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EXPLORATION AND DEVELOPMENT
REGION WEST

PL193
WELL 34/11-3 & 3T2

FINAL WELL REPORT

Stavanger, July 1997

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34/11 - 3 & 3T2

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Appraisal well

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1.1.4 *Well Location*

Country	Norway	
Area	North Sea	
Licence	PL 193	
	Statoil (Operator)	65 %
	Norsk Hydro	20 %
	BP	15 %
Geographic coordinates	Latitude N 61° 05' 45.26"	
	Longitude E 02° 31' 6.53"	
UTM coordinates	UTM zone 31, CM 3 E, ED1950	
	N 6 773 726 m	
	E 474 034 m	
Seismic location	Line No. TFE 91R95W	
	inline 792, crossline 1860	
Water depth	208 m	

Total depth of the well 34/11-3	4482 mMD RT (Driller's depth) 4451.5 mTVD MSL
Formation at TD	Statfjord Formation
Total depth of the sidetrack well 34/11-3T2	4230 mMD RT (Driller's depth) 4201.2 mTVD MSL
	4234 mMD RT (Loggers depth) 4205.2 mTVD MSL
Formation at TD sidetrack	Drake Formation

1.2 Rig Data

Rig name	Deepsea Trym
Rig contractor	Odfjell Drilling A.S.
RT elevation	25 m

1.3 Purpose of the Well

The main objectives of the appraisal well 34/11-3 were to reduce interpretation uncertainties, reduce depth conversion uncertainties and to confirm hydrocarbon reserves in the Brent Group of the 34/11-1 discovery, and secondary to test the Statfjord Formation and Cook Formation.
Further objectives were to investigate properties of the Lista Formation of the Rogaland Group, which had significant shows in 34/11-1.

1.4 Results of the Well

The top of the Brent Group was penetrated 14.5 m shallower than prognosed, and was proven to be gas/condensate bearing. No GWC was found in the Brent Group.

The data acquisition programme objectives; to reduce interpretation uncertainties and to reduce depth conversion uncertainties were successfully accomplished.

After having drilled to 4482 mMD RT, the well was plugged back due to BOP repair/pulling.
When re-entering the well an unintentional sidetrack was drilled from 4009 m to 4230 mRT (Drillers TD), 4234 mRT (Loggers TD).

1.5 Well History

1.5.1 *General*

On licence	30th July 1996
On location	31st July 1996
Spud date	1st August 1996
Finished drilling 34/11-3T2	17th December 1996
Rig release	17th January 1997
Status	Perm. plugged and abandoned.

1.5.2 *Contractors*

Drilling contractor	Odfjell Drilling A/S, Stavanger
Cementing	Halliburton
Casing	ODCC
Coring	Baker Hughes Inteq
	Diving
Subsea Norway	
Electric logging	Western Atlas Logging Services
VSP	Western Atlas Logging Services
Helicopters	Helikopter Service A/S
MWD	Baker Hughes Inteq
Mud logging	Geoservices
Mud	Anchor Drilling Fluids
Rig positioning	Geoteam A/S
Site Survey	Geoteam A/S
Supply boats	Boat pool Bergen/Florø
Production Testing	Halliburton

1.5.3 *Casing*

Casing size	Shoe depth (mMD RT)	Leak off tests (equiv. mud weight)
30"	293	
20"	1089	1.66 g/cc
13 3/8"	3465	1.98 g/cc
9 5/8"	3972	2.10 g/cc (FIT)

1.5.4 *Conventional Cores*

Core depths are corrected from Driller's depths to wireline log depth according to "PL 193 Kvitebjørn, PDO Support Document Reservoir Geology and Geophysics". The cores were cut in the original hole but were depth shifted to the wireline logs in the sidetrack! No cores were cut in sidetrack well 34/11-3T2.

CORE	CORED	RECOVERED	RECOV.		LOG CORRECT
No.	INTERVAL (m)	INTERVAL (m)	m	%	INTERVAL (m)
1	2027.0 - 2054.0	2027 - 2035,6	8,60	32	+ 0.8
2	4040.0 - 4048.5	4040 - 4047,35	7,35	86	+ 0.5
3	4048.5 - 4054.0	4048,5 - 4050,57	2,07	38	+ 0.5
4	4054.0 - 4060.5	4054 - 4059,25	5,25	81	- 1.0
5	4060.5 - 4071.5	4060,5 - 4068,3	7,80	71	- 0.6
6	4071.5 - 4073.5	4071,5 - 4072,6	1,10	55	0
7	4073.5 - 4078.5	4073,5 - 4078,3	4,80	96	0
8	4078.5 - 4082	4078,5 - 4082,1	3,60	100	- 0.4
9	4082 - 4086	4082,1 - 4085,6	3,50	88	- 0.3
10	4095 - 4114	4095 - 4111,3	16,30	86	- 0.9
11	4142 - 4183	4142 - 4182,5	40,50	99	- 1.2
12	4480 - 4482	4480 - 4480,31	0,31	16	0

For Core Description, please refer to Appendix III

1.5.5 *Sidewall Cores*

25 sidewall cores were shot in 34/11-3T2, of which 9 were recovered.

1.5.6 *Mud Logging*

A standard North Sea Mudlogging unit running Geoservices ALS^2 Level 5 software was used for this well. The unit recorded, among others, the following parameters:

i) Drilling rate (ROP)
ii) Lithology
iii) Cutting gas
iv) Mud gas
v) Chromatograph reading

For details, please refer to separate report: Geoservices' End of Well Report.

1.5.7 *Logging*

1.5.8 *Electric Logging :* Western Atlas Logging Services

34/11-3 Type of log	Run No	Interval (mRKB)	Remarks
DLL-MAC-CNL-ZDL-GR/SPL	1A	3458 - 1089	Downlog as mainlog. Log density to 2850 m (without caliper-sticking)
ZDL-CNL-GR	1A	3452 - 3452	Stuck at bottom, fished for logging tool
DLL-MAC-ZDL-GR	2B	3982 - 3466	Downlog used as mainlog, due to sticking on uplog
FMT - GR	3A	4031.1 -4036.1	Pressure readings
VSP - GR	1A	1540 - 3452	Tool stuck at 1540 m
SIDETRACK WELL 34/11-3T2			
HDIL - MLL - MAC - DGR - CHT	4C	3750 - 4227 m	HDIL failed after 140 m downlog
DPIL - ZDL - CNL - DSL - CHT	4C	3972 - 4227 m	
DIPLOG - GR - CHT	4A	3972 - 4205 m	From 4205 m only one caliper reading, pads ok
FMT - QD - GR -CHT	4B	TOOL FAILURE	Unable to get valid data from QD pressure gauge
DPIL - GR- CHT	4D	3972 - 4226 m	
MDT - GR	4A	4037 - 4156 m	Telemetry problems, RIH without sample chambers, take 23 pressure points
MDT - GR	4B		TOOL FAILURE
VSP - GR	4B	3285 - 4095 m	
FMT - GR	4B	4144.6-4040.5 m	
MDT - GR	4B		TOOL FAILURE
MDT - GR	4B	4040 - 4186 m	Samples at 4040.4 and 4144.7 m
VSP - GR	4C	4080 - 4224	
MDT - GR	4C		TOOL FAILURE
SWC - GR	4A	4008.5 - 4209	9 of 25
FMT - GR	4C		TOOL FAILURE

1.5.9 *MWD Logging* : Baker Hughes Inteq

RUN No.	LOG DEPTH INTERVAL mRT	COLLAR (inches)	TOOL	COMMENTS
1	293- 1100	9 1/2"	DPR	TD for 26" section.
2	1110 - 1660	9 1/2"	DPR2-TF4	Some gaps in transmitted data
3	1660 - 2027	9 1/2"	DPR2-TF4	A few minor gaps in transmitted data
4	2027 - 2344	9 1/2"	DPR2-TF4	Tool stopped pulsing at 2217 m. POOH at 2344 m
5	2344 - 3463	9 1/2"	DPR2a-TF4	A few gaps in real-time data.
6	3477 - 3981	8 1/2"	DPR/MDP	Modular dynamics pressure sub failed at 3920 m
7	3981 - 4039	6 1/2"	DPR	Minor problems with decoding due to torque
8	4039 - 4072	6 1/2"	DPR	Minor problems with signals, relogged reamed part
9	4072 - 4090	6 1/2"	DPR	Gaps in the real-time log. Memory was OK
10	4090 - 4125	6 1/2"	DPR	Res. stopped at 4114 m (after reamed cored section)
11	4125 - 4142	6 1/2"	DPR	No resistivity readings, else ok
12	4142 - 4480	6 1/2"	DBR	Reamed cored section,core #11. Problem with decoding due to high torque. Depth line snapped off once.
	Sidetrack 34/11-3T2			
13	3818 - 4009	6 1/2"	DPR	
14	4009 - 4230	6 1/2"	DPR	Depth line broke twice, transmitted data lost, good memory log obtained

1.5.10 *Velocity Survey - zero offset*

The VSP was run by WALS. The job in the 17 1/2" hole was conducted with 5 satellites with 15 m spacing. The survey was aborted at 1540 m after the cable got stuck and a fishing operation had to be performed.

Type of log	Run no	Interval (mRT)	Comments
VSP	1A	1540 - 3452	Tool stuck at 1540 m.
"	4B	3285 - 4095	Sidetrack 34/11-3T2
"	4C	4080 - 4224	Sidetrack 34/11-3T2

1.6 List of additional available Reports from the Well

Geoservices	- End of Well Report
Reslab	- Core Photographs core no 1-12, Scale 1:4, White light and UV light, January 1997
Reslab	- "Gel - coring"
Reslab	- Conventional core analysis
Reslab	- Microphotographs - thin sections
Corelab	- Reservoir Fluid Study
Baker Hughes Inteq	- End of Well Report
Anchor Drilling Fluids	- Drilling Fluids Summary
Ichron	- Sedimentological appraisal of the cored Jurassic and Palaeocene succession.
Geostrat	- Biostratigraphy of the interval 1120 m - 4478 m.
Schlumberger	- Transfer and PVT analysis MFDT and FMT chambers
Geoteam	- Site survey vol. 1 - 2
Racal	- Positioning report of drilling rig Deepsea Trym
Statoil	- Well Programme PL 193 well 34/11-3
	- Kick in well 34711-3 on 13th September 1996
	- Early biostratigraphic sampling in 11 cores from the Paleogene and Middle Jurassic, Statoil well 34/11-3
	- Evaluation of reservoir fluid data from Kvitebjørn wells 34/11-1 & 34/11-3

- Standard geochemical study of 34/11-3 & 34/11-3T2

- A petrographic evaluation of reservoir quality of the Brent Group and Lista Formation

- Petrophysical Evaluation Wells 34/11-1, 34/11-2S and 34/11-3 (34/11-3T2).

PL193, Block 34/11
Location Map

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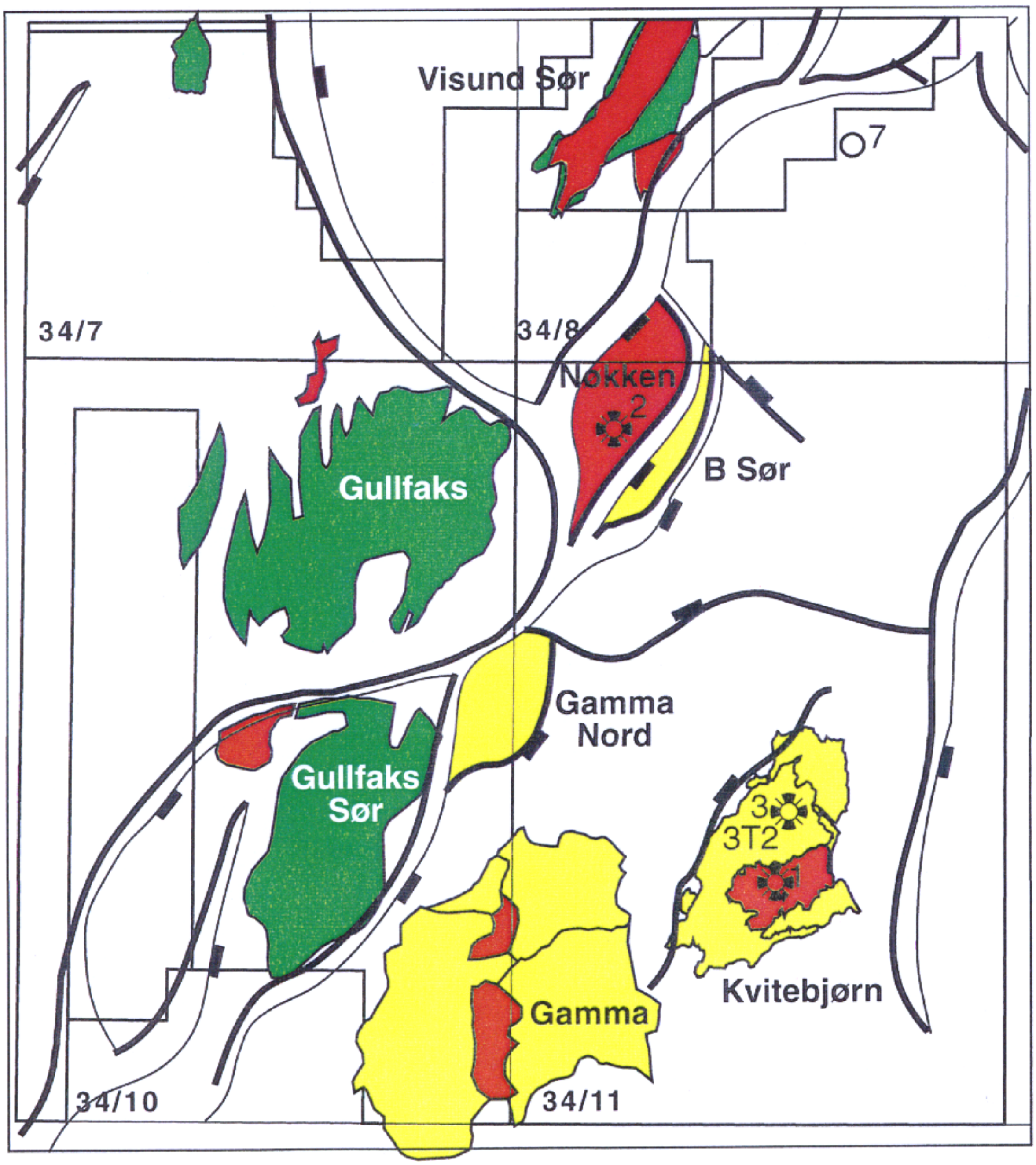


2 GEOLOGICAL REPORT

2.1 Stratigraphy

2.1.1 *Table of Chronostratigraphy*

The table is based on Geostrat's biostratigraphic report and Statoil's own interpretation. No samples were collected above 1115 mMD RT, and tops down to this level are based on MWD-log interpretation and information from adjacent wells.

STRATIGRAPHIC TOPS	mMD RT	mTVD MSL
QUATERNARY	233,0	208,0
TERTIARY (Interpreted from MWD)		
Upper Oligocene (top not seen)	1120 - 1160	1095 - 1135
Lower Oligocene	1180 - 1460	1155 - 1435
Upper Eocene	1480 - 1620	1455 - 1595
Middle Eocene	1640 - 1800	1615 - 1775
Lower Eocene	1820 - 1894	1795 - 1869
Lowermost Lower Eocene	1906 - 1951	1881 - 1926
Upper Palaeocene	1960 - 2086	1935 - 2061
Lower Palaeocene	2095 - 2113	2070 - 2088
--Unconformity	--------------------	--------------------
UPPER CRETACEOUS		
Upper Maastrichtian	2119 - 2170	2094 - 2145
Lower Maastrichtian	2190 - 2290	2165 - 2265
Upper Campanian	2310 - 2370	2285 - 2345
Lower Campanian	2390 - 2610	2365 - 2585
Upper Santonian	2630 - 2870	2605 - 2845
Lower Santonian	2890 - 2910	2865 - 2885
Coniacian	2930 - 3070	2905 - 3045
Upper Turonian (Single sample)	3090	3065
Middle to Lower Turonian	3110 - 3390	3085 - 3365
Upper Cenomanian	3410 - 3690	3385 - 3665
Mid - Lower Cenomanian	3700 - 3867	
LOWER CRETACEOUS		

Upper Albian	3888 - 3915	3863 - 3890
------------------------Unconformity------------------------		
Lower Barremian	3930 - 3945	3905 - 3920
------------------------Unconformity------------------------		
LOWER CRETACEOUS - ?UPPER JURASSIC		
Upper Ryazanian - ?Upper Volgian (single sample)	3960,0	3935,0
STRATIGRAPHIC TOPS	mMD RT	mTVD MSL
UPPER JURASSIC		
Middle Volgian (single sample)	3978	3953
------------------Unconformity--------	--------------------	--------------------
Early Kimmeridgian? - ?Middle Oxfordian	3990 - 4017	3965 - 3992
Lower Oxfordian (single sample)	4035	4010
------------------------Unconformity------------------------		
MIDDLE JURASSIC		
Upper Bathonian (core)	4035 - 4040.26	4010 - 4015.26
Bathonian? - ?Bajocian (core)	4046.82- 4067.34	4021.82- 4042.34
Upper Bajocian (core) (single sample)	4075.48	4050.48
Lower Bajocian -?Aalenian (core)	4080.74 - 4325	4055.74 - 4300
?LOWER JURASSIC		
?Upper Toarcian	4340 - 4385	4315 - 4360
?Upper Pliensbachian	4400 - 4415	4375 - 4390
Upper Pliensbachian	4430 - 4478	4405 - 4453

2.1.2 *Table of Lithostratigraphy well 34/11-3*

LITHOSTRATIGRAPHIC TOPS	DEPTH MD	DEPTH TVD		THICKNESS	DIFFERENCE PROGNOSIS (m)
	(mRT)	(mRT)	(mMSL)	(mTVD)	
NORDLAND GROUP	233	233,0	-208	753	1
Utsira Formation	851	850.5	-825.5	134.5	31.5
HORDALAND GROUP	986	985	-961	918	3
ROGALAND GROUP	1904	1903	-1878	214	28
Balder Formation	1904	1903	-1878	55	28
Sele Formation	1959	1958	-1933	5	16
Lista Formation	1964	1963	-1938	154	13
SHETLAND GROUP	2118	2117	-2092	1650.5	-3
Svarte Formation	3534	3531	-3506	236.5	8
CROMER KNOLL GROUP	3771	3767.5	-3742.5	189	15.5
VIKING GROUP	3960	3956.5	-3931.5	74.5	-3.5
Draupne Formation	3960	3956.5	-3931.5	50	-3.5
Heather Formation	4010	4006.5	-3981.5	24.5	11.5
BRENT GROUP	4035	4031	-4006	162	-14
Tarbert Formation	4035	4031	-4006	15	-14
Ness Formation	4050	4046	-4021	90	-14
Etive Formation	4140	4136	-4111	15	-17
Rannoch Formation	4155	4151	-4126	42	-14
DUNLIN GROUP	4197	4193	-4168	272	-17
Drake Formation	4197	4193	-4168	64	-17
Cook Formation	4261	4257	-4232	42	-23
Burton Formation	4304	4299	-4274	55	-29
Amundsen Formation	4360	4354	-4329	111	-56
Statfjord Formation	4471	4465	-4440		
TD	4482	4476.5	-4451.5		

34/11-3T2 (Sidetrack)

LITHOSTRATIGRAPHIC TOPS	DEPTH MD (mRT)	DEPTH TVD (mRT)	DEPTH TVD (mMSL)	THICKNESS (mTVD)	DIFFERENCE PROGNOSIS (m)
VIKING GROUP	3960	3956.5	-3931.5	72.5	
Draupne Formation	3960	3956.5	-3931.5	47.5	
Heather Formation	4011.5	4008	-3983	25	
BRENT GROUP	4036.5	4033	-4008	160.5	
Tarbert Formation	4036.5	4033	-4008	13	
Ness Formation	4050	4046,0	-4021	91.5	
Etiv Formation	4141.5	4137.5	-4112.5	14.5	
Rannoch Formation	4156	4152	-4127	41.5	
DUNLIN GROUP	4197.5	4193.5	-4168.5	36.7	
Drake Formation	4197.5	4193.5	-4168.5		
TD	4234	4230.2	-4205.2		

2.2 Lithological Description

2.2.1 *General Information*

System, Series and Stage: Partly based on log interpretation, correlation and partly on biostratigraphic report.

Lithology: The lithological description is based on the sample descriptions, Appendix I.

Depositional environment: Based on earlier regional and biostratigraphic reports and core analysis.

The depths are in meters with drill floor as datum unless otherwise stated

2.2.2 *Geological Summary*

34/11-3:

NORDLAND GROUP 233 - 986 mMD, (208 - 960 mTVD MSL)

Series: No biostratigraphy samples
Depositional environment:

The section was drilled to 1115 mMD with returns to seafloor and logged from 293 mMD (30" csg shoe) to 1100 mMD.
Log interpretation suggests mostly clay with some sandy layers. No shallow gas was recorded in the sands.

Utsira Formation 851 - 986 mMD, (825.5 - 960 mTVD MSL)

Series:
Depositional environment:

Log interpretation suggests mostly clay/silt with sand layers down to 914 mRT. The lower part of Utsira Formation consists of clean sand.

HORDALAND GROUP 986 - 1904 mMD, (960 - 1878 mTVD MSL)

Series: Upper Oligocene - Lower Eocene
Depositional environment: Marine, outer shelf to upper bathyal

The Hordaland Group below the 20" casing consists of claystone with beds of sandstone down to 1700 m. Below 1700 m the lithology consists of claystone with occasional thin stringers of limestone and dolomite.

The top Hordaland Group is picked at the bottom of the Utsira Formation. Interpretation is based on MWD, the gamma and resistivity curves show a marked increase in value at the top Hordaland Group.

The claystone is dominantly olive grey to brownish grey, also light to medium dark grey, occasionally dark greenish grey, medium bluish grey, soft to firm, waxy in part and blocky to amorphous. The claystone is silty to sandy in part and non to slightly calcareous and occasionally very calcareous. It is glauconitic and occasionally very glauconitic. Occasional traces of micromica and micropyrite occur. From 1860 m and downwards greyish brown to moderate brown claystone appear. The claystone is soft to firm, blocky, occasionally amorphous, none to moderately calcareous and micropyritic.

The sandstone/sand consist of translucent to clear quartz. They are loose, predominantly fine to medium, occasionally coarse grained, moderately to well sorted, subrounded to subangular, with traces of glauconite and pyrite nodules.

The dolomite is moderate yellow brown, hard, angular and microcrystalline.

The limestone is white to off-white to medium grey, soft to firm and microcrystalline to massive.

ROGALAND GROUP 1904 - 2118 mMD, (1878 - 2092 mTVD MSL)

Series: Lowermost Lower Eocene - Lower Palaeocene
Depositional environment: Marine, inner to mid shelf and outer shelf to upper bathyal

The top of the Rogaland Group is defined by the characteristic increase in the resistivity readings and the appearance of tuff towards the upper part. In this well the Rogaland Group comprises the Balder, the Sele and the Lista Formation.

Balder Formation **1904 - 1959 mMD, (1878 - 1933 mTVD MSL)**

Series: Lowermost Lower Eocene
Depositional environment: Marine, inner to mid shelf

An increase in resistivity and gamma ray introduces the Balder Formation. The formation comprises claystone with tuff and stringers of limestone.

The claystone is medium to dark grey, bluish grey, greyish brown to moderate brown, soft to firm, occasionally amorphous, blocky, non to moderately calcareous.

The tuff is medium grey, soft to firm, crumbly and mottled. It has a grainy texture with traces of black specks, occasionally fine glass crystals and none calcareous.

The limestone stringers are off-white to white, occasionally light grey, firm to hard, blocky, argillaceous and microcrystalline to crystalline.

Sele Formation **1959 - 1964 mMD, (1933 - 1938 mTVD MSL)**

Series: Upper Palaeocene
Depositional environment: Marine, inner shelf to upper bathyal

Top of the Sele Formation is picked where the resistivity and sonic velocity decreases from the values recorded in the overlying Balder Formation.

The Sele Formation consists of medium grey to dark grey and greenish grey claystone. It is predominantly soft to firm, blocky, occasionally amorphous, non to slightly calcareous and occasionally micropyritic.

Lista Formation **1964 - 2118 mMD, (1938 - 2092 mTVD MSL)**

Series: Upper - Lower Palaeocene
Depositional environment: Marine, inner shelf to upper bathyal

The top of the Lista Formation is picked at the top of a homogenous sequence where both resistivity and sonic velocities are lower and more even than in the overlying sediments.

The interval down to 2028 m is dominated by claystone with limestone stringers. The interval between 2028 m and 2070 m is made up of claystone with interbeds of sand/sandstone and with thin stringers of limestone. From 2070 m claystone with limestone stringers becomes the dominant lithology.

The claystone is dominantly light to medium grey, occasionally becoming dark grey, greenish grey and/or occasionally light reddish brown. It is further soft to moderately hard, sticky and non to slightly calcareous.
The sand/sandstone is light grey and consists of translucent to clear quartz. It is argillaceous, micromicaceous in part and occasionally slightly calcareous and/or silica cemented. The quartz grains are predominantly fine, occasionally medium and very fine, grading to silt in part, well sorted and subangular to subrounded.

The limestone stringers are white to light grey, soft to firm, amorphous, microcrystalline and dolomitic in parts.

SHETLAND GROUP 2118 - 3771 mMD, (2092 - 3742.5 mTVD MSL)

Series: Upper Cretaceous
Stage: Upper Maastrichtian - Middle to Lower Cenomanian
Depositional environment: Marine, outer shelf to upper bathyal

The top of the Shetland Group is recognised by a significant increase in the resistivity readings. It is not subdivided into formations apart from the Svarte Formation in the lowermost part. The lithology down to 3534 m (Top Svarte Formation.) consists of claystone with stringers of limestone and occasionally dolomite, intervals/beds of siltstone and some stringers of sandstone.

The claystone is medium grey to dark grey, becoming light to medium grey. Occasionally it appear as olive grey to greenish grey. It is soft to firm, rarely moderately hard, amorphous to blocky, occasionally sticky in the upper part and occasionally slightly subfissile in lower part.
It is occasionally silty to very silty and occasionally slightly sandy. The claystone is micromicaceous, occasional pyretic to micropyritic, generally moderately to very calcareous, and occasionally non to slightly calcareous becoming more calcareous towards depth.
In the lower part, the claystone occasionally grades into marl.

The limestone is light grey to light yellowish grey, occasionally light yellowish brown to grey brown. Generally it is firm to hard, occasionally soft, blocky, angular and micritic or microcrystalline. In parts the limestone is dolomitic, argillaceous and occasionally it is arenaceous.
Locally, the limestone is grading to well cemented sandstone, and in the lower parts locally grading to marl.
The dolomite is moderately brown to yellowish brown and light yellowish brown. It is moderately hard to hard, angular, microcrystalline to subcrystalline and argillaceous in part.

The sandstone is olive grey and consists of clear to translucent quartz. The grains are very fine to fine, subangular to subrounded, moderately sorted, well cemented with calcareous cement and hard. The sandstone is glauconitic and micromicaceous. Abundant glauconite occasionally appear.

Svarte Formation 3534 - 3771 mMD, (3506 - 3742.5 mTVD MSL)

Series: Upper Cretaceous
Stage: Upper Cenomanian - Middle to Lower Cenomanian
Depositional environment: Marine, outer shelf to upper bathyal

The top of the Svarte Formation is picked on a significant limestone bed giving a low gamma and high resistivity reading. It is also marked by an increase in velocity due to it's higher carbonate content.
It also marks the start of a sequence of claystone with abundant limestone stringers compared with the more massive claystone sequence above.

The claystone is light to medium grey and occasionally medium dark grey. It is soft to firm, blocky, non to moderately calcareous, occasionally very calcareous and locally grading to marl. The claystone is also silty in parts with occasional traces of micromica.

The limestone stringers are off white to light grey, pale to dark yellow brown and light brown grey. They are soft to firm, crumbly in parts, blocky, micritic, microcrystalline and occasionally crystalline. They are argillaceous and slightly dolomitic in part.

Traces of sandstone were observed at 3610 m. The sandstone is light grey, very fine, well sorted, calcareous cement and with traces of glauconite.

CROMER KNOLL GROUP 3771 - 3960 mMD, (3742.5 - 3931.5 mTVD MSL)

Series: Lower Cretaceous to ?Upper Jurassic - Upper Cretaceous
Stage: Upper Ryazanian to ? Upper Volgian - Middle to Lower Cenomanian
Depositional environment: Marine, outer shelf

The top of the Cromer Knoll Group is marked by an increase in gamma ray and a sharp decrease in resistivity. There is a marked reduction in the frequency of limestone stringers as compared to the overlying Svarte Formation.

The Cromer Knoll Group consists of claystone beds which in parts are very calcareous occasionally grading to marl interbedded with stringers of limestone. In the lower section of the group hot organic claystones similar to the Draupne Formation were observed.

The claystones are predominantly light to medium grey, occasionally medium dark grey, brownish grey and light olive grey. It is very soft to firm, blocky and occasionally amorphous and silty in parts. It is further slightly to very calcareous and locally non calcareous, in parts grading to marl. The claystone is slightly micromicaceous and becoming micropyritic towards the base.
The hot organic claystone seen in the lower part is brown grey, dark grey to brownish black. It is soft to firm, blocky, crumbly, non to moderately calcareous, silty, carbonaceous, micromicaceous and micropyritic.
The limestone stringers are off white to light grey and occasionally light brown grey to pale brown grey. They are soft to firm, occasionally moderately hard, occasionally crumbly, micritic, microcrystalline, occasionally crystalline and locally with a chalky texture. They are silty in parts and argillaceous, occasionally grading to marl, locally dolomitic, and from 3924 m the limestone becomes micropyritic to locally very micropyritic.

The dolomite is pale to dark yellow brown, hard, blocky, cryptocrystalline to microcrystalline and occasionally sucrosic.

VIKING GROUP **3960 - 4035 mMD, (3931.5 - 4006 mTVD MSL)**

Series: Upper Jurassic
Stage: Lower Kimmeridgian to Middle Oxfordian - Middle Volgian
Depositional environment: Marine, inner - middle to outer shelf

The top of the Viking Group is recognized by a significant increase in gamma ray readings. The Viking Group is represented by the Draupne and the Heather Formations.

Draupne Formation **3960 - 4010 mMD, (3931.5 - 3981.5 mTVD MSL)**

Series: Upper Jurassic
Stage: Lower Kimmeridgian to Middle Oxfordian - Middle Volgian
Depositional environment: Marine, inner to middle - outer shelf

The Draupne Formation consists mainly of organic brown to brownish black claystone. It is firm, occasionally soft, blocky, carbonaceous, and with abundant disseminated pyrite. It is generally non calcareous and slightly silty in part.

Heather Formation **4010 - 4035 mMD, (3981.5 - 4006 mTVD MSL)**

Series: Upper Jurassic
Stage: Lower Kimmeridgian - Middle Oxfordian
Depositional environment: Marine, inner shelf

The top of the Heather Formation is recognized by a drop in the gamma ray readings.

The formation consists of claystone with stringers of limestone and sand/sandstone. The limestone stringers occur most frequently towards the base of the formation.

The claystone is brownish black to dusky yellow brown, firm, very carbonaceous, moderately to very silty, micromicaceous, micropyritic and non to slightly calcareous.

The limestone is brownish grey, dark yellowish grey, pale brown, firm, occasionally moderately hard, blocky and slightly to very argillaceous.

The sandstone consists of loose, clear to translucent quartz. The grains are medium to coarse, subrounded and well sorted. Traces of black oil stain is seen on some grains.

BRENT GROUP **4035 - 4197 mMD, (4006 - 4168 mTVD MSL)**

Series: Middle Jurassic
Stage: Upper Bathonian - Lower Bajocian to ? Aalenian
Depositional environment: Fluviodeltaic

The Brent Group comprises a near complete suite of development from Tarbert through Rannoch Formations. The log characteristics resemble and give a good correlation to nearby wells.

Tarbert Formation **4035 - 4050 mMD, (4006 - 4021 mTVD MSL)**

Series: Middle Jurassic
Stage: Bathonian to ? Bajocian - Upper Bathonian
Depositional environment: Fluviodeltaic

The Tarbert Formation consists of a sandstone with minor carbonaceous laminae and only trace of interlaminated claystone. Only minor coal streaks occur.

The sandstone is yellow brown stained and consists of translucent to clear quartz with traces of the rose quartz marker at 4039 m. The grains are dominantly medium to coarse, but also medium to fine, moderate to well sorted, subangular to subrounded and hard silica cemented. The sandstone has poor to fair visual porosity. The micaceous content is clearly related to argillaceous and shaly interbeds. Dispersed carbonaceous matter, as well as discrete thin coal streaks occur near the base.

Ness Formation **4050 - 4140 mMD, (4021 - 4111 mTVD MSL)**

Series: Middle Jurassic
Stage: Lower Bajocian to ? Aalenian - Bathonian to ? Bajocian
Depositional environment: Fluviodeltaic

The Ness Formation is characterized by a more heterogeneous sandstone sequence with frequent interbeds of various thicknesses of siltstones, shales and coal.

The sandstone is dark yellow brown to light brown, consisting of loose, clear to translucent quartz grains which are predominantly very fine to fine with traces of coarse grains in the upper parts. In the lower parts the grains are dominantly medium to coarse, occasionally fine or very coarse. The grains are subangular to subrounded, moderately sorted to occasionally well sorted, silica cemented and slightly calcareous cemented. The sandstone is micromicaceous to micaceous in parts, argillaceous and with poor to moderate visual porosity.

The claystone in the upper section is dark grey to brownish grey, occasionally olive black to greyish black, moderate hard, becoming hard, blocky to subfissile, occasionally splintry, carbonaceous and coaly in parts. In addition it is occasionally silty, non to slightly calcareous, slightly micromicaceous and micropyritic.
The coal is blocky, moderate hard, brittle and shiny.

Thin laminations of siltstone are appearing occasionally. The siltstone is medium grey to medium dark grey, hard, blocky, argillaceous and non calcareous.

Good traces of limestone appear occasionally are all light olive grey, dark grey, hard, angular, silty and with frequent lamina's of shale material.

Etive Formation **4140 - 4155 mMD, (4111 - 4126 mTVD MSL)**

Series: Middle Jurassic
Stage: Lower Bajocian - ? Aalenian
Depositional environment: Fluviodeltaic

The transition between the Ness and the Etive Formations is characterised on the electric logs by a simultaneously sharp decrease in the gamma ray and a sharp increase in the resistivity.

The sandstone in the Etive Formation is light brown consisting of clear to translucent quartz grains which are fine to very coarse but predominantly medium to coarse. The grains are moderately to poorly sorted, subangular to occasionally subrounded, slightly to well silica cemented but also slightly calcareous cemented. Light brown to dusky yellow brown argillaceous matrix is common. The sandstone has poor to fair visual porosity and is friable to moderate hard.

Rannoch Formation **4155 - 4197 mMD, (4126 - 4168 mTVD MSL)**

Series: Middle Jurassic
Stage: Lower Bajocian - ? Aalenian
Depositional environment:Fluviodeltaic

The Rannoch Formation is characterised by higher gamma ray readings than in the Etive Formation. The Rannoch Formation is dominated by sandstone which gradually becomes silty and micaceous towards the base. One distinct limestone bed appear in the middle section.

The sandstone is light brown, consisting of clear to translucent quartz. The grains are very fine to medium, becoming very fine to fine and occasionally coarse in the lower part. They are predominantly subangular, also subrounded in part and moderate to well sorted. The sandstone is moderate hard to hard, with light brown to light grey argillaceous matrix and is generally silica and slightly calcareous cemented with fair to poor visual porosity. In the lower parts the porosity decreases to poor to non.

The limestone bed is characterized as medium light grey to white, hard with slightly light brown to clear argillaceous matrix and slightly micaceous. No sand grains were observed in the limestone and thus no visual porosity.

DUNLIN GROUP 4197 - 4471 mMD, (4168 - 4440 mTVD MSL)

Series: Lower Jurassic - Middle Jurassic
Stage: Lower Bajocian to ?Aalenian - Upper Pliensbachian
Depositional environment: Marine, inner shelf to fluviodeltaic

The Dunlin Group comprises the Drake, Cook, Burton and Amundsen Formations. The boundary is characterized by a marked increase in the gamma ray readings.

Drake Formation 4197 - 4261 mMD, (4168 - 4232 mTVD MSL)

Series: Middle Jurassic
Stage: Lower Bajocian to ?Aalenian
Depositional environment: Fluviodeltaic

The Drake Formation consists mainly of shale which is dark grey to grey black or brown black and moderately hard. The shale is blocky to subfissile, slightly calcareous, carbonaceous and slightly to moderately micromicaceous. Also a brownish grey, firm, blocky to massive claystone occurs. Traces of pyrite are observed occasionally.

Cook Formation 4261 - 4304 mMD, (4232 - 4274 mTVD MSL)

Series: Middle Jurassic
Stage: Lower Bajocian to ?Aalenian
Depositional environment: Fluviodeltaic

The top of the Cook Formation is recognized by a sharp decrease in the gamma ray readings.

The formation consists of sandstone with thin stringers of shale and limestone, becoming more calcareous cemented and argillaceous with depth.

The sandstone is off white to light grey, light brown to brown, consisting of clear to translucent, loose quartz grains. The grains are very fine to occasionally very coarse but predominantly fine to medium. They are moderately sorted and angular to subrounded. The sandstone is moderately calcareous and silica cemented, moderately hard, moderately micaceous, pyretic and in part argillaceous. The visible porosity is poor.

The shale is brown black, occasionally greyish black to black, hard, slightly silty or sandy, locally very micromicaceous and occasionally carbonaceous.

The limestone stringers are light grey to off white, massive, firm to moderately hard and argillaceous in parts.

Traces of mica, coal fragments and pyrite are common.

Burton Formation 4304 - 4360 mMD, (4274 - 4329 mTVD MSL)

Series: Middle to Lower Jurassic
Stage: ?Upper Toarcian - Lower Bajocian to ?Aalenian
Depositional environment: Marine, inner shelf

The top of the Burton Formation is recognized by a gradual increase in the gamma ray and a corresponding slight increase in the resistivity.
The lithology is dominated by shale, but stringers of sandstone and limestone occur.

The shale is grey black to brown black, hard, blocky to subfissile, micromicaceous, non calcareous and micropyritic in part.

The sandstone is moderately hard to hard and with poor visual porosity. The grains are clear to translucent, very fine to medium and occasionally coarse. They are subangular to angular, dominantly loose, moderately sorted and occasionally calcareous or silica cemented.

The limestone is off white to light grey, massive, firm to moderate hard and argillaceous often as thin laminations.

Traces of coal, mica and pyrite are observed.

Amundsen Formation 4360 - 4471 mMD, (4329 - 4440 mTVD MSL)

Series: Lower Jurassic
Stage: Upper Pliensbachian to ?Upper Toarcian
Depositional environment: Marine, inner shelf

The top of the Amundsen Formation is characterized on electric logs by a small, but marked drop in the gamma ray and a marked increase in the resistivity readings. The lower part of the formation is characterized by a more irregular pattern in both the gamma and the resistivity log readings. The lowermost part of the formation is represented by a very calcareous sandstone.

The lithology consists of shale in the upper part and of shale with thin beds of limestone and thin stringers of sandstone and siltstone. The formation becomes increasingly sandy towards the base.

The shale is brown black, dark grey to greyish black, moderately hard, slightly silty, occasionally micropyritic, carbonaceous and non calcareous. The lowermost shale bed is pale yellow brown to medium grey, soft to moderately hard and slightly calcareous.

The limestone is light grey to brownish grey, firm to moderately hard, occasionally crystalline, argillaceous and very sandy in parts.

The sandstone consists of milky white, clear to translucent quartz. It is friable to moderately hard and occasionally micropyritic. The quartz grains are very fine to very coarse, predominantly fine to medium, angular to subrounded, moderately sorted, calcite cemented and slightly silica cemented.

The siltstone is light grey to brownish grey, friable to moderate hard, sandy in parts, occasionally non calcareous and micromicaceous.

Statfjord Formation **4471 - 4482 mMD, (4440 - 4451.5 mTVD MSL)**

Series: Lower Jurassic
Stage: Upper Pliensbachian
Depositional environment:

The top of the Statfjord Formation is marked by a sharp drop in the gamma ray reading . The formation consists of interbedded sandstone and shale with some minor coaly stringers.

The sandstone is medium grey and consists of clear to translucent quartz. It is friable to hard, locally very hard, micaceous and pyretic. Coal fragments are common. The sand grains are fine to very coarse, predominantly medium to coarse, poor to moderately sorted and angular to subangular. They are silica cemented or slightly calcareous cemented. The visible porosity seems to be poor to fair to locally good. The shale is grey black, brown black and olive black, moderately hard, subfissile, micromicaceous, micropyritic in part and occasionally black, shiny and coaly.
The coal is black, shiny and brittle.

34/11-3T2:

Heather Formation **4011.5 - 4036.5 mMD, (3983 - 4008 mTVD MSL)**
(See 34/11-3 for biostratigraphic interpretation.)

The top of the Heather Formation is recognized by a drop in the gamma ray readings.

The Heather Formation consists of claystone which are sandy in part and with stringers of limestone.

The claystone is brownish black, occasionally dusky yellow brown, firm, blocky, very silty, sandy in parts, very micropyritic in parts, micromicaceous, carbonaceous and non to slightly calcareous.

The limestone is brownish grey, dark yellowish brown to pale brown, firm, occasionally moderately hard, blocky, cryptocrystalline to crystalline and slightly to very argillaceous.

BRENT GROUP **4036.5 - 4197,5 mMD, (4008 - 4168.5 mTVD MSL)**

The Brent Group comprises a near complete suite of development from Tarbert through Rannoch Formations.

Tarbert Formation **4036.5 - 4050 mMD, (4008 - 4021 mTVD MSL)**

The Tarbert Formation consist of a calcareous cemented sandstone.

The sandstone is dark brown stained and consists of loose, translucent to clear quartz with traces of the rose quartz. The grains are fine to coarse, occasionally very coarse, poorly sorted, subrounded to rounded and friable. Generally weakly calcareous cemented.

Ness Formation **4050 - 4141.5 mMD, (4021 - 4112.5 m TVD MSL)**

The Ness Formation is characterized by a more heterogeneous sandstone sequence with frequent interbeds of siltstones, shales and coal.

The sandstones are yellow brown to brown grey and light brown, consisting of loose, clear to translucent quartz grains which are predominantly very fine to medium with traces of coarse grains. A dark brown stain is observed in the upper parts. The quartz grains are moderately to well sorted, subrounded to subangular. The sandstones are friable to moderately hard. The sandstones are silica cemented and occasionally calcareous cemented, slightly argillaceous and micaceous.

The claystone is dark grey and greyish black to brownish black, moderately hard, blocky to subfissile, occasionally splintry and brittle, carbonaceous and coaly in part. In addition it is occasionally silty, non to slightly calcareous, slightly micromicaceous and micropyritic.

The coal is blocky, moderately hard, brittle and shiny.

Good traces of limestone appear occasionally. The limestone is off white, firm to moderately hard, blocky and microcrystalline.

Etive Formation 4141.5 - 4156 mMD, (4112.5 - 4127 mTVD MSL)

The transition between the Ness and the Etive Formations is characterised on the electric logs by a simultaneously sharp decrease in the gamma ray and a sharp increase in the resistivity.

The sandstone in the Etive Formation is light brown consisting of clear to translucent, loose quartz grains which are fine to coarse. The grains are moderately to poorly sorted, subangular to subrounded, silica cemented but also slightly calcareous cemented. Argillaceous and micaceous matrix is common.

Rannoch Formation 4156 - 4197.5 mMD, (4127 - 4168.5 mTVD MSL)

The Rannoch Formation is characterised by higher gamma ray readings than in the Etive Formation. A coarsening upwards gamma ray pattern is identified, indicating sandtones which gradually becomes silty and micaceous towards the base. One distinct limestone bed appear in the middle section.

The sandstone is light brown consisting of clear to translucent, loose quartz. The grains are fine to medium and occasionally coarse. The grains are subangular to subrounded, and moderately to well sorted. The sandstone is moderately hard, silica cemented and occasionally sllightly calcareous cemented with fair to poor visual porosity.

The limestone bed is white to light grey, firm to hard, blocky, microcrystalline to crystalline with no visible porosity.

DUNLIN GROUP **4197.5 - 4234 mMD, (4168.5 - 4205.2 mTVD MSL)**

The Dunlin Group in the sidetrack comprises the Drake Formation. The boundary is characterized by a marked increase in the gamma ray readings on the electric logs accompanied by a marked decrease on the resistivity logs.

Drake Formation **4197.5 - 4234 mMD, (4168.5 - 4205.2 mTVD MSL)**

The Drake Formation consists of brownish black to black claystones, which are moderately hard, blocky, subfissile, slightly calcareous and micromicaceous.

Hydrocarbon shows

No shows were observed in cuttings from the Rogaland Group. In core #1 thin sandstone laminaes were observed. These had patchy very weak to moderate dull yellow fluoresence with slightly blooming weak yellow white cut fluoresence. A moderate to bright yellow white residue was observed.

Only faint shows were observed above the Brent Group. In some of the sandstringers in the Heather Formation a very slow to moderate yellow white cut fluorescence was observed, but generally no fluorescence was observed.

In the Brent Group good gas shows were logged (see gas values). No fluorescence was logged but a slow streaming yellow white to blue white cut fluorescence was observed in the cuttings and in the cores. Good hydrocarbon odour were also observed from the core. The gas data indicates, except in the very lower part of the Rannoch Formation., no change in the gas ratios.

No visual shows were observed in the Cook Formation.

No visual shows were seen in the cuttings of Statfjord Formation, except traces of light brown stain on some of the quartz grains. In the core, there were only weak and slowly yellow white blooming cruch cut fluorescence, a yellow white residual ring and a weak HC odour.

3 ENGINEERING REPORT

3.1 Pore Pressure

Evaluated pore pressure gradient and e-logs for well 34/11-3 are plotted in figure 3.1.1. Drilling parameters are plotted in figure 3.1.2.

All depths are in meters true vertical depth, relative to rotary table (RT).

Tertiary
A normal pore pressure gradient of 1.03 g/cm^3 is estimated down to approximately 1700 m. The sonic log indicates a gradual pressure increase to start from below the lowermost sandstone layer in the Hordaland Group at 1700 m. The pore pressure gradient increases gradually with increasing depth through the Hordaland and Paleocene to a maximum of 1.28 g/cm^3 in the Rogaland Group at 2000 m.

Cretaceous
Log trends show pronounced lateral displacement at the top of the Cretaceous. A shift is therefore applied to the normal velocity compaction trend at the top of the Cretaceous. Velocity data from normal pressured wells drilled in the area have been used to position the normal sonic velocity trend. The pore pressure gradient in the Cretaceous increases gradually from 1.03 g/cm^3 EMW at the top of the Cretaceous to a maximum of 1.31 g/cm^3 at approx. 2500 m and. From 2500 m down to approximately 3000 m the pore pressure gradient gradually decreases to 1.16 g/cm^3. A change in log trends (sonic and resistivity) is seen when drilling in the Coniacian at 3020 m. This may be interpreted as a reduction in the pore pressure gradient to approx. 1.03 g/cm3 in the interval from 3020 to 3400 m. However, a lithology change near top Coniacian (a change to a more calcareous claystone) will affect the logs in the same way as a decreasing pore pressure gradient. This means that a pore pressure gradient close to 1.20 g/cm^3 through the lower parts of the Shetland Group (Coniacian and Turonian) can not be excluded.

A rapid increase in pore pressure gradient is seen when drilling through the Svarte Formation and Cromer Knoll Group interbedded limestones and shales. The pore pressure at the base of the Cromer Knoll Group at 3957 m is from sonic log data calculated to approx. 1.53 g/cm^3. In the Svarte Formation and Cromer Knoll Group the pore pressure gradient calculated from e-logs is lower than the pressure gradient estimates based on gas observations. Explanations for the disagreement can be as follows:

1. Eaton and Matrix stress method only reflect "primary matrix" pressure caused by undercompaction. "Secondary pore pressure" due to gas generation in source rocks, reservoir diagenesis, fractures in pressure communication with deeper formations will not affect the compaction trend. I.e., the pore pressure estimates based on gas observations may represent a higher secondary pore pressure regime in small fractures and/or permeable limestone and sandstone stingers.
2. More calcareous claystone in the Svarte Formation and Cromer Knoll Group affects the logs resulting in underestimation of the pore pressure.

Jurassic

Sonic and Dxc-exponent trendlines show a further increase in pore pressure when drilling through the upper Jurassic claystones. Pore pressure evaluation in the Middle and Early Jurassic reservoir sections is based on MDT log data. The pore pressure gradient calculated from sonic and Dxc exponent in Jurassic claystones is lower than the measured MDT pressures. Explanations for the disagreement can be as follows:

1. Shift in compaction trend required at top Draupne unconformety.
2. Eaton and Matrix stress method only reflect "primary matrix" pressure caused by undercompaction. "Secondary pore pressure" due to gas generation in source rock, reservoir diagenesis, fractures in pressure communication with deeper formations, aquathermal pressuring will not affect the compaction trend.

The MDT log confirmed a pore pressure gradient of 1.95 g/cm^3 EMW at the top of the Brent Group gas reservoir at 4031 m.

No representative MDT pressure readings were obtained from the Dunlin Group and Statfjord Formation. Based on pressure measurements in the Cook Formation is well 34/11-1 the pore pressure gradient in the Cook Formation in 34/11-3 is estimated to be approx. 1,89 g/cm^3 EMW at 4257 m. Assuming a water gradient similar to the Brent Group water gradient in well 34/11-1 through the Cook, Burton, Amundsen and Statfjord formations the pore pressure gradient is estimated to be approximately 1.85 g/cm^3 at TD 4477 m. However, if the pore pressure regime in the Statfjord Formation is similar to the pore pressure gradient measured in the Statfjord Formation in well 34/10-35, the possibility of a pore pressure gradient as high as 1.89 g/cm^3 at TD at 4477 m can not be excluded.

3.2 Temperature Analysis

The recorded temperatures from electric logs are shown in table 3.2.1 and 3.2.2. Figure 3.2.1 shows the measured and extrapolated log temperatures from well 34/11-3 & 3T2. Log and test data from well 34/11-1 and 34/11-2S are also included. No temperature measurements representative for the geothermal temperature are available above 3958 m. Consequently a constant temperature gradient of 3.78°C/100 m was estimated from seabed down to TD of the well. Based on the extrapolated log temperatures and well test temperatures from 34/11-1, the bottomhole temperature is estimated to be 164°C at 4477 mTVD RT.

Log	Run No.	Depth temp. sensor		Recorded temp. °C	Time since end of circ. hrs.	Circulation time hrs.
		mMD RT	mTVD RT			
DLL-MAC-CNL-ZDL-SPL	1A	3419.9	3391.86	105	18	3.3
VSP	1A			Not recorded		
DLL-MAC-ZDL-GR	2B	3958.4	3929.77	124	32.5	2.5
FMT-GR	3A	4031.4		132	28	3.0
HDIL-MLL-MAC-DGR	4C	4197.6		134	19	1.5
DPIL-ZDL-CNL-DSL	4C	4203.3		139	27.4	1.5
DIP-GR	4A	4214.1		146	33.2	1.5
DPIL-GR	4D	4212.3		144	48.3	1.5
MDT-GR	4A	4145.5		149	82.7	1.5
VSP	4B	4020		145?	110	1.5
FMT-GR	4B	4081.3		136.3?	121.3	1.5
Wipertrip						
MDT	4B	4174.5		145	15.3	2.5
VSP	4C	4195		146	31.5	2.5

Table 3.2.1: Measured temperatures from wireline logs

SOURCE	Run	Ref. depth		Method	Extrapolated temperature (°C)
		mMD RT	mTVD RT		
HDIL-MLL-MAC-DGR	4C	4214*	4185.2	Horner	154.7
DPIL-ZDL-CNL-DSL	4C				
DIP-GR	4A				
DPIL-GR	4D				
MDT-GR	4A				
VSP	4B				
FMT-GR	4B				

Table 3.2.2: Horner extrapolated temperatures
* temp. corrected to ref. depth 4114 m (corrected 3 °C/100 m)

WELL 34/11-3 & 3T2 TEMPERATURE PLOT

STATOIL

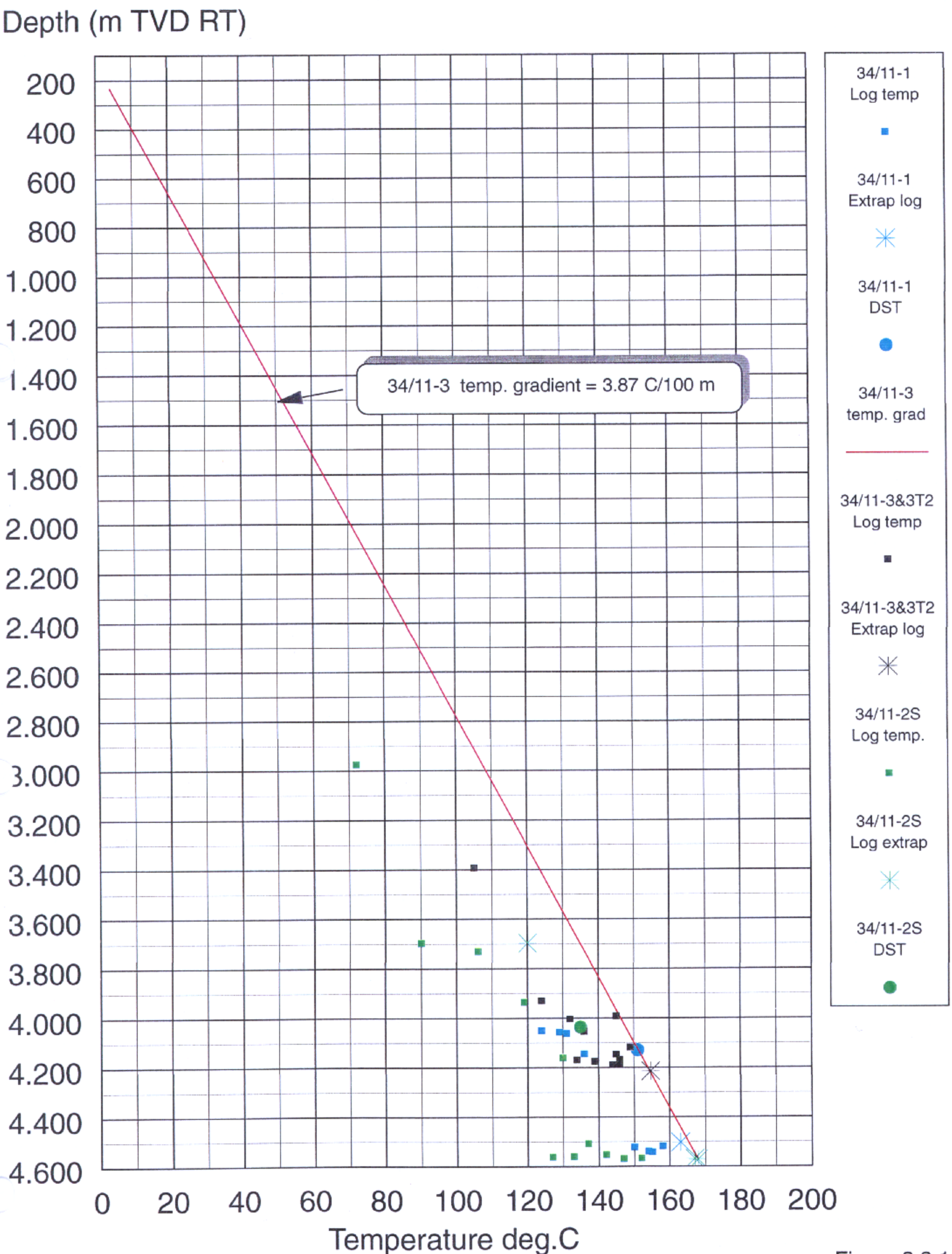


Figure 3.2.1

3.3 Formation Pressure Summary

An intermediate FMT log (run 3A) was performed to verify the pore pressure in the Brent reservoir before cutting cores. The pore pressure gradient at the top of the reservoir at 4042.4 mTVD RT was measured to 1.95 g/cm^3 EMW.

FMT and the MDT logs were run during the TD logging operation in the 8.5" hole. The results of the pressure measurements from FMT run 3A and 4B are listed in Table 3.3.1 and the results from MDT run 4A and 4B are listed in table 3.3.2 respectively. The pressure points are plotted in figure 3.3.1.
A segregated FMT fluid sample (20 litre + 4 litre) was taken in the Tarbert Formation at 4040.5 mMD RT. The 20 litre chamber was emptied offshore and the 4 litre chamber was sent onshore. The 4 litre chamber was later found to be empty. Schlumbergers MDT tool was used to get pressure measurements and fluid samples in the Brent Group. MDT fluid samples were collected at 4044.5 mMD RT in the Tarbert Formation and at 4144.7 mMD RT in the Etive Formation respectively. These samples were sent to the lab for full PVT analysis. Due to MDT tool failure further fluid sampling was aborted. It was not possible to operate the MDT tool with a sampling chamber module in the string. Consequently no representative PVT samples are available from the Ness and Rannoch formations. Table 3.3.3 summarises the results of the wireline fluid sampling.

