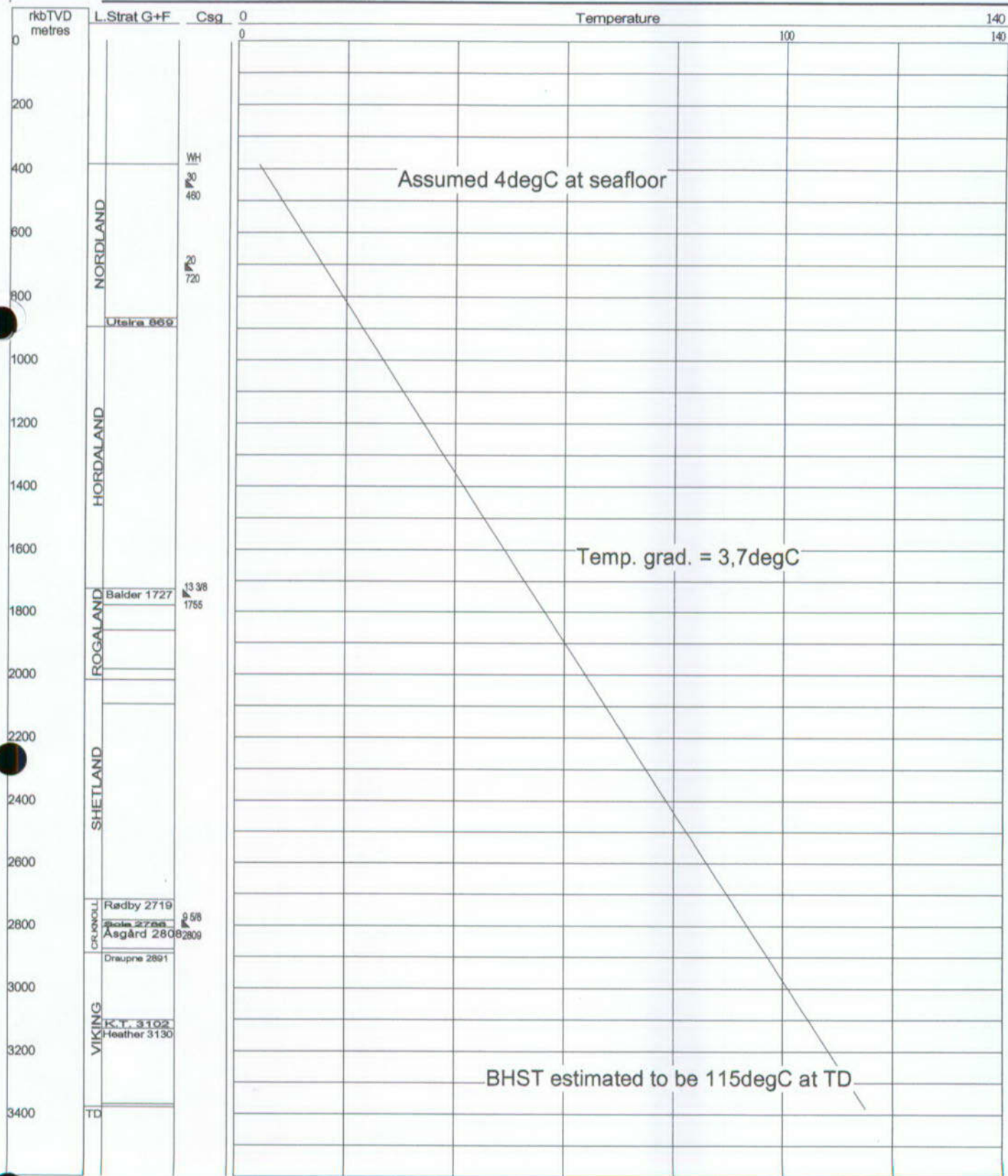
For details of Pore Pressure-, Fracture- and Overburden Gradients see Fig. 9.1.

9.4 Temperature Gradient

DST at 3211,5m and 3380m gives (using Horner plot) a BHST of 115° C. This gives an average formation temperature gradient of 3,7° / 100m, assuming a seafloor tmeperature of 4degC. The prognosed gradient was 3,8degC/100m. The small discrepancy is probably due to differences in drawing the "best fit" lines. The Formation Temperature Gradient is plotted in Fig. 9.2.



Final Pore pressure-, Fracture- and Overburden gradients



Final Formation Temperature gradient



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10 Geophysical Results

Table 10.1 shows the main formation tops that were prognosed in well 35/11-12, and a comparison is made with results after drilling.

The prognosis was based on the seismic interpretation of 3D inline 2764 (stnh98m, fullofset version) at the intersection with xline 1288. Two-way-time results are derived from the Zero Offset VSP Report. Thus, seismic calibration data are not available for levels shallower than the Base Cretaceous Unconformity.

The results from the well are mostly within the prognosed range, with the exception of the Top Balder level, with a 75 m discrepancy relative to the prognosis. This is due to a misconception in the well prognosis, as the acoustic level picked represented an intra Balder event with a strong seismic amplitude. However, in this area, the actual Top Balder chrono-stratigraphical level is within a non-reflective unit some 50 m higher.

The top reservoir level came in 13,5 m deeper than the prognosed base-case top turbidite sandstone level. This is merely a matter of polarity, and fits well with the acoustic signal. The actual top turbidite level is a positive impedance contrast rather than the anticipated negative response. Several alternative scenarios had been assessed for different acoustic models. Unfortunately, however, the most pessimistic scenario turned out to be correct, by which the turbidite sandstone unit is largely a high impedance unit embedded in lower impedance shales.



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Location: Well 35/11-12 Spud and TD location (m) UTMX: 520 554,2 mE UTM Y: 6777 347,4 mN						
Formation tops	TIME (msTWT)		DEPTH (mMSL)		ERROR (mMSL)	
	Progn.	Result	Progn.	Result	Progn.	Result
Seabed	485	No checkshot	364	364	+/- 0	0
Top Balder Fm	1817	No checkshot	1778	1703	+/- 20	-75
Top Intra Lista sst	1922	No checkshot	1874	1857	+/- 40	-17
Top Shetland Gp	2029	No checkshot	2010	1995	+/- 25	-15
Top Cromer Knoll	2530	No checkshot	2722	2695	+/- 25	-27
Base Cretaceous Unc.	2639	2635	2870	2867	+/- 25	-3
Top Oxford Turbidite	2813	2824	3114	3127,5	+/- 30	13,5
Base Oxford Turbidite	2886	2863	3217	3197	+/- 40	-20

Table 10.1: Geophysical Summary



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11 Post Site Survey Report

WELL DATA:

1 Distance from rig floor to sea level:	24 m
2 Water depth (MSL):	364 m
3a Setting depth for conductor (m RKB):	460 m
3b Leak Off / Formation Integrity Test (g/cc):	N/A
4a Setting depth (m RKB TVD) for casing on which BOP mounted:	720 m
4b Formation Integrity Test (g/cc):	N/A

5 Depth (m RKB (TVD) & Two Way Time) to formation/section/layer tops:

Reflector R1	:	406 m	(507 ms)
Reflector R2	:	433 m	(537 ms)
Reflector R4	:	490 m	(604 ms)
Reflector R5	:	504 m	(616 ms)
Base Pleistocene	:	523 m	(636 ms)
Pliocene 1	:	576.5 m	(690 ms)
Pliocene 2	:	693 m	(796 ms)
Top Pliocene Fan	:	768 m	(852 ms)
Reflector R8	:	869 m	(947 ms)
Reflector R9	:	896 m	(974 ms)
Near Top Eocene	:	1292 m	(1364 ms)

Note:

No chronostratigraphic information was collected in the tophole section of the well (from seabed down to 725 m RKB TVD). Consequently, the interpretation of the different formations in this area is based on the MWD logs, seismic character and previous work.

Mud logging commenced at 725 m RKB TVD. Samples for description were taken at 10 m intervals. All formation tops are based upon MWD logs and cuttings analysis.



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6 Depth interval (m RKB (TVD) & Two Way Time) and age of sand bodies shallower than 1000 m under the seabed. Note which layers if any contain gas:

No data exists on background gas levels from seabed down to 725 m (section drilled with returns to seabed). However, no gas related incidents were reported when drilling this interval.

The following sand layers have been identified in well 35/11-12:

Pleistocene Interval:

440 m - 442 m
502 m - 504 m
516 m - 518 m
520 m - 523 m

Pliocene Interval:

768 m - 866.5 m

Miocene Interval:

869 m - 880 m

7 By what means is the presence of gas proven:

The well is drilled with returns to seabed above 725 m RKB TVD. MWD logs indicate no gas present in this section. Below 725 m RKB TVD gas analyses were accomplished using flame ionisation detectors (FID) with gas measured as percentage methane (C1) equivalent in air, and chromatographic analyses expressed in parts per million.

8 Composition and origin of gas:

Section 725 m - 1350 m RKB TVD: Background gas levels averaged 0.1% to 0.2%, with the highest formation gas peak 0.69% at 1164 m.

9 Describe all measurements taken in gas bearing layers: N/A



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SEISMIC DATA:

10 Given depth and extent of any gas blanking ("gass-skygging"), seismic anomalies etc.:

Amplitude anomalies were mapped close to the template location near the Base Pleistocene, but no anomalies were located at the planned 35/11-12 location.

No shallow gas was expected at the Proposed Location. Despite of this, a 9 7/8" pilot hole was drilled to 725 m. Flow checks were performed. No indication of shallow gas was registered, which is in agreement with the prognosis.

The tophole section of the well was drilled with returns to seabed to 725 m RKB TVD. Background gas levels were consequently not monitored. However, no gas-related problems were experienced over this section.

Shallow water flow is known to have occurred in at least five wells in block 35/11; i.e. in wells 35/11-1, 35/11-2, 35/11-3S, 35/11-5 and 35/11-11. The problems were experienced in the Early Pliocene to Late Miocene interval where thick sands with good inferred permeability are found (i.e. Early Pliocene fan and Utsira deposits). The same units are present at the Proposed Location between 736 m MSL and 880 m MSL, and caution was therefore advised when drilling this interval, and a shallow water flow warning was issued for the Proposed Location.

No water-related problems were experienced in the well.

11 Note any indication of gas originating from deeper levels. Give description in cases where gas comes from deeper layers: N/A

12 How does the interpretation of the site survey correspond to the well data with respect to:

12a Shallow Gas and Water:

No Shallow gas was expected at the Proposed Location.

No gas related problems were experienced in the well.

Caution was advised when drilling the Early Pliocene to Late Miocene interval and a shallow water flow warning was issued for the Proposed Location.

No water related problems were experienced in the well.



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12b Sand Bodies:

The Pleistocene, Pliocene and Miocene sand layers were predicted. The encountered sand layers correspond with the interpretation.

12c Boulders:

Scattered boulders were predicted in the shallow section 433 m - 494 m RKB TVD. No boulders layers were predicted. No boulders were encountered in the well.

12d Unconformities (depths in metres RKB (TVD)):

<i>Horizon</i>		<i>Prognosed (P)</i>	<i>Observed (O)</i>	<i>Difference (O-P)</i>
Base Pleistocene	:	525 ± 10 m	523 m	- 2 m (shallower)
Base Pliocene	:	861 ± 15 m	869 m	+ 8 m (deeper)
Base Miocene	:	904 ± 15 m	896 m	- 8 m (shallower)

The differences between the prognosed and observed depths are within the uncertainty limits. The difference between the predicted and observed depth at Base Miocene is most likely due to incorrect seismic pick.

12e Correlation to Nearby Wells:

The drilling conditions experienced in well 35/11-12 are similar to the conditions encountered in tie-wells 35/11-1, 35/11-2, 35/11-3S, 35/11-5 and 35/11-11, except for lack of shallow-water flow.



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12 Standard and Special Studies

- Norsk Hydro, February 2000: Well Programme 35/11-12
- Britsurvey: Regional Site Survey, PL 248, Interpretation Report, Well 35/11-12, February 2000
- Fugro-Geoteam: Navigation and Positioning of Trans. Arctic to Well 35/11-12, May 2000
- Norsk Hydro: Beredskapsanalyse - oljevern, letebrønn 35/11-12, Fram, April 2000
- Read Well Services: Zero Offset VSP, Well 35/11-12, Final Contractor Report, August 2000
- Schlumberger/Geoservices: End of Well Report / Logs, May 2000
- Corpro: Conventional Core Analysis Well 35/11-12, July 2000
- Norsk Hydro: Standard Core Description Well 35/11-12, September 2000
- Corpro: Core Photographs Well 35/11-12, Core 1, White Light, Scale 1:4, July 2000
- Oilphase: PVT Report, MDT Sample, Well 35/11-12
- Geostat: Well 35/11-12, Biostratigraphy of the Interval 740m - 3378m (SWC), September 2000
- Norsk Hydro: Biostratigraphy Well 35/11-12, Norsk Hydro Standard Zonation, October 2000
- Applied Petroleum Technology: Vitrinite Reflectance Analyses - NOCS Well 35/11-12, September 2000
- Norsk Hydro: Petroleum Geochemical Study of Well 35/11-12, October 2000
- Norsk Hydro: Permanent Plug & Abandonment Programme, Well 35/11-12, May 2000



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APPENDIX I

CORE DESCRIPTIONS



CORE REPORT

WELL: 35/11-12

DATE: 06/05-2000

GEOL: A. HALVORSEN

O. GILSKED DE GARD

SCALE: 1:500

CORE NO: 1

FROM: 3120

TO: 3147

CORED: 3120 - 3146,04

REC: 96,5%

Depth m RKB	Grain Size dy sl v f m c vc	Lithological Description	Cut tr m g	Flu tr m g	Shows description
3120	" c # c #	<p>Clst: mgy-olr gng, dk gng, sbbley - bllgy, hd. calc, sl slty, abd carb Frng, micropyr, Tr micro- mul, carb.</p> <p>Sst: lt gng - mlt gng, clu-translatz, hd-urhd, sbang - ang, v f, occ m, dol cmt ben calc cmt, org, Mic, carb, lam of Clst in upper part.</p> <p>Clst: Olr blk, loc dsky yel brn, hd, Loc o-hd, sbbley - sbbley, loc grd fis, non calc, sl slty, abd micromic, micropyr, carb, loc Tr macrofles (ammonite), loc ur-slc</p>			3121-3122: no pet od, no stain, wk - pl yel dir fluor, no vis cut, ur sl wk blomy bl wh Cut fluor, no vis crush cut, no fluor Crush cut, ur wk bl wh res fluor, no vis res.
3125	" m " m " m " m				
3130	" m " m				
3135	" m " m				
3140	" m " m				
3145	" m " m				

Clst: Tr micropyr, else a. a.



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APPENDIX II

SIDEWALL CORE DESCRIPTIONS

NORSK HYDRO	SIDEWALL CORE DESCRIPTION	WELL: 35/11-12
		RIG : Transocean Artic

Run: 1A	Date: 10.05.00	Logging: Schlumberger	Page : 1 of 2
Shot: 30	Misfired: 15	Lost: 1	Empty : 1
		Recoverd : 13	Geologist : O. Giskeødegård/Å.Halvorsen

No.	Depth m RKB	Recoverd cm	Lithology and shows description	Fluorescence						
				Direct			Cut			
				Tr	M	G	Tr	M	G	
1	3378	4	<u>Clst:</u> m dk gry- dk gry, brn blk, sft, ea, non-v sli calc, Tr Carb, r slty, Tr micropyr, (sample badly crushed)							
2	3376		EMPTY							
3	3375	2.5	<u>Clst:</u> brn blk-olv blk, blk, mod hd-frm, non calc, Tr micropyr, r slty, Tr Carb							
5	3222	2	<u>Clst:</u> brn blk-olv blk-dk gry, sbblky-subfis, mod hd-frm, v calc, Tr Pyr nod, micropyr, sli slty, Tr micromic.							
9	3201.5	2	<u>Clst:</u> olv blk-dk gry, blk-subfis, mod hd, non calc, slty- v slty grad <u>Sltst</u> , Tr Micromic, Tr micropyr, Tr vf sdy I.P.							
17	3119.1	2.5	<u>Sst:</u> lt gry-m gry, clr-trnsl Qtz, VF-f, mod-w srt, frm-fri, sli sil cmt, Tr arg mtrx, tr Mic, Tr Carb, Loc arg/Pyr lam, no-pr vis por. <u>SHOWS:</u> no o stn, wk pet od, lam dull-bri yel dir flu, v slo bl wh wk flu cut, no vis cut, bl wh flu resd, no vis resd.		x		x			
18	3112.9	1.5	<u>Clst:</u> brn blk-olv blk, olv gry lam, blk-subfis, mod hd, non calc, vf sdy lam, loc slty, Tr micromic, No Shows							
20	3105.6	1	<u>Clst:</u> brn blk-olv blk, blk-subfis, mod hd, non calc, sli slty, Tr vf sdy. (crushed sample)							
21	3102.6	2.5	<u>Clst:</u> brn blk-blk, blk-subfis, mod hd, non calc, Tr micromic, slty, Tr Carb							

Tr:Trace M:Medium G:Good

Comments:



