PL 050

STATOIL - NORSK HYDRO - SAGA PETROLEUM

COMPLETION REPORT

WELL 34/10-2

TABLE OF CONTENTS

GENERAL INFORMATION

1. Well data record

   a. Well designation: 34/10-2
   b. Well classification: Wildcat
   c. Well location:

      i) Country: Norway, North Sea
      ii) Licence: PL 050
      iii) Latitude: 61° 06' 07,92" N
           Longitude: 02° 13' 39,96" E
      iv) Seismic location: Shotpoint no. 510
           Line no. St. 32
      v) Water depth: 133 m

   d. Rig data:

      i) Rig name: "Ross Rig"
      ii) Drilling draft: 21,3 m
      iii) RKB-MSL: 25 m

2. Purpose of the well:

   Well 34/10-2 was drilled on the Alpha structure situated in the south eastern part of Block 34/10. The primary objectives of the well was to test sandstones of Middle Jurassic series. The secondary objectives were sandstones of Paleocene and Lower Jurassic series.

3. Results of the well:

   Well 34/10-2 proved the presence of gas in sandstones of Middle Jurassic series (Brent Group) and oil in sandstones of Lower Jurassic series (Statfjord Formation).

   Total depth was 3729 m KB which is 342 meters into rocks of Triassic system. A total of 8 cores were cut of which 2 cores in the Middle Jurassic and 6 in the Lower Jurassic series.

4. Well history:

a. General:

i) Spud date: 10 Sept. 1978
ii) Preliminary P and A: 9 Dec. 1978
iii) Re-entry: 6 July 1978
iv) Rig released: 11 Aug. 1979
v) Status: Plugged and abandoned

b. Contractors:

i) Drilling platform: "Ross Rig"
ii) Drilling Contractor: Ross Drilling Co. A/S
iii) Cementing: Dowell - Schlumberger
iv) Casing: Weatherford/Stavanger Casing Crew
v) Well testing: Otis
vi) Electric logging: Schlumberger
vii) Mud logging: Baroid
viii) Mud contractor: Anker Drilling Fluid
ix) Supply boats: Grieg Offshore: "Ibis one"
Karmøy Supply: "Karmøy Boy"
x) Conventional coring: Christensen Diamond
xi) Turbo drilling: -
xii) Diving: Sub Sea Dolphin
xiii) Helicopters: Helikopter Service A/S
xiv) Core Analysis: GECO
xv) Sample analysis: Paleoservices Ltd.

c. Casing:

i) 30" at 208 m
ii) 20" at 508 m
iii) 13 3/8" at 1802 m
iv) 9 5/8" at 2699
v) 7" liner at 3725

d. Coring

1. Conventional coring (description attached)

Core No.	Interval (m KB)	Rec. (m)	Rec. (%)
1	3031,0 - 3042,0	10,2	93
2	3103,0 - 3114,0	10,6	96
3	3338,0 - 3345,2	7,2	100
4	3345,2 - 3363,5	16,3	89
5	3363,5 - 3366,7	3,2	100
6	3366,7 - 3371,85	5,15	100
7	3371,85 - 3382,4	10,55	100
8	3382,4 - 3390,1	7,5	100

2. Sidewall coring

28 samples out of 30 shots were recovered.

e. Logging

1) Baroid, ADT unit including the following data:

i) Drilling rate (ROP)
ii) Lithology
iii) Cutting gas
iv) Mud gas
v) Chromatograph
vi) H_2S detector
vii) Shale density and 20 other parameters

2) Schlumberger

Type of log	Run No.	Interval (m KB)
ISF/SONIC - GR-SP	1	208 - 507,7
	2	508 - 1829,5
	3	1802 - 2718
	4	2699 - 3226,8
	5	2901 - 3726,8
FDC/CNL-GR-Cal	1	508 - 1829,5
	2	1802 - 2718
	3	2699 - 3228,5
	4	2900 - 3729
DLL/MSFL-GR	1	2900 - 3728
HDT	1 (misrun)	2699 - 3727,5
	2	2699 - 3330
CBL	1	400 - 1798
	2	1991 - 2698,5
NGS	1	2923 - 3532

f. Velocity survey

The velocity survey was conducted by SSL. 20 checkshots with levels from 850 - 3720 m KB.

2. GEOLOGICAL REPORT

GEOLOGICAL REPORT

1. Stratigraphy

a. Table of chronostratigraphy (all depts in m KB)

CHRONOSTRATIGRAPHIC TOPS	DEPTH
Tertiary	
Top Pliocene	259
Top Miocene	703
Top Oligocene	965
Top Eocene	1231
Top Paleocene	1795
Cretaceous	
Top Late Maastrichtian	2017
Top Early Maastrichtian	2075
Top Early Maastrichtian-Campanian	2189
Top Campanian - Santonian	2723
Top Albian	2864
Top Early Albian - Aptian	2870
Top Barremian - Late Hauterivian	2873
Jurassic	
Top Late Kimmeridgian	2882
Top Callovian - Bathonian	2888
Top Bathonian	2944
Top Earlies Bathonian - Bajocian	3040
Top Late - ?Early Toarcian	3124
Top Late Pliensbachian - Sinemurian	3200
Top Early Sinemurian - Hettangian	3266
Top Hettangian	3325
Triassic	
Top Rhaetian	3387

b. Table of lithostratigraphy (all depths in m KB)

Lithostratigraphic tops	depth	thickness
Hordaland Group	965	830
Rogaland Group	1795	222
Shetland Group	2017	847
Cromer Knoll Group	2864	18
Humber Group		62
Kimmeridge Clay Fm	2882	6
Heather Fm	2888	56
Brent Group		180
Ness Fm	2944	128
Etive Fm	3072	10
Rannoch Fm	3082	42
Dunlin Group		201
Drake Fm	3124	48
Cook Fm	3172	28
Amundsen Fm	3200	125
Statfjord Fm		215
Nansen Member	3325	54
Eriksen Member	3379	118
Raude Member	3497	43
Cormorant Fm	3540	
TD	3729	

Top Rhaetian 3587

2. Lithological description

a) Summary

The cronostratigraphic tops are mainly based on the paleontological report from Paleoservices Ltd. and on correlations with wells in the 33/9, 33/12 and 34/10 blocks.

QUARTERNARY (158 - 259 m KB)

<u>Pleistocene</u> (208 m (30" csg shoe) - 259 m KB)

The sediments in this interval are loose sands interbedded with clays and silts.

The quartzitic sand grains are clear and very fine to fine, occasionally medium in size.

The clay is medium grey, soft, sticky, slightly calcareous and very silty in parts. Traces of shell fragsments, fossils, lignite, pyrite and glauconite have been recorded throughout the sequence.

TERTIARY (259 - 2017 m KB)

<u>Pliocene</u> (259 - 703 m KB)

The main lithologic difference between this interval and that above, is that silt is more dominating, particularly in the uppermost part. Also thin limestone stringers have been found in this section. In the lowermost part of Pliocene, clay is dominating.

<u>Miocene</u> (703 - 965 m KB)

Very fine to fine quartzitic sands interbedded with medium grey clays as seen in the previous sections are recorded in the topmost part of this section.

The "Base Miocene Sand" is well pronounced in 34/10-2. The quartzitic sand grains are white to clear, moderately sorted, rounded to subrounded and medium to occasionally coarse in size. Traces of mica, silt and shell fragments have been seen throughout.

Oligocene (965 - 1231 m KB)

Argillaceous silts and siltstones dominate the uppermost part of the Oligocene sequence. The sediments are light to medium grey and brown in colour.