The pressure points for gradients were obtained during MDT run 4A and 4B. The MDT pressure measurements indicate a gas gradient of 0.381 g/cm^3 in the Brent Group down to the deepest representative pressure reading in the Rannoch Formation at 4179.3 mMD RT (4150.2 mTVD MSL). No gas water contact is evident in the data. The gas gradient is similar to the gas gradient in the Brent reservoir in well 34/11-1. The reservoir pressure in the Brent gas reservoir in well 34/11-3T2 is approx. 0.5 bar lower than the reservoir pressure at similar depth in the Brent gas zone in well 34/11-1. This difference is less than the accuracy of the pressure gauge. I.e., the Brent reservoir pressure is interpreted to be the same in the gas zone in 34/11-3T2 and 34/11-1. However, the gas-water contact in the Brent Group in well 34/11-3T2 is located deeper than the Brent gas-water contact in well 34/11-1.

It was not possible to pass an obstruction at 4195 mMD RT with the MDT tool.Consequently no pressure measurements were taken in the Cook and Statfjord formations.

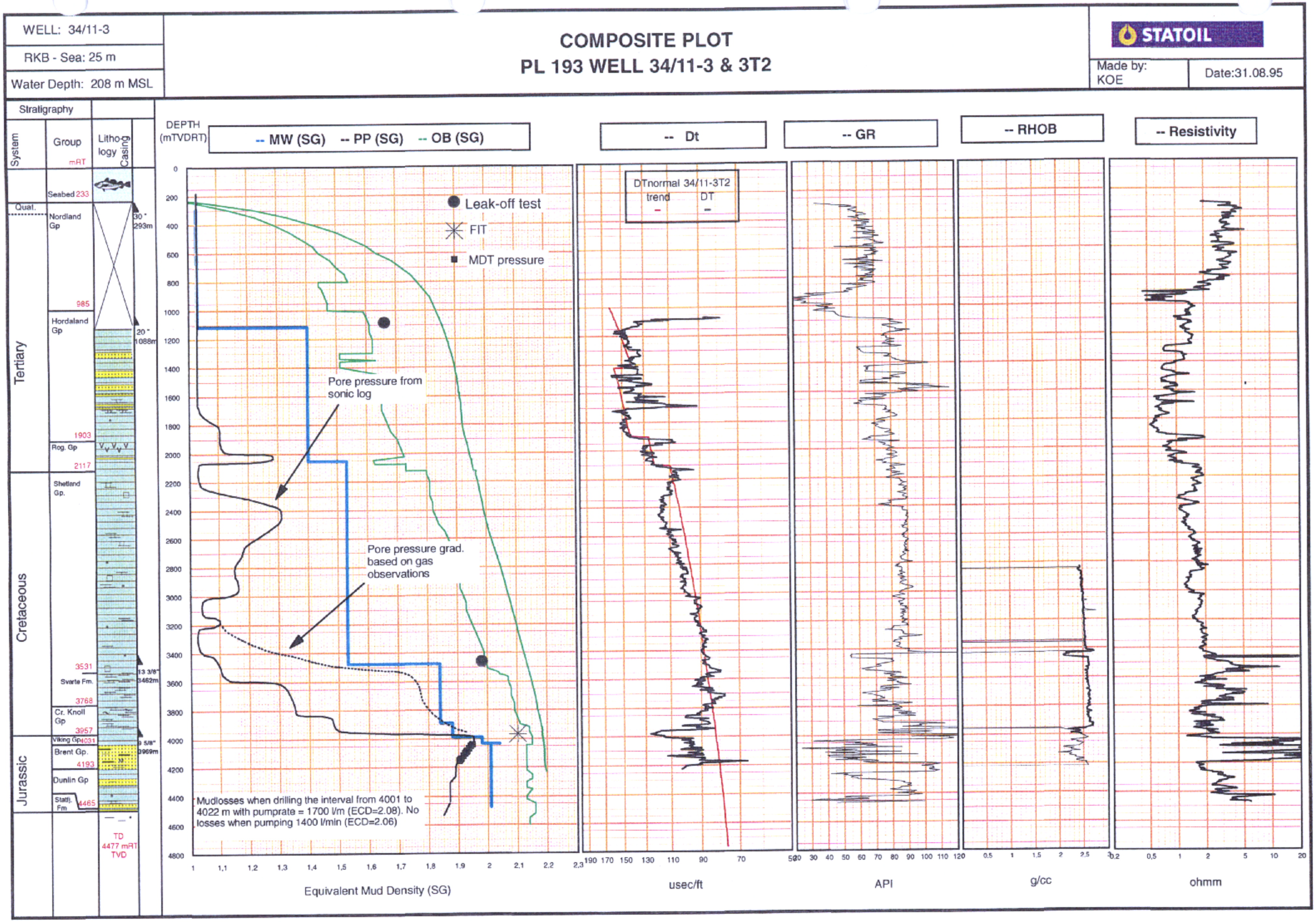

WELL: 34/11-3
RKB - Sea: 25 m
Water Depth: 208 m MSL
COMPOSITE PLOT
PL 193 WELL 34/11-3 & 3T2
STATOIL
Made by: KOE
Date:31.08.95
Stratigraphy
System
Group
Litho-logy
Casing
Seabed 233
Quat.
Nordland Gp
985
Hordaland Gp
1903
Rog. Gp
2117
Shetland Gp.
3531
Svarte Fm.
3768
Cr. Knoll Gp
3957
Viking Gp 4031
Brent Gp.
4193
Dunlin Gp
Statfj. Fm
4465
Tertiary
Cretaceous
Jurassic
30" 293m
20" 1088m
13 3/8" 3462m
9 5/8" 3969m
TD 4477 mRT TVD
DEPTH (mTVDRT)
-- MW (SG) -- PP (SG) -- OB (SG)
Leak-off test
FIT
MDT pressure
Pore pressure from sonic log
Pore pressure grad. based on gas observations
Mudlosses when drilling the interval from 4001 to 4022 m with pumprate = 1700 l/m (ECD=2.08). No losses when pumping 1400 l/min (ECD=2.06)
Equivalent Mud Density (SG)
-- Dt
DTnormal 34/11-3T2
trend
DT
usec/ft
-- GR
API
-- RHOB
g/cc
-- Resistivity
ohmm

Figure 3.1.1

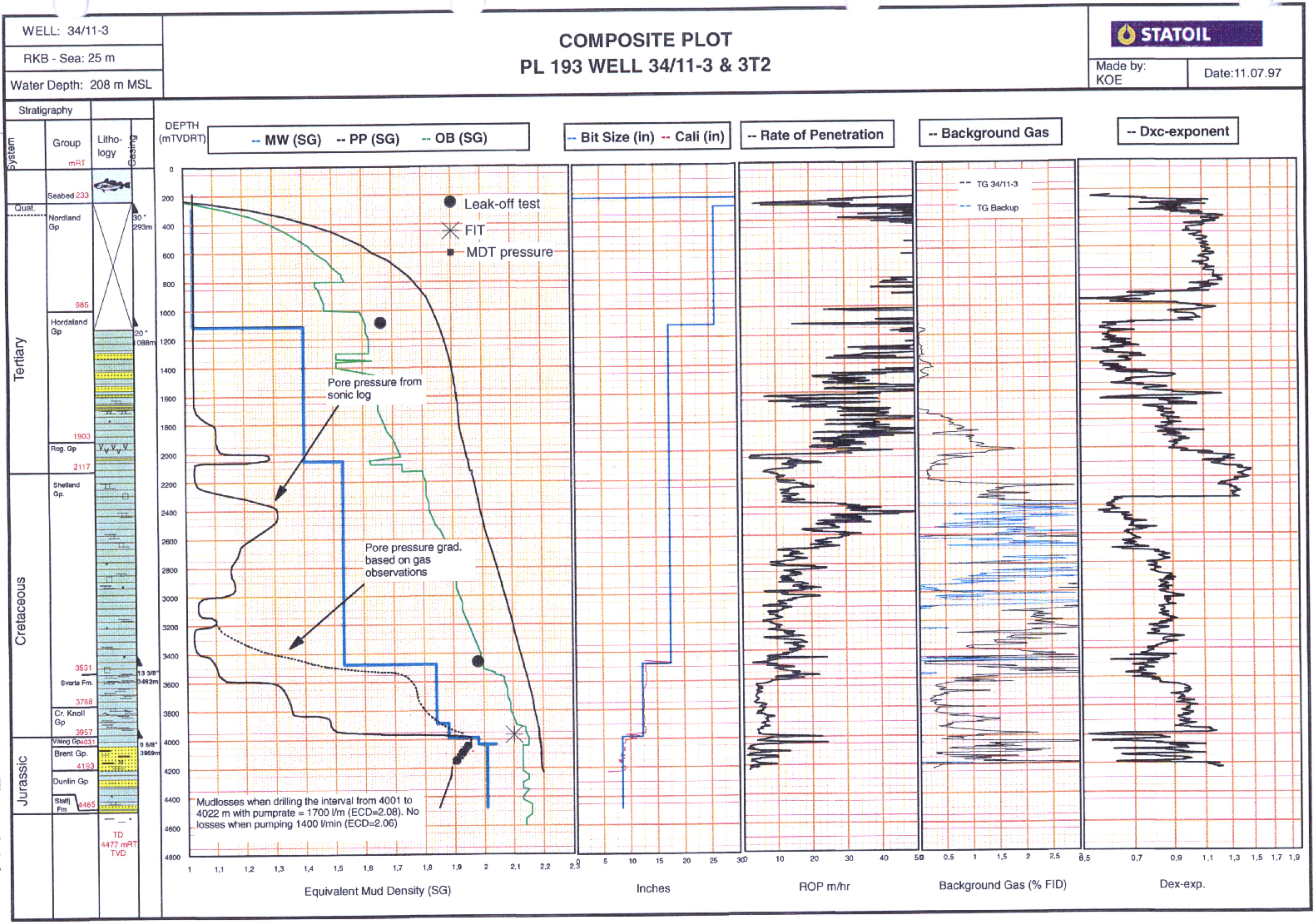

WELL: 34/11-3
RKB - Sea: 25 m
Water Depth: 208 m MSL
COMPOSITE PLOT
PL 193 WELL 34/11-3 & 3T2
STATOIL
Made by: KOE
Date:11.07.97
Stratigraphy
System
Group
Litho-logy
Casing
mRT
Seabed 233
Quat.
Nordland Gp
985
Hordaland Gp
1903
Rog. Gp
2117
Shetland Gp.
3531
Svarte Fm.
3768
Cr. Knoll Gp
3957
Viking Gp 4031
Brent Gp.
4193
Dunlin Gp
Statfj. Fm
4465
Tertiary
Cretaceous
Jurassic
30" 293m
20" 1088m
13 3/8" 3462m
9 5/8" 3969m
TD 4477 mRT TVD
DEPTH (mTVDRT)
-- MW (SG) -- PP (SG) -- OB (SG)
-- Bit Size (in) -- Cali (in)
-- Rate of Penetration
-- Background Gas
-- Dxc-exponent
Leak-off test
FIT
MDT pressure
Pore pressure from sonic log
Pore pressure grad. based on gas observations
Mudlosses when drilling the interval from 4001 to 4022 m with pumprate = 1700 l/m (ECD=2.08). No losses when pumping 1400 l/min (ECD=2.06)
TG 34/11-3
TG Backup
Equivalent Mud Density (SG)
Inches
ROP m/hr
Background Gas (% FID)
Dex-exp.

Figure 3.1.2

FMT PRESSURE RESULTS

Test No.	Formation	Depth mMD RKB	Depth mTVD RKB	Hydrostatic pressure before bar	Hydrostatic pressure after bar	Formation pressure bar	Mob. md/cp	Comment
FMT run 3A								
1	Tarbert	4031.1	4027.4	79130,00	79063,00			Tight
2	Tarbert	4036.1	4032.4	79484,00	79425,00	772.34	39.3	Good perm
6	Tarbert	4035.9	4032.2	79554,00	79486,00	772.51	2.6	Fair perm.
FMT run 4B								
1	Tarbert	4044.6	4040.87	787.3	785.3	770.6	69.9	Good perm. sample

Table 3.3.1: FMT results, run 3A and 4B

MDT PRESSURE RESULTS

Test No.	Formation	Depth mMD RKB	Depth mTVD RKB	Hyd. press. before bar	Hyd. press. after bar	Formation pressure bar	Mob. md/cp	Comment
MDT RUN 4A								
1	Tarbert	4041.1	4037.4	788.37	786.03	772.68	0,1	Supercharge
2	Tarbert	4044.57	4040.87	786.24	785.04	771.1	188,4	Good
3	Tarbert	4046.42	4042.72	785.12	783.79	771.16	57,8	Good
4	Ness	4051.08	4047.38	784.52	785.55	772.52	0,7	Supercharge
6	Ness	4057.58	4053.87	785.52	785.26	771.61	26,0	Good
7	Ness	4064.08	4060.36	786.34	785.06	748.48	0,1	Tight
8	Ness	4074.08	4070.33	789.73	788.58	772.23	731,0	Good
9	Ness	4090.09	4086.34	791.75	790.42	772.87	138,0	Good
10	Ness	4094.08	4090.33	791.08	790.52	772.99	369,3	Good
11	Ness	4097.08	4093.34	791.92	790.92	773.1	251,6	Good
12	Ness	4099.21	4095.47	791.33	790.4	773.17	155,0	Good
14	Ness	4104.64	4100.91	790.34	791.92	773.38	22,1	Good
15	Ness	4110.08	4106.36	793.8	792.1	773.55	74,4	Good
17	Ness	4124.11	4120.36	798.63	796.91	774.12	979,3	Good
20	Etive	4144.56	4140.78	804.17	802.15	774.94	119,1	Good
21	Etive	4148.72	4144.94	802.53	801.23	775.06	505,4	Good
25	Etive	4151.02	4147.25	802.76	800.7	775.17	34,4	Good

MDT RUN 4B								
24	Tarbert	4044.49	4040.79	789.97	796.78	770.94	80	Good, sample
1	Ness	4124.1	4120.35	808.32	807.6	774.03	760	Good
22	Ness	4130.59	4126.83	802.45	801.36	774.43	762.6	Good
21	Etive	4144.66	4140.88	805.86	805.56			Good, sample
20	Etive	4148.72	4144.94	807.26	808.14	775.02	166.3	Good,
2	Etive	4154.09	4150.32	815.13	813.65	775.21	251.9	
3	Rannoch	4160.11	4156.34	814.65	813.57	655.31		Tight
4	Rannoch	4161.09	4157.32	814.61	813.77	577.71		Tight
5	Rannoch	4164.95	4161.18	814.35	813.64	775.77	13.6	Fair
6	Rannoch	4169.9	4166.12	815.33	813.8	779.18	0.2	Supercharge
7	Rannoch	4179.09	4175.3	815.86	814.92	601.86		Tight
18	Rannoch	4179.26	4175.47	811.86	809.52	776.47	10.7	Leaking?
19	Rannoch	4179.26	4175.47	808.74	809.1	776.35	6.9	Fair
16	Rannoch	4182.29	4178.5	811.77	811.62	631.86		Tight
15	Rannoch	4182.39	4178.6	812.5	811.86	800.19	0.17	Superch
8	Rannoch	4182.48	4178.69	815.91	815.25	623.15		Tight
14	Rannoch	4183	4179.21	814.76	813.18	626.4		Tight
9	Rannoch	4187		819.36	817.45	773.52	0,1	Supercharge
10	Rannoch	4187.1		817.07	816.71	657.81		Tight
11	Rannoch	4190.2		816.45	816.15	623.89		Tight

Table 3.3.2: MDT results, run 4A and 4B

MDT/FMT sampling results

Zone	Depth mMD RT	Depth mMD RT	Chambers	Remarks	Opening pressure
FMT run 4B					
Tarbert	4044.6	4040.9	20 l preflush	19.3 ft^3 gas, approx. 7 l filtrate, approx. 0.5 l condensate. CO_2=1.5 %, H_2S=0 ppm Filtrate: PH=7,7 @ 27 C Chloride: <1000 mg/l SCN: 85 mg/l	248 bar
			1 gallon chamber	Sample chamber was empty. Tool failure or probe plugged.	110 bar

MDT run 4B					
Etive	4144.7	4140.9	1 gallon chamber 3 x 450 cc multisamples	Chamber leaked (damaged trottle valve). Backpressure on piston led to small volume of fluid back in chamber when at surface. Content: mixture of mud, filtrate, some solids and hydrocarbons. Sample bottle No.: 650 and 649 were sealed off and sent to PVT lab.(Bottle No. 677 not filled)	Back-pressure on piston
MDT run 4B					
Tabert	4044.5	4040.8	1 gallon chamber 3 x 450 cc multisamples	Chamber leaked (damaged trottle valve). Backpressure on piston led to small volume of fluid back in chamber when at surface. Content: mixture of mud, filtrate, some solids and hydrocarbons. Sample bottle No.: 644 and 643 were sealed off and sent to PVT lab. No positive indication of filling up bottle No. 643 and 645	Back-pressure on piston

Table 3.3.3: MDT/FMT sampling result

WFT PRESSURES, WELL 34/11-1 & 3T2

STATOIL

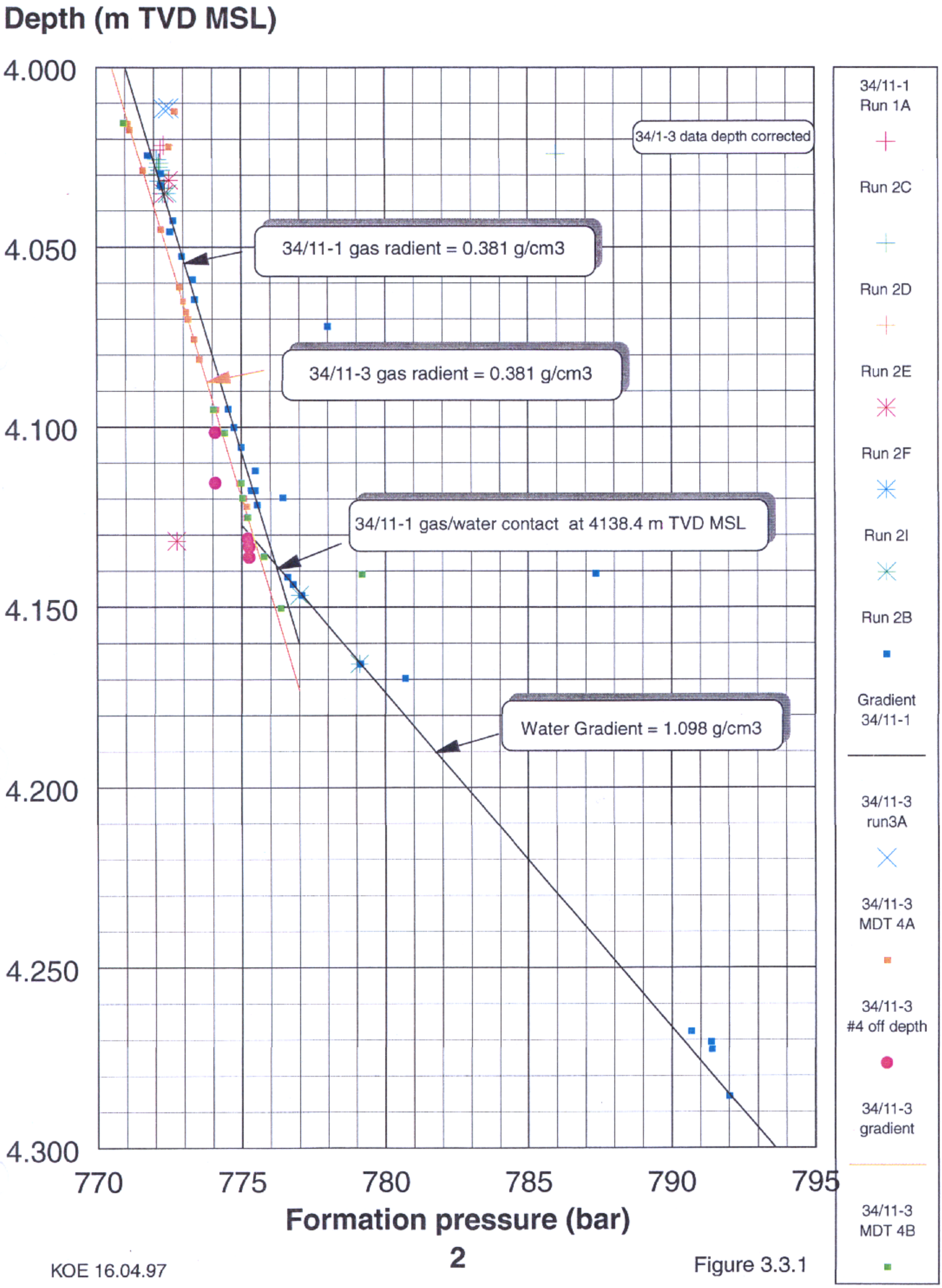


Figure 3.3.1

4 DRILLING REPORT

4.1 Summary:

Project start:	30.7-96 at 05:00 hrs
Spud start:	1.8-96 at 08:30 hrs
Project end:	17.1-97 at 10:00 hrs
Coring phase:	22,3 days
Drilling phase (from spud):	148,9 days (includes logging, coring, gas influx, BOP problems)
Total Days (from spud):	171,2 days
Planned days (from spud):	70 days

Drilled the well to final depth at 4482 m.

The 30", 20", 13 3/8" and 9 5/8" casing were run and cemented. Ran/cemented 9 5/8" csg. without returns during running/cementing/displacing.

No signs of gas was discovered by ROV when drilling 36" and 26" hole.

When drilling 8 1/2" hole at 4032 m a kick situation was experienced. A total of 23,8 days was spent before the operation could be continued.

Due to BOP connector problems, and the repair of the connector, a cement plug was set. When drilling out the cement plug the well was unintentionally sidetracked at 4009 m. 34/11-3T2 was drilled to final TD at 4230 m

1 core was cut in Lista Fm in the 17 1/2" section, 10 cores in Brent Fm and 1 core in Statfjord Fm were cut in 8 1/2" section.

34/11-3T2 was permanently plugged and abandoned.

4.2 Exemption Summary

Exemption No. 1) Pressure testing 13 3/8" casing. To avoid exceeding 85 % of casing strength was test pressure reduced from 487 bar to 455 bar.

Exemption No. 2) HPHT wells: the temperature in the well would exceed 150^{0}C at TD. Installed high temperature elastomers in the BOP and in the riser connections.

Exemption No. 3) Requirements to casing and production tubulars: the safety factor for 13 3/8" burst is 1.18. Reduced safety factor to 1.12C which is gasfilled casing. The casing will not be exposed to reservoir pressure.

Exemption No. 4) Requirements to casing and production tubulars: in 12 1/4" and 8 1/2" hole the margins was reduced to 3.7 m^3 and 6.5 m^3. These number are calculated by using riser margin in 8 1/2" section and not in 12 1/4" section.

Exemption No. 5) Requirements to well control: do not use riser margin when drilling 12 1/4" section.

Exemption No. 6) Requirements to Casing and production tubulars: 13 3/8" casing have to be set at the top of the pressure transition zone to achieve sufficient strength for drilling 121/4" section.

Exemption No. 7) Upper racking arm have to be sent onshore for repair.

Exemption No. 8) Requirement to drilling operation: deviations from KP10-K110, Chapter 4.5.2 and 4.5.4.

Exemption No. 9) Pressure testing of production-test equipment: reduce the test pressure from 732 bar to 690 bar.

Exemption No. 10) HPHT operational guidelines: make a 10 stands wet short trip with pumps off at the top of the reservoir were the porepressure is the highest.

Exemption No. 11) HPHT operational guidelines: surge/swab calculations concluded that it was not necessary to pump out of 8 1/2" hole.

Exemption No. 12) Requirements to drilling operation: cementplug in 8 1/2" hole and into 9 5/8" casing will not be pressure tested to 10 T and 70 bar over LOT pressure. A bridge plug was run and pressure tested.

4.3 Drilling operations in intervals

Rigmove and anchorhandling:

Activity start	:	30.7-96 at 05:00 hrs
Actual duration	:	2,2 days
Planned duration	:	2,0 days

The rig left 24/12-3 and sailed to location 34/11-3. Supply vessels involved in towing and anchorhandling were "Gullbas" and "Troms Skarven".

36" hole section : 233 m - 293 mMD (Nordland Gp)

Activity start	:	1.8-96 at hrs 08:30
Actual duration	:	1,4 days
Planned duration	:	1,0 days
Mud system	:	Seawater/Bentonite
Mud weight	:	1.03 g/cm^3

Drilled from seabed to section TD with 17 1/2" bit and 26" and 2 x 36" holeopeners in one run. Optimized bit hydraulic with total TFA=1,87 in^2.
Drilled with seawater and swept hole with 5 m^3 HI-VIS pill every 15 m.
Low ROP because of coarse material as prognosed. Displaced hole to 1,20 g/cm^3.
The 30" casing was cemented with shoe at 293 m.
No signs of gas were reported from the formation (w/ROV).

26" hole section : 293 m - 1115 m (top Hordaland Gp)

Activity start	:	02.08-96 at 17:30 hrs
Actual duration	:	5,4 days (incl. BOP running /testing)
Planned duration	:	4,5 days (incl. BOP running /testing)
Mud system	:	Seawater/Bentonite
Mud weight	:	1.03 g/cm^3

Drilled 26" section with 26" bit (Smith MSDSHODc, TFA=0,875 in^2) and mudmotor (Baker: 11 1/4" MK1-P). Drilled this section in one run with seawater. Displaced hole to 1,20 g/cm^3. The 20" casing was run and cemented with the shoe at 1024 mMD.
Performed a LOT below the 20" shoe to 1,66 g/cm^3 using 1,40 g/cm^3 mud.
No signs of gas were reported from the formation (w/ROV).

17 1/2" hole section: 1115 m - 3477 m (Shetland Gp)

Activity start	:	8.8-96 at 02:00 hrs
Actual duration	:	23,3 days
Planned duration	:	19,5 days (includes logging)
Mud system	:	Anco 2000
Mud weight	:	1,40 - 1,55 g/cm^3

Drilled out of 20" shoe and performed LOT=1,64 g/cm^3 with 1,40 g/cm^3.
Used a mudmotor (Baker: 11 1/4" MK1-P) on all bit runs in this section.

Drilled to 1660 m. Had to pull out due to top drive stalling out. Tight hole at 1230 m and 1150 m (Hordaland Gp). Max 30 ton. Bit 1" undergauge (Hycalog DS40HG) and 100 % worn.

Changed clamp on piston and changed seat and valve on mudpump #2.
Changed pump module on mudpump #3.
Lost time: 13,5 hours

Continued drilling the section down to coring point, at 2027 m (Lista Fm), with an insert bit (Reed MS41HML). Tight hole at 1910 m when POOH.

Cut 1 core in Lista Fm in Rogaland Gp with 8 1/2" coring assembly with telescopic inner barrels.

Reamed and opened up cored interval to 17 1/2" and continued drilling. POOH due to MWD failure. Increasing drag when POOH indicating tight hole at 60 ton. Performed FIT to 1,61 g/cm^3, with 1,53 g/cm^3, mud to verify the porepressure.

This was the third run for this tool. The tool stopped pulsing at 2217 m, a total of 102 circulating hours were on the tool. At 2344 m a trip was made to change out the MWD tool. No data was in the memory after the tool stopped pulsing, suggesting an electrical failure, possibly a turbine failure. The cored section from 2027 m to 2054 m was logged while opening the hole from 8 1/2" to 17 1/2".
Lost time: 20 hours

Continued drilling to section TD, at 3477 m, with a PDC bit (Hycalog DS40). Used 2 mudpumps in parts of the section.

Changing suction module on mudpump 2 & 3.
Repairing damaged pop off on mudpump #1.

RIH with log #1. Logging wire stuck. RIH with DP to cut and tread logging wire.

Reason for the stuck tool was defined as differentially stuck logging wire. The logging tool stopped at 3453 m (lower Shetland Gp), but it was concluded that the cable was stuck at a shallower level.
Lost time: 55,5 hrs on both incidents

RIH for a wiper trip. Tight hole from 1160 m to 1975 m. Hard reaming between 1600 m - 1800 m. Got lots of cutting and caving on shakers. More tight hole at 1972 m, 2040 m, 2565 m, 3200 m. POOH for logging.
Logging tool (VSP) stuck again at 1540 m. RIH with DP to cut and tread logging wire.
Lost time: 22 hours

The logging program was aborted.
13 3/8" casing was run to using 350 ton side door elevator down 20" casing shoe and 500 ton spider elevator to TD.

The block were stringed with 10 lines. Capacity of 280 ton.

Cemented 13 3/8" casing at 3465 m. Started seeing downhole losses after 5000 strokes.
Reduced pumprate to 1000 lpm. Losses stopped. Lost a total of 26 m^3.

Pressure tested cement lines. Had leak. Greased up LO-torque valves. Removed pressure sensor at cement standpipe.
Lost time: 1,5 hours

Attempted to test acoustic system - Neg. Prepared to pull BOP.
Lost time: 4,5 hours

Performed a LOT below the 13 3/8" shoe to 1,98 g/cm^3 using 1,84 g/cm^3 mud.

12 1/4" hole section: 3477 m - 3985 m (Viking Gp)

Activity start	:	31.8-96 at 08:00 hrs
Actual duration	:	11,3 days
Planned duration	:	15,5 days

Mud system	:	Anco Vert
Mud weight	:	1,84 - 1,88 g/cm^3

Started rotary drill 12 1/4" section with 1,84 g/cm^3 Anco2000 mud. The section was drilled in one run to 3985 m. Mud weight was increased to 1.88 g/cm^3 at 3890 m. TD was 25 m into the Draupne Fm. Optimized the hydraulic by not using a mudmotor and 6 x 14/32" nozzles which gave HSI=3,36 HP/in^2 on Lyng LA260BG.

MWD tool had a sub connected which could take internal and external pressure within the drillstring and also downhole WOB and torque readings. But the MWD tool was not accessed to receive the higher transition rate. The tool should have 2 Mb upper memory.

Logged the 12 1/4" hole.

Ran/cemented 9 5/8" csg. to 3972 mMD without returns during running/cementing/displacing. Used 500 ton spider elevator. Had only partial returns when running casing from 13 3/8"shoe.

Because of low drawwork capacity (one motor down) casing had to be floated in from 13 3/8" casing shoe. According to contract hoisting system shall lift 590 ton with 12 lines. When running 9 5/8" casing 2 drawwork motors gave max. 280 ton. With 3 drawwork motors this will give maximum 420 ton Block is stringed with 10 lines.
Attempted to test seal assembly against MPR. Negative. RIH with emergency seal assembly. Negative. RIH with a new emergency seal assembly. OK!
Lost time: 19 hours

Performed a FIT below the 9 5/8" shoe to 2,10 g/cm^3 at 3988 m with 1,88 g/cm^3 mud.

8 1/2" hole section : 3985 m - 4230 m (Statfjord Fm)

Activity start	:	11.9-96 at 13:30 hrs
Actual duration	:	96,3 days (22,3 days of coring included)
Planned duration	:	21,0 days (6 days of coring included)
Mud system	:	Anco Vert
Mud weight	:	1,98 - 2,01 g/cm^3

Drilled 8 1/2" hole to 3998 m (Viking Gp). ROP increased from 6 m/hr to 38 m/hr. Circulated and observed pressure build up on choke. Mudweight out varying from 1, 94 g/cm^3 to 1,97 g/cm^3. Circulated until even mudweight in/out. Continued drilling to 4032 m (Brent Gp).

The MWD and mudmotor were omitted to optimize hydraulics in this section.

Experienced a kick situation. Sequence of events that lead to the incident could be read in the investigation report and will be summarized here:

"9 5/8" csg. was set at 3972 m, and drilling continued on Wednesday September 11th, with a kick drill being performed in the start up phase and then a FIT performed (equiv. 2.10 SG) after having drilled 3 meter new formation.
The mud was changed out to 1,98 SG Ancotherm mud.

The well was observed to be unstable with a 600 litres gain after a drilling break at 3998 m, and the well was shut in with the following pressures on casing and drillpipe; SICP: 37 bar and SIDPP: 15 bar. The well was circulated bottoms up in accordance with conventional well control procedures using "Drillers method" with 30 strokes/min at constant DP pressure. The choke pressure varied between 15 and 20 bar during circulation and the return mud weight was observed to vary between 1,92 and 1,97 SG while the mud weight in was 1.98. It was, thus, concluded that the unstability had been caused by U-tubing due to lighter mud weights in the annulus. Inconsistent return mud weights, varying between 1,94 and 1,97 SG, were observed during Wednesday evening, and towards midnight problems with lost circulation also occurred. This was corrected by reducing circulation rate to 1450 l/min.

A new pit gain of 400 litres was observed on Thursday morning and the casing pressure (SICP) was recorded as 17 bar when the BOP upper annular was closed. Drill pipe pressure (SIDPP) was in this case 0. The BOP was reopened and a new flow check performed. The well was reported to be stable and drilling continued.

At 4034 m drilling was halted to circulate bottoms up, and fluid loss to formation was observed. A10.5 m^3 LCM pill was mixed and pumped down to the csg. shoe with 650 l/min.The string was pumped out to 3960 and the LCM pill displaced down the hole with 800 l/min. A total fluid loss of 5 m^3 was observed.

Drilling continued down to 4039 m which was selected as coring point. A 15 min. flow check was performed prior to circulating bottoms up, and a new one after having circulated 2/3 of the hole volume. It was 18:00 hrs. and crew change when a new flow check was performed prior to start pulling out of hole.

The first stands up to the casing shoe were pulled slowly (approx. 3 min. per stand) and thereafter the pulling went faster (approx. 1 min per stand). A flow check was performed when the bit was inside the casing and the well was reported to be stable. The first 26 stands were pulled dry and a heavy mud slug was pumped at the 27th stand. The pulling was temporarily halted at 2970 m due to elevator problems, and the well was reported to be stable during this 1/2 hour period. Just before midnight with the bottom of the string at 1660 m it was observed that the hole was not taking the correct amount of mud, and a flow check was performed. The well was reported to be stable.

Once again 30 minutes past midnight at 1453 m the hole was reported not to take the correct volume, and a new flow check was performed and this time a gain of 300 litres was observed. After having closed the upper annular a casing pressure of (SICP) 18 bar was observed. There was no pressure on the drillpipe side (SIDPP) It was decided to circulate bottoms up over the choke This was done and the return mud weight was reported to vary between 1.94 and 1.98 SG. The BOP was reopened and the well was reported to be stable.

The pulling operation was continued, but at 2:30 (Friday morning) the operation was once again stopped with the bottom of the drill string at 1333 m because the hole had not taken the correct volume after pulling the last 60 m. A new flow check was performed and the well was reported to be stable, but now it was decided to run.
When running the string down to 1453 m a volume increase of 1 m^3 in excess of pipe displacement was observed in the trip tank. A flow check was performed and this time a volume increase of 3,6 m^3 was noted in the trip tank. The BOP upper annular was closed and the following pressures noted; SICP: 11 bar and SIDPP: 7 bar. The BOP operating pressure was adjusted to 32 bar and with closed upper annular the drill string is stripped into the hole down to 1740 m. Casing pressure was (SICP) 21 bar and drill pipe pressure (SIDPP) 10 bar, and a volume equal to pipe displacement was bled to the trip tank for each stand that went in.

The stripping operation was temporarily stopped after 10 stands to fill the string with mud using the top drive. During this pause it was decided to perform a flow check, given the assumption that it would go a lot faster if the stripping part of the operation could be avoided. The BOP was opened without bleeding down the casing pressure (21 bar) first, and a flow check performed during which a large volume increase was noted in the trip tank. When trying to close the BOP, no immediate reaction occurred because the operating pressure had been reduced for the stripping operation, and the BOP did not seal properly before the operating pressure has been readjusted to 75 bar. A gain of 4,6 m^3 mud was observed from this flow check and the shut in casing pressure was reported to be (SICP) 47 bar. Drill pipe pressure was reported as (SIDPP) 0 bar.

It was now decided to circulate the well. 1600 litres mud were pumped before a pressure respond was observed on annulus, and it was then circulated with 480 l/min (30 SPM) over the choke. Starting with a pressure of 55 bar on the drill pipe and 60 bar on casing, a gradual pressure increase was observed on both sides, and the pump rate was reduced in order to try and keep the drill pipe pressure at a constant level.

The pressure kept increasing during circulation as did the volume in the mud active pits. Drill pipe pressure had risen to 120 bar at the end of the circulation, and the string was observed to be moving upwards after the upper annular has been closed and the circulation stopped. The BOP pipe ram was subsequently closed to seal and prevent further pipe movement. The recorded shut in pressures were SICP 225 bar and SIDPP 170 bar.

Well control methods (Bullheading, Volumetric) were discussed at this stage, and the cementer was ordered to prepare for this and be standby at the pumps. It was 5:55 Friday morning when Statoils onshore organisation was informed about the situation. A general emergency notification was directed to Statoil's emergency preparedness organization Sandsli. The platform manager initiated the necessary rig preparations and notification in accordance with Odfjell's emergency procedures.

The dayshift had taken over the operation at this stage, and the toolpusher and driller started bleeding off 1115 litres mud over the choke to start killing the well according to Volumetric procedure. This further increased the drill pipe pressure from 170 to 195 bar, and the casing pressure from 225 to 246 bar.

A new circulation was performed over the choke, starting with 10 SPM and gradually increasing the rate to 30 SPM while trying to keep the pressure constant (i.e. using Driller's method). The choke was gradually opened and the pump rate reduced as it was observed that the drill pipe pressure kept increasing. The result was a large increase in active mud volume, and the pressure increased to 420 bar on the casing and 265 bar on the drill pipe.
The operation was stopped and the well closed in. The stabilized shut-in pressures were SICP 440 bar and SIDPP 336 bar." Total gain: 90 m^3.

"During the day assistance was mobilized to the rig from Statoil and Odfjell, and an emergency operation team started working at Statoil's headquarters to assist the drilling project team which at this stage was assembled at Statoil's exploration offices in Forushagen to prepare the well killing operation. Two pumping sequences of 700 litres mud were performed during the day, and it was noted that the pressure reading on the kill line differed from that on the choke line by 100 bar. It was concluded that plugging in the line was the cause of this, and the pressure on the choke line was bled down and the valve then closed in order to remove the plug which was believed to be a hydrate plug by depressurization. This operation was successful in re-establishing communication through the choke line.

New kill mud was mixed during the day, and the preparations for the killing operation started Friday evening at 21:30 hours by pumping glycol down the kill line at 625 bar. At 02:00 hours Saturday morning the killing operation was initiated by pumping glycol down the choke line followed by 1.98 SG mud. The maximum pressure was 560 bar. The well was subsequently bullheaded down both kill and choke line at a rate of 200 l/min and a pressure starting at 520 bar. At 06:00 hours Saturday morning 63 m^3 had been pumped (1/2 well volume) and the pump rate had been increased to 400 l/min at a pressure of 270 bar.

The killing operation continued through the weekend by circulating the well to 2.02 SG mud to stabilize the well and on Monday, September 16th, the well was declared to be "dead" and the BOP reopened.

The well was subsequently plugged while the BOP was pulled for maintenance and preparations were made to complete the well programme."

Lost time: 23,8 days during this incident.

Conclusions and recommendations could be read in:

"Gransking av hendelsen på "Deepsea Trym" 13. september 1996. Brønnspark i brønn 34/11-3 etter innboring i reservoaret."

Pulls BOP after the influx incident. Big corrosions on the VX-ring at bottom.

Found bottom seal area eroded on VX-seal ring between H4 stack connector and wellhead.
Possible reason for erosion on VX-ring: stack connector configuration has not a pilot operated check valve to achieve closing pressure when system is in block position.
Lost 43,5 hours

Cutting core No. 2 from 4040 m to 4048,5 m with 2,01 g/cm^3 mudweight.
Recovery: 8,35 m
Cutting core No. 3 from 4048,5 m to 4054 m.
Recovery: 2,36 m (43 %). Found corecatcher jammed/twisted up in inner-barrel.
Cutting core No. 4 from 4054 m to 4060,5 m. Jammed.
Recovery: 6,7 m (100 %).

Continued with telescopic inner barrel and
Cutting core No. 5 from 4060 m to 4071,5 m.
Recovery: 11,5 m (100 %). Jammed between core head and core catcher.

Attempted to back out of test plug in wellhead. Negative. Attempted to close shear ram with acoustic system. Unable to close shear ram. Sat a HIVIS pill in open hole and sat a cement plug above the reservoir. Sat a bridge plug at 3756 m and hung off drillpipe at 502 m. Repaired the acoustic system on the BOP.
Lost 18,8 days

Drilled cement at 3988 m. Bit didn't drill. POOH and found bit lost in hole.
RIH with dye, Smith Red Baron, and recovered floatvalve. RIH again to recover bit. Got all indication that bit was engaged. Circulated OOH. Came out without bit. Found washout on ball for circulation valve that indicate to high circulation rate while pulling out.
RIH with a 8 1/2" cone buster mill, Red Baron, and milled the bit in 9 hrs.
Continued to mill cement to 4171,5 m which was start of new formation.

Cutting core No. 6 from 4171,5 m to 4173,5 m.
Recovery: 1,2 m (60 %).
Cutting core No. 7 from 4173,5 m to 4078,5 m
Recovery: 4,83 m (96 %).
Cutting core No. 8 from 4078,5 m to 4082 m
Recovery: 3,6 m (100 %).
Cutting core No. 9 from 4082 m to 4086 m
Recovery: 3,6 m (90 %).
Cutting core No. 10 from 4095 m to 4114 m
Recovery: 16,6 m (87 %).

Drilled from 4114 m to 4142 m (top Etive), with PDC bit (Hughes G445XL), which indicated that this formation was PDC drillable.

RIH with PDC corebit (ARC427)/180' core barrel/gel and continued coring.
Cutting core No. 11 from 4142 m to 4183 m
Recovery: 41 m (100 %).

Drilled with PDC bit (Hycalog DS66DG) from 4183 m to 4480 m (9 m into top Statfjord).
The penetration rate while coring in Tarbert and Ness was low.

RIH to take core #12
Cutting core No. 12 from 4480 m to 4482 m
Recovery: 0,31 m (15,5 %).

Pressure tested MPR to 655 bar. Pressure held for 3 minutes. Then dropped quickly to 0.

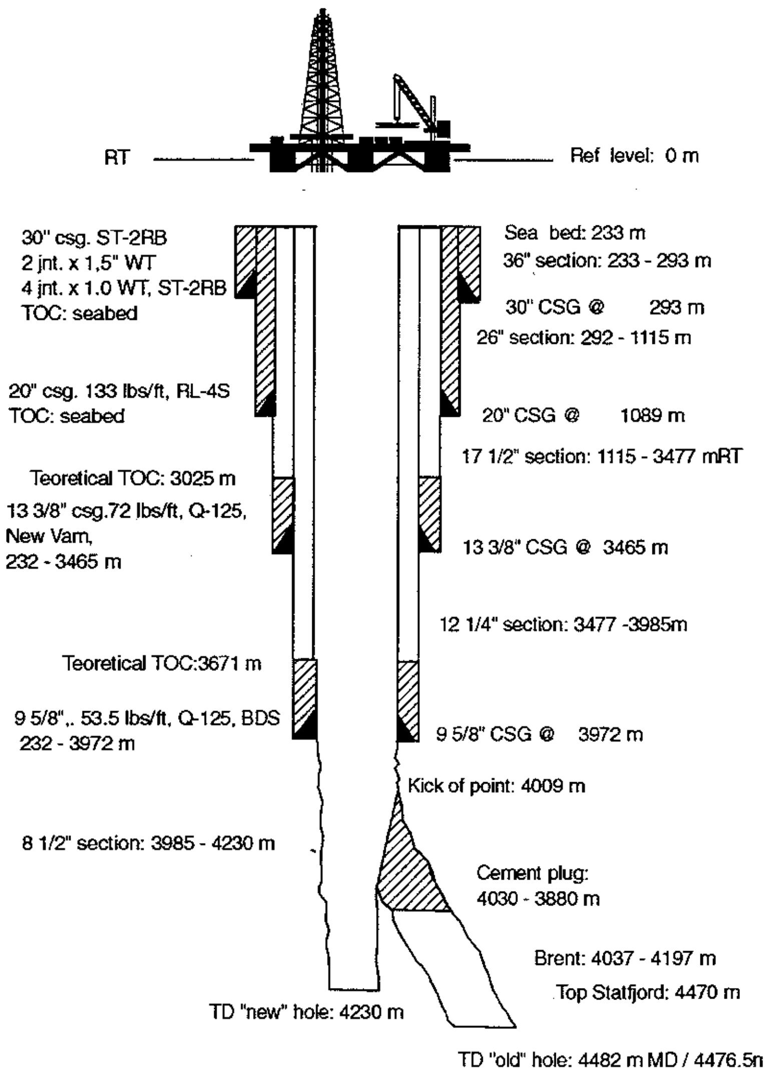
Pulled wear bushing free with 28 ton overpull. Both annular, UPR and MPR leaking at 200 bar. K/C-lines tested OK to 655 bar.
Pulled BOP and found VX/VT-ring corroded up against wellhead-connector.

H-4 connector was sent to Vetco to be stripped and repaired. Found that only 5 out of 10 set screw were pre-tensioned! This could cause "spalt"-corrosion of the VX/VT-ring because of water entering the "spalt" between the ring and the body. Lost 17,8 days.

When drilling out cement, kicked of at 4009 m (17.12.96). Changed name of the well to **34/11-3T2**. Continued drilling to 4230 m.

Activity start	:	16.12-96 at 20:30 hrs
Actual duration	:	10,0 days

WELL SCHEMATIC: 34/11-3



Coring summary well 34/11-3

Run	Depth In	DepthOut	Interv	Cut (m)	ROP	Recd. %	Utiliz. %	Form	Method	Size
1	2027	2054	27 m	8,6	2,4	32	32	Lista	telescop	90'
2	4040	4048,5	8,5 m	8,3	6,6	98	31	Brent	al/gel	90'
3	4048.5	4054	5,5 m	2,4	1,3	44	8,8	Brent	al/gel	90'
4	4054	4060,5	6,5 m	6,7	2,2	100	24,4	Brent	al/gel	90'
5	4060.5	4071,5	11,5 m	11,8	1,1	100	43	Brent	telescop/ gel	90'
6	4071.5	4073,5	2 m	1,2	0,4	60	4,4	Brent	stand/al/ ventilert	90'
7	4073.5	4078,5	5 m	4,8	2,3	96	17,5	Brent	stand/al/ ventilert	90'
8	4078.5	4082	3,5 m	3,6	0,7	100	13,1	Brent	stand/al/ ventilert	90'
9	4082	4086	4 m	3,6	0,9	90	39,4	Brent	stand/al/ ventilert	30'
10	4095	4114	19 m	16,6	2,4	87	60,5	Brent	telesc./gel	90'
11	4142	4183	41 m	41,4	2,8	100	74,7	Brent	stand/al/ ventilert/ gel	180'
12	4480	4482	2,0 m	0,31	1,1	15,5	1,1	Statfjord	al/gel	90'

Average for Brent:

Interval	Recovery (m)	Recovery (%)	Utilization (%)	Formation
106,5	100,4	87,5	31,7	Brent

Average for 8 1/2" section:

Interval	Recovery (m)	Recovery (%)	Utilization (%)	Formation
108,5	100,7	81,0	28,9	Brent/Statfjord

Logging

Activity start	:	19.12.97 at 14:00 hrs
Actual Duration	:	8,4 days
Planned Duration	:	3,0 days

Logged on wireline on TD. Had tool failure with MDT log (log #7). Changed cable socket, AMS and GR. Got another tool failure. Changed TCC cartridge. Got tool failure again. Changed MDT main tool and RIH without sample chambers. Logged but did not come down below 4155 m.
Got tool failure with log #8 (MDT-GR with sample chambers and fluid analyzer). Made up new toolstring. Got tool failure again. Rebuild cable head. Rerun and tool failed at sample point at 4040,5 m. Changed sampling assay. RIH and failed at 50 m. LD tool string.
Log #9 (VSP-GR). Unable to get tool below 4100 m.
Log #10 (FMT-QD-GR-CHT). Attempted to test GR-Neg.Log #11 (MDT-GR with sample chambers and fluid analyzer). Logging tool failed at 3400 m. POOH and LD. Performed wiper trip. Completed logging program.

Plug & Abandonment:

Activity start	:	26.12.97 at 20:00 hrs
Actual Duration	:	22,6 days (*WOW: 4 days, waited on approval of certificates: 0,8 days*)
Planned Duration	:	4,5 days

5 cement plugs and 1 bridge plug were set to plug back 34/11-3T2, according to well schematic in chap. 4.4.
Sat cement plug #2 at 4230 m to 3880 m (theoretical). RIH and tagged cement with 5T weight at 3910 m. RIH and sat a bridge plug at 3880 m.

DBR from 1/1-97: "**GAS RELEASE WHEN PULLING LOOSE 9 5/8" CSG.**: Casing was pulled with heave compensator opened. Csg. weight estimated to 127 ton. The csg. seal energising ring and lock nut had been pulled out, but the emergency seal ring was still in place. The csg. came free from the wellhead when pulling with 160 T. The upper annular had been closed due to gas in the well. Closing pres. on regulator was set to 500 psi to allow stripping. At the sudden drop in pulling force the compensator stroke upwards several meters. Assumingly the casing spear was pulled into the bag element. Due to the slotted surface of the tool the bag element did not seal off completely, allowing a gas bubble to pass through the preventer. Riser started to flow immediately, and gas blew 34 m^3 of a total of 42 m^3 1,87 SG mud out of the riser in matter of seconds. It happened so suddenly that there was not time to close the diverter. The mud flow forced the power slips

unit out of rotary, and gushed to well above the monkeyboard.
After the flow the well was secured by closing the diverter and increasing the annular regulating pressure to 1200 psi.

GAS FROM 9 5/8" x 13 3/8" ANNULUS: Some gas was observed prior to pulling loose 9 5/8" csg. This was circulated out on choke, and BOP was crossflowed prior to release of casing and seal. The gas bubble that blew the riser dry was evidently free gas trapped underneath the seal assay. After release of the casing the well was circulated down DP and 9 5/8" to the cut point at 1550 m, and further up annulus and through choke line. When circulating over choke the returns enters the poor-boy and drops into the trip tank, which overflows the shakers. We have no readings at this time. The well was circulated bottoms up and thus bringing all gas out of the annulus from 1550 m and upwards.
After this circulation the well was opened and circulated up riser. Gas peaked to 17,4 % while circ. This gas must have come from below 1550 m, and must have entered the annulus recently. Otherwise it would have migrated up and accumulated under seal assay.
When drilling the 12 1/4" section gas readings were low, with peaks around 2-6 %, ie. not nearly 17,4 %. This indicates gas entry from below 9 5/8" csg. shoe. With communication through the cmt. we might have been underbalanced when reducing MW from 2,01 to 1,87 SG. When increasing MW to 1,90 SG the background gas has dropped, but are still getting some gas peaks.

The migration rate of the gas is unknown, and we have no clear indication of what is causing the peaks. However we see a clear decreasing trend."

Cutting 13 3/8" csg another gain was experienced. Shut in well and observed increasing casing pressure, but DP pressure was constant. Circulated when SICP was approx. 25 bar. Continued to close the well in and circulated out the influx to detect were the influx was coming from. The conclusion was that the influx was coming from the annulus 13 3/8" x 20" which was filled with gas from the Lista Fm. Continued circulating until the well was dead.
RIH to perforate 13 3/8" csg. at 240 m to release pressure and gas below seal assay.

Perforation guns lost in hole. DBR from the incident 8/1-97: "MWS operator observed some overpull when attempting to enter 5" OEDP after the 13 3/8" csg was perforated at 240 m. The operator observed problems on the spooling unit.

The operator put the brakes on and inspected the spooling problem. The brake was accidently disengaged by the operator when he entered the winch again. As the hydraulic pressure was not completely shut off, the weak point on the cable head was broken when the brake was disengaged."

13 3/8" csg was pulled with no perforation in the casing.

RIH with 13 3/8" spear and cup tester to be able to circulate gas out via choke.

Completed the P&A program.

Waited for weather to pull anchors.
Lost 4,6 days

Waited on approval for certificates for BOP acoustic system, diverter, kelly hose, mixing pump, burner boom and cement-boom.
Lost 18,5 hours

Deepsea Trym departed location 34/11-3T2 on the 17th of January 1997 at 10:00hrs, and sailed to 6204/10-2.

Experience action listing for 8 1/2" section

* Lost time: D: Downtime in DBR
A: Not registered lost time. W: time delay caused by waiting

Date	Lost time*, hrs	Cause of delay	Description	Immediate solution used
960912	D: 6,5	Operation	Observed 400 l gain.	Shut in well. Observed loss to formation. Spotted LCM pill and reduced pumprate.
960912	D: 571,2	Operation	Experienced a kick situation	Regain control with the well.
960914	D: 3,5	Equipment	Upper racking arm	Disconnected damaged upper racking arm
960927	D: 24	WOW		
960929	A:43,5	Equipment	Found bottom seal area erroded on VX-seal ring between H4 stack and wellhead.	Pull riser and BOP for repair of BOP.
961008	D: 1,0	Equipment	Olmstead valve	Circulated while trouble shoot on dsc - olmstead valve
961009	D: 1,0	Equipment	Top drive wrench	
961009	D: 0,5	Equipment	Sticky pilot valve on upper racking arm operating system	Circulating
961015	D: 0,5	Equipment	Leaking connection on torque wrench	Repaire
961016	D: 0,5	Equipment	Not able to open Dsc due to rig air problem	Took SCR's
961018	D: 451,5	Equipment	Accoustic system fails on BOP	Pulls BOP
961018	D: 1,0	Equipment	Hydraulic leak on upper racking arm	Repaire
961019	D: 1,0	Equipment	Hydraulic connections on upper/lower racking arm	Repaire
961021	D: 0,5	Equipment	Hydraulic leakage on motor on upper racking arm	Repaire
961024	A: 60	WOW	WOW to run BOP	
961927	D: 0,5	Equipment	Changed shear pins on upper racking arm	
961029	D: 2,5	Equipment	RIH with hang-off tool w/5" DP (4 1/2" IF connection).	Changed connection to ACME left hand treads.

961106	D: 3,0	Equipment	Function tested UPR & MPR on accoustic system. UPR tested OK.	Trouble shoot on MPR. Had acceptable test after several attempts
961111	D: 2,5	Equipment	Invetigated failure on Elmaco break	Circulated and conditioned mud
961113	D: 0,5	Equipment	Worn out rollers on drill line guide	Removed worn out rollers on drill line guide
961115	D: 5,0	Equipment	Attempt to test BOP	POOH w/test tool. Changed O-rings on test tool and M/U wash tool + 1 stand below and RIH w/test tool.. Attempt to test - NEG Retrieve WB. Found mark on seal area on for test tool.
961120	D: 1,0	Equipment	MWD's logging line	Changed out MWD's logging line twice
961125	D: 1,5	Equipment	Observed leakage in wash pipe.	Racked one stand back in derrick and changed out wash pipe.