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APPENDIX III

WELL SUMMARY

GEOLOGICAL WELL SUMMARY

MDT RESULTS



WELL SUMMARY

Coord: 61°07' 43.45"N UTM: 6 777347.4 mN 03°22' 53.60"E 520 554.2 mE Zone: ED-50 UTM Zone 31 CM 3° E Line: STNH98, inline 2764, xline 1288 Rig: Transocean Arctic Waterdepth: 364 m MSL KB: 24 m Stopped in: Heather Formation		On location: 18.04.00 Spudded: 19.04.00 At TD: 08.05.00 Completed: 14.05.00 TD Driller: 3378 m TD Logger: 3380 m Wireline Logging: Schlumberger/Read (VSP) MWD: Schlumberger Anadrill Mudlogging: Geoservices		WELL: <div style="text-align: center; font-weight: bold;">35/11-12</div> COUNTRY: <div style="text-align: center; font-weight: bold;">Norway</div>
OPERATOR: NORSK HYDRO LICENCE PL 248		OWNED BY: HYDRO / STATOIL / EXXONMOBIL / SDØE		
TARGETS: Primary: Oxfordian Turbidites Secondary: Callovian Turbidites		Results: Plugged and abandoned as a dry well.		
CASING	CORES			
30" at 460 mRKB 20" at 720 mRKB 13 3/8" at 1755 mRKB 9 5/8" at 2809 mRKB	Core # 1 C:3120-3147m R:3120-3146,04m 96.4%			
GAS RECORD				
388 - 730m: returns to seabed 730 - 851m: 0 - 0.12% C1 851 - 1760m: 0.02-0.80%, C1, trC2 1760 - 2212m: 0.03 -0.20%, C1 2212 - 2740m: 0.05-0.17%, C1, trC2 2740 - 2822m: 0.10-0.21%, C1-C3 2822 - 3100m: 0.02-0.56%, C1-nC4 3100 - 3295m: 0.15-1.80%, C1-nC4 3295 - 3319m: 0.32-1.04%, C1-nC4				
LOGS		OIL SHOWS		
DSI/GR	1A 3380 - 2600m	3119,1m On Sandstone (sidewall core): no o stn, wk pet od, lam dull-bri yel dir flu, v slo bl wh wk flu cut, no vis cut, bl wh flu res, no vis res. 3121 - 3122m On sandstone (core): no o stn, no pet od, wk - pl yel dir flu, no vis cut, v sl wk blmng bl wh cut flu, no vis cut, no vis crush cut, no flu crush cut, v wk bl wh res fluor, no vis res		
MDT/GR/AMS	1A 3124 - 3211,5m			
VSP/GR	1A 3360 - 2570m			
CST/GR	1A 3378 - 2891.6m			



GEOLOGICAL WELL SUMMARY

DEPTH m MD RKB	LITHO SECTION	SYSTEM	SERIES/STAGE	GROUP	FORMATION	DESCRIPTION	SHOWS	Located on: STNH98, Inline 2764, X-line 1288 61° 07' 43.45" N 03° 22' 53.60" E Water depth: 364 mMSL, RKB=24m	WELL 35/11-12
50						Depths in mRKB			
100							M		Clst: lt brn gy - olvgy
150							H	Oligocene	
200							*		Tr sd
250							H		
300							M		
350							"		
400						Seabed 388m RKB		Hordaland	
450						 460 m	H		Clst:grybl grn - grn gy
500						Returns to seabed	"		
550							*		
600							M		
650							*	Tertiary Eocene	Clst: mod brn, frm
700							"		
750						 720 m	V V V V V V		1727 Clst: varicol, non- v calc tr slt ^{13 3/8"}
800						Sd: clr-mlky Qtz, f - vcrs, pr srtd, lse	"		1781 TrSd: clr Qtz vf-f, lse 1803 Tr Tuff ^{1755 m}
850							*		Clst:ltgy, mdk gy, loc slty
900						869 Sd: a/a, loc tr carb frags 896	"		Tr Sd:pred m, lse Qtz
950							"		
1000							H	Paleocene Rogaland	1986 Clst: olv gy-mdk gy, v calc 2019
1050							"		

FORMATION PRESSURE WORKSHEET

Well : 35/11-12 Rig : Transocean Artic Date : 09.05.00 Conveyance

Pressure Units : Bars RKB-MSL : 24 m. MSL-SBed: 364 m. Witnessed O.G/A.H.

Samples: Sample depths:

Test No.	Depth mMD RKB	Depth mTVD RKB	Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time		Formation Pressure sg EMD	Fluid Gradient g/cc	Mud Gradient g/cc	Test Temp degC	Good Data? Y/N	Quartz Mobility md/cp	Remarks	SLB Charge
			Quartz	Strain	Quartz	Strain	Quartz	Strain	Set	Retract								
1	3 124.0		457.99	457.92			457.98	457.95	0.01	16:32	16:42	98.600	98.6				Tight	
2	3 125.5		458.20	458.31			458.33	458.27	-0.13	16:47	16:57		99.8				Tight	
3	3 201.3		469.19	469.21			469.17	469.24	0.02	17:15	17:25		102.4				Tight	
4	3 209.8		470.46	470.49			470.38	470.29	0.08	17:30	17:45		103.4				Tight	
5	3 211.5		470.67	470.75	359.302	359.38	470.48	470.63	0.07	17:51	17:59	1.140	104.3	Yes	6.3	No final HP. Checked mob.		
6	3 211.0		470.55	470.70	359.225	359.34	470.48	470.63	0.07	18:05	20:12	1.140	104.9	Yes	15.2	2V10min		
7									#VALUE!									
8									#VALUE!									
9									#VALUE!									
10									#VALUE!									
11									#VALUE!									
12									#VALUE!									
13									#VALUE!									
14									#VALUE!									
15									#VALUE!									
16									#VALUE!									
17									#VALUE!									
18									#VALUE!									
19									#VALUE!									
20									#VALUE!									

SECTION B
OPERATIONS

Prepared by : Mads Rødsjø

Mads Rødsjø

Approved by : Synnøve Røysland

Monica Gausdal

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1 DRILLING SUMMARY AND EXPERIENCES

1.1 Mobilising

Operational time : 24 hrs (100 %)
Downtime : 0 hrs (0 %)
Total time used : 24 hrs

Wellhead co-ordinates :

6 777 347,4 m North 61°07 '43,44" North
520 554,2 m East 03°22 '53,60" East

Rig heading was 220 °.

The rig move towards well 35/11-12 started on 18.04.2000 at 11:00 hrs and anchor handling was finished on 19.04.2000 at 11:00 hrs.

1.2 9 7/8" / 36" Hole Section / 30" Conductor

Total depth of section : 460 mMD

Operational time : 50 hrs (100 %)
Downtime : 0 hrs (0 %)
Total time used : 50 hrs

1.2.1 Drilling

Bit summary:

Bit #	Bit type	Trade name	Depth out [mMD]	Bit meter [m]	ROP [m/hr]
1	MITO	ATXCMG1	725	337	44.9
2	INSRT	MAXGTPT03	460	72	12.4

The well was spudded at 11:00 on 19.04.2000.

A 9 7/8" pilot hole was drilled to 725 mMD using a milled tooth bit. No shallow gas was observed. Displaced hole to 1,2 sg mud before pulling out.

The hole was opened to 36" down to 460 mMD using a 17 1/2" insert bit with a one stage hole opener included in the BHA. Displaced the hole to 1,5 sg mud prior to POOH and running 30" casing.

1.2.2 Casing

Ran 30" conductor down to 460 mMD and cemented back to seafloor according to program.

A grouting job was performed 15 m below wellhead. An amount of 10 m³, 1,95 sg slurry was pumped to each side of wellhead, which gives a total amount of 20 m³ slurry pumped.

1.3 26" Hole Section / 20" Casing

Total depth of section : 725 mMD

Operational time : 57,5 hrs (82,7 %)
Downtime : 12 hrs (17,7 %)
Total time used : 69,5 hrs

1.3.1 Drilling

Bit summary:

Bit #	Bit type	Trade name	Depth out [mMD]	Bit meter [m]	ROP [m/hr]
1	MITO	GTXCMG1	725	265	27

Drilled 26" hole down to 725 mMD. Afterwards the hole was swept using 30 m³ hi-vis pill and the hole displaced to 1,3 sg mud. A milled tooth bit was used throughout this section.

1.3.2 Casing

Ran 20" casing to 720 mMD, and cemented back to the seafloor. Bumped plug.

Pressure tested 20" casing to 70 bar.

Prior to running BOP the grouting job was tested. The bore protector was observed out of place while running BOP. Bore protector was pushed in place.

1.4 17 1/2" Hole Section / 13 3/8" Casing

Total depth of section : 1760 mMD.

Operational time : 103 hrs (70,6 %)
Downtime : 43 hrs (29,4 %)
Total time used : 146 hrs

1.4.1 Drilling

Bit summary:

Bit #	Bit type	Trade name	Depth out [mMD]	Bit meter [m]	ROP [m/hr]
1	MITO	MX3	1 760	1 035	37.4

Drilled shoe and shoetrack to 720 m, displaced to 1,30 sg KCl mud and drilled new hole to 729 mMD. A LOT was performed to 1,64 sg EMW.

Drilled 17 1/2" hole from 729 mMD to 1760 mMD. The mudweight was increased in two steps. First from 1,3 sg to 1,35 sg at 1363 mMD and from 1,35 to 1,4 sg at 1409 mMD.

Lost return at 1760 mMD. Mixed and pumped 18,6 m³ LCM pill, got return. Washed and reamed hole. Started to loose again at 1755 mMD. Pumped 20 m³ hi-vis bentonite slug and observed reduction of loss. Experienced some tight spots during POOH and backreaming, overpulls in range of 10 - 30 MT. Lost circulation again at 1353 mMD and a new 18 m³ LCM pill had to be circulated. Got full return when LCM pill hit loss-zone. Circulation was reestablished at 370 lpm. Circulation rate was gradually increased to 2045 lpm.

Packed mud around the BHA had to be desolved, and 10 m³ glycol pill was displaced around BHA. Waited 15 min while the pill worked on the packed BHA.

Experienced some mud losses while circulating and POOH.

Lost return at 1295 m. POOH to 1177 m and had a max overpull of 30 MT. Re-established circulation at 1177 m with 1000 lpm. Circulated hole clean and continued to POOH.

While POOH, tight spots were observed. At 1107 m the drillstring was unable to pass and circulation had to be increased to 2000 lpm in order to continue POOH and simultaneous circulating. Lost 9,5 m³ mud.

Unable to pass at 820 m and lost return. Managed to work the drillstring up to the 20" casingshoe and reestablished return there. Circulated bottoms up until shakers were clean.

Washed and backreamed from 445 m to 363 m to clean the wellhead-/ BOP-area

1.4.2 Casing

Two runs had to be run to retrieve the seatprotector. Had some problem passing at 372 m on the second run. Had to wash and work string while POOH. Wellhead and BOP area was cleaned using a jet tool.

Ran 13 3/8" casing down to 1755 mMD and cemented. Plug bumped and casing was pressure-tested to 145 bar for 15 min.

Lost a total of 17 m³ of mud during cementing.

1.6 12 1/4" Hole Section / 9 5/8" Casing

Total depth of section : 2822 mMD.

Operational time : 101,5 hrs (99,0 %)
Downtime : 1 hrs (1,0 %)
Total time used : 102,5 hrs

1.6.1 Drilling

Bit summary:

Bit #	Bit type	Trade name	Depth out [mMD]	Bit meter [m]	ROP [m/hr]
1	PDC	BD536	2 822	1 104	28

A LOT was performed to 1.369 sg EMW with 1,30 sg MW. Had some trouble with the displacement tank, which was not able to give full suction. Tank was circulated.

Drilled a 12 1/4" hole down to 2822 mMD. During this period orientation was performed . Circulated bottoms up at TD.

Some tight spots were observed at 2698, 2670 and 2610 mMD,while POOH, max overpull was 20 MT.

1.6.2 Casing

Prior to the running of the 9 5/8" casing, the wellhead area was cleaned and wearbushing was retrieved using a multi purpose tool.

Ran 9 5/8" casing and landed same at 2809 mMD.

Circulated prior to cementing, started to loose return after 10 m³ pumped. Circulation rate was lowered from 1600 lpm to 1000 lpm due to the losses. Lost 11 m³ mud during circulating.

Cemented casing with 13 m³ 1,9 sg slurry. Displacement rate was increased to 1865 lpm. Started to loose mud and the displacement rate was lowered to 1600 lpm, but still a small amount of mud was lost. The plug bumped and well was checked for backflow.

The 9 5/8" casing was pressure tested to 367 bar before drilling out the 9 5/8" shoetrack.

1.7 8 1/2" hole section.

Total depth of section : 3378 mMD.

Operational time :	124,5 hrs (90,2 %)
Downtime :	13,5 hrs (9,8 %)
Total time used :	138,0 hrs

1.7.1 Drilling

Bit summary:

Bit #	Bit type	Trade name	Depth out [mMD]	Bit meter [m]	ROP [m/hr]
1	PDC	BD445MA	3 120	298	27.3
2	CORE	FC284RILI	3 147	27	11.3
1 RR	PDC	BD445MA	3 378	231	8

Drilled 9 5/8" shoe track and 3 m new formation down to 2825 mMD and circulated clean. Performed a LOT to 1,75 sg EMW with 1,30 sg KCl mud.

Displaced hole to 1,46 sg sulphatefree KCl mud. Drilled 8 1/2" hole down to 3120 mMD, POOH and prepared to core.

Cored the interval from 3120 - 3147 mMD and POOH due to full core.

Drilled 8 1/2" hole from 3147 mMD to TD at 3378 mMD. Started to increase the mudweight to 1,5 sg while drilling at 3334 mMD due to increasing pore pressure. (Observed connection gas from 3232 mMD.) Stopped weighing up due to mud losses. Reduced circulating rate from 2800 lpm to 2500 lpm. Regained full returns. Lost a total of 3,6 m³ mud.

At 3378 mMD a 40 bar backpressure and 0,4 m³ pitgain was observed after shutting down mud pumps. UA was closed and pressure buildup was recorded. SICP stabilised at 12 bar and SIDPP increased from 4 to 8 bar in 8 minutes. Choke- and standpipe- pressure were bled off in order to check for any trapped pressure. SICP stabilised at 9 bar and SIDPP stabilised at 7 bar. Gained a total of 2,3 m³ mud. Well was circulated bottoms up through chokeline, gradually increasing circulation rate to 665 lpm. Only small amounts of gas was detected.

A check trip was performed to 3230 mMD and back to TD. Then performed a flow check, well was unstable. UA was closed and SIDPP and SICP was recorded to 2 bar and 5 bar. UAP was opened and well was flow checked. Again only small amounts of gas was detected. It was concluded that the pressure increase was caused by supercharging of the formation.

Circulated bottoms up at 1800 lpm, which was reduced to 1500 lpm due to slight losses. Flow checked for 30 min. and found that the well was stable.

While POOH a tight spot was experienced at 3170 m. The tight spot was reamed. Max overpull was 30 MT. Continued POOH.

1.7.2 Coring

A total of one core was taken :

Run #	Cored interval [mMD]	Rop [m/hr]	Recovery [%]	Reason pulled
1	3120 - 3147	27	96.5	Full core

1.7.3 Logging

The following logs were run in well 35/11-12 :

Run #	Log type	Problems	Comment
1	DSI AMS GR	YES	No signal received from PS 1. Problem found in WTIM card. Replaced with CTSM module.
2	MDT GR AMS	NO	Pressure point at 3211 mMD : 1,14 sg
3	VSP	NO	Seismic shot in the interval: 2570 - 3360 mMD
4	SWC-GR	YES	13 recovered, 15 misfired, 1 lost , 1 empty

1.8 Permanent Plug and Abandonment / Demobilisation

Operational time : 101,5 hrs (95,8 %)
Downtime : 4,5 hrs (4,2 %)
Total time used : 106 hrs

P&A started at 13:00 hrs on 10/05-2000. A cement plug was set 2709 mMD - 2909 mMD using 9,2 m³ 1,9 sg slurry. The cementplug was tagged at 2764 mMD and pressure tested to 140 bar. Displaced hole to 1,3 sg mud at 750 mMD.

A 9 5/8" bridgeplug was set at 750 mMD on wireline, and tested to 310 bar.

RIH with 9 5/8" casing cutting assembly. Wasn't able to retrieve 9 5/8" casing with 70 MT overpull. POOH and functiontested cutting assembly, all was ok. RIH and cut 9 5/8" casing at 698,5 mMD and pulled casing free.

RIH and set a 13 3/8" bridgeplug at 650 mMD on wireline and tested same to 90 bar.

Cut 13 3/8" casing at 599 mMD and pulled casing free. A cement plug was set from 650 mMD to 450 mMD.

Displaced well to seawater and prepared to pull BOP. BOP was pulled and landed on skid at 19:40 hrs on 13/05-2000.

Installed guideframe and cut 20"x 30" wellhead, pulled same free with 250 MT overpull on the fourth attempt. The three previous attempts had overpulls in range 230 MT - 280 MT.

Last anchor was on bolster 14/05-2000 at 23:00 hrs.