Towards the base of this section fine to medium sands with layers of brownish clays and siltstones have been recorded. Siderite nodules are abundant in this part.

Eocene (1231 m - 1795 m KB)

The Eocene deposits are mainly sands and claystones with limestone beds of different thicknesses. Nodules of limestone, siderite and pyrite are common. The claystones are brownish down to 1410 m KB. Thereafter (Early Eocene) a greenish grey colour dominates. The limestones are white and light grey, argillaceous and in the lowermost part occasionally dolomitic.

Paleocene (1795 - 2017 m KB)

The deposits in the Paleocene section are claystones, light to medium grey and occasionally greenish grey, firm, silty, interbedded with shales. The shales are light to medium dark grey, firm to moderately hard, and non to slightly calcareous. Traces of tuffaceous shale is recorded in the uppermost part at this section. The tuffaceous shale is dark grey with white inclusions, non calcareous and firm. Thin stringers of limestones and dolomites have been seen in the Paleocene section.
Minor traces of sand and pyrite have been recorded throughout this interval.

CRETACEOUS (2017 - 2882 m KB)

<u>Shetland Group</u> (2017 - 2864 m KB)

The whole group appears to have uniform lithology. A grey calcareous shale dominates. Some layers of a buff to tan limestone have been recorded. Traces of dolomite and pyrite are present throughout.

<u>Cromer Knoll Group</u> (2864 - 2882 m KB)

This group consists mainly of a light brown limestone, firm and argillaceous. Minor beds of rust brown, slightly calcareous shale have been recorded.

JURASSIC (2882 - 3585 m KB)

HUMBER GROUP (2882 - 2944 m KB)

<u>Kimmeridge Clay Formation</u> (2882 - 2888 m KB)

These deposits consist of a shale, dark grey, bituminous, hard, pyritic and non calcareous.

<u>Heather Formation</u> (2888 - 2944 m KB)

This formation is a shaly sequence with layers of dolomite and limestone. The shale is medium grey, hard, silty in parts and pyritic. Trace of coal fragments throughout.

BRENT GROUP (2944 - 3124 m KB)

<u>Ness Formation</u> (2944 - 3014 m KB)

The Ness Formation consists in the uppermost part of shales interbedded with siltstones, and very fine to fine sandstones with abundant coal stringers. The colour of the sediments is greyish and brownish.

The shales are generally very micaceous, calcarous in parts and pyrite occurs occasionally. Thin stringers of limestone, white to tan, hard, are present.

The lowermost part of Ness consists of a friable sandstone interbedded with shale and coal layers as seen in the uppermost part. The quartzitic sand grains are clear to white and very fine to medium, occasionally coarse to very coarse in size. Traces of siltstone, mica and siderite are recorded.

<u>Etive Formation</u> (3072 - 3082 m KB)

This formation consits of a friable massive sandstone. The quartzitic sand grains are clear to white and very fine to medium, occasionally coarse to very coarse in size. The sand grains are subangular and moderately sorted.

<u>Rannoch Formation</u> (3082 - 3124 m KB)

This sequence consists mainly of sandstone. The sandstone is mostly very fine to medium grained, grading downwards into a very fine and silty sandstone towards the base. Mica is abundant throughout. Thin layers of calcite cemented sandstone and traces of lignite have been recorded. Common sedimentary structures are parallel lamination and crossbedding.

DUNLIN GROUP (3124 - 3325 m KB)

<u>Drake Formation</u> (3124 - 3172 m KB)

A medium dark to dark grey shale dominates this interval. The shale is moderately hard, non calcareous, micaceous, pyritic and occasionally silty.

<u>Cook Formation</u> (3172 - 3200 m KB)

The Cook Formation has a mixed lithology with a thick sand bed in the uppermost part grading downwards into shale similar to the shale in the previous formation. The sandgrains are fine to coarse in size and moderately sorted. Some thin calcareous cemented sandstone stringers are seen.

Amundsen Formation (3200 - 3325 m KB)

This formation consists of interbedded sandstone, siltstone and shale. The sandstone is made up of very fine to fine, occasionally medium sand grains. The siltstone is medium grey in colour, slightly calcareous and moderately hard. The amount of siltstone increasing towards base. Traces of a light grey to tan limestone have been recorded throughout.

STATFJORD FORMATION (3325 - 3540 m KB)

Nansen Member (3325 - 3379 m KB)

A medium to very coarse, occasionally pebbly sandstone dominates this interval. The sandstone is brown to medium grey in colour, moderately hard, poorly sorted, calcareous in parts, and with fair porosity. The sandstone is interbedded with some shale beds. The shales are dark grey, hard, micaceous, non calcareous, silty and with thin layers of coal. Trace of pyrite occur throughout. Common sedimentary structures are parallel laminations, cross-bedding and bioturbations.

Eriksen Member (3379 - 3497 m KB)

This interval also includes relatively thick sandy beds at almost the same type as the sand above. The sandstone is interbedded with shale and siltstone. The colours are medium to dark grey, occasionally brownish grey in the lowermost parts of the interval.

Raude Member (3497 - 3540 m KB)

A dark, reddish brown, a pale reddish brown and a light grey shale dominate this interval. The shale is interbedded with a fine to medium sandstone. The quartzitic sandgrains are clear to white, occasionally rust brown in colour. Traces of pyrite and white to tan limestones throughout.

CORMORANT FORMATION (3540 - TD)

The sediments in the formation consist of a very fine to medium sandstone, interbedded with silty shales. They are similar to those described above in the Raude Member

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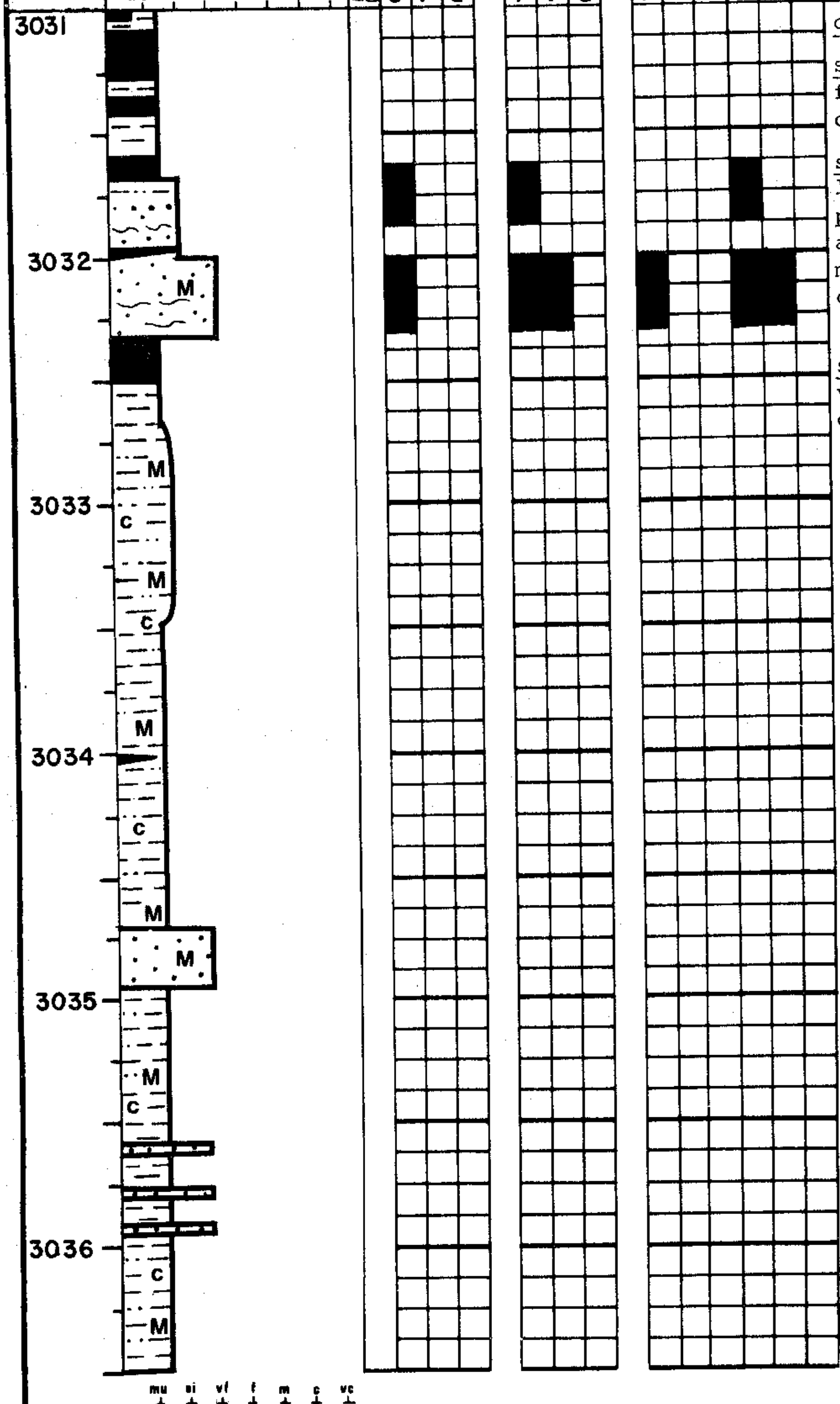
CONVENTIONAL CORE DESCRIPTION