Date	Lost time*, hrs	Cause of delay	Description	Immediate solution used
961126	D: 0,5	Equipment	Piston on mud pumpe No. 3	Changed piston on mud pumpe No. 3
961128	D: 1,5	Equipment	Upper racking arm	Repaired upper racking arm in derrick.
961130	D: 1,0	Equipment	Had problem with top drive to break out drilling stands. Had to break off stands in singles.	
961130	D: 1,0	Equipment	Power pack	Repaired leak in hydraulic power-pack for pipe handling equipment.
961201	D: 427,2	Equipment	Wash out in the seal area and the wellhead connector	Pull BOP
961201	D: 0,5	Equipment	Intermediate racking arm	Repaired intermediate racking arm in derrick.
961201	D: 3,5	Equipment	Elmaco break	Repaired Elamco break
961204	D: 1,5	Equipment	Upper racking arm	Replace broken shear pins in upper racking arm
961212	D: 16,0	WOW	WOW to run BOP	
961216	D: 1,0	Equipment	Pipe handling equipment	Welded cracked pipe from hydraulic unit pipe handling equipment.
961219	D: 3,0	Log #4	Logging tool failed	Replaced QD gauge with backup HP-gauge.
961219	D: 1,0	Log #5	Got incorrect data from FMT-tool	
961220	D: 13,0	Log #7	Tool failure. Tool failure. Tool failure Tool failure	Changed TCC. Changed cablehead. Changed TCC-cartridge. Changed MDT main tool.
961221	D: 14,5	Log #8	Tool failure. Tool failure Tool failure after 50 m.	POOH and checked Cut cable and rebuild cablehead. POOH and L/D Schlumberger
961222	D: 0,5	Log #10	Broken wire from FMT tool to OD-gauge	Repaire
961222	D: 0,5	FMT tool	Attempt to dismount 17 1/2" kit from FMT tool	
961222	D: 0,5	Gamma Ray	Attempt to test GR	
961223	D: 1,0	Wireline unit	Failure on wireline unit	Troubleshooting hydr. power failure on wireline unit
961223	D: 2,0	Logging tool		Schlumberger checked failure on loggig tool

961223	D: 3,0	Log #8 (5RR)	Logging tool failed	POOH. RU for wireline logging w/Schlumberger MDT tool on Western Atlas cable.
961225	D: 12,0	Log #8	Logging tool failed Logging tool failed	New Schlumberger toolstring POOH. L/D
961226	D: 3,0	Log #11	GR failed downhole	POOH. MU new SWC-GR
961226	D: 6,0	Log #11	Attempt to test logging tool prior to run into hole	Abandon further logging operations

Date	Lost time*, hrs	Cause of delay	Description	Immediate solution used
961229	D: 0,5	Equipment	Broken shear pin in upper racking arm	Replace
961230	D: 5	Equipment	Damaged hose on top drive	Repaire
961230	D: 3,0	Equipment: Seal assy retrieving tool	The experience is described in the text under 8 1/2" section	The solution is described in the text under 8 1/2" section
961230	D: 25,5	Operation	The experience is described in the text under P&A	The solution is described in the text under P&A
970103	W: 93,0	Operation	The experience is described in the text under P&A	The solution is described in the text under P&A
970107	D: 4,5	Equipment: Seal assy retrieving tool	Engaged tool to seal assy. Closed UA attemp to press. test seal assy on tool to 135 bar. Neg.	Pulled seal assy free with 22 T OP.
970108	D: 0,5	Mud mixing	Waited on mixing more 1,50 SG mud.	
970109,00	D: 0,5	Operatione	Broken pipe on hydraulic unit for pipe handling machine.	Repaire
970116	D: 18,5		Waited on approval of certificates	

4.4 Extract of Daily Activity

34/11-3

Report date	
96/07/30	RIG UNDER TOW FROM 05:00 HRS TO 33/11-3.
96/07/31	RIG UNDER TOW. STARTED ANCHOR HANDLING.
96/08/01	CONTINUED ANCHOR HANDLING. BALLASTING RIG TO DRILLING DRAFT AT 22 M. TENSIONED ANCHORS. RERAN ANCHOR NO 2 AND 6. TENSIONED BOTH ANCHORS. RIG CREW RAN AND HUNG OFF 30" CSG IN MOONPOOL. RAN CMT STINGER AND STARTED RUN IN 36" BHA.
96/08/02	SPUDDED WELL AND DRILLED 36" HOLE FROM 233 M TO 293 M. DISPLACED TO 1,20 SG MUD. POOH. RAN IN W/30" CASING. POOH AND CHANGED BROKEN GUIDE WIRE. RIH W/30" CASING. SET AND CEMENTED 30" CASING.
96/08/03	CONTINUED CEMENTING 30" CASING. WAITED ON CEMENT. POOH W/RUNNING TOOL. LD 36" BHA. MU 26" BHA AND RIH. DRILLED CEMENT AND SHOE. DRILLED 26" HOLE FROM 293 M TO 318 M.
96/08/04	DRILLED 26" HOLE FROM 318 M TO 1115 M MD. MADE WIPERTRIP TO 900 M.
96/08/05	DISPLACED WELL TO 1,20 SG MUD. POOH. RAN 20" CASING TO 1089 M. MIXED AND PUMPED LEAD SLURRY.
96/08/06	CEMENTED 20" CASING. LAID DOWN 26" BHA. MADE UP 17 1/2" BHA. PICKED UP 5 1/2" DP. PREPARED RISER HANDLING EQUIPMENT.
96/08/07	RAN BOP AND RISER. PRESSURE TESTED WELLHEAD CONNECTOR.
96/08/08	FUNCTION TESTED BOP. SET NOMINAL SEAT PROTECTOR. RIH W/17 1/2" BHA. PU 5 1/2" DP ON WAY IN. DRILLED CEMENT IN SHOETRACK AND 3 M NEW FORMATION. PERFORMED LOT TO 1, 64 SG. DRILLED 17 1/2" HOLE FROM 1115 M TO 1175 M MD.
96/08/09	DRILLED 17 1/2" HOLE FROM 1175M TO 1649M.
96/08/10	DRILLED 17 1/2" HOLE FROM 1649M TO 1660M. POOH TO CHANGE BIT AND MUD MOTOR. RIH WITH 17 1/2" BHA. DRILLED 17 1/2" HOLE FROM 1660M TO 1765M.
96/08/11	DRILLED 17 1/2" HOLE FROM 1765 M TO 2027 M. POOH FOR CORING. MU CORING ASSY.
96/08/12	MU CORING ASSY. RIH W/ CORING ASSY AND CUT CORE # 1 FROM 2027M TO 2054M. POOH W/ CORING ASSY. LD CORE ASSY AND MU 17 1/2" BHA.
96/08/13	MU AND RIH W/17 1/2" DRILLING ASSY. OPENED UP CORED INTERVAL TO 17 1/2". DRILLED 17 1/2" HOLE FROM 2054 M TO 2217 M.
96/08/14	DRILLED 17 1/2" HOLE FROM 2217 M TO 2344 M. POOH DUE TO MWD FAILURE. BACKREAMED FROM 2150 M TO 1880 M. PERFORMED FIT TO 1,61 SG WITH BIT INTO 20" CASING SHOE. CONTINUED POOH.
96/08/15	POOH AND REPLACED MWD TOOL AND MADE UP NEW PDC BIT. RIH TO 2130M. WASHED AND REAMED TO 2344M. DRILLED 17 1/2" HOLE TO 2607M.
96/08/16	DRILLED 17 1/2" HOLE 2607 - 2787 M MD. CIRCULATED WHILE REPAIRING MUD PUMPS.
96/08/17	DRILLED 17 1/2" HOLE 2787 - 3012 M MD. CIRCULATED WHILE REPAIRING MUD PUMPS.
96/08/18	DRILLED 17 1/2" HOLE FROM 3012 TO 3206 M.
96/08/19	DRILLED 17 1/2" HOLE FROM 3206M TO 3431M.
96/08/20	DRILLED 17 1/2" HOLE 3431M TO 3448M. PERFORMED WIPER TRIP TO 2285M. DRILLED 17 1/2" HOLE FROM 3448M TO 3477M. CIRCULATED AND INCREASED MW TO 1,55SG.
96/08/21	PERFORMED 10 STAND WIPER TRIP. CBU. POOH. R/U AND STARTED LOGGING.

Report date	
96/08/22	FINISHED LOGGING RUN #1. LOG #2 STUCK IN HOLE. CUT WIRE AND STARTED RIH STRIPPING OVER WIRE.
96/08/23	RIH DP OVER WIRE TO CATCH LOGGING TOOL. ENGAGED TOOL. POOH WITH LOGGING TOOL AND WIRE.
96/08/24	PULLED FISH TO SURFACE. M/U CMT HEAD AND CSG HANGER STANDS.
96/08/25	FINISHED M/U CASING HANGER STAND. M/U BHA AND RIH FOR WIPER TRIP. REAMED TIGHT HOLE.
96/08/26	FINISHED WIPER TRIP. STARTED LOG #3 VSP.
96/08/27	LOGGED VSP. VSP GOT STUCK. RIH DP AND FISHED VSP TOOL. POOH WITH FISH.
96/08/28	PULLED NOM BORE PROTECTOR. R/U AND RAN 13 3/8" CASING.
96/08/29	RAN AND LANDED 13 3/8" CASING. CIRCULATED AND CEMENTED CASING. SET AND TESTED SEAL ASSEMBLY. STARTED BOP TESTING.
96/08/30	TESTED BOP AND SET WB. L/D 17 1/2" BHA AND M/U 12 1/4" BHA. TESTED CASING TO 455 BAR. AND TROUBBLE SHOOTING ON ACCOUSTIC SYSTEM.
96/08/31	TESTED BOP ACCOUSTIC AND TRIPPED IN HOLE + DRILLED CEMENT/FLOAT AND SHOE. CLEAN SHOETRACK AND DRILLED 3 METER NEW FORMATION AND CIRCULATED WELL. PREPARING WELL FOR LEAK-OFF TEST.
96/09/01	PERFORMED LEAK-OFF TEST AT 13 3/8" SHOE. DRILLED 12 1/4" HOLE FROM 3480 TO 3610 METER
96/09/02	DRLD 12 1/2" HOLE FROM 3630M TO 3717M.
96/09/03	DRILLING 12 1/4" HOLE FROM 3717 TO 3807 METER
96/09/04	DRILLING 12 1/4" HOLE FROM 3807 TO 3910 METER
96/09/05	DRILLING 12 1/4" HOLE FROM 3907 TO 3985 METER
96/09/06	CIRCULATED AND CONDITIONING WELL AT 3985 METER. MADE 10 STANDS WIPER TRIP AND POOH. R/U FOR LOGGING.
96/09/07	LOGGED DLL-MAC-ZDL-GR. RIGGED UP AND RAN 9 5/8" CASING TO
96/09/08	CONTINUED RUNNING 9 5/8" CASING TO 3700 M.
96/09/09	CONTINUED RUNNING 9 5/8" CASING TO 3972 M. MIXED MUD. CEMENTED CASING. ATTEMPTED TO TEST SEAL ASSY. NEGATIVE. POOH W/SEAL ASSY.
96/09/10	POOH WITH DAMAGED SEAL ASSY. RIH AND WASHED AND POLISHED SEAL AREA. POOH. RIH AND ATTEMPTED TO SET EMERGENCY SEAL ASSY. NEGATIVE. POOH WITH EMERGENCY SEAL ASSY. RIH AND WASHED AND POLISHED SEAL AREA. POOH. RIH AND SET EMERGENCY SEAL ASSY. PRESSURE TESTED SEAL ASSY. PRESSURE TESTED BOP.
96/09/11	SET WEARBUSHING. LAID DOWN 12 1/4" BHA FROM DERRICK. MU 8 1/2" BHA AND RIH.
96/09/12	DRILLED CEMENT, SHOE AND 3 M NEW FORMATION. PERFORMED FIT TO 2,10 SG. DISPLACED WELL TO 1,98 SG ANCOTHERM MUD. DRILLED 8 1/2" HOLE FROM 3988 M TO 3998 M. CIRCULATED BOTTOMS UP. DRILLED 8 1/2" HOLE FROM 3998 M TO 4001 M. CIRCULATED UNTIL EVEN MUDWEIGHT. DRILLED 8 1/2" HOLE FROM 4001 M TO 4022 M.
96/09/13	DRILLED 8 1/2" HOLE FROM 4022 M TO 4039 M. LOST MUD TO FORMATION. PUMPED LCM MATERIAL AND CURED LOSSES. CIRCULATED BOTTOMS UP AND POOH FOR CORING. WHILE POOH GAINED MUD. WORKED TO CONTROL WELL PROBLEMS.
96/09/14	OBSERVED WELL. STARTED BULLHEADING OF 1,98 SG MUD.

Report date	
96/09/15	FINISHED BULLHEADING 1,8 X HOLE VOLUME 1,98 SG MUD INTO FORMATION. STRIPPED DOWN FROM 1740 M TO 4033 M. CIRCULATED 2 X OPEN HOLE VOLUME USING DRILLERS METHOD. STRIPPED OUT TO 3944 M. RIGGED DAMAGED UPPER RACKING ARM.
96/09/16	CIRCULATED 4 X BOTTOMS UP THROUGH CHOKE LINE. BLED OFF TOTALLY 2,9 M3 MUD THROUGH CHOKE TO TRIP TANK. PRESSURE REDUCED FROM 65 BAR TO 27 BAR. CONTINUED CIRCULATING 1,98 SG MUD DOWN DRILL STRING AND UP CHOKE LINE. SHUT IN AND BLED DOWN PRESSURE TO 3 BAR. FLOWCHECKED AGAINST OPEN CHOKE. WELL STABLE. CIRCULATED RISER VOLUME. FLOWCHECKED WELL W/OPEN BOP.
96/09/17	CIRCULATED 1,98 SG MUD TO REDUCE GAS READINGS FROM WELL.
96/09/18	PERFORMED PUMP OFF TESTS AND ECD TESTS TO CHECK MUDWEIGHT TO BALANCE PRESSURE IN CHARGED FORMATION. PERFORMED DYNAMIC PUMP TEST TO CHECK FORMATION STRENGTH AT TD.
96/09/19	PERFORMED DYNAMIC PUMP TEST AT CASING SHOE. INCREASED MW TO 2,04 SG. PERFORMED 10 STAND WIPER TRIP. PUMPED OUT OF HOLE.
96/09/20	PUMPED OUT OF HOLE FROM 3580 M TO 630 M.
96/09/21	PUMPED OUT OF HOLE. RIH WITH CEMENT STINGER.
96/09/22	CIRC TO COND MUD. SET BALANCED PLUG FROM TD TO 3820 M. PULLED OUT OF CMT TO 3600 M. CIRC WHILE WOC. INSTALLED URA.
96/09/23	INSTALLED URA. POOH TO 1400 M. REPAIRED URA. POOH. MU BHA. REPARIED URA. RIH TO 1750
96/09/24	RIH TO 3600 M. WASHED TO 3683 M. TAGGED CMT WITH 10 TON. PRES. TESTED CMT PLUG TO 100 BAR. POOH AND LD DP.
96/09/25	POOH AND LD 5 1/2" DP. RU WESTERN ATLAS. RIH AND SET EZSV BRIDGE PLUG AT 3645 M. POOH. POOH AND LD WESTERN ATLAS EQUIPMENT. LD HANG OFF TOOL FROM DERRICK.
96/09/26	LD BHA. MU NEW 8 1/2" BHA. RIH AND PU 5" DP FROM DECK. ADJUSTED CHAIN ON CATWALK TROLLY. CONTINUED RIH AND PU DP TO 3310 M. CIRC. TO COND. MUD.
96/09/27	CIR. TO COND. MUD. INSTALLED RTTS PACKER IN DRILLING STRING. RIH WITH RTTS PACKER TO 501 M. SET RTTS PACKER AND HUNG OFF DRLG.STRING WITH BIT AT 3602 M. POOH. WOW.
96/09/28	WOW. PULLED BOP AND RISER.
96/09/29	PULL BOP. CHANGED UPPER ANNULAR ELEMENT. CHANGING UPR TO 5".
96/09/30	OPEN BOP. CHANGED UPR TO 5". INSPECTED RAMS. CHANGED BONNET SEALS. CLOSED RAM BONNETS. MU BONNET BOLTS.
96/10/01	PERFORMED FINAL TORQUING ON BONNET BOLTS. PRESSURE TESTED BOP.
96/10/02	TROUBLED SHOT TRAPPED PRESSURE IN BOP. RELEASED TRAPPED PRESSURE. PRES. TESTED BOP. RAN BOP.
96/10/03	RAN BOP AND RISER. STROKED OUT SLIP JNT AND INSTALLING DIVERTER.
96/10/04	TEST WELL HEAD,M/U DIVERTER, DISPL, HOLE TO MUD, PULL PKR, P/U DP,
96/10/05	TAG AND DRILL PLUG AND CEMENT TO 3748M, PERFORM KICK DRILLS,
96/10/06	DRILLED CEMENT FROM 3748 TO 3976M - CIRCULATE AND COND, PRIOR TO DRILLING OUT IN OPEN HOLE,
96/10/07	DRILLED CEMENT AND NEW HOLE TO 4040M, MADE 10 STAND WIPER TRIP, SPOTTED PILL AND STARTED PUMPING AND ROTATING OUT OF HOLE,

Report date	
96/10/08	ROTATED AND PUMPED OUT OF HOLE. TESTED CIRC.SUB. MADE UP HANG OFF ASSY AND SAT BACK. STARTED TO MAKE UP CORING ASSY,
96/10/09	FINISHED MAKING UP COREING ASSY, - RIH TO CSG, SHOE - RIG UP TO SLIP & CUT DRILL LINE - REPAIR RIG - SLIP & CUT LINE - RIH TO TD - CIRC BTTMS UP,
96/10/10	CIRCULATED BTTOMS UP - PERFORMED 10 AND 12 STAND WIPER TRIPS - CIRCULATED FOR GAS - SPOTTED FRECH MUD PILLS IN OPEN HOLE,
96/10/11	PUMPED OUT OF HOLE WITH CORE BARREL - L/D INNER BARREL AND CORE BARREL - RIGGED UP TO RUN W,ATLAS FMT,
96/10/12	FINISHED PUMPING OUT OF HOLE WITH CORE BBL, 98,2% RECOVERY - RAN FMT - RAN IN HOLE WITH 90FT, CORE BARREL,
96/10/13	TOOK SCR`S - SPACED OUT AND CUT CORE NO 3, - PUMPING OUT OF HOLE,
96/10/14	PULLED OUT OF HOLE WITH CRORE NO3 - RECOVERED 2,36M CORE = 43% - PICKED UP NEW INNER BARREL AND CORE BIT - RIH - CIRC, BOTTOMS UP - START TO CUT CORE NO 4,
96/10/15	CUT CORE NO 4 FROM 4054 TO4060M - CIRCULATED BOTTOM UP AND PUMPED OUT OUT OF HOLE TO 1070M
96/10/16	PUMPED OUT OF HOLE - RECOVERED 5,5M CORE = 100% - MADE UP NEW TELESCOPING INNER BARREL - NEW CORE HEAD AND RIH - REAM AND WASH FROM SHOE TO TD - CIRC BTTMS UP,
96/10/17	CIRCULATED BOTTOMS UP - CUT CORE NO 5 - CIRCULATED BOTTMS UP - PUMPED OUT OF HOLE,
96/10/18	CONTINUED PUMPED OUT OF HOLE. RECOVERED CORE NO.5 (100 %). PRESSURE TESTED BOP TO 345 BAR/690 BAR. UNABLE TO CLOSE SHEAR RAM WITH ACCOUSTIC SYSTEM.
96/10/19	RIH W/CEMENT STINGER. SET VISCOUS PILL FROM 4030 M TO 4071,5 M.
96/10/20	SET BALANCED CEMENT PLUG FROM 4030 M TO 3880 M. POOH. REPAIRED HYDRAULIC CONNECTION ON UPPER RACKING ARM.
96/10/21	RIH W/BIT AND SCRAPER ASSY. LOAD AND PRESSURE TESTED CEMENT PLUG. POOH. SET BRIDGE PLUG WITH WIRELILNE AT 3756 M. RIH WITH BHA TO HANG OFF IN RTTS PACKER.
96/10/22	HUNG OFF DRILL STRING IN RTTS PACKER AT 502 M. PULLED RISER AND BOP.
96/10/23	LANDED BOP ON CARRIER. PRESSURE TESTED BOP. WORKED ON ACCOUSTIC SYSTEM.
96/10/24	TROUBLESHOOTING ON ACCOUSTIC SYSTEM. FUNCTION TESTED ACCOUSTIC SYSTEM. PRESSURE TESTED SHEAR RAM AND WELLHEAD CONNECTOR. WAITED ON WEATHER TO RUN BOP.
96/10/26	WOW TO RUN BOP.
96/10/27	WAITED ON WEATHER TO RUN BOP. RAN BOP AND RISER.
96/10/28	LANDED BOP. PRESSURE TESTED WELLHEAD CONNECTOR. RETRIEVED RTTS PACKER. RIH TO TOP OF BRIDGE PLUG. CIRCULATED AND CONDITIONED MUD.
96/10/29	FUNCTION TESTED BOP. DRILLED BRIDGE PLUG. DRILLED CEMENT FROM 3804 M TO 3981 M.
96/10/30	CIRCULATED AND CONDITIONED MUD. HUNG OFF STRING IN WELLHEAD. WAITED ON WEATHER. CONTINUED CIRCULATING TO CONDITION MUD. DRILLED CEMENT FROM 3981 M TO 3985 M.

Report date	
96/10/31	DRILLED CEMENT FROM 3985 M TO 3988 M. NO PROGRESS. PUMPED OUT OF HOLE TO 870 M.
96/11/01	PUMPED OUT OF HOLE FROM 870 M. LEFT BIT IN HOLE. RIH WITH FISHING TOOL TO 2100 M.
96/11/02	RIH TO FISH AT 3988 M. LATCHED FISH. OPEN CIRCULATING SUB. PUMPED OUT OF HOLE TO XXXX M.
96/11/03	PUMPED OUT OF HOLE. RECOVER FISH (FLOAT). RIH. LATCHED FISH. POOH.
96/11/04	PUMPED OUT OF HOLE. NO FISH. MU 8 1/2" MILLING ASSY. RIH TO 170 M.
96/11/05	RIH TO TOP FISH AT 3988.5 M. MILLED FISH AT 3988.5 M. MILLED CEMENT FROM 3988.5 M TO 4030 M.
96/11/06	MILLED CMT. TO 4035 M. WASHED DOWN TO TD AT 4071.5 M. CIRC. BTTM UP. PUMPED OUT OF HOLE. LD BHA.
96/11/07	LD FISHING ASSY. MU AND RIH WITH 8 1/2" CORING ASSY TO 1400 M. FUNCTION TESTED BOP. HAD PROBLEMS WITH MPR ON ACOUSTIC SYSTEM. CONTINUED RIH WITH CORING ASSY FROM 1400 M TO 3970 M. REAMED TO TD AT 4071.5 M. CIRC. BTTMS UP.
96/11/08	CIRCULATED BTTMS UP. CUT CORE NO 6 FROM 4071.5 M TO 4073.5 M. CIRCULATED BTTMS UP. PUMPED OUT OF HOLE TO 750 M.
96/11/09	PUMPED OUT OF HOLE. MU NEW CORING ASSY. RIH. CUT CORE NO 7 FROM 4073.5 M TO 4078.5M.PUMPED OUT OF HOLE FROM TD AT 4078.5M TO 3925M.
96/11/10	POOH. RECOVERD 4.83 M CORE (100%). MU CORE ASSY NO 8. RIH TO 2632 M.
96/11/11	RIH. CIRCULATED BOTTOMS UP. CUT COR FROM 4078.5 TO 4081.5. PUMPED OUT TO SHOE. CIRCULATED TO CONDITION MUD. POOH.
96/11/12	POOH. RECOVERD 3.6 M CORE(100%). RIH WITH COR ASSY NO 9 TO 3713 M. CUT AND SLIPPED DRLG LINE.
96/11/13	RIH. CUT CORE FROM 4082 M TO 4086 M. LOGGED HOLE WITH MWD FROM 4086 TO 4042 M. POOH.
96/11/14	RACKED BACK BHA. RECOVERD 3.6 M CORE (90%). MU 8 1/2" DRILLING ASSY. RIH TO 3700 M. WASH TO 4055 M. LOG WITH MWD TO TD AT 4086. DRILLED 8 1/2" HOLE FROM 4086 TO 4094 M.
96/11/15	DRILLED TO CORING POINT AT 4095 METER AND POOH AND L/D BHA.
96/11/16	TESTING BOP AND STARTED TO RIH W/ CORE BARREL
96/11/17	TRIPPING IN HOLE AND CUT CORE NO.10 FROM 4095 TO 4114 METER. STARTED TO POOH W/ CORE ASSY NO. 10
96/11/18	TRIPPING OUT OF HOLE AND RECOVER CORE NO. 10. TRIPPED BACK IN HOLE W/ DRILLING ASSEMBLY AND START TO DRILL NEW FORMATION TO NEXT CORING POINT.
96/11/19	DRILLING 8 1/2" HOLE FROM 4114 TO 4130 METER. NO PROGRESS FROM 4130 METER. START TO POOH.
96/11/20	PERFORMED ROUND TRIP FOR BIT CHANGE AND CONT DRLG TO CORE POINT AT 4142 M.
96/11/21	TRIPPED OUT OF HOLE WITH ROTARY ASSEMBLY AND M/U 180 FEET CORE BARREL AND STARTED TO RUN BACK IN HOLE
96/11/22	CONT RIH 180 FT CORE BARREL FROM 3100 M. CUT CORE NO 11 FROM 4142 M TO 4183 M. CORE JAMMED. CIRCULATED BOTTOM UP. FLOW CHECKED. PUMPED OOH TO 9 5/8" SHOE AT 3972 M. FLOW CHECKED.

Report date	
96/11/23	POOH AND RECOVERED CORE NO. 11. RIH DRILLING BHA TO 1600 M. FUNCTION TESTED BOP ON WAY IN.
96/11/24	RIH FROM 1600 M TO 3700 M. WASHED DOWN FROM 3700 M TO 4139 M. LOGGED WITH MWD TOOL FROM 4139 M TO 4183 M. DRILLING 8 1/2" HOLE FROM 4183 M TO 4211 M.
96/11/25	DRILLED 8 1/2" HOLE FROM 4211 M TO 4252 M.
96/11/26	DRILLED 8 1/2" HOLE FROM 4252 M TO 4263 M. FLOW CHECKED AND PERFORMED PUMP OFF TEST TO EVALUATE DRILLING BREAKE AT 4262 M. CIRCULATED BOTTOM UP. DRILLED 8 1/2" HOLE FROM 4263 M TO 4333 M.
96/11/27	DRILLED 8 1/2" HOLE FROM 4332 TO 4412 METER
96/11/28	DRILLED 8 1/2" HOLE FROM 4412 M TO 4415 M. EVALUATED PORE PRESSURE BY PERFORMING PUMP-OFF TESTS. DRILLED 8 1/2" HOLE FROM 4415 M TO 4480 M.
96/11/29	CIRCULATED B/U. BACKREAMED TO SHOE. PULLED 5 STD WET IN CSG. WASHED TO BOTTOM AND CIRCULATED B/U. BACKREAMED TO SHOE AND POOH TO 860 M.
96/11/30	POOH 8 1/2" BIT FROM 860 M. RIH CORE BARREL NO 12 TO BOTTOM AT 4480 M. CIRCULATED BOTTOM UP.
96/12/01	CUT CORE NO 12 FROM 4480 M TO 4482 M. CORE JAMMED. CIRCULATED BOTTOM UP. WASHED OUT TO 9 5/8" SHOE. POOH.
96/12/02	RECOVERED CORE NO 12. 15,5 % RECOVERY. ATTEMPTED TO TEST BOP. NEGATIVE. RIH 3 1/2" DP STINGER TO 2200 M TO SET CEMENT PLUG.
96/12/03	RIH 3 1/2" DP STINGER ON 5" DP FROM 2200 TO 4200 M. SET VISC PILL FROM 4200 M TO 4030 M. SET CEMENT PLUG FROM 4030 M TO 3880 M. POOH TO 400 M.
96/12/04	POOH 3 1/2" DP STINGER. RIH 8 1/2" BIT AND SCRAPER. WEIGTH TESTED CMT W/ 10 T AT 3821 M. PRESSURE TESTED CMT TO 110 BAR. CIRCULATED. CONFIRMED LEAK IN WELLHEAD/H-4 CONNECTOR. POOH TO 280 M.
96/12/05	POOH SCRAPER. SET BRIDGE PLUG ON WIRELINE AT 3818 M. RIH 8 1/2" DRILLING. HUNG OFF STRING ON RTTS PACKER AT 480 M. DISPLACED RISER TO SEAWATER.
96/12/06	PULLED RISER AND BOP. DISCONNECTED H-4 CONNECTOR.
96/12/07	REPAIRING H-4 CONNECTOR ONSHORE.
96/12/08	REPAIRING H-4 CONNECTOR ONSHORE.
96/12/09	REPAIRING H-4 CONNECTOR ONSHORE.
96/12/10	REPAIRING H-4 CONNECTOR ONSHORE.
96/12/11	REPAIRING H-4 CONNECTOR. MADE UP HUB BETWEEN CONNECTOR AND BOP STACK.

Report date	
96/12/12	M/U CLAMP BETWEEN H-4 CONNECTOR AND STACK. ATTEMTED TO TEST. CONNECTION BETWEEN STACK AND H-4 CONNECTOR LEAKING. CHANGED RING GASKET. M/U CLAMP. TESTED BOP.
96/12/13	PRESSURE TESTED BOP. FUNCTION TESTED BOP ON BLUE POD. FUNCTION TESTED ACCOUSTIC SYSTEM. WOW TO RUN BOP. PREPARED TO RUN BOP.
96/12/14	RAN BOP AND RISER. LANDED BOP. LMRP DISCONNECTED BY EQUIPMENT FAILURE.
96/12/15	PRES. TEST. WH CONNECT. TESTED BOP FUNCT. ON ACOUSTIC SYS. FUNCT.TEST. LMRP CONNECT. PRES. TEST. LMRP CONNECT. FUNCT. TEST. BOP ON BLUE AND YELLOW POD. RELEASED RTTS. DRILLED BRIDGE PLUG AT 3814 M.
96/12/16	DRILLED BRIDGE PLUG AND CEMENT TO 4009 M. POOH TO 1534 M. WELDED CHRACKED PIPE LINE FROM HYD. UNIT TO PIPE HAND. EQUIPM.
96/12/17	POOH. CHANGED BIT. RIH. DRILLED CMT. FROM 4009 M TO 4034 M. HOLE KICKED OFF IN CEMENT. DRILLED NEW HOLE FROM 4034 M TO 4085 M.

34/11-3T2

Report date	
96/12/17	POOH. CHANGED BIT. RIH. DRILLED CMT. FROM 4009 M TO 4034 M. HOLE KICKED OFF IN CEMENT. DRILLED NEW HOLE FROM 4034 M TO 4085 M.
96/12/18	DRILLED 8 1/2" HOLE TO 4230 M. (TD FOR NEW HOLE SECTION) MADE WIPER TRIP TO SHOE. CIRCULATED BOTTOMS UP. POOH TO 900 M.
96/12/19	POOH. RU WESTERN ATLAS. RAN LOG NO 1, 2 AND 3.
96/12/20	CONT RUN LOG NO 3. RIH W/ LOG NO 4 - MISRUN. RIH W/ LOG NO 5 - MISRUN. RAN LOG NO 6. R/D WALS. R/U SCHLUMBERGER.
96/12/21	RIH W/ LOG NO: 7 - GOT TOOLFAILURE. POOH. ATTEMPTED RERUN LOG NO: 7 FOUR TIMES - NEG (TOOLFAILURE). RAN LOG NO: 7, MDT-GR RERUN 5. TOOK PRESSURE POINTS. POOH.
96/12/22	RAN LOG NO 8: MDT-SC-FL.A-GR. HAD TOOL FAILURES. CHANGED LOGGING CABLE. RAN LOG NO 9: VSP-GR
96/12/23	RAN LOG NO: 9 VSP-GR. RAN LOG NO: 10 FMT-QD-GR-CHT. ATT RUN LOG NO: 8 RERUN 5, MDT-GR WITH SAMPLE CHAMBERS - NEG (TOOLFAILURE). POOH
96/12/24	POOH W/ LOG NO: 8 RERUN 5, MDT-GR. R/D WIRELINE. RIH W/ 8 1/2" CLEANOUT BHA TO 4230 M. CIRC/COND MUD.
96/12/25	POOH WITH 8 1/2" CLEANOUT ASSY. R/U AND RAN WIRELINE LOG NO: 8 MDT-SC-FL.A-GR RERUN 6.
96/12/26	CONT RUN LOG NO: 8 MDT-SC-FL.A-GR, RERUN 6. RUN WALS LOG NO:10 VSP-GR, RERUN 2. RUN SCHLUMBERGER LOG NO: 8 MDT-SC-FL.A-GR, RERUN 6 - TOOL FAILED. RUN SCHLUMBERGER LOG NO: 8 MDT-SC-FL.A-GR, RERUN 7 - TOOL FAILED. RUN WALS LOG NO 11: SWC-GR.
96/12/27	RUN FORMATION EVALUATION LOGS AS PER PROGRAM. RIH W/CEMENTING STINGER TO 3950M. CIRC AND COND MUD PRIOR TO SETTING P AND A PLUGS. CONT RIH TO 4113 M.
96/12/28	CIRC B/U AT 4227 M. SET CMT PLUG NO.1 FROM TD TO 4100 M. POOH TO 4075 M. SET CMT PLUG NO 2 FROM 4073 M TO 3820 M. POOH TO 790 M.
96/12/29	POOH W/CMT STINGER. RIH WITH SCRAPER AND 8 1/2" BIT TO 3910 M. OBSERVED SOFT CEMENT. POOH TO 175 M.
96/12/30	POOH W/ BIT & CSG SCRAPER FROM 175 M. SAT BRIDGE PLUG ON WIRELINE AT 3880 M. PRESS TESTED PLUG - OK. RIH W/ 5" DP TO 1700 M. DISPLACED WELL TO 1,87 SG MUD. POOH. RIH W/ CSG CUTTER TO 1555 M. CUT 9 5/8"CSG. WELL GAINED. SHUT IN WELL. CIRC WELL ON CHOKE. FLOWCHECKED - WELL STABLE.
96/12/31	CIRC. POOH W/CASING CUTTER. PULLED WB. REPAIRED TOP DRIVE. WASHED WH. RIH WITH 9 5/8" CSG SEAL ASSY RETR TOOL. ATT RETRIEVE SEAL -NEG. RERAN RETRIEVING TOOL. RETRIEVED SEAL ENERGIZING RING. OBSERVED GAS. CLOSED SHEAR RAM & CROSSFLOWED BOP OVER C/K LINES WHILE M/U 9 5/8" CSG SPEAR.
97/01/01	RIH AND STRIP CSG SPEAR THROUGH BOP. PULL 9 5/8" CSG FREE. GAS BOUBLE FLUSH MUD OUT OF RISER. FILLED RISER. MIXED NEW MUD. CIRC WELL ON CHOKE. OPENED WELL AND CIRC UP RISER. INCR MW IN STEP FROM 1,87 SG TO 1,92 SG WHILE CIRC. BACKGROUND GAS DROP TO 1%.
97/01/02	CIRC WELL & OBSERVE GAS REDUCTION. POOH WITH 9 5/8" CSG FROM 1550 M. RIH WITH CMT STINGER TO 1708 M. CIRC B/U. ATT INJECT MUD W/ 100 BAR -NEG. SAT 1.92 SG HI-VIS PILL FROM 1700 TO 1600 M. POOH TO 1600 M. PUMPED 5 M3 1,93 SG SPACER. STARTED PUMPING 1,95 SG CMT SLURRY. STOPPED PUMPING DUE TO MOTOR FAILURE.

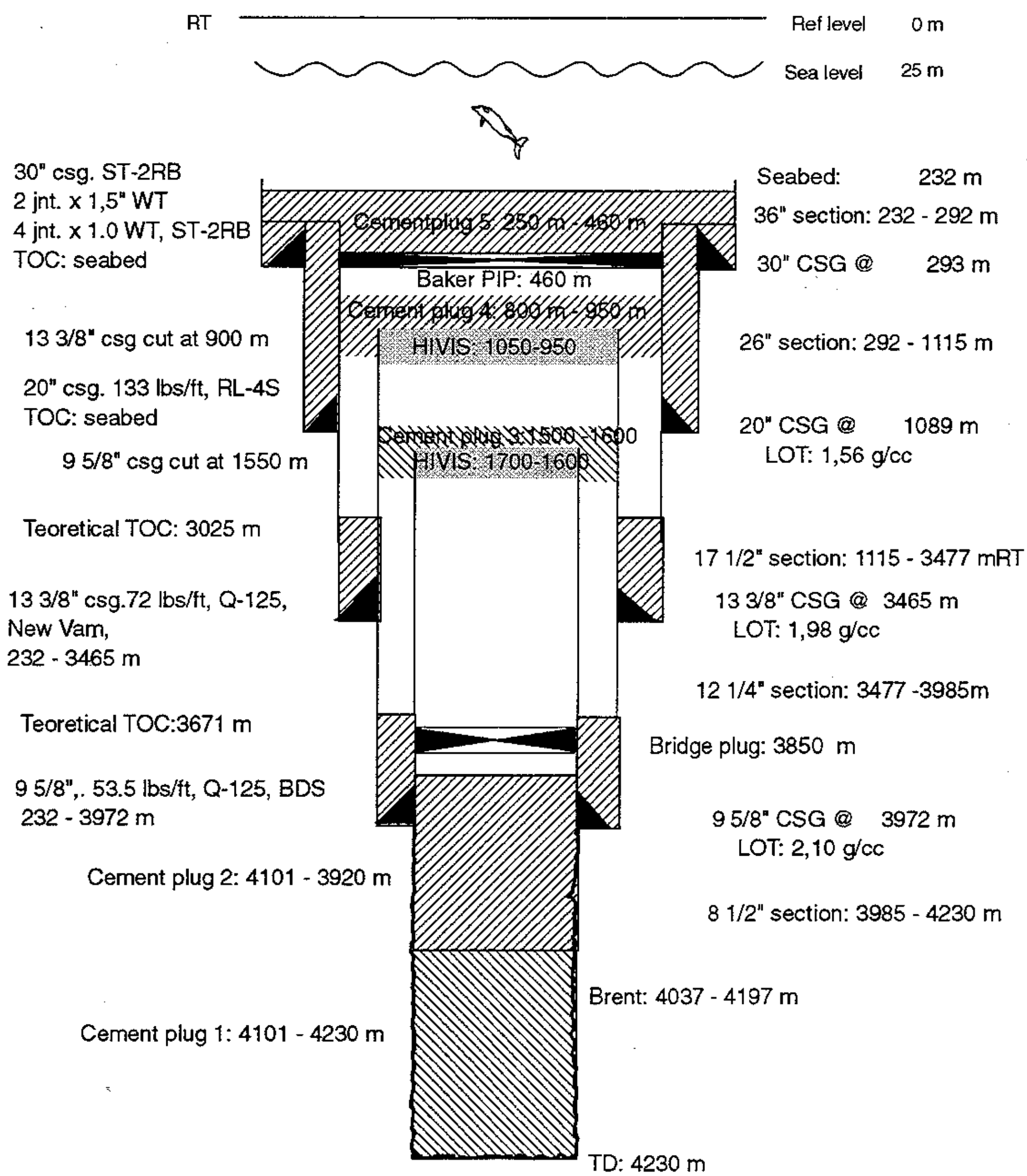
Report date	
97/01/03	SAT CMT PLUG NO 3 FROM 1600 M TO 1400 M. CIRC OUT EXCESS CMT. POOH. L/D 5" DP WHILE WOC. RIH TO 1050 M. PRESS TESTED PLUG TO 110 BAR - OK. DISPLACED HOLE TO 1,55 SG MUD AT 1050 M. POOH. RIH WITH 13 3/8" CSG CUTTER. CUT CSG AT 897M. WELL GAINED. CIRC WELL ON CHOKE.
97/01/04	CONT CIRC OVER CHOKE WITH 260 LPM WITH 50-60% LOSSES.CLOSED IN WELL, SICP 24 BAR.CONT CIRC OVER CHOKE WITH 345 LPM,WITH 60% LOSSES.OPENED UPR AND CIRC WITH 1100 LPM. OBSERVED DROP IN RISER.CLOSED UPR.FILLED UP RISER WITH 12 CUM MUD. CONT CIRC OVER CHOKE WITH 200 LPM,NO LOSSES. PUMPED A 8 CUM LCM PILL.BULLHEADED SAME WITH 21 CUM MUD. OBSERVED WELL. SICP INCREASED TO 35 BAR. CONT CIRC OVER CHOKE WITH 240 LPM.NO LOSSES. PUMPED A SECOND 8 CUM LCM PILL. DUE TO BUDLOSSES WITH A CIRC RATE OF 320 LPM.
97/01/05	OBSERVED WELL.CONT CIRC THROUGH CHOKE WITH 270 LPM.MINOR MUDLOSSES. OPENED UPR FOR 15-30 SEC PERIDS.LOST 2.5 AND 5 CUM MUD IN RISER. DISPLACED VOLUME IN RISER WITH FRESH MUD.CLOSED FAILSAFE VALVE ON CHOKE LINE. BLED DOWN PRESS IN SAME.MOSTLY GAS.OBSERVED SICP AND CIRC BU BETWEEN EACH OBSERVATION.
97/01/06	CONT CIRCULATING BU AND SHUTTING IN WELL.HAD APPROX 5% MUD LOSSES. IN SHUT IN PHASE,SICP INCREASED FROM 4 BAR TO 25 BAR IN 26-29 MIN. HAD MAX 1.14% GAS WHEN CIRC BU.INSTALLED KELLY COCK INSTRING.RU PRESSURE CONTROL EQUIPMENT.
97/01/07	RU WWS WIRELINE AND PRESSURE CONTROL EQUIPMENT WHILE CROSS HEAD CIRK. WHILE CIRC CHOKELINE PLUGGED.PUMP PRESSURE INCREASED TO 25 BAR,LOST RETURNS.CIRC LONG WAY THROUGH CHOKE WITH 250 LPM.NO MUD LOSSES. INCREASED RATE TO 400 LPM.OBSERVED LOSSES. REDUCED CIRC RATE TO 130 LPM,NO RETURNS.CROSSHEAD CIRC 1.30 SG MUD AT 240 LPM.NO LOSSES. SHUT IN WELL. SICP STATIC AT 5 BAR. DISPLACED RISER TO 1.30 SG MUD. OPENED MPR.MUD LEVEL IN RISER STATIC.OBSERVED WELL ON TRIP TANK FOR 1.5 HRS.INITIALLY GAINED 50 LTR/5 MIN.WELL STATIC THE LAST 20 MIN.
97/01/08	RIH WITH OEDP TO 238 M.RU WWS WIRELINE AND PRESS CONTROL EQUIPMENT. RIH WITH PERF GUN.CLOSED UPR. RIH WITH PERF GUN. PERFORATED 13 3/8" CSG AT 240 M.SICP INCREASED FROM 3 BAR TO 7 BAR IN 45 MIN.CROSSHEAD CIRC:OPENED UPR. CIRC UP RISER. MAX GAS 3%.LD WIRELINE EQUIPMENT. RIH WITH SEAL ASSY RETRIEVING TOOL. PULLED SEAL ASSY FREE WITH22 TONN OP.CROSSHEAD CIRC.MAX GAS 3.05%. POOH. MISRUN.RIH WITH 13 3/8" CSG SPEAR.PULLED 13 3/8" CSG FREE. POOH WITH 13 3/8" CSG TO 480 M.
97/01/09	POOH WITH 13 3/8" CSG.RIH WITH 5" OEDP TO 1050 M.DISPLACED WELL TO 1.50 SG MUD. SPOTTED A HI-VIS PILL FROM 1050 M TO 950 M. SET CMT PLUG NO 4 FROM 950 M TO 800 M.CIRC BOTTOMS UP. POOH WITH 5" OEDP. LD PIPE FROM DERRICK WHILE WOC.
97/01/10	PRESS TESTED CMT PLUG NO 5 TO 84 BAR,10 MIN.POOH. RIH WITH BAKER PIP PLUG .SAT SAME AT 460 M.SAT CMT PLUG NO 5 FROM 460 M TO 250 M. DISPLACED RISER TO SW. WASHED WH AND BOP.POOH. PULLED BOP AND RISER
97/01/11	SKIDED BOP TO PARKING AREA.M/U CASING CUTTING EGUIPMENT & RIH CUT 20" & 30" CASING AT 238 M, UNABLE TO PULL LOSE. POOH CHANGED CUTTERS,RIH AND CUT 20"& 30" CASING AT 235,5 M POOH, L/D CUTTING ASSY, L/D DC AND HWDP.
97/01/12	L/D DC AND HWDP. SKIDDED BOP UNDER ROTARY FOR INSPECTION.SLIP AND CUT DRILLINE.W.O.W.
97/01/13	WOW TO PULL ANCHORS.
97/01/14	W.O.W.
97/01/15	W.O.W TO PULL ANCHORS.
97/01/16	W.O.W. DEBALLSTED RIG.RECEIVED ANCHOR CHAIN & ANCHOR, PULL ANCHOR NO 1 WAITED ON APPROVAL OF CERTIFICATES.
97/01/17	WAITIED ON APPROVAL OF CERTIFICATES. PULLED ANCHORS.

Report date	
97/01/18	ANCHOR HANDLING.

4.5 Wellbore schematic

Vertical well

Not to scale.



4.6 Formation Integrity Test

Leak of Test

Well	FIT/LOT	Depth	Location	mudweight	strenght
34/11-3	LOT	1085 mMD RKB	Below 20" shoe	1,40 g/cm³	1,66 g/cm³
34/11-3	LOT	1086 mMD RKB	17 1/2" section	1,53 g/cm³	1,61 g/cm³
34/11-3	LOT	3468 mMD RKB	Below 13 3/8" shoe	1,84 g/cm³	1,98 g/cm³
34/11-3	FIT	3988 mMD RKB	Below 9 5/8" shoe	1,88 g/cm³	2,10 g/cm³

Dato: **8.8.96**

FORMASJONSSTYRKETEST

STATOIL

BRØNN NR.: 34/11-3 DYBDE: BRØNN: FORING: 1089 TEST: 1118

FORING:					
DIAMETER	20	tommer	TYNGDE:	133	lbs/ft
MAKS TRYKK:	135	bar	GRAD:	RL-4S	

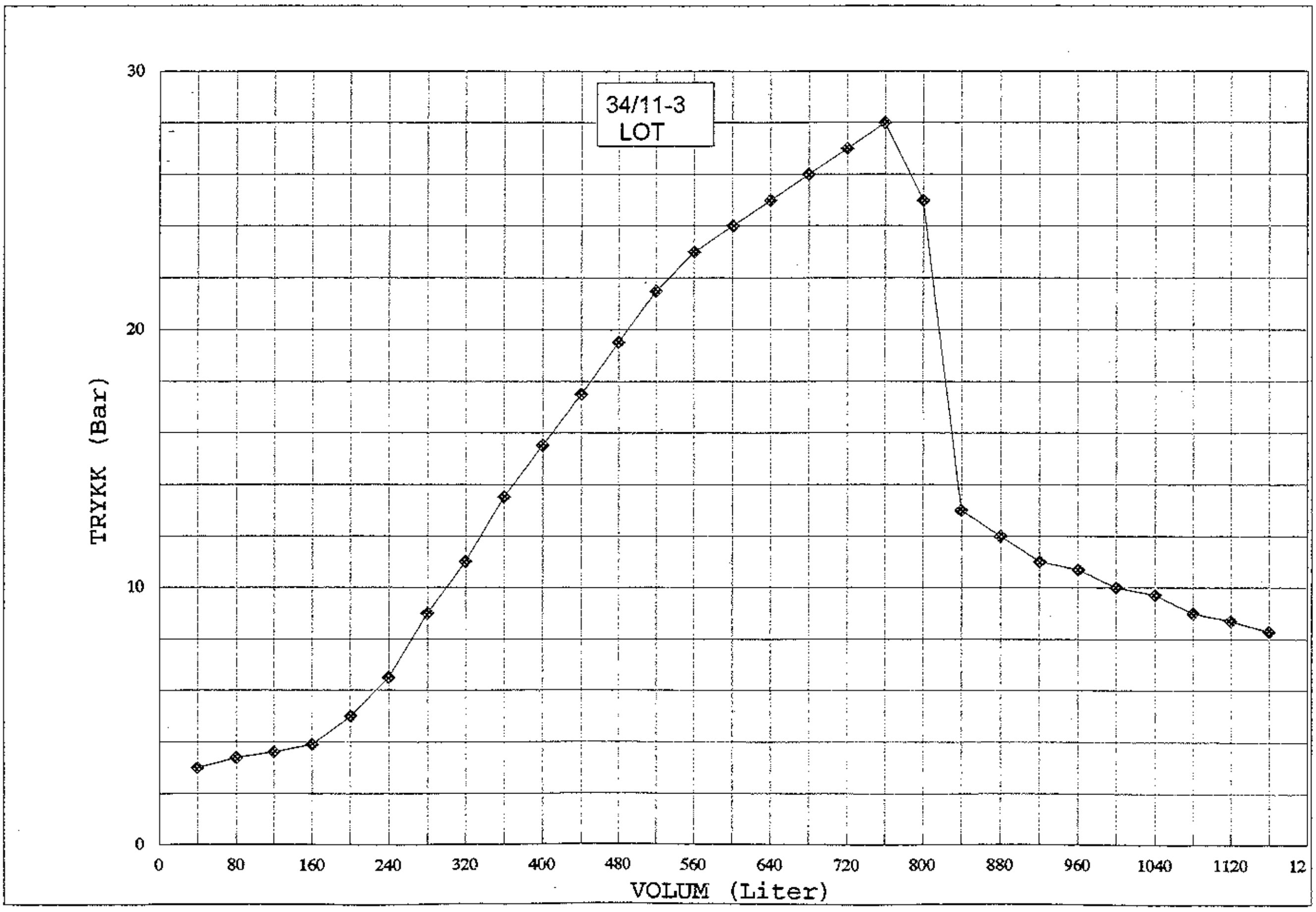
FARTØY: Deep Sea Trym					
HØYDE til RKB:					
Over vannflaten	25	m	Over sjøbunn	233	m

BORESLAM:					
TETTHET:	1,4	g/cm3	VISC.	80	sec
P.V.	14	mPas	Y.P.	15	Pa
FILTERTAP:	3,2	ml/min	GELEST.:	3/3,5	mPa

PUMPE:					
TYPE:	Halliburton		KAPASITET:		l/min
VOL./TIDSENH.	40	l/min	TILB. STR.:	0	liter

FORMASJONSSTYRKE:								
ANTATT STYRKE:	1,6	g/cm3	OBSERVERT SPREKKE TRYKK:	26	bar	EKV. FORMASJ. STYRKE:	1,64	g/cm3

Volum/tid	Trykk	Volum/tid	Trykk	Volum/tid	Trykk	Anmerkninger
40	3,0	440	17,5	0 min	25	
80	3,4	480	19,5	1 min	13	
120	3,6	520	21,5	2 min	12	
160	3,9	560	23	3 min	11	
200	5,0	600	24	4 min	10,7	
240	6,5	640	25	5 min	10	
280	9,0	680	26	6 min	9,7	
320	11,0	720	27	7 min	9	
360	13,5	760	28	8 min	8,7	
400	15,5	800	25	9 min	8	
						SIGNATUR: *Øyvind Tungland*



Dato: 14.08.96

FORMASJONSSTYRKETEST

STATOIL

BRØNN NR.: 34/11-3 DYBDE: BRØNN: FORING: 1089 TEST: 2344 m

FORING:					
DIAMETER	20	tommer	TYNGDE:	133	lbs/ft
MAKS TRYKK:	135	bar	GRAD:	RL-4S	

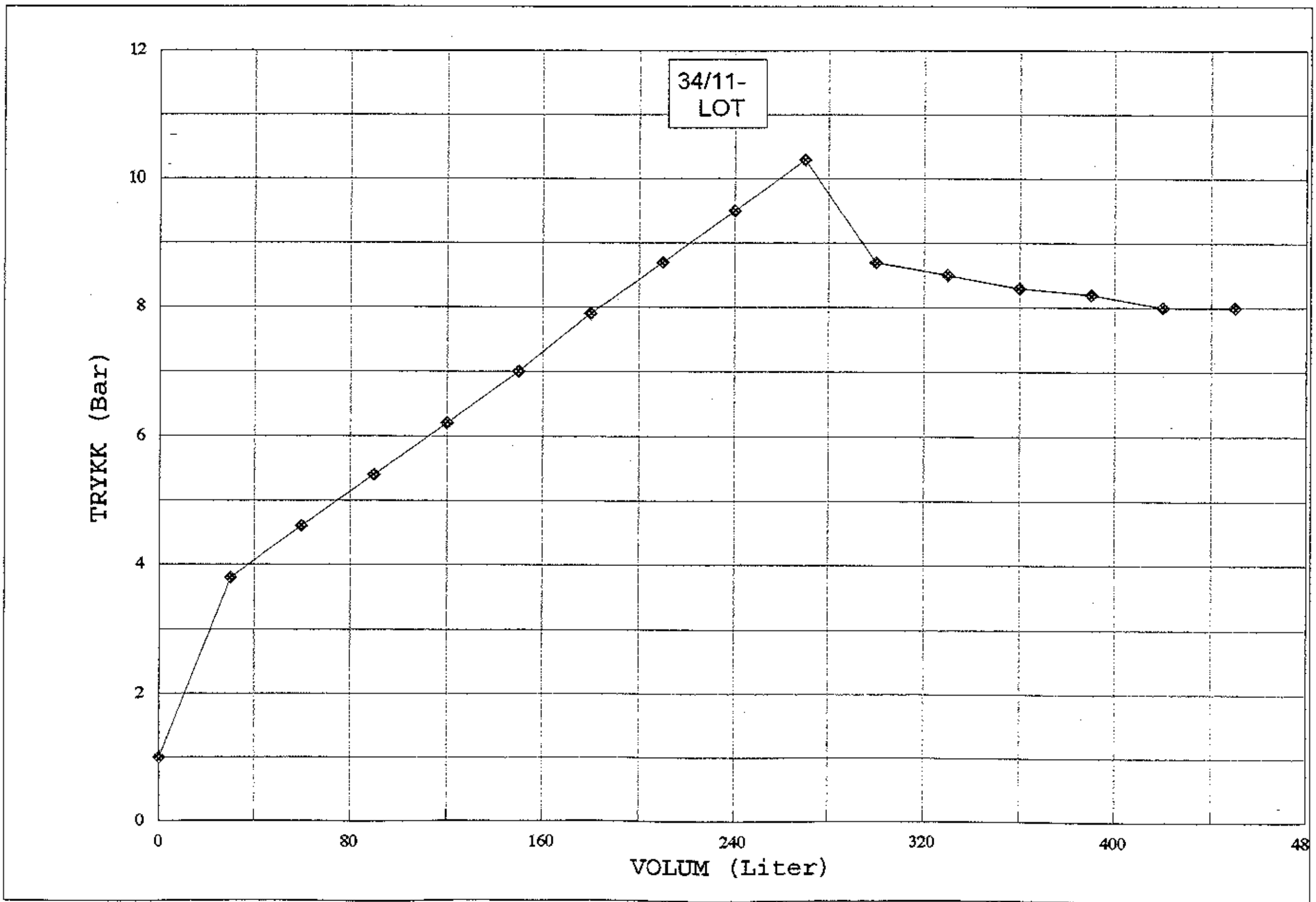
FARTØY:	Deep Sea Trym				
HØYDE til RKB:					
Over vannflaten	25	m	Over sjøbunn	233	m

BORESLAM:					
TETTHET:	1,53	g/cm3	VISC.	69	sec
P.V.	22	mPas	Y.P.	16,5	Pa
FILTERTAP:	3,3	ml/min	GELEST.:	4,5/9	mPa

PUMPE:					
TYPE:	Halliburton		KAPASITET:		l/min
VOL./TIDSENH.	40	l/min	TILB. STR.:	0	liter

FORMASJONSSTYRKE:							
ANTATT STYRKE:	1,66	g/cm3	OBSERVERT SPREKKE TRYKK:		bar	EKV. FORMASJ. STYRKE:	1,61 g/cm3

Volum/tid	Trykk	Volum/tid	Trykk	Volum/tid	Trykk	Anmerkninger
0	1,0			0 min	8,7	
30	3,8			1 min	8,5	
60	4,6			2 min	8,3	
90	5,4			3 min	8,2	
120	6,2			4 min	8	
150	7,0			5 min	8	
180	7,9					
210	8,7					
240	9,5					
270	10,3					
						SIGNATUR: Øyvind Tungland



Dato: 31.8.96

FORMASJONSSTYRKETEST

STATOIL

BRØNN NR.: 34/11-3 DYBDE: BRØNN: FORING: 3972 m TEST: 3985 m

FORING:			
DIAMETER	13 3/8 tommer	TYNGDE:	72 lbs/ft
MAKS TRYKK:	455 bar	GRAD:	Q-125

FARTØY: Deep Sea Trym			
HØYDE til RKB:			
Over vannflaten	25 m	Over sjøbunn	233 m

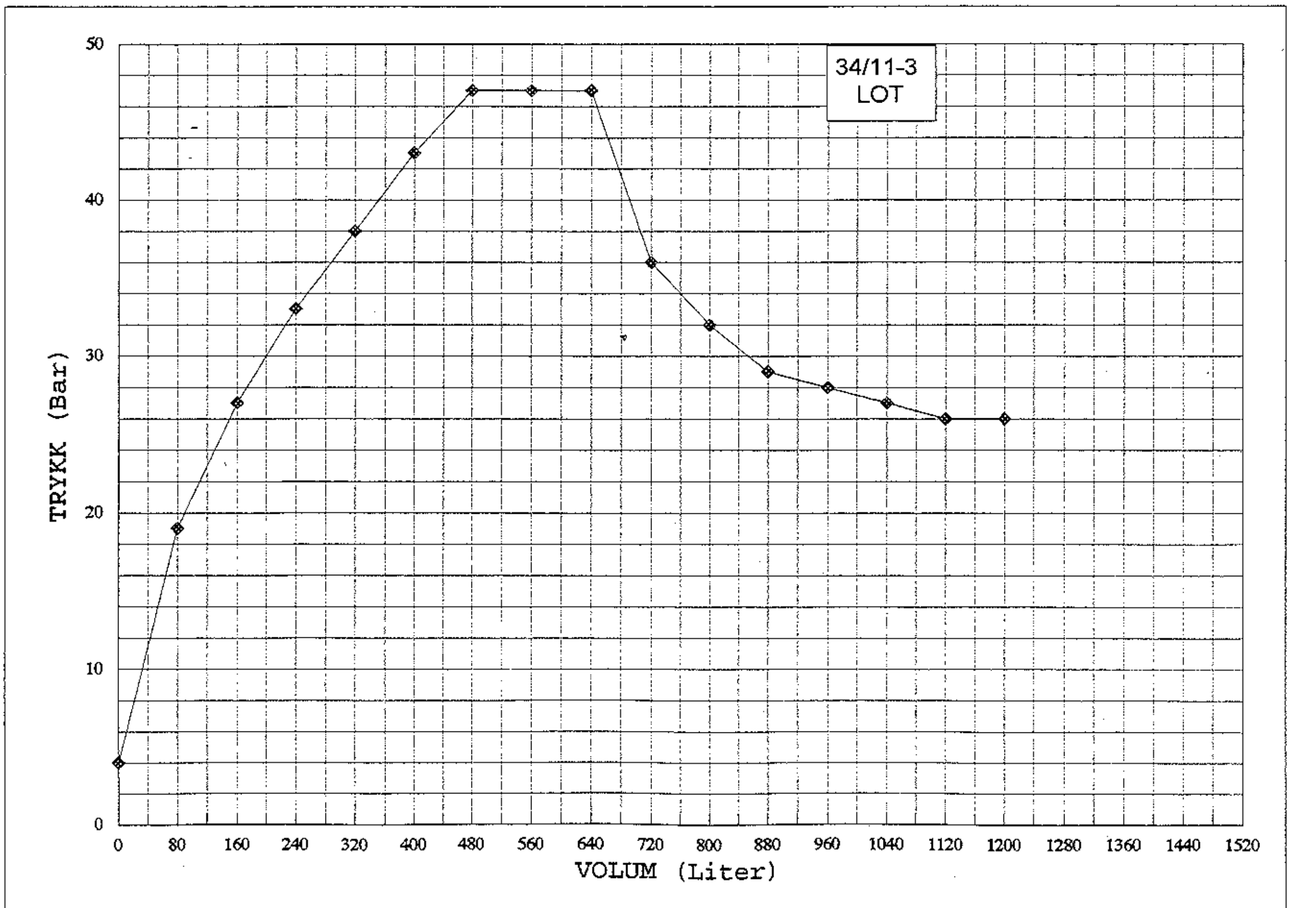
BORESLAM:			
TETTHET:	1,88 g/cm3	VISC.	80 sec
P.V.	34 mPas	Y.P.	15,5 Pa
FILTERTAP:	3,4 ml/min	GELEST.:	3/9,5 mPa