GENERAL INFORMATION ON WELL 35/11-12

Field : FRAM Country : NORWAY
 Licence : 248
 UTM zone : 31 Central Median : 3' E Horiz. Datum: ED50

Location coordinates:		Surface	Target
UTM	North [m]:	6777347,4	
UTM	East [m]:	520554,2	
Geographical	North :	61 07'43.44"	
Geographical	East :	03 22'53.60"	

Water Depth: 364,0 m Reference Point Height: 24,0 m
 Formation at TD: DRAUPNE at 2891 m MD

Operators: NORSK HYDRO PRODUKSJON A/S Share: 20,00 %

Partners: SDØE Share: 40,00 %
 MOBIL EXPLORATION NORWAY INC. 20,00 %
 DEN NORSKE STATS OLJESELSKAP A/S 20,00 %

Total depth (RKB) : 3378,0 m MD 3377,0 m TVD

TIME SUMMARY
 Start Time : 2000-04-19 10:45:00
 Spudding date : 2000-04-18
 Abandonment date :

Main operation	Hours	Days	%
MOBILIZATION	37,5	1,6	6,1
DRILLING	370,0	15,4	60,1
FORMATION EVALUATION MWD	2,0	0,1	0,3
FORMATION EVALUATION LOGGING	29,5	1,2	4,8
FORMATION EVALUATION CORING	15,5	0,6	2,5
PLUG AND ABANDONMENT	88,0	3,7	14,3
DOWNTIME DRILLING	68,0	2,8	11,0
DOWNTIME FORM. EVAL. LOGGING	1,0	0,0	0,2
DOWNTIME PLUG AND ABANDONMENT	4,5	0,2	0,7
Sum:	616,0	25,7	

Hole and casing record

Hole	Track	Depth [m M]	Casing/Tubing	Track	Depth [m MC]
36"		4t	30"		460,1
26"		7t	20"		720,1
17 1/2"		17t	13 3/8"		1754,1
12 1/4"		28t	9 5/8"		2809,1
8 1/2"		33t			

Well status:

Rig name: TRANSOCEAN ARCTIC

BOTTOM HOLE ASSEMBLIES USED ON WELL 35/11-12 PO: 1

Unofficial Data

BHA no. 1:		No. / Element / OD(in) / Length(m)		Depth In: 388 m MD Out: 725 m MD	
1	ATXCMG1	9,875	0,27	2	BIT SUB 8
3	CDR	8,25	6,81	4	MWD
5	STEEL STAB	9,875	1,79	6	DRILL COLLAR STEEL
7	JAR	7,625	9,57	8	DRILL COLLAR STEEL
9	X-OVER	7,625	0,56	10	HWDP

Reason pulled: Sum: :

BHA no. 2:		No. / Element / OD(in) / Length(m)		Depth In: 388 m MD Out: 460 m MD	
1	MAXGTPT03	17,5	0,39	2	OTHER
3	FLOAT SUB	8,938	0,87	4	SAVER SUB 9
5	MWD	9,25	7,33	6	SAVER SUB
7	STEEL STAB	9,75	2,36	8	NON MAG. COLLAR 9
9	X-OVER	9,25	0,90	10	DRILL COLLAR STEEL 7
11	JAR	7,625	9,57	12	DRILL COLLAR STEEL
13	X-OVER	8,0	0,72	14	HWDP

Reason pulled: Sum: :

BHA no. 3:		No. / Element / OD(in) / Length(m)		Depth In: 460 m MD Out: 725 m MD	
1	GTXCMG1	26,0	0,57	2	NEAR BIT STAB 25
3	FLOAT SUB	9,5	0,69	4	DRILL COLLAR STEEL
5	NON MAG. STAB	26,0	2,06	6	MWD
7	NON MAG. STAB	26,0	2,36	8	NON MAG. COLLAR 9
9	X-OVER	9,25	0,90	10	DRILL COLLAR STEEL
11	JAR	7,625	9,57	12	DRILL COLLAR STEEL
13	X-OVER	8,0	0,72	14	HWDP

Reason pulled: Sum: :

BHA no. 4:		No. / Element / OD(in) / Length(m)		Depth In: 725 m MD Out: 1760 m MD	
1	MX3	17,5	0,40	2	NEAR BIT STAB 17
3	NON MAG. COLLAR	9,5	4,40	4	NON MAG. STAB 17
5	NON MAG. X-OVER	9,313	0,46	6	CDR 8
7	MWD	8,375	8,42	8	X-OVER
9	NON MAG. STAB	17,25	2,45	10	NON MAG. COLLAR 9
11	X-OVER	9,25	0,90	12	DRILL COLLAR STEEL 7
13	JAR	7,625	9,57	14	DRILL COLLAR STEEL 7
15	X-OVER	8,0	0,56	16	HWDP

Reason pulled: TOTAL DEPTH/CASING DEPT Sum: :

BHA no. 5:		No. / Element / OD(in) / Length(m)		Depth In: 1718 m MD Out: 2822 m MD	
1	BD536	12,25	0,38	2	DOWNHOLE MOTOR 9
3	FLOAT SUB	9,5	0,79	4	NON MAG. STAB 1
5	CDR	8,375	6,81	6	POWER DRIVE
7	STEEL STAB	12,25	1,53	8	MWD 8
9	NON MAG. COLLAR	8,0	8,84	10	DRILL COLLAR STEEL 7
11	JAR	7,625	9,57	12	DRILL COLLAR STEEL 7
13	X-OVER	8,0	72,00	14	HWDP

Reason pulled: TOTAL DEPTH/CASING DEPT Sum: :

BOTTOM HOLE ASSEMBLIES USED ON WELL 35/11-12 PO: 1

Unofficial Data

BHA no. 6:		No. / Element / OD(in) / Length(m)		Depth In: 2822 m MD Out: 3120 m MD	
1	BD445MA	8,5	0,34	2	DOWN HOLE MOTOR WITH ST/
3	FLOAT SUB	6,5	0,83	4	X-OVER
5	NON MAG. STAB	8,375	1,70	6	LOGGING WHILE DRILLING TOI
7	NON MAG. COLLAR	6,75	9,09	8	DRILL COLLAR STEEL
9	JAR	6,5	9,22	10	DRILL COLLAR STEEL
11	HWDP	5,0	136,55		

Reason pulled: CORE POINT Sum: :

BHA no. 7:		No. / Element / OD(in) / Length(m)		Depth In: 3120 m MD Out: 3147 m MD	
1	FC284RILI	8,5	0,36	2	CORE BARREL
3	X-OVER	6,5	0,80	4	FLOAT SUB
5	NON MAG. COLLAR	6,75	9,09	6	DRILL COLLAR STEEL
7	JAR	6,5	9,22	8	DRILL COLLAR STEEL
9	HWDP	5,0	82,26		

Reason pulled: NEW CORE/FULL BARREL Sum: :

BHA no. 8:		No. / Element / OD(in) / Length(m)		Depth in: 3147 m MD Out: 3378 m MD	
1	BD445MA	8,5	0,34	2	DOWN HOLE MOTOR WITH ST/
3	FLOAT SUB	6,5	0,83	4	X-OVER
5	NON MAG. STAB	8,375	1,70	6	LOGGING WHILE DRILLING TOI
7	NON MAG. COLLAR	6,75	9,09	8	DRILL COLLAR STEEL
9	JAR	6,5	9,22	10	DRILL COLLAR STEEL
11	HWDP	5,0	136,55		

Reason pulled: TOTAL DEPTH/CASING DEPT Sum: :

BIT RECORD FOR WELL 35/11-12 PO: 1

Unofficial Data

No	Bit		Manu- fact- urer	Size (in)	Serial no.	IADC code	Nozzles diameter (-/32in)	Flow area (in ²)	BHA no.	Depth out (m MD)	Bit meter (m)	Rot. hours (hrs)	ROP (m/hr)	Rotation min/max (rpm)	Total bit revol.	Weight min/max (kN)	Flow min/max (l/min)	Pump min/max (bar)	Cutting Structure I - O - DC - L - B	Gauge 1/16 (in)	Other Remarks	Pull Cause	
	RR	Type																					Trade name
1		MITO	9.88 HTC	ATXCMG1	W68X4	117	14,15,15,15	0.668	1	725	337	7.50	44.9		49000								
2		SR	17.50 HTC	MAXGTP03	740355	415	18,20,20,22	1.233	2	460	72	5.80	12.4		38000								
3		MITO	26.00 HTC	GTXCMG1	D63DF	115M	14,18,18,18	0.896	3	725	265	9.80	27.0		77000								
4		MITO	17.50 HTC	MX3	J10DR	117	12,12,12,14,14,16	0.828	4	1760	1035	27.70	37.4	64/125	373000	14/25	3488/3884	222/252	1-2-CT-A-E	1			NO TD
5		PDC	12.25 HTC	BD536	0324082	M323	13,13,13,14,14,14	0.840	5	2822	1104	39.40	28.0	113/186	519000	2/7	3787/3912	212/252	1-1-CT-G-X	1			NO TD
6		PDC	8.50 HTC	BD445MA	1212919	M333	12,12,12	0.331	6	3120	298	10.90	27.3	263/280	373000	20/60	2649/2769	288/309	1-1-CT-G-X	1			NO CP
7		CORE	8.50 SDBS	FC234RILI	7990559	M231		0.000	7	3147	27	2.40	11.3	109/114	23000	60/100	988/1547	58/139	1-1-PN-N-X	1			NO NC
8	1	PDC	8.50 HTC	BD445MA	1212919	M333	12,12,12	0.331	8	3378	231	29.00	8.0	224/328		10/150	2198/2905	193/307	3-4-WT-N-X	1			PN TD

CEMENT SLURRY REPORT ON WELL 35/11-12

Unofficial Data

Date	CsgSize	Jobtype	Slurry Type	Pumped Volume [m3]	Density [sg]	BHCT [DegC]	Yield [l/100 kg]	Additive	Unit	Additives [./100 kg Cement]	Additives [./m3 Slurry]	
2000-04-20	30"	CASING CEMENTING	DISPLACEMENT		1,03	7,00						
			TAIL SLURRY	21,80	1,95	7,00	75,27	A-7L		5,33		
			LEAD	23,80	1,56	7,00	129,63	FP-14L FP14L A-3L	 	0,20 0,20 3,55		
			SPACER DISPLACEMENT		1,03	7,00		A-7L		5,33	5,33	
2000-04-21	30"	GROUT	DISPLACEMENT		1,03	7,00						
			TAIL SLURRY	20,00	1,95	7,00	75,27	FP-14L FP14L A-7L	 	0,20 0,20 5,33	0,20	
			DISPLACEMENT		1,30	7,00						
			DISPLACEMENT LEAD	84,00	1,44	15,00	168,86	XXXX XXXX FP14L A-3L A-7	xx xx kg	0,50 0,50 0,20 5,33 3,55	0,20	
2000-04-22	20"	CASING CEMENTING	DISPLACEMENT		1,03	15,00						
			DISPLACEMENT LEAD	35,00	1,90	37,00	76,71	FP-14L FP-14L R-12L	 	0,20 0,20 0,50		
			DISPLACEMENT SPACER		1,00	37,00						
			DISPLACEMENT TAIL SLURRY	13,00	1,90	71,00	78,62	R-12L FP-14L MICRO	 	8,30 2,50 50,90		
2000-04-29	13 3/8"	CASING CEMENTING	DISPLACEMENT		1,30	71,00						
			DISPLACEMENT SPACER		1,00	71,00						
			DISPLACEMENT TAIL SLURRY	13,00	1,65	71,00	124,70	FL45LN FP14L MICRO R-12L CD-31L	 	10,00 0,20 28,00 3,00 0,50		
			DISPLACEMENT LEAD	13,00	1,65	71,00	124,70					

CEMENT SLURRY REPORT ON WELL 35/11-12

Unofficial Data

Date	CsgSize	Jobtype	Slurry Type	Pumped Volume [m3]	Density [sg]	BHCT [DegC]	Yield [l/100 kg]	Additive	Unit	Additives [./100 kg Cement]	Additives [./m3 Slurry]
2000-05-10	8 5/8"	PLUG IN CASED TO OPEN HOLE	TAIL SLURRY	9,20	1,90	84,00	106,87	CD-31L	l	0,80	
								D-19LG	l	6,00	
								D-8	kg	35,00	
								FP-14L	l	0,20	
								MICRO	l	12,00	
								R-12L	l	1,05	
			DISPLACEMENT		1,50	84,00					
			DISPLACEMENT		1,50	84,00					
			DISPLACEMENT		1,30	16,00					
2000-05-13	20"	PLUG IN CASED HOLE	TAIL SLURRY	12,00	1,95	16,00	74,74	A-7L	l	3,55	
			LEAD	25,50	1,95	16,00	97,49	FP14L	l	0,20	
			DISPLACEMENT		1,03	16,00		A-7L	l	2,00	
								FP-14L	l	0,20	

HOLE DEVIATION

Well: 35/11-12 Reference point: RKB ; 24,0 m ABOVE MSL
 Waterdepth: 364,0 m Vertical to: 387,9 m Total Depth: 3378,0 m MD
 Utm zone: 31 Central Median: 3' E Horizontal datum: ED50
 Template Centre Coordinates, UTM: North : m, East : m
 Wellhead Coordinates, UTM: North : 6777347,39 m, East : 520554,20 m
 Official Surveys: N Track :
 Coordinates are measured from the wellhead centre.

Depth MD [m]	Incli- nation [Deg]	Direc- tion [Deg]	Tool Type	#	Depth TVD [m]	Coordinates		Vert. Sect [m]	Dogleg [D/30m]	Build [D/30m]	Turn [D/30m]
						North [m]	East [m]				
388,0	0,00	0,00	MWD		388,0	0,00	0,00	0,0	0,00	0,00	0,00
391,3	0,87	45,26	MWD		391,3	0,02	0,02	0,0	7,91	7,91	411,45
400,9	0,95	109,02	MWD		400,9	0,04	0,15	0,2	3,00	0,25	198,63
410,9	0,51	107,22	MWD		410,8	0,00	0,27	0,3	1,33	-1,33	-5,44
430,3	0,73	92,61	MWD		430,3	-0,03	0,47	0,5	0,42	0,34	-22,58
452,4	0,52	101,66	MWD		452,4	-0,05	0,71	0,7	0,31	-0,28	12,26
479,1	0,61	66,43	MWD		479,1	-0,02	0,96	1,0	0,40	0,10	-39,54
508,5	0,49	70,58	MWD		508,5	0,08	1,22	1,2	0,13	-0,12	4,24
537,5	0,66	66,22	MWD		537,5	0,19	1,49	1,5	0,18	0,18	-4,51
567,6	0,81	61,28	MWD		567,6	0,36	1,84	1,9	0,16	0,15	-4,92
594,2	0,82	47,28	MWD		594,2	0,58	2,14	2,2	0,22	0,01	-15,78
622,5	1,02	63,83	MWD		622,5	0,83	2,52	2,6	0,35	0,21	17,54
652,8	0,85	67,48	MWD		652,8	1,04	2,97	3,1	0,18	-0,17	3,61
682,1	0,93	63,20	MWD		682,1	1,23	3,38	3,6	0,11	0,08	-4,38
751,2	0,71	82,39	MWD		751,2	1,54	4,30	4,6	0,15	-0,10	8,33
780,7	0,69	70,04	MWD		780,7	1,62	4,65	4,9	0,15	-0,02	-12,56
809,1	0,57	71,82	MWD		809,0	1,72	4,95	5,2	0,13	-0,13	1,88
838,5	0,49	55,26	MWD		838,5	1,84	5,19	5,5	0,17	-0,08	-16,87
866,5	0,33	49,44	MWD		866,5	1,96	5,35	5,7	0,18	-0,17	-6,24
896,1	0,36	43,69	MWD		896,1	2,08	5,48	5,9	0,05	0,03	-5,83
925,9	0,27	44,60	MWD		925,8	2,20	5,59	6,0	0,09	-0,09	0,92
953,9	0,40	13,42	MWD		953,9	2,34	5,66	6,1	0,23	0,14	-33,30
982,8	0,33	19,89	MWD		982,8	2,52	5,71	6,2	0,08	-0,07	6,72
1012,5	0,35	19,43	MWD		1012,5	2,69	5,77	6,4	0,02	0,02	-0,46
1041,7	0,31	11,61	MWD		1041,7	2,85	5,82	6,5	0,06	-0,04	-8,04
1070,5	0,24	357,26	MWD		1070,4	2,98	5,83	6,5	0,10	-0,07	-14,96
1099,7	0,28	353,76	MWD		1099,7	3,12	5,82	6,6	0,04	0,04	-3,59
1128,6	0,18	317,75	MWD		1128,5	3,22	5,78	6,6	0,18	-0,10	-37,50
1157,3	0,20	344,72	MWD		1157,3	3,30	5,74	6,6	0,09	0,02	28,13
1186,1	0,18	314,24	MWD		1186,0	3,38	5,69	6,6	0,11	-0,02	-31,77
1215,2	0,15	315,71	MWD		1215,1	3,44	5,63	6,6	0,03	-0,03	1,52
1243,8	0,09	262,68	MWD		1243,8	3,46	5,58	6,6	0,13	-0,06	-55,55
1273,0	0,09	62,40	MWD		1272,9	3,47	5,58	6,6	0,18	0,00	164,38
1302,6	0,12	57,46	MWD		1302,6	3,50	5,63	6,6	0,03	0,03	-5,00
1331,1	0,27	44,89	MWD		1331,1	3,56	5,70	6,7	0,16	0,16	-13,23
1361,2	0,18	40,47	MWD		1361,2	3,65	5,78	6,8	0,09	-0,09	-4,40

HOLE DEVIATION

Unofficial Data

Well: 35/11-12 Reference point: RKB ; 24,0 m ABOVE MSL
 Waterdepth: 364,0 m Vertical to: 387,9 m Total Depth: 3378,0 m MD
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 Official Surveys: N Track :
 Coordinates are measured from the wellhead centre.

Depth MD [m]	Inclination [Deg]	Direction [Deg]	Tool Type	#	Depth TVD [m]	Coordinates		Vert. Sect [m]	Dogleg [D/30m]	Build [D/30m]	Turn [D/30m]
						North [m]	East [m]				
1389,5	0,19	75,13	MWD		1389,5	3,70	5,86	6,9	0,12	0,01	36,72
1418,9	0,23	41,48	MWD		1418,9	3,75	5,94	7,0	0,13	0,04	-34,34
1448,5	0,29	36,47	MWD		1448,4	3,86	6,03	7,2	0,06	0,06	-5,09
1477,3	0,19	28,47	MWD		1477,2	3,96	6,09	7,3	0,11	-0,10	-8,34
1505,9	0,17	20,00	MWD		1505,9	4,04	6,13	7,3	0,03	-0,02	-8,86
1534,5	0,23	41,32	MWD		1534,4	4,12	6,18	7,4	0,10	0,06	22,42
1563,6	0,32	24,44	MWD		1563,5	4,24	6,25	7,6	0,12	0,09	-17,39
1592,8	0,32	55,95	MWD		1592,7	4,36	6,36	7,7	0,18	0,00	32,36
1621,9	0,31	41,88	MWD		1621,8	4,46	6,47	7,9	0,08	-0,01	-14,52
1650,9	0,34	49,73	MWD		1650,9	4,58	6,59	8,0	0,05	0,03	8,10
1679,9	0,29	52,61	MWD		1679,8	4,68	6,72	8,2	0,05	-0,05	2,98
1708,9	0,28	44,30	MWD		1708,9	4,77	6,82	8,3	0,04	-0,01	-8,59
1738,4	0,43	52,79	MWD		1738,3	4,89	6,96	8,5	0,16	0,15	8,65
1755,3	0,38	52,30	MWD		1755,3	4,96	7,06	8,6	0,09	-0,09	-0,87
1783,8	0,48	51,71	MWD		1783,8	5,10	7,23	8,8	0,11	0,11	-0,62
1812,6	0,49	51,43	MWD		1812,6	5,25	7,42	9,1	0,01	0,01	-0,29
1841,7	0,59	62,58	MWD		1841,7	5,39	7,65	9,4	0,15	0,10	11,49
1870,5	0,55	60,76	MWD		1870,4	5,53	7,90	9,6	0,05	-0,04	-1,90
1899,2	0,50	58,06	MWD		1899,1	5,66	8,13	9,9	0,06	-0,05	-2,82
1928,8	0,52	56,66	MWD		1928,7	5,81	8,35	10,2	0,02	0,02	-1,42
1958,1	0,50	66,61	MWD		1958,0	5,93	8,58	10,4	0,09	-0,02	10,18
1987,0	0,45	65,59	MWD		1987,0	6,03	8,80	10,7	0,05	-0,05	-1,06
2016,6	0,57	75,21	MWD		2016,5	6,11	9,04	10,9	0,15	0,12	9,77
2045,9	0,37	89,49	MWD		2045,9	6,15	9,28	11,1	0,24	-0,20	14,58
2074,5	0,34	134,32	MWD		2074,4	6,09	9,43	11,2	0,29	-0,03	47,12
2103,5	0,43	136,49	MWD		2103,5	5,95	9,57	11,3	0,09	0,09	2,24
2132,2	0,37	136,68	MWD		2132,1	5,81	9,71	11,3	0,06	-0,06	0,20
2164,4	0,38	136,94	MWD		2164,3	5,65	9,85	11,4	0,01	0,01	0,24
2190,4	0,55	174,43	MWD		2190,4	5,47	9,92	11,3	0,39	0,20	43,21
2219,8	0,82	184,26	MWD		2219,7	5,12	9,92	11,2	0,30	0,28	10,04
2249,2	0,85	184,36	MWD		2249,1	4,69	9,89	10,9	0,03	0,03	0,10
2278,5	0,92	194,71	MWD		2278,4	4,24	9,81	10,7	0,18	0,07	10,59
2307,2	0,91	163,40	MWD		2307,1	3,80	9,82	10,5	0,52	-0,01	-32,73
2335,6	1,10	161,62	MWD		2335,5	3,33	9,97	10,5	0,20	0,20	-1,88
2364,1	1,03	153,07	MWD		2364,0	2,84	10,17	10,6	0,18	-0,07	-8,99
2393,2	0,93	161,10	MWD		2393,2	2,38	10,37	10,6	0,17	-0,10	8,27

HOLE DEVIATION

Well: 35/11-12 Reference point: RKB ; 24,0 m ABOVE MSL
 Waterdepth: 364,0 m Vertical to: 387,9 m Total Depth: 3378,0 m MD
 Utm zone: 31 Central Median: 3' E Horizontal datum: ED50
 Template Centre Coordinates, UTM: North : m, East: m
 Wellhead Coordinates, UTM: North : 6777347,39 m, East: 520554,20 m
 Official Surveys: N Track :
 Coordinates are measured from the wellhead centre.