FIELD: WILDCAT | WELL NO. 34/10-2 | AREA: NORTH SEA

CORE NO. 1 | INTERVAL from 3031 to 3042 | CORED 11 m | REC 10.2 | 93 %

FORM. | GEOLOGIST HAGE/MILJETEIG/RÆSTAD | DATE 10 Oct. 78

DEPTH	LITHOLOGY/ GRAIN SIZE	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



Depth	Lithologic description	Misc.
3031	coal, blk, brittle, hd	
	shale, med gy, hd, fiss, slickenside, coaly wood frags	
	sandstone, vf - f, slty lt gy - brn in upper part, mic, hd, w srt, ang - subang, arg matrix, non calc, coal lam	slow str yel cut
3032	shale, slty, med gy, v mic, hd, fiss, coal lam - frags	
3033	coaly wood frags	
3034	coal lam	
	sandstone, massiv, lt gy - brn, vf, slty in parts, mic, w srt, ang-subang, hd, cmt, non calc	slow mod str cut spotty deep blue dull fluor
3035	shale, med gy, hd, fiss, slty, v mic, wood frags (coaly)	
	sand lam, vf	
3036		

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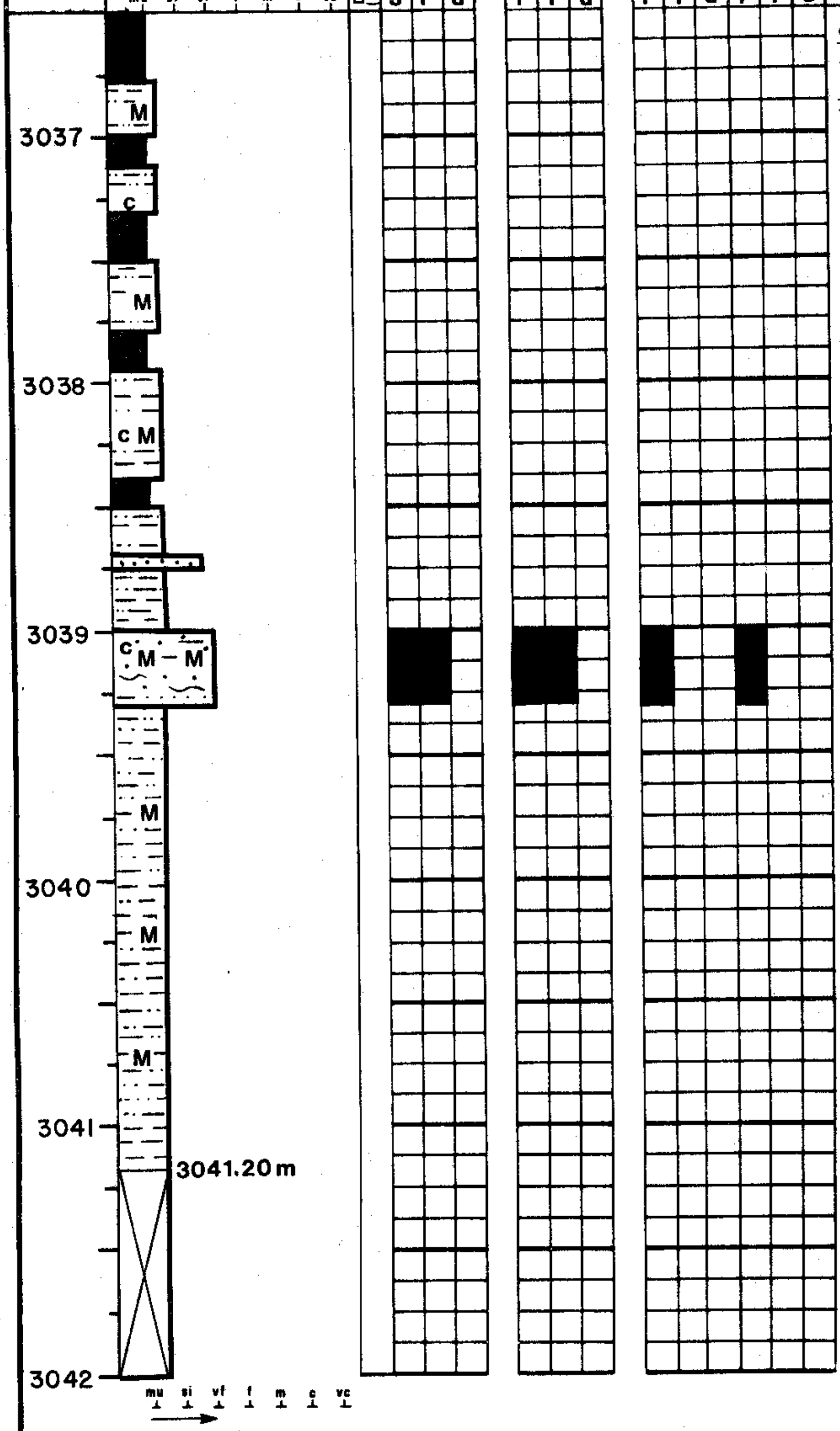
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA

CORE NO. 1 | INTERVAL from 3031 to 3042 m | CORED 11 m | REC 10.2 m | 93 %

FORM. | GEOLOGIST HAGE/MILJETEIG/RÆSTAD | DATE 18 Okt. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



coal, brittle, hd, sl slty, arg in parts

shale, med gy, slty - v mic a/a

slickensides, contacts to coal beds

sandstone, lt gy - brn, hd, vf, w srt, arg, v mic, coal lam

shale, med - dk gy, hd - v hd, fiss, v mic, slty

MISC.: dull deep bluefluor slow str yel cut

4.00.17

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CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT	WELL NO. 34/10-2	AREA NORTH SEA		
CORE NO. 2	INTERVAL from 3101 to 3113,6 m	CORED 11 m	REC 10,6 m	96 %
FORM.	GEOLOGIST RASMUSSEN/MILJETEIG	DATE 20 Oct. 78		