PUMPE:			
TYPE:	Halliburton	KAPASITET:	l/min
VOL./TIDSENH.	80 l/min	TILB. STR.:	360 liter

FORMASJONSSTYRKE:					
ANTATT STYRKE:	1,98 g/cm3	OBSERVERT SPREKKE TRYKK:	47 bar	EKV. FORMASJ. STYRKE:	1,98 g/cm3

Volum/tid	Trykk	Volum/tid	Trykk	Volum/tid	Trykk	Anmerkninger
0	4,0			1 min	36	
80	19,0			2 min	32	
160	27,0			3 min	29	
240	33,0			4 min	28	
320	38,0			5 min	27	
400	43,0			6 min	26	
480	47,0			7 min	26	
560	47,0					
640	47,0					

SIGNATUR: Claus Mæland



Dato: 11.9.96

FORMASJONSSTYRKETEST

STATOIL

BRØNN NR.: 34/11-3   DYBDE: BRØNN: FORING: 3972 m   TEST: 3985 m

FORING:			
DIAMETER	9 5/8 tommer	TYNGDE:	53,5 lbs/ft
MAKS TRYKK:	655 bar	GRAD:	Q-125

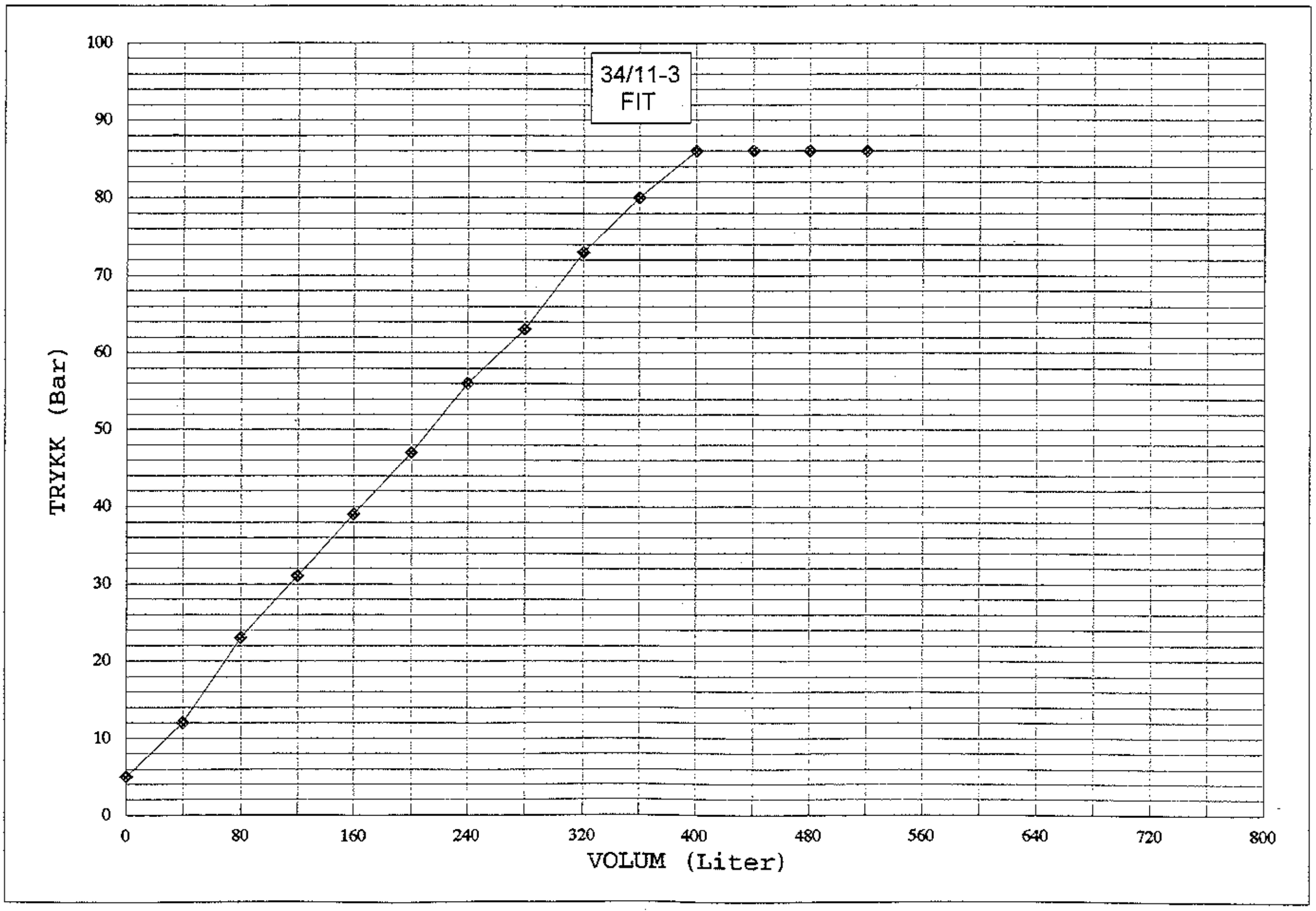
FARTØY: Deep Sea Trym			
HØYDE til RKB:			
Over vannflaten	25 m	Over sjøbunn	233 m

BORESLAM:			
TETTHET:	1,88 g/cm3	VISC.	80 sec
P.V.	35 mPas	Y.P.	16 Pa
FILTERTAP:	7,5 ml/min	GELEST.:	3/12 mPa

PUMPE:			
TYPE:	Halliburton	KAPASITET:	l/min
VOL./TIDSENH.	40 l/min	TILB. STR.:	400 liter

FORMASJONSSTYRKE:					
ANTATT STYRKE:	2,1 g/cm3	OBSERVERT SPREKKE TRYKK:	47 bar	EKV. FORMASJ. STYRKE:	2,1 g/cm3

Volum/tid	Trykk	Volum/tid	Trykk	Volum/tid	Trykk	Anmerkninger
0	5,0			1	86	
40	12,0			2	86	
80	23,0			3	86	
120	31,0					
160	39,0					
200	47,0					
240	56,0					
280	63,0					
320	73,0					
360	80,0					
400	86,0					
						SIGNATUR: H. Halleraker



4.7 Rig Time Distribution

Drilling Time vs Depth

Time Distribution by Well

Start first activity: 01.01.65 00:00

Start last activity: 31.12.99 00:00

Well: 0034/11-003

Main Activity	Sub Activity	Activity name	Act. code	Time Used
BOP	BOP	TEST SUBSEA BOP, NEG	BBDD	24.0
		TEST SUBSEA BOP, OK	BBDU	33.0
		NIPPLE UP/DOWN BOP AND WELLHEAD	BBNU	6.5
		BOP OTHER, NEG	BBOD	558.5
		BOP OTHER, OK	BBOU	11.0
		RUN/PULL BOP/RISER	BBRU	16.5
		WAITING ON WEATHER	BBWW	16.0
	EQUIPMENT	REPAIRING SUBSEA BOP	BEDD	252.0
	WELLHEAD	RUN/PULL WEARBUSHING	BHRU	8.5
		PULL/RUN SEAL ASSEMBLY, NEG	BHSD	19.0
		RUN/PULL SEAL ASSEMBLY	BHSU	1.5
				946.5
CASING	CEMENT	WOC	CSCW	6.5
		OTHER CEMENTING TIME, NEG	CSOD	1.5
		CEMENT CASING/LINER	CSSU	14.5
	CIRC/COND	CIRC/COND PRIOR TO CEMENTING	CCCU	8.0
	CSG/LINER	OTHER CASING TIME, NEG	CAOD	4.5
		OTHER CASING TIME, OK	CAOU	8.0
		RUN CASING	CARU	65.0
	EQUIPMENT	RIG UP/DOWN TO RUN CASING	CERU	19.5
	TRIP	TRIP TIME ASSOC. WITH CSG/CEMENTING	CTTU	20.0
				147.5
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	44.0
		LOST CIRC. DURING DRILLING	DCLD	6.5
		WIPERTRIP INCL. CIRCULATION	DCWK	18.5
	DRILLING	HOLE OPEN	DDHU	3.0
		DRILLING OTHER TIME, OK	DDOU	4.0
		ROT. DRILLING INCL. CONNECTION	DDRU	243.5
		DRILLING WITH STEERABLE PDM/TURBINE	DDTU	212.0
	EQUIPMENT	MWD TOOL PROBLEMS OR FAILURE	DEMD	23.5
		EQUIPMENT TIME OTHER, NEG	DEOD	4.0
		EQUIPMENT OTHER TIME, OK	DEOU	17.0
		REPAIR RIG EQUIPMENT	DERD	54.5
	TRIP	TRIP TO CHANGE BHA	DTAK	67.0
		TRIP TO CHANGE BIT	DTBK	38.0
		TRIP OUT TO RUN CASING	DTCU	9.5
		TRIP OUT FOR LOGGING	DTLU	18.0
		PICK UP/LAY DOWN DRILLSTRING	DTPU	55.0
		TRIP OUT FOR CORING	DTRU	92.5
				910.5
EVALUATION	CIRC/COND	CIRC/COND	ECFU	32.5
		CIRC FOR SAMPLES	ECSU	23.5
		WIPERTRIP TO CLEAN HOLE	ECWK	36.5
	CORING	CUT CORE	ERCU	68.5
		CORING TIME OTHER, NEG	EROD	2.0

Time Distribution by Well

Start first activity: 01.01.65 00:00

Start last activity: 31.12.99 00:00

Well: 0034/11-003

Main Activity	Sub Activity	Activity name	Act. code	Time Used
EVALUATION	EQUIPMENT	L/D P/U DRESS COREBBL	EECU	22.5
		DOWNHOLE EQUIPMENT FAILURE	EEDD	1.5
		SURFACE EQUIPMENT FAILURE	EESD	3.5
	LOGGING	FORMATION LOGGING WITH DP	ELDU	8.5
		OTHER LOGGING TIME, NEG.	ELOD	16.0
		LOGGING TIME OTHER, OK	ELOU	8.5
		WIRELINE LOGGING TOOL STUCK	ELSD	4.5
		FORMATION LOGGING WITH WIRELINE	ELWU	41.0
	TEST	FORMATION INTEGRITY TEST	EXFU	2.0
		LEAK OFF TEST	EXLU	1.0
	TRIP	TRIP WITH CORE BARREL	ETCU	386.0
				658.0
FISHING	FISH	STRIP OVER LINE WITH DRILLPIPE	FISD	69.0
				69.0
MOVING	ANCHOR	RUN/PULL ANCHORS	MARU	23.5
	TRANSIT	TRANSIT	MNMU	23.0
		OTHER WAITING	MNOW	1.0
		POSITION RIG	MNPU	1.5
				49.0
WELL CONTROL	CIRC/COND	CIRCULATING FOR WELL EVALUATION	WCCD	49.0
		FLOW CHECK	WCFD	23.0
		CIRC KILL MUD	WCKD	51.5
		OTHER WELL CONTROL TIME	WCOD	397.0
		OTHER WAITING	WCOW	24.0
		WELL SHUT IN OBSERVATION	WCSD	21.5
				566.0
		Total for Well: 0034/11-003		**3346.5**

Well: 0034/11-003T2

Main Activity	Sub Activity	Activity name	Act. code	Time Used
BOP	BOP	BOP OTHER, OK	BBOU	8.5
		RUN/PULL BOP/RISER	BBRU	17.5
	EQUIPMENT	REPAIRING SUBSEA BOP	BEDD	37.5
	WELLHEAD	RUN/PULL WEARBUSHING	BHRU	2.0
		PULL/RUN SEAL ASSEMBLY, NEG	BHSD	13.0
		RUN/PULL SEAL ASSEMBLY	BHSU	1.0
				79.5
DRILLING	EQUIPMENT	EQUIPMENT TIME OTHER, NEG	DEOD	6.5
		REPAIR RIG EQUIPMENT	DERD	19.5
				26.0
EVALUATION	CIRC/COND	WIPERTRIP TO CLEAN HOLE	ECWK	34.0
	LOGGING	OTHER LOGGING TIME, NEG.	ELOD	58.5
		LOGGING TIME OTHER, OK	ELOU	108.0
				200.5
MOVING	ANCHOR	RUN/PULL ANCHORS	MARU	19.0
	TRANSIT	BALLAS/DEBALLAST RIG	MNBU	5.0

Time Distribution by Well

Start first activity: 01.01.65 00:00

Start last activity: 31.12.99 00:00

Well: 0034/11-003T2

Main Activity	Sub Activity	Activity name	Act. code	Time Used
MOVING	TRANSIT	WAITING ON WEATHER	MNWW	95.5
				119.5
PLUGBACK	CASING	CUTTING CASING TROUBLE TIME	PACD	19.0
		CUT/RETREIVE/LAY DOWN CSG	PACU	52.5
		P&A OTHER TIME, NEG	PAOD	.5
		P&A OTHER TIME, OK	PAOU	7.0
	CEMENT	SET / TEST CEMENT PLUG	PSSU	8.5
	CIRC/COND	CIRC/COND	PCCU	32.0
	TRIP	PICKUP/LAYDOWN	PTPU	10.5
		TRIP TIME ASSOC. WITH P&A	PTTU	80.5
	WIRE	RUN/PULL PLUG	PWPU	5.0
		RIG UP/DOWN	PWRU	1.5
		EL. SET PLUG	PWUU	7.5
				224.5
WELL CONTROL	CIRC/COND	FLOW CHECK	WCFD	2.0
		OTHER WELL CONTROL TIME	WCOD	2.5
		OTHER WAITING	WCOW	97.5
		WELL SHUT IN OBSERVATION	WCSD	5.5
				107.5
		Total for Well: 0034/11-003T2		**757.5**

Time Distribution by Section

Start first activity: 01.01.65 00:00
Start last activity: 31.12.99 00:00

Well: 0034/11-003

Section: MOVE | **Start** 30.07.96 05:00 | **Finish** 01.08.96 08:30

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
DRILLING	TRIP	PICK UP/LAY DOWN DRILLSTRING	DTPU	2.5
MOVING	ANCHOR	RUN/PULL ANCHORS	MARU	23.5
	TRANSIT	TRANSIT	MNM	23.0
		OTHER WAITING	MNO	1.0
		POSITION RIG	MNPU	1.5
		Total for section: MOVE		51.5

Section: 36" | **Start** 01.08.96 08:30 | **Finish** 02.08.96 17:30

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
CASING	CEMENT	WOC	CSC	6.5
		CEMENT CASING/LINER	CSSU	1.0
	CIRC/COND	CIRC/COND PRIOR TO CEMENTIN	CCCU	.5
	CSG/LINER	OTHER CASING TIME, NEG	CAOD	2.5
		OTHER CASING TIME, OK	CAOU	.5
	TRIP	TRIP TIME ASSOC. WITH CSG/CEM	CTTU	7.5
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	1.0
	DRILLING	ROT. DRILLING INCL. CONNECTIO	DDRU	8.0
	TRIP	TRIP OUT TO RUN CASING	DTCU	3.0
		PICK UP/LAY DOWN DRILLSTRING	DTPU	2.5
		Total for section: 36"		33.0

Section: 26" | **Start** 02.08.96 17:30 | **Finish** 08.08.96 02:00

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
BOP	BOP	TEST SUBSEA BOP, OK	BBDU	4.0
		NIPPLE UP/DOWN BOP AND WELL	BBNU	6.5
		BOP OTHER, NEG	BBOD	1.0
		BOP OTHER, OK	BBOU	4.0
		RUN/PULL BOP/RISER	BBRU	12.0
	WELLHEAD	RUN/PULL WEARBUSHING	BHRU	2.0
CASING	CEMENT	CEMENT CASING/LINER	CSSU	5.5
	CIRC/COND	CIRC/COND PRIOR TO CEMENTIN	CCCU	1.5
	CSG/LINER	OTHER CASING TIME, OK	CAOU	3.5
		RUN CASING	CARU	10.0
	EQUIPMENT	RIG UP/DOWN TO RUN CASING	CERU	2.0
	TRIP	TRIP TIME ASSOC. WITH CSG/CEM	CTTU	4.0
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	4.5
		WIPERTRIP INCL. CIRCULATION	DCW	3.5
	DRILLING	DRILLING WITH STEERABLE PDM/	DDTU	29.5
	EQUIPMENT	EQUIPMENT TIME OTHER, NEG	DEOD	2.0
		EQUIPMENT OTHER TIME, OK	DEOU	2.0
	TRIP	TRIP OUT TO RUN CASING	DTCU	6.5
		PICK UP/LAY DOWN DRILLSTRING	DTPU	21.5
		TRIP OUT FOR CORING	DTRU	2.0

Section: 26" **Start** 02.08.96 17:30 **Finish** 08.08.96 02:00

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
EVALUATION	TEST	LEAK OFF TEST	EXLU	1.0
		Total for section: 26"		128.5

Section: 17 1/2" **Start** 08.08.96 02:00 **Finish** 31.08.96 08:00

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
BOP	BOP	TEST SUBSEA BOP, NEG	BBDD	4.5
		TEST SUBSEA BOP, OK	BBDU	11.5
	WELLHEAD	RUN/PULL WEARBUSHING	BHRU	2.0
		RUN/PULL SEAL ASSEMBLY	BHSU	.5
CASING	CEMENT	OTHER CEMENTING TIME, NEG	CSOD	1.5
		CEMENT CASING/LINER	CSSU	4.5
	CIRC/COND	CIRC/COND PRIOR TO CEMENTIN	CCCU	1.5
	CSG/LINER	RUN CASING	CARU	29.5
	EQUIPMENT	RIG UP/DOWN TO RUN CASING	CERU	8.5
	TRIP	TRIP TIME ASSOC. WITH CSG/CEM	CTTU	4.5
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	16.0
		WIPERTRIP INCL. CIRCULATION	DCW	9.0
	DRILLING	HOLE OPEN	DDHU	1.5
		ROT. DRILLING INCL. CONNECTIO	DDRU	7.5
		DRILLING WITH STEERABLE PDM/	DDTU	182.5
	EQUIPMENT	MWD TOOL PROBLEMS OR FAILU	DEMD	22.0
		EQUIPMENT OTHER TIME, OK	DEOU	12.5
		REPAIR RIG EQUIPMENT	DERD	21.5
	TRIP	TRIP TO CHANGE BHA	DTAK	8.0
		TRIP TO CHANGE BIT	DTBK	14.0
		TRIP OUT FOR LOGGING	DTLU	10.0
		PICK UP/LAY DOWN DRILLSTRING	DTPU	1.0
		TRIP OUT FOR CORING	DTRU	11.0
EVALUATION	CIRC/COND	CIRC/COND	ECFU	.5
		CIRC FOR SAMPLES	ECSU	1.5
		WIPERTRIP TO CLEAN HOLE	ECW	36.0
	CORING	CUT CORE	ERCU	12.0
	EQUIPMENT	L/D P/U DRESS COREBBL	EECU	4.5
	LOGGING	OTHER LOGGING TIME, NEG.	ELOD	2.5
		LOGGING TIME OTHER, OK	ELOU	5.5
		WIRELINE LOGGING TOOL STUCK	ELSD	4.5
		FORMATION LOGGING WITH WIRE	ELWU	27.0
	TEST	FORMATION INTEGRITY TEST	EXFU	1.5
	TRIP	TRIP WITH CORE BARREL	ETCU	8.5
FISHING	FISH	STRIP OVER LINE WITH DRILLPIPE	FISD	69.0
		Total for section: 17 1/2"		558.0

Well: 0034/11-003

Section: 12 1/4" **Start** 31.08.96 08:00 **Finish** 11.09.96 13:30

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
BOP	BOP	TEST SUBSEA BOP, NEG	BBDD	6.5
		TEST SUBSEA BOP, OK	BBDU	5.5
		BOP OTHER, OK	BBOU	2.0
	WELLHEAD	RUN/PULL WEARBUSHING	BHRU	4.5
		PULL/RUN SEAL ASSEMBLY, NEG	BHSD	19.0
		RUN/PULL SEAL ASSEMBLY	BHSU	1.0
CASING	CEMENT	CEMENT CASING/LINER	CSSU	3.5
	CIRC/COND	CIRC/COND PRIOR TO CEMENTIN	CCCU	4.5
	CSG/LINER	OTHER CASING TIME, NEG	CAOD	2.0
		OTHER CASING TIME, OK	CAOU	4.0
		RUN CASING	CARU	25.5
	EQUIPMENT	RIG UP/DOWN TO RUN CASING	CERU	9.0
	TRIP	TRIP TIME ASSOC. WITH CSG/CEM	CTTU	4.0
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	8.0
		WIPERTRIP INCL. CIRCULATION	DCW	4.5
	DRILLING	HOLE OPEN	DDHU	1.5
		DRILLING OTHER TIME, OK	DDOU	1.0
		ROT. DRILLING INCL. CONNECTIO	DDRU	110.5
	EQUIPMENT	MWD TOOL PROBLEMS OR FAILU	DEMD	1.5
		REPAIR RIG EQUIPMENT	DERD	1.5
	TRIP	TRIP OUT FOR LOGGING	DTLU	8.0
		PICK UP/LAY DOWN DRILLSTRING	DTPU	18.5
EVALUATION	LOGGING	OTHER LOGGING TIME, NEG.	ELOD	13.5
		LOGGING TIME OTHER, OK	ELOU	2.0
		FORMATION LOGGING WITH WIRE	ELWU	7.5
	TEST	FORMATION INTEGRITY TEST	EXFU	.5
		Total for section: 12 1/4"		269.5

Section: 8 1/2" **Start** 11.09.96 13:30 **Finish** 16.12.96 20:30

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
BOP	BOP	TEST SUBSEA BOP, NEG	BBDD	13.0
		TEST SUBSEA BOP, OK	BBDU	12.0
		BOP OTHER, NEG	BBOD	557.5
		BOP OTHER, OK	BBOU	5.0
		RUN/PULL BOP/RISER	BBRU	4.5
		WAITING ON WEATHER	BBW	16.0
	EQUIPMENT	REPAIRING SUBSEA BOP	BEDD	252.0
DRILLING	CIRC/COND	ROUTINE HOLE CIRC/COND	DCAU	14.5
		LOST CIRC. DURING DRILLING	DCLD	6.5
		WIPERTRIP INCL. CIRCULATION	DCW	1.5
	DRILLING	DRILLING OTHER TIME, OK	DDOU	3.0
		ROT. DRILLING INCL. CONNECTIO	DDRU	117.5
	EQUIPMENT	EQUIPMENT TIME OTHER, NEG	DEOD	2.0
		EQUIPMENT OTHER TIME, OK	DEOU	2.5

Well: 0034/11-003

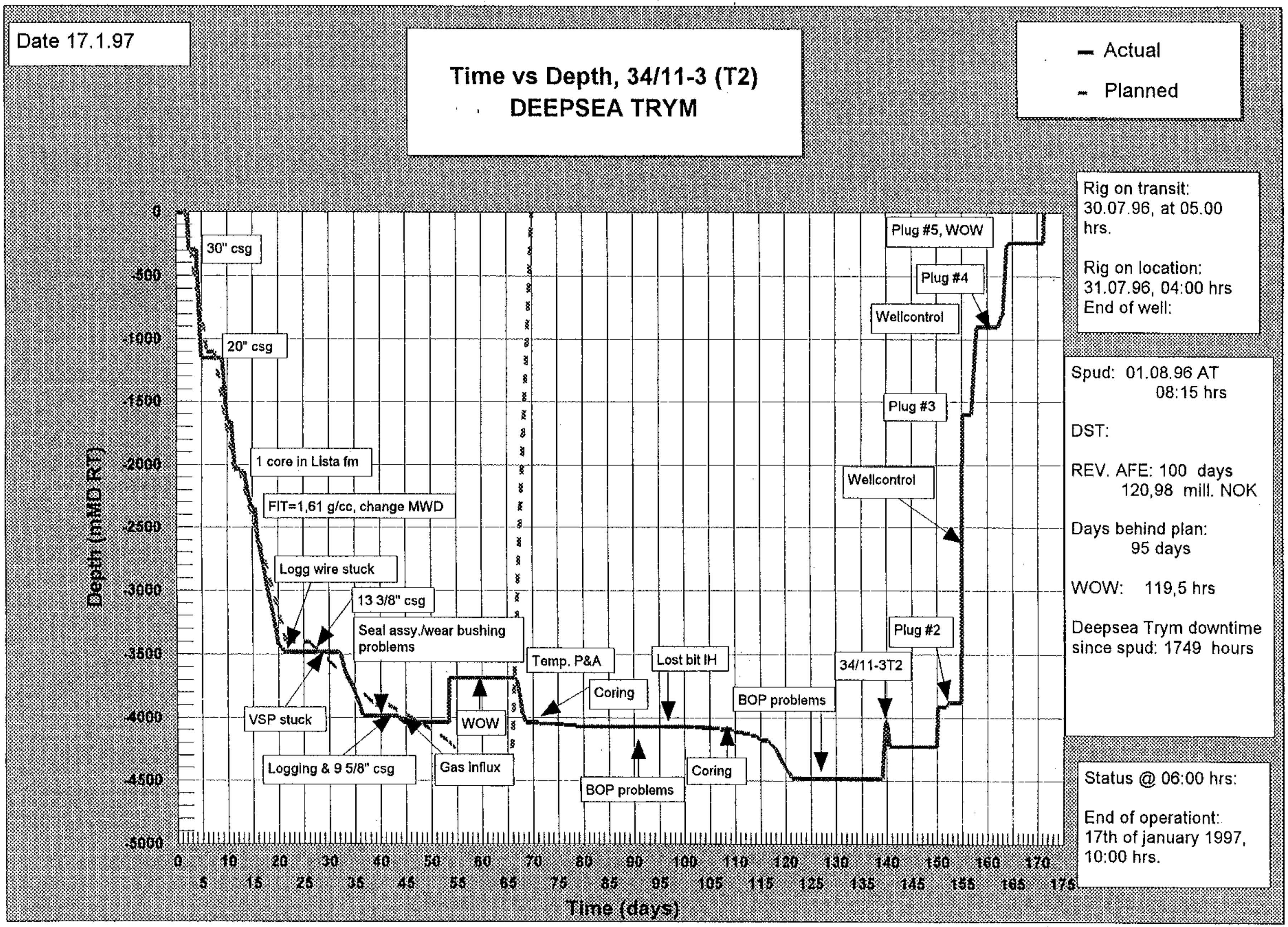
Section: 8 1/2" **Start** 11.09.96 13:30 **Finish** 16.12.96 20:30

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
DRILLING	EQUIPMENT	REPAIR RIG EQUIPMENT	DERD	31.5
	TRIP	TRIP TO CHANGE BHA	DTAK	59.0
		TRIP TO CHANGE BIT	DTBK	24.0
		PICK UP/LAY DOWN DRILLSTRING	DTPU	9.0
		TRIP OUT FOR CORING	DTRU	79.5
EVALUATION	CIRC/COND	CIRC/COND	ECFU	32.0
		CIRC FOR SAMPLES	ECSU	22.0
		WIPERTRIP TO CLEAN HOLE	ECW	.5
	CORING	CUT CORE	ERCU	56.5
		CORING TIME OTHER, NEG	EROD	2.0
	EQUIPMENT	L/D P/U DRESS COREBBL	EECU	18.0
		DOWNHOLE EQUIPMENT FAILURE	EEDD	1.5
		SURFACE EQUIPMENT FAILURE	EESD	3.5
	LOGGING	FORMATION LOGGING WITH DP	ELDU	8.5
		LOGGING TIME OTHER, OK	ELOU	1.0
		FORMATION LOGGING WITH WIRE	ELWU	6.5
	TRIP	TRIP WITH CORE BARREL	ETCU	377.5
WELL CONTROL	CIRC/COND	CIRCULATING FOR WELL EVALUA	WCC	49.0
		FLOW CHECK	WCF	23.0
		CIRC KILL MUD	WCK	51.5
		OTHER WELL CONTROL TIME	WCO	397.0
		OTHER WAITING	WCO	24.0
		WELL SHUT IN OBSERVATION	WCS	21.5
		Total for section:	**8 1/2"**	2306.0
		Toal for Well:	**0034/11-003**	3346.5

Well: 0034/11-003T

Section: 8 1/2" **Start** 16.12.96 20:30 **Finish** 26.12.96 20:00

Main Activity	Sub Activity	Activity name	Activity Code	Time Used
BOP	EQUIPMENT	REPAIRING SUBSEA BOP	BEDD	37.5
EVALUATION	CIRC/COND	WIPERTRIP TO CLEAN HOLE	ECW	34.0
	LOGGING	OTHER LOGGING TIME, NEG.	ELOD	58.5
		LOGGING TIME OTHER, OK	ELOU	107.5
PLUGBACK	CEMENT	SET / TEST CEMENT PLUG	PSSU	.5
	CIRC/COND	CIRC/COND	PCCU	2.0
		Total for section:	**8 1/2"**	240.0
		Toal for Well:	**0034/11-003T2**	240.0



Date 17.1.97
Time vs Depth, 34/11-3 (T2)
DEEPSEA TRYM
Actual
Planned
Rig on transit: 30.07.96, at 05.00 hrs.
Rig on location: 31.07.96, 04:00 hrs
End of well:
Spud: 01.08.96 AT 08:15 hrs
DST:
REV. AFE: 100 days 120,98 mill. NOK
Days behind plan: 95 days
WOW: 119,5 hrs
Deepsea Trym downtime since spud: 1749 hours
Status @ 06:00 hrs:
End of operationt: 17th of january 1997, 10:00 hrs.
Depth (mMD RT)
Time (days)
30" csg
20" csg
1 core in Lista fm
FIT=1,61 g/cc, change MWD
Logg wire stuck
13 3/8" csg
Seal assy./wear bushing problems
VSP stuck
Logging & 9 5/8" csg
Gas influx
WOW
Temp. P&A
Coring
Lost bit IH
BOP problems
BOP problems
Coring
34/11-3T2
Plug #2
Plug #3
Wellcontrol
Wellcontrol
Plug #4
Plug #5, WOW

4.8 Bit Record

BIT RECORD 34/11-3(T2)

run no	bit size	bha no	bit type	bit make	iadc code	serial no	well	bit no	depth in	depth out	meters	hours drilled	rop	max rpm	min rpm	max wob	min wob	max torque	min torque	pump pressure	pump rate	tot flow area	nozzle 1	nozzle 2	nozzle 3	iadc inner rows	iadc outer rows	iadc dull char	iadc location	iadc bearing seals	iadc gage	iadc other dull char	iadc reason pulled	remarks
1	26"	1		IPE		DOT21436	-03														4500	0,30	6 X 8	X	X									
1	17 1/2"	1	MS13G	REED	135	N41430	-03	1RR	233	297,5	64,5										4500	0,94	3 X 18	1 X 16	X	1	1	WT	A	E	I	NO	TD	RERUN FROM 35/10-2 & 35/10-2T2
1	36"	1		IPE		DOT21462	-03															0,59	6 X 8	6 X 8	X									2 X 36" HO
2	26"	2	SDSHOD	SMITH	115	LF2808	-03	2	293	1115	822	13,7	60,0	250	60	20	4	25000	15000	190	4500	0,88	1 X 13	3 X 18	X	1	1	WT	A	E	I	NO	TD	
3	17 1/2"	3	DS40HG	HYCALOG	S121	18368	-03	3	1115	1660	545	18,8	29,0	285	108	23	2	28000	3000	165	3800	1,18	8 X 18	X	X	7	8	CT	A	X	6/16	RO		RP: TOP DRIVE PROBLEMS.
4	17 1/2"	4	MS41HML	REED	415M	N09006	-03	4	1660	2027	367	13,9	26,4	235	120	20	9	8000	3000	240	4400	0,95	1 X 14	1 X 20	2 X 18	3	6	BT	M	E	2/16	BT	CP	
5	8 1/2"	5	RC425C3	EAST C.	517	1209598	-03	5	2027	2054	27	11,4	2,4	210	180	5	1	2000	1000	60	1200		X	X	X	1	1	NO	A	X	I	BU	TD	
6	17 1/2"	6	AXGTPT0	HUGHES	415	F45CS	-03	6	2054	2344	290	24,5	11,8	200	180	20	15	6000		275	4400	0,96	1 X 14	1 X 16	2 X 20	1	1	NO	A	E	I	NO	DTF	
7	17 1/2"	7	DS40H	HYCALOG	S121	12659	-03	7	2344	3477	1133	85,6	13,2	199	179	9	1	11000	5000	306	3715	0,90	6 X 14	X	X	7	4	RO	N	X	2	PN	PR	OTHER ER, CT 2 JETS WERE PLUGGED
8	17 1/2"	8	DS40H	HYCALOG	S121	12659	-03	7RR						100	50					120	4000		X	X	X									INO JETS
9	12 1/4"	9	LA260BG	LYNG	M319	1893	-03	8	3477	3985	508	100,4	5,1	210	150	14	5	16000	4000	280	3000	0,90	8 X 14	X	X	2	6	RG	S	X	I	WT	TD	
10	8 1/2"	11	MM44NG	SECURITY	215M	681098	-03	10										.				0,75	3 X 18	X	X	1	1	NO	A	1	I	NO	LOG	
11	8 1/2"	12	JG8	HUGHES	347	E58CD	-03	11	3653	4040	387	27,8	13,9	90	50	7	6		3000	280	1650	0,39	3 X 13	X	X	8	8	WT	A	E	1/16"	BT	CP	CEMENT + 1M OF NEW HOLE,
12	8 1/2"	13	RC425C3	EAST C.	517	1209462	-03	12	4040	4049	8,5	1,3	6,5	112	112	7	3	8000	4000	72	800	1,00	X	X	X	1	1	NO	A	X	I	NO	PR	IN HOLE
13	8 1/2"	14	RC425C3	EAST C.	517	1209462	-03	12	4049	4054	5,5	4,1	1,3	110	60	7	5	8000	4000	80	800	1,00	X	X	X	1	1	NO	A	X	1/16	NO	PR	CORE JAMMED OFF,
14	8 1/2"	14	RC425C3	EAST C.	517	1209666	-03	13	4054	4061	6,5	2,7	2,4	100	80	6	2	8000	4000	80	800	1,00	X	X	X	1	1	NO	A	X	I	NO	PR	CORE JAMMED OFF
15	8 1/2"	15	RC425C3	EAST C.	517	1209599	-03	14	4061	4072	11	9,8	1,1	115	105	12	6	8000	4000	75	800	1,04	X	X	X	1	1	WT	A	X	I	NO	PR	CORE JAMMED.
16	8 1/2"	16	MM44NG	SECURITY	215M	6810098	-03	10RR															X	X	X	1	1	WT	A	1	I	NO	TD	FOR LOAD TESTING OF CEMENT PLUG.
17	8 1/2"	17	MFDGH	SMITH	137	LG2351	-03	15	3604													0,39	3 X 13	X	X									BIT LEFT IN HOLE.
20	8 1/2"	20	ZC415	EAST C.	M516	1209469	-03	16	4072	4074	2	4,7	0,4	101	74	13	6	44900	35600	93	918	0,62	X	X	X	1	1	NO	A	X	I	CT	PR	
21	8 1/2"	21	SC226	EAST C.	T8X8	1209192	-03	17	4074	4079	5	2	2,5	120	60	10	3	57100	44900	128	900	0,60	X	X	X	1	1	NO	A	X	I	NO	PR	
22	8 1/2"	22	SC226	EAST C.	T6X8	1209192	-03	17RR	4079	4082	3	4,3	0,7	143	100	10	5	51600	48000	131	800	0,60	X	X	X	3	4	WT	A	X	I	WT	PR	
23	8 1/2"	23	RC425C3	EAST C.	517	1209464	-03	18	4082	4086	4	4,7	0,9	127	80	10	8	55000	45000	117	800	1,00	X	X	X	6	6	BT	N	X	I	JD	PR	LOST 9 CUTTERS.
24	8 1/2"	24	JG8	HUGHES	347	J40CW	-03	19	4086	4095	9	3,5	2,6	109	60	14	4	70000	45000	270	1700	0,48	1 X 13	1 X 14	1 X 16	5	5	BT	A	E	G	BT	CP	JUNK IN HOLE
25	8 1/2"	25	ARC425	EAST C.	517	1209599	-03	20	4095	4114	19	7,5	2,5	112	94	9	7	6000	2000	94	922	1,00	X	X	X	3	2	CT	N	X	I	WT	HP	PULLED DUE TO NO PROGRESS
26	8 1/2"	26	JG8	HUGHES	347	H24CG	-03	21	4114	4130	16	16,4	1,0	106	68	14	6	3000	2000	284	1650	0,48	1 X 13	1 X 14	1 X 16	8	3	CR	N	E	I	WT	PR	
27	8 1/2"	27	G445XLA3	HUGHES	M332	1900725	-03	9 RR	4130	4142	12	2	6,0	160	120	6	1	5000	3000	280	1680	0,52	4 X 13	X	X	1	1	BT	T	X	I	NO	CP	ONE BROKEN CUTTER
28	8 1/2"	28	RC427C3	EAST C.	517	1900211	-03	22	4142	4183	41	14,8	2,8	140	80	12	8	9000	3500	110	890		X	X	X	3	2	WT	A	X	I	NO	PR	CORE JAMMED AT 4183 M.
29	8 1/2"	29	DS66DG	HYCALOG	M432	18071	-03	23	4183	4480	297	81,5	3,6	170	150	15	8	12000	6000	253	1400	0,44	4 X 12	X	X	2	6	WT	G	X	1/16	CT	CP	LOST 2 BACK-UP CUTTERS
30	8 1/2"	30	ARC427	EAST C.	517	0315961	-03	24	4480	4482	2	1,9	1,1	100	60	15	4	6500	4000	93	900	1,08	X	X	X	1	1	NO	A	X	I	NO	PR	TOTAL REVS 4130
31	8 1/2"	31	MM44NG	SECURITY	215M	68100098	-03	10RR															X	X	X	1	1	WT	A	1	I	NO	LOG	USED FOR LOAD TESTING OF CMT PLUG.
32	8 1/2"	32	ATJG8	HUGHES	346	L70CR	-03	25	3814	4009	195	12	16,3	100	50	15	4	60000	40000	290	1600	0,39	3 X 13	X	X	7	4	WT	A	E	I	ER	PR	DRILLED BRIDGE PLUG AND CEMENT
33	8 1/2"	33	G445XLA3	HUGHES	M332	1900725	-03	09RR2	4009	4085	76	3,4	22,4	150	140	11	2	90000	47000	260	1650	0,56	2 X 13	2 X 14	X									
1	8 1/2"	1	G445XLA3	HUGHES	M332	1900725	-3T2	1RR2	4009	4230	221	14,7	15,0	160	150	11	7	60000	40000	280	1700	0,56	2 X 14	2 X 13	X	2	2	BT	N	X	I	WT	LOG	3 BROKEN CUTTERS.
2	8 1/2"	2	G447XLA3	HUGHES	M432	1900726	-3T2	2														0,56	2 X 13	2 X 14	X	1	1	WT	A	X	I	NO	LOG	CLEANOUT RUN BEFORE LOGGING.
3	8 1/2"	3	MM44NG	SECURITY	215M	6810098	-3T2	3RR2														2,36	3 X 32	X	X									

4.9 Bottom Hole Assemblies

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960802	1	BIT, TRI CONE	17,500		,42	,42
		HOLE OPENER	26,000	3,000	3,14	3,56
		HOLE OPENER	36,000	3,000	3,08	6,64
		BIT SUB W/FLOAT	9,500	3,500	,91	7,55
		DRILL COLLAR	9,500	3,500	9,31	16,86
		SUB PIN X PIN	9,500	3,500	,67	17,53
		HOLE OPENER	36,000	3,000	3,22	20,75
		BIT SUB	9,500	3,500	,91	21,66
		DRILL COLLAR	9,500	3,500	37,18	58,84
		XO SUB	9,500	3,500	,91	59,75
		DRILL COLLAR	8,000	3,000	83,39	143,14
		HW DRILL PIPE	6,625		84,59	227,73
		XO SUB	8,000	3,000	1,11	228,84
960803	2	BIT, TRI CONE	26,000		,62	,62
		MUD MOTOR	11,250	7,600	9,35	9,97
		STABILIZER	24,000	3,000	2,26	12,23
		MWD, DPR	9,500		13,63	25,86
		STABILIZER	23,750	3,000	2,21	28,07
		DRILL COLLAR	9,500	3,500	27,95	56,02
		XO SUB	9,500	3,500	,91	56,93
		DRILL COLLAR	8,000	3,000	27,78	84,71
		JAR	7,750	3,000	9,70	94,41
		DRILL COLLAR	8,000	3,000	18,55	112,96
		HW DRILL PIPE	6,625		139,34	252,30
		XO SUB	8,000	3,000	1,11	253,41

Remarks: MOTOR: DTU W/25 3/4" STAB.FLOAT ON TOP OF MOTOR.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960808	3	BIT, PDC/DIAM	17,500		,42	,42
		MUD MOTOR	11,250	7,600	9,35	9,77
		STABILIZER	17,250	3,000	2,07	11,84
		MWD, DPR	9,500		13,63	25,47
		STABILIZER	17,000	3,000	1,60	27,07
		DRILL COLLAR	9,500	3,500	27,95	55,02
		XO SUB	9,500	3,500	,91	55,93
		DRILL COLLAR	8,000	3,000	27,78	83,71
		JAR	7,750	3,000	9,70	93,41
		DRILL COLLAR	8,000	3,000	18,55	111,96
		HW DRILL PIPE	6,625	3,000	139,34	251,30
		XO SUB	8,000	3,000	1,11	252,41

Remarks: MOTOR: DTU W/17 3/8" STAB.FLOAT ON TOP OF MOTOR.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960810	4	BIT, TRI CONE	17,500		,43	,43
		MUD MOTOR	11,250	7,600	9,34	9,77
		STABILIZER	17,250	3,000	2,07	11,84
		MWD, DPR	9,500		13,63	25,47
		STABILIZER	17,000	3,000	1,60	27,07
		DRILL COLLAR	9,500	3,500	27,95	55,02
		XO SUB	9,500	3,500	,91	55,93
		DRILL COLLAR	8,000	3,000	27,78	83,71
		JAR	7,750	3,000	9,70	93,41
		DRILL COLLAR	8,000	3,000	18,55	111,96
		HW DRILL PIPE	6,625	3,000	139,34	251,30
		XO SUB	8,000	3,000	1,11	252,41

Remarks: MOTOR: AKO W/17 3/8" STAB.FLOAT ON TOP OF MOTOR.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960812	5	BIT, CORE	8,500	4,000	,43	,43
		CORE BARREL	7,250	5,375	30,49	30,92
		SUB PIN X PIN	6,500	2,250	,61	31,53
		MUD MOTOR	6,750		8,73	40,26
		FLOAT SUB			1,12	41,38
		XO SUB	8,000	2,938	1,20	42,58
		HW DRILL PIPE	6,625	3,000	56,75	99,33
		JAR	7,938	3,000	9,71	109,04
		HW DRILL PIPE	6,625	3,000	82,59	191,63
		XO SUB	8,000	3,000	1,11	192,74

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960813	6	BIT, TRI CONE	17,500		,41	,41
		MUD MOTOR	11,250	7,600	9,34	9,75
		STABILIZER	17,250	3,000	2,07	11,82
		MWD, DPR	9,500		13,63	25,45
		STABILIZER	17,000	3,000	1,60	27,05
		DRILL COLLAR	9,500	3,500	27,95	55,00
		XO SUB	9,500	3,500	,91	55,91
		DRILL COLLAR	8,000	3,000	27,78	83,69
		JAR	7,750	3,000	9,70	93,39
		DRILL COLLAR	8,000	3,000	18,55	111,94
		HW DRILL PIPE	6,625	3,000	139,34	251,28
		XO SUB	8,000	3,000	1,11	252,39

Remarks: MOTOR: AKO W/17 3/8" STAB.FLOAT ON TOP OF MOTOR.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960815	7	BIT, PDC/DIAM	17,500		,54	,54
		MUD MOTOR	11,250	7,600	9,34	9,88
		STABILIZER	17,250	3,000	2,07	11,95
		XO SUB	9,500	3,000	,75	12,70
		MWD, DPR	8,250		12,12	24,82
		XO SUB	9,500	3,000	,93	25,75
		STABILIZER	17,000	3,000	1,60	27,35
		DRILL COLLAR	9,500	3,500	27,95	55,30
		XO SUB	9,500	3,500	,91	56,21
		DRILL COLLAR	8,000	3,000	27,78	83,99
		JAR	7,750	3,000	9,70	93,69
		DRILL COLLAR	8,000	3,000	18,55	112,24
		HW DRILL PIPE	6,625	3,000	139,34	251,58
		XO SUB	8,000	3,000	1,11	252,69

Remarks: MOTOR:0,75 AKO W/17 3/8" STB.FLOAT ON TOP OF MOTOR

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960825	8	BIT, PDC/DIAM	17,500		,54	,54
		BIT SUB	9,500	3,000	,91	1,45
		DRILL COLLAR	9,500	3,500	9,33	10,78
		STABILIZER	17,500	3,000	2,36	13,14
		DRILL COLLAR	9,500	3,500	18,62	31,76
		STABILIZER	17,500	3,000	2,33	34,09
		XO SUB	9,500	3,000	,91	35,00
		DRILL COLLAR	8,000	3,000	27,78	62,78
		JAR	7,750	3,000	9,70	72,48
		DRILL COLLAR	8,000	3,000	18,55	91,03
		HW DRILL PIPE	6,625	3,000	139,34	230,37
		XO SUB	8,000	3,000	1,11	231,48

Remarks: WIPER TRIP BHA.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960831	9	BIT, PDC/DIAM	12,250		,52	,52
		STAB. NB W/FLOAT	12,250	2,880	2,24	2,76
		PONY COLLAR	8,000	2,880	3,38	6,14
		STABILIZER	12,250	2,940	2,23	8,37
		MWD TOOL	8,250		17,18	25,55
		STABILIZER	12,125	2,940	1,79	27,34
		DRILL COLLAR	8,000	3,000	27,78	55,12
		JAR	7,750	3,000	9,73	64,85
		DRILL COLLAR	8,000	3,000	18,55	83,40
		HW DRILL PIPE	6,625	3,000	139,34	222,74
		XO SUB	8,000	3,000	1,11	223,85
		DRILL PIPE	5,500		,00	223,85

Remarks: INCL IN BHA: MWD TOOL W/MDP SUB

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
960911	10	BIT, PDC/DIAM	8,500		,31	,31
		STAB. NB W/FLOAT	8,500	2,813	1,59	1,90
		SUB PIN X PIN	6,500	2,813	1,22	3,12
		MWD, DPR	6,500		12,74	15,86
		STABILIZER	8,500	2,813	1,52	17,38
		DRILL COLLAR	6,500	2,813	9,35	26,73
		STABILIZER	8,500	2,813	1,63	28,36
		DRILL COLLAR	6,500	2,813	18,70	47,06
		JAR	6,313	2,688	9,47	56,53
		DRILL COLLAR	6,500	2,813	18,62	75,15
		HW DRILL PIPE	5,000	3,000	106,52	181,67
		DRILL PIPE	5,000	4,276	463,72	645,39
		XO SUB	5,500		,54	645,93
		DRILL PIPE	5,500	4,778	,00	645,93
960923	11	BIT, TRI CONE	8,500		,23	,23
		SCRAPER	9,625	2,250	1,09	1,32
		BIT SUB	6,500	2,250	,91	2,23
		DRILL COLLAR	6,500	2,812	9,35	11,58
		STABILIZER	8,500	2,812	1,63	13,21
		DRILL COLLAR	6,500	2,812	18,70	31,91
		JAR	6,312	2,812	9,47	41,38
		DRILL COLLAR	6,500	2,812	18,62	60,00
		HW DRILL PIPE	5,000	3,000	79,48	139,48
		XO SUB	7,250	3,500	,55	140,03
		DART SUB	7,250	3,000	,51	140,54
960926	12	BIT, TRI CONE	8,500		,23	,23
		STAB. NB W/FLOAT	6,500	3,000	1,60	1,83
		PONY COLLAR	6,500	2,875	2,79	4,62
		STABILIZER	6,500	2,875	1,52	6,14
		DRILL COLLAR	6,500	2,812	9,35	15,49
		STABILIZER	6,500	2,687	1,63	17,12
		DRILL COLLAR	6,500	2,812	18,70	35,82
		JAR	6,312	2,687	9,47	45,29
		DRILL COLLAR	6,500	2,812	18,62	63,91
		HW DRILL PIPE	5,000	3,000	106,52	170,43
		DART SUB	6,500	2,812	,65	171,08
961008	13	BIT, CORE	8,500	4,000	,43	,43
		CORE BARREL	6,750	5,375	12,62	13,05
		FLOAT SUB	6,500		,00	13,05
		CIRC. SUB	6,500	2,000	,00	13,05
		DRILL COLLAR	6,500	2,812	,00	13,05
		STABILIZER	8,375	2,812	,00	13,05
		DRILL COLLAR	6,500	2,812	,00	13,05
		JAR	6,312	2,687	,00	13,05
		DRILL COLLAR	6,400	2,812	,00	13,05
		HW DRILL PIPE	5,000	3,000	,00	13,05
961009	13	CIRC. SUB	6,500	2,000	,77	,77
		DRILL COLLAR	6,500	2,812	9,35	10,12
		STABILIZER	6,500	2,875	1,49	11,61
		DRILL COLLAR	6,500	2,812	9,35	20,96
		JAR	6,312	2,687	9,47	30,43
		DRILL COLLAR	6,500	2,812	9,36	39,79
		HW DRILL PIPE	5,000	3,000	43,96	83,75

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961012	14	BIT, CORE	8,500	4,000	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	6,750	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,93	9,96
		STABILIZER	6,750	5,375	1,22	11,18
		CORE BARREL	6,750	5,375	7,93	19,11
		STABILIZER	6,750	5,375	1,22	20,33
		CORE BARREL	6,750	5,375	7,93	28,26
		STABILIZER	6,750	5,375	1,22	29,48
		EXTENSION SUB	6,750	5,375	1,20	30,68
		SAFETY JOINT	6,750	5,375	,34	31,02
		SAFETY JOINT	6,750	3,156	,33	31,35
		XO SUB	6,500	2,250	,57	31,92
		BIT SUB W/FLOAT	6,500	1,937	,90	32,82
		CIRC. SUB	6,500	2,000	,77	33,59
		DRILL COLLAR	6,500	2,812	9,35	42,94
		STABILIZER	6,500	2,875	1,49	44,43
		DRILL COLLAR	6,500	2,812	9,35	53,78
		JAR	6,312	2,687	9,47	63,25
		DRILL COLLAR	6,500	2,812	9,36	72,61
		HW DRILL PIPE	5,000	3,000	43,96	116,57
961016	15	BIT, CORE	8,500	3,500	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	6,750	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,93	9,96
		STABILIZER	6,750	5,375	1,22	11,18
		CORE BARREL	6,750	5,375	7,93	19,11
		STABILIZER	6,750	5,375	1,22	20,33
		CORE BARREL	6,750	5,375	7,93	28,26
		STABILIZER	6,750	5,375	1,22	29,48
		EXTENSION SUB	6,750	5,375	1,20	30,68
		SAFETY JOINT	6,750	5,375	,34	31,02
		SAFETY JOINT	6,750	3,156	,33	31,35
		FLOAT SUB	6,500	1,937	1,00	32,35
		CIRC. SUB	6,500	2,000	,77	33,12
		DRILL COLLAR	6,500	2,812	9,35	42,47
		STABILIZER	6,500	2,875	1,49	43,96
		DRILL COLLAR	6,500	2,812	9,35	53,31
		JAR	6,312	2,687	9,47	62,78
		DRILL COLLAR	6,500	2,812	9,36	72,14
		HW DRILL PIPE	5,000	3,000	43,96	116,10
961020	16	BIT, TRI CONE	8,500		,23	,23
		BIT SUB W/FLOAT	6,500		,90	1,13
		DRILL COLLAR	6,500	2,813	9,36	10,49
		HW DRILL PIPE	5,000	3,000	71,40	81,89
		SUB PIN X PIN	6,500	2,313	,57	82,46
		SCRAPER	5,688	2,313	1,09	83,55
		STABILIZER, NB	8,500	2,750	1,59	85,14
		DRILL COLLAR	6,500	2,813	18,70	103,84
		JAR	6,313	2,688	9,47	113,31
		HW DRILL PIPE	5,000	3,000	52,74	166,05
		DRILL PIPE	5,000		,00	166,05
961021	17	BIT, TRI CONE	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	3,000	1,59	1,83
		PONY COLLAR	6,500	2,875	2,79	4,62
		STABILIZER	8,500	2,875	1,52	6,14
		DRILL COLLAR	6,500	2,813	9,35	15,49
		STABILIZER	8,500	2,688	1,63	17,12
		DRILL COLLAR	6,500	2,813	28,05	45,17
		JAR	6,313	2,688	9,47	54,64
		DRILL COLLAR	6,500	2,813	9,36	64,00
		HW DRILL PIPE	5,000	3,000	124,14	188,14
		DART SUB	6,375		,51	188,65

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961031	18	FISHING TOOL	5,750	2,812	,59	,59
		XO SUB	6,375	2,250	,58	1,17
		SAFETY JOINT	6,500	3,000	1,50	2,67
		STABILIZER	6,500	2,812	2,02	4,69
		BUMPER SUB	6,500	2,250	1,41	6,10
		JAR	6,500	2,250	3,60	9,70
		CIRC. SUB	6,500	2,000	,77	10,47
		DRILL COLLAR	6,500	2,812	84,10	94,57
		HW DRILL PIPE	5,000	3,000	124,14	218,71
		DART SUB	6,375		,51	219,22
961104	19	MILL, CONEBUSTER	8,500	2,250	,73	,73
		STAB. NB W/FLOAT	6,500	2,750	1,44	2,17
		JUNK BASKET	7,250	2,250	1,72	3,89
		JUNK BASKET	7,250	2,250	1,72	5,61
		STABILIZER	6,500	2,812	2,02	7,63
		BUMPER SUB	6,500	2,250	1,41	9,04
		JAR	6,500	2,250	3,60	12,64
		DRILL COLLAR	6,500	2,812	139,90	152,54
		HW DRILL PIPE	5,000	3,000	124,14	276,68
		DART SUB	6,375		,51	277,19
961107	20	BIT, CORE	8,500	4,000	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	6,750	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,93	9,96
		STABILIZER	6,750	5,375	1,22	11,18
		CORE BARREL	6,750	5,375	7,93	19,11
		STABILIZER	6,750	5,375	1,22	20,33
		CORE BARREL	6,750	5,375	7,93	28,26
		STABILIZER	6,750	5,375	1,22	29,48
		EXTENSION SUB	6,750	5,375	1,20	30,68
		SAFETY JOINT	6,750	5,375	,34	31,02
		SAFETY JOINT	6,750	5,375	,33	31,35
		X-OVER SUB W/FLOAT	6,500	2,313	1,00	32,35
		CIRC. SUB	6,500	2,000	,77	33,12
		DRILL COLLAR	6,500	2,812	9,35	42,47
		STABILIZER	8,375	2,875	1,49	43,96
		DRILL COLLAR	6,500	2,812	9,36	53,32
		JAR	6,500	2,687	9,47	62,79
		DRILL COLLAR	6,500	2,812	9,27	72,06
		HW DRILL PIPE	5,000	3,000	45,29	117,35
		DART SUB	6,375	3,000	,51	117,86
961109	21	BIT, CORE	8,500	4,000	,32	,32
		XO SUB	6,750	5,375	,38	,70
		STABILIZER	6,750	5,375	1,22	1,92
		CORE BARREL	6,750	5,375	7,93	9,85
		STABILIZER	6,750	5,375	1,22	11,07
		CORE BARREL	6,750	5,375	7,93	19,00
		STABILIZER	6,750	5,375	1,22	20,22
		CORE BARREL	6,750	5,375	7,93	28,15
		STABILIZER	6,750	5,375	1,22	29,37
		EXTENSION SUB	6,750	5,375	1,20	30,57
		SAFETY JOINT	6,750	5,375	,34	30,91
		SAFETY JOINT	6,750	5,375	,33	31,24
		X-OVER SUB W/FLOAT	6,500	2,313	1,00	32,24
		CIRC. SUB	6,500	2,000	,77	33,01
		DRILL COLLAR	6,500	2,812	9,35	42,36
		STABILIZER	8,375	2,875	1,49	43,85
		DRILL COLLAR	6,500	2,812	9,36	53,21
		JAR	6,500	2,687	9,47	62,68
		DRILL COLLAR	6,500	2,812	9,27	71,95
		HW DRILL PIPE	5,000	3,000	45,29	117,24
		DART SUB	6,375	3,000	,51	117,75