Depth MD [m]	Incli- nation [Deg]	Direc- tion [Deg]	Tool Type	#	Depth TVD [m]	Coordinates		Vert. Sect [m]	Dogleg [D/30m]	Build [D/30m]	Turn [D/30m]
						North [m]	East [m]				
2422,3	0,94	160,00	MWD		2422,2	1,94	10,52	10,7	0,02	0,01	-1,14
2451,5	0,92	165,35	MWD		2451,4	1,48	10,67	10,8	0,09	-0,02	5,50
2480,9	0,93	170,70	MWD		2480,8	1,02	10,76	10,8	0,09	0,01	5,45
2510,5	0,97	173,98	MWD		2510,4	0,53	10,83	10,8	0,07	0,04	3,33
2540,0	1,01	191,21	MWD		2539,9	0,03	10,80	10,8	0,30	0,04	17,51
2597,7	1,32	160,00	MWD		2597,6	-1,09	10,93	11,0	0,36	0,16	-16,23
2654,4	1,48	163,84	MWD		2654,3	-2,41	11,36	11,6	0,10	0,08	2,03
2713,6	1,56	172,11	MWD		2713,5	-3,94	11,68	12,3	0,12	0,04	4,19
2743,2	1,64	177,80	MWD		2743,1	-4,76	11,76	12,7	0,18	0,08	5,77
2797,8	1,61	176,73	MWD		2797,6	-6,31	11,83	13,4	0,02	-0,02	-0,59
2834,6	1,75	174,34	MWD		2834,4	-7,39	11,91	14,0	0,13	0,11	-1,95
2863,9	1,95	167,38	MWD		2863,7	-8,32	12,07	14,7	0,31	0,20	-7,11
2893,8	1,97	163,59	MWD		2893,5	-9,31	12,32	15,4	0,13	0,02	-3,81
2923,3	2,08	164,97	MWD		2923,1	-10,31	12,61	16,3	0,12	0,11	1,40
2952,1	1,97	161,74	MWD		2951,9	-11,29	12,90	17,1	0,16	-0,11	-3,36
2981,5	1,85	165,66	MWD		2981,2	-12,23	13,17	18,0	0,18	-0,12	4,00
3009,3	2,07	162,48	MWD		3009,0	-13,14	13,43	18,8	0,26	0,24	-3,43
3038,4	2,18	153,08	MWD		3038,1	-14,13	13,84	19,8	0,38	0,11	-9,68
3067,1	2,36	156,39	MWD		3066,7	-15,16	14,33	20,9	0,23	0,19	3,47
3120,4	2,65	156,28	MWD		3120,0	-17,30	15,26	23,1	0,16	0,16	-0,06
3151,1	2,77	158,55	MWD		3150,7	-18,64	15,82	24,4	0,16	0,12	2,22
3178,9	2,82	169,61	MWD		3178,5	-19,93	16,19	25,7	0,58	0,05	11,93
3208,0	3,26	177,09	MWD		3207,5	-21,47	16,36	27,0	0,61	0,45	7,71
3238,2	3,28	174,33	MWD		3237,6	-23,18	16,49	28,4	0,16	0,02	-2,75
3266,8	3,62	177,93	MWD		3266,2	-24,90	16,60	29,9	0,42	0,36	3,77
3294,9	4,11	177,73	MWD		3294,3	-26,79	16,67	31,6	0,52	0,52	-0,21
3323,8	4,71	176,02	MWD		3323,1	-29,01	16,80	33,5	0,64	0,62	-1,78
3353,2	5,33	179,49	MWD		3352,3	-31,58	16,89	35,8	0,70	0,63	3,54

MAIN CONSUMPTION OF CASING/TUBING ON WELL 35/11-12 PO: 12000-06-29
Unofficial Data

Size	Casing string	Grade	Weight		Threads type	Length [m]	No. of joints
			[kg/m]	[lb/ft]			
30"	CONDUCTOR	X-52	460,86	309,70	SL-60	74,0	7
20"	SURFACE	X-56	197,92	133,00	E60MT	334,0	28
13 3/8"	INTERMEDIATE	L-80	107,14	72,00	NS-CC	1369,2	122
9 5/8"	PRODUCTION	P-110	79,61	53,50	NS-CC	2422,7	206

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 35/11-12 PO: 1

WATER BASED SYSTEM

Hole section : 0.0

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API [mm]	HPHT [mm]	Filtcake API [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Mf [ml]	Inhib Chem [mg/l]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]	
MD	TVD																				
2000-04-19	725	725 SPUD MUD	1,20																		

WATER BASED SYSTEM

Hole section : 26"

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API [mm]	HPHT [mm]	Filtcake API [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Mf [ml]	Inhib Chem [mg/l]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]	
MD	TVD																				
2000-04-20	460	460 SPUD MUD	1,20																		
2000-04-21	500	500 SPUD MUD	1,20																		

WATER BASED SYSTEM

Hole section : 17 1/2"

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API [mm]	HPHT [mm]	Filtcake API [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Mf [ml]	Inhib Chem [mg/l]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]	
MD	TVD																				
2000-04-22	725	725 SPUD MUD	1,30																		
2000-04-23	725	725 GLYDRIL	1,42	4,3	/	1	/	9,0	0,0	0,8	150		71000	1760		19,0		50		162	
2000-04-24	850	850 GLYDRIL	1,30	2,4	/	1	/	9,1	0,1	0,4	160		78500	780		840	17,0	50		233	
2000-04-25	1473	1473 GLYDRIL	1,40	2,3	/	1	/	8,3	0,1	0,3	161		76000	710		800	20,0	44		240	
2000-04-26	1760	1760 GLYDRIL	1,40	2,4	/	1	/	8,1	0,1	0,2	160		75000	880		1000	19,0	56		188	
2000-04-27	1760	1760 GLYDRIL	1,40	2,3	/	1	/	8,1	0,1	0,2	163		78000	880		1000	19,0	55		182	
2000-04-28	1760	1760 GLYDRIL	1,40	2,3	/	1	/		0,1	0,3	168		230000	650	100		18,5	48		48	
2000-04-29	1760	1760 GLYDRIL	1,40	2,3	/	1	/		0,1	0,3	168		83000	650	190	840	18,5	48		48	
2000-04-30	1764	1764 GLYDRIL	1,30	2,4	/	1	/	9,6	0,2	0,4	168		88000	640	240	880	15,0	38		38	

WATER BASED SYSTEM

Hole section : 12 1/4"

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API [mm]	HPHT [mm]	Filtcake API [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Mf [ml]	Inhib Chem [mg/l]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]	
MD	TVD																				
2000-05-01	2212	2212 GLYDRIL	1,30	2,3	/	1	/	8,5	0,1	0,1	80,0	181	86800	800	80	880	16,0	0,4	30	163	
2000-05-02	2711	2711 GLYDRIL	1,30	2,1	/	1	/	8,5	0,1	0,6	173		86000	800	80	880	16,0	0,2	35	165	
2000-05-03	2822	2822 GLYDRIL	1,30	2,3	/	1	/	8,3	0,1	0,3	173		85000	200	80	880	16,0		35	167	
2000-05-04	2822	2822 GLYDRIL	1,30	2,3	/	1	/	8,3	0,1	0,3	173		85000	800	80	880	16,0	0,2	35	167	

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 35/11-12 PO: 1

Hole section : 8 1/2"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate		HPHT Press/Temp [bar/DegC]	pH	Alcalinity		Inhib Chem	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
				API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]										
	MD	TVD																	
2000-05-05 21:00	3050	GLYDRIL	1,46	2,3	1	/	8,3	0,1	0,3	160	71000				18,0			46	
2000-05-06 15:00	3140	GLYDRIL	1,46	2,3	1	/	8,3	0,1	0,3	160	71000	660		800	18,0	0,2	8	46	
2000-05-07 22:45	3291	GLYDRIL	1,46	2,3	1	/	8,5	0,1	0,3	158	71000	680	73	800	18,0		8	46	
2000-05-08 23:15	3378	GLYDRIL	1,50	2,3	1	/	8,2	0,1	0,2	158	71000	680	73	800	19,0		8	43	
2000-05-09 20:00	3378	GLYDRIL	1,50	2,3	1	/		0,1	0,2	158	71000	680	73	800	19,0	0,2	8	43	

Hole section : 12 1/4"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate		HPHT Press/Temp [bar/DegC]	pH	Alcalinity		Inhib Chem	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
				API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]										
	MD	TVD																	
2000-05-10 22:50	2709	GLYDRIL	1,50	2,3	1	/	8,4	0,1		158	71000	680	73	800	19,0		8		

Hole section : 17 1/2"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate		HPHT Press/Temp [bar/DegC]	pH	Alcalinity		Inhib Chem	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
				API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]										
	MD	TVD																	
2000-05-11 22:00	750	GLYDRIL	1,30	2,3	1	/	8,8	0,1		129	64000	720	170	1000	0,0		7		

Hole section : 26"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate		HPHT Press/Temp [bar/DegC]	pH	Alcalinity		Inhib Chem	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
				API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]										
	MD	TVD																	
2000-05-12	600	GLYDRIL	1,30	2,3	1	/		0,1	0,2	129		720		1000					

Hole section : 12 1/4"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Dens [sg]	Filtrate		HPHT Press/Temp [bar/DegC]	pH	Alcalinity		Inhib Chem	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Oil Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
				API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]										
	MD	TVD																	
2000-05-13	2764	GLYDRIL	1,30	2,3	1	/	8,8	0,1	0,2	129	64000	720		1000	13,0	0,2	7	53	

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 35/11-12 PO: 1

Hole section : 0.0

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [DegC]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]
					600	300	200	100	60				
MD	TVD												
2000-04-19	725	725 SPUD MUD	95,0	1,20					0	0	0		

Hole section : 26"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [DegC]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]
					600	300	200	100	60				
MD	TVD												
2000-04-20	460	460 SPUD MUD	95,0	1,20					0	0			
2000-04-21	500	500 SPUD MUD	95,0	1,20					0	0			

Hole section : 17 1/2"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [DegC]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]				
					600	300	200	100	60					30	6	3	
MD	TVD																
2000-04-22	725	725 SPUD MUD	95,0	1,30					0	0							
2000-04-23	725	725 GLYDRIL	95,0	1,42	65	46	38	26	0	0	9	7	120,0	19,0	13,5	4,0	8,5
2000-04-24	850	850 GLYDRIL	66,0	1,30	69	51	41	31	0	0	12	9	120,0	18,0	16,5	5,0	10,5
2000-04-25	1473	1473 GLYDRIL	69,0	1,40	85	62	50	38	0	0	13	10	120,0	23,0	19,5	5,5	12,0
2000-04-26	1760	1760 GLYDRIL	66,0	1,40	82	60	50	35	0	0	12	10	120,0	22,0	19,0	5,5	13,0
2000-04-27	1760	1760 GLYDRIL	64,0	1,40	80	58	48	35	0	0	12	10	120,0	22,0	18,0	5,0	12,0
2000-04-28	1760	1760 GLYDRIL	64,0	1,40	74	53	44	32	0	0	11	9	50,0	21,0	16,0	5,0	10,0
2000-04-29	1760	1760 GLYDRIL	64,0	1,40	73	53	44	31	0	0	11	9	20,0	20,0	16,5	5,0	10,0
2000-04-30	1764	1764 GLYDRIL	64,0	1,30	53	38	28	21	0	0	10	8	50,0	15,0	11,5	4,0	8,0

Hole section : 12 1/4"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [DegC]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]				
					600	300	200	100	60					30	6	3	
MD	TVD																
2000-05-01	2212	2212 GLYDRIL	66,0	1,30	78	56	45	35	0	0	11	9	50,0	22,0	17,0	5,0	8,0
2000-05-02	2711	2711 GLYDRIL	60,0	1,30	80	60	48	38	0	0	13	10	50,0	20,0	20,0	5,5	9,0
2000-05-03	2822	2822 GLYDRIL	58,0	1,30	80	60	48	38	0	0	13	10	50,0	20,0	20,0	5,5	9,0
2000-05-04	2822	2822 GLYDRIL	56,0	1,30	80	58	46	35	0	0	12	10	50,0	22,0	18,0	5,5	9,0

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 35/11-12 PO: 1

Hole section : 8 1/2"

WATER BASED SYSTEM

Date	MD	Depth [m]	TVD	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [sg]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]		
							60	100	200	300	600							
2000-05-05 21:00	3050	3050	GLYDRIL	51,0	1,46	71	51	41	31	0	0	10	8	50,0	20,0	15,5	4,0	5,5
2000-05-06 15:00	3140	3140	GLYDRIL	50,0	1,46	71	51	40	30	0	0	10	8	50,0	20,0	15,5	4,0	5,5
2000-05-07 22:45	3291	3290	GLYDRIL	54,0	1,46	84	62	50	37	0	0	12	10	50,0	22,0	20,0	5,5	6,5
2000-05-08 23:15	3378	3377	GLYDRIL	53,0	1,50	86	63	51	38	0	0	12	9	50,0	23,0	20,0	5,0	6,5
2000-05-09 20:00	3378	3377	GLYDRIL	53,0	1,50	82	60	50	36	0	0	12	9	50,0	22,0	19,0	5,0	6,5

Hole section : 12 1/4"

WATER BASED SYSTEM

Date	MD	Depth [m]	TVD	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [sg]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]		
							60	100	200	300	600							
2000-05-10 22:50	2709	2709	GLYDRIL	53,0	1,50	84	62	50	36	0	0	12	10	50,0	22,0	20,0	5,5	6,5

Hole section : 17 1/2"

WATER BASED SYSTEM

Date	MD	Depth [m]	TVD	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [sg]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]		
							60	100	200	300	600							
2000-05-11 22:00	750	750	GLYDRIL	52,0	1,30	78	59	48	33	0	0	10	9	50,0	19,0	20,0	10,0	6,0

Hole section : 26"

WATER BASED SYSTEM

Date	MD	Depth [m]	TVD	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [sg]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]		
							60	100	200	300	600							
2000-05-12	600	600	GLYDRIL	52,0	1,30	78	59	48	33	0	0	10	9	50,0	19,0	20,0	10,0	6,0

Hole section : 12 1/4"

WATER BASED SYSTEM

Date	MD	Depth [m]	TVD	Mud Type	Funnel Visc [sec]	Dens Mudtmp Out [sg]	Fann Readings					Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]		
							60	100	200	300	600							
2000-05-13	2764	2764	GLYDRIL	52,0	1,30	78	59	48	33	0	0	10	9	120,0	19,0	20,0	10,0	6,0

DAILY REPORT ON WELL 35/11-12

Daily report no : 1 **Date:** 2000-04-18
Midnight depth : 0 m MD **Estimated PP:** sg **Mud weight:** 0,00 sg

Stop time	Description
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11:00	No activity on well 35/11-12. Anchorhandling on 34/4-10R
23:59	Rigmove to 35/11-12. Distance to sail: 48Nm. Normand Drott in bridle.

Daily report no : 2 **Date:** 2000-04-19
Midnight depth : 725 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,20 sg

Stop time	Description
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07:30	Anchorhandling on location 35711-12
09:00	Ballasted rig to 25m drilling draft
11:00	Tensioned anchors to 140ton.
19:30	Drilled 97/8" pilot hole to 725m, flow checked at 553m
20:00	Flow checked at TD.
20:30	ROV placed bouys and transponder around well.
21:00	Displaced hole to 1.2sg mud.
23:00	POOH with 9 7/8" bit, topped up hole with mud at sea floor.
23:30	Made up cement stand and 30" running tool and racked back in derrick.
23:59	Made up 36" hole-opener assembly and start RIH.