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN S F G	CUT P F G	FLUOR P F G	Φ P F G	LITHOLOGIC DESCRIPTION	MISC.
							sandstone, p yel brn, silty - vf, qtz, clr, w srt, subang - subrnd fri, massive, fair porosity	no fluor poor - occ fair crush cut, gas odor
							tr mica, lign	
3104								
							sandstone a/a, calc cmt	
3105								
3106								
3107								
3108								

mu si vf f m c vc

4.00.17

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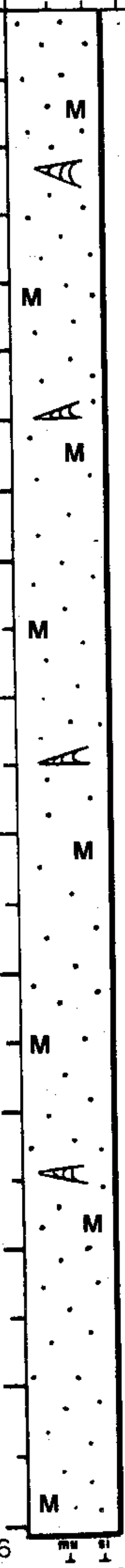
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA
CORE NO. 2 | INTERVAL from 3101 to 3113,6 m | CORED 11 m | REC 10,6 m | 96 %
FORM. | GEOLOGIST RASMUSSEN/MILJETEIG | DATE 20 Oct. 78

DEPTH	LITHOLOGY/ GRAIN SIZE	DIP (apparent)	SHOWS: STAIN S F G	CUT P F G	FLUOR P F G	Φ P F G	LITHOLOGIC DESCRIPTION	MISC.
3109 3110 3111 3112 3113 3113,6			S	P		F	sandstone a/a, x-lam, med hd, mic - v mic, poor - fair porosity	no fluor poor crush cut gas odor

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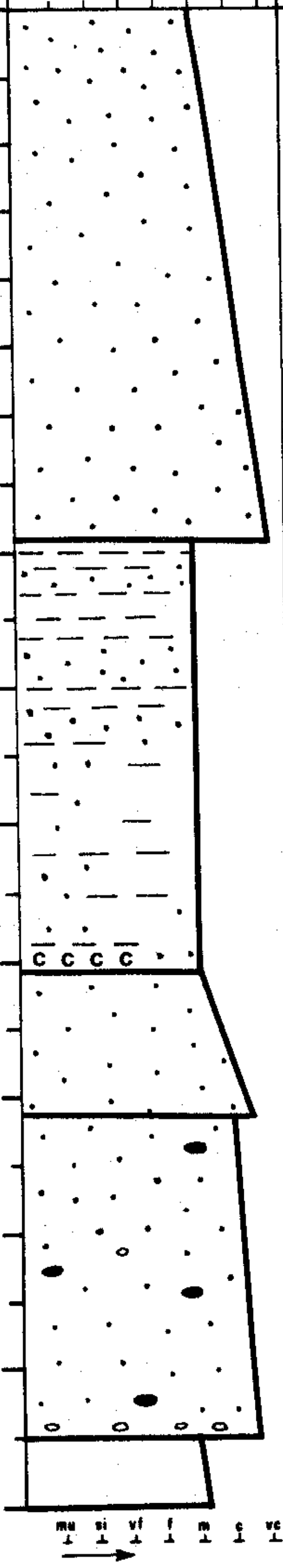
CONVENTIONAL CORE DESCRIPTION

FIELD ______ WELL NO. 34/10-2 AREA NORTH SEA
CORE NO. 3 INTERVAL from 3338,0 to 3345,2 CORED 7,2 m REC 7,2 m 100 %
FORM. ______ GEOLOGIST HAUGE/LEINUM DATE 31 Oct. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN (S F G)	SHOWS: CUT (P F G)	SHOWS: FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.
							sandstone, med - v crs, occ pebble, gy - brn, hd, well cons, well silica cmt, non calc, subang - subrnd, kao, mica, fair vis por, no vis structures	bleeding gas, good odor bri yel fluor fast cut good oil stain
3339								
3340							sandstone, med, else a/a w/thin shale lam	
3341							coal lam sandstone a/a	
3342							clay clasts	
3343								



4.00.17

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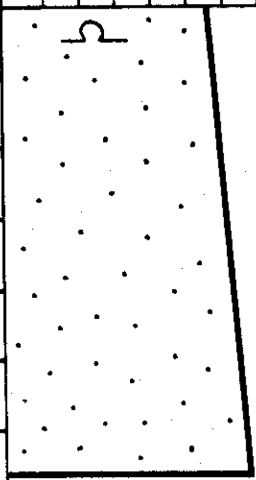
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA
CORE NO. 3 | INTERVAL from 3338,0 to 3345,2 m | CORED 7,2 m | REC 7,2 m | 100 %
FORM. | GEOLOGIST HAUGE/LEINUM | DATE 31 Oct. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	OIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.
3344 3345	 3345.2 m		G	G	G	F	sandstone, med - v crs occ pebble, gy - brn, hd, well cons, sil cmt, non calc, subang - subrnd, kao, mica, fair vis por, no vis structures convolute bedding	bleeding gas, good odor bri yel fluor fast cut good oil stain

mu si vf f m c vc

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CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA

CORE NO. 4 | INTERVAL from 3345,2 to 3363,5 m | CORED 18,3 m | REC 16,3 m | 89 %

FORM. | GEOLOGIST HAUGE/LEINUM | DATE 1 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN S F G	CUT P F G	FLUOR P F G	Φ P F G	LITHOLOGIC DESCRIPTION	MISC.
3346 3347 3348 3349 3350	K K K K K						sandstone, f - v crs, congl, gy - brn, hd, w cons, w sil cmt, non calc, occ v sl calc, subang - subrnd, v poorly srt, vis por: fair occ poor, occ good, kao, mica STRUCTURES: no vis bedding - massive sand, few thin clay streaks	core is bleeding gas, good odor, bri yel fluor flach, milky blue cut