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961110	22	BIT, CORE	8,500	4,000	,32	,32
		XO SUB	6,750	5,375	,38	,70
		STABILIZER	6,750	5,375	1,22	1,92
		CORE BARREL	6,750	5,375	7,93	9,85
		STABILIZER	6,750	5,375	1,22	11,07
		CORE BARREL	6,750	5,375	7,93	19,00
		STABILIZER	6,750	5,375	1,22	20,22
		CORE BARREL	6,750	5,375	7,93	28,15
		STABILIZER	6,750	5,375	1,22	29,37
		EXTENSION SUB	6,750	5,375	1,20	30,57
		SAFETY JOINT	6,750	5,375	,34	30,91
		SAFETY JOINT	6,750	5,375	,33	31,24
		X-OVER SUB W/FLOAT	6,500	2,313	1,00	32,24
		CIRC. SUB	6,500	2,000	,77	33,01
		DRILL COLLAR	6,500	2,812	9,35	42,36
		STABILIZER	8,375	2,875	1,49	43,85
		DRILL COLLAR	6,500	2,812	9,36	53,21
		JAR	6,500	2,687	9,47	62,68
		DRILL COLLAR	6,500	2,812	9,27	71,95
		HW DRILL PIPE	5,000	3,000	45,29	117,24
		DART SUB	6,375	3,000	,51	117,75
961112	23	BIT, CORE	8,500	4,000	,32	,32
		XO SUB	6,750	5,375	,38	,70
		STABILIZER	6,750	5,375	1,22	1,92
		CORE BARREL	6,750	5,375	7,93	9,85
		STABILIZER	6,750	5,375	1,22	11,07
		SAFETY JOINT	6,750	5,375	,34	11,41
		SAFETY JOINT	6,750	5,375	,33	11,74
		X-OVER SUB W/FLOAT	6,500	2,313	1,00	12,74
		XO SUB	6,500	2,875	1,22	13,96
		MWD TOOL	6,750		13,08	27,04
		CIRC. SUB	6,500	2,000	,77	27,81
		STABILIZER	6,500	2,875	1,49	29,30
		DRILL COLLAR	6,500	2,812	9,35	38,65
		DRILL COLLAR	6,500	2,812	9,36	48,01
		JAR	6,500	2,687	9,47	57,48
		DRILL COLLAR	6,500	2,812	9,27	66,75
		HW DRILL PIPE	5,000	3,000	45,29	112,04
		DART SUB	6,375	3,000	,64	112,68
961114	24	BIT, TRI CONE	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	2,625	1,44	1,68
		XO SUB	6,500	2,875	1,22	2,90
		MWD TOOL,HIGH FLOW	6,750		12,75	15,65
		STABILIZER	6,500	2,875	1,63	17,28
		CIRC. SUB	6,500	2,000	,77	18,05
		DRILL COLLAR	6,500	2,812	9,30	27,35
		DRILL COLLAR	6,500	2,812	9,35	36,70
		DRILL COLLAR	6,500	2,812	9,36	46,06
		JAR	6,500	2,687	9,34	55,40
		DRILL COLLAR	6,500	2,812	9,27	64,67
		HW DRILL PIPE	5,000	3,000	126,82	191,49
		DART SUB	6,375	3,000	,64	192,13

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961116	25	BIT, CORE	8,500	4,000	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	6,750	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,93	9,96
		STABILIZER	6,750	5,375	1,22	11,18
		CORE BARREL	6,750	5,375	7,93	19,11
		STABILIZER	6,750	5,375	1,22	20,33
		CORE BARREL	6,500	5,375	7,93	28,26
		STABILIZER	6,500	2,875	1,22	29,48
		SAFETY JOINT	6,750	3,156	,94	30,42
		SAFETY JOINT	6,750	3,156	,33	30,75
		X-OVER SUB W/FLOAT	6,500	1,938	1,00	31,75
		CIRC. SUB	6,500	2,000	,77	32,52
		DRILL COLLAR	6,500	2,812	9,35	41,87
		STABILIZER	6,500	2,875	1,49	43,36
		DRILL COLLAR	6,500	2,812	9,36	52,72
		JAR	6,313	2,687	9,47	62,19
		DRILL COLLAR	6,500	2,812	9,27	71,46
		HW DRILL PIPE	5,000	3,000	45,29	116,75
961118	26	BIT, TRI CONE	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	2,625	1,44	1,68
		XO SUB	6,500	2,875	1,22	2,90
		MWD TOOL,HIGH FLOW	6,750		12,75	15,65
		STABILIZER	6,500	2,875	1,63	17,28
		CIRC. SUB	6,500	2,000	,77	18,05
		DRILL COLLAR	6,500	2,812	9,30	27,35
		DRILL COLLAR	6,500	2,812	9,35	36,70
		DRILL COLLAR	6,500	2,812	9,36	46,06
		JAR	6,500	2,687	9,34	55,40
		DRILL COLLAR	6,500	2,812	9,27	64,67
		HW DRILL PIPE	5,000	3,000	126,82	191,49
		DART SUB	6,375	3,000	,64	192,13
961120	27	BIT, PDC/DIAM	8,500		,31	,31
		JUNK BASKET	6,813	2,250	1,22	1,53
		STAB. NB W/FLOAT	8,500	2,625	1,44	2,97
		XO SUB	6,500	2,875	1,22	4,19
		MWD TOOL	8,375		12,85	17,04
		STABILIZER	8,500	2,750	1,63	18,67
		CIRC. SUB	6,500	2,000	,77	19,44
		DRILL COLLAR	6,500	2,813	28,01	47,45
		JAR	6,438	2,750	9,34	56,79
		DRILL COLLAR	6,500	2,813	9,27	66,06
		HW DRILL PIPE	5,000	3,000	126,82	192,88
		DART SUB	6,375	3,000	,64	193,52

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961121	28	BIT, CORE	8,500	4,000	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	6,750	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,93	9,96
		STABILIZER	6,750	5,375	1,22	11,18
		CORE BARREL	6,750	5,375	7,93	19,11
		STABILIZER	6,750	5,375	1,22	20,33
		CORE BARREL	6,500	5,375	7,93	28,26
		STABILIZER	6,500	2,875	1,22	29,48
		CORE BARREL	6,750	5,375	7,93	37,41
		STABILIZER	6,750	5,375	1,22	38,63
		CORE BARREL	6,750	5,375	7,93	46,56
		STABILIZER	6,750	5,375	1,22	47,78
		CORE BARREL	6,750	5,375	7,93	55,71
		STABILIZER	6,750	5,375	1,22	56,93
		SAFETY JOINT	6,750	5,375	1,54	58,47
		SAFETY JOINT	6,750	3,156	,33	58,80
		X-OVER SUB W/FLOAT	6,500	1,938	1,00	59,80
		CIRC. SUB	6,500	2,000	,77	60,57
		DRILL COLLAR	6,500	2,813	9,35	69,92
		STABILIZER	6,500	2,875	1,49	71,41
		DRILL COLLAR	6,500	2,813	9,36	80,77
		JAR	6,313	2,688	9,34	90,11
		DRILL COLLAR	6,500	2,813	9,27	99,38
		HW DRILL PIPE	5,000	3,000	45,29	144,67
961123	29	BIT, PDC/DIAM	8,500		,34	,34
		STAB. NB W/FLOAT	8,500	2,625	1,44	1,78
		XO SUB	6,500	2,875	1,22	3,00
		MWD TOOL, LOW FLOW	6,750		12,78	15,78
		STABILIZER	8,500	2,750	1,63	17,41
		CIRC. SUB	6,500	2,000	,77	18,18
		DRILL COLLAR	6,500	2,812	84,11	102,29
		JAR	6,500	2,750	9,34	111,63
		DRILL COLLAR	6,500	2,812	9,27	120,90
		HW DRILL PIPE	5,000	3,000	126,82	247,72
		DART SUB	6,375	3,000	,64	248,36
961130	30	BIT, CORE	8,500	4,000	,43	,43
		XO SUB	6,750	5,375	,38	,81
		STABILIZER	8,375	5,375	1,22	2,03
		CORE BARREL	6,750	5,375	7,92	9,95
		STABILIZER	8,375	5,375	1,22	11,17
		CORE BARREL	6,750	5,375	7,92	19,09
		STABILIZER	8,375	5,375	1,22	20,31
		CORE BARREL	6,500	5,375	7,92	28,23
		STABILIZER	8,375	2,875	1,22	29,45
		SAFETY JOINT	6,750	5,375	,34	29,79
		SAFETY JOINT	6,750	3,156	,33	30,12
		X-OVER SUB W/FLOAT	6,500	1,938	1,00	31,12
		CIRC. SUB	6,500	2,000	,77	31,89
		DRILL COLLAR	6,500	2,813	9,25	41,14
		STABILIZER	8,375	2,875	1,49	42,63
		DRILL COLLAR	6,500	2,813	65,51	108,14
		JAR	6,313	2,688	9,34	117,48
		DRILL COLLAR	6,500	2,813	9,27	126,75
		HW DRILL PIPE	5,000	3,000	126,82	253,57
		DART SUB	6,375	3,000	,64	254,21
961204	31	BIT, TRI CONE	8,500		,24	,24
		SCRAPER	8,500	2,250	1,01	1,25
		BIT SUB W/FLOAT	6,500		,78	2,03
		DRILL COLLAR	6,500	2,813	18,72	20,75
		JAR	6,437	2,750	9,34	30,09
		DRILL COLLAR	6,500	2,813	9,27	39,36
		HW DRILL PIPE	5,000	3,000	17,90	57,26

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Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961205	32	BIT, TRI CONE	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	3,000	1,44	1,68
		PONY COLLAR	6,500	2,875	2,79	4,47
		XO SUB	6,750	2,875	1,22	5,69
		MWD TOOL	6,750		12,60	18,29
		STABILIZER	8,500	2,750	1,63	19,92
		CIRC. SUB	6,500	2,313	,78	20,70
		DRILL COLLAR	6,500	2,813	84,11	104,81
		JAR	6,437	2,750	9,34	114,15
		DRILL COLLAR	6,500	2,813	9,27	123,42
		HW DRILL PIPE	5,000	3,000	126,82	250,24
		DART SUB	6,375		,64	250,88

Remarks: MWD WITH 8 3/8" STAB. 3,20 M FROM BOTTOM OF TOOL.

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961217	33	BIT, PDC/DIAM	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	3,000	1,44	1,68
		PONY COLLAR	6,500	2,875	2,79	4,47
		STABILIZER	8,500	2,250	1,64	6,11
		XO SUB	6,750	2,875	1,22	7,33
		MWD TOOL	6,750		12,60	19,93
		STABILIZER	8,500	2,750	1,63	21,56
		CIRC. SUB	6,500	2,313	,78	22,34
		DRILL COLLAR	6,500	2,813	74,75	97,09
		JAR	6,437	2,750	9,34	106,43
		DRILL COLLAR	6,500	2,813	9,27	115,70
		HW DRILL PIPE	5,000	3,000	126,82	242,52
		DART SUB	6,375		,64	243,16

Remarks: MWD WITH 8 3/8" STAB. 3,20 M FROM BOTTOM OF TOOL.

34/11-3T2

Well: 0034/11-003T2

Date	BHA no	BHA component	O.D. (inch)	I.D. (inch)	Length (m)	Akk. length (m)
961217	1	BIT, PDC/DIAM	8,500		,24	,24
		STAB. NB W/FLOAT	8,500	3,000	1,44	1,68
		PONY COLLAR	6,500	2,875	2,79	4,47
		STABILIZER	8,500	2,250	1,64	6,11
		XO SUB	6,750	2,875	1,22	7,33
		MWD TOOL	6,750		12,60	19,93
		STABILIZER	8,500	2,750	1,63	21,56
		CIRC. SUB	6,500	2,313	,78	22,34
		DRILL COLLAR	6,500	2,813	74,75	97,09
		JAR	6,437	2,750	9,34	106,43
		DRILL COLLAR	6,500	2,813	9,27	115,70
		HW DRILL PIPE	5,000	3,000	126,82	242,52
		DART SUB	6,375		,64	243,16
961224	2	BIT, PDC/DIAM	8,500		,31	,31
		STAB. NB W/FLOAT	8,500	2,625	1,44	1,75
		PONY COLLAR	6,500	2,813	2,79	4,54
		STABILIZER	8,500	2,750	1,63	6,17
		DRILL COLLAR	6,500	2,813	18,71	24,88
		STABILIZER	8,500	2,750	1,69	26,57
		DRILL COLLAR	6,500	2,813	56,04	82,61
		JAR	6,438	2,750	9,34	91,95
		DRILL COLLAR	6,500	2,813	9,27	101,22
		HW DRILL PIPE	5,000	3,000	99,91	201,13
		DART SUB	6,375	2,813	,64	201,77
961229	3	BIT, TRI CONE	8,500		,24	,24
		SCRAPER	9,625	2,250	1,01	1,25
		BIT SUB W/FLOAT	6,500		,78	2,03
		DRILL COLLAR	6,500	2,813	18,72	20,75
		JAR	6,437	2,750	9,34	30,09
		DRILL COLLAR	6,500	2,813	9,27	39,36
		HW DRILL PIPE	5,000	3,000	17,90	57,26

4.10 Directional Surveys

34/11-3

Statoil: Block 34/11
Deep Sea Trym: 34/11-3

34/11-3
slot #1
34/11
NORTH SEA, NORWEGIAN SECTOR

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : ORIGINAL HOLE 34/11-3
Our ref : svy7115
License :

Date printed : 10-Jan-97
Date created : 17-Dec-96
Last revised : 10-Jan-97

Field is centred on 473352.716,6771835.638,3.00000,N
Structure is centred on n61 5 45.250,e2 31 6.510,3

Slot location is n61 5 45.250,e2 31 6.510
Slot Grid coordinates are N 6773725.823, E 474033.732
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - UTM, Spheroid: Hayford

Reference North is Grid North

Den norske stats oljeselskap a.s

14/1-97 Per F. Kristiansen

Statoil: Block 34/11
Deep Sea Trym: 34/11-3,34/11-3
34/11,NORTH SEA, NORWEGIAN SECTOR

SURVEY LISTING Page 1
Your ref : ORIGINAL HOLE 34/11-3
Last revised : 10-Jan-97

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R	C O O R D I N A T E S	Dogleg Deg/ 30m	Vert Sect	
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
293.00	1.34	265.60	292.97	0.26 S	3.41 W	0.14	-0.26	30" CONDUCTOR SHOE
372.00	1.70	265.60	371.95	0.42 S	5.50 W	0.14	-0.42	3-AUG-96 BHI MWD 26" SEC 34/11-3
397.00	1.90	268.20	396.93	0.46 S	6.29 W	0.26	-0.46	
439.00	1.90	269.30	438.91	0.50 S	7.68 W	0.03	-0.50	
468.00	2.00	266.90	467.89	0.53 S	8.66 W	0.13	-0.53	
498.00	2.10	272.50	497.87	0.53 S	9.74 W	0.22	-0.53	
527.00	2.10	269.50	526.85	0.51 S	10.80 W	0.11	-0.51	
556.00	2.40	272.10	555.83	0.50 S	11.94 W	0.33	-0.50	
585.00	2.60	277.50	584.80	0.39 S	13.20 W	0.32	-0.39	
614.00	2.70	277.00	613.77	0.22 S	14.53 W	0.11	-0.22	
643.00	2.80	280.70	642.74	0.00 S	15.90 W	0.21	0.00	
672.00	2.90	276.90	671.70	0.21 N	17.32 W	0.22	0.21	
701.00	2.90	278.80	700.67	0.42 N	18.78 W	0.10	0.42	
730.00	3.10	283.90	729.63	0.72 N	20.26 W	0.34	0.72	
759.00	3.40	289.00	758.58	1.18 N	21.84 W	0.43	1.18	
787.00	3.70	291.30	786.53	1.78 N	23.46 W	0.36	1.78	
816.00	3.70	292.90	815.47	2.49 N	25.20 W	0.11	2.49	
844.00	4.10	294.70	843.40	3.26 N	26.94 W	0.45	3.26	
872.00	4.30	298.10	871.33	4.17 N	28.77 W	0.34	4.17	
901.00	4.00	297.80	900.25	5.15 N	30.63 W	0.31	5.15	
930.00	2.90	294.30	929.20	5.93 N	32.19 W	1.16	5.93	
959.00	2.40	302.60	958.17	6.56 N	33.37 W	0.65	6.56	
988.00	2.70	311.10	987.14	7.33 N	34.40 W	0.50	7.33	
1018.00	1.70	312.30	1017.12	8.10 N	35.26 W	1.00	8.10	
1045.00	1.50	305.80	1044.10	8.57 N	35.84 W	0.30	8.57	
1079.00	1.50	299.30	1078.09	9.05 N	36.59 W	0.15	9.05	
1089.00	1.34	295.58	1088.09	9.16 N	36.81 W	0.56	9.16	20" CASING SHOE
1098.00	1.20	291.40	1097.09	9.24 N	36.99 W	0.56	9.24	BHI MWD TIE IN 26" SEC: 34/11-3
1109.00	1.10	296.70	1108.09	9.33 N	37.20 W	0.40	9.33	8-8-96 BHI MWD 17.5" SEC 34/11-3
1136.00	1.10	294.30	1135.08	9.56 N	37.66 W	0.05	9.56	
1165.00	0.20	212.60	1164.08	9.63 N	37.94 W	1.13	9.63	
1194.00	0.80	150.80	1193.08	9.41 N	37.87 W	0.75	9.41	
1223.00	0.80	146.70	1222.08	9.06 N	37.66 W	0.06	9.06	
1252.00	0.90	151.30	1251.07	8.69 N	37.44 W	0.13	8.69	
1281.00	0.90	148.00	1280.07	8.30 N	37.21 W	0.05	8.30	
1309.00	0.90	152.80	1308.06	7.92 N	37.00 W	0.08	7.92	
1339.00	0.90	155.00	1338.06	7.50 N	36.79 W	0.03	7.50	
1368.00	0.90	156.40	1367.06	7.08 N	36.60 W	0.02	7.08	
1397.00	0.90	148.10	1396.05	6.68 N	36.39 W	0.13	6.68	
1427.00	0.90	144.60	1426.05	6.29 N	36.13 W	0.05	6.29	
1456.00	1.00	144.60	1455.05	5.90 N	35.85 W	0.10	5.90	
1485.00	0.90	138.70	1484.04	5.52 N	35.55 W	0.14	5.52	
1514.00	1.00	132.60	1513.04	5.18 N	35.22 W	0.15	5.18	
1543.00	1.10	132.00	1542.03	4.82 N	34.82 W	0.10	4.82	
1572.00	1.20	133.00	1571.03	4.42 N	34.39 W	0.11	4.42	
1601.00	1.40	129.00	1600.02	3.99 N	33.90 W	0.23	3.99	
1629.00	1.70	134.70	1628.01	3.49 N	33.34 W	0.36	3.49	
1659.00	1.60	135.90	1658.00	2.87 N	32.73 W	0.11	2.87	
1689.00	1.60	133.70	1687.99	2.28 N	32.13 W	0.06	2.28	
1717.00	1.60	133.50	1715.97	1.74 N	31.57 W	0.01	1.74	
1745.00	1.60	122.00	1743.96	1.27 N	30.95 W	0.34	1.27	
1774.00	1.60	122.50	1772.95	0.84 N	30.27 W	0.01	0.84	
1803.00	1.50	122.10	1801.94	0.42 N	29.60 W	0.10	0.42	
1832.00	1.60	121.00	1830.93	0.01 N	28.94 W	0.11	0.01	

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 117.36 on azimuth 249.21 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/ 30m	Vert Sect	
1861.00	1.70	115.80	1859.92	0.39 S	28.20 W	0.19	-0.39	
1890.00	1.50	116.90	1888.91	0.75 S	27.48 W	0.21	-0.75	
1919.00	1.80	141.80	1917.90	1.28 S	26.86 W	0.80	-1.28	
1949.00	2.10	157.50	1947.88	2.16 S	26.35 W	0.61	-2.16	
1978.00	2.00	155.60	1976.86	3.11 S	25.94 W	0.13	-3.11	
2009.00	2.20	162.20	2007.84	4.17 S	25.54 W	0.30	-4.17	
2036.00	2.30	157.90	2034.82	5.16 S	25.17 W	0.22	-5.16	
2065.00	2.30	158.90	2063.80	6.24 S	24.75 W	0.04	-6.24	
2094.00	2.20	184.70	2092.77	7.34 S	24.58 W	1.04	-7.34	
2124.00	2.40	194.80	2122.75	8.52 S	24.79 W	0.45	-8.52	
2152.00	2.60	200.50	2150.72	9.68 S	25.16 W	0.34	-9.68	
2181.00	2.60	202.10	2179.69	10.91 S	25.64 W	0.08	-10.91	
2211.00	2.60	201.60	2209.66	12.17 S	26.15 W	0.02	-12.17	
2268.00	2.60	200.60	2266.60	14.59 S	27.08 W	0.02	-14.59	
2326.00	2.60	198.60	2324.54	17.06 S	27.96 W	0.05	-17.06	
2355.00	2.70	198.10	2353.51	18.34 S	28.38 W	0.11	-18.34	
2383.00	2.70	200.20	2381.48	19.58 S	28.81 W	0.11	-19.58	
2413.00	2.80	200.00	2411.45	20.93 S	29.31 W	0.10	-20.93	
2442.00	2.90	199.00	2440.41	22.29 S	29.79 W	0.12	-22.29	
2471.00	2.90	199.40	2469.37	23.68 S	30.27 W	0.02	-23.68	
2500.00	2.90	201.70	2498.34	25.05 S	30.79 W	0.12	-25.05	
2528.00	2.80	201.40	2526.30	26.35 S	31.30 W	0.11	-26.35	
2558.00	2.80	208.10	2556.27	27.68 S	31.91 W	0.33	-27.68	
2587.00	2.60	213.80	2585.24	28.85 S	32.61 W	0.35	-28.85	
2616.00	2.60	212.30	2614.21	29.95 S	33.33 W	0.07	-29.95	
2646.00	2.60	213.20	2644.17	31.09 S	34.06 W	0.04	-31.09	
2675.00	2.70	214.00	2673.14	32.21 S	34.81 W	0.11	-32.21	
2704.00	2.80	214.40	2702.11	33.36 S	35.59 W	0.11	-33.36	
2733.00	2.60	215.00	2731.08	34.48 S	36.37 W	0.21	-34.48	
2761.00	2.80	215.30	2759.05	35.56 S	37.12 W	0.21	-35.56	
2789.00	2.80	215.10	2787.01	36.68 S	37.91 W	0.01	-36.68	
2817.00	2.70	214.40	2814.98	37.78 S	38.68 W	0.11	-37.78	
2847.00	2.80	211.90	2844.95	38.99 S	39.47 W	0.16	-38.99	
2876.00	2.80	212.80	2873.91	40.19 S	40.22 W	0.05	-40.19	
2905.00	2.90	213.80	2902.88	41.39 S	41.02 W	0.12	-41.39	
2934.00	2.90	212.70	2931.84	42.62 S	41.82 W	0.06	-42.62	
2964.00	3.00	215.20	2961.80	43.90 S	42.68 W	0.16	-43.90	
2994.00	3.00	211.30	2991.76	45.21 S	43.54 W	0.20	-45.21	
3022.00	3.10	211.80	3019.72	46.48 S	44.32 W	0.11	-46.48	
3052.00	3.20	212.20	3049.67	47.88 S	45.20 W	0.10	-47.88	
3080.00	3.20	212.30	3077.63	49.20 S	46.03 W	0.01	-49.20	
3109.00	3.30	213.80	3106.58	50.58 S	46.93 W	0.14	-50.58	
3139.00	3.40	213.40	3136.53	52.04 S	47.90 W	0.10	-52.04	
3168.00	3.50	213.30	3165.48	53.50 S	48.86 W	0.10	-53.50	
3196.00	3.30	214.90	3193.43	54.87 S	49.79 W	0.24	-54.87	
3225.00	3.30	212.40	3222.38	56.26 S	50.71 W	0.15	-56.26	
3254.00	3.50	215.80	3251.33	57.68 S	51.68 W	0.29	-57.68	
3283.00	3.30	216.30	3280.28	59.07 S	52.69 W	0.21	-59.07	
3313.00	3.50	218.30	3310.23	60.49 S	53.77 W	0.23	-60.49	
3342.00	3.40	218.90	3339.17	61.85 S	54.86 W	0.11	-61.85	
3371.00	3.50	221.90	3368.12	63.18 S	55.99 W	0.21	-63.18	
3400.00	3.50	222.30	3397.07	64.49 S	57.17 W	0.03	-64.49	
3427.00	3.60	222.90	3424.02	65.72 S	58.31 W	0.12	-65.72	
3455.00	3.70	223.20	3451.96	67.03 S	59.52 W	0.11	-67.03	BHI MWD TIE IN 17.5" SEC 34/11-3
3465.00	3.70	223.77	3461.94	67.50 S	59.97 W	0.11	-67.50	13 3/8" CASING SHOE

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 117.36 on azimuth 249.21 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Statoil: Block 34/11
Deep Sea Trym: 34/11-3,34/11-3
34/11,NORTH SEA, NORWEGIAN SECTOR

Your ref : ORIGINAL HOLE 34/11-3
Last revised : 10-Jan-97

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/ 30m	Vert Sect	
3485.00	3.70	224.90	3481.90	68.42 S	60.87 W	0.11	-68.42	31-8-96 BHI MWD 12.25" SEC 34/11-3
3545.00	3.30	229.20	3541.78	70.92 S	63.54 W	0.24	-70.92	
3573.00	3.10	228.90	3569.74	71.94 S	64.72 W	0.22	-71.94	
3602.00	3.00	232.50	3598.70	72.92 S	65.92 W	0.22	-72.92	
3630.00	2.90	238.00	3626.66	73.74 S	67.10 W	0.32	-73.74	
3659.00	2.70	243.50	3655.63	74.43 S	68.33 W	0.35	-74.43	
3688.00	2.40	251.70	3684.60	74.93 S	69.52 W	0.49	-74.93	
3717.00	2.40	255.20	3713.57	75.28 S	70.68 W	0.15	-75.28	
3747.00	2.20	262.20	3743.55	75.51 S	71.86 W	0.34	-75.51	
3776.00	2.10	270.60	3772.53	75.58 S	72.94 W	0.34	-75.58	
3804.00	2.00	285.70	3800.51	75.45 S	73.93 W	0.59	-75.45	
3832.00	2.10	299.50	3828.49	75.06 S	74.84 W	0.54	-75.06	
3863.00	2.30	297.60	3859.47	74.49 S	75.89 W	0.21	-74.49	
3891.00	2.80	291.60	3887.44	73.98 S	77.02 W	0.61	-73.98	
3920.00	2.90	286.50	3916.41	73.51 S	78.38 W	0.28	-73.51	
3949.00	2.80	287.70	3945.37	73.09 S	79.76 W	0.12	-73.09	BHI MWD TIE IN 12.25" SEC 34/11-3
3966.00	2.80	288.90	3962.35	72.83 S	80.55 W	0.10	-72.83	5-9-96 BHI MWD 8.5" SEC 34/11-3
3972.00	2.84	291.17	3968.34	72.73 S	80.83 W	0.59	-72.73	9 5/8" CASING SHOE
4032.00	3.40	310.20	4028.26	71.04 S	83.57 W	0.59	-71.04	
4086.00	3.30	310.50	4082.16	69.00 S	85.98 W	0.06	-69.00	
4093.00	3.70	311.30	4089.15	68.72 S	86.30 W	1.73	-68.72	
4131.00	3.80	314.30	4127.07	67.03 S	88.12 W	0.17	-67.03	
4180.00	4.10	314.60	4175.95	64.67 S	90.53 W	0.18	-64.67	
4206.00	4.30	311.80	4201.88	63.37 S	91.92 W	0.33	-63.37	
4235.00	4.60	313.50	4230.80	61.84 S	93.57 W	0.34	-61.84	
4263.00	4.90	313.70	4258.70	60.24 S	95.25 W	0.32	-60.24	
4351.00	6.10	320.70	4346.29	54.03 S	100.93 W	0.47	-54.03	
4378.00	6.40	324.20	4373.13	51.70 S	102.72 W	0.54	-51.70	
4461.00	7.00	325.70	4455.57	43.77 S	108.28 W	0.23	-43.77	
4482.00	7.00	325.70	4476.41	41.65 S	109.72 W	0.00	-41.65	EXTRAPOLATED TO TD

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 117.36 on azimuth 249.21 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Comments in wellpath

MD	TVD	Rectangular Coords.		Comment
293.00	292.97	0.26 S	3.41 W	30" CONDUCTOR SHOE
372.00	371.95	0.42 S	5.50 W	3-AUG-96 BHI MWD 26" SEC 34/11-3
1089.00	1088.09	9.16 N	36.81 W	20" CASING SHOE
1098.00	1097.09	9.24 N	36.99 W	BHI MWD TIE IN 26" SEC: 34/11-3
1109.00	1108.09	9.33 N	37.20 W	8-8-96 BHI MWD 17.5" SEC 34/11-3
3455.00	3451.96	67.03 S	59.52 W	BHI MWD TIE IN 17.5" SEC 34/11-3
3465.00	3461.94	67.50 S	59.97 W	13 3/8" CASING SHOE
3485.00	3481.90	68.42 S	60.87 W	31-8-96 BHI MWD 12.25" SEC 34/11-3
3949.00	3945.37	73.09 S	79.76 W	BHI MWD TIE IN 12.25" SEC 34/11-3
3966.00	3962.35	72.83 S	80.55 W	5-9-96 BHI MWD 8.5" SEC 34/11-3
3972.00	3968.34	72.73 S	80.83 W	9 5/8" CASING SHOE
4482.00	4476.41	41.65 S	109.72 W	EXTRAPOLATED TO TD

Casing positions in string 'A'

Top MD	Top TVD	Rectangular Coords.		Bot MD	Bot TVD	Rectangular Coords.		Casing
0.00	0.00	0.00N	0.00E	293.00	292.97	0.26S	3.41W	30" COND AT 293m MD, 292.
0.00	0.00	0.00N	0.00E	1089.00	1088.09	9.16N	36.81W	20" CSG AT 1089m MD, 1088
0.00	0.00	0.00N	0.00E	3465.00	3461.94	67.50S	59.97W	13 3/8" CSG AT 3465m MD,
0.00	0.00	0.00N	0.00E	3972.00	3968.34	72.73S	80.83W	9 5/8" CSG AT 3972m MD, 3

NO PROPOSAL

34/11-3T2

Statoil: Block 34/11
Deep Sea Trym: 34/11-3

34/11-3T2
slot #1
34/11
NORTH SEA, NORWEGIAN SECTOR

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : Definitive 34/11-3T2
Our ref : svy7116
License :

Date printed : 10-Jan-97
Date created : 17-Dec-96
Last revised : 10-Jan-97

Field is centred on 473352.716,6771835.638,3.00000,N
Structure is centred on n61 5 45.250,e2 31 6.510,3

Slot location is n61 5 45.250,e2 31 6.510
Slot Grid coordinates are N 6773725.823, E 474033.732
Slot local coordinates are 0.00 N 0.00 E

Projection type: mercator - UTM, Spheroid: Hayford

Reference North is Grid North

Den norske stats oljeselskap a.s

14/1-97 Per T. Kristiansen

Statoil: Block 34/11
Deep Sea Trym: 34/11-3,34/11-3T2
34/11,NORTH SEA, NORWEGIAN SECTOR

SURVEY LISTING Page 1
Your ref : Definitive 34/11-3T2
Last revised : 10-Jan-97

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	R E C T A N G U L A R	C O O R D I N A T E S	Dogleg Deg/ 30m	Vert Sect	
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	0.00	
293.00	1.34	265.60	292.97	0.26 S	3.41 W	0.14	-0.26	30" CONDUCTOR SHOE
372.00	1.70	265.60	371.95	0.42 S	5.50 W	0.14	-0.42	3-AUG-96 BHI MWD 26" SEC 34/11-3
397.00	1.90	268.20	396.93	0.46 S	6.29 W	0.26	-0.46	
439.00	1.90	269.30	438.91	0.50 S	7.68 W	0.03	-0.50	
468.00	2.00	266.90	467.89	0.53 S	8.66 W	0.13	-0.53	
498.00	2.10	272.50	497.87	0.53 S	9.74 W	0.22	-0.53	
527.00	2.10	269.50	526.85	0.51 S	10.80 W	0.11	-0.51	
556.00	2.40	272.10	555.83	0.50 S	11.94 W	0.33	-0.50	
585.00	2.60	277.50	584.80	0.39 S	13.20 W	0.32	-0.39	
614.00	2.70	277.00	613.77	0.22 S	14.53 W	0.11	-0.22	
643.00	2.80	280.70	642.74	0.00 S	15.90 W	0.21	0.00	
672.00	2.90	276.90	671.70	0.21 N	17.32 W	0.22	0.21	
701.00	2.90	278.80	700.67	0.42 N	18.78 W	0.10	0.42	
730.00	3.10	283.90	729.63	0.72 N	20.26 W	0.34	0.72	
759.00	3.40	289.00	758.58	1.18 N	21.84 W	0.43	1.18	
787.00	3.70	291.30	786.53	1.78 N	23.46 W	0.36	1.78	
816.00	3.70	292.90	815.47	2.49 N	25.20 W	0.11	2.49	
844.00	4.10	294.70	843.40	3.26 N	26.94 W	0.45	3.26	
872.00	4.30	298.10	871.33	4.17 N	28.77 W	0.34	4.17	
901.00	4.00	297.80	900.25	5.15 N	30.63 W	0.31	5.15	
930.00	2.90	294.30	929.20	5.93 N	32.19 W	1.16	5.93	
959.00	2.40	302.60	958.17	6.56 N	33.37 W	0.65	6.56	
988.00	2.70	311.10	987.14	7.33 N	34.40 W	0.50	7.33	
1018.00	1.70	312.30	1017.12	8.10 N	35.26 W	1.00	8.10	
1045.00	1.50	305.80	1044.10	8.57 N	35.84 W	0.30	8.57	
1079.00	1.50	299.30	1078.09	9.05 N	36.59 W	0.15	9.05	
1089.00	1.34	295.58	1088.09	9.16 N	36.81 W	0.56	9.16	20" CASING SHOE
1098.00	1.20	291.40	1097.09	9.24 N	36.99 W	0.56	9.24	BHI MWD TIE IN 26" SEC: 34/11-3
1109.00	1.10	296.70	1108.09	9.33 N	37.20 W	0.40	9.33	8-8-96 BHI MWD 17.5" SEC 34/11-3
1136.00	1.10	294.30	1135.08	9.56 N	37.66 W	0.05	9.56	
1165.00	0.20	212.60	1164.08	9.63 N	37.94 W	1.13	9.63	
1194.00	0.80	150.80	1193.08	9.41 N	37.87 W	0.75	9.41	
1223.00	0.80	146.70	1222.08	9.06 N	37.66 W	0.06	9.06	
1252.00	0.90	151.30	1251.07	8.69 N	37.44 W	0.13	8.69	
1281.00	0.90	148.00	1280.07	8.30 N	37.21 W	0.05	8.30	
1309.00	0.90	152.80	1308.06	7.92 N	37.00 W	0.08	7.92	
1339.00	0.90	155.00	1338.06	7.50 N	36.79 W	0.03	7.50	
1368.00	0.90	156.40	1367.06	7.08 N	36.60 W	0.02	7.08	
1397.00	0.90	148.10	1396.05	6.68 N	36.39 W	0.13	6.68	
1427.00	0.90	144.60	1426.05	6.29 N	36.13 W	0.05	6.29	
1456.00	1.00	144.60	1455.05	5.90 N	35.85 W	0.10	5.90	
1485.00	0.90	138.70	1484.04	5.52 N	35.55 W	0.14	5.52	
1514.00	1.00	132.60	1513.04	5.18 N	35.22 W	0.15	5.18	
1543.00	1.10	132.00	1542.03	4.82 N	34.82 W	0.10	4.82	
1572.00	1.20	133.00	1571.03	4.42 N	34.39 W	0.11	4.42	
1601.00	1.40	129.00	1600.02	3.99 N	33.90 W	0.23	3.99	
1629.00	1.70	134.70	1628.01	3.49 N	33.34 W	0.36	3.49	
1659.00	1.60	135.90	1658.00	2.87 N	32.73 W	0.11	2.87	
1689.00	1.60	133.70	1687.99	2.28 N	32.13 W	0.06	2.28	
1717.00	1.60	133.50	1715.97	1.74 N	31.57 W	0.01	1.74	
1745.00	1.60	122.00	1743.96	1.27 N	30.95 W	0.34	1.27	
1774.00	1.60	122.50	1772.95	0.84 N	30.27 W	0.01	0.84	
1803.00	1.50	122.10	1801.94	0.42 N	29.60 W	0.10	0.42	
1832.00	1.60	121.00	1830.93	0.01 N	28.94 W	0.11	0.01	

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 111.06 on azimuth 232.75 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Statoil: Block 34/11
Deep Sea Trym: 34/11-3,34/11-3T2
34/11,NORTH SEA, NORWEGIAN SECTOR

SURVEY LISTING Page 2
Your ref : Definitive 34/11-3T2
Last revised : 10-Jan-97

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/ 30m	Vert Sect	
1861.00	1.70	115.80	1859.92	0.39 S	28.20 W	0.19	-0.39	
1890.00	1.50	116.90	1888.91	0.75 S	27.48 W	0.21	-0.75	
1919.00	1.80	141.80	1917.90	1.28 S	26.86 W	0.80	-1.28	
1949.00	2.10	157.50	1947.88	2.16 S	26.35 W	0.61	-2.16	
1978.00	2.00	155.60	1976.86	3.11 S	25.94 W	0.13	-3.11	
2009.00	2.20	162.20	2007.84	4.17 S	25.54 W	0.30	-4.17	
2036.00	2.30	157.90	2034.82	5.16 S	25.17 W	0.22	-5.16	
2065.00	2.30	158.90	2063.80	6.24 S	24.75 W	0.04	-6.24	
2094.00	2.20	184.70	2092.77	7.34 S	24.58 W	1.04	-7.34	
2124.00	2.40	194.80	2122.75	8.52 S	24.79 W	0.45	-8.52	
2152.00	2.60	200.50	2150.72	9.68 S	25.16 W	0.34	-9.68	
2181.00	2.60	202.10	2179.69	10.91 S	25.64 W	0.08	-10.91	
2211.00	2.60	201.60	2209.66	12.17 S	26.15 W	0.02	-12.17	
2268.00	2.60	200.60	2266.60	14.59 S	27.08 W	0.02	-14.59	
2326.00	2.60	198.60	2324.54	17.06 S	27.96 W	0.05	-17.06	
2355.00	2.70	198.10	2353.51	18.34 S	28.38 W	0.11	-18.34	
2383.00	2.70	200.20	2381.48	19.58 S	28.81 W	0.11	-19.58	
2413.00	2.80	200.00	2411.45	20.93 S	29.31 W	0.10	-20.93	
2442.00	2.90	199.00	2440.41	22.29 S	29.79 W	0.12	-22.29	
2471.00	2.90	199.40	2469.37	23.68 S	30.27 W	0.02	-23.68	
2500.00	2.90	201.70	2498.34	25.05 S	30.79 W	0.12	-25.05	
2528.00	2.80	201.40	2526.30	26.35 S	31.30 W	0.11	-26.35	
2558.00	2.80	208.10	2556.27	27.68 S	31.91 W	0.33	-27.68	
2587.00	2.60	213.80	2585.24	28.85 S	32.61 W	0.35	-28.85	
2616.00	2.60	212.30	2614.21	29.95 S	33.33 W	0.07	-29.95	
2646.00	2.60	213.20	2644.17	31.09 S	34.06 W	0.04	-31.09	
2675.00	2.70	214.00	2673.14	32.21 S	34.81 W	0.11	-32.21	
2704.00	2.80	214.40	2702.11	33.36 S	35.59 W	0.11	-33.36	
2733.00	2.60	215.00	2731.08	34.48 S	36.37 W	0.21	-34.48	
2761.00	2.80	215.30	2759.05	35.56 S	37.12 W	0.21	-35.56	
2789.00	2.80	215.10	2787.01	36.68 S	37.91 W	0.01	-36.68	
2817.00	2.70	214.40	2814.98	37.78 S	38.68 W	0.11	-37.78	
2847.00	2.80	211.90	2844.95	38.99 S	39.47 W	0.16	-38.99	
2876.00	2.80	212.80	2873.91	40.19 S	40.22 W	0.05	-40.19	
2905.00	2.90	213.80	2902.88	41.39 S	41.02 W	0.12	-41.39	
2934.00	2.90	212.70	2931.84	42.62 S	41.82 W	0.06	-42.62	
2964.00	3.00	215.20	2961.80	43.90 S	42.68 W	0.16	-43.90	
2994.00	3.00	211.30	2991.76	45.21 S	43.54 W	0.20	-45.21	
3022.00	3.10	211.80	3019.72	46.48 S	44.32 W	0.11	-46.48	
3052.00	3.20	212.20	3049.67	47.88 S	45.20 W	0.10	-47.88	
3080.00	3.20	212.30	3077.63	49.20 S	46.03 W	0.01	-49.20	
3109.00	3.30	213.80	3106.58	50.58 S	46.93 W	0.14	-50.58	
3139.00	3.40	213.40	3136.53	52.04 S	47.90 W	0.10	-52.04	
3168.00	3.50	213.30	3165.48	53.50 S	48.86 W	0.10	-53.50	
3196.00	3.30	214.90	3193.43	54.87 S	49.79 W	0.24	-54.87	
3225.00	3.30	212.40	3222.38	56.26 S	50.71 W	0.15	-56.26	
3254.00	3.50	215.80	3251.33	57.68 S	51.68 W	0.29	-57.68	
3283.00	3.30	216.30	3280.28	59.07 S	52.69 W	0.21	-59.07	
3313.00	3.50	218.30	3310.23	60.49 S	53.77 W	0.23	-60.49	
3342.00	3.40	218.90	3339.17	61.85 S	54.86 W	0.11	-61.85	
3371.00	3.50	221.90	3368.12	63.18 S	55.99 W	0.21	-63.18	
3400.00	3.50	222.30	3397.07	64.49 S	57.17 W	0.03	-64.49	
3427.00	3.60	222.90	3424.02	65.72 S	58.31 W	0.12	-65.72	
3455.00	3.70	223.20	3451.96	67.03 S	59.52 W	0.11	-67.03	BHI MWD TIE IN 17.5" SEC 34/11-3
3465.00	3.70	223.77	3461.94	67.50 S	59.97 W	0.11	-67.50	13 3/8" CASING SHOE

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 111.06 on azimuth 232.75 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Statoil: Block 34/11
Deep Sea Trym: 34/11-3,34/11-3T2
34/11,NORTH SEA, NORWEGIAN SECTOR

Your ref : Definitive 34/11-3T2
Last revised : 10-Jan-97

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR	COORDINATES	Dogleg Deg/ 30m	Vert Sect	
3485.00	3.70	224.90	3481.90	68.42 S	60.87 W	0.11	-68.42	31-8-96 BHI MWD 12.25" SEC 34/11-3
3545.00	3.30	229.20	3541.78	70.92 S	63.54 W	0.24	-70.92	
3573.00	3.10	228.90	3569.74	71.94 S	64.72 W	0.22	-71.94	
3602.00	3.00	232.50	3598.70	72.92 S	65.92 W	0.22	-72.92	
3630.00	2.90	238.00	3626.66	73.74 S	67.10 W	0.32	-73.74	
3659.00	2.70	243.50	3655.63	74.43 S	68.33 W	0.35	-74.43	
3688.00	2.40	251.70	3684.60	74.93 S	69.52 W	0.49	-74.93	
3717.00	2.40	255.20	3713.57	75.28 S	70.68 W	0.15	-75.28	
3747.00	2.20	262.20	3743.55	75.51 S	71.86 W	0.34	-75.51	
3776.00	2.10	270.60	3772.53	75.58 S	72.94 W	0.34	-75.58	
3804.00	2.00	285.70	3800.51	75.45 S	73.93 W	0.59	-75.45	
3832.00	2.10	299.50	3828.49	75.06 S	74.84 W	0.54	-75.06	
3863.00	2.30	297.60	3859.47	74.49 S	75.89 W	0.21	-74.49	
3891.00	2.80	291.60	3887.44	73.98 S	77.02 W	0.61	-73.98	
3920.00	2.90	286.50	3916.41	73.51 S	78.38 W	0.28	-73.51	
3949.00	2.80	287.70	3945.37	73.09 S	79.76 W	0.12	-73.09	BHI MWD TIE IN 12.25" SEC 34/11-3
3966.00	2.80	288.90	3962.35	72.83 S	80.55 W	0.10	-72.83	BHI MWD TIE ON IN 34/11-3
3972.00	2.70	290.38	3968.34	72.73 S	80.82 W	0.61	-72.73	9 5/8" CASING SHOE
4021.00	2.00	307.60	4017.30	71.81 S	82.58 W	0.61	-71.81	17-DEC-96 BHI MWD 34/11-3T2
4055.00	1.90	307.70	4051.28	71.10 S	83.50 W	0.09	-71.10	
4082.00	1.80	311.10	4078.27	70.55 S	84.17 W	0.16	-70.55	
4113.00	2.10	311.00	4109.25	69.86 S	84.97 W	0.29	-69.86	
4141.00	2.00	310.70	4137.23	69.20 S	85.73 W	0.11	-69.20	
4160.00	2.00	307.60	4156.22	68.78 S	86.24 W	0.17	-68.78	
4198.00	2.20	304.70	4194.20	67.96 S	87.36 W	0.18	-67.96	
4216.00	2.30	305.40	4212.18	67.56 S	87.94 W	0.17	-67.56	
4230.00	2.30	305.40	4226.17	67.23 S	88.40 W	0.00	-67.23	EXTRAPOLATED TO TD

All data is in meters unless otherwise stated.
Coordinates from structure and TVD from RKB:RKB-Seabed=233m (25.00 M. above mean sea level).
Bottom hole distance is 111.06 on azimuth 232.75 degrees from wellhead.
Vertical section is from wellhead on azimuth 0.00 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Comments in wellpath

MD	TVD	Rectangular Coords.		Comment
293.00	292.97	0.26 S	3.41 W	30" CONDUCTOR SHOE
372.00	371.95	0.42 S	5.50 W	3-AUG-96 BHI MWD 26" SEC 34/11-3
1089.00	1088.09	9.16 N	36.81 W	20" CASING SHOE
1098.00	1097.09	9.24 N	36.99 W	BHI MWD TIE IN 26" SEC: 34/11-3
1109.00	1108.09	9.33 N	37.20 W	8-8-96 BHI MWD 17.5" SEC 34/11-3
3455.00	3451.96	67.03 S	59.52 W	BHI MWD TIE IN 17.5" SEC 34/11-3
3465.00	3461.94	67.50 S	59.97 W	13 3/8" CASING SHOE
3485.00	3481.90	68.42 S	60.87 W	31-8-96 BHI MWD 12.25" SEC 34/11-3
3949.00	3945.37	73.09 S	79.76 W	BHI MWD TIE IN 12.25" SEC 34/11-3
3966.00	3962.35	72.83 S	80.55 W	BHI MWD TIE ON IN 34/11-3
3972.00	3968.34	72.73 S	80.82 W	9 5/8" CASING SHOE
4021.00	4017.30	71.81 S	82.58 W	17-DEC-96 BHI MWD 34/11-3T2
4230.00	4226.17	67.23 S	88.40 W	EXTRAPOLATED TO TD

Casing positions in string 'A'

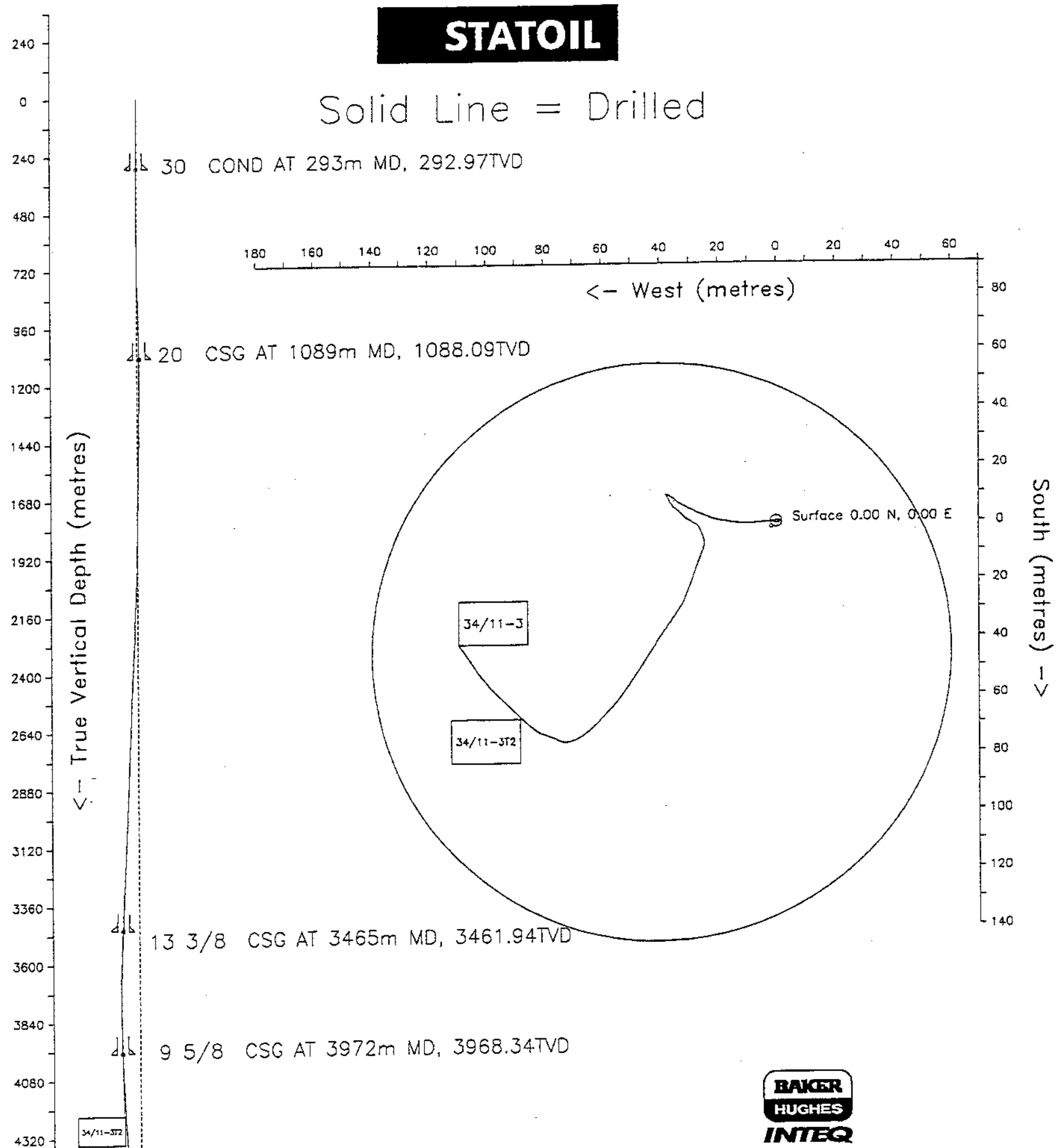
Top MD	Top TVD	Rectangular Coords.		Bot MD	Bot TVD	Rectangular Coords.		Casing
0.00	0.00	0.00N	0.00E	293.00	292.97	0.26S	3.41W	30" COND AT 293m MD, 292.
0.00	0.00	0.00N	0.00E	1089.00	1088.09	9.16N	36.81W	20" CSG AT 1089m MD, 1088
0.00	0.00	0.00N	0.00E	3465.00	3461.94	67.50S	59.97W	13 3/8" CSG AT 3465m MD,
0.00	0.00	0.00N	0.00E	3972.00	3968.34	72.73S	80.82W	9 5/8" CSG AT 3972m MD, 3

NO PROPOSAL

Statoil: Block 34/11

Structure : Deep Sea Trym: 34/11-3

Field : 34/11 Location : NORTH SEA, NORWEGIAN SECTOR



Created by pdevere
Date plotted : 10-Jan-97
Plot Reference is PL: 34/11-3 Rev#3.
Coordinates are in metres reference structure.
True Vertical Depths are reference RKB:RKB-Seabed=233m.

--- Baker Hughes INTEQ ---

4.11 Drilling Fluid Summary

Anchor/M-I Drilling Fluids

DRILLING FLUIDS VOLUME DISTRIBUTION SUMMARY

WELL: 34/11-3 and 34/11-3s — ***AREA: NORTH SEA*** — ***RIG: DEEPSEA TRYM***

Hole size	Hole From-to	Hole Length	Volume built	Volume received	Volume dumped	Volume lost to formation	Volume lost on surface equipment	Volume left behind csg and left in hole	Volume cuttings drilled	Volume transferred to next section	Mud type used for interval
inch	*m*	*m*	*m3*	*m3*	*m3*	*m3*	*m3*	*m3*	*m3*	*m3*	
36	233-293	60	180	130	0	0	82	0	39,4	228	Bentonite/Sw
26	293-1115	822	435	0	0	0	663	0	281,6	0	Bentonite/Sw
17 1/2	1115-3477	2362	1932	0	207	26	994	164	366,5	541	ANCO 2000
12 1/4	3477-3985	398	233	0	388	166	86	134	61,8	0	ANCO 2000
8 1/2	3985-4482-4230	718	1692	300	795	273	557	17	26,3	350	ANCO THERM
P&A		0	586	61	537	188	126	146	0,0	0	ANCO THERM

TOTALS

Volume Received:	491	m3	Total mud left/lost downhole:	1114	m3
Mud built:	5058	m3	Total mud to sea:	4435	m3
Mud dumped:	1927	m3	Total cuttings volume drilled:	775,54	m3
Mud lost to formation:	653	m3			
Mud lost over solids control equipment:	2508	m3			
Mud left between csg/csg plus left in hole:	461	m3			
Final volume:	0	m3			

COMMENTS:
36" SECTION: Returns to seabed. Received 130 m3 Anco 2000 mud from previous well.
26" SECTION: Returns to seabed.
17 1/2" SECTION: 541 m3 Anco 2000 mud transferred to 12 1/4" section.
12 1/4" SECTION: Dumped all Anco 2000 mud after drilling out cement and casing shoe.
8 1/2" SECTION:Displaced to new Ancotherm mud.