Daily report no : 3 **Date:** 2000-04-20
Midnight depth : 725 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,20 sg

Stop time	Description
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02:30	Continued to RIH with 36" hole-opener assembly.
09:30	Opened up 9 7/8" pilot hole to 36" from 388 m to 460 m hole-opener depth.
10:30	Checked hole depth with ROV. Swept hole with 20 m3 hi-vis pill. Made check trip and displaced hole to 1.50 sg mud.
11:30	POOH and laid down 36" hole-opener.
13:30	Held SJA meeting and ran 30" conductor.
16:00	Made up fibreglass cement stinger.
18:00	Made up 30" running tool and latched in PGB.
20:00	Ran 30" conductor on 5 1/2" drillpipe. Positioned rig. Stabbed 30" conductor and landed same with shoe at 460 m.
21:00	Circulated one casing volume. Pressure tested lines to 200 bar.
22:30	Mixed and pumped cement according to program. Displaced with 6.8 m3 seawater.
23:59	Waited on cement while holding 30" conductor and base plate.

Daily report no : 4 **Date:** 2000-04-21
Midnight depth : 581 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,20 sg

Stop time	Description
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07:00	Waited on cement while holding 30" conductor and base plate.
09:00	Released running tool and POOH. Laid down cement stinger.
09:30	RIH with grouting assembly.
12:30	Stung into funnel with 3 1/2" drillpipe. Ran in 15 m below wellhead. Mixed and pumped 10 m3 slurry to each side of wellhead. POOH with grouting stinger.
13:00	Laid down 30" running tool.
13:30	Picked up 20" housing.
14:00	Changed pup joint in running tool.
14:30	Racked back 20" housing. Stuck protector.
15:30	Made up cement head.
16:00	Cut off stuck protector.
18:00	Made up 26" BHA and RIH. Tagged cement at 453 m.
19:00	Drilled cement from 453 m. Shoe at 460 m.
23:59	Drilled 26" hole from 460 to 581 m.

DAILY REPORT ON WELL 35/11-12

Unofficial Data

Daily report no : 5 Date: 2000-04-22
 Midnight depth : 725 m MD Estimated PP: 1,03 sg Mud weight: 1,30 sg

Stop time	Description
06:00	Continued to drill 26" hole from 581 to 725 m.
09:30	Swept hole with 30 m3 hi-vis pill. Performed wipertrip to 30" shoe. Pumped pills and displaced hole to 1.30 sg mud.
10:30	POOH with 26" BHA.
11:30	Held SJA meeting. Rigged up and ran 20" casing.
12:00	Power slips failed to operate during 20" casing running.
18:00	Ran 20" casing. Landed and pull tested with 25 ton.
22:00	Circulated casing volume. Pressure tested surface lines. Mixed and pumped cement according to plan. Sheared out wiper plug with 140 bar. Displaced cement and bumped plug with 2959 strokes. Tested casing to 70 bar for 10 min, ok.
22:30	ROV cleaned bulls eye. Took 25 ton overpull, ok.
23:30	Attempted to release running tool, negative. Moved rig and released running tool, ok.
23:59	Washed guide base with tail pipe.

Daily report no : 6 Date: 2000-04-23
 Midnight depth : 725 m MD Estimated PP: 1,03 sg Mud weight: 1,42 sg

Stop time	Description
01:30	POOH with 20" running tool.
03:00	RIH with mule shoe , 6 joints 3 1/2" drillpipe and 20" running tool on 5 1/2" drillpipe.
04:30	Stung into low side funnel, tagged cement 1m down, pulled out, washed guide base and well head.
06:00	Pulled out and laid down 20" running tool.
06:30	Laid down cement head.
08:30	Laid down 26" BHA.
13:00	Held SJA meeting, prepared to run BOP, skidded BOP to center, made up 2x50` riser joints.
18:30	Ran BOP, pressure tested kill/choke-lines to 35/345 bar. ROV observed bore protector out of position,
19:30	Held SJA meeting, prepared to run bore protector running tool on false rotary through riser.
22:00	RIH with bore protector running tool on drillpipe.
23:00	Positioned rig, stabbed in with bull nose and bore protector running tool and pushed bore protector down. Pulled out while observing well head.
23:59	Pulled out of riser with bore protector running tool.

Daily report no : 7 Date: 2000-04-24
 Midnight depth : 851 m MD Estimated PP: 1,03 sg Mud weight: 1,30 sg

Stop time	Description
05:00	Continued to run BOP. Pressure tested kill/choke-lines. Landed BOP at 04:40 hrs. Bulls eye PGB 1.5 degree. Bullseye BOP stack 0.75 degree.
06:00	Installed diverter assembly.
06:30	Rigged down BOP handling equipment.
07:30	RIH with test tool and HWDP stinger.
09:30	Pressure tested wellhead connector to 35/345 bar. Function tested BOP on both pods.
10:30	POOH and laid down test tool.
12:00	Made up 13 3/8" casing hanger with plugs.
13:00	Made up cement head.
15:30	Made up 17 1/2" BHA and RIH. Tagged float collar at 708 m.
16:00	Performed choke drill.
17:30	Drilled shoetrack to 715 m. Displaced to mud.
18:00	Drilled shoe at 720 m and new hole to 729 m.
18:30	Circulated bottoms up.
19:30	Performed LOT to 1.64 sg mudweight.
23:59	Drilled 17 1/2" hole from 729 to 851 m.

Daily report no : 8 Date: 2000-04-25
 Midnight depth : 1470 m MD Estimated PP: 1,20 sg Mud weight: 1,40 sg

Stop time	Description
02:30	Drilled 17 1/2" hole from 851 to 911 m.
03:00	Circulated while changing pistons on pumps no 2 and no 3.
06:00	Continued to drill from 911 to 978 m.
06:30	Circulated while changing pistons on pumps no 2 and no 3.

DAILY REPORT ON WELL 35/11-12

Daily report no : 8 Date: 2000-04-25
 Midnight depth : 1470 m MD Estimated PP: 1,20 sg Mud weight: 1,40 sg

Stop time	Description
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17:30	Continued to drill from 978 to 1322 m.
18:30	Circulated while changing washpipe.
23:59	Continued to drill 17 1/2" hole from 1322 to 1470 m while increasing mudweight in two steps from 1.30 to 1.35 sg when at 1363 m and to 1.40 sg at 1409 m.

Daily report no : 9 Date: 2000-04-26
 Midnight depth : 1760 m MD Estimated PP: 1,20 sg Mud weight: 1,40 sg

Stop time	Description
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11:00	Drilled 17 1/2" hole from 1470 m to 1760 m.
14:00	Lost return. Attempted to regain circulation by pumping with 290 lpm and moving string. Mug leveled of 9 - 10 m below flow line.
14:30	Mixed and pumped 18.6 m3 LCM pill. Got return.
18:00	POOH to 1660 m. Took 10 t overpull. RIH 10 m. Circulated riser clean with booster. Well stable. Washed and reamed back to TD. Pumped with 1000 lpm through string and through booster. Started to loose again at 1755 m. POOH to 1730 m.
20:00	Continued circulating with 350 lpm on string and 1000 lpm on riser. Observed loss of 200 lpm.
22:30	Pumped 20 m3 havis bentonite slug and displaced same out of bit. Observed reduction of loss.
23:00	POOH to 1640 m. Took 10 t overpull.
23:59	Increased circulation in steps to 1900 lpm with full return.

Daily report no : 10 Date: 2000-04-27
 Midnight depth : 1760 m MD Estimated PP: 1,20 sg Mud weight: 1,40 sg

Stop time	Description
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02:30	Continued increasing circulation rate to 2000 lpm.
04:30	Circulated bottoms up. Increased flowrate in steps to 2500 lpm. Lost total of 12 m3 mud.
05:00	POOH to 1585 m. Max overpull 15 ton,
11:00	Worked and backreamed tight hole from 1585 m to 1353 m. Lost return. Attempted to regain circulation by pumping 190 lpm. No return. Lost total of 36 m3 of mud.
11:30	RIH to 1410 m. Lost 6.6 m3 of mud.
14:00	Rotated string while mixing LCM pill.
15:00	Pumped 18 m3 LCM pill. Lost all return after 28 m3 pumped. Got return back when LCM pill hit loss zone.
17:30	Established circulation with 370 lpm. 100 % return. Increased circulation rate in steps to 2045 lpm.
21:00	Circulated bottoms up until hole clean with 2045 lpm and 1000 lpm on riser.
21:30	Pumped 10 m3 glycol pill and displaced same around BHA. Waited 15 min while pill sommed in attempt to dissolve mud packed around string.
23:00	Circulated bottoms up with 2000 lpm. Increased in steps up to 2300 lpm. Lost a total of 18 m3 mud.
23:59	POOH to 1382 m.

Daily report no : 11 Date: 2000-04-28
 Midnight depth : 1760 m MD Estimated PP: 1,20 sg Mud weight: 1,40 sg

Stop time	Description
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01:00	Pumped out of hole. Observed loss of return at 1295m.
03:30	Continued to POOH to 1177m. Max overpull 30 ton
04:00	Established circ with 1000 l/min
06:00	POOH unable to pas 1107 m. Max overpull 30 ton
08:00	Established circ.increased rate to 2000 l/min in increments. Lost a total of 9.5 m3
09:30	Circulated hole clean.
15:30	Worked string out of tight hole. Filled hole through string due to heavy swabbing. Uable to pass 887 meter.
16:00	Attempted to re establish circulation. Negative
18:30	Worked string into 20" shoe. Pumped displacement volume, got full return
19:30	Circulated bottoms up until shakers clean.
22:30	POOH. Washed and backreamed from 445m to 363m to clean wh/bop area.
23:59	Made up retrieving tool for seat protector and RIH

DAILY REPORT ON WELL 35/11-12

Daily report no : 12 **Date:** 2000-04-29
Midnight depth : 1760 m MD **Estimated PP:** 1,20 sg **Mud weight:** 1,40 sg

Stop time	Description
02:30	Ran in hole with seatprotector retrieving/running tool. Washed wellhead. Released seat protector with 25mt overpull. POOH missrun.
03:00	Cleaned retrieving tool and prepared same for rerun.
06:30	RIH with running tool, unable to pas 372m (2m above upper annular) Washed and worked string POOH and laid down seat protector.
09:00	Made up jet tool. RIH and washed wellhead and BOP area. Circulated riser clean. POOH
10:00	Held safety meeting with all involved personell. Rigged up to run 13 3/8" casing
19:30	Ran 122 joints of 13 3/8" 72#/ft L-80 casing. No losses during running
23:00	Installed 13 3/8" csg hanger and continued to RIH with landing string.Circulated down last stand with 100% return. Landed casing into wellhead . Started to loose return after 10m3 pumped.
23:59	Pressure tested surface lines to 200 bar-ok. Pumped 5 m3 fresh water as spacer. Dropped bottom ball and Mixed and pumped cement slurry.

Daily report no : 13 **Date:** 2000-04-30
Midnight depth : 1760 m MD **Estimated PP:** 1,20 sg **Mud weight:** 1,30 sg

Stop time	Description
01:00	Continued mixing and pumping cement. Lost 17m3 mud during cementing.
02:30	Displaced cement with 1000 lpm. Increased to 2500 lpm when cement entered open hole. Bumped plug and increased pressure to 145 bar and pressure tested casing for 15 min.
03:00	Sat sealassy and pressure tested same to 345 bar-ok
05:00	Pressure tested BOP to 35/345 baron blue pod. Functioned on yellow pod
07:00	POOH, redressed casing running tool. Laid down same.
09:00	RIH and set weabushing. POOH with running tool.
10:30	Pressure tested kelly cocks, IBOP and top drive to 35/345 bar
12:00	Made up 9 5/8" casing hanger with seal assy and plugs. Racked same back into derrick.
14:00	Laid down 17 1/2" BHA from derrick
14:30	Redressed and loaded cement head. Racked back into derrick
16:00	Made up 12 1/4" BHA
18:30	Continued to RIH
19:00	Cut and slipped 33 meter drilling line
19:30	Washed down and tagged float at 1718 meter.
20:00	Closed upper annular and performed choke drill with crew.
23:59	Drilled wiper plugs, float and hard cement.

Daily report no : 14 **Date:** 2000-05-01
Midnight depth : 2212 m MD **Estimated PP:** 1,10 sg **Mud weight:** 1,30 sg

Stop time	Description
01:00	Drilled cement and shoetrack.
02:30	Drilled 3 meter new formation and circulated hole clean
03:00	Drilled 12 1/4" hole from 1763 m to 2212 m. Oriented from 2041-2058 and 2189-2200m
03:30	Closed upper annular. Pressure tested lines to 200 bar. Attempted to perform leak-off test. Made several attempt, but not able to get full suction from BJ displacement tanks. Circulated tanks and tried with both pumps
04:00	Performed LOT to 1.396 sg equivalent mud weight

Daily report no : 15 **Date:** 2000-05-02
Midnight depth : 2722 m MD **Estimated PP:** 1,10 sg **Mud weight:** 1,30 sg

Stop time	Description
05:00	Continued drilling 12 1/4" hole from 2212 m to 2303 meter
05:30	Oriented from 2303 meter to 2312 meter
16:30	Drilled 12 1/4" hole from 2312 meter to 2579 meter
18:00	Oriented from 2579 meter to 2590 meter.
23:59	Drilled 12 1/4" hole from 2590 meter to 2722 meter

DAILY REPORT ON WELL 35/11-12

Daily report no : 16 **Date:** 2000-05-03
Midnight depth : 2822 m MD **Estimated PP:** 1,10 sg **Mud weight:** 1,30 sg

Stop time	Description
05:00	Drilled 12 1/4" hole from 2722 meter to 2822 meter
06:00	Circulated bottoms up at TD. Flow checked.
10:00	Pulled out of hole. Tight spots at 2698 m, 2670 m, and 2610 m. Max overpull 20 MT.
11:00	Laid down the 12 1/4" bottom hole assembly.
14:00	Made up multi purpose tool with 3 stand 5" HWDP below. Ran in hole with 5 1/2" landing string. Washed the well head area. Retrieved the wear bushing using the Vetco method. Pulled out with wear bushing. Laid down the multi purpose tool and
15:00	Held safety meeting with crew. Rigged up to run 9 5/8" casing.
23:59	Ran 9 5/8" casing to 1766 m. Filled the casing with 1.30 sg mud.

Daily report no : 17 **Date:** 2000-05-04
Midnight depth : 2822 m MD **Estimated PP:** 1,10 sg **Mud weight:** 1,30 sg

Stop time	Description
05:30	Continued running in hole with 9 5/8" casing to 2810 m.
08:00	Circulating prior to cementing the 9 5/8" casing. Increased flow rate in steps up to 1600 LPM. Reduced flow rate to 1000 LPM due to losses. Lost total 11 m3.
09:00	Pressure tested cement line to 200 bar. Mixed and pumped 13 m3 1,90 sg cement slurry.
10:30	Displaced the cement with the rig pumps. Increased the displacement rate in steps to 1865 LPM. Started to loose mud. Reduced the flowrate to 1600 LPM. Still mud losses. Bumped the plug with 75 bar. Checked for back flow.
11:00	Installed seal assembly. Pressure tested seal assembly to 35/345 bar.
13:00	Pressure tested BOP on yellow POD to 35/345 bar. Function tested on blue POD. Function tested the shear ram from acoustic panel.
14:30	Pulled the casing hanger running tool loose with 30 MT. Washed well head area. Re-energized the running tool. Re-tested the seal assembly to 345 bar. Pulled out of the hole with the running tool.
16:00	Made up the wear bushing to the multi purpose tool. (cup tester below). Ran in the hole. Installed the wear bushing. Pulled out of the hole. Laid down the multi purpose tool.
17:30	Pressure tested top drive hose, kelly cocks, IBOP to 35/345 bar.
18:30	Laid down the cement head stand.
19:00	Laid down the 8" jar stand.
20:30	Made up the 8 1/2" motor assembly.
21:00	Installed the radioactive source.
22:00	Made up monel, 4 joints 6 1/2" DC, jar, 6 joints 5" HWDP.
23:59	Continued running in the hole with 5" HWDP and 5" DP to 830 m. Tested the MWD tool.

Daily report no : 18 **Date:** 2000-05-05
Midnight depth : 3111 m MD **Estimated PP:** 1,30 sg **Mud weight:** 1,46 sg

Stop time	Description
02:00	Continued running in the hole with 5 1/2" DP to 2750 m.
02:30	Washed down and tagged the float collar at 2773 m.
03:00	Performed choke drill with drilling crew.
03:30	Closed upper pipe ram and pressure tested the 9 5/8" casing to 367 bar.
05:30	Drilled float collar and shoe track to 2804 m.
06:00	Circulated hole clean.
06:30	Washed down from 2804 m, tagged cement at 2806 m. Drilled soft cement to 9 5/8" shoe at 2810 m. Cleaned out the rathole down to 2822 m.
07:00	Drilled 3 m new formation from 2822 m to 2825 m.
08:00	Circulated to clean the hole.
08:30	Performed a LOT to 120 bar equivalent to 1,75 sg EMW.
09:00	Circulated while preparing to displace the hole to sulphate free mud.
11:30	Displaced the hole to 1,46 sg sulphate free KCl mud.
23:59	Drilled 8 1/2" hole from 2825 m to 3111 m.

Daily report no : 19 **Date:** 2000-05-06
Midnight depth : 3147 m MD **Estimated PP:** 1,30 sg **Mud weight:** 1,46 sg

Stop time	Description
01:00	Circulated for sample.
02:30	Continued drilling 8 1/2" hole from 3111 m to 3120 m.

DAILY REPORT ON WELL 35/11-12

Unofficial Data

Daily report no : 19 Date: 2000-05-06
 Midnight depth : 3147 m MD Estimated PP: 1,30 sg Mud weight: 1,46 sg

Stop time	Description
06:30	Flow checked. Pulled out of the hole. Hole in good condition.
07:30	Retrieved radioactive source from the LWD tool (ADN sub). Downloaded the memory log. Racked motor/LWD/MWD assembly in derrick.
09:30	Made up 90 ft. corebarrel assembly.
12:30	Ran in hole to 3090 m.
13:30	Washed down from 3090 m to 3120 m. Dropped ball.
16:00	Cut core #1 from 3120 m to 3147 m. Max. gas 1,24 % (trip gas from 3120 m). Flow checked.
19:00	Pumped slug and pulled out of the hole.
19:30	Held safety meeting with all crews before laying down the core.
21:00	Recoverd core #1. 96,5 % recovery.
22:00	Cut the core. Evaluated the coring result.
23:00	Ran in hole with 8 1/2" bit and motor assembly. Programmed the LWD tool. Installed radioactive source.
23:59	Ran in the hole to 500 m.