mu si vf f m c vc

4.00.17

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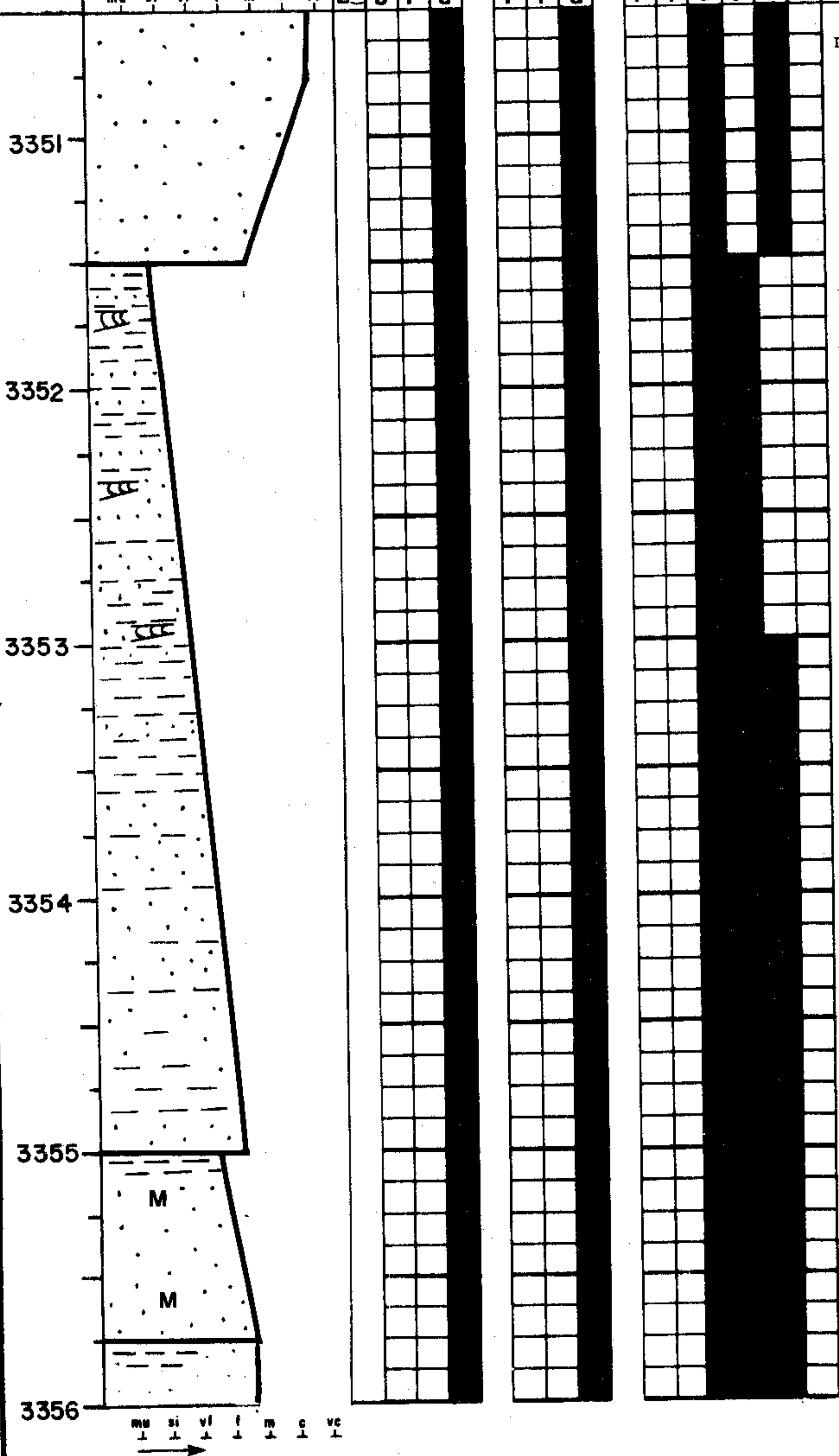
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA

CORE NO. 4 | INTERVAL from 3345,2 to 3363,5 m | CORED 18,3 m | REC 16,3 m | 89 %

FORM. | GEOLOGIST HAUGE/LEINUM | DATE 1 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



massive sandstone a/a — shows a/a

shale, dk gy, v sdy, v mica
sand, gen med and calc else a/a

STRUCTURE:
thinly inbd sand and shale, ripples and small X-bdng w/clay drape - flaser bdng ; amount of sand incr downwards

shaly sand

sand, f - med, hd, v well cmt (sil), non calc, mica, poor - fair por

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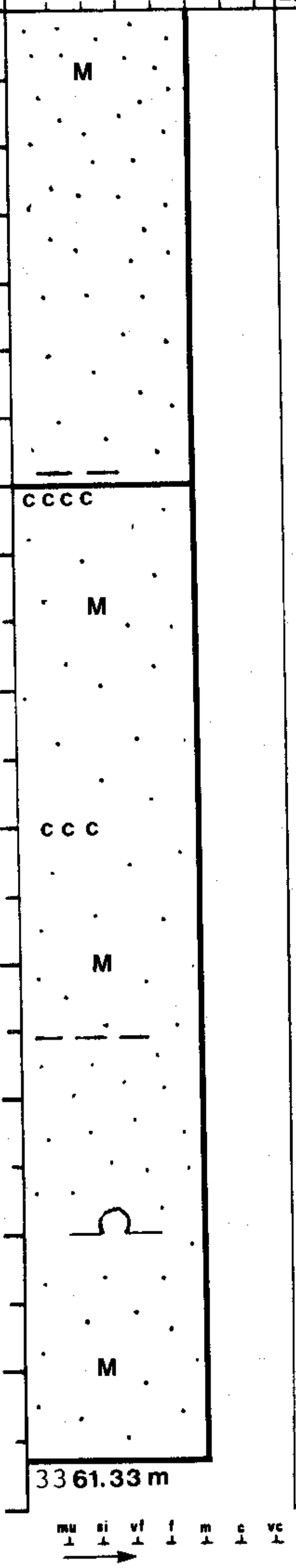
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA
CORE NO. 4 | INTERVAL from 3345,2 to 3363,5 m | CORED 18,3 m | REC 16,3 m | 89 %
FORM. | GEOLOGIST HAUGE/LEINUM | DATE 1 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.
							sandstone, f - med, occ crs, gy - brn, hd, subang - subrnd, v poorly srt, well cmt (sil), kaolinitic, mica	shows a/a
3357							STRUCTURE: parallel bedding	
							coal streaks	
3358								
3359							coal streaks	
3360							konvolute bedding	
3361								



4.00.17

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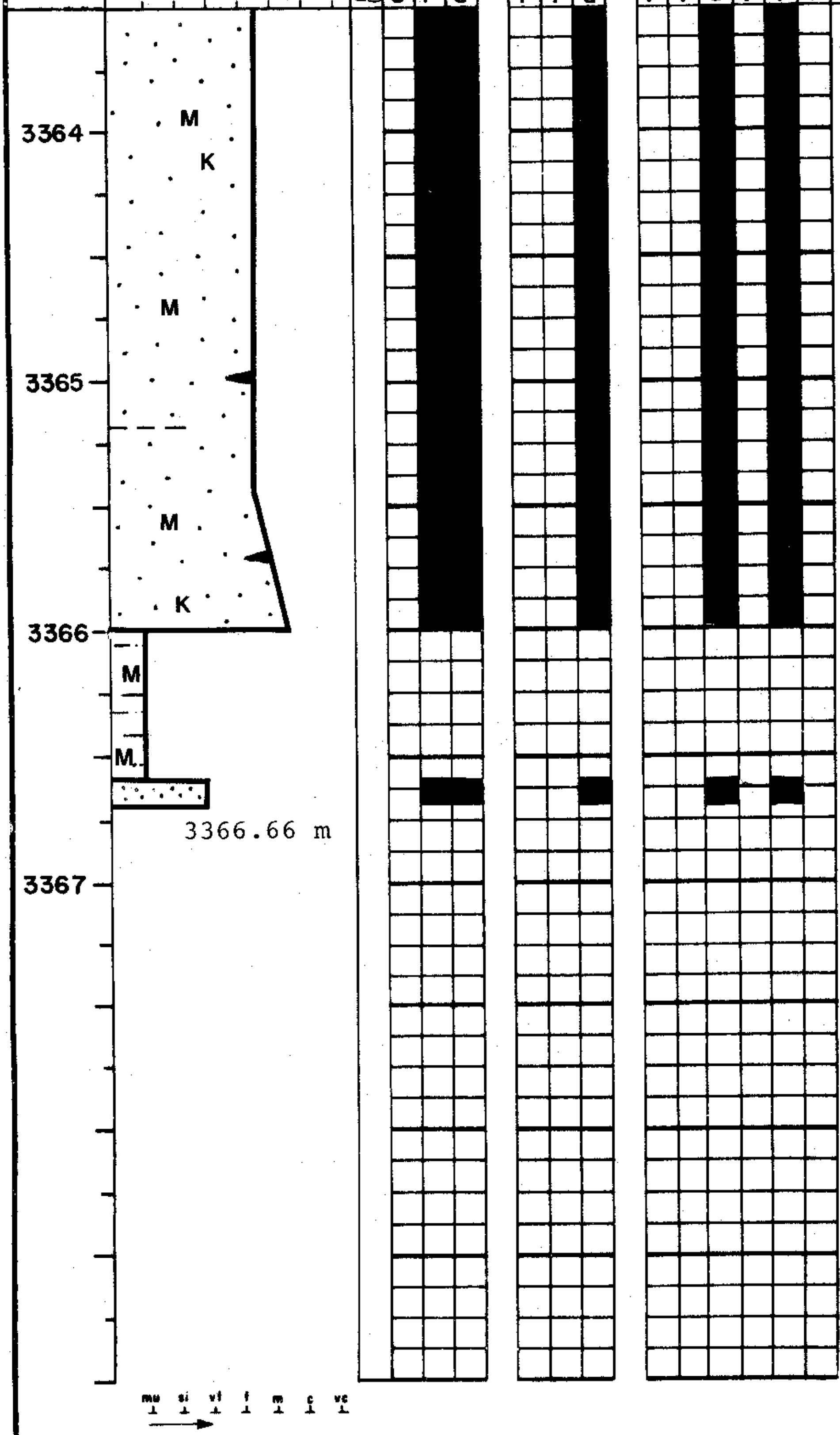
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT	WELL NO 34/10-2	AREA NORTH SEA
CORE NO. 5	INTERVAL from 3363,5 to 3366,7	CORED 3,2 m
REC 3,16 m	~100 %	
FORM.	GEOLOGIST HAUGE/LEINUM/KRÆMER	DATE 2 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