Water base drilling fluid properties, daily record

Well : 34/11-3 and 34/11-3T2

Operator: STATOIL

Anchor / M-I Drilling Fluids

Rig: Deepsea Trym

FSR no. •	Date 1996 •	Depth m	M.W. sg	F. Temp oC	F.Vis s/qt.	VG-meter readings @ 50 C 600 rpm	300 rpm	200 rpm	100 rpm	60 rpm	30 rpm	6 rpm	3 rpm	P.V. cP	Y.P. Pa	Gel 10s Pa	Gel 10 m Pa	pH	API ml	HTHP ml	Pf ml	Mf ml	Cl- x 1000 kg/m3	TH mg/l	Ca++ mg/l	Mg+ mg/l	KCl kg/m3	K+ kg/m3	Solids vol%	Sand vol%	MBT kg/m3	HGS kg/m3	LGS kg/m3	Anco 208 %
17 1/2" Section: Anco 2000 Water base																																		
9	07-08	1118	1,40	-	85	79	55	46	34	25	18	9	7	24	15,5	4	4,5	7,8	3,6		0	0,5	71	720	600	72	150	79	16,5	0	0	377	55	0
10	08-08	1580	1,40	25	76	74	48	39	29	23	17	10	8	26	11,0	4,5	7	8,3	3		0	0,7	76	740	640	120	144	76	17	0,9	14	358	70	0
11	09-08	1660	1,40	29	73	66	48	40	30	25	19	11	9	18	15,0	4,5	7	8,2	3,1		0	0,6	75	880	760	72	140	73	17	1,5	14	358	72	0
12	10-08	2027	1,40	31	74	67	50	42	32	27	21	12	10	17	16,5	5	9	8	3,2		0	0,6	73	840	720	72	134	70	17,5	0,75	30	336	104	0
13	11-08	2045	1,40	22	66	65	47	39	30	25	19	11	9	18	14,5	5	7,5	7,9	3,7		0	0,6	71	840	720	72	130	68	17,5	0,7	30	335	109	0
14	12-08	2145	1,50	36	66	72	52	43	32	26	20	11	8	20	16,0	4,5	9	8	3,2		0	0,5	71	860	800	36	129	68	18,5	0,6	45	553	95	5
15	13-08	2344	1,53	42	69	77	55	45	33	26	20	12	9	22	16,5	4,5	9	8	3,3		0	0,5	74	800	680	72	134	70	22	0,5	54	510	128	4,8
16	14-08	2498	1,52	47	67	70	50	40	30	24	18	10	8	20	15,0	4	10	8	3,4		0	0,5	74	840	720		136	71	22	0,3	55	537	111	5
17	15-08	2740	1,53	50	71	78	53	46	32	25	17	10	8	25	14,0	4	7	8	3,5		0	0,5	76	740	620		138	72	21,5	0,2	49	532	96	4,8
18	16-08	2985	1,53	48		71	51	42	31	25	19	11	8	20	15,5	4,5	8	7,9	3,7		0	0,5	78	680	560		141	74	22	0,3	49	538	102	4,9
19	17-08	3160	1,53	51		81	58	49	36	29	21	11	8	23	17,5	4,5	8	7,7	3,2		0	0,4	84	760	640		160	84	22,5	0,3	51	521	116	5,1
20	18-08	3373	1,53	56		78	55	46	34	27	20	10	8	23	16,0	4	8	8	3,2		0	0,5	86	520	400		151	79	23	0,2	45	499	139	4,8
21	19-08	3474	1,53	43		87	66	55	41	34	26	14	11	21	22,5	5,5	9	7,8	3,1		0	0,5	88	640	520		153	80	23	0,2	42	474	151	4,8
22	20-08	3477	1,55	N/A		88	67	54	40	33	24	13	10	21	23,0	5,5	9	7,8	3,2		0	0,5	88	640	520		157	82	24,5	0,2	44	464	199	5
23	21-08	3477	1,55	N/A		87	66	54	41	33	24	14	11	21	22,5	5,5	9	7,8	3,1		0	0,5	87	620	480		154	81	24,5	0,2	44	463	202	5
24	22-08	3477	1,55	N/A		88	67	55	42	34	25	15	12	21	23,0	5,5	9	7,8	3,1		0	0,5	87	620	480		154	81	24,5	0,2	44	463	202	5
25	23-08	3477	1,55	N/A		87	66	54	41	33	24	14	11	21	22,5	5,5	9	7,8	3,1		0	0,5	87	620	480		154	81	24,5	0,2	44	463	202	5
26	24-08	3477	1,55	40		84	61	51	38	32	24	12	9	23	19,0	5	9,5	8,2	3,6		0	0,5	85	630	490		153	80	24,5	0,2	43	463	206	5
27	25-08	3477	1,55	N/A		90	62	51	37	29	22	11	9	28	17,0	5	9,5	7,8	3,1		0	0,6	85	630	420		150	79	23,2	0,5	50	517	136	4,8
28	26-08	3477	1,55	N/A		90	62	51	37	29	22	11	9	28	17,0	5	9,5	7,8	3,1		0	0,6	85	630	420		150	79	23,2	0,5	50	517	136	4,8
29	27-08	3477	1,55	N/A		89	61	50	37	29	22	11	9	28	16,5	5	9,5	7,8	3,1		0	0,6	85	630	420		150	79	23,2	0,5	50	517	136	4,8
30	28-08	3477	1,55	N/A		87	63	50	37	30	22	11	9	24	19,5	5	9,5	7,6	3		0	0,7	85	660	400		155	81	23,2	0,5	50	517	136	4,8
31	29-08	3477	1,55	N/A		87	63	50	37	30	22	11	9	24	19,5	5	9,5	7,6	3		0	0,7	85	660	400		155	81	23,2	0,5	50	517	136	4,8
32	30-08	3477	1,80	N/A		99	65	50	35	29	22	11	8	34	15,5	5	9,5	9	3,4		0	0,6	85	620	400		155	81	25,4	0,5	50	862	126	4,4

Operator: STATOIL **Anchor / M-I Drilling Fluids** Rig: Deepsea Trym

FSR no.	Date 1996	Depth	M.W.	F. Temp	F.Vis	VG-meter readings @ 50 C 600	300	200	100	60	30	6	3	P.V.	Y.P.	Gel 10s	Gel 10 m	pH	API	HTHP	Pf	Mf	Cl- x 1000	TH	Ca++	Mg+	KCl	K+	Solids	Sand	MBT	HGS	LGS	Anco 208
•	•	m	sg	oC	s/qt.	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	cP	Pa	Pa	Pa		ml	ml	ml	ml	kg/m3	mg/l	mg/l	mg/l	kg/m3	kg/m3	vol%	vol%	kg/m3	kg/m3	kg/m3	%
12 1/4" Section: Anco 2000 Water base																																		
33	31-08	3587	1,84	39		##	74	58	39	30	21	10	7	35	19,5	4	16	9,4	4,9		0,1	1,4	83	690	640		151	79	32,3	0,5	50	891	162	4,6
34	01-09	3694	1,84	39		##	71	55	37	30	20	9	7	37	17,0	3,5	10	8,6	3,2		0	1	83	730	640		149	78	26,5	0,5	38	930	113	4,8
35	02-09	3779	1,84	36		##	68	53	35	27	19	9	7	37	15,5	3,5	13	8,5	3,1		0	1,4	86	720	640		146	77	26,9	Tr	35	906	140	4,8
36	03-09	3890	1,84	36		##	65	51	34	27	19	9	7	35	15,0	3,5	15	8,5	3,2		0	1,5	86	720	640		150	79	32,4	Tr	35	889	162	4,8
37	04-09	3983	1,88	37		##	66	51	34	27	19	9	7	39	13,5	6,5	15,5	8,4	3,2		0	1,5	86	710	630		150	79	33,2	Tr	39	960	140	4,8
38	05-09	3985	1,88	N/A		##	70	54	36	27	19	9	7	42	14,0	3,5	16	8,3	3,1		0	1,7	86	720	640		152	80	33,2	Tr	36	959	140	4,6
39	06-09	3985	1,88	N/A		##	70	54	36	27	19	9	7	42	14,0	3,5	16	8,3	3,1		0	1,7	86	720	640		152	80	33,2	Tr	36	959	140	4,6
40	07-09	3985	1,88	N/A		##	70	54	36	27	19	9	7	42	14,0	3,5	16	8,3	3,1		0	1,7	86	720	640		152	80	33,2	Tr	36	959	140	4,6
41	08-09	3985	1,88	N/A		##	64	49	31	24	15	8	6	41	11,5	3	15	8,4	8		0	1,8	24	680	500		48	25	30	Tr	28	1064	83	1,5
42	09-09	3985	1,88	N/A		##	64	49	31	24	15	8	6	41	11,5	3	15	8,4	8		0	1,8	24	680	500		48	25	30	Tr	28	1064	83	1,5
43	10-09	3985	1,88	N/A		##	64	49	31	24	15	8	6	41	11,5	3	15	8,4	8		0	1,8	24	680	500		48	25	30	Tr	28	1064	83	1,5
44	11-09	3985	1,88	N/A		##	67	53	35	27	19	8	6	35	16,0	3	12	9	7,5		0,05	2	25	680	500		48	25	30	Tr	28	1064	83	1,5

		m	sg	oC	s/qt.	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	cP	Pa	Pa	Pa		ml	ml	ml	ml	kg/m3	mg/l	mg/l	mg/l	kg/m3	kg/m3	vol%	vol%	kg/m3	kg/m3	kg/m3	%
8 1/2" Section: Ancotherm Water base (Start drilling bridgeplug, cementplug no 1)																																		
66	03-10	3645	2,01		90	##	58	46	27	18	13	6	4	42	8,0	2,5	7	9,5	2,8	14,2	0,5	3,7	3,8	800	720				33	0	35	1264	71	
67	04-10	3703	2,01	28	80	##	65	49	30	22	15	7	5	44	10,5	3	9	8,2	2,6	14,2	0	2,5	3,8	880	720				33	0	34	1264	71	
68	05-10	4039	2,01	28	105	##	76	57	37	28	20	12	10	49	13,5	6,5	15	9,9	3,3	14,8	0,4	2,8	3,7	1220	1100				34	0	42	1222	124	
69	06-10	4040	2,01	35	90	##	72	54	35	25	18	9	7	49	11,5	4,5	16	9	3,2	14,8	0,3	2,6	3,6	880	720				33	0	43	1264	72	
70	07-10	4040	2,01	18	126	##	64	48	30	23	15	8	6	45	9,5	4,5	17	9,8	2,8	14,6	0,35	2,8	3,7	920	840				33,5	0	39	1243	98	
71	08-10	4040	2,01	18	144	##	61	45	28	20	14	7	5	44	8,5	3,5	11	9,2	2,8	13,8	0,3	2,7	3,7	880	760				33,5	0	38	1243	98	
72	09-10	4048	2,01	18	115	##	60	44	28	20	14	7	5	42	9,0	4	11	9,2	2,2	13,8	0,2	2,6	4,2	860	740				33,5	0	38	1243	97	
73	10-10	4048	2,01	10	110	94	54	40	24	18	12	5	4	40	7,0	2,5	7,5	9	2,6	14	0,2	2,8	3,9	860	740				33,5	0	38	1243	97	
74	11-10	4048	2,01	10	110	89	52	39	24	17	12	6	4	37	7,5	3	7,5	9	2,6	14	0,2	2,8	3,9	860	740				33,5	0	38	1243	97	
75	12-10	4054	2,01	20	110	##	61	45	27	19	12	6	4	46	7,5	3	7	9,1	2,2	14	0,2	2,9	3,8	860	720				33,5	0	38	1243	97	
76	13-10	4054	2,01		115	99	57	42	26	19	13	6	5	42	7,5	3	7	8,9	2,1	14,6	0,15	3	3,8	880	740				33,5	0	38	1243	97	
77	14-10	4060	2,01	18	110	##	66	48	29	21	13	6	5	49	8,5	3	6,5	8,9	2,4	16	0,15	3	3,6	840	720				33,5	0	38	1243	98	
78	15-10	4060	2,01		100	95	55	40	25	18	12	5	4	40	7,5	3	6,5	9	1,8	13,6	0,15	3	3,6	800	680				33,5	0	38	1243	98	
79	16-10	4072	2,01	20	115	##	67	50	30	21	14	7	5	50	8,5	3	7,5	9	1,9	14	0,15	2,9	3,5	780	660				33,5	0	38	1243	98	
80	17-10	4072	2,01	20	115	95	57	45	28	20	13	7	5	38	9,5	4	7,5	9,2	1,7	14,1	0,15	3	3,5	800	700				33,5	0	38	1243	98	
81	18-10	4072	2,01	23	92	##	64	47	29	22	15	7	6	46	9,0	3,5	8	9,2	1,8	14,5	0,15	2,9	3,5	800	700				33,5	0	38	1243	98	
82	19-10	3760	2,01	24	110	##	63	48	30	23	15	7	6	40	11,5	4	12,5	9,3	2,1	14,4	0,25	3,5	3,7	840	740				33,5	0	40	1243	98	
83	20-10	3760	2,01	24	125	##	70	54	33	27	19	9	8	50	10,0	4,5	21	8,6	1,8	14,8	0,15	4	3,6	720	680				33,5	0	40	1243	98	
84	21-10	3760	2,01		115	##	66	51	32	25	18	9	8	45	10,5	4,5	15	9,1	2,2	15	0,2	4	3,6	860	720				33,5	0	40	1243	98	
85	22-10	3760	2,01		113	67	52	33	25	18	9	8		15	18,5	4,5	15	9	2,2	15	0,2	4	3,6	860	720				33,5	0	40	1243	98	
86	23-10	3760	2,01		114	##	65	50	32	26	18	9	88	45	10,0	4,5	14	8,6	2	15	0,15	3,8	3,6	860	720				33,5	0	40	1243	98	
87	24-10	3760	2,01		114	##	65	50	32	26	18	9	8	45	10,0	4,5	14	8,6	2	15	0,15	3,8	3,6	860	720				33,5	0	40	1243	98	
88	25-10	3760	2,01		114	##	65	50	32	26	18	9	8	45	10,0	4,5	14	8,6	2	15	0,15	3,8	3,6	860	720				33,5	0	40	1243	98	
89	26-10	3760	2,01		111	##	62	47	29	23	16	8	7	45	8,5	4	12	8,6	2	15	0,15	3,8	3,6	860	720				33,5	0	40	1243	98	

Water base drilling fluid properties, daily record

Well : 34/11-3 and 34/11-3T2

Operator: STATOIL

Anchor / M-I Drilling Fluids

Rig: Deepsea Trym

FSR no.	Date 1996	Depth m	M.W. sg	F. Temp oC	F.Vis s/qt.	VG-meter readings @ 50 C 600 rpm	300 rpm	200 rpm	100 rpm	60 rpm	30 rpm	6 rpm	3 rpm	P.V. cP	Y.P. Pa	Gel 10s Pa	Gel 10 m Pa	pH	API ml	HTHP ml	Pf ml	Mf ml	Cl- x 1000 kg/m3	TH mg/l	Ca++ mg/l	Mg+ mg/l	KCl kg/m3	K+ kg/m3	Solids vol%	Sand vol%	MBT kg/m3	HGS kg/m3	LGS kg/m3	Anco 208 %
8 1/2" Section: Ancotherm Water base (Drilling - loss in hole - kick - bullheading - cement plug - BOP operation)																																		
44	11-09	4039	1,98	33	73	96	58	42	26	19	11	6	4	38	10,0	3	6	9,1	2,4	13	0,05	1,8	4	500	400				30	0	24			
45	12-09	4039	1,98	30	68	91	53	40	24	18	11	5	3	38	7,5	2	4	8,8	2,6	13	0,05	1,65	3,8	240	130				32	0	24	1236	59	
46	13-09	4039	1,98	20	69	80	47	34	20	14	9	4	3	33	7,0	2	5	8,6	3	19	0,15	3,2	4,7	280	160				32	0	24	1236	58	
47	14-09	4039	1,98	20	66	80	48	38	25	18	14	5	4	32	8,0	2	5	8,9	4,4	22	0,2	3,2	3,7	240	140				32	0	22	1236	59	
48	15-09	4039	1,98	42	55	##	60	45	28	20	13	6	4	41	9,5	2,5	5	8,9	2,8	15	0,2	3,2	3	240	140				32	0	21	1236	60	
49	16-09	4039	1,98	28	74	92	54	40	25	18	11	6	4	38	8,0	2	4,5	8,9	2,6	14,4	0,2	3,2	3,5	240	140				32	0	21	1209	75	
50	17-09	4039	1,98	27	60	##	61	44	26			5	3	41	10,0	2	4	8,9	2,6	14,4	0,2	2,4	3,3	280	180				32	0	22	1236	59	
51	18-09	4039	2,04	24	80	##	84	62	39			7	5	52	16,0	3,5	7	9,3	2,6	14,2	0,2	1,5	3,5	280	180				33	0	25	1325	30	
52	19-09	4039	2,04	24	80	##	80	60	37			7	6	51	14,5	3,5	12	9,5	2,6	14,3	0,2	1,7	3,5	280	180				33,5	0	25	1330	40	
53	20-09	4039	2,04	24	85	##	73	54	34			7	5	49	12,0	3,5	11	9,4	2,6	14,3	0,2	1,7	3,4	280	180				33,5	0	30	1330	40	
54	21-09	3830	2,04	20	84	##	76	56	35			7	5	50	13,0	3	7	8,3	2,6	14,4	0,1	0,7	3,7	240	130				33,5	0	30	1330	40	
55	22-09	3830	2,04	25	95	##	78	58	36			7	6	52	13,0	3,5	14	9,1	2,8	14,4	0,6	3,1	3,8	800	720				33,5	0	32	1330	40	
56	23-09	3645	2,04	27	85	##	66	49	30			6	4	47	9,5	3	8	9,2	3,2	14,4	0,6	3,4	3,8	800	720				33,5	0	32	1330	40	
57	24-09	3645	2,04	27	85	##	66	49	30			6	4	47	9,5	3	8	9,2	3,2	14,3	0,6	3,4	3,8	800	720				33,5	0	32	1330	40	
58	25-09	3645	2,04	24	88	##	68	50	31			6	4	48	10,0	3	7	9	3	14,8	0,6	3,4	3,8	800	720				33,5	0	32	1330	40	
59	26-09	3645	2,02	24	82	##	59	44	27	19	13	5	4	41	9,0	2,5	7	9,7	2,6	14,8	0,5	3,8	4	800	720				33	0	36	1299	46	
60	27-09	3645	2,02		82	##	59	44	27	19	13	5	4	41	9,0	2,5	7	9,7	2,6	14,8	0,5	3,8	4	800	720				33	0	36	1299	46	
61	28-09	3645	2,02		82	##	59	44	27	19	13	5	4	41	9,0	2,5	7	9,7	2,6	14,8	0,5	3,8	4	800	720				33	0	36	1299	46	
62	29-09	3645	2,02		90	##	60	45	28	20	13	6	4	45	7,5	3	6	9,6	2,6	14,6	0,5	3,7	4	800	720				33	0	36	1299	46	
63	30-09	3645	2,02		90	##	59	46	27	18	13	6	4	42	8,5	2,5	7	9,5	2,8	14,6	0,5	3,7	3,8	800	720				33	0	35	1299	46	
64	01-10	3645	2,02		90	##	59	46	27	18	13	6	4	42	8,5	2,5	7	9,5	2,8	14,6	0,5	3,7	3,8	800	720				33	0	35	1299	46	
65	02-10	3645	2,02		90	##	59	46	27	18	13	6	4	42	8,5	2,5	7	9,5	2,8	14,6	0,5	3,7	3,8	800	720				33	0	35	1299	46	

Water base drilling fluid properties, daily record

Well : 34/11-3 and 34/11-3T2

Operator: STATOIL

Anchor / M-I Drilling Fluids

Rig: Deepsea Trym

FSR no.	Date 1996	Depth	M.W.	F. Temp	F.Vis	VG-meter readings @ 50 C 600	300	200	100	60	30	6	3	P.V.	Y.P.	Gel 10s	Gel 10 m	pH	API	HTHP	Pf	Mf	Cl- x 1000	TH	Ca++	Mg+	KCl	K+	Solids	Sand	MBT	HGS	LGS	Anco 208
•	•	m	sg	oC	s/qt.	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	cP	Pa	Pa	Pa		ml	ml	ml	ml	kg/m3	mg/l	mg/l	mg/l	kg/m3	kg/m3	vol%	vol%	kg/m3	kg/m3	kg/m3	%
125	01-12	4482	2,01	16	102	##	66	51	31	25	17	6	5	43	11,5	3	13	8,6	2,6	11,8	0,1	1,3	3,4	620	520				33	0	38	1264	72	
126	02-12	3870	2,01	32	87	94	55	41	25	19	13	5	4	39	8,0	2	8	9	2,6	11,8	0,15	1,4	3,4	700	600				33	0	38	1264	72	
127	03-12	3821	2,01	22	90	##	62	47	30	25	17	8	7	38	12,0	3,5	13	9,1	2,8	12,2	0,15	1,4	3,4	700	600				33	0	38	1264	72	
128	04-12	3821	2,01		95	##	63	47	30	25	17	8	7	39	12,0	3,5	13	9	2,8	12,2	0,15	1,4	3,4	700	600				33	0	38	1264	72	
129	05-12	3821	2,01		95	##	63	47	30	25	17	8	7	39	12,0	3,5	13	9	2,8	12,2	0,15	1,4	3,4	700	600				33	0	38	1264	72	
130	06-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
131	07-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
132	08-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
133	09-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
134	10-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
135	11-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
136	12-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
137	13-12	3821	2,01		96	99	61	42	28	24	16	7	6	38	11,5	3	11	8,9	2,4	12,2	0,2	1,7	3,7	740	620				33	0	38	1264	72	
138	14-12	3821	2,01		100	##	63	46	29	25	16	7	6	40	11,5	3,5	12	8,8	2,5	12,4	0,2	1,7	3,7	740	620				33	0	38	1264	72	
139	15-12	3821	2,01		100	##	72	58	46	37	30	25	24	33	19,5	12	35	8,9	3,5	13,8	0,35	3,8	3,2	820	660				33	0	36	1264	72	
8 1/2" Section: Ancotherm Water base (Start sidetrack T2)																																		
140	16-12	4030	2,01	27	100	83	53	42	29	25	19	11	10	30	11,5	4,5	19	9,2	3,5	14,8	0,4	4,8	2,6	680	540				33	0,25	34	1265	73	
141	17-12	4230	2,,1	27	83	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
142	18-12	4230	2,01		90	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
143	19-12	4230	2,01		90	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
144	20-12	4230	2,01		90	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
145	21-12	4230	2,01		90	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
146	22-12	4230	2,01		90	80	48	38	24	19	16	8	6	32	8,0	3,5	10	9,2	2,7	12,2	0,3	5	2,6	620	500				33	0,25	34	1265	73	
147	23-12	4230	2,01		120	##	67	53	37	32	26	17	16	37	15,0	9	23	9,6	3	14	0,6	5,5	2,6	640	520				33	0,25	34	1265	73	
148	24-12	4230	2,01		85	83	49	37	23	19	13	5	4	34	7,5	2,5	11	9,2	2,8	13	0,4	5,5	2,6	640	520				33	0,25	34	1265	73	
149	25-12	4230	2,01		95	83	49	37	23	19	13	5	4	34	7,5	2,5	11	9,2	2,8	13	0,4	5,5	2,6	640	520				33	0,25	34	1265	73	
150	26-12	4230	2,01		95	83	49	37	23	19	13	5	4	34	7,5	2,5	11	9,2	2,8	13	0,4	5,5	2,6	640	520				33	0,25	34	1265	73	

Water base drilling fluid properties, daily record

Well : 34/11-3 and 34/11-3T2

Operator: STATOIL

Anchor / M-I Drilling Fluids

Rig: Deepsea Trym

FSR no. •	Date 1996 •	Depth m	M.W. sg	F. Temp oC	F.Vis s/qt.	VG-meter readings @ 50 C 600 rpm	300 rpm	200 rpm	100 rpm	60 rpm	30 rpm	6 rpm	3 rpm	P.V. cP	Y.P. Pa	Gel 10s Pa	Gel 10 m Pa	pH	API ml	HTHP ml	Pf ml	Mf ml	Cl- x 1000 kg/m3	TH mg/l	Ca++ mg/l	Mg+ mg/l	KCl kg/m3	K+ kg/m3	Solids vol%	Sand vol%	MBT kg/m3	HGS kg/m3	LGS kg/m3	Anco 208 %
	P&A																																	
151	27-12	3920	2,01		110	90	54	40	26	21	15	7	6	36	9,0	3,5	16	9,8	2,2	13,2	0,4	5,5	2,6	900	840				33	0,25	34	1265	73	
152	28-12	3920	2,01		105	88	53	39	24	20	14	6	5	35	9,0	3	15	10,2	2,8	14,2	0,5	6	2,6	920	900				33	0,25	32	1265	73	
153	29-12	3880	1,86		105	75	45	35	23	19	14	10	8	30	7,5	4	17	8,9	2,4		0,2	2,5	2,4	860	800				28	0,25	27	1081	56	
154	30-12	3880	1,87		98	77	46	36	24	20	14	10	8	31	7,5	4	16	9	2,4		0,2	2,5	2,4	860	800				28	0,25	27	1107	40	
155	31-12	3880	1,90		98	76	44	34	23	19	13	9	7	32	6,0	4	13	9	2,8		0,2	2,5	5	900	840				29	0,25	27	1143	41	
156	01-01	3880	1,92		98	74	47	37	26	20	16	10	9	27	10,0	4,5	17	8,7	3,3		0,2	2,8	16	820	740				30	0,25	28	1150	51	
157	02-01	1400	1,55		65	53	34	25	16	13	10	5	4	19	7,5	2	15	9,2			0,2	2,7	8	640	540				18	0,25	20	685	34	
158	03-01	1400	1,55		63	54	36	28	19	15	11	7	5	18	9,0	3	12	9,2			0,2	2,7	7,3	600	520				18	0,25	35	685	35	
159	04-01	1400	1,55	26	60	56	37	29	20	16	12	8	6	19	9,0	3	16	9,2			0,15	2,6	4,6	580	500				18	0,25	40	686	37	
160	05-01	1400	1,55	26	72	63	40	32	21	18	14	8	6	23	8,5	3,5	16	8,5			0,1	2,8	4,4	580	500				18	0,25	40	686	38	
161	06-01	1400	1,30		60	48	32	25	17	14	11	7	6	16	8,0	3	17	8,4			0,01	2,2	2,7						11	0,25	50	325	81	
162	07-01	1400	1,30		60	52	34	27	18	14	10	7	5	18	8,0	2,5	15	8,4					1,9						11	0,25	48	325	82	
163	08-01	800	1,50		60	63	41	33	23	18	14	10	8	22	9,5	4,5	15,5	9,5					3,6						17	0	51			

DUMPED DRILLING FLUID AFTER SETTING LAST CEMENT PLUG.

4.12 Cement summary

Statoil, Deepsea Trym, Well 34/11-3, Recap summary

ACTUAL MATERIAL USAGE:

MATERIAL	UNIT	30" casing	20" casing	13 3/8" casing	9 5/8" casing	Plug #1 in OH	Plug #2 in OH	Plug #3 in OH	PTA	SUM
Norcem G	tonn	29	177	66					84	356
35% SSA-1 blend	tonn				23	11	8	8	36	86
Bentonite	kg									
Microblock	liter									
Gascon 469	liter				727	832	700	624	2412	5295
CFR-3L	liter				139	587	170	200	1378	2474
HR-4L	liter		2240							2240
HR-6l	liter									
HR-15	kg					386	340	318	387	1431
HR-25	kg									
SCR-100L	liter			1770	730				486	2986
Halad-413L	liter					1144	1056	870	1711	4781
Micromax	kg					5250	5925	5050	7450	23675
Halad 344L	liter			2300						2300
Halad-600 LE+	liter				1068				1459	2527
Econolite	liter	440	4630							5070
Liq CaCl2	liter	850								850
NF-5	liter	30	167	50	84	116	100	70	280	897
Spacer 500	kg				272	182	160	137	476	1227
Musol E	liter									
SEM-7	liter									

Date: 1/31/97

File reference: REC-SUM.XLS

Statoil, Deepsea Trym, Well 34/11-3, Recap summary

ACTUAL MATERIAL DISCHARGE:

MATERIAL	UNIT	30" casing		20" casing		13 3/8" casing		9 5/8" casing		Plug #1		Plug #2		Plug #3		PTA		SUM	
		s. tank	sea	s. tank	sea	s. tank	sea	s. tan	sea	s. tank	sea	s.tank	sea	s. tank	sea	s. tank	sea	s. tank	sea
Norcem G	tonn				50												2		52
35% SSA-1 blend	tonn							5										4.80	
Bentonite	kg																		
Microblock	liter																		
Gascon 469	liter								187		546		483		424		501		1658
CFR-3L	liter								4		387		46		50		223		664
HR-4L	liter				750														750
HR-6l	liter																		
HR-15	kg										243		232		218		156		617
HR-25	kg																		
SCR-100L	liter								55								168		223
Halad-413L	liter										736		746		584		703		2023
Micromax	kg										3211		4375		3000		3851		10062
Halad 344L	liter																		
Halad-600 LE+	liter								258								310		568
Econolite	liter				1600														1600
Liq CaCl2	liter																		
NF-5	liter				50				15		66		45		70		38		239
Spacer 500	kg								77		150		89		67		185		479
Musol E	liter																		
SEM-7	liter																		

Date: 1/31/97

File reference: REC-SUM.XLS

4.13 Experience summary

4.13.1 Experiences primarily focused on the 34/11-3(T2)

The 12 1/4" section was drilled in one bit run with a new bit design from Lyng Drilling, LA260BG. The bit drilled from 3477 m to 3985 m, 508 m in rotary mode. The bit drilled with an average ROP=5,1 m/hr in 100,4 hrs.

When 9 5/8" casing was cut a gas influx was experienced. The influx most probably came from the formation below 9 5/8" shoe (see discussion under **Plug & Abandonment**).
Cementing 9 5/8" casing there were no return, neither at cementing nor displacing. When cutting 13 3/8" casing another influx was observed. This influx most probably came from the Lista Fm, above top of theoretical cement. Analysis done before the cement job concluded with no moveable hydrocarbons in any sand layers above planned top of cement.

High gas readings were observed in the 17 1/2" section which could indicate progress of a gas influx, but was a gas cloud transition zone around 1500 m. From 1720 m the background gas increased to 1 %, from 2370 m background gas increased to 5-6 %. At TD of the 17 1/2" section the background gas was 7 %.
It was important to set the 9 5/8" casing as deep as possible to obtain sufficient integrity to drill 8 1/2" section to TD. To be able to obtain 13 3/8" casing setting depth as deep as possible it was necessary to interpret gas signals correct.

4.13.2 Experiences for 34/11-3(T2) with a potentially wider validity

10 cores were cut in the Brent Fm. The recovery and the utilization were to low compared with other wells in the area. And also lower than Statoils average for coring. Compared with well 34/11-2S, the well characteristic is equal, but higher pressure and temperature made the difference. This made it impossible to use motor when coring. Based on the performance in this well a new core-bit was developed based on the performance of Hughes G445XLA3 which successfully drilled the same formation.
A recommendation for future wells in the area is to consider the use of oil based mud.

High temperature mud was used to core, but the use of oil based mud should have been considered.

Friday 13th 1996 a gas influx situation occurred on Deepsea Trym. An investigation committee was formed and an investigation report was written. When POOH with DP from the reservoir an influx was swabbed in.
What caused of the influx is summarized in the text for 8 1/2" section and the conclusion from investigation report will be summarized here:

- The situation could have been avoided if recommended demands and procedures for wellcontrol have been followed.
- The situation could have been avoided if the problem had been identified and analysed correctly
- Because of wrong interpretation, wrong method was used.
- There were not enough focus on surge/swab when drilling the reservoir section. And the clearance between 8 1/2" hole and 5 1/2" DP.

APPENDIX 1

Wellsite Sample Description

STATOIL

WELLSITE SAMPLE DESCRIPTION

Country: Norway		Area: North Sea		Field: Alpha Structure	
Well no: 34/11-3					
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "		Geologist: D. Phillips /		Date: 08.08.96	

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
1120	100	Clst:	brn gry - olv gry, sft, amor - blky, v slty i. p., occ sdy, non - occ v calc, glauc, occ abd glauc	No shows
	Tr	Ls:	wh - off wh, frm, blky, microxln, occ xln	
	Gd tr	Cmt		
1130	100	Clst:	sft - frm, amor - blky, non - slily calc, micromic, else a.a.	a.a.
1140	100	Clst:	only tr glauc, else a.a.	a.a.
1150	100	Clst:	a.a.	a.a.
1160	100	Clst:	occ slty and sdy, else a.a.	a.a.
	Tr	Meta Frag		
1170	100	Clst:	brn gry - olv gry, sft - frm, blky, occ amor, slty, occ sdy, micromic, occ tr micropyr, tr glauc, non slily calc	a.a.
1180	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
	Tr	Sd:	clr qtz grns, v f - f, wl srt, sbang, lse	
1190	100	Clst:	mod calc, less slty, else a.a.	a.a.
	Tr	Meta Frag		
1200	100	Clst:	a.a.	a.a.
1210	100	Clst:	a.a.	a.a.
1220	100	Clst:	olv gry, sft - frm, blky, mod calc, slty, sdy i.p., glauc, tr micromic	a.a.
1230	100	Clst:	less slty, else a.a.	a.a.
1240	100	Clst:	a.a.	a.a.
1250	100	Clst:	a.a.	a.a.
1260	100	Clst:	a.a.	a.a.
1270	100	Clst:	olv gry, frm, blky, non - occ slily calc, loc slty, tr micromic, tr micropyr	a.a.
1280	100	Clst:	a.a.	a.a.
1290	100	Clst:	a.a.	a.a.
1300	100	Sd:	clr -trnsl qtz, pred f, also med, mod - wl srt, sbrndd - sbang, lse, tr pyr nods, tr glauc	a.a.
1310	100	Sd:	pred f - med, tr crs, sbrndd, occ sbang, lse, else a.a.	a.a.
1320	100	Sd:	pred f, wl srt, else a.a.	a.a.

WELLSITE SAMPLE DESCRIPTION			Page 2 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J. Robinson		Date: 08.08.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
1330	90	Sd:	clr -trnsl qtz, pred f - med, mod srt, sbrndd - sbang, lse, tr pyr nods, tr glauc	No shows
	10	Clst:	olv gry, frm, blky, non calc, loc slty, tr micromic, tr micropyr	
1340	50	Sd:	pred f, occ med, wl srt, sbrndd, occ sbang, lse, else a.a.	a.a.
	50	Clst:	olv gry., occ brn gry, frm, blky, non calc, micropyr, occ tr micromic	
1350	70	Sd:	pred f, lse, else a.a.	a.a.
	30	Clst:	a.a.	
1360	50	Clst:	occ amor and sft, else a.a.	a.a.
	50	Sd:	a.a.	
1370	80	Clst:	a.a.	a.a.
	20	Sd:	pred f, occ med, lse, else a.a.	
1380	90	Clst:	frm - blky, non calc, else a.a.	a.a.
	10	Sd:	a.a.	
1390	90	Clst:	med gry, blky, occ slty ,	
	10	Sd:	pred f, occ med, gen wl srt	a.a.
1400	80	Clst:	a.a.	
	20	Sd:	a.a.	a.a.
1410	50	Sd:	a.a.	
	50	Clst:	gry , blky, wxy	a.a.
1420	no sample.	a.a.		
1430	-	no sample a.a.		
1440	60	Clst:	med gry, gen blky, occ brn	a.a.
	40	Sd.	clr qtz, f - med, lse, occ agg frag	
1450	50	Clst:	a.a.	
	50	Sd:	pred clr, sbang - sbrndd	a.a.
1460	70	Clst:	gry, sft - frm, blky	
	30	Sd:	wh, clr, wl srt, pred f, lse	a.a.
1470	90	Sd:	wh, clr qtz, pred f , occ med, sbrndd - sbang, lse, wl srt,	
	10	Clst:	med gry, else a.a.	a.a.
1480	70	Clst:	bcm slily slty, else a.a.	
	30	Sd:	agg grns, ang frag	a.a.
1490	80	Clst:	gry, wxy, sft, occ frm, slty	
	20	Sd:	pred clr qtz, occ agg grns	a.a.
1500	90	Clst:	med gry, also brn, sft - frm, slily slty	
	10	Sd:	f, occ med, lse, else a.a.	a.a.

STATOIL

WELLSITE SAMPLE DESCRIPTION				Page 3 of 35
Country: Norway	Area: North Sea			Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "	Geologist: D. Phillips / J Robinson			Date: 09.08.96

Depth (m KB)	Lith (%)	Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks Shows, cavings, mud additives, etc.
1510	60	Clst:	lt - med gry, occ brn gry, blky, occ fis , occ sli slty i.p., non calc, occ slily calc	No shows
	40	Sd:	wh - clr qtz, pred f, occ med, mod - wl srt, lse, sbrnd - sbang	
1520	80	Sd:	clr qtz, pred f, occ med, else a.a.	
	20	Clst:	gry, sft, frm frags, else a.a.	a.a.
1530	90	Sd:	a.a.	
	10	Clst:	med gry, else a.a.	a.a., cvg?
1540	90	Clst:	olv gry, occ brn, else a.a.	
	10	Sd:	pred f, occ med, else a.a.	a.a.
1550		no sample		
1560	80	Clst:	med gry, else a.a.	a.a.
	20	Sltst:	brn, fis, slty, non calc	
1570	60	Clst:	grad sltst i.p., else a.a.	
	40	Sd:	sbrndd, lse, else a.a.	a.a.
1580	80	Clst:	med gry, occ slty, else a.a	
	20	Sd:	clr qtz, lse, else a.a.	a.a.
1590	80	Clst:	lt - med gry, blky	
	20	Sd:	clr qtz, lse	a.a.
1600	70	Clst:	a.a.	
	20	Sd:	a.a., also occ agg grns	a.a.
	10	Ls:	wh, sft, microxln	
1610	90	Clst:	brn, gry, non - loc slty, non calc	a.a
	10	Sd:	pred lse, else a.a.	
1620:	90	Clst:	med gry, else a.a.	a.a.
	10	Ls:	wh, sft	
1630	70	Clst:	dk grysh grn, occ med gry, tr med blsh gry, frm, blky, non calc, micropyr, also olv gry, micromic and slty i.p.	a.a.
	20	Ls:	wh - med gry, occ pa yel brn, sft - hd, microxln, occ xln, loc arg,	
	10	Sd:	clr - trnsl qtz, f - vf, wl srt, sbrndd - sbang, lse	
1640	95	Clst:	a.a.	a.a.
	5	Sd:	a.a.	
	Tr	Ls:	a.a.	
1650	100	Sd:	clr - trnsl qtz, pred f, occ med, wl srt, rnd - sbang, lse, tr mic, glauc, r tr pyr nods	

STATOIL

WELLSITE SAMPLE DESCRIPTION

Country: Norway	Area: North Sea		Field: Alpha Structure	
Well no: 34/11-3				
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "	Geologist: D. Phillips / J Robinson		Date: 09-10.08.96	

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
1660	80	Clst:	gnsh gry, occ olv gry, brn gry, frm - sft, hd, sbfis, non calc	
	20	Sd:	wh - clr qtz, sbang - sbrndd, pred lse , pr srt	No shows
1670	90	Clst:	lt - dk gnsh gry, lt brn gry - brn gry, non slty, non calc	
	10	Sd:	v pr srt, else a.a.	a.a.
1680	90	Clst:	gnsh gry - med blsh gry, occ brn gry, pred fis, else a.a.	
	10	Sd:	clr qtz, pred vf, occ crs, v pr srt, lse, sbrndd, occ agg	a.a.
1690	70	Clst:	gnsh gry - med blsh gry, blky, else a.a..	
	20	Dol:	mod yel brn, microxln, rndd frags, hd, grad Ls, grysh or pk	
	10	Sd:	a.a.	a.a.
1700	60	Clst:	gnsh gry - med blsh gry, or brn , fis, gen a.a.	
	30	Sd:	a.a.	
	10	Dol:	a.a.	
1710	70	Clst:	a.a.	a.a.
	20	Sd:	a.a.	
	10	Ls:	wh, sft - frm, microxln	
1720	80	Clst:	a.a.	a.a.
	10	Sd:	a.a.	
	10	Ls:	a.a.	
1730	80	Clst:	a.a.	a.a.
	10	Sd:	a.a.	
	10	Ls:	a.a.	
1740	100	Clst:	med blsh gry - med gry, tr brnsh blk, frm, blky, occ subfiss, occ wxy tex, non calc, micropyr, occ v micropyr, tr micromic	a.a.
	Tr	Sd, Ls		
1750	100	Clst:	a.a.	a.a.
	Tr	Sd, Ls		
1760	100	Clst:	a.a.	a.a.
	Tr	Sd, Ls		
1770	100	Clst:	pred med dk gry, occ med blsh gry - med gry, tr dk gnsh gry, non calc, else a.a.	a.a.
1780	100	Clst:	a.a.	a.a.
1790	100	Clst:	med dk gry - dk gry, blsh gry, occ brnsh blk, frm, occ mod hd, blky, non calc, micropyr	a.a.
	Tr	Ls:	wh - off wh, sft - frm, blky, occ microxln	
1800	100	Clst::	a.a.	a.a.
	Gd tr	Ls:	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION			
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J Robinson		Date: 10.08.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
1810	100	Clst:	med dk gry, occ dk gry, blsh gry, occ brnsh blk, frm, occ mod hd, blky, non calc, micropyr	No Shows
	Tr	Ls:	wh - off wh, sft - frm, blky, occ microxln	
1820	100	Clst:	pred dk gry - med dk gry, brnsh gry, else a.a.	a.a.
	Tr	Ls:	a.a.	
1830	a.a.			a.a.
1840	100	Clst:	tr slily calc, else a.a.	a.a.
1850	100	Clst:	med dk gry, blsh gry, gyrsh brn, tr dk grnsh gry, sft - frm, blky, non calc, micropyr, occ glauc	a.a.
	Gd tr	Dol Ls:	dk yel brn, frm, blky, microxln, slily arg, grad Ls	
1860	100	Clst:	a.a. with tr grysh brn - mod brn, frm, blky, non - mod calc	a.a.
1870	100	Clst:	pred grysh brn - mod brn, med blsh grn, also dsky yel brn, else a.a. sft - frm, blky, non - mod calc	a.a.
	Tr	Ls:	a.a.	
1876	100	Clst:	a.a. also dk gry	a.a.
1879	a.a.			a.a.
1882	a.a.			a.a.
1885	100	Clst:	pred grysh brn - mod brn, blsh gry, sft - frm, blky, occ amor, non - mod calc, loc v calc, grad Mrl	a.a.
	Tr	Ls		
1891	a.a.			a.a.
1894	a.a.			a.a.
1900	a.a.			a.a.
1906	100	Clst:	gry brn - mod brn, blsh gry, tr med gry - med dk gry, sft - frm, blky, occ amor, non - mod calc	a.a.
	Gd tr	Ls:	off wh, blky, frm, occ sft, occ mod hd, microxln, loc xln, arg	
1909	a.a.			a.a.
1912	100	Clst:	pred grysh brn - mod brn, non - loc v calc, grad Mrl	a.a.
	Tr	Pyr Nods		
1915	100	Clst:	a.a., also dsky yel brn	a.a.
	Tr	Ls:	off wh, sft - frm, blky, microxln, arg	
	Tr	Dol Lst:	mod yel brn, mod brit, blky, microxln	
1918	95	Clst:	pred med dk gry, else a.a.	a.a.
	5	Ls:	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION			
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J Robinson		Date: 10.08.96

Depth (m KB)	Lith (%)	Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks Shows, cavings, mud additives, etc.
1921	95	Clst:	pred med dk gry, also gry brn - mod brn, blsh gry, sft - frm, blky, occ amor, non - mod calc	No shows
	5	Ls:	off wh, sft - frm, blky, microxln, arg	
	Tr	Tf:	med gry, sft, frm, crmbly, mott, grny tex, tr blk spks, occ f glasy xls, non calc	
1924	80	Clst:	a.a.	a.a.
	10	Tf:	a.a.	
	10	Ls:	a.a.	
1927	70	Clst:	a.a.	a.a.
	20	Tf:	a.a.	
	10	Ls.	a.a.	
	Tr	Pyr Nods		
1930	a.a.			a.a.
1936	75	Clst:	med dk gry - dk gry, olv gry, also brn gry - mod brn, blsh gry, sft - frm, blky, occ amor, non - slily calc, occ trs micropyr	a.a.
	20	Tf:	med lt gry - med gry, sft, crmbly, grny tex, tr blk spks, pred non calc, tr slily calc	
	5	Ls:	a.a.	
1942	60	Clst:	a.a.	a.a.
	30	Tf	a.a.	
	10	Ls:	a.a.	
1945	a.a.,			v pr sample
1951	80	Clst:	med gry - med lt gry, also tr brnsh gry, blsh gry, sft - frm, occ sol, blky, occ amor, non - slily calc, occ micropyr	a.a.
	10	Tf:	a.a.	
	10	Ls:	a.a.	
1954	90	Clst:	med dk gry - dk gry, frm, occ sft, blky, occ sol, non - v calc, occ micropyr,	a.a.
	10	Ls:	wh - off wh, occ lt gry, sft - frm, blky, occ microxln, occ arg	
	Tr	Tf	a.a.	
1960	95	Clst:	a.a.	a.a.
	5	Ls:	a.a.	
1963	100	Clst:	med lt gry - med dk gry, sft - frm, blky, occ crmbly, non - slily calc, loc v calc, grad Mrl, occ sol	a.a.
	Tr	Ls:	a.a.	
1966	100	Clst:	lt - med gry, blsh gry, tr rdsh brn, frm, or amor, rndd, sft	a.a.
1969	90	Clst:	a.a.	
	10	Dol:	mod yel brn, sbfis, wl cmt	a.a.

WELLSITE SAMPLE DESCRIPTION			Page 7 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J. Robinson		Date: 10.08.96

Depth (m KB)	Lith (%)	Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks Shows, cavings, mud additives, etc.
1972	100	Clst:	lt - med gry, occ lt gn, non - calc, loc v calc, grad mrl, amor, v sft	No shows
1975	90	Clst:	a.a.	a.a.
	10	Ls:	wh, sft, amor, occ microxln, frm, rndd	
1978	100	Clst:	lt - med gry, occ lt gn, else a.a.	a.a.
1984	100	Clst:	a.a.	a.a.
1987	90	Clst:	a.a.	a.a.
	10	Ls:	wh, sft, amor & lam w/ microxln Ls	
1993	90	Clst:	lt - med gry, occ gnsh gry, blky - sbfis	a.a.
	10	Ls:	wh, f, xln	
1998	90	Clst:	a.a.	a.a.
	10	Ls:	a.a.	
1999	100	Clst:	lt - med gry ,occ gnsh gry, blky - sbfis	a.a.
2005	90	Clst:	a.a.	a.a.
	10	Dol Ls:	mod yel brn, frm, sbfis	
2011	90	Clst:	a.a.	a.a.
	10	Dol Ls:	a.a.	
2017	80	Clst:	lt - med gry, occ gnsh gry, blky - grad sbfis	a.a.
	10	Ls:	wh, sft, amor	
	10	Dol:	lt rdsh brn, microxln	
2023	90 -	Clst:	a.a.	a.a.
	10 ·	Dol Ls:	mod yel brn, microxln	
2026	90	Clst:	lt - med gry, occ blsh - gnsh gry	a.a.
	10	Ls:	wh, sft, amor	
Core#1 cut from 2027 - 2054m				
2029	80	Clst:	lt - med gry, occ lt blsh gry - gnsh gry, lt rdsh brn, wxy, sbfis	a.a.
	20	Sd:	op - clr qtz , pred v f - f, occ med, wl srt, rndd	
2032	80	Clst:	a.a.	a.a.
	20	Sd:	a.a.	
2035	70	Clst:	a.a.	a.a.
	20	Sd:	a.a.	
	10	Ls:	wh, mdst grad microxln wkst	
2038	80	Clst:	a.a.	a.a.
	10	Sd:	op- clr qtz, pred v f - f, wl srt, rndd	
	10	Ls.	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION				Page 8 of 35
Country: Norway	Area: North Sea			Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "	Geologist: D. Phillips / J. Robinson			Date: 11.08.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
2041	70	Clst:	lt - med gry, occ grnsh gry, lt blsh gry, lt rdsh brn, blky, wxy, sbfis non calc	No Shows
	20	Sd:	clr qtz, v f - f, wl srt, lse	
	10	Ls:	wh, mdst - microxln carbonate	
2044	60	Clst:	a.a.	a.a.
	25	Sd:	a.a.	
	15	Ls:	a.a.	
2047	80	Clst:	a.a.	a.a.
	10	Sd:	a.a.	
	10	Ls:	a.a.	
2050	75	Clst:	a.a. also occ sft, sol, tr micropyr	a.a.
	15	Ls:	wh - lt gry, tr mod yel brn, tr brnsh gry, sft - mod hd, microxln, occ arg	
	10	Sd:	clr - trnsl qtz, vf - f, occ med, sbrndd - sbang, mod srt, lse	
2056	100	Clst.	med gry - dk gry, pl gn - gn gry, sft - frm, blky, slty i.p., non calc	a.a.
	Gd tr	Ls:	a.a.	
	Tr	Sd		
2059	a.a.			a.a.
2062	a.a.			a.a.
2065	a.a.			a.a.
2068	95	Clst:	a.a.	a.a.
	5	Ls:	wh - med gry, occ dk yel brn, sft - hd, occ arg	
2071	100	Clst:	med gry - med dk gry, gn gry, pa gn, tr rd brn - grysh brn, sft - frm, blky, non calc	a.a.
	Tr	Ls:	a.a.	
2074	a.a.			a.a.
2077	a.a.			a.a.
2080	100	Clst:	non - mod calc, else a.a.	a.a.
2086	100	Clst:	pred med - med dk gry, tr gn gry - pa gn, sft - frm, blky, non - mod calc, tr micromic, tr micropyr	a.a.
	Gd tr	Ls:	a.a.	
2089	100	Clst:	a.a.	a.a.
	Gd tr	Ls:	wh, sft, microxln	
2092	80	Clst:	lt - med gry, blky - rndd frags, occ gnsh gry, wxy, ang frag, non - slily calc	a.a.
	20	Ls:	lt yel or, ang, dk yel or, microxln, rndd, grad Dol Ls, gry	
2095	90	Clst:	sft, else a.a.	a.a.
	10	Ls:	a.a., not grad to Dol Ls	

WELLSITE SAMPLE DESCRIPTION				
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "		Geologist: D. Phillips / J. Robinson		Date: 12-13.08.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
2098	90	Clst:,	lt - med gry, sft, occ gnsh gry, wxy, calc	No shows
	10	Ls:	wh, sft, amor	
2101	100	Clst:	a.a.	a.a.
	Gd tr	Ls:	a.a.	
2104	60	Clst:	lt - med gry, occ blsh - gnsh gry, wxy, sbang frags, wkly calc	a.a.
	30	Dol Ls:	lt yel or - mod brn, sbang - sbrndd, sbfis	
	10	Ls:	wh, ang	
2107	60	Clst:	lt - med gry, occ gnsh gry, calc, else a.a.	a.a.
	30	Dol Ls:	lt brn - lt rdsh brn	
	10	Ls:	a.a.	
2110	60	Clst:	a.a.	a.a.
	30	Dol Ls:	a.a.	
2113	70	Clst:	lt - med gry, gnsh gry - blsh gry, frm, calc	a.a.
	30	Dol Ls:	lt brn - lt rdsh brn, mdst	
2116	80	Clst:	lt - med gry, occ blsh gry - gnsh gry, frm, calc	a.a.
	20	Dol Ls:	mdst, lt rdsh brn, occ microxln	
2119	50	Clst:	a.a.	a.a.
	50	Dol Ls:	a.a.	
2130	50	Clst:	lt - med gry, occ gnsh gry, blsh gry, frm, calc	Ls has dull yel fluor, no cut fluor
	50	Dol Ls:	mdst, lt - mod brn, occ Ls, wh, fibr xls	
2140	90	Clst:	lt-med gry, bcm slty - v f sdy, frm	a.a.
	10 -	Dol Ls:	mdst, lt - mod brn, occ microxln	
2150	100	Clst:	a.a.	a.a.
	Gd tr	Dol Ls:	a.a.	
2160	100	Clst:	lt - med gry, occ wh, slty, frm, rndd	a.a.
	Gd tr	Dol Ls:	a.a.	
2170	100	Clst:	a.a.	a.a.
	Tr	Dol Ls	a.a.	
2180	100	Clst:	a.a.	a.a.
	Tr	Dol Ls	a.a.	
2190	100	Clst:	a.a.	a.a.
	Tr	Dol Ls:	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION

Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J. Robinson		Date: 13.08.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
2200	100	Clst:	lt - med gry, occ olv gry, sft - frm, blky, occ amor, mod calc, loc v calc, loc slty, tr micromic	No Shows
2210	100	Clst:	a.a.	a.a.
2220	100	Clst:	a.a.	a.a.
	Tr	Ls:	wh, tr mod yel brn, sft - frm, microxln	
2230	100	Clst:	a.a. , slily more silty	a.a.
2240	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2250	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2260	100	Clst:	lt - med gry, sft - frm, blky, occ amor, mod calc, tr micromic	a.a.
2270	100	Clst:	a.a., occ slty	a.a.
2280	100	Clst:	a.a.	a.a.
	Tr	Ls		
2290	100	Clst:	olv gry, lt - med gry, sft - frm, stky, blky, occ amor, mod calc, slty i.p., tr micromic	a.a.
	Tr	Ls:	wh, sft - frm, blky, microxln	
2300	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2310	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2320	100	Clst:	a.a.	a.a.
	Tr	Ls:	wh, pa yel brn, sft - mod hd, blky	
2330	100	Clst:	a.a.	a.a.
2340	100	Clst:	a.a.	a.a.
2350	90	Clst:	lt - med gry, blsh gry, gnsh gry, wxy, occ grysh brn	a.a.
	10	Ls:	Dol, mdst, lt brn - mod brn, frm, w/ pyr	
2360	90	Clst:	pred a.a., also v lt gry, slty, micropyr	a.a.
	10	Ls:	a.a.	
2370	90	Clst:	a.a.	a.a.
	10	Ls:	Dol, mdst, lt brn - mod brn, frm	
2380	60	Clst:	lt - med gry, blsh gry, gnsh gry	a.a.
	40	Ls:	mdst, lt brn - mod brn, frm	

STATOIL

WELLSITE SAMPLE DESCRIPTION					Page 11 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure	
Well no: 34/11-3					
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "		Geologist: D. Phillips / J. Robinson		Date: 14.08.96	

Depth (m KB)	Lith (%)	Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks Shows, cavings, mud additives, etc.
2390	100	Clst:	lt - med gry, pred slty, sft - frm, intbd mod rd or - mod rd brn, hd, v calc	No shows
	Gd tr	Ls:	wh, ang, frm	
2400	100	Clst:	a.a.	a.a.
	Gd tr	Ls:	a.a.	
2410	100	Clst:	lt - med gry, slty, intbd a.a.	a.a.
	Gd tr	Ls:	a.a.	
2420	100	Clst:	lt - med gry, occ blsh gry - gnsh gry intbd, else a.a.	a.a.
	Gd tr	Ls:	a.a.	
2430	100	Clst:	a.a., incr. gry Clst	a.a.
	Gd tr	Ls:	a.a.	
2440	100	Clst:	a.a.	a.a.
	Gd tr	Ls:	a.a.	
2450	100	Clst:	lt - med gry, w/ mott gry Clst intergrn w/ pl yel or, carb mat	a.a.
	Gd tr	Ls:	a.a.	
2460	100	Clst:	a.a..	a.a.
	Gd tr	Ls:	a.a.	
2470	100	Clst:	a.a.	a.a.
2480	100	Clst:	lt - med gry, occ blsh gry - gnsh gry, intbd w/ mod rd	v dull yel fluor and cut fluor, slow mky cut fluor, brt wh fluor res fluor
	Gd tr	Ls:	dk yel or, hd, sbang frac	
2490	100	Clst:	a.a.	No shows
	Tr	Ls:	a.a.	
2500	100	Clst:	lt - med gry, w/ mott gry, intgn w/pl yel or	a.a.
	Tr	Ls:	a.a.	
2510	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2520	100	Clst:	a.a.	a.a.
2530	100	Clst:	lt - med gry, olv gry, sft - frm, blky, slily calc, micromic	a.a.
2540	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2550	100	Clst:	med gry - lt olv gry, sft - frm, blky, occ amor, slily calc, tr micromic	a.a.

STATOIL

WELLSITE SAMPLE DESCRIPTION

Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "	Geologist: D. Phillips / J. Robinson		Date: 15.08.96

Depth (m KB)	Lith (%)	Lithological Description		Remarks
		Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Shows, cavings, mud additives, etc.
2560	100	Clst:	med gry - lt olv gry, sft - frm, blky, occ amor, slily calc, tr micromic	No Shows
2570	100	Clst:	occ gn gry, else a.a.	a.a.
2580	100	Clst:	a.a.	a.a.
2590	100	Clst:	mod calc, else a.a.	a.a.
2600	100	Clst:	med lt gry - med gry, olv gry, sft - frm, blky, occ amor, non - slily calc, micromic, loc slty	a.a.
2610	100	Clst:	a.a.	a.a.
	Tr	Ls:	pa - mod yel brn, frm - mod hd, microxln, occ arg, occ grad Dol Ls	
2620	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2630	100	Clst:	slily - mod calc, slty, else a.a.	a.a.
2640	95	Clst:	a.a.	a.a.
	5	Ls:	pa - dk yel brn, frm - mod hd, blky, occ ang, microxln, loc arg, grad Dol	
2650	95	Clst:	a.a.	a.a.
	5	Ls/Dol:	a.a.	
2660	100	Clst:	a.a.	a.a.
	Tr	Ls/Dol		
2670	90	Clst:	a.a.	a.a.
	5	Ls:	off wh - pa yel brn, sft - frm, blky, microxln, occ arg	
	5	Dol:	mod - dk yel brn, frm - mod hd, blky, ang, grad Dol Ls	
2680	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2690	100	Clst:	med gry - dk gry, slty, slily - mod calc	a.a.
	Tr	Ls:	wh - t gry, sft, grad Dol Ls	
2700	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2710	100	Clst:	med gry - dk gry, slty, slily calc	a.a.
2720	100	Clst:	a.a.	a.a.
2730	a.a.			a.a.
2740	100	Clst:	a.a	a.a.
	Tr.	Dol:	wh, microxln	
2750	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	

WELLSITE SAMPLE DESCRIPTION				Page 13 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "		Geologist: Ø. Eikefet / J. Robinson		Date: 16.08.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
2760	100	Clst:	med gry - med lt gry, occ grad olv gry, sft - frm, blky, non calc - slily calc	No shows
	Tr.	Ls:	lt gry - wh, arg, microxln	
	Tr.	Sst:	trnsl qtz, vf, mod srt, calc cmt, hd	
2770	Lost			
2780	100	Clst:	a.a.	a.a.
	Tr:	Ls:	wh, sl arg strks, hd - brit, microxln	
2790	100	Clst:	med gry - med lt gry, sft - frm, blky, non calc, occ slily slty	a.a.
	Tr:	Ls:	a.a.	
2800	a.a.			a.a.
2810	100	Clst:	a.a.	a.a.
2820	100	Clst:	a.a., slty i.p., occ sdy, micrmic	spt slw wh crush fluor, spt wh res fluor
2830	Lost			
2840	100	Clst.	lt gry - olv gry - med gry, sft, grad frm, micropyr, sl slty, non calc	wh slw - fst crush cut, spt wh res fluor
2850	100	Clst:	a.a.	a.a.
2860	90	Clst:	lt - med gry, ang - rndd frags, sft - frm, non calc	a.a.
	10	Ls:	v lt or - lt yel or, occ wh, mdst grad microxln, occ Dol Ls	a.a.
2870	100	Clst:	a.a.	a.a.
	Tr	Ls:	wh, else a.a.	
2880	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
2890	90	Clst:	lt gry - olv gry, else a.a.	a.a.
	10	Ls:	wh, ang frags, v lt or, occ dk yel or, microxln grad Dol Ls	
2900	90	Clst:	a.a.	a.a.
	10	Ls:	a.a.	
2910	85	Clst:	lt - med gry, else a.a.	a.a.
	15	Ls:	varic, wh, v lt or, mdst or microxln, grad Dol Ls	
2920	85	Clst:	lt-med gry, occ olv gry, frm, v calc	a.a.
	15	Ls:	varic, wh, v lt or, mdst grad microxln Dol Ls	
2930	85	Clst:	a.a.	a.a.
	15	Ls:	a.a.	
2940	90	Clst:	a.a.	a.a.
	10	Ls:	a.a.	