Daily report no : 20 Date: 2000-05-07
 Midnight depth : 3303 m MD Estimated PP: 1,45 sg Mud weight: 1,46 sg

Stop time	Description
02:00	Continued running in the hole to 2760 m.
03:00	Slipped and cut 34 m drilling line.
03:30	Continued running in the hole to 3120 m.
04:30	Reamed/logged cored interval from 3120 m to 3147 m.
23:59	Continued drilling 8 1/2" hole from 3147 m to 3303 m.

Daily report no : 21 Date: 2000-05-08
 Midnight depth : 3378 m MD Estimated PP: 1,45 sg Mud weight: 1,50 sg

Stop time	Description
04:00	Continued drilling 8 1/2" hole from 3303 m to 3349 m. Started to increase the mud weight to 1,50 sg when drilling at 3334 m due to pore pressure increase.
04:30	Circulated the hole clean while reaming the hole.
11:30	Continued drilling 8 1/2" hole from 3349 m to 3378 m.
12:30	Observed 40 bar back pressure and 0,4 m3 gain after shutting down the mud pumps for connection/survey measurement. Flow checked well. Well unstable. Shut well in on upper annular.
14:00	Recorded pressure build up. SICP stabilised at 12 bar. SIDPP increased from 4 bar to 8 bar in 8 minutes. Bled off choke - and standpipe pressures to check for trapped pressure. SICP stabilised at 9 bar, and SIDP stabilised at 7 bar.
17:00	Circulated bottoms up through the choke. Increased flow rate in steps to 665 LPM. Max. gas 1,3 %. Circulated the gas down to below 1 %.
17:30	Opened choke and flow checked. Opened upper annular. Flow checked.
18:00	Performed a check trip to 3230 m. Ran back to TD at 3378 m.
19:30	Circulated bottoms up. Conditioned mud. Max. gas 0,93 %/0,19 %.
21:30	Flow checked well. Well unstable. Closed in well on upper annular preventer. SICP increased to 5 bar in 20 min.. SIDP pressure stable at 2 bar. Opened UAP. Flow cheked. Pressure caused by supercharging the formation.
23:30	Circulated bottoms up at 1800 LPM. Reduced flow rate to 1500 LPM due to slight losses. Flow checked at 1000 m. Continued circulating bottoms up. Max gas 1,46 %/0,17 %.
23:59	Flow checked for 30 min.. Well stable.

Daily report no : 22 Date: 2000-05-09
 Midnight depth : 3378 m MD Estimated PP: 1,45 sg Mud weight: 1,50 sg

Stop time	Description
02:00	Pulled out of hole to 3170 m. Reamed tight spot. Max. over pull 30 MT. Continued pulling out to 9 5/8" shoe at 2809 m.
05:00	Continued pulling out of the hole.
06:00	Laid down mud motor and LWD/MWD tool.
06:30	Laid down core barrel assembly.
07:30	Rigged up to run wire line logs.
12:30	Ran log #1: DSI/AMS/GR
14:00	Prepared to run MDT/GR/AMS
15:00	Tested tool. Not able to receive signals from PS 1 when powered up the tool. Problems found in WTIM card. Replaced with CTSM module.

DAILY REPORT ON WELL 35/11-12

Unofficial Data

Daily report no : 22 Date: 2000-05-09
 Midnight depth : 3378 m MD Estimated PP: 1,45 sg Mud weight: 1,50 sg

Stop time	Description
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22:00	Ran log #2: MDT/GR/AMS.
23:00	Rigged down MDT tool. Rigged up for VSP logging.
23:59	Log #3: Ran in hole with VSP.

Daily report no : 23 Date: 2000-05-10
 Midnight depth : 3378 m MD Estimated PP: 1,45 sg Mud weight: 1,50 sg

Stop time	Description
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05:00	Continued running in hole with VSP satellites to 3360 m. Shot seismic from 3360 m to 2570 m. Pulled out of hole.
06:30	Rigged down VSP equipment. Rigged up to run CST log.
12:30	Ran log #4 SWC-GR.
13:00	Rigged down wireline equipment.
16:30	Made up mule shoe, 11 stand 3 1/2" DP, 8 stand 5" DP and RIH on 5 1/2" DP to 2937 m.
19:00	Washed down from 2937 m to 2960 m. Circulated bottom's up. Max gas 2,16 %. Circulated gas down below 1 %.
19:30	Pumped 2,2 m3 hi-visc 1,5 sg and displaced same. POOH to 2909 m.
20:30	Pumped 5 m3 drillwater as spacer with rigpumps. Mixed and pumped 9,2 m3 1,90 sg cement slurry followed by 1,1 m3 drillwater and 26,1 m3 mud to set balanced cement plug from 2909 m to 2709 m. Displaced cement with rigpumps.
21:00	POOH to 2627 m.
22:30	Circulated btm's up. No cement contaminated returns.
23:59	POOH. Laid down 5 1/2" drillpipe.

Daily report no : 24 Date: 2000-05-11
 Midnight depth : 3378 m MD Estimated PP: 1,03 sg Mud weight: 1,30 sg

Stop time	Description
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06:00	Continued laying down 5 1/2" DP. Laid down 3 1/2" mule shoe.
07:00	Cleared drillfloor. Laid down 6 1/2" NMDC, 6 1/2" Jar and 4 x 6 1/2" DC.
08:00	Made up 9 5/8" Casing cutting assembly and racked back in derrick.
11:00	Made up bit, 6 x 6 1/2" DC, 9 x 5" HWDP and RIH to 2630 m. Filled pipe every 1000 m.
12:00	Washed down from 2630 m to 2764 m. Tagged cmt plug with 7 ton.
13:00	Circulated bottoms up.
15:30	POOH to 750 m.
16:30	Pressure tested cement plug to 140 bar.
19:00	Flushed kill-/choke- and boosterline with 1,30 sg mud. Displaced hole to 1,30 sg mud. Conditioned mud.
20:00	Slugged pipe and POOH. Broke bit and bitsub.
23:00	Rigged up wireline equipment. Prepared and ran in with 9 5/8" Bridgeplug and set same at 750 m. Pulled out and rigged down wireline equipment. Tested plug to 310 bar while rigging down.
23:59	Made up wearbushing retrieval tool. RIH and washed while landing in wellhead.

Daily report no : 25 Date: 2000-05-12
 Midnight depth : 3378 m MD Estimated PP: 1,03 sg Mud weight: 1,30 sg

Stop time	Description
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01:00	Retrieved wearbushing. POOH and laid down same.
03:00	Made up and RIH with 9 5/8" Casing cutting assembly.
04:30	Landed in wellhead. Made several attempts to cut 9 5/8" Casing. Pulled with max 70 ton overpull on casing. No success.
06:00	Pulled out of hole to check cutting assembly.
08:00	Function tested cutter assembly. OK. Made up pup and RIH. Landed in wellhead.
08:30	Cut 9 5/8" Casing at 698,5 m.
10:00	Closed Upper annular preventer. Pulled casing free. Flowchecked ok. Circulated bottom's up through chopkeline. Conditioned mud. Opened UAP and slugged pipe.
12:00	POOH with cutting assembly. Laid down bumper sub and cutting assy.
13:00	RIH with 9 5/8" Spear. Engaged casing and slugged pipe.
14:00	POOH. Released spear.
14:30	Rigged up casing equipment. Held safety meeting with crew.
17:00	Laid down hanger and 26,5 joints of 9 5/8" Casing.
20:00	Rigged up Schlumberger. RIH and set 13 3/8" bridgeplug at 650 m. POOH. Rigged down Schlumberger. Tested plug to 90 bar while rigging down. OK.

DAILY REPORT ON WELL 35/11-12

Daily report no : 25 **Date:** 2000-05-12
Midnight depth : 3378 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,30 sg

Stop time	Description
22:30	Made up 13 3/8" cutting assembly with spear. RIH. Landed rotating spear in hanger.
23:30	Cut 13 3/8" Casing at 598,8 m. Closed UAP. Pulled casing free. Flowchecked OK. Circulated bottom's up through chokeline. Conditioned mud. Opened UAP and slugged pipe.
23:59	POOH with cutting assembly.

Daily report no : 26 **Date:** 2000-05-13
Midnight depth : 3378 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,30 sg

Stop time	Description
01:00	POOH with 13 3/8" Cutting assembly.
02:00	RIH with spear and engaged casing. Slugged pipe.
03:00	POOH with casing. Released spear.
03:30	Rigged up casing equipment. Held safety meeting with crew.
05:30	Laid down hanger and 19,5 jnts 13 3/8" Casing. Cleared drillfloor.
06:00	Made up 5" diverting tool and RIH to 650 m.
07:00	Circulated and conditioned mud.
08:00	Attempted to pump spacer from BJ. Cement line blocked. Installed cement hose on test line.
09:30	Mixed and pumped cement. Displaced same.
11:30	POOH to 390 m. Displaced well to seawater. POOH. Laid down muleshoe.
13:00	Prepared to pull BOP.
22:30	Pulled BOP. Landed on skid at 19:40 hrs. Laid down 2 joints and terminated spool. Cleared drillfloor.
23:59	Laid down 13 3/8" spear assembly. Made up wellhead cutting assembly.

Daily report no : 27 **Date:** 2000-05-14
Midnight depth : 3378 m MD **Estimated PP:** 1,03 sg **Mud weight:** 1,30 sg

Stop time	Description
02:00	Made up wellhead cutting assembly. RIH to 180 m. Installed guideframe. RIH and landed in wellhead.
09:30	Cut 20" x 30" casing/wellhead. Attempted to pull free at 06:30 hrs with 230 MT overpull, at 07:30 hrs with 270 MT overpull and at 08:10 hrs with 280 MT overpull, no success. Pulled 20" x 30" wellhead free at 09:15 hrs with 250 MT overpull.
23:00	Anchorhandling. Anchor no. 3 off bottom 10:13 hrs, bolstered 12:17 hrs. Anchor no. 2 off bottom 10:21 hrs, bolstered 12:43 hrs. Anchor no. 7 off bottom, bolstered 12:36 hrs. Anchor no. 6 off bottom 10:54 hrs, bolstered 12:59 hrs.

DOWNTIME REPORT TRANSOCEAN ARCTIC

Last 72 days

Inst. Wellname	Startdate	#	Sum hrs	Downtime Type	Responsible Contractor	Manufacturer	Short description	Equipment Type	Activity	Service Type	NSFI Code	NSFI Type	Serial Number
TOA 35/11-12	2000-04-21	1	1.5	Equipment failure	DRIL-QUIP	DRIL-QUIP	Stuck protector on 20" housing.	DRILLSTRING/DC EQUIPMENT	CASING	WELLHEAD	357.07	Other Drilling/Downt Equipment	
TOA 35/11-12	2000-04-22	2	0.5	Equipment failure	TRANSOCEAN OFFSHORE EUROPE LIMITED	TRANSOCEAN OFFSHORE EUROPE LIMITED	Power slips failed to operate during 20" casing running.	PIPE HANDLING EQUIPMENT/SYS	CASING	CASING RUNNING	344.00	Slips and Spider	
TOA 35/11-12	2000-04-23	3	4.5	Other	NORSK HYDRO A/S	NORSK HYDRO A/S	RIH and stunged into low side tunnel on guidebase. Tagged cement 1 m below base.		CEMENTING				
TOA 35/11-12	2000-04-23	4	5.5	Equipment failure	NORSK HYDRO A/S	DRIL-QUIP	Boreprotector out of position. Had to run boreprotector running tool on false rotary through riser. Pushed boreprotector in place with 5 ton	SERVICE EQUIPMENT/SYS	BOP INSTALLATION AND TESTING	WELLHEAD	376.01	Wellhead	
TOA 35/11-12	2000-04-25	5	0.5	Equipment failure	TRANSOCEAN OFFSHORE EUROPE LIMITED	TRANSOCEAN OFFSHORE EUROPE LIMITED	Circulated while changing pistons on pumps no 2 and no 3.	MUD AND BULK SYSTEMS	DRILLING	DRILLING CONTRACTOR	325.00	Mud Supply (incl. HP mudpumps)	
TOA 35/11-12	2000-04-25	6	0.5	Equipment failure	TRANSOCEAN OFFSHORE EUROPE LIMITED	TRANSOCEAN OFFSHORE EUROPE LIMITED	Circulated while changing pistons on pumps no 2 and no 3.	MUD AND BULK SYSTEMS	DRILLING	DRILLING CONTRACTOR	325.00	Mud Supply (incl. HP mudpumps)	
TOA 35/11-12	2000-04-25	7	1.5	Equipment failure	TRANSOCEAN OFFSHORE EUROPE LIMITED	TRANSOCEAN OFFSHORE EUROPE LIMITED	Circulated while changing washpipe.	DRILL FLOOR EQUIPMENT/SYS	DRILLING	DRILLING CONTRACTOR	317.00	Other Drill Floor Eq./Syst.	
TOA 35/11-12	2000-04-26	8	36.0	Other	NORSK HYDRO A/S	NORSK HYDRO A/S	Lost return at 1760 m. Pumped 18.6 m3 LCM pill. Got return. POOH to 1660 m. Washed and remed back to TD. Started to loose again at 1755 m. Pumped 20 m3 havis bentonite pill at 1730 m. POOH to run casing.		DRILLING				

DOWNTIME REPORT TRANSOCEAN ARCTIC

Last 72 days

Inst. Wellname	Startdate	#	Sum hrs	Downtime Type	Responsible Contractor	Manufacturer	Short description	Equipment Type	Activity	Service Type	NSFI Code	NSFI Type	Serial Number
TOA 35/11-12	2000-04-28	9	2,0	Other	NORSK HYDRO A/S		Established circ. increased rate to 2000 l/min in increments. Lost a total of 9.5 m3		DRILLING				
TOA 35/11-12	2000-04-29	10	3,0	Other	NORSK HYDRO A/S		Ran in hole with seatprotector retrieving/running tool. Washed wellhead. Released seat protector with 25ml overpull. POOH misrun.		DRILLING				
TOA 35/11-12	2000-05-08	11	12,5	Other	NORSK HYDRO A/S		Observed 40 bar back pressure and 0,4 m3 gain after shutting down the mud pumps for connection/survey measurement. Flow checked well. Well unstable. Shut well in on upper annular.		DRILLING				
TOA 35/11-12	2000-05-09	12	1,0	Equipment failure	SCHLUMBERG WIRELINE	SCHLUMBERG WIRELINE	Tested tool. Not able to receive signals from PS 1 when powered up the tool. Problems found in WTIM card. Replaced with CTSM module.	SERVICE EQUIPMENT/SYS	LOGGING	ELECTRIC LOGGING	374.02	Formation Tester (RFT)	
TOA 35/11-12	2000-05-12	13	3,5	Equipment failure	TO BE NAMED	SMITH RED BARON	Pulled out of hole to check cutting assembly.	SERVICE EQUIPMENT/SYS	PLUG AND ABANDON	CASING MEICUTTING	372.38	Equipment for cutting tog/csg with explos. mill	
TOA 35/11-12	2000-05-13	14	1,0	Equipment failure	BJ SERVICES	BJ SERVICES	Attempted to pump spacer from BJ. Cement line blocked. Installed cement hose on test line.	SERVICE EQUIPMENT/SYS	CEMENTING	CEMENTING	371.01	Cement: Unit/pipe	

Sum: 73.5

Total Sum: 73.5

TIME DISTRIBUTION

Unofficial Data

Well: 35/11-12 PO: 1 Start date: 1980-01-01 Rig: TRANSOCEAN ARCTIC Depth: 3378,0 m MD
 All sections Stop date: 2000-06-29

Operations	Hours	%	Hours	%	Acc. total
MOBILIZATION					
MOVING	13,0	2,11			
MOORING; RUNNING ANCHORS	11,0	1,79			
MOORING; PULLING ANCHORS	13,5	2,19			
Sum.....			37,5	6,09	37,5
DRILLING					
BHA HANDLING/TESTING	12,5	2,03			
EQUIPMENT TEST	1,5	0,24			
MWD HANDLING/TESTING/SURVEYING	0,5	0,08			
TRIPPING IN CASED HOLE	26,0	4,22			
TRIPPING IN OPEN HOLE	27,0	4,38			
DRILLING	132,5	21,51			
OPENING HOLE	7,0	1,14			
OTHER	1,5	0,24			
WELLHEAD EQUIPMENT INSTALLATION	8,0	1,30			
CIRC. AND COND. MUD/HOLE	14,5	2,35			
CASING HANDLING/TESTING	43,5	7,06			
RUNNING CASING IN CASED HOLE	9,0	1,46			
RUNNING CASING IN OPEN HOLE	14,0	2,27			
DRILLING OUT OF CASING	7,5	1,22			
PRIMARY CEMENTING	29,5	4,79			
TRIPPING FOR CEMENT JOB	1,5	0,24			
DRILLING OUT CEMENT PLUG	2,5	0,41			
FORMATION STRENGTH TESTING	4,0	0,65			
BOP HANDLING	6,0	0,97			
BOP RUNNING/RETRIEVING	10,5	1,70			
BOP TESTING	9,5	1,54			
SLIP AND CUT DRILLING LINE	1,5	0,24			
Sum.....			370,0	60,06	407,5
FORMATION EVALUATION MWD					
MWD HANDLING/TESTING/SURVEYING	1,0	0,16			
LOGGING WITH MWD	1,0	0,16			
Sum.....			2,0	0,32	409,5
FORMATION EVALUATION LOGGING					
LOGGING	5,0	0,81			
LOGGING EQUIPMENT HANDLING/TESTING	5,5	0,89			
FORMATION TESTER	7,0	1,14			
SIDEWALL CORING	6,0	0,97			
VERTICAL SEISMIC	6,0	0,97			
Sum.....			29,5	4,79	439,0
FORMATION EVALUATION CORING					
CIRCULATING FOR SAMPLE	1,0	0,16			
TRIPPING IN CASED HOLE	6,0	0,97			
CORING EQUIPMENT/CORE HANDLING	5,0	0,81			
TRIPPING IN OPEN HOLE	1,0	0,16			
CORING	2,5	0,41			
Sum.....			15,5	2,52	454,5
PLUG AND ABANDONMENT					
BHA HANDLING/TESTING	7,0	1,14			
WELLHEAD EQUIPMENT INSTALLATION	2,0	0,32			
CIRC. AND COND. MUD/HOLE	8,5	1,38			
TRIPPING FOR CEMENT JOB	16,0	2,60			
BOP RUNNING/RETRIEVING	11,0	1,79			
SET CEMENT PLUG	5,0	0,81			
SET MECHANICAL PLUG	6,0	0,97			
TRIPPING OF CASING CUTTING EQUIPMENT	14,5	2,35			
CUT CASING/WELLHEAD	10,5	1,70			