sandstone, lt brn - clr qtz, f-med, subang - subrnd, hd, slty, poor srt, v micac, kaol cmt, non calc

good odor, bri yel fluor, fast str milky bluish cut

sandstone, med - crs, occ v crs, occ coal frags, else a/a

shale, lt - dk gy, v hd, slty, sdy, non calc, v micac

sandstone, clr-lt brn qtz, f-vf, occ med fri, ang-subang, slty, micac, poor - fair srt non calc

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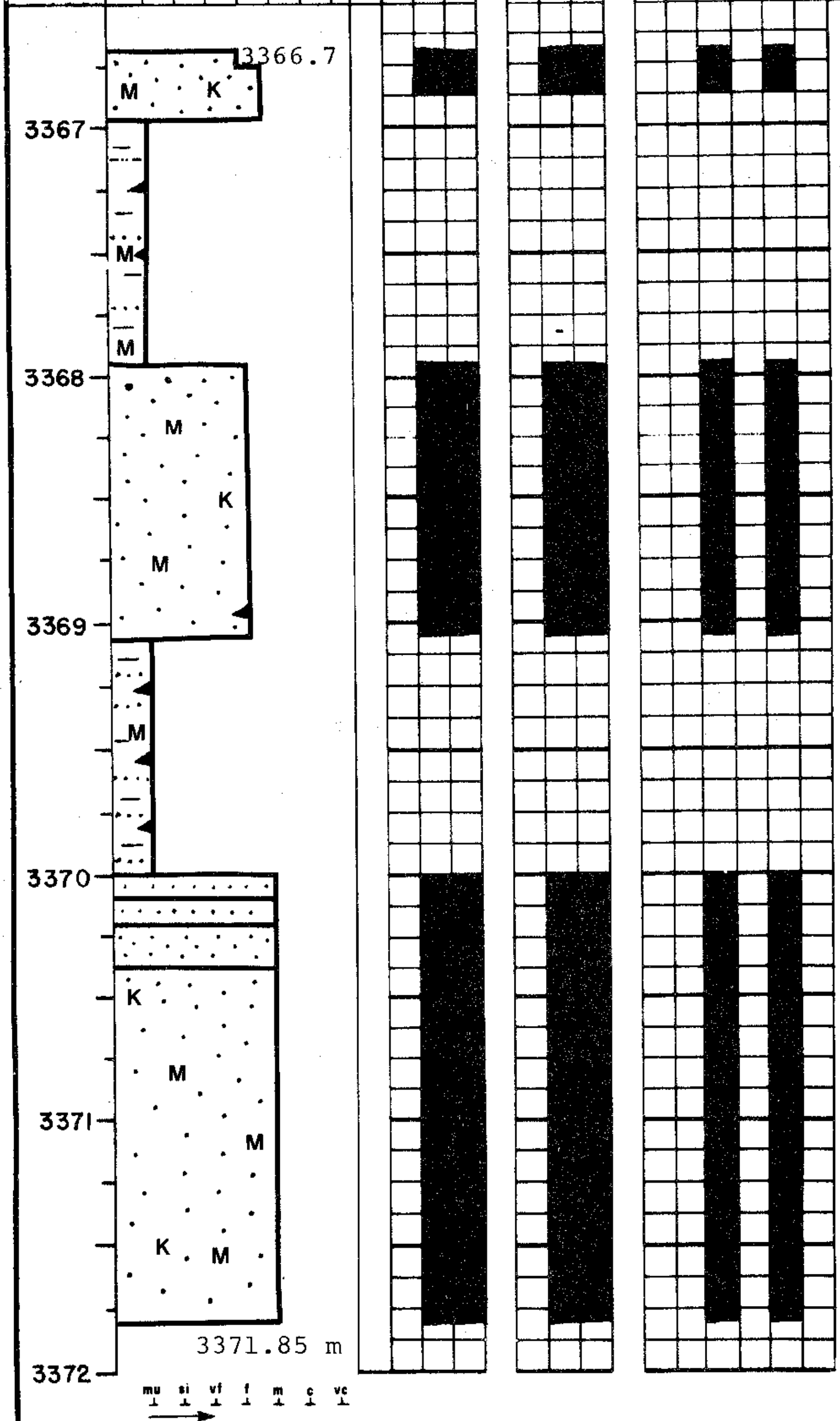
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA

CORE NO. 6 | INTERVAL from 3366,70 to 3371,85 | CORED 5,15 m | REC 5,15 m | 100 %

FORM. | GEOLOGIST KRÆMER/LEINUM | DATE 2 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



Depth	Lithologic description	Misc.
3366.7	sandstone, clr-lt brn qtz, f-med, occ vf, ang-subrnd, hd, mica, kao, sil cmt, non calc mod srt	good odor dull yel fluor mod fast str milky cut
	shale, med gy, hd, v mic, slt and sd lams occ coal lams, non calc	
3368	sandstone a/a	
	sandstone a/a, tr lg	
3369	shale, dk-med gy, hd, slty, calc, mica, coal, slt and sd lams	
3370	sandstone, f-crs, else a/a	
	coal, blk, matured, blocky occ fibrous	
	sandstone, f-crs, lt brn, mlky, occ gy qtz, ang-subrnd,hd, mica, coal frags, kao, sil cmt, non calc, mod srt	
	sandstone a/a, fri-hd	