WELLSITE SAMPLE DESCRIPTION

Country: Norway		Area: North Sea		Field: Alpha Structure	
Well no: 34/11-3					
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP			
Hole size: 17 1/2 "		Geologist: Ø.Eikefet / J. Robinson		Date: 17.08.96	

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.	Ca/Ca+Dol
2950	90	Clst:	lt - med gry, occ olv gry, gnsh gry, dk gry, sft - frm, v calc, occ slty	a.a.	
	10	Ls:	varic, wh, v lt or, occ dk yel or, mdst grad microxln Dol Ls		
2960	90	Clst:	a.a.	a.a.	
	10	Ls:	a.a.		
2970		Lost sample			
2980	100	Clst:	a.a.	a.a.	
	Tr	Ls:	a.a.		
2990	100	Clst:	med gry - olv gry, occ gnsh gry, sft - frm, blky, calc	a.a.	
	Tr	Dol:	lt brn yel, microxln - xln, sl arg, frm, brit		
3000	100	Clst:	a.a., pred sft, sl calc	a.a.	0/5
3010	100	Clst:	a.a., sft - frm, calc	a.a.	0/5
3020	100	Clst:	a.a.	a.a.	0/5
3030	100	Clst:	a.a., also mod brn rd i.p.	a.a.	0/5
3040	100	Clst:	med gry - olv gry, occ gnsh gry, frm - sft, calc	a.a.	5/5
3050	100	Clst:	a.a.	a.a.	2/2
3060	100	Clst:	lt - med gry, occ olv gry, frm - sft, calc	a.a.	2/2
3070	100	Clst:	a.a.	a.a.	2/2
3080	100	Clst:	a.a.	a.a.	
3090	100	Clst:	a.a.	a.a.	5/5
3100	100	Clst:	lt - med gry, occ olv gry, blky, calc	a.a.	5/5
	Tr	Ls:	lt yel or, occ wh, mdst grad microxln		
3110	100	Clst:	a.a.	a.a.	7/7
	Tr	Ls:	a.a.		
3120	100	Clst:	a.a.	a.a.	4/4
	Gd tr	Ls:	varic, lt yel or, dk yel or, lt brn, mod yel, one frag is fibr calc, micropyr		
3130	100	Clst:	lt - med gry, occ olv gry, blky, calc	a.a.	3/3
	Tr	Ls:			
3140	100	Clst:	a.a.	a.a.	2/2
	Tr	Ls:	a.a.		
3150	100	Clst:	a.a. , else lt gnsh gry, wxy	a.a.	2/2
	Tr	Ls:	wh, lt yel or, occ grad microxln Dol Ls		

WELLSITE SAMPLE DESCRIPTION

Country:	Norway	Area: North Sea		Field:	Alpha Structure
Well no:	34/11-3				
K.B.E.:	25 metres	Company:	PL193: Statoil, Norsk Hydro, BP		
Hole size:	17 1/2 "	Geologist:	Ø.Eikefet / J. Robinson	Date:	19.08.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.	Ca/Ca+Dol
3160	100	Clst:	lt - med gry, occ olv gry, blky, sft - frm, sl calc i.p.	No shows	3/3
	Tr.	Ls:	lt yel or, wh, occ lt brn, grad Dol Ls		
3170	100	Clst	a.a.	a.a.	3/3
3180	100	Clst:	a.a.	a.a.	4/4
	Tr	Ls:	lt yel or, else a.a.		
3190	100	Clst:	a.a.	a.a.	3/3
	Tr	Ls:	wh - lt gry, sft, arg, microxln		
3200	100	Clst:	a.a.	a.a.	2/2
3210	a.a.				4/4
3220	a.a.				5/5
3230	100	Clst:	a.a.	a.a.	5/5
	Tr	Ls:	a.a.		
3240	100	Clst:	a.a	a.a.	5/5
	Tr	Ls:	wh - lt yel gry - lt brn, sft - brit, slily arg, microxln		
3250	100	Clst:	lt - med gry, occ olv gry, blky, sft - frm, i.p. slily calc	a.a.	5/7
	Tr	Ls:	wh - lt gry, sft, arg, occ microxln		
3260	100	Clst:	a.a.	a.a.	6/6
	Tr	Ls:	a.a.		
3270	100	Clst:	a.a.	a.a.	7/7
3280	100	Clst:	a.a.	a.a.	7/7
3290	100	Clst:	lt - med gry, w/ intbdd Clst/Ls in one frg	a.a.	7/7
	Tr	Ls:	varic,wh - lt yel or, gry, grad microxln		
3300	100	Clst:	a.a.	a.a.	4/4
	Tr	Ls:	a.a.		
3310	100	Clst:	a.a.	a.a.	5/5
	Tr	Ls:	varic, wh, lt brn, lt yel or, occ grad Dol Ls, dk gry, micromic, occ micropyr		
3320	100	Clst:	a.a.	a.a.	6/6
	Tr	Ls:	a.a.		
3330	100	Clst:	lt gry, wxy-med gry, also v r blk slty lams intbd w/ gry Clst	a.a.	6/7
	Tr	Ls:	a.a.		
3340	100	Clst:	a.a., no slty lams	a.a.	5/6
	Tr	Ls:	a.a.		

STATOIL

WELLSITE SAMPLE DESCRIPTION				Page 16 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "		Geologist: Ø.Eikefet / J. Robinson		Date: 18.08.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.	Ca/Ca+Dol
3350	90	Clst:	lt gry - med gry, occ tr of blk, slty, frm - sft, blky, calc	No shows	6/7
	10	Ls:	wh, lt yel or, occ gry, occ Dol Ls		
3360	90	Clst:	a.a.	a.a.	5/6
	10	Ls:	a.a.		
3370	90	Clst:	lt gry, med gry, wxy, calc	a.a.	6/7
	10	Ls:	lt gry frgs w/ inc lenses of Clst		
3380	90	Clst:	a.a.	a.a.	7/8
	10	Ls:	gnsh gry, wxy, gryish, occ lt yel brn, ang - sbrnd frgs		
3390	90	Clst:	a.a.	a.a.	7/7
	10	Ls:	a.a.		
	Tr	Dol:	dk gry - blk, microxln		
3400	90	Clst:	lt gry - med gry	a.a.	5/5
	10	Ls:	varic, lt yel or, lt gnsh gry, lt brn, occ microxln		
	Tr	Dol:	a.a.		
3410	90	Clst:	a.a., interbd lenses of thin Ls	a.a.	4/4
	10	Ls:	a.a., interbd lenses of Clst		
	Tr	Dol:	a.a.		
3420	100	Clst:	olv gry - med gry, grad med dk gry, sft - frm, blky, calc, slily slty	a.a.	4/4
	Tr	Ls:	wh, sft, slily brit, blky, microxln		
3430	100	Clst:	a.a., also bec mod rd brn i.p.	a.a.	5/6
	Tr.	Ls:	a.a.		
3440	100	Clst:	a.a.	a.a.	5/5
	Tr	Ls:	a.a.		
3448	100	Clst:	a.a. bec slily more slty	a.a.	
	Tr	Ls:	a.a, also bec lt yel or i.p.		
3450	90	Clst:	lt - med gry, else a.a.	a.a.	5/7
	10	Ls:	varic, wh, dk yel or, lt brn, grd Dol Ls, dk gry		
3455	90	Clst:	lt - med gry, incl more sft	a.a.	
	10	Ls:	a.a., but more Dol Ls , dk gry, ang frags		
3460	90	Clst:	lt - med gry, sft - frm, blky	a.a.	6/7
	10	Ls:	wh, lt brn, also Dol Ls, dk gry - blk, hd, sbfis, microxln, micromic, occ micropyr		
3465	90	Clst:	a.a.	a.a.	
	10	Ls:	more Dol Ls, dk gry - blk, hd, sbfis		
3470	90	Clst:	a.a.	a.a.	7/8
	10	Ls:	Dol Ls, dk gry - blk, else a.a.		

WELLSITE SAMPLE DESCRIPTION				Page 17 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 17 1/2 "		Geologist: Ø.Eikefet / J. Robinson		Date: 18.08.96
Depth (m KB)	Lith (%)	Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks Shows, cavings, mud additives, etc.

3475	100	Clst:	lt - med gry, sft, blky	No shows.
	Tr	Ls:	wh, lt gnsh, wxy, occ lt brn	
3477	100	Clst:	lt - med gry, a.a.	a.a.
	Tr	Ls:	Dol Ls, dk gry	

TD 17 1/2" section 3477m MD/3473.9m TVD.

STATOIL

WELLSITE SAMPLE DESCRIPTION				Page 18 of 35
Country: Norway	Area: North Sea			Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP			
Hole size: 12 1/4 "	Geologist: J. Hopkins/D. Phillips			Date: 31.08.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
3480		Poor sample, abundant cement		
3490	100	Clst:	lt - med gry, frm, blky, mod - v calc, occ slty i.p., tr micromic	No Shows
	Tr	Ls:	wh - lt gry, frm - mod hd, blky, microxln, occ xln, occ Dol	
3500	100	Clst:	a.a., also occ lt gn gry, also occ grad to trs Mrl i.p.	a.a.
	Tr	Ls:	a.a., also tr pl yel brn	
3510	90	Clst:	lt - med gry, frm, blky, v calc, grad to Mrl i.p.	a.a.
	10	Ls:	pl yel brn, gry, sft, crmb, mdst, microxln, v arg	
3520	100	Clst:	a.a., loc v slty lams, carb spks	a.a.
3530	90	Clst:	lt - med gry, frm, blky, v calc, grad to Mrl i.p.	a.a.
	10	Ls:	a.a.	
3540	80	Clst:	a.a.	a.a.
	20	Ls:	off wh - pl yel brn gry, sft, fri, arg, microxln, mdst	
3550	100	Clst:	lt - med gry, occ dk olv gry, slily mott, sft, v calc, grad Mrl + arg Ls	a.a.
	Tr	Ls:	a.a.	
3560	80	Clst:	lt gry w/ dk gry lam	
	20	Ls:	pred lt brn - lt brn gry, frm, blky, bec slily brit, slily dol, microxln, arg	tr dull pl blu wh smpl fluor, no cut fluor
3570	100	Clst:	lt - med gry, occ dk olv gry, slily mott, sft, v calc, grad Mrl + arg Ls	a.a.
	Tr	Ls:	a.a.	
3580	100	Clst:	lt - med gry, sft - frm, blky, v calc, slily slty, carb spks, loc grad Mrl	No Shows
3590	100	Clst:	a.a.	a.a.
3600	100	Clst:	lt - med gry, sft, slily stky, blky, v calc, slily slty, mrly	a.a.
3610	100	Clst:	a.a.	a.a.
	Tr	Sst:	lt gry, vf, w srt, calc cmt, glauc spks?	
3620	90	Clst:	pred med gry, also lt gry, med dk gry, frm, blky, non - slily calc, occ slty i.p., occ tr micromic	tr dull yel fluor from Ls, occ mod calc, v slow strmng yel wh cut fluor, tr mod wh res
	10	Ls:	pl - dk yel brn, blky, microxln, occ xln, arg, slily dol	
3620	100	Clst:	mod - v calc, else a.a.	No Shows
	Tr	Ls:	a.a.	
3630	100	Clst:	pred lt gry, occ med gry, tr med dk gry, sft - frm, crmbly i.p., slily - mod calc, tr silty	a.a.
	Tr	Ls:	off wh - lt gry, sft, crmbly, occ frm, blky, microxln, tr xln, occ arg	
3650	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	

WELLSITE SAMPLE DESCRIPTION				Page 19 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 12 1/4 "		Geologist: J. Hopkins/D. Phillips		Date: 1.09.96

Depth (m KB)	Lith (%)		Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks Shows, cavings, mud additives, etc.
3660	100	Clst:	pred lt gry, occ med gry, tr med dk gry, sft - frm, crmbly i.p., mod calc, silty i.p., occ v silty	No Shows
	Tr	Ls:	off wh - lt gry, occ dk yel brn, sft, crmbly, occ frm, blky, microxln, tr xln, occ arg	
3670	100	Clst	a.a.	a.a.
3680	100	Clst:	lt gry, occ med gry, v sft, sbblky - blky, slty, v calc, grad Mrl	a.a.
	Tr	Ls	a.a.	
3690	60	Clst:	a.a., occ dk olv gry lam	a.a.
	40	Ls:	lt brn gry, sft - frm, lam, microxln i.p., mdst - wkst, slty, v arg, grad Mrl, slily Dol	slow wk pa bl wh crush cut fluor.
3700	100	Clst:	lt gry, v sft, sbblky - blky, v calc grad Mrl	tr dk gry bit meta frgs
3710	70	Clst:	lt gry, sft, blky, silty, calc, loc grad Mrl	a.a
	30	Ls:	lt brn gry, sft - crmbly, microxln, mdst, arg, slty	tr dl yel fluor, slow strmg yel-wh cut fluor
3720	80	Clst:	a.a.	No Shows
	20	Ls:	a.a.	
3730	90	Clst:	a.a., 30% med dk gry - dk gry, hd, brit, bit altered cuttings	a.a.
	10	Ls:	a.a.	
3740	80	Clst:	lt - med gry, (30% bit altered dk gry), sft - frm, blky, slily - mod calc, loc slty,	a.a.
	20	Ls:	off wh - lt gry, sft - frm, occ mod hd, occ crmbly, blky, microxln, slily arg i.p.	
3750	90	Clst:	a.a., loc v slty, carb spks, micromic	a.a.
	10	Ls:	a.a.	
3753	90	Clst:	a.a. (30-40% dk gry - blk, slaggy bit meta frags)	a.a.
	10	Ls:	a.a.	
3756	100	Clst:	pred lt gry, sft, amor - blky, mod - v calc, grad Mrl, slily slty, carb spks	a.a.
3759	100	Clst:	lt - med gry, bcm med gry, sft, blky - splty, mod - v calc, grad Mrl	a.a.
3762	100	Clst	a.a.	a.a.
3765	No Sample			
3768	100	Clst:	lt gry, sft, blky, slty, v calc, grad Mrl, slty, carb spks, micromic	a.a.
3771	No Sample			
3774	No Sample			
3777	100	Clst:	lt - med gry, v sft - sft, amor - sbblky, slty, slily - mod calc	a.a.
3780	90	Clst:	a.a.	a.a.
	10	Ls:	off wh - lt gry, sft - crmbly, microxln, mdst - wkst, slty, carb spks, chlor?	

WELLSITE SAMPLE DESCRIPTION

Country: Norway		Area: North Sea		Field: Alpha Structure	
Well no: 34/11-3					
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP			
Hole size: 12 1/4 "		Geologist: J. Hopkins/D. Phillips		Date: 3.09.96	

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
3783	80	Clst:	lt - med gry, v sft - sft, amor - sbblky, loc blky, slty, slily - mod calc	No shows. Blk bit burnt frags.
	20	Ls:	off wh - lt gry, sft - crmbly, slty, microxln, mdst - wkst, arg	
3786	90	Clst:	a.a.	a.a.
	10	Ls:	a.a.	
3789	100	Clst:	lt - med gry, sft, blky, slty, slily - mod calc	a.a.
	Tr	Ls:	a.a.	
3792	100	Clst:	a.a.	a.a.
	Tr	Ls:	a.a.	
3795	No sample			
3798	70	Clst:	med gry, occ lt gry, occ med dk gry, sft - frm, blky, mod calc, occ silty	dull yel fluor from Ls, occ tr v slow yel wh strmng cut fluor.
	30	Ls:	pred lt gry, occ off wh, lt brn gry, sft - frm, microxln, occ xln i.p., occ slily Dol i.p., arg, occ v arg grad to Mrl	
3801	90	Clst:	a.a.	a.a.
	10	Ls:	a.a.	
3804	100	Clst:	pred med gry, a.a.	a.a.
	Tr	Ls:		
3807	No sample			
3810	100	Clst:	med gry, occ med dk gry, sft - frm, blky, occ silty, slily - mod calc	No shows
	Tr	Ls		
3813	100	Clst:	a.a.	a.a., tr burnt cuttings
3816	100	Clst:	a.a.	a.a.
3819	100	Clst:	lt - med gry, tr lt gn gry, sft - frm, blky, non - slily calc, else a.a.	a.a.
	Tr	Ls:	a.a., also pa - mod yel brn, frm - mod hd, blky, microxln	
3822	100	Clst:	pred non calc, occ slily to mod calc, else a.a.	a.a.
	Tr	Ls:	a.a.	
3825	100	Clst	a.a.	a.a.
3828	100	Clst:	lt - med gry, occ med dk gry, sft - frm, blky, non - slily calc, tr micropyr in med dk gry Clst	a.a.
	Tr	Ls:	a.a.	
3831	100	Clst:	pred non calc, occ slily - mod calc, no micropyr, else a.a.	a.a.
	Tr	Ls:	off wh - pa brn, sft - frm, occ mod hd, blky, microxln, slily arg	
3834	100	Clst:	a.a.	a.a.
3837	100	Clst:	a.a.	a.a.
	Tr	Ls:	occ slily Dol, else a.a.	

WELLSITE SAMPLE DESCRIPTION				Page 21 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 12 1/4 "		Geologist: J. Hopkins/D. Phillips		Date: 3-4.09.96
Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.

Depth	Lith (%)	Rock	Description	Remarks
3840	100	Clst:	pred med gry, occ med dk gry, sft - frm, blky, non calc, tr slily calc,	No shows
	Tr	Ls:	off wh - pa brn, sft - frm, occ mod hd, blky, microxln, slily arg	
	Tr	Dol:	mod - dk yel brn, hd, blky, microxln	
3843	90	Clst:	med dk gry, tr med gry, frm, blky, non calc, occ slty	a.a.
	10	Ls:	wh - lt gry, occ pa brn gry, fm - mod hd, microxln, occ xln	
	Tr	Dol:	a.a., occ sucr	
3846	95	Clst:	a.a.	a.a.
	5	Ls:	a.a.	
3849	100	Clst:	olv blk, tr med dk gry, frm, blky, pred non calc, occ mod calc, slty i.p., tr micropyr	no fluor, tr slow stmg yel wh cut fluor from Clst and Ls
	Tr	Ls/Dol		
3852	100	Clst:	a.a.	a.a.
3855	100	Clst:	med gry, occ dk olv gry - blk, frm, blky, slily - mod calc	a. a.
3858	100	Clst:	lt - med gry, sft - frm, blky, slty, carb, spks, slily calc	a.a.
3861	100	Clst:	med gry, frm, blky, slily slty, non - slily calc, loc v calc, micropyritic	H_2S with acid
3864	100	Clst:	dk olv gry - olv blk, frm, blky, mod calc, micropyritic	a.a.
3867	100	Clst:	lt - med gry, bec lt gry - occ pa gn gry, sft, sbblky - blky, mod - v calc, grad Mrl + arg Ls	a.a.
3870	90	Clst:	a.a.	no fluor, tr slow strmg pl yel wh crsh cut fluor in Ls
	10	Ls:	lt gry, sft - crmbly, microxln, mdst, arg	
3873	No Sample			
3876	90	Clst:	lt - med gry, occ brn gry, sft - frm, blky, v calc, grad Mrl	a.a.
	10	Ls:	a.a., also brn, slily Dol	shows a.a.
3879	100	Clst:	lt - med gry, loc dk gry, sft, blky, slily - v calc grad Mrl, slty, micropyritc	a.a.
3882	No Sample			
3885	No Sample			
3888	100	Clst:	lt - med gry, sft - frm, blky, slty, carb spks, mod - v calc, grad Mrl	a.a.
3891	100	Clst:	a.a.	no fluor, tr slow strmg pl yel wh crsh cut fluor in Ls
	Tr	Ls:	lt gry, r brn, sft - crmbly, blky, microxln, mdst, slily Dol,	
3894	90	Clst:	dk gry, sft - frm, blky, slty, micropyrtc, mod calc	
	10	Ls:	lt gry - lt brn gry, sft, microxln, slily Dol	a.a.
3897	90	Clst:	lt - dk gry, pa gn, dk gn, else a.a.	
	10	Ls:	a.a.	a.a.

WELLSITE SAMPLE DESCRIPTION

Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 12 1/4 "	Geologist: J. Hopkins/D. Phillips		Date: 4.09.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
3900	80	Clst:	lt - med dk gry, occ brnsh gry, occ gn gry, sft - frm, blky, occ slty, mod - v calc, grad to Mrl i.p.	No gen fluor, occ tr slow yel wh stmng cut fluor, mod yel res fluor
	15	Mrl:	lt gry - lt gn gry, sft, amor - blky, occ grad to arg Ls	
	5	Ls:	lt gry - lt brn gry, sft, microxln, slily Dol	
3903	90	Clst:	a.a.	a.a.
	10	Mrl:	a.a.	
	Tr	Ls:	a.a.	
3906	70	Clst:	a.a.	a.a.
	30	Ls:	off wh - lt gry, sft, occ frm, microxln, slily arg - v arg, grad Mrl	
3909	80	Clst:	lt - med gry, occ med dk gry, frm, blky, mod - v calc, occ grad Mrl, tr micromic, tr micropyr	a.a.
	20	Ls:	a.a.	
3912	90	Clst:	bcm more sft, non - mod calc, else a.a.	No fluor, v wk slow strmng yel wh cut fluor
	10	Ls:	a.a.	
3915	70	Clst:	brn gry, lt gn gry - gn gry, occ gry blk, sft - frm, blky, non calc, glauc	a.a.
	30	Ls:	off wh - lt gry, lt brn, frm, blky, microxln, micr, arg	
3918	100	Clst:	brn gry, lt olv gry, gry blk - brn blk, sft, frm i.p., blky, crmbly, slty, non calc - mod calc, carb (gry blk)	No shows
	Tr	Ls		
3921	100	Clst:	dk gry - brnsh blk, sft - frm, blky, crmbly, slty, mod calc, tr micromic	No fluor, slow - occ mod stmng yel wh cut fluor, mod yel wh res fluor
	Tr	Ls:		
3924	50	Clst:	dk gry - brnsh blk, sft -frm, blky, crmbly, slty, mod calc, micromic, micropyr, carb	a.a.
	50	Ls:	pred pa yel brn, occ mod yel brn, occ off wh - lt gry, sft - frm, blky, microxln, slily arg - mod arg, occ grad Mrl, micropyr	
3927	No Sample			
3930	80	Clst/Mrl:	lt olv gry - grn gry, sft, occ frm, blky, micropyr, occ v micropyr, mod - v calc grad to Mrl, tr dk gry, mod hd, blky, slily to mod calc	No Shows
	20	Ls:	off wh - lt gry, sft - frm, blky, micr, microxln, arg	
3933	90	Clst:	lt brn gry, tr lt olv gry - gn gry, sft - frm, blky, mod calc, occ grad Mrl	a.a.
	10	Ls:	a.a.	
3936	90	Clst:	lt gry - lt olv gry, sft - frm, blky, mod calc, micromic, micropyr	a.a.
	10	Ls:	a.a.	
3939	60	Ls:	off wh - lt gry, pl brn, frm, blky, micritic, microxln, occ chalky, micropyr, occ v micropyr, slily arg - v arg, grad to Mrl	a.a.
	40	Clst:	a.a., also tr dk gry	

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WELLSITE SAMPLE DESCRIPTION			Page 23 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 12 1/4 "	Geologist: J. Hopkins/D. Phillips		Date: 4.09.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
3942	80	Ls:	off wh - lt gry, tr pl brn, frm, blky, micr, microxln, occ chlky, micropyr, occ v micropyr, slily arg - v arg, grad to Mrl	No Shows
	20	Clst:	lt gry, sft - frm, blky, mod calc, micromic, micropyr	
3945	50	Clst:	lt - med gry, pl brn, frm, blky, mod calc, tr micromic, micropyr	a.a.
	50	Ls:	a.a.	
3948	40	Clst:	a.a.	a.a.
	60	Ls:	a.a.	
3951	60	Clst:	dk brn - blk, loc dsky yel brn, sft - frm, blky, slty, carb, micromic, micropyr	a.a.
	20	Clst:	lt gry, sft - frm, blky, mod calc	
	20	Ls:	off wh - lt gry, frm, blky, micr, microxln, micropyr, arg, grad Mrl	
3954	30	Clst:	dk brn - blk, else a.a.	a.a.
	40	Clst:	lt gry, else a.a.	
	30	Ls:	a.a.	
3957	100	Clst:	dk brn gry, occ dsky yel brn gry, sft - frm, blky, slty, v carb, micromic, micropyr	a.a.
3960	100	Clst:	a.a.	yel - wh fluor, no cut fluor in Sst.
	Tr	Sst	lt gry, v f, w srt, calc cmt, micromic, micropyr	
3963	100	Clst:	dk brn gry - blk, sft - frm, blky - sbfis, carb, micromic, micropyr, non - slily calc	
3966	100	Clst:	a.a.	yel-wh fluor, fnt slow strmng pl yel wh cut, fnt pl gn yel res in Sst.
	Tr	Sst:	lt gry - silvry gry, fri, calc cmt, carb, micropyr	
3969	100	Clst:	a.a.	
	Tr	Sst:	a.a.	a.a.
3972	100	Clst:	dk brn gry, occ dsky yel brn gry, sft - frm, blky, slty, v carb, micromic, micropyr	yel-wh fluor, fnt slow strmng pa yel wh cut fnt pl gn yel res ring
	Tr	Sst:	lt gry, vf, wl srt, calc cmt, micromic, micropyr	
3975	100	Clst:	a.a.	
	Tr	Sst:	a.a.	a.a.
3978	100	Clst:	a.a.	
	Tr	Sst:	a.a.	a.a.
3981	100	Clst:	dk brn gry, occ dsky yel brn gry, sft - frm, blky, slty, v carb, micromic, micropyr	a.a.
3985	100	Clst:	a.a.	
	Tr	Sst:	lt gry - silvry gry, fri, calc cmt, carb, micropyr	yel-wh fluor, fnt slow strmng pl yel wh cut fluor, fnt pl gn yel res

TD 12 1/4" section 3985m MD/3981.4m TD.

WELLSITE SAMPLE DESCRIPTION			Page 24 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2"	Geologist: D.Phillips/O.Hunnes		Date: 11-12..09.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
3988	100	Clst:	dsky yel brn, frm, slily fri, blky, v slty, sdy i.p, gd tr of dissem & xln pyr, non calc	No shows
	Tr	Ls		
3990	100	Clst:	a.a.	No shows
	Tr	Ls, Sst/Sd		
3993	90	Clst:	a.a.	No shows
	10	Sd/Sst:	qtz, clr - trnsl, v f - slt, lse, occ crs- v crs, rnd grs	
	Tr	Ls:	off wh - lt gry, hd - frm, blky, micr	
3996	85	Clst:	a.a.	No shows, cont. w/ cmt
	15	Sst/Sd:	a.a., also slily calc cmt	
	Tr	Ls:	a.a.	
3999	100	Clst:	a.a.	a.a.
	Tr	Sst:	a.a.	
4002	85	Clst:	a.a.	
	15	Sst:	pred crs - v crs, rnd, lse qtz grs, else a.a.	
	Tr	Ls:	a.a.	
4005	100	Clst:	a.a.	
	Tr	Sst:	a.a.	
	tr	Ls:	a.a.	
4008	100	Clst:	a.a.	
	Tr	Ls, Sd/Sst, pyr		
4011	100	Clst:	a.a., v org rich i.p., tr c frag	
	Tr	Ls:	lt gry, frm, blky, micr	
	Tr	Sd/Sst:	qtz, clr - trnsl, crs - v crs, rnd - sbrndd, lse	
4014	100	Clst:	a.a.	Gd tr - 5 % of ctgs are cmt.
	Tr	Sd/Sst:	a.a.	
4017	55	Clst:	dsky yel brn - brnsh blk, frm, blky, slty, micropyr, non calc, carb,	No fluor, tr v slow - mod yel wh cut fluor
	30	Ls:	off wh - grysh brn, pa brn, frm, blky, microxln, occ xln, arg, micropyr	
	5	Sd:	clr qtz, crs - med, sbrndd, lse, mod - wl srt, tr blk stn	
	Tr	Pyr		
4020	No sample on shakers			
4023	60	Clst:	a.a.	a.a.
	40	Ls:	pl yel brn, brnsh gry, pa brn, loc v arg, else a.a.	
	Tr	Sd		
4026	50	Clst:	a.a.	a.a.
	50	Ls:	a.a.	
	Tr	Pyr		

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WELLSITE SAMPLE DESCRIPTION		Page 25 of 35
Country: Norway	Area: North Sea	Field: Alpha Structure
Well no: 34/11-3		
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP	
Hole size: 8 1/2" "	Geologist: D.Phillips/O. Hunnes/T.F. Kristiansen/P. Furmyr	Date: 12..09.96- 14.10.96

Depth (m KB)	Lith (%)		Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks Shows, cavings, mud additives, etc.
4029	80	Ls:	pred brnsh gry, occ dk yel brn, pa brn, frm, occ mod hd, blky, cryptoxln - xln, slily arg - v arg i.p.	No fluor, tr v slow - mod yel wh cut fluor
	20	Clst:	dsky yel brn - brnsh blk, frm, blky, slty, micropyr, non calc, carb,	
	Tr	Sd, Pyr		
4032	90	Clst:	pred brnsh blk, tr dsky yel brn, sft - frm, blky - amor, slily calc, carb, abd dissem micropyr, micromic, slty, loc sdy	a.a.
	10	Ls:	a.a.	
	Tr	Sd		
4035	60	Sd/Sst:	qtz, clr - tnsl, rose, crs - med, sbrndd - rndd, lse, also f - med, occ v f - slt, slily arg, occ mic, no - por vis por	Abd contam w/LCM No fluor. Slow, strng yel wh cut fluor
	40	Clst:	a.a.	
4038	70	Sd/Sst:	a.a., pred pr - non vis por	a.a.
	30	Clst:	a.a.	
4039	a.a.	Sst/Sd pred by lse rose qtz grs		(spot) a.a.
		Start coring at 4040m 09.10.96		
4041	100	Sst:	yel brn, clr - trnsl qtz, com dk brn stain, f - med, occ crs, mod - wl srt, sbrndd - rndd, fri - app lse, gd app vis por,	No fluor, gd gas shows, pr sample, contam w/ cmt. LCM and gel
4044	100	Sst:	pred med, occ crs, else a.a.	a.a.
4047	100	Sst:	a.a.	a.a.
4048	100	Sst:	a.a.	(spot) a.a.
	Tr	Clst:	brn blk - olv blk, frm - mod hd, blky, v carb, non calc	
	Tr	Coal:	blk, mod hd, brit, shny	
4050	70	Clst:	brn blk - olv blk, frm - mod hd, blky, carb, non - slily calc, occ micromic	No fluor, v pr sample, contam a.a.
	30	Sst:	pred f -med, occ wl calc cmt, else a.a.	
4053	No Sample at shakers			
4054	90	Clst:	a.a.	(spot) a.a.
	10	Sst:	a.a.	
4056	95	Clst:	med dk gry, dk gry, grysh blk, mod hd, blky - sbfis, slily calc, carb, micromic, loc v micromic	a.a.
	5	Sst:	dk yel brn, com dk brn stain, clr - trnsl qtz, f - v f, wl srt, sbang, sil cmt, tr calc cmt, fri, arg, mod vis por	
	Tr	Ls:	dk - dsky yel brn, mod hd, blky, microxln, slily arg	

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WELLSITE SAMPLE DESCRIPTION				Page 26 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: D.Phillips/P. Furmyr		Date: 14.10.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
4059	95	Clst:	med dk gry, dk gry, grysh blk, mod hd, blky - sbfis, slily calc, carb, micromic, loc v micromic	No fluor, v pr sample, contam w/ cmt, LCM gel
	5	Sst:	dk yel brn, com dk brn stain,clr - trnsl qtz, f - v f, wl srt, sbang, sil cmt, tr calc cmt, fri, arg, mod vis por	
4060.5	90	Clst:	a.a.	(B.U., spot) a.a.
	10	Sst:	a.a.	
4062	80	Clst:	pred gyrsh blk - blk, occ brnsh blk, frm, sbfis, carb - v carb, slily calc, loc micromic, grad to coal i.p.	No fluor, occ tr slily blooming dull yel cut fluor, mod yel res fluor
	15	Coal:	blk, mod hd, brit, shny	
	5	Sst:	a.a. micromic i.p.	
4065	85	Clst:	dk gry - grysh blk, tr dsky yel brn, non - slily calc, loc v mic, else a.a.	a.a.
	10	Sst:	a.a.	
	5	Coal:	a.a.	
4068	95	Clst:	a.a.	No shows pr sample
	5	Sst:	a.a.	
	Tr	Coal		
4071	90	Clst:	a.a.	a.a.
	10	Sst:	also med - occ crs, else a.a.	
	Tr	Coal:	a.a.	

4071 - 4086mMD: See core description

Depth (m KB)	Lith (%)		Lithological Description	Remarks
4086	100	Clst/Sh:	dk gry - brn gry, gry blk - blk, mod hd - hd, occ slily slty, blky - sbfis, carb - coaly i.p, (Clst: gry rd, calc blky - from mud additive)	No shows
4088	100	Clst/Sh:	a.a., also bec v carb/coaly	a.a.
4090	90	Clst/Sh:	a.a	Contam of Duratherm
	10	Coal:	blk, mod hd, brit, shny	
4093	10	Sst/Sltst:	med gry, arg, slt- v f, calc cmt/mtx, mod hd - hd	
	70	Clst/Sh:	pred a.a.	
	20	Ls:	lt olv brn, ang, hd, slty, grad Slst	
	Tr	Coal:	a.a.	
4095	50	Sst:	pred clr qtz, f - med, tr crs, wl srtd, sbrndd - sbang, fri, sil cmt	
	50	Clst/Sh:	pred a.a. (incl.incr cvg)	
4099	100	Sst:	qtz, clr - trnsl, lt brn stn, pred med - crs, occ v crs, sbrndd, lse, also f - med, arg, lt brn - trnsl, hd, sil cmt, mic, mod - gd vis por	Gd tr of metal No vis fluor, wk slow streaming - blooming cut fluor
	Tr	Clst/Sh:	dk gry - brn gry, hd, blky - splin, carb, slily sdy, non - slily calc	

WELLSITE SAMPLE DESCRIPTION			Page 27 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: O. Hunnes/Ø. Eikefet		Date: 16.11.96

Depth (m KB)	Lith (%)		Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks Shows, cavings, mud additives, etc.
4101	100	Sst:	qtz, clr - trnsl, lt brn stn, pred med - crs, occ v crs, sbrndd, lse, also f - med, arg, lt brn - trnsl, hd, sil cmt, mic, mod - gd vis por	Gd tr of metal No vis fluor, wk slow streaming - blooming cut fluor
	Tr	Clst/Sh:	dk gry - brn gry, hd, blky - splin, carb, slily sdy, non - slily calc	
4104	85	Sh:	pred a.a., slily calc, slily micropyr, hd - v hd	No shows
	15	Sst:	qtz, clr - trnsl, lt brn, arg, v f - f, sbrndd, mod - pr srt, hd, mic, v mic i.p., pr vis por	
	Tr	Ls:	dk gry, hd - v hd, blky, freq lams of Sh mat	
4107	90	Sh:	a.a.	a.a.
	10	Sd/Sst:	pred lse, clr - trnsl, v f - f, mod srt, sbrndd	
4110	100	Sh:	dk gry - brn gry - olv blk - gry blk, blky - fis - splin, non calc	a.a
	Tr	Sltst:	med gry - med dk gry, hd, arg, non calc, blky	
	Tr	Sst:	trnsl - clr qtz, lt brn, f - med, mod srt, sbrndd, sil cmt, hd, mod vis por	
	Tr	Sd:	trnsl - clr qtz, lt brn, f - med, mod srt, sbrndd, lse	
4113	100	Sh.	a.a.	a.a.
	Tr	a.a.		
4114	100	a.a.		

Also see CORE DESCRIPTION core # 10: 4095 - 4114 mMD

Depth (m KB)	Lith (%)		Lithological Description	Remarks
4116	a.a.			Spl prob. not rep. Spl. pred by Sh cvg
4119	a.a.			a.a.
4122	90	Sst:	qtz, clr - trnsl, pred med, occ v f - f, mod srt, mic, all lse	No shows
	10	Sh:	a.a.	
4125	90	Sst:	clr - trnsl qtz, med - f, occ v f (crushed?), wl srt, sbang, lse, mic, slily calc, micropyr i.p	No odour, no fluor, slw blmg bl wh cut fluor, wh spt res fluor
	10	Sh:	dk - med gry, carb, micromic, hd, blky - sbfis, non calc, non calc	
	Tr:	Coal:	blk, shny, brit, blky	
	Tr	Sst:	lt brn, trnsl, sbrndd, sil cmt, slily arg	
4127	a.a		incr coal content	
4128	90	Clst:	a.a.	a.a.
	10	Sh:	a.a.	
	Tr	a.a.		
4130	a.a.			
4133	90	Sst:	a.a.	a.a.
	10	Coal:	a.a.	
	Tr	Sh:	a.a.	

WELLSITE SAMPLE DESCRIPTION			Page 28 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: O. Hunnes/Ø. Eikefet		Date: 20.11.96

Depth (m KB)	Lith (%)		Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks Shows, cavings, mud additives, etc.
4137	100	Sst:	clr - trnsl qtz, med - f, occ v f (crushed?), wl srt, sbang, lse, mic, slily calc, micropyr i.p	No odour, no fluor, slw blmg bl wh cut fluor, wh spt res fluor
	Tr	Coal:	blk, shny, brit, blky	
	10	Sh:	dk - med gry, carb, micromic, hd, blky - sbfis, non calc, non calc	
4140	100	Sst:	a.a.	a.a.
4142	100	Sst:	a.a.	(b.u) a.a.

4142 - 4183,4mMD: See core description

Depth (m KB)	Lith (%)		Lithological Description	Remarks
4184	60	Sst:	lt brn, clr - trnsl qtz, v f - med, sbang - sbrndd, lse, sil & calc cmt	No shows
	20	Sh:	med gry - gry blk, mod hd - hd, blky - fis, non calc, occ slty, micromic occ carb, i.p. coaly, blk, brit, shny	
	20	Ls:	mlky wh - clr, occ lt brn, micr, xln, mod hd	
4187	80	Sst:	a.a.	a.a.
	10	Sh:	a.a.	
	10	Ls:	a.a.	
4190	85	Sst:	occ lt brn, clr - trnsl qtz, v f - med, pred f - med, ang - sbrndd, mod hd, pred lse, sil & calc cmt	a.a.
	10	Sh:	also med brn - brn gry, frm, else a.a.	
	5	Ls:	a.a.	
4193	a.a.			a.a.
4196	80	Sst:	a.a.	a.a.
	20	Sh:	micropyr, else a.a.	
	Tr	Ls:	a.a.	
	Tr	Pyr		
4199	70	Sst:	a.a.	a.a.
	30	Sh:	incr. med brn - brn gry, else a.a.	
	Gd tr	Ls:	a.a.	
	Gd tr	Pyr		
4202	60	Sst:	a.a.	a.a.
	30	Sh:	a.a.	
	10	Ls:	a.a.	
	Tr	Pyr		
4205	a.a.			
4208	80	Sh:	brn blk, mod hd, blky - fis, carb, also brn gry, frm, blky - mass, slily calc, occ slty i.p.	a.a., lots of metal in sample. Sample not representative.Cont. with baryte
	20	Sst:	a.a.	
	Tr	Ls, Pyr		
4211	60	Sh:	a.a.	a.a.
	40	Sst:	a.a	
	Tr	Ls		

WELLSITE SAMPLE DESCRIPTION			Page 29 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4214	80	Sh:	dk gry - gry blk, brn blk, mod hd, blky - fis, slily calc, carb, i.p. micromic, also brn gry, frm, blky - mass	No shows, lots of metal. Sample not repr. Contam of baryte.
	20	Sst:	pl brn, clr - trnsl qtz, v f - med, sbang - sbrndd, lse, sil & calc cmt occ slty i.p.	
	Tr	Ls, Pyr		
4217	a.a.			a.a.
4220	a.a.			a.a.
4223	a.a.			a.a.
4226	a.a.			a.a.
4229	a.a.			a.a. Quantity of sand is hard to define due to large amount of baryte.
4232	a.a.			a.a.
4235	a.a.			a.a.
4238	a.a.			a.a.
4241	a.a.			a.a.
4244	a.a.			a.a.
4247	a.a.			a.a.
4250	a.a.			a.a.
4253	a.a.	pred brn gry shale, v slty - sdy, occ micropyr		a.a.
4256	a.a.			
4259	a.a.	pred brn gry, v sdy i.p		a.a.
4262	30	Sst:	qtz, clr - trnsl, crs - v crs, occ med, sbang - ang, mod srt, pred lse, occ calc cmt, occ sil cmt, hd, por - no vis por	No shows
	70	Sh:	a.a., v sdy	
	Tr	Ls:	lt gry, frm - hd, blky, arg i.p.,	
	Tr:	Mic, C frags		
4265	a.a			Wk brn stn stn. Cont of barite
4268	80	Sst::	pred med, else a.a.	a.a.
	20	Sh:	a.a.	
	Gd tr	Ls:	lt gry - off wh, hd, lam i.p., mass i.p., slily arg i.p.	

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WELLSITE SAMPLE DESCRIPTION				Page 30 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4271	70	Sst:	qtz, clr - trnsl, pred f - med, occ crs, sbang - ang, mod srt, pred lse, occ calc cmt, occ sil cmt, hd, por - no vis por	No shows. Cont. of baryte
	30	Sh:	pred brn blk, hd, fis, slily slty/sdy, v micropyr i.p	
	Tr	Ls:	lt gry - off wh, mass, frm, frm - mod hd, slily arg i.p.,	
	Tr:	Mic, C frags		
4274	70	Sst:	a.a.	a.a.
	30	Sh:	a.a.	
	Gd tr	Ls:	a.a.	
	Tr:	Mic, C frags, Pyr		
4277	70	Sst:	a.a.	a.a.
	25	Sh:	a.a.	
	5	Ls:	a.a.	
	Tr:	Mic, C frags		
4280	75	Sst:	f - med, pred med, occ crs, mod - wl srt, else a.a.	a.a.
	20	Sh:	also olv blk, else a.a.	
	5	Ls:	a.a.	
	Tr:	Mic. Pyr		
4283	a.a.			a.a.
4286	70	Sst:	a.a.	a.a.
	20	Sh:	occ gry blk - blk, carb, else a.a.	
	10	Ls:	a.a.	
	Tr	Mic		
4289	75	Sst:	a.a.	a.a.
	20	Sh:	a.a.	
	5	Ls:	a.a.	
4292	70	Sst:	a.a.	a.a.
	30	Sh:	a.a.	
	Tr	Ls, Mic, Pyr, Carb		
4295	a.a.			a.a.
4298	a.a.			a.a.
4301	a.a.			a.a.
4304	a.a.			a.a.
4307	a.a.			a.a.
4310	50	Sst:	a.a.	a.a.
	50	Sh:	gry blk - brn blk, blky - sbfis, hd, micropyr, non calc	
	Tr	Ls, Mic		
4313	a.a.			a.a.

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WELLSITE SAMPLE DESCRIPTION				Page 31 of 35
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
4316	60	Sh:	gry blk - brn blk, blky - sbfis, hd, micropyr, non calc	
	40	Sst:	clr - trnsl qtz, v f - med, occ crs, sbang - ang, mod srt, pred lse, occ calc cmt, occ sil cmt, mod hd - hd, por - no vis por	No shows. Cont. of baryte
	Tr	Ls:	lt gry - off wh, mass, frm, frm - mod hd, slily arg lam i.p.	
	Tr	Mic		
4319	60	Sh:	tr of coaly Sh, else a.a.	
	40	Sst:	a.a.	a.a.
	Gd tr	Ls:	a.a.	
4322	a.a.			a.a.
4325	70	Sh:	tr of coaly Sh, else a.a.	
	30	Sst:	a.a.	a.a.
	Tr	Ls, Mic		
4328	100	Sh:	brn blk, hd, fis, slily slty, occ micropyr, carb, non calc	a.a., lss cont. of baryte
	Tr	Ls, Sst		
4331	Not sampled			
4334	a.a.			
4337	a.a.			
4340	a.a.			
4343	a.a.			
4346	100	Sh:	a.a., v micropyr i.p.	a.a.
	Tr	Sst:	lt gry, frm, v f - slt, slily arg, rr C frags, mod calc cmt	
	Tr	Ls:	a.a.	
4349	a.a.			
4352	100	Sh:	a.a.	a.a.
	Tr:	Sst:	a.a., also lse Sd grs	
	Tr	Ls:	a.a.	
4355	95	Sh:	a.a.	a.a.
	5	Sltst:	lt gry, frm, brit, v sdy, mass, slily arg, non calc	
4359	a.a.			
4361	85	Sh:	a.a.	a.a.
	15	Sst:	lt gry, v f - slt, occ f, pr srt, frm, brit, mod - wl cmt, grad to sdy Ls	
	Tr	Pyr		
4364	a.a.			a.a.

WELLSITE SAMPLE DESCRIPTION			
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4367	90	Sh:	brn blk, hd, fis, slily slty, occ micropyr, carb, non calc	
	10	Sltst:	lt gry - brnsh gry, frm, brit, v sdy, mass, slily arg, calc, occ non calc, micromic	
	Tr	Sst:	lt gry, v f - slt, occ f, pr srt, frm, brit, mod - wl cmt, grad to sdy Ls	No Shows
4370	90	Sh:	a.a.	
	10	Sltst:	a.a.	
	Tr	Sd:	a.a.	No shows.
	Tr	Ls:	mlky wh - off wh, micr, mod hd	Cont. of baryte
	Tr	Pyr		
4373	a.a.			a.a.
4376	80	Sh:	a.a.	
	15	Sltst:	a.a., also occ lt brn, arg, slily calc, micromic	
	5	Sst:	a.a.	No shows.
4379	a.a.			a.a.
4382	a.a.			a.a.
4385	80	Sh:	a.a.	
	20	Sst:	off wh, clr - trnsl qtz, v f - f, sil cmt, slily calc cmt, mod hd, mod srt	a.a.
	Tr	Ls:	lt gry, arg & arg lam, frm, i.p. sdy/slty	
4388	90	Sh:	a.a.	
	10	Sst:	a.a.	a.a.
	Tr	Ls:	a.a.	
4391	70	Sh:	a.a.	
	30	Sst:	a.a.	a.a.
	Tr	Ls, Pyr		
4394	a.a.			a.a.
4397	a.a.			a.a.
4400	Not sampled			
4403	90	Sh:	a.a., ptly burnt ctgs	a.a.
	10	Sst:	a.a.	
	Tr	Sltst, Pyr, Ls		
4406	a.a.	Ls v sdy i.p		
4409-4415	50	Sh:	a.a.	a.a.
	30	Sltst:	a.a.	
	10	Ls:	a.a.	
	10	Sst:	a..a	

WELLSITE SAMPLE DESCRIPTION			Page 33 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
4418	95	Sh:	brn blk - gry blk, hd, fis, slily slty, occ micropyr, carb, non calc, , ptly burnt ctgs	
	5	Sst:	off wh, clr - trnsl qtz, v f - f, sil cmt, slily calc cmt, mod hd, mod srt	No shows, cont. of
	Tr	Ls:	lt gry, arg & arg lam, frm, i.p. sdy/slty	Baryte
	Tr	Pyr		
4421	a.a.			a.a.
4424	a.a.			a.a.
4427	a.a.			a.a.
4430	85	Sh:	a.a.	
	10	Sst:	clr - trnsl qtz, v f - f, mod srt, ang - sbang, calc cmt, slily sil cmt, frm - mod hd, occ micropyr	a.a.
	5	Ls:	a.a.	
4432	100	Ls:	wh - off wh, occ xln grs, slily arg & arg lam, occ sdy, v f - f, sbang	Spot, no shows
	Gd tr	Sh:	a.a.	
4433	40	Ls:	a.a.	No shows, cont. of
	50	Sh:	a.a.	Baryte incr.
	10	Sst:	a.a.	
4436	40	Sh:	a.a.	
	40	Ls:	a.a.	
	20	Sst:	clr - med gry, else a.a.	a.a.
4439	60	Ls:	a.a.	
	20	Sh:	a.a.	
	20	Sst:	v f- f, slily calc, sil cmt, occ mic, else a.a.	a.a.
4442	50	Sh:	a.a.	
	30	Ls:	occ slty, else a.a.	
	20	Sst:	a.a.	a.a.
	Tr	Sltst:	med dk gry, mod hd - hd, sdy, v f, blky - mass, non calc, occ lam with calc cmt Sd, v f	
4445	60	Sh:	dk gry - brn blk, hd, blky, non calc, occ micro pyr, occ mod brn, slty, micromic	a.a.
	20	Sst:	a.a.	
	15	Ls:	a.a.	
	5	Sltst:	a.a.	
4448	a.a.			a.a.
4451	60	Sst:	clr- trnsp qtz, occ mlky wh, v f - crs, pr srt, sbang - sbrndd, lse	a.a.
	40	Sh:	dk gry - gry blk, else a.a.	
	Tr	Ls:	a.a.	
4454	70	Sst:	pred f - med, occ crs - v crs, mod srt, else a.a.	a.a.
	30	Sh:	a.a.	
	Gd tr	Ls:	off wh - lt brn, micr, blky, occ a.a.	

WELLSITE SAMPLE DESCRIPTION			Page 34 of 35
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: J. Basset/ O. Hunnes		Date: 24.11.96

Depth (m KB)	Lith (%)		Lithological Description Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks Shows, cavings, mud additives, etc.
4457	95	Sst:	clr- trnsp qtz, occ mlky wh, pred f - med, occ crs - v crs, mod srt, sbang - sbrndd, lse	No shows
	5	Sh:	dk gry - gry blk, hd, blky, non calc, occ micro pyr, occ mod brn, slty, micromic	
	Tr	Ls:	off wh - lt brn, micr, blky	
4460	95	Sst:	a.a.	a.a.
	5	Sh:	a.a.	
	Tr	C:	blk, brit	
4463	50	Sst:	a.a.	a.a.
	30	Sh:	pred pl yel brn - med gry, sft, occ hd, else a.a.	
	20	C:	blk, brit, shny	
	Tr	Ls:	a.a.	
4466	55	Sltst:	med gry - lt gry, blky - mass, mod hd, slily calc	a.a.
	40	Sh:	a.a.	
	5	Ls:	a.a.	
	Tr	Pyr, Sd		
4469	60	Sltst:	med gry - lt gry, frm, slily sdy, non calc	a.a.
	40	Sh:	pa yel brn, med gry, olv gry, frm - mod hd, blky - fis, ea txt	
	Tr	Ls, Sd		
4475	not sampled			
4478	60	Sst:	qtz, clr - trnsl, med - crs, occ v crs - grav, sbang - ang, pred lse, occ hd, sil cmt, slily arg,	Sl tr of dk brn stn, else no shows
	20	Coal:	blk, shny, hd	
	20	Sh:	a.a.	
4480 (BU)	85	Sst:	a.a.	a.a.
	10	Sh		
	5	Coal:	a.a., v arg i.p grad to carb Sh	

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WELLSITE SAMPLE DESCRIPTION

Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3T2			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: D.Phillips		Date: 16-17.12.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4010	100	Cement		
4011,5	30	Clst:	dsky yel brn, frm, slily fri, blky, v slty, sdy i.p, gd tr of dissem & xln pyr, non calc	No shows
	30	Ls	off wh - lt gry, hd - frm, blky, micr	
	40	Cement		
4013	60	Clst:	a.a.	No shows
	20	Ls:	a.a.	
	20	Cement		
4017	45	Clst:	a.a.	No shows
	20	Ls:	a.a.	
	30	Cement		
	5	Sst:	lse, clr - trnsl qtz grns, crs - med, occ fn, sbrnd, mod srt	
4023	a.a.			a.a.
4028	50	Ls:	pred brnsh gry, occ dk yel brn, pa brn, frm, occ mod hd, blky, cryptoxln - xln, slily arg - v arg	a.a.
	35	Clst:	dsky yel brn - brnsh blk, frm, bllky, slty, micropyr, non calc, carb	
	15	Cement		
	Gd Tr	Sst:	a.a.	
4031	80	Clst:	a.a.	a.a.
	10	Ls:	a.a.	
	10	Cement		
	Tr	Sd		
4035	No sample			
4038	60	Sst:	pred lse, clr - trnsl qtz grns, tr rose qtz, lt brn, com dk brn stn, f - crs, tr v crs, sbrnd - rnd, pr srt, fri, wk calc cmt	No dir flu, tr wk dull yel csh cut from SST Abd LCM - mica
	20	Ls:	off wh - lt gry, frm, blky, micrtic, arg	
	20	Clst:	a.a.	
4041	60	Sst	clr - trnsl qtz, yel brn, com brn stn, vf - f, mod srt, tr med - v crs, sbrndd, fri, tr calc cmt, arg i.p., mica	a.a.
	20	Clst:	a.a.	
	20	Ls:	a.a.	
4047	100	Sst:	pred lse, clr - trnsl, f - med, wl srt, sbang - sbrndd, tr lt brn stn on grns, tr wk cacl cmt	a.a
4053	100	Sst:	pred lse a.a, also yel brn cmt sst, f - med, mod - wl srt, sbang - sbrnd, tr wk calc cmt, tr sil cmt, frm, fri, arg, mica, fr - mod vis	No dir flu, occ tr sl blmng mod yel wh cut flu, mod yel res flu
	Tr	Clst:	gry blk - brn blk, mod hd, sbfis, non - slily calc, carb i.p.	
4056	90	Sst:	a.a.	a.a.
	10	Clst:	a.a.	

WELLSITE SAMPLE DESCRIPTION				Page 2 of 5
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3T2				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: D.Phillips		Date: 17.12.96

Depth (m KB)	Lith (%)		Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination	Remarks: Shows, cavings, mud additives, etc.
4059	100	Sst:	clr -trnsl qtz, yel brn , f - med, mod - wl srt, sbang - sbrnd, tr wk calc cmt, tr sil cmt, frm, fri, arg, mica, fr - mod vis por	No dir flu, occ tr sl blmng mod yel wh cut flu, mod yel resflu Poor returns
	Tr	Clst:	gry blk - brn blk, med dk gry, mod hd, sbfis, slily calc, carb i.p. micromica,	
4062	60	Sst:	a.a.	a.a.
	40	Clst:	grysh blk - brnsh blk, blk, occ dsky yel brn, frm - mod hd, blky - sbfiss slily calc, micromica, occ slily slty, tr micropyr, tr carb	
	Gd Tr	Coal	blk, mod hd, brit , vit	
4065	60	Sst:	f - med, pred cmtd, else a.a.	flu a.a.
	35	Clst:	a.a.	Poor Returns
	5	Coal:	a.a.	
4068	70	Sst:	a.a. more lse grns	a.a.
	25	Clst:	a.a.	
	5	Coal:	a.a.	
4071	70	Sst:	pred lse, f - med, tr crs	No shows
	20	Clst:	a.a.	Poor Returns
	10	Caol:	a.a.	
4074	50	Clst:	blk, occ grysh blk, occ med gry mod hd, brit i.p., blky, occ sbfiss, non calc, carb, partially bit generated texture?	No shows
	45	Sst:	pred clr -trnsl lse qtz grns, f - med, wl srt, sbrndd, tr sil cmt, else a.a.	
	5	Coal:	a.a.	
4080	75	Sst:	yel brn - brn gry, vf - f, occ med, mod srt, sbrndd - sbang, sil cmt, tr wk calc cmt, mica, slily arg i.p.	a.a.
	20	Clst:	a.a.	
	5	Ls:	off wh, fm - mod hd, blky, microxln	
4083	75	Sst:	a.a.	a.a.
	20	Clst:	occ brnsh blk, else a.a.	
	5	Ls:	a.a.	
4086	50	Clst:	blk - grysh blk, brnsh blk (partially bit generated texture?)	a.a.
	50	Sst:	a.a.	
	Tr	Ls:	a.a.	
4089	60	Clst:	a.a.	a.a.
	40	Sst:	a.a.	
	Tr	Ls:	a.a.	
4092	90	Sst:	lse clr - trnsl qtz grns, com brn stng on grns, f - med, mod srt, sbang - sbrndd,	a.a.
	10	Clst:	a.a.	
4095	100	Sst:	pred lse, a.a., also lt brn, frm, fri, sil cmt, tr calc cmt	No dir flu, tr v sl Strmng - blmng yel wh flu
4098	100	Sst:	lse, pred med, occ crs and f, else a.a.	No shows

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WELLSITE SAMPLE DESCRIPTION			Page 3 of 5
Country: Norway	Area: North Sea		Field: Alpha Structure
Well no: 34/11-3T2			
K.B.E.: 25 metres	Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "	Geologist: D.Phillips		Date: 17.12.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4101	100	Sst:	clr -trnsl qtz grns, lt brn , f - med, tr crs, mod - wl srt, sbang - sbrnd, tr wk calc cmt, tr sil cmt, frm, fri, arg, mica, fr vis por	No dir flu, occ tr v sl blmng yel cut flu, mod yel res flu
4107	100	Sst:	a.a.	a.a.
4113	90	Sst:	a.a.	a.a., also v sl blmng yel wh cut from Clst with yel wh res flu
	10	Clst:	brnsh blk - blk, mod hd, blky -sbfiss, non calc, carb	
4116	60	Clst:	dk gry - blk, tr micromica, else a.a	a.a.
	40	Sst:	a.a.	
4119	50	Clst:	a.a.	a.a.
	50	Sst:	a.a.	
4122	95	Sst:	pred lse clr - trnsl qtz grns, f - med, mod - w srt, sbrnd - sbang, else a.a.	a.a.
	5	Clst:	a.a.	
4125	a.a.			a.a.
4128	90	Clst:	dk gry - grysh blk- blk, occ brnsh blk, frm - mod hd, occ brit, blky, occ sbfiss, non calc, carb, loc gdng to Coal	No dir flu, modblmng bl wh cut, wh res flu (bit gen texture?)
	10	Sst:	a.a.	
	Tr	Coal		
4131	90	Clst:	a.a.	a.a.
	5	Sst:	a.a.	
	5	Coal:	blk, brit, vit, conch frac	
	Tr	Pyr		
4134	50	Clst:	a.a.	a.a.
	50	Sst:	clr - trnsl qtz grns, f - med, mod - w srt, sbrndd, pred lse, wk calc cmt, fri, mica, tr micropyr i.p.	
4137	90	Clst:	dk gry - grysh blk, else a.a.	a.a.
	10	Sst:	a.a.	
4140	40	Sst:	gen a.a., pred lse, pred fn, occ med and v f , w srt	no dir flu, wk slstmng bl wh cut flu, wh res flu
	60	Clst:	a.a.	
4143	80	Sst:	pred lse, clr - trnsl qtz grns, lt brn, v f - med, occ crs, mod -pr srt sbrndd - sbang, mod hd, sil cmt, tr wk calc cmt, occ arg, mica	a.a.
	20	Clst:	a.a.	
4146	100	Sst:	all lse grns, else a.a.	No shows
	Tr	Clst:	a.a.	
4152	a.a.			a.a.
4155	100	Sst:	pred crs - f, tr v crs, pr srt, lse, else a.a.	a.a.
	Tr	Clst:	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION				
Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3T2				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: D.Phillips		Date: 17.12.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4158	100	Sst:	pred lse, clr - trnsl qtz grns, lt brn, f - med, mod srt, sbrndd - sbang mod hd, sil cmt, tr wk calc cmt, occ arg, mica	No Shows
4161	100	Sst:	lse, pred f, occ v f, occ med, w srt, else a.a.	a.a.
4170	100	Sst:	pred cmtd, lt br, pred f, occ v f, occ med, w srt, sbang - sbrnd, mod hd, sil cmt, tr calc cmt, loc mic	No dir flu, sl blmng yel wh cut flu, mod wh res flu
	Tr	Clst		
4173	90	Sst:	lse, pred fn, else a.a.	No show
	10	Ls:	wh, occ lt gry, frm - mod hd, blky, microxln, occ xln	
4176	85	Sst:	a.a., tr crs	No Show
	15	Ls:	a.a.	
4182	50	Sst:	pred lse, clr -trnsl qtz grns, lt brn, v f - f, occ med, w - mod srt, mod hd sil cmt, brn stn	No Show
	50	Clst:	dk gry - grysh blk- blk, occ brnsh blk, frm - mod hd, occ brit, blky, occ sbfiss, non calc, carb	
4185	95	Sst:	Lt brn, v f - f, w srt, sbang, mod hd - hd, sil cmt, tr calc cmt, slily arg mica	No dir flu, tr sl stmng yel wh cut flu, mod wh res flu
	5	Clst:	a.a.	
4188	100	Sst:	lse, v f - med, mod srt, else a.a.	a.a.
	Tr	Clst		
4191	100	Sst:	pred lse, f - med, mod srt, sbrnd, occ sbang, else a.a.	No Shows
	Tr	Clst, Ls		
4194	100	Sst:	lse clr -trnsl qtz grns, lt brn, f - m, mod srt, mod hd, sil cmt, tr calc cmt, mica	No dir flu, tr sl stmng yel wh cut flu, mod
	Tr	Ls:	off wh - lt gry, micr, xln, mod hd, blky	
4197	95	Sst:	a.a.	a.a.
	5	Ls:	a.a.	
	Tr	Clst:		
4200	70	Sst,	lse. else a.a.	No Shows
	30	Clst:	brnsh blk - blk, blky, occ sbfis, mod hd, slily calc, micromica	
	Tr	Ls		
4203	90	Sst:	a.a.	No Shows, abn baryte contam
	10	Clst:	a.a.	
4206	60	Sst:	a.a.	a.a.
	40	Clst:	a.a.	