TIME DISTRIBUTION

Well: 35/11-12 PO: 1 Start date: 1980-01-01 Rig: TRANSOCEAN ARCTIC Depth: 3378,0 m MD
 All sections Stop date: 2000-06-29

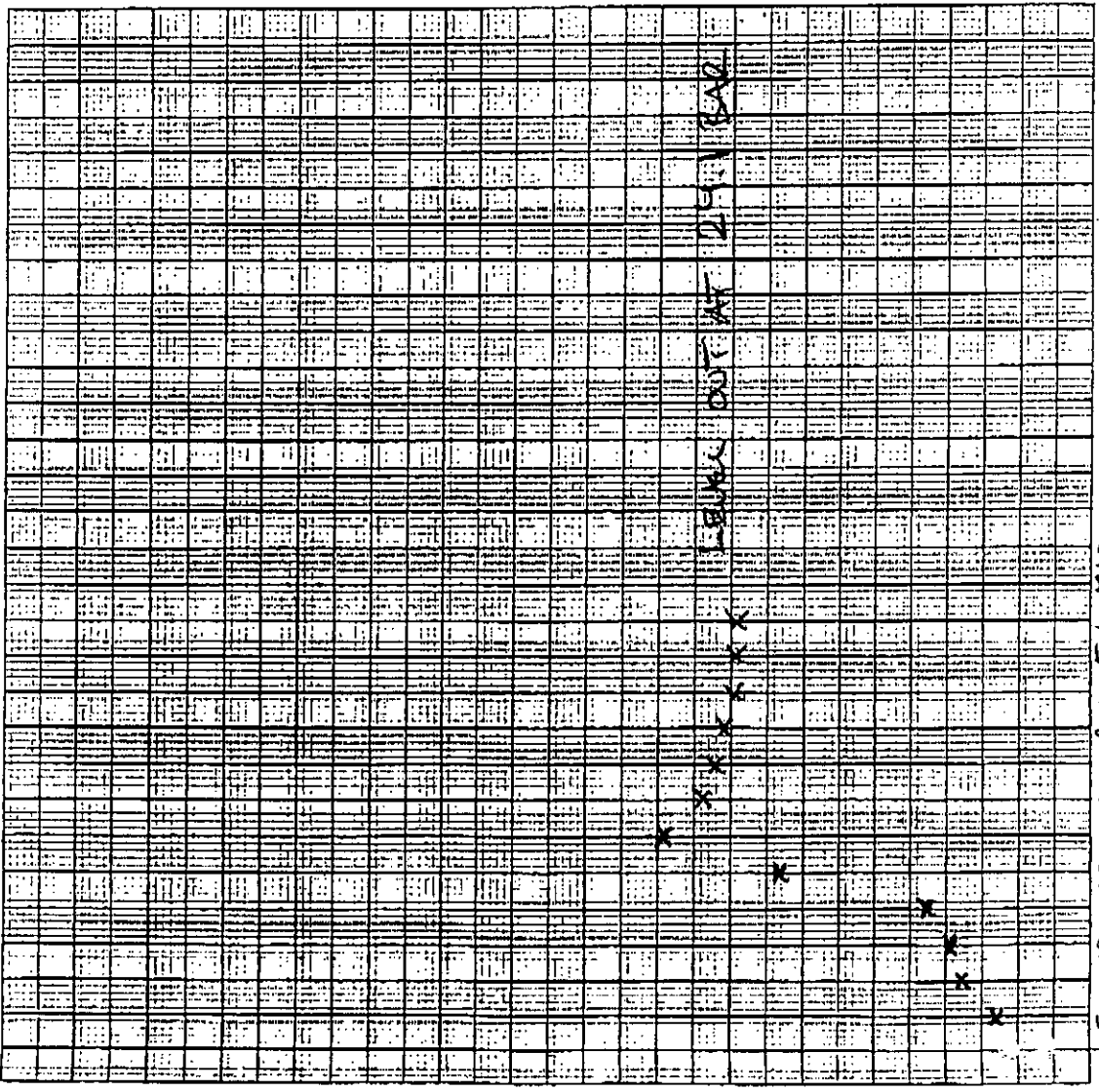
Operations	Hours	%	Hours	%	Acc. total
PLUG AND ABANDONMENT					
CASING RETRIEVING	7,5	1,22			
Sum.....			88,0	14,29	542,5
DOWNTIME DRILLING					
EQUIPMENT FAILURE AND REPAIR	10,0	1,62			
CEMENTING	4,5	0,73			
LOST CIRCULATION	50,5	8,20			
OTHER	3,0	0,49			
Sum.....			68,0	11,04	610,5
DOWNTIME FORM. EVAL. LOGGING					
EQUIPMENT FAILURE AND REPAIR	1,0	0,16			
Sum.....			1,0	0,16	611,5
DOWNTIME PLUG AND ABANDONMENT					
EQUIPMENT FAILURE AND REPAIR	4,5	0,73			
Sum.....			4,5	0,73	616,0
Reported time (100,0 % of well total 616,0 hours) :					616,0

Formation leak off test data

Well: 35/11-12	Date: 24.04.00
Casing size: 20"	Volume pumped: 300L
Casing shoe depth: 720M	Volume recovered: 180L
Water depth: 388RKS	Formation type: CUFF
Hole size: 17 1/2"	Leak off pressure: 24.1BAR
Hole depth: 729M	Shut-in pressure: 24.1BAR
Mud weight: 1.30SG	Shut-in time: 6 MIN
Pump rate: 50 LPM	

Eqv. mud weight at casing shoe (SG): 1.64 SG.

ltr	Pressure	ltr	Pressure
50	6.5		
100	8.9		
150	9.9		
200	11.9		
250	22		
300	29.8		



Volume of mud pumped (ltr)

FORMATION INTEGRITY TEST #2

Well 35/11-12

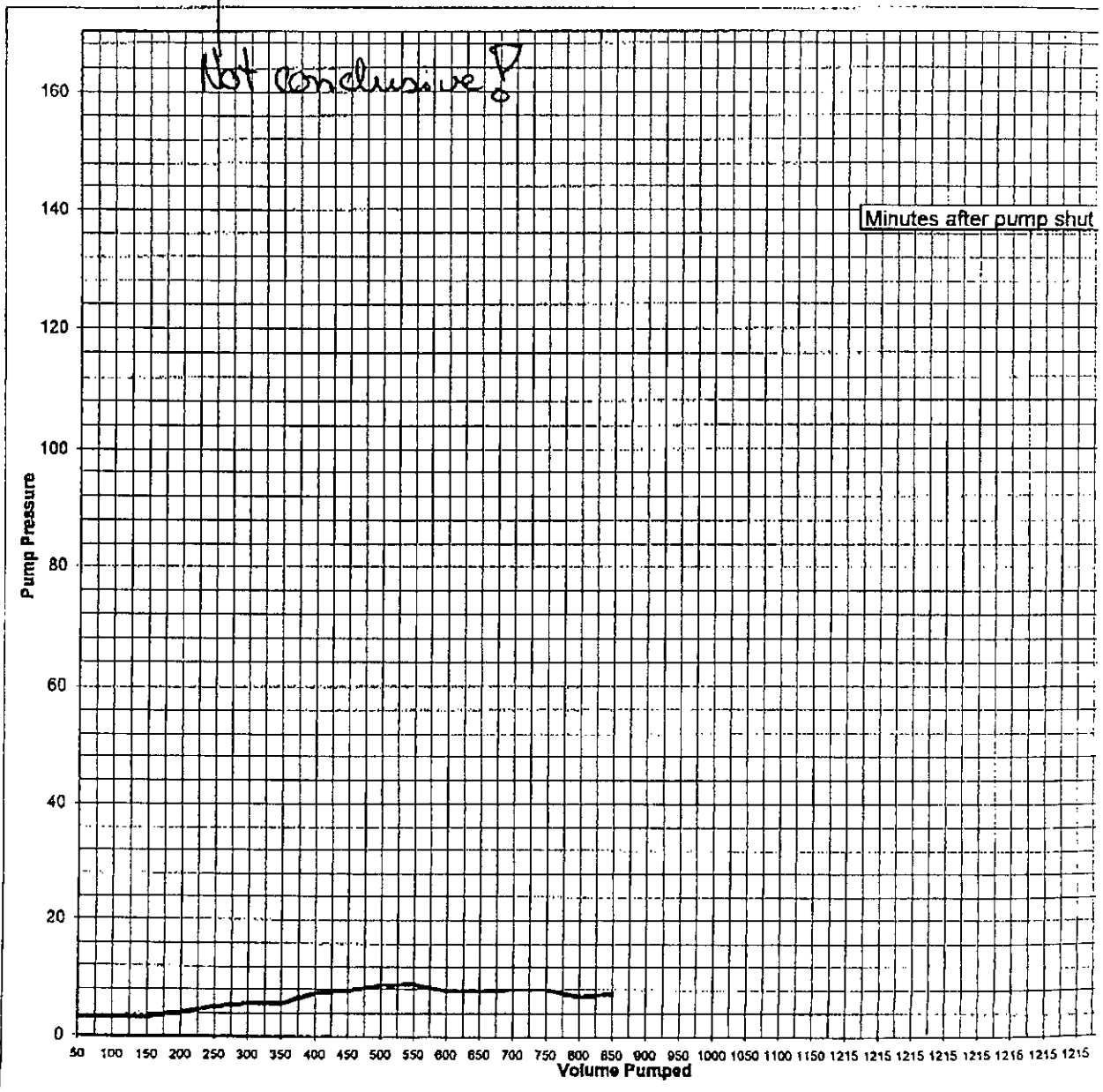
Date 01.05.2000

Rig Transocean Arctic

Sign. T. Jones

Hole Size D oh	:	12,25	Inch	CSG Size D csg	:	13 3/8	Inch
Hole Depth MD oh	:	1763	m	CSG Depth MD csg	:	1755	m
Hole Depth TVD oh	:	1763	m	CSG Depth TVD csg	:	1755	m
Mud Weight in Use MW	:	1,3	s.g.	Max. Pressure P m	:	100	bar
FIT Pressure	:	16,5	bar	Pressure Test Lines	:	200	bar
Equivalent Mud Weight	:	$MW + P_i / TVD_{csg} \times 10.2 =$:	1,396	s.g.	
Volume pumped	:	litres		Volume bled back	:	litres	

LUME	PRESSURE
50	3,4
100	3,4
150	3,4
200	4,1
250	5,1
300	5,6
350	5,6
400	7,3
450	7,8
500	8,7
550	8,9
600	7,7
650	7,7
700	8
750	8
800	6,8
850	7,3
900	
950	
1000	
1050	
1100	
1150	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	



2nd attempt no suction on BJ pump. Pressure gauge and flow meter was showing wild numbers

Stopped and started new test

FORMATION INTEGRITY TEST #3

Well 35/11-12

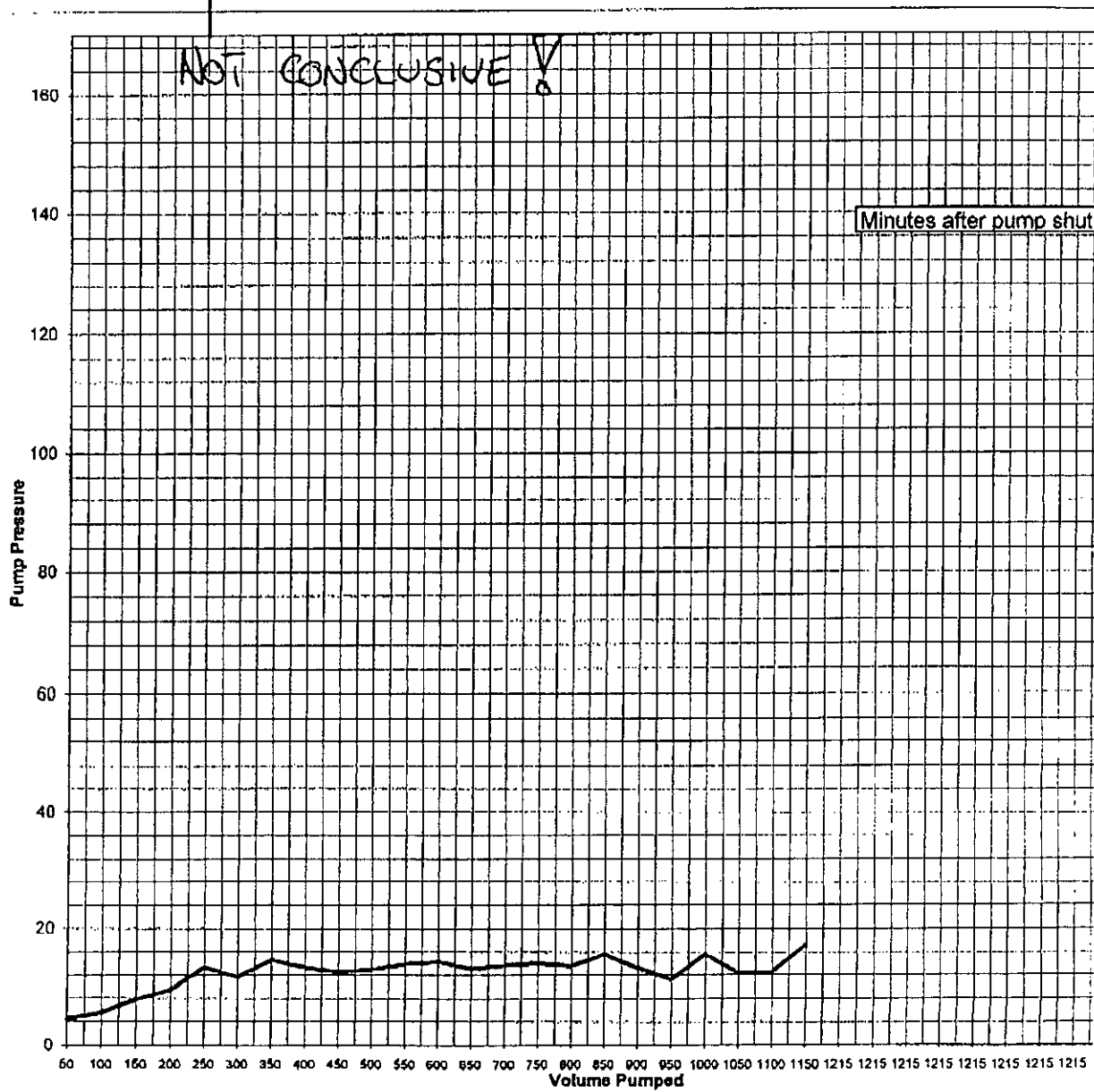
Date 01.05.2000

Rig Transocean Arctic

Sign. T.Jones

Hole Size D oh	:	12,25	Inch	CSG Size D csg	:	13 3/8	Inch
Hole Depth MD oh	:	1763	m	CSG Depth MD csg	:	1755	m
Hole Depth TVD oh	:	1763	m	CSG Depth TVD csg	:	1755	m
Mud Weight in Use MW	:	1,3	s.g.	Max. Pressure P m	:	100	bar
FIT Pressure	:	16,5	bar	Pressure Test Lines	:	200	bar
Equivalent Mud Weight	:	MW + Pi / TVD csg x 10.2 =		:	1,396	s.g.	
Volume pumped	:		litres	Volume bled back	:		litres

UME	PRESSURE
50	4,5
100	5,5
150	7,8
200	9,5
250	13,3
300	11,7
350	14,6
400	13,3
450	12,5
500	13
550	13,9
600	14,3
650	13,1
700	13,7
750	14
800	13,6
850	15,6
900	13,2
950	11,2
1000	15,6
1050	12,3
1100	12,5
1150	17,3
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	
1215	



3rd attempt lost suction on BJ pump. Pressure gauge and flow meter was showing wild numbers
 Stopped circulated displacement tanks, started new test