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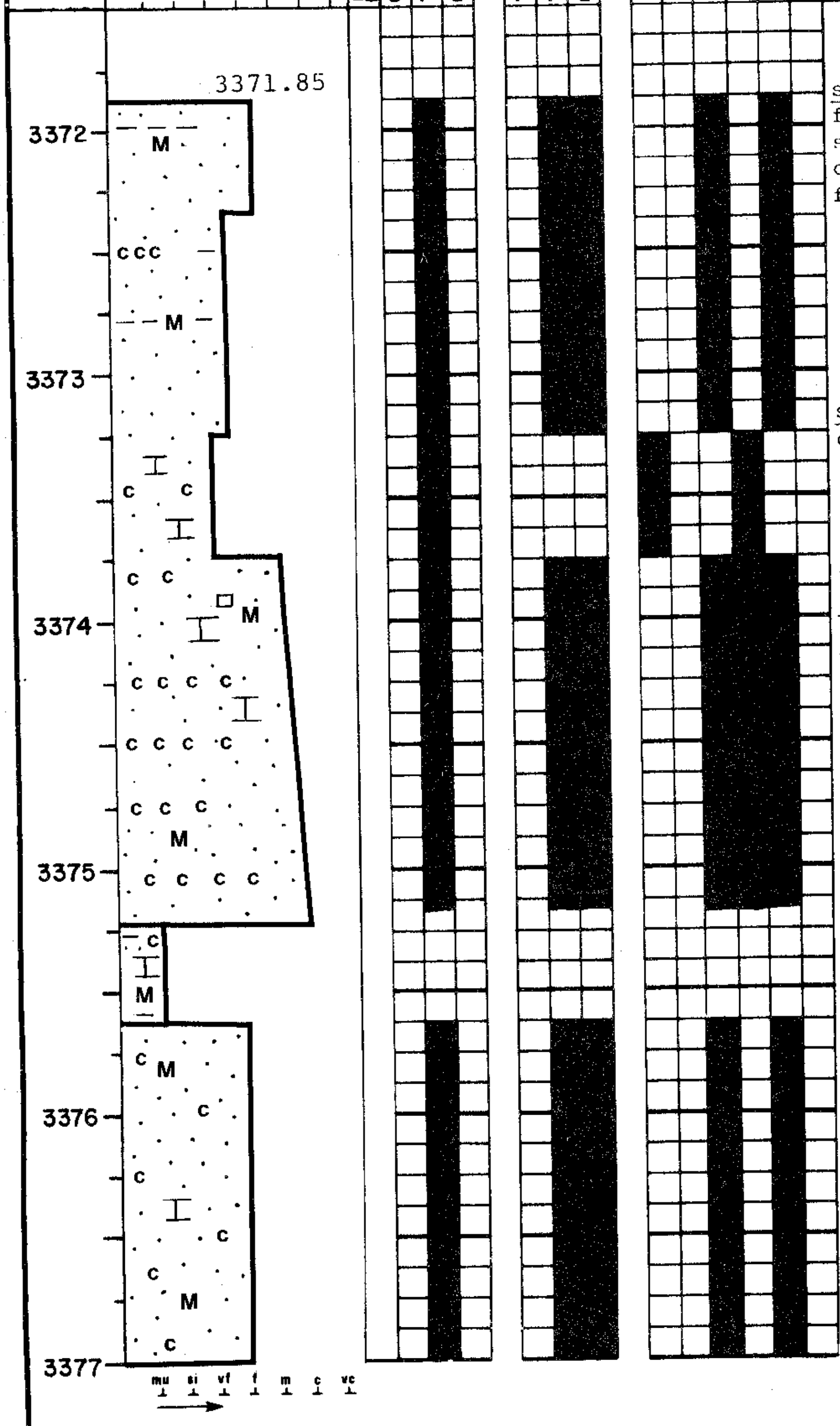
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT	WELL NO. 34/10-2	AREA NORTH SEA
CORE NO. 7	INTERVAL from 3371,85 to 3382,40	CORED 10,55 m / REC 10,55 m / 100 %
FORM.	GEOLOGIST R. KRÆMER/T.G. GLOPPEN	DATE 3 Nov. 78

DEPTH | LITHOLOGY/GRAIN SIZE (mu si vf f m c vc) | DIP (apparent) | SHOWS: STAIN (S F G), CUT (P F G), FLUOR (P F G), Φ (P F G) | LITHOLOGIC DESCRIPTION | MISC.



LITHOLOGIC DESCRIPTION	MISC.
sdst, clr - lt brn qtz f - med, fri, ang - subrnd, micac, kao cmt, non calc, coal frags, fair srt	good odor dull yel fluor, mod str mlky cut
sandstone, vf - f, sl calc, else a/a	
tr pyr sandstone, f - crs, calc cmt, calcite veins, coal frags and lams, else a/a	shows a/a
sandstone a/a, m - vc, kao cmt, sl calc, else a/a	
shale, sdy, slty, med gy, v hd, micac, coal lams, partly calc	no shows
sandstone, clr - lt brn qtz, vf - med, hd, ang - subang, micac, sil smt, kao cmt, occ calc cmt, coal frags	good odor, dull yel fluor, mod str mlky cut

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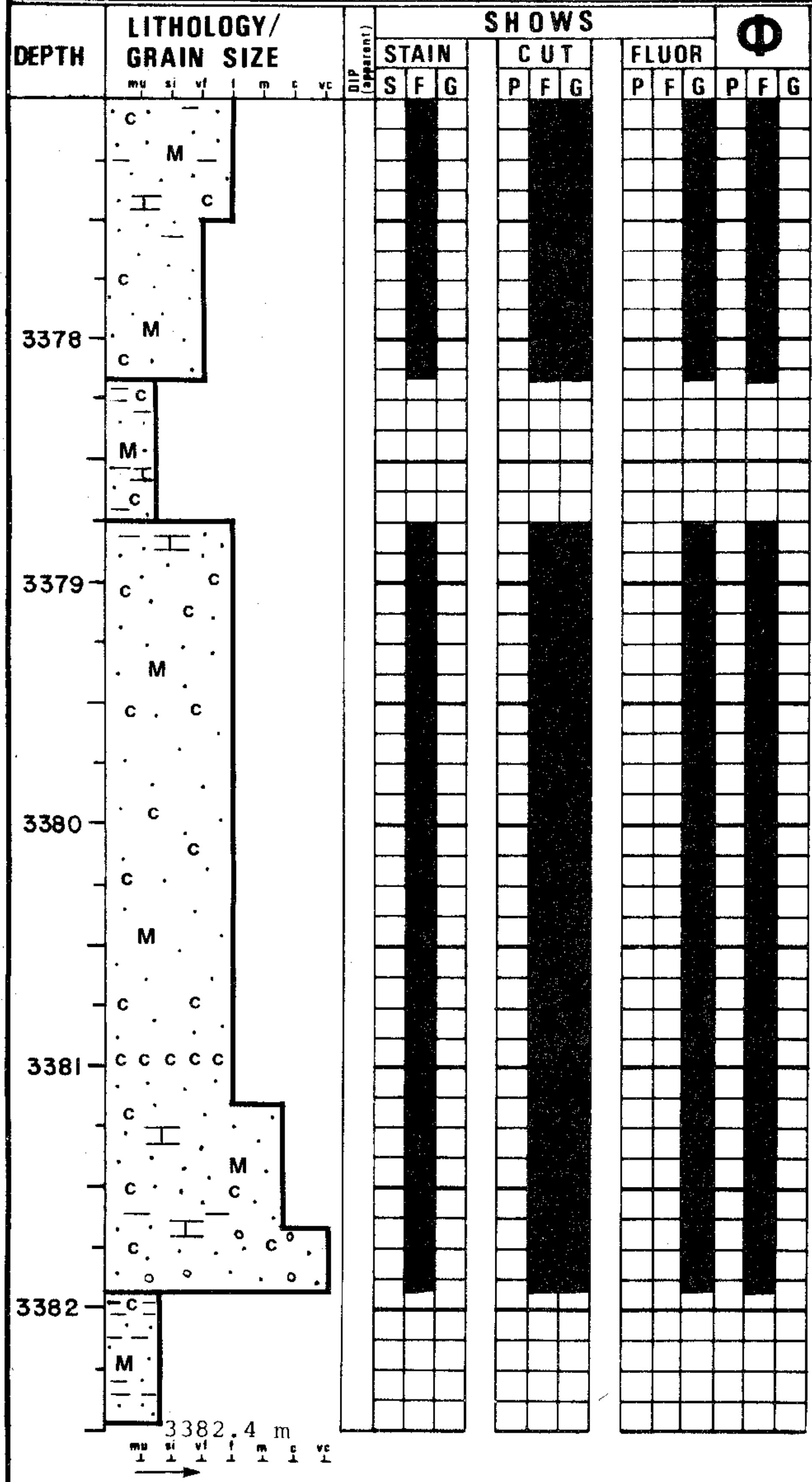
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT	WELL NO. 34/10-2	AREA NORTH SEA
CORE NO. 7	INTERVAL from 3371,85 to 3382,40	CORED 10,55 · REC 10,55 m · 100 %
FORM.	GEOLOGIST R. KRÆMER/T.G. GLOPPEN	DATE 3 Nov. 78