STATOIL

WELLSITE SAMPLE DESCRIPTION

Country: Norway		Area: North Sea		Field: Alpha Structure
Well no: 34/11-3T2				
K.B.E.: 25 metres		Company: PL 193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2" "		Geologist: D.Phillips		Date: 17.12.96

Depth (m KB)	Lith (%)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
4212	80	Sst:	lse clr -trnsl qtz grns, brn stn, f - m, occ v f, mod srt, sbrnd - sbang	No shows, abn baryte contam, poor returns
	20	Clst:	brnsh blk - blk, blky, occ sbfis, mod hd, slily calc, micromica	
4215	a.a.			a.a.
4221	a.a.			a.a.
4224	a.a.			a.a.
4270	a.a.			a.a.
4230	a.a.			a.a.

TD sidetrack 34/11-3T2 4230m MD / 4226.0m TVD

APPENDIX II

Sidewall Core Description

STATOIL

SIDEWALL CORE DESCRIPTION						Page 1 of 2
Country: Norway		Area: North Sea			Field: Alpha structure	
Well no: 34/11-3T2						
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP				
Hole size: 8 1/2 "		Geologist: D. Phillips			Date: 26.12.96	

Depth (m KB)	Rec (mm)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.
				Acetone solvent used in show description
1 4209.0	Lost			
2 4204.0	Lost			
3 4200.0	Lost			
4 4199.0	Lost			
5 4198.0	Lost			
6 4197.0	Lost			
7 4196.0	Lost			
8 4195.0	Lost			
9 4194.0	Lost			
10 4193.0	Lost			
11 4192.0	17	Sst:	lt gry - lt brnsh gry, clr - trnsl qtz grns, f - v f, sbang, wl srt, mod calc cmt, occ tr brn stn on grns, fri, sft, tr carb frags, mod - gd vis por	No dir fluor, trs slow blmng mlky wh cut fluor, mod wh res fluor
12 4191.0	17	Sst:	lt brnsh gry, clr -trnsl qtz grns, lt brn stn on grns, v fn, sbang, wl srt, abd calc cmt, sft, fri, mica, loc grad to sltst, mod vis por	No dir fluor, slow to mod blmng mlky wh cut fluor, brt yel res fluor ring
13 4190.0	20	Sst:	lt brnsh gry, clr -trnsl qtz grns, lt brn stn on grns, v f, occ f, sbang, w srt, wk calc cmt, sft, fri, mica, mod vis por	a.a.
14 4188.0	Lost			
15 4187.0	Lost			
16 4125.5	15	Sst:	lt brnsh gry - brnsh gry, clr -trnsl qtz grns, trs brn oil stn, crs - f, ang - sbang, pr srt, sil cmt, occ brn arg mtrx, frm, fri, tr carb frags, mod vis por, thin carbonaceous lams 1-2mm	Trs mod yel fluor, fast blmng bl wh cut fluor mod wh res fluor
17 4124.5	15	Sst:	lt brnsh gry - brnsh gry, clr -trnsl qtz grns, trs brn oil stn, f - v f, ang - sbang, wl srt, sil cmt, trs wk calc cmt, frm, fri, mica, brn arg mtrx, mod vis por	No dir fluor, mod - fast blmng dull yel fluor, mod wh res ring fluor

STATOIL

SIDEWALL CORE DESCRIPTION				Page 2 of 2
Country: Norway		Area: North Sea		Field: Alpha structure
Well no: 34/11-3T2				
K.B.E.: 25 metres		Company: PL193: Statoil, Norsk Hydro, BP		
Hole size: 8 1/2 "		Geologist: D. Phillips		Date: 26.12.96
Depth (m KB)	Rec (mm)	Lithological Description: Rock name, mod.lith, colour, grain size, sorting, roundness, matrix, cementation, hardness, sed.structures, accessories, fossils, porosity, contamination		Remarks: Shows, cavings, mud additives, etc.

18 4093.0	17	Sst:	brnsh gry, brn stn on grns, clr -trnsl qtz grns, pred v f, occ f, sbang, ang, w srt, wk sil cmt, occ tr wk calc cmt, sft, fri, brn arg mtrx i.p., occ tr carb frags, occ tr mica, mod - gd vis por	occ tr mod yel fluor, inst - fast mlky wh cut fluor, bri wh res ring fluor
19 4090.0	Lost			
20 4040.0	18	Sltst:	brnsh gry, frm, blky, slily calc, mica - v mica, carbon i.p., occ tr v f lams	No dir flu, mod Sst strmng mlky wh cut fluor, brt yel res ring fluor
21 4038.0	23	Sst:	brnsh gry, brn stn on grns, clr -trnsl qtz grns, pred v f, occ tr f, sbang, wl srt, tr wk calc cmt, sft, fri, brn arg mtrx i.p., mica, tr carb mat, loc grad to Sltst	No dir fluor, tr fluor, slow strmng wh fluor wk wh res ring fluor
22 4034.0	Lost			
23 4024.0	25	Clyst:	brnsh blk - grysh blk, frm, blky, mod calc, micromica, micropyr, slty i.p.	No dir fluor, slow strmng wk mlky wh fluor, wk wh res ring fluor
24 4013.0	Lost			
25 4008.5	Lost			

Note 4 gram charge used, also no correct size extraction tool available at rigsite.

APPENDIX III

Conventional Core Description

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Lista Sand	
Core no: 1	**Interval:** 2027 - 2054	**Cored:** 27.0m **Rec:** 8.62m 32%
Core size: 3 1/2"	**Geologists:** D. Phillips / J. Robinson	**Date:** 12.08.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	Shows: FLUOR	Shows: CUT	Φ: POOR	Φ: FAIR	Φ: GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
2027									**CLST:** med dk gry, frm, subfiss, non calc, micropyr, trs micromica	No shows
2028									**CLST:** med dk gry with dk gry lams, firm, blky - subfiss i.p., non calc, slily micromica	No shows
2029				X	X	X			**CLST with SST LAMS (2-3mm)** **CLST** med - med dk gry, frm, subfiss, v slily calc, micromica, tr micropyr **SST:** v lt gry, v f, trs f, wl srt, sbrndd to sbang, wk sil cmt, fri, arg mtx, tr mica, pr vis por, grad to sltst i.p.	In SST, No stain, mod - dull yel flu, v sl blmng yel wh cut flu, mod - bri yel wh residue
2030									**CLST:** a.a., micromica, micropyr	No shows
2031				X	X	X			**SST:** lt gry, v f - f, wl srt, sbang - sbrndd, fri, wk calc cmt, arg - v arg mtx, mica, tr micropyr	No stain, Patchy v wk dull yel flu, occ v sl blmng wk yel wh cut flu, mod yel wh residue flu
2032					X				**CLST:** brnsh gry - med dk gry, frm, subfiss, non - v slily calc, micromica, micropyr, tr carb mat	No flu, v sl wk dull yel wh cut flu, after a few mins, with a wk yel wh residue flu,
2033					X				**CLST:** med dk gry, frm, subfiss, v slily calc, tr micropyr, tr micromica	As above
2034					X				**CLST/SLST:** med gry, frm, subfiss, slily calc, micromica, v micromica i.p., loc slty lams, tr carb mat, tr v f 1 mm sdy lams a.a, trs micropyr	As above
2035					X				**CLST:** a.a., tr v f sst lams, with wk calc cmt, else a.a.	As above
2035.62									Sample poor (ground up) **CLST**:a.a. **LS:** med gry - brnsh gry, hd - v hd, microxln, arg - loc v arg	No shows
2054	NO CORE RECOVERED FROM 2035.62m TO 2054M									

cly slt vf f m c vc

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Tarbert Formation	
Core no: 2	**Interval:** 4040 - 4048.5	**Cored:** 8.5m **Rec:** 8.3m 98.2%
Core size: 4"	**Geologists:** D. Phillips / P. Furmyr	**Date:** 11.10.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	Shows: FLUOR	Shows: CUT	Φ: POOR	Φ: FAIR	Φ: GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4040	cement								**4040m CEMENT:** red/brn due to additive micromax a weighting material	
4042										
4044										
4046										In CLST, No flu, v wk sl srmng dull yel wh cut flu, mod yel wh residue flu
4048	m c								**4048.10m CLST:** grysh blk, occ dk gry, mod hd, subfiss, slily calc, micromica, occ v micromica, carb, occ loc slty	In COAL, No flu, instant mod - brt mlky wh cut flu, mod wh residue flu
	4048.35m bottom of core								**4048.35m COAL:** blk, frm, brit, conch frac, vit, occ grad to carb clst, a.a.	
4050										

Core not processed at rigsite.
Core descriptions based on only a few samples taken at the rigsite. A detailed description will follow after the core is processed in town at a later date.

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 3	**Interval:** 4048.5 - 4054m	**Cored:** 5.5m **Rec:** 2.36m 43%
Core size: 4"	**Geologists:** D. Phillips / P. Furmyr	**Date:** 13.10.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows (Stain / Fluor / Cut)	Φ (Poor / Fair / Good)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4048 – 4048.5 – 4050	c. m.		Cut	Fair	**4048.5m SANDSTONE with thin Carb CLAYSTONE Lams:** **SST:** dk yel brn, clr -transl qtz grns, com dk brn stain, v f - f, wl srt, sbang - ang,argill, wk calc cmt, also sil cmt, mod hd, fri, micaceous, pr - mod por **CLST:** gry blk, occ brn blk, mod hd, subfiss, v micromica in pts, carbonaceous, non - v slily calc	No flu, v wk sl strmng mlky wh cut flu, mod yel wh residue flu
4050 – 4052 – 4054	c m No core recovered 4050.86 - 4054m		Cut	Fair	**4050.86m SANDSTONE with occ thin carb clst lams:** **SST:** gen a.a. more fri, mod vis por, loc v micaceous **CLST:** a.a. **Core not processed at rigsite** Core descriptions based on only a few samples taken at the rigsite. A detailed description will follow after the core is processed in town at a later date.	No flu, a.a.

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 4	**Interval:** 4054 - 4060.7m	**Cored:** 6.7m **Rec:** 6.7m 100%
Core size: 4"	**Geologists:** D. Phillips / P. Furmyr	**Date:** 15.10.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	FLUOR	CUT	Φ: POOR	FAIR	GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4054	m m								**4054m CLAYSTONE** **CLST:** brnsh blk - brnsh gry, frm - mod hd, subfiss, v micromica , with micromicaceous laminations, v slily calc, loc slty	No flu, occ slow blooming dull yel wh cut flu, dull yel residue flu
4056										
4058										
4060										
4060.70	m								**4060.7m CLAYSTONE** **CLST:** med dk gry, frm - mod hd, subfiss, micromica, slily calc	No flu, a.a.

Core not processed at rigsite

Core descriptions based on only a few samples taken at the rigsite. A detailed description will follow after the core is processed in town at a later date.

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 5	**Interval:** 4060.5 - 4071.5m	**Cored:** 11.0m **Rec:** 11.8m 100%
Core size: 3.5"	**Geologists:** D. Phillips / P. Furmyr	**Date:** 17.10.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows: Stain	Fluor	Cut	Φ: Poor	Fair	Good	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4060.50									**4060.5m CLAYSTONE** CLST: dsky yel brn, mod hd, sbfis, v micromica , carb, v slty, v sli calc	Gas odour No flu, occ slow blooming dull yel wh cut flu, dull yel residue flu
4062 / 4062.20									**4062.2m CLAYSTONE W/LAM OF COAL** CLST: brn blk, mod hd, sbfis, v carb, extr mic, slty, v slily calc COAL: blk, shny, brit	
4064										
4066										
4068										
4070										
4072 / 4072.30									**4072.3m CLAYSTONE** CLST: brn gry, frm, blky, sli micromic , sli carb, v sli calc	a.a.

Core not processed at rigsite

Core descriptions based on only a few samples taken at the rigsite. A detailed description will follow after the core is processed in town at a later date.

Note

Due to expansion of gel inside the barrel, the actual lengths of the cores are uncertain, consequently driller's depths are used as depth references. This may cause apparent overlap from one core to the next.

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 6	**Interval:** 4071.5 - 4073.5	**Cored:** 2.0m **Rec:** 1.2m 60.0%
Core size: 4"	**Geologists:** O.Beyer/Ø.Eikefet	**Date:** 07-08.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	Shows: FLUOR	Shows: CUT	Φ: POOR	Φ: FAIR	Φ: GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4071.5									**CLST:** med dk gry, modhd, subfiss, non calc, mod - v slty, trs micromica	No shows
4072									**CLST:** med dk gry with dk gry lams, firm-mod hd, blky - subfiss i.p., non calc, mod slty, slily micromica	No shows
4073			|	|	|				**CLST with SLST lams (1-3cm)** **CLST:** med - med dk gry, frm, subfiss, v slily calc, micromica, tr micropyr **SLST:** v lt gry, trs vf sd, abun muscmica, gen as flazer bds	In SLST: No stain, No flu, v sl blmng wk yel cut flu, no residue
4074										

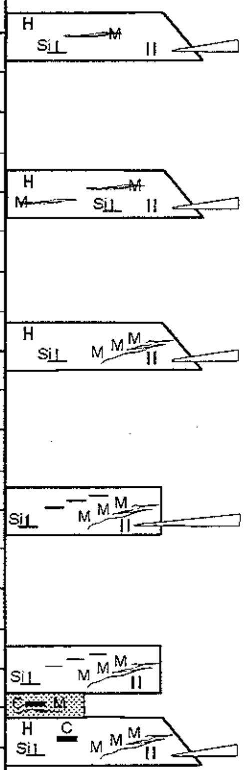
cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness	
Core no: 7	**Interval:** 4073.5 - 4078.5 m	**Cored:** 4.5m **Rec:** 4.8m 96%
Core size: 4"	**Geologists:** Beyer / Eikefet	**Date:** 10.10.96



Bottom of Core#7: 4078.3mMD

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows: STAIN	Shows: FLUOR	Shows: CUT	Φ: POOR	Φ: FAIR	Φ: GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4073.5										
4074						▮			**SST:** brn yel - lt brn yel - brn gry, trnsp-trnsl qtz, vf - f, occ grdg to m, mod srtd, sbang -sbrnd, occ ang, occ sl calc cmt, hd, si cmt, mica laminae, occ v mica, sl arg	No Shows
4075					▮	▮			**SST:** pred a/a, bec mica,slty	No dir flor, fst - slw bl wh mlky blmg cut flor, bl wh yel residue flor
4076					▮	▮			**SST:** pred v mica,else a.a.	
4077									**SST:** olv gry,trnsp - trnsl qtz,v arg mtx, pred vf, minor slt - med, mod - w srtd, sbang - sbrnd, hd, si cmt, mica laminae, occ v mica	No shows
4078					▮	▮			**SST:** m-dk gry, arg/slty mtx,trnsp-trnsl qtz, pred vf, bec vf - f, minor slt - med, mod - w srtd, sbang - sbrnd, hd, si cmt, mica laminae, occ v mica	No dir flor, slw - fst bl wh mlky blmg cut flor, bl wh yel wh residue flor
4079										

cly slt vf f m c vc

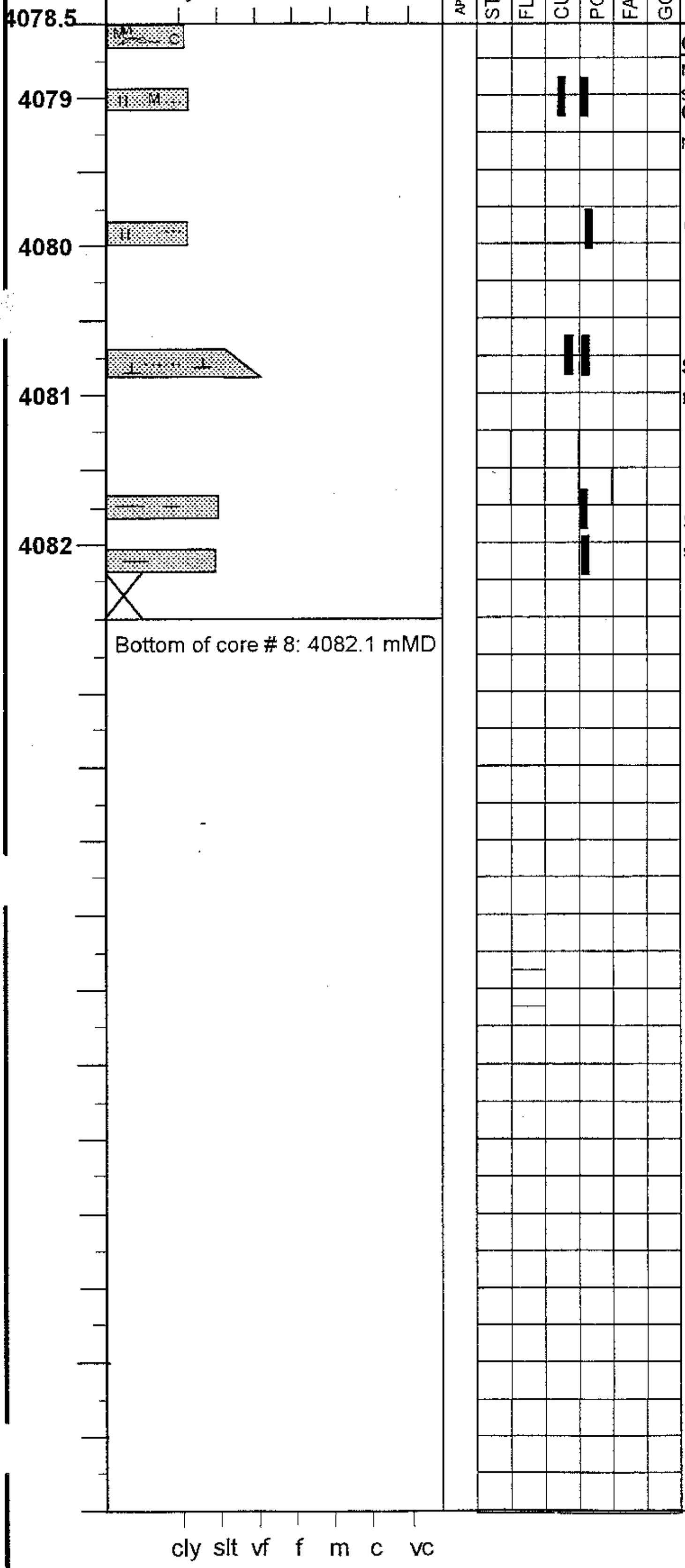
PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness	
Core no: 8	**Interval:** 4078.5 - 4082.0 m	**Cored:** 3.5m **Rec:** 3.6m 100%
Core size: 4"	**Geologists:** Beyer / Eikefet	**Date:** 11.11.96

Depth (mRKB) | Lithology/Grain size: cly slt vf f m c vc | APPARENT DIP | Shows: STAIN FLUOR CUT | Φ: POOR FAIR GOOD



Depth (mRKB)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4078.5–4079	**CLST:** dk gry, lams med gry, sbfis, md hd, non calc, micromic, carb, sdy, grdg sst i/p, slty **CLST:** dk gry - grysh blk, blky - fiss, md hd non calc, slily slty	No dir fluor, v wk slw strmg bl wh cut, irr ring of bl wh - mlky wh res fluor
4080	**CLST:** dk gry, blky, hd, calc, micromic, sdy, slty	No shows
4081	**SLTST:** med gry, blky, hd, sl calc cmt, micromic, sdy, grdg sst: vf, i/p si cmt	No dir fluor, v wk slw strmg bl wh cut, irr ring of bl wh - mlky wh res fluor
4082	**SLTST:** med gry, dk gry i/p, blky, mod hd, slily calc, micromic, mic i/p, arg	No shows

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness	
Core no: 9	**Interval:** 4082 - 4086.0 m	**Cored:** 3.6m **Rec:** 3.6m 100%
Core size: 4"	**Geologists:** Beyer / Eikefet	13.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows (Stain / Fluor / Cut)	Φ (Poor / Fair / Good)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4082.0					CLST: dk gry, blky, mod hd, micro mic, non calc, sl slty.	No shows
4083				Poor	SLTST: med dk gry, occ coal lam, blky, hd, non calc	No shows
4084			Cut		COAL: blk, mod hd, brit, shny	No dir fluo, fast mod bri yel wh cut (Heated ethanol)
4085					CLST: med dk gry, blky - fiss, hd, occ sl calc,sl slty	No shows
4085.4			Cut		CLST: blk, fiss, hd, v brit, non calc	No dir fluo. mod str yel cut. (Heated ethanol)
4085.6			Cut		CLST: med dk gry, blky - fiss, hd, slty lam	Fused by bit friction heat

Bottom of core # 9: 4086,.0 mMD

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 10	**Interval:** 4095 - 4114	**Cored:** 19.0m **Rec:** 16.6m 87%
Core size: 3.5"	**Geologists:** O.Hunnes/Ø.Eikefet	**Date:** 17.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows (STAIN, FLUOR, CUT)	Φ (POOR, FAIR, GOOD)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4095					SST: qtz, lt brn, trnsl, sbang, med, occ crs, wl srt, frm, calc cmt, slily sil cmt, mod - gd vis por	Wk hc odour, no dir fluor, fst - no strmg/fst bl wh - yel wh cut fluor
4096					SST: a.a, pred med, mod vis por, frm - hd	a.a
4097					a.a	a.a
4098					a.a: pred hd	a.a
4099					SST: a.a, v arg i/p, v mic, mod srt, mod - pr vis por	No dir fluor, wk - slw strmg, yel wh cut fluor
4100					SST: a.a, vary, v mic, grad arg sst	a.a
4101					SST: lt brn, vf - f, arg, sbang, pr srt, hd sil cmt, mic - v mic, tr carb frags, no vis por	a.a, wk dir fluor
					SST: v arg, extr mic, no vis por	a.a
4102					a.a	a.a
4103					SST: qtz, lt brn, sl arg, vf - f, occ med, mod srt, sbang, hd, sil cmt, mod vis por	mod hc odour, no dir fluor, mod - fst strmg bl wh yel wh blooming cut
4104					SST: lt - dk gry, no vis por, else a.a,	No dir fluor, v wk yel wh blooming cut fluor

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Ness Formation	
Core no: 10	**Interval:** 4095 - 4114	**Cored:** 19.0m **Rec:** 16.6m 87%
Core size: 3.5"	**Geologists:** O.Hunnes/Ø.Eikefet	**Date:** 17.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows (STAIN, FLUOR, CUT) / Φ (POOR, FAIR, GOOD)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4105				**SH:** pl yel brn, hd - v hd, v sdy (f - vf), slty, extr mic, blky, sil cmt, non calc	No shows
4106				**SST:** lt brn, trnsl, qtz, med - crs, sbrnd, wl srt, arg i/p, hd, mod -pr vis por	No dir fluor,v wk strmg yel wh cut fluor
4107				**a.a:** pr vis por	a.a
4108	Si			**SST:** qtz, lt brn, vf - f, mod - wl srt, v hd, sil and calc cmt, slily arg, no vis por	No hc odour, no dir fluor, wk yel wh strmg cut fluor
4109	Si			**SST:** tr of arg mtrx, hd - vh, sil cmt, pr - mod vis por, else a.a	Faint hc odour, no dir fluor, wk slw strmg yel wh cut fluor
4110				**SST:** f - med, pr vis por, else a.a	a.a
4110.9	m m m m			**SH:** dk brn - olv brn, hd, fis, mic - v mic,	No shows
4111.6	m m m			**a.a:** v sdy grad to arg sst, else a.a	No hc odour, no dir fluor, v wk slw strmg yel wh cut fluor
4112					
4113					
4114	Bottom of core # 10, 4114 mMD				

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Etive/ Rannoch Formation	
Core no: 11	**Interval:** 4142 - 4183.41 m	**Cored:** 41.0m **Rec:** 41.41m 100%
Core size: 4.0"	**Geologists:** O.Hunnes/J. Basset	**Date:** 23.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	Shows: FLUOR	Shows: CUT	Φ: POOR	Φ: FAIR	Φ: GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4142	Si II M				|		|		**SST:** qtz, lt brn,occ dsky yel brn, clr- trnsl, sbang, med - crs, mod srt, frm - mod hd, sil cmt, mic, dsky yel brn - lt brn arg mtrx, sl calc, fr vis por	Gd hc odour, no dir fluor, sl strmg bl wh cut fluor
4143	Si M II				|		|		**SST:** a.a	a.a
4144	Si M II				|	|			**SST:** poor vis por, else a.a.	a.a
4145	Si				|	|			**SST:** fn - crs, sl sil cmt, else a.a.	Gd hc odour, no dir fluor, wk sl-mod fst strmg bl wh cut fluor
4146	Si m m				|	|			**SST:** lse - mod hd, crs, mod - wl srt, sl lss lt brn arg & mic mtrx, else a.a.	Gd hc odour, no dir fluor, mod fst strmg bl wh cut fluor
4147	m Si m m				|			|	**SST:** med - v crs, mod srt, sl sil & calc cmt, mod hd, gd vis por, else a.a.	a.a
4148	m m				|			|	**SST:** a.a.	a.a
4149	m m				|			|	**SST:** a.a.	a.a
4150	m m				|			|	**SST:** a.a.	a.a.
4151	m m				|		|		**SST:** lt brn, transl qtz, f - crs, sbang, pr srt, mod hd, sl sil & calc cmt, lt brn arg mtrx, fr vis por	a.a.

cly slt vf f m c vc

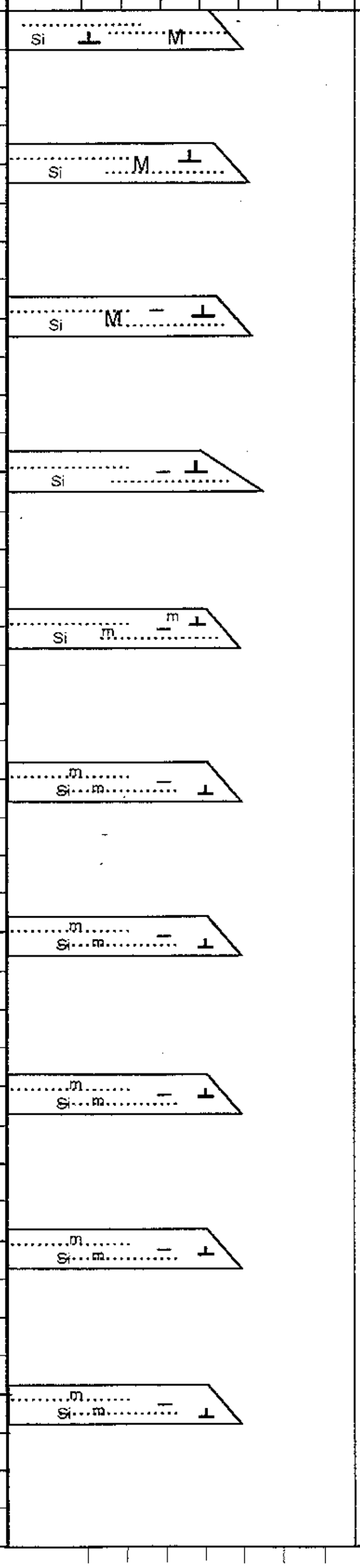
PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Etive/ Rannoch Formation	
Core no: 11	**Interval:** 4142 - 4183.41 m	**Cored:** 41.0m **Rec:** 41.41m 100%
Core size: 4.0"	**Geologists:** O.Hunnes/J. Basset	**Date:** 23.11.96

Lithology/Grain size: cly slt vf f m c vc — APPARENT DIP — Shows: STAIN, FLUOR, CUT — Φ: POOR, FAIR, GOOD



Depth (mRKB)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4152	**SST:** lt brn, transl qtz, f - crs, sbang, pr srt, mod hd, sl sil & calc cmt, lt brn arg mtrx, fr vis por	Gd hc odour, no dir fluor, wk sl strm bl wh cut
4153	**SST:** mic lam i.p., else a.a.	a.a
4154	**SST:** sbrndd - sbang, sil & calc cmt, else a.a.	Fr hc odour, no dir fluor, wk sl strm/ blooming bl wh cut fluor
4155	**a.a:** f - v crs, sbang, lt brn - dk gry mtrx, mic, mod hd - hd, else a.a.	Fr hc odour, no dir fluor, wk sl strm/ blooming bl wh cut fluor
4156	**SST:** f - med, occ crs, mod - wl srt, ang - sbrnd, hd, sil cmt, sl calc cmt, lt brn - lt gry arg mtrx, mic, fr vis por	a.a.
4157	**SST:** a.a.	a.a.
4158	**SST:** a.a.	a.a.
4159	**SST:** wl srt, mod hd - hd, pr vis por, else a.a.	Fr vis HC odour, no vis fluor, no cut, wk sl strmg crush cut fluor
4160	**SST:** a.a.	a.a.
4161	**SST:** a.a.	Fr HC odour, no fluor, wk sl strmg bl wh cut

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Etive/ Rannoch Formation	
Core no: 11	**Interval:** 4142 - 4183.41 m	**Cored:** 41.0m **Rec:** 41.41m 100%
Core size: 4.0"	**Geologists:** O.Hunnes/J. Basset	**Date:** 23.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows (Stain, Fluor, Cut)	Φ (Poor, Fair, Good)	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4162					**SST:** qtz, lt brn gry - dk yel brn, f - med, wl srt, sbang, sil & calc cmt, mod hd, occ mic, fr vis por	Fr HC odour, no fluor, wk sl strmg bl wh cut
4163					**SST:** f, mic, else a.a.	a.a
4164					**SST:** pr vis por, else a.a.	a.a
4165					**SST:** a.a.	Fr vis HC odour, no vis fluor, no cut, wk sl strmg crush cut fluor
4166					**SST:** clr - lt brn qtz, vf -f, sl arg, micromic, pr vis por, else a.a.	Wk HC odour, no vis fluor, no cut fluor,
4167					**SST:** f, else a.a	a.a
4168					**SST:** a.a.	Fr vis HC odour, no vis fluor, wk sl strmg cut fluor
4169					**SST:** trnsl - lt brn, sbang - sbrndd, sil cmt, sl calc cmt, occ mic, else a.a.	a.a
4170					**SST:** a.a.	a.a.
4171					**LS:** Med lt gry - wh, hd, xln, cmt, sl mic, sl clr - lt brn arg mtx (unknown mtx), no vis por	No shows

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Etive/ Rannoch Formation	
Core no: 11	**Interval:** 4142 - 4183.41 m	**Cored:** 41.0m **Rec:** 41.41m 100%
Core size: 4.0"	**Geologists:** O.Hunnes/J. Basset	**Date:** 23.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows: Stain	Shows: Fluor	Shows: Cut	Φ: Poor	Φ: Fair	Φ: Good	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4172									LS: Med lt gry - wh, hd, xln, cmt, sl mic, sl clr - lt brn arg mtx (unknown mtx), no vis por	No shows
4173									Ls: a.a.	a.a
4174									Ls: a.a.	a.a
4175									Ls: a.a.	a.a
4176									Ls: a.a.	a.a
4177									Ls: a.a.	a.a
4178	m				|	|			SST: lt brn, clr -trnsl, vf - f, rr med, mod srt, hd - v hd, sil cmt, gd tr mic, occ micropyr, no vis por	Wk HC odour, no fluor, no cut fluor, sl strmg bl wh crush cut
4179	m				|	|			SST: a.a.	a.a
4180	m				|	|			SST: mic lam, else a.a.	a.a.
4181	m				|	|			SST: a.a., also mic lam	a.a.r

cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Etive/ Rannoch Formation	
Core no: 11	**Interval:** 4142 - 4183.41 m	**Cored:** 41.0m **Rec:** 41.41m 100%
Core size: 4.0"	**Geologists:** O.Hunnes/J. Basset	**Date:** 23.11.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	Apparent dip	Shows: STAIN	FLUOR	CUT	Φ: POOR	FAIR	GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4182	m				|	|			**SST:** qtz, lt brn, trnsl, sbang,vf - f, wl srt, mod hd, sil cmt, pr vis por	Fr hc odour, no dir fluor, wk slow strmg bl wh cut fluor
4183	m				|	|			**SST:** mic, else a.a.	a.a
	m m				|	|			**SST:** vf, v mic, calc cmt, else a.a.	a.a
	TD: 4183.4 m									
4184										
4185										
4186										
4187										
4188										
4189										
4190										
4191										

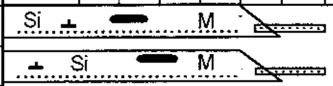
cly slt vf f m c vc

PRELIMINARY OPERATIONAL DESCRIPTION

STATOIL

CONVENTIONAL CORE DESCRIPTION

Country: Norway	**Area:** North Sea	**Field:** Alpha Structure
Well no: 34/11-3	**Formation:** Statfjord Formation	
Core no: 12	**Interval:** 4480 - 4482 m	**Cored:** 2.0m **Rec:** 0.31m 15.5%
Core size: 4.0"	**Geologists:** J. Basset/J.M. Østby	**Date:** 01.12.96

Depth (mRKB)	Lithology/Grain size (cly slt vf f m c vc)	APPARENT DIP	Shows: STAIN	FLUOR	CUT	Φ: POOR	FAIR	GOOD	Lithological Description (Rock name, mod. lith., colour, grain size, sorting, roundness, matrix, cementation, hardness, sed. struct., accessories, fossils, porosity, contamination)	Remarks (Shows, etc)
4480 4480,31									**SST:** med gry, clr - transl qtz, f - crs, pred med - crs, pr - mod srt, ang - sbang, , frm - mod, occ hd - v hd, sil cmt, sl calc cmt, mic, coal frags, arg mtrx, brnsh gry, sucr, pr - fair vis por **SST:** coal lam, fair vis por i.p., else a.a	No Fluor, no cut Fluor no crush, weak oduor wk, slow yel - wh blmng cruch cut, yel - wh res ring, else a.a.

cly slt vf f m c vc

APPENDIX IV

Shallow Gas Report to NPD

STATOIL

BOREHULL: 34/11-3 PL: 193 OPERATØR: STATOIL AVSLUTNINGSDATO: 17.01.97

BOREHULLSDATA:

1. Avstand fra boredekk til havnivå *25 m.*

2. Vanndyp *208 m*

3a. Settedyp for lederør (m RT) *293 m*

3b. Evt. formasjonsstyrketest (g/cc):

4a. Settedyp for foringsrør hvorpå BOP monteres (m RT) *1089 m*

4b. Formasjonsstyrketest (g/cc): *1.66*

5. Dyp (m RT) til formasjons-/ledd-/lag-topper. *Topp Hordaland Gruppen på 986 m RT*
   Topp Utsira Formasjonen på851 m RT og topp Rogaland Gruppen på 1904 m RT

6. Dybdeintervall (m RT) og alder for sandlag grunnere enn 1000 m under havbunnen. Oppgi hvilke lag som evt. inneholder gass.
   851 - 986 m, Utsira Formasjonen, Miocen alder.
   Inneholder sandlag i nedre del. Ingen gass er registrert i sandene.
   Enkelte yngre sandlag er også observert. Ingen gass registrert i disse.

7. På hvilken måte er gassen påvist? ....
   ....

8. Sammensetning av og opprinnelse til gassen. ....
   ....

9. Beskriv alle målinger foretatt i gassførende lag. ....

SEISMISKE DATA:

10. Angi dyp (m RKB og TVG) til inkonformiteter i borehullsposisjonen.

....

11. Angi utbredelse av sandlagene (kommunikasjon, kontinuitet, trunkering etc.).

Antatt regional kommunikasjon i Utsira Fm ....
....

12. Angi utbredelse av evt. gass-skygging ("gas blanking").
....
....

13. Angi evt. seismiske indikasjoner på at gassen stammer fra dypere nivå. Beskrivelse dersom gassen stammer fra dypere nivå. ....
....

14. Hvordan samsvarer tolkningen av borestedsundersøkelsen med borehullsdata m.h.t. :

- *grunn gass: God overenstemmelse - ingen grunn gass er prognosert eller påvist.*
....

- *sandlag: God overenstemmelse.*
....

- *inkonformiteter: God overenstemmelse* ....
....

- *korrelasjon til nærliggende borehull: God korrelasjon til 34/11-1.*
....

ENCLOSURES

Statoil Completion Log
Geoservices Formation Evaluation Log
Geoservices Pressure Evaluation Log

ENCLOSURES

Statoil Completion Log
Geoservices Formation Evaluation Log
Geoservices Pressure Evaluation Log

Norsk Hydro, BP

PARTNERS

STATOIL

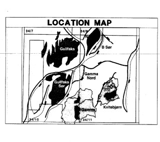
34/11-3 and 34/11-3T2
WELL

Alpha Structure
PROSPECT STRUCTURE

COMPOSITE LOG
1 : 500

AREA:	North Sea
LICENCE:	PL193
COORDINATES:	61° 05' 45.26" N, 6 773 726mN 02° 31' 06.53" E, 474 034mE
K.B.:	25m
WATER DEPTH:	208m
TOTAL DEPTH:	4482mMD RKB/4451.5mTVD MSL
FM. AT T.D.:	Statfjord Formation
SPUD DATE:	1st August 1996
RIG RELEASE:	17th January 1997
WELL STATUS:	Perm. P&A, gas / cond. well
RIG:	Deepsea Trym
CONTRACTOR:	Odfjell Drilling Stavanger
GEOLOGIST:	D.Phillips, J.Robinsen, Ø.Elkefet, O.Hunnes, J.Hopkinson, O.Beyer, T.F.Kristensen, J.Basset
PREPARED BY:	T. Bjørgen DATE: 01.10.97

LOCATION MAP



CASING DATA		LEAK OFF TESTS
30"	293 mMD	
20"	1089 mMD	1.66 g/cc
13 3/8"	3465 mMD	1.98 g/cc
9 5/8"	3972 mMD	2.10 g/cc (FIT)

VELOCITY SURVEY

A zero incidence VSP survey was shot in 34/11-3.
One survey was shot in 34/11-3 from 3452m to 1540m, and one survey was shot in 34/11-3T2 from 4224m to 3285m.

LOGS RUN **CONTRACTOR: WALS / BHI**

34/11-3:	34/11-3T2:		MWD logging:
DLL-MAC-CNL-ZDL-GR 1A: 1089 - 3458M ZDL-CNL-GR 1A: 3452 - 3452M DLL-MAC-ZDL-GR 2D: 3982 - 3466M FMT-GR 3A: 4031 - 4036M VSP-GR 1A: 1540 - 3452M	HDIL-MLL-MAC-DGR-CHT 4C: 3750-4227M DPIL-ZDL-CNL-DSL-CHT 4C: 3972 - 4227M DIPLOG-GR-CHT 4A: 3972 - 4205M FMT-GR 4B: 4144.6-4040.5M VSP-GR 4B: 3285 - 4095M 4C: 4090 - 4224M	MDT-GR 4A: 4037 - 4156M 4B: 4040 - 4186M SWC-GR 4A: 4004 - 4205M	Run 1-12 in 34/11-3 Run 13-14 in 34/11-3T2

COMMENTS:

The well was plugged back at TD (4482m MD) due to BOP repair. When reentering the hole the well was unintentionally sidetracked from 4009m MD to 4234m MD due to hard cement.
All conventional cores were cut in the original hole.
All reservoir logging was performed in the sidetrack. Only MWD logs in the lower part of the original hole (34/11-3). The side track is displayed at the bottom of the Composite Log

LITHOLOGICAL SYMBOLS

CONGLOMERATE, SHALE, MARL, COAL LIGNITE, FORAMS, MICA
SAND SANDSTONE, LIMESTONE, TUFF, WOOD FRAGS, BURROWS, KAOLINITE
SILT SILTSTONE, CHALK, SALT GEN'L, FOSSILS GEN'L, PYRITE, CHERT
CLAY CLAYSTONE, DOLOMITE, ANHYDRITE, SHELL FRAGS, GLAUCONITE, SIDERITE

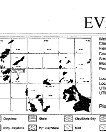
CUTTINGS/FLUORESCENCE, OIL SHOW, OIL/GAS SHOW, GAS SHOW

AZIMUTH & INCLINATION, SIDEWALL CORES (SIDEWALL CORE, NO RECOVERY, ROTARY SIDEWALL CORE), CORES (CORE NO), DST, RFT/FMT (SAMPLE), CASING SHOE / LINER, CHRONO STRAT UNCERTAINTY

FORMATION EVALUATION LOG

Geoservices

MA31_N1QPR1



Well name	: 34/11-3	Rig Name	: DEEPSEA TRYM
Client name	: STATOIL	Rig Type	: SEMI-SUBMERSIBLE
Field	: ALPHA STRUCTURE	Contractor	: ODFJELL DRILLING
Country	: NORWAY		
Area	: NORTH SEA	Spud Date	: 08-01-1996
Block	: 34/11	TD reached	: 12-16-1996
Permit	: PL193	Total Drill Days	: 122
		Total Days	: 138
Location lat	: 61 05'45.26"N	Total Depth (m)	: 4482
Location long	: 02 31'06.53"E	TVD (m)	: 4476.5
UTM loc [N] (m)	: 474034	RT - MSL (m)	: 25
UTM loc [E] (m)	: 6773726	MSL - Seabed (m)	: 207
Plot Scale	: 1/ 500	Depth Reference	: ROTARY TABLE

Generated by ALX Package

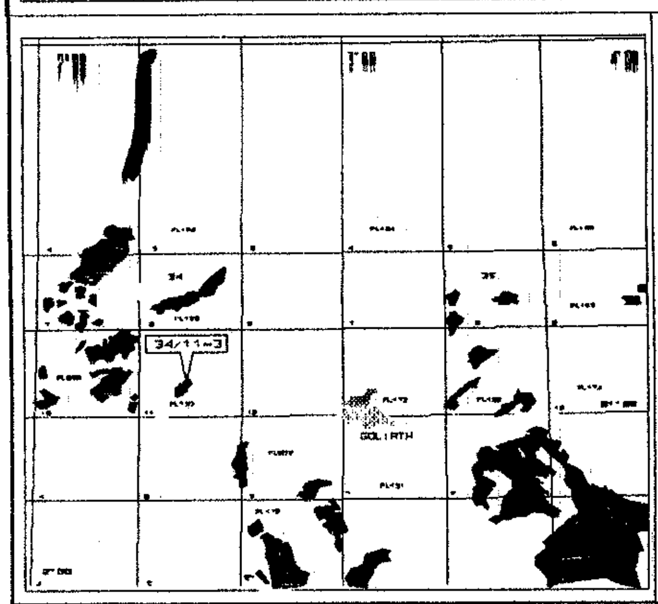
Claystone, Shale, Clay/Shale Sdy, Clay/Shale Slty, Clay silicified, Calc. Claystone, Dolo. claystone, Sdy/calc claystone, Sdy/dolo. claystone, Anhy. claystone, Pyr. clay/shale, Marl, Silty marl, Sandy marl, Dolomitic marl, COAL, Sdy dolomite, Silty dolomite, Silt, Siltstone, Sand, Sandstone, Coarse sst, Conglomerate, Calc. sandstone, Dolo. sandstone, Sand Arg, Limestone, Arg. limestone, Sdy limestone, Slty limestone, Arg & sdy lst, Dolo. limestone, Dolo. limestone, Pyr. limestone, Oolitic lst, Dolomite, Calc. dolomite, Arg. dolomite, Chalk, Cherty chalk, Evaporite, Halite, Anhydrite, Gypsum, Foss. Unspec, Fossil frags, Foraminifera, Sponge spicules, Plantremains, Wood Silicified, Foraminifera, Corals, Lamellibranchs, Tuff, Mica, Pyrite, Glauconite, Carbonaceous, Silty

Test, Mud loss, Mud gain, Deviation surve, Core, Sidewall Core, DST, FIT/LOT, RFT, Shoe, Bit trip, Wiper trip, Connection gas, Trip gas, Gas, Oil and Gas, Oil, Dry

FORMATION EVALUATION LOG

Geoservices

MA31_N1Q.PR1



Well name	: 34/11-3T2	Rig Name	: DEEPSEA TRYM
Client name	: STATOIL	Rig Type	: SEMI-SUBMERSIBLE
Field	: ALPHA STRUCTURE	Contractor	: ODFJELL DRILLING
Country	: NORWAY		
Area	: NORTH SEA	Spud Date	: 08-01-1996
Block	: 34/11	TD reached	: 12-17-1996
Permit	: PL193	Total Drill Days	: 124
		Total Days	: 162
Location lat	: 61 05'45.26"N		
Location long	: 02 31'06.53"E	Total Depth (m)	: 4230
UTM loc [N] (m)	: 474034	TVD (m)	: 4226.3
UTM loc [E] (m)	: 6773726	RT - MSL (m)	: 25
		MSL - Seabed (m)	: 207
		Depth Reference	: ROTARY TABLE
Plot Scale	: 1/ 500		

Generated by ALX Package

Claystone · Shale · Clay/Shale Sdy · Clay/Shale Slty · Clay silicified · Calc. Claystone · Dolo. claystone · Sdy/calc claystone · Sdy/dolo. clayston

Anhy. claystone · Pyr. clay/shale · Marl · Silty marl · Sandy marl · Dolomitic marl · COAL · Sdy dolomite · Silty dolomite

Silt · Siltstone · Sand · Sandstone · Coarse sst · Conglomerate · Calc. sandstone · Dolo. sandstone · Sand Arg

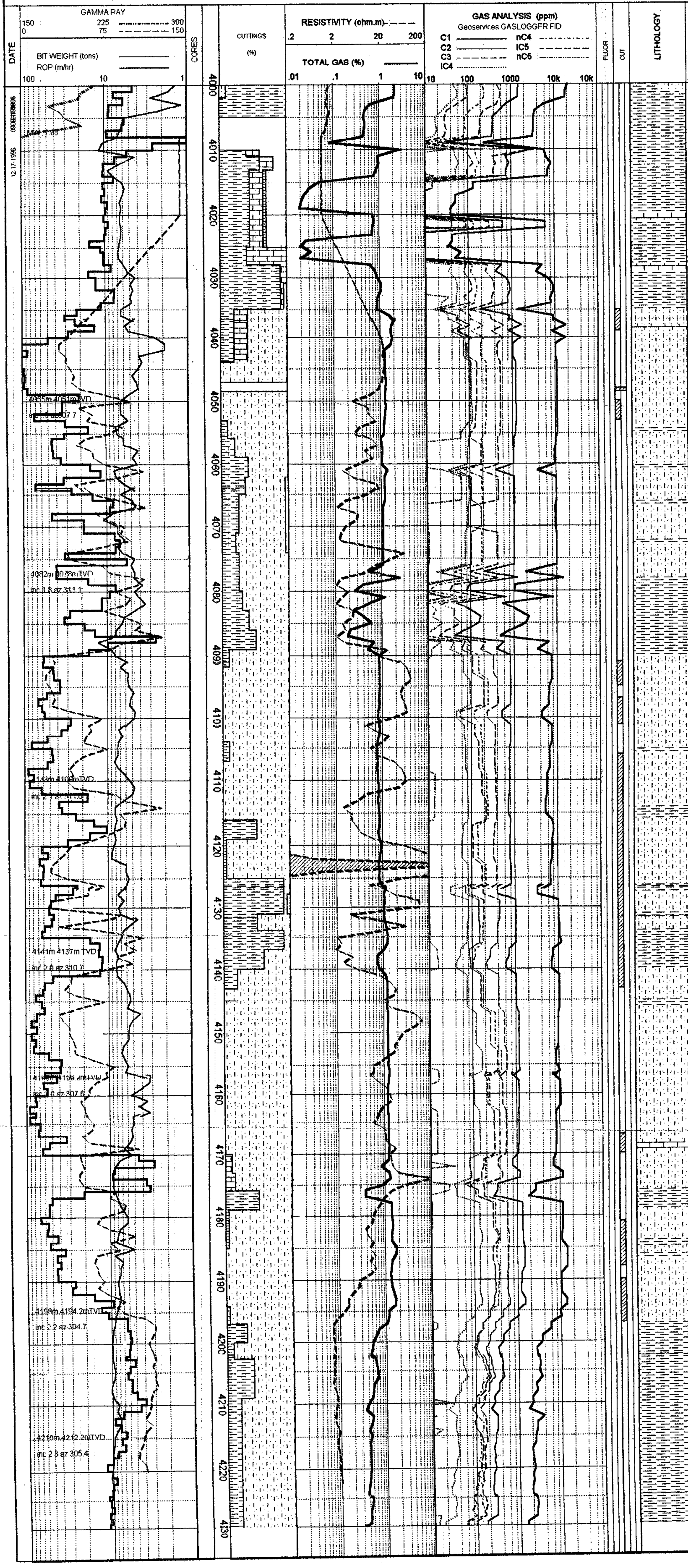
Limestone · Arg. limestone · Sdy limestone · Slty limestone · Arg & sdy lst · Dolo. limestone · Dolo. limestone · Pyr. limestone · Oolitic lst

Foss. Unspec · Fossil frags · Foraminifera · Sponge spicules · Plantremains · Wood Silicified · Foraminifera · Corals · Lamellibranchs

Tuff · Mica · Pyrite · Glauconite · Carbonaceous · Silty

Test · Mud loss · Mud gain · Deviation surve · Core · Sidewall Core · DST · FIT/LOT · RFT

Shoe · Bit trip · Wiper trip · CG Connection gas · TG Trip gas · Gas · Oil and Gas · Oil · Dry



GEOLOGICAL DESCRIPTION

Sidetrack @ 4009mMD

CLST:dk gry,yelsh brn-brn blk, frm,blky,slty,non calc,carb

LS:brn gry,occ yel brn,pa brn, frm,occ mod hd,blky,crptoxln-xln,sl arg-v arg

SD/SST:qtz,yel brn,clr-trnsl, com dk brn stn,f-vf,well srt, fri,tr calc cmt,arg. Wk dull yel crsh cut

SST:pred lse,clr-trnsl,tr brn stn,f-med,mod-well srt,sbrnd-sbang,tr wk calc cmt,sli cmt Mod bloom bl wh cut

CLST:dk gry-grysh blk,occ brn blk,frm-mod hd,occ brit,blky, occ sbfiss,non calc,carb,loc grds to coal

SST:pred lse,clr-trnsl,occ lt brn,vf-med,occ crs,mod srt, sbrnd-sbang,frm-mod hd sil cmt, tr wk calc cmt,occ arg,tr mica Wk-mod strn bl wh cut

LS:pred wh,occ lt gry,frm-mod hd,xln-microxln,no vis por

SST:lt brn,vf-f,well srt,sbang-sbrnd,mod hd-hd,sil cmt,tr calc cmt,sli arg,mica. Tr slow bloom yel wh cut

CLST/SH:pk gry-gry blk,brn blk-blk,mod hd,blky,occ subfiss,sli calc,carb,i/p micromica

PRESSURE EVALUATION LOG

Geoservices

SCALE : 1/ 5000

PEL1_N1Q.PR1

Well name	: 34/11-3T2	Location	: 02 31'06.4"E 61 05'45.2"N	Rig Name	: DEEPSEA TRYM
Company name	: STATOIL	Country	: NORWAY	Rig Type	: SEMI-SUBMERSIBLE
Reference depth	: 0	Final TD (m)	: 4230	UTM coordinate N (m)	: 474034
Water depth (m)	: 207	Final TVD (m)	: 4226.3	UTM coordinate E (m)	: 6773726
Rot table - MSL (m)	: 25	Spud date	: 08-01-1996	Well type	: APPRAISAL
Rot table - seabed (m)	: 233	Reached TD	: 12-17-1996	Area	: NORTH SEA

Generated by ALX Package

Claystone	Shale	Clay/Shale Sdy	Clay/Shale Slty	Clay silicified	Calc. Claystone	Dolo. claystone	Sdy/calc claystone	Sdy/dolo. clayston
Anhy. claystone	Pyr. clay/shale	Marl	Silty marl	Sandy marl	Dolomitic marl	COAL	Sdy dolomite	Silty dolomite
Silt	Siltstone	Sand	Sandstone	Coarse sst	Conglomerate	Calc. sandstone	Dolo. sandstone	Sand Arg
Limestone	Arg. limestone	Sdy limestone	Slty limestone	Arg & sdy lst	Dolo. limestone	Dolo. limestone	Pyr. limestone	Oolitic lst
Dolomite	Calc. dolomite	Arg. dolomite	Chalk	Cherty chalk	Evaporite	Halite	Anhydrite	Gypsum
Foss. Unspec	Fossil frags	Foraminifera	Sponge spicules	Plantremains	Wood Silicified	Foraminifera	Corals	Lamellibranchs
Tuff	Mica	Pyrite	Glauconite	Carbonaceous	Silty			
Test	Bit trip	Wiper trip	Deviation surve	Core	Gas	Oil and Gas	Oil	RFT
Casing shoe (b)			TG Trip gas	CG Connection gas				

PRESSURE EVALUATION LOG

Geoservices

SCALE : 1/ 5000

PEL1_N1Q.PR1

Well name	: 34/11-3	Location	: 02 31'06.4"E 61 05'45.2"N	Rig Name	: DEEPSEA TRYM
Company name	: STATOIL	Country	: NORWAY	Rig Type	: SEMI-SUBMERSIBLE
Reference depth	: 0	Final TD (m)	: 4482	UTM coordinate N (m)	: 474034
Water depth (m)	: 207	Final TVD (m)	: 4476.5	UTM coordinate E (m)	: 6773726
Rot table - MSL (m)	: 25	Spud date	: 08-01-1996	Well type	: APPRAISAL
Rot table - seabed (m)	: 233	Reached TD	: 11-30-1996	Area	: NORTH SEA

Generated by ALX Package

Claystone	Shale	Clay/Shale Sdy	Clay/Shale Slty	Clay silicified	Calc. Claystone	Dolo. claystone	Sdy/calc claystone	Sdy/dolo. clayston
Anhy claystone	Pyr clay/shale	Marl	Silty marl	Sandy marl	Dolomitic marl	COAL	Sdy dolomite	Silty dolomite
Silt	Siltstone	Sand	Sandstone	Coarse sst	Conglomerate	Calc. sandstone	Dolo. sandstone	Sand Arg
Limestone	Arg. limestone	Sdy limestone	Slty limestone	Arg & sdy lst	Dolo. limestone	Dolo. limestone	Pyr limestone	Oolitic lst
Dolomite	Calc. dolomite	Arg. dolomite	Chalk	Cherty chalk	Evaporite	Halite	Anhydrite	Gypsum
Foss. Unspec	Fossil frags	Foraminifera	Sponge spicules	Plantremains	Wood Silicified	Foraminifera	Corals	Lamellibranchs
Tuff	Mica	Pyrite	Glauconite	Carbonaceous	Silty			
Test	Bit trip	Wiper trip	Deviation surve	Core	Gas	Oil and Gas	Oil	RFT
Casing Shoe (b)			TG Trip gas	CG Connection gas