FORMATION INTEGRITY TEST # 4

Well 35/11-12

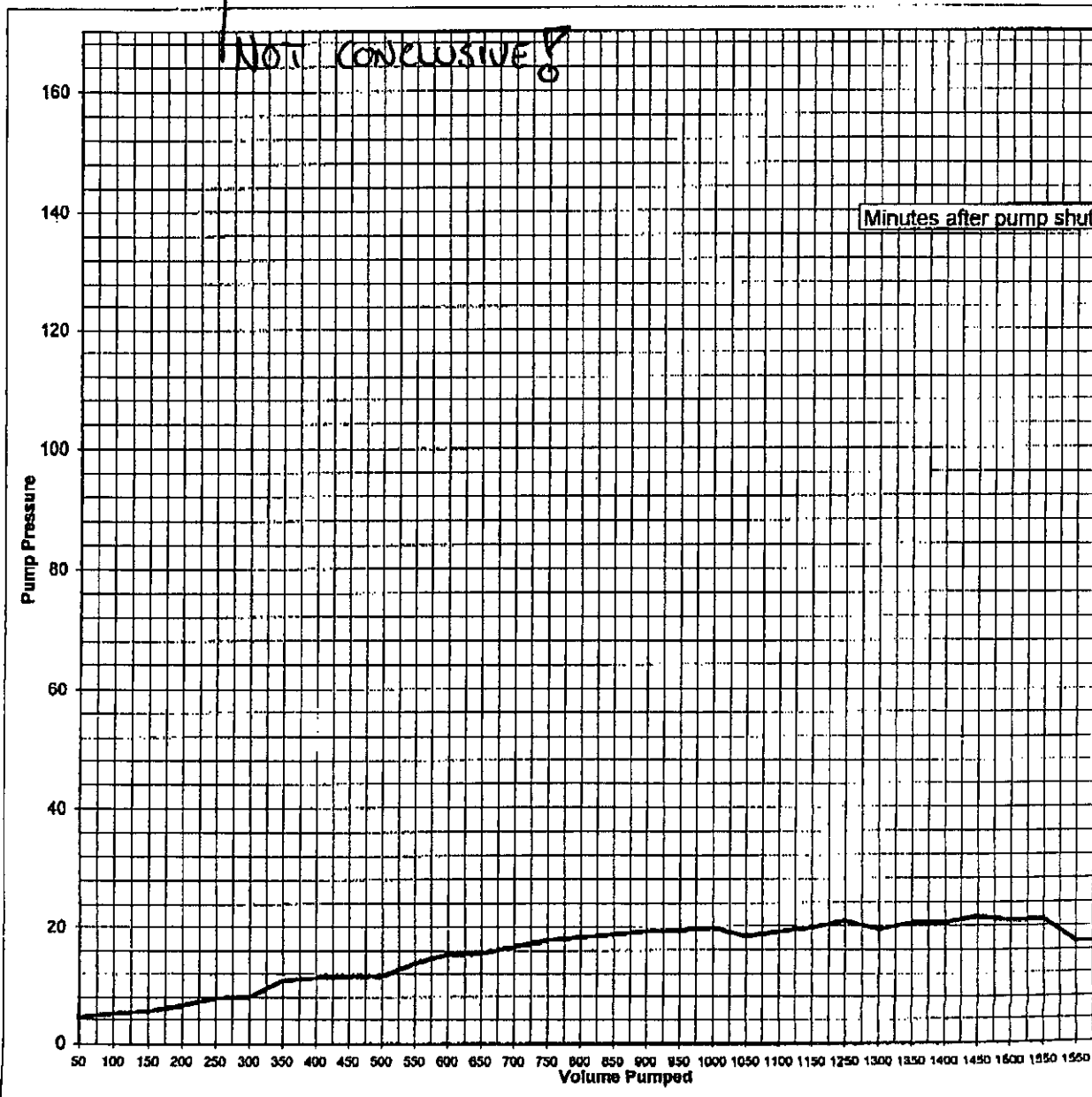
Date 01.05.2000

Rig Transocean Arctic

Sign. T.Jones

Hole Size D oh	:	12,25	Inch	CSG Size D csg	:	13 3/8	Inch
Hole Depth MD oh	:	1763	m	CSG Depth MD csg	:	1755	m
Hole Depth TVD oh	:	1763	m	CSG Depth TVD csg	:	1755	m
Mud Weight In Use MW	:	1,3	s.g.	Max. Pressure P m	:	100	bar
FIT Pressure	:	16,5	bar	Pressure Test Lines	:	200	bar
Equivalent Mud Weight	:	$MW + P_i / TVD_{csg} \times 10.2 =$:	1,396	s.g.	
Volume pumped	:		litres	Volume bled back	:		litres

VOLUME	PRESSURE
50	4,5
100	5,1
150	5,6
200	6,5
250	7,8
300	8
350	10,9
400	11,4
450	11,5
500	11,6
550	13,9
600	15,4
650	15,6
700	16,7
750	17,7
800	18,2
850	18,7
900	19,2
950	19,3
1000	19,8
1050	18,3
1100	19,1
1150	19,8
1250	20,9
1300	19,5
1350	20,6
1400	20,6
1450	21,6
1500	20,9
1550	21,1
1550	17,3
1550	17,1
1550	17,6
1550	16,3



4th attempt lost suction on BJ pump. Pressure gauge and flow meter was showing erratic numbers. Flow meter showed 1808 ltr pumped, but 1275 ltr was measured from tan. Pressure gauge was fluctuating +/- 7 BAR.

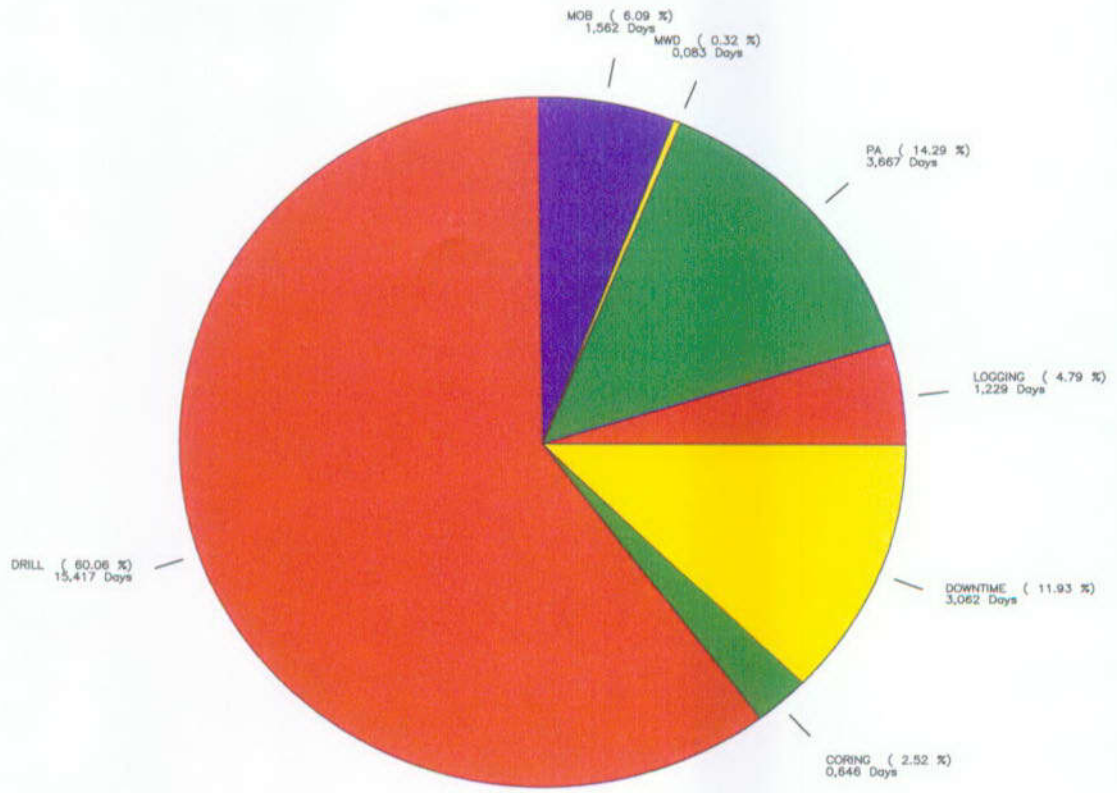
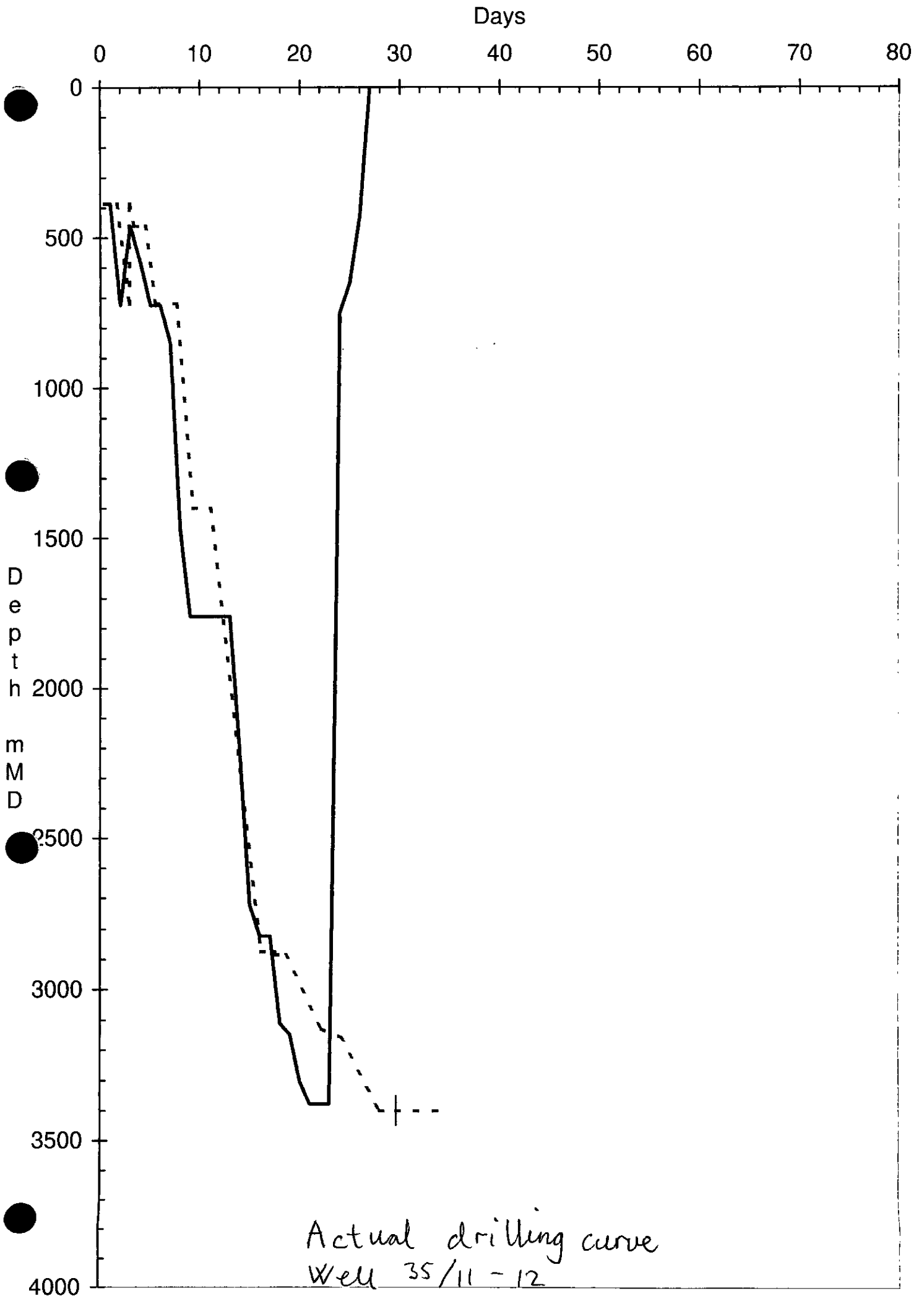


Figure 1

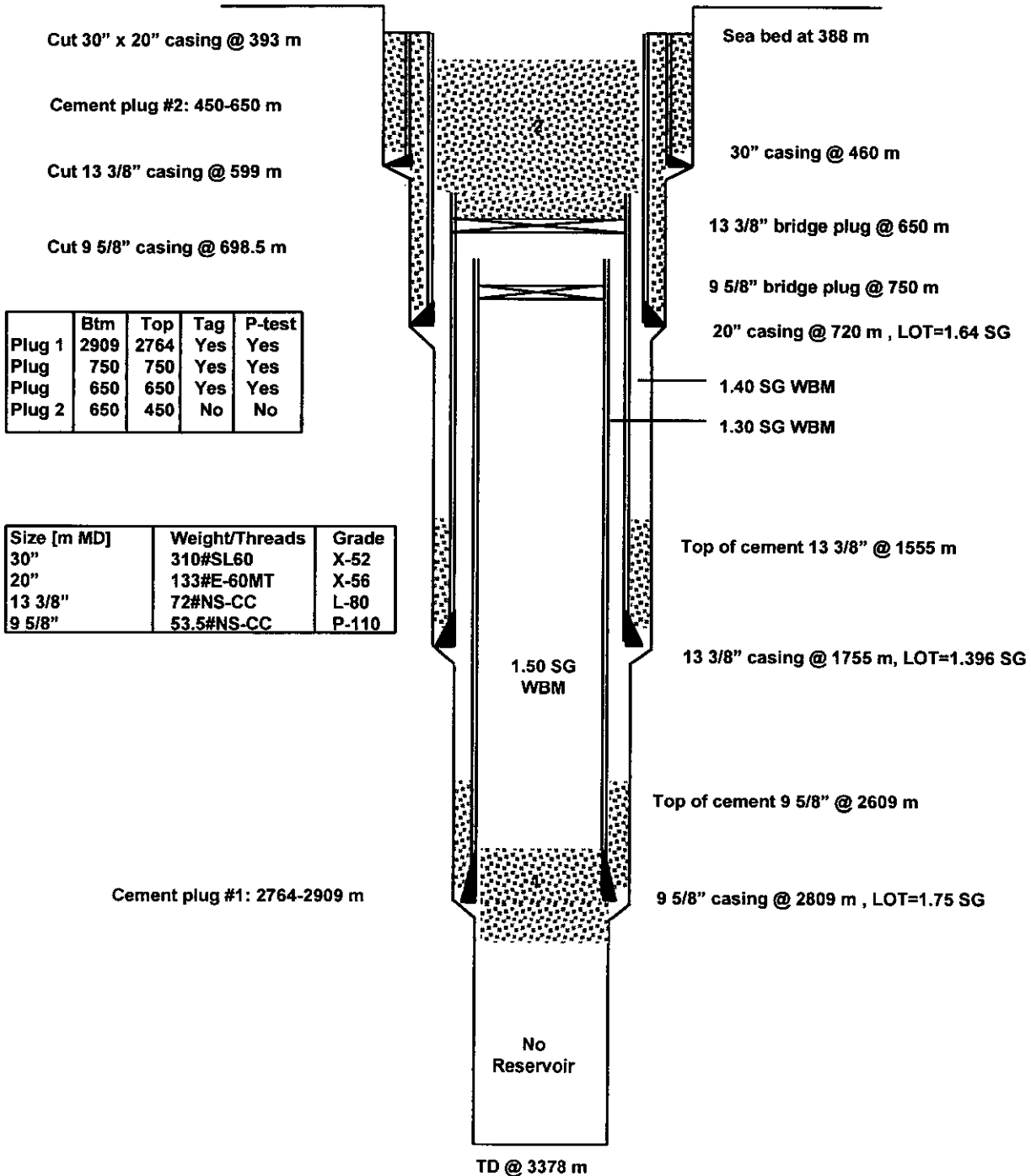
Time Distribution
35/11-12

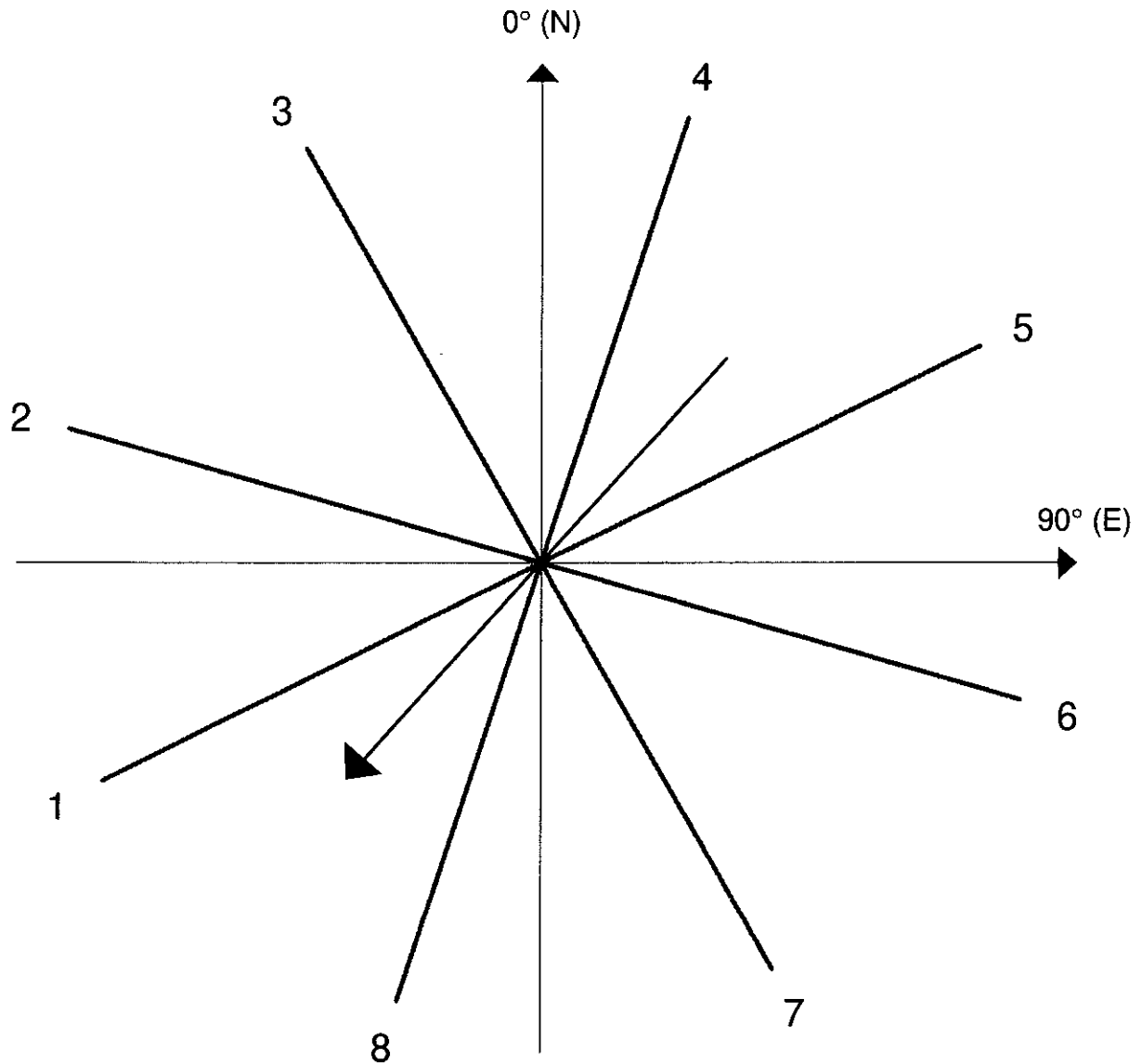
HYDRO



Permanent Plug and Abandonment Profile Well 35/11-12

All depths are in meters RKB
 Drawing NOT to scale
 RKB - MSL: 24 m





RIGHEADING 220 DEG.

ANCHOR NO	DIRECTION (DEG.)	LENGTH (m)
1	242	1649
2	287	1642
3	332	1671
4	17	1657
5	62	1645
6	107	1659
7	152	1636
8	197	1632

Figure 1

RIG ANCHORS
TRANSOCEAN ARCTIC
35/11-12

HYDRO