LITHOLOGIC DESCRIPTION	MISC.
sandstone, clr - lt brn qtz, vf - med, hd ang - subang, micac, sil cmt, kao cmt, occ calc cmt, coal frags	good odor dull yel fluor, mod str mlky cut
sandstone, vf - f, else a/a	
shale, med gy, hd - firm, sl calc, v micac, coal frags and lams	no shows
sandstone, clr - lt brn qtz, vf - med, hd, ang - subang, fair - poor srt, micac kao-sil cmt, non calc, coal frags and lams	good odor dull yel fluor, mod str mlky cut
sandstone a/a	
sandstone, med - vc, well srt, sil and calc cmt, else a/a	shows a/a
sandstone, vc, pebbly, else a/a	
shale, med - lt gy, hd, non calc, cdy, slty, coal frags, micromicac, subfiss	no shows

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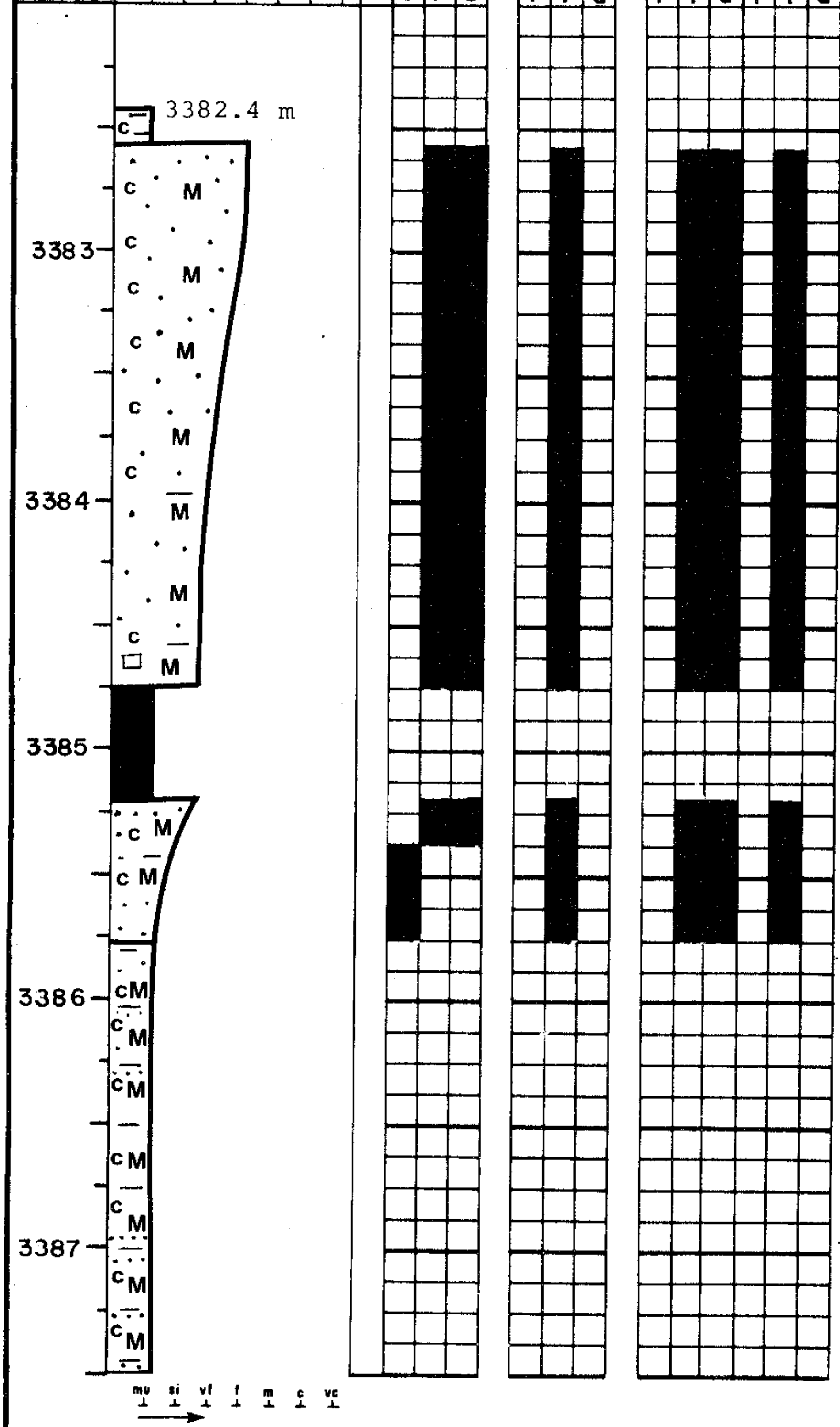
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT | WELL NO. 34/10-2 | AREA NORTH SEA

CORE NO. 8 | INTERVAL from 3382,4 to 3390,1 | CORED 7,5 m | REC 7,5 m | 100 %

FORM. | GEOLOGIST KRÆMER/GLOPPEN | DATE 4 Nov. 78

DEPTH	LITHOLOGY/ GRAIN SIZE (mu si vf f m c vc)	DIP (apparent)	SHOWS: STAIN (S F G)	CUT (P F G)	FLUOR (P F G)	Φ (P F G)	LITHOLOGIC DESCRIPTION	MISC.



LITHOLOGIC DESCRIPTION	MISC.
shale, med - lt gy, hd, non calc, sdy-slty, coal frags, micac, sub-fiss	
sandstone, clr, lt brn - mlky qtz, vf - med, occ crs-vc, ang-subrnd, poor srt, hd, sil-kao cmt, coal frags and lams, v micac	good odor dull yel fluor, mod str milky cut in sst bleeding gas
sandstone, vf - f, laminated, micac and coal lams, else a/a	
coal, blk - dk gy, arg, sl pyr, mature, micac	no shows
sandstone a/a	
shale, med gy, hd, sl sdy-slty, lam, non calc, v micac, coal lams	no shows
shale, brnish gy, sd and slt lams, else a/a	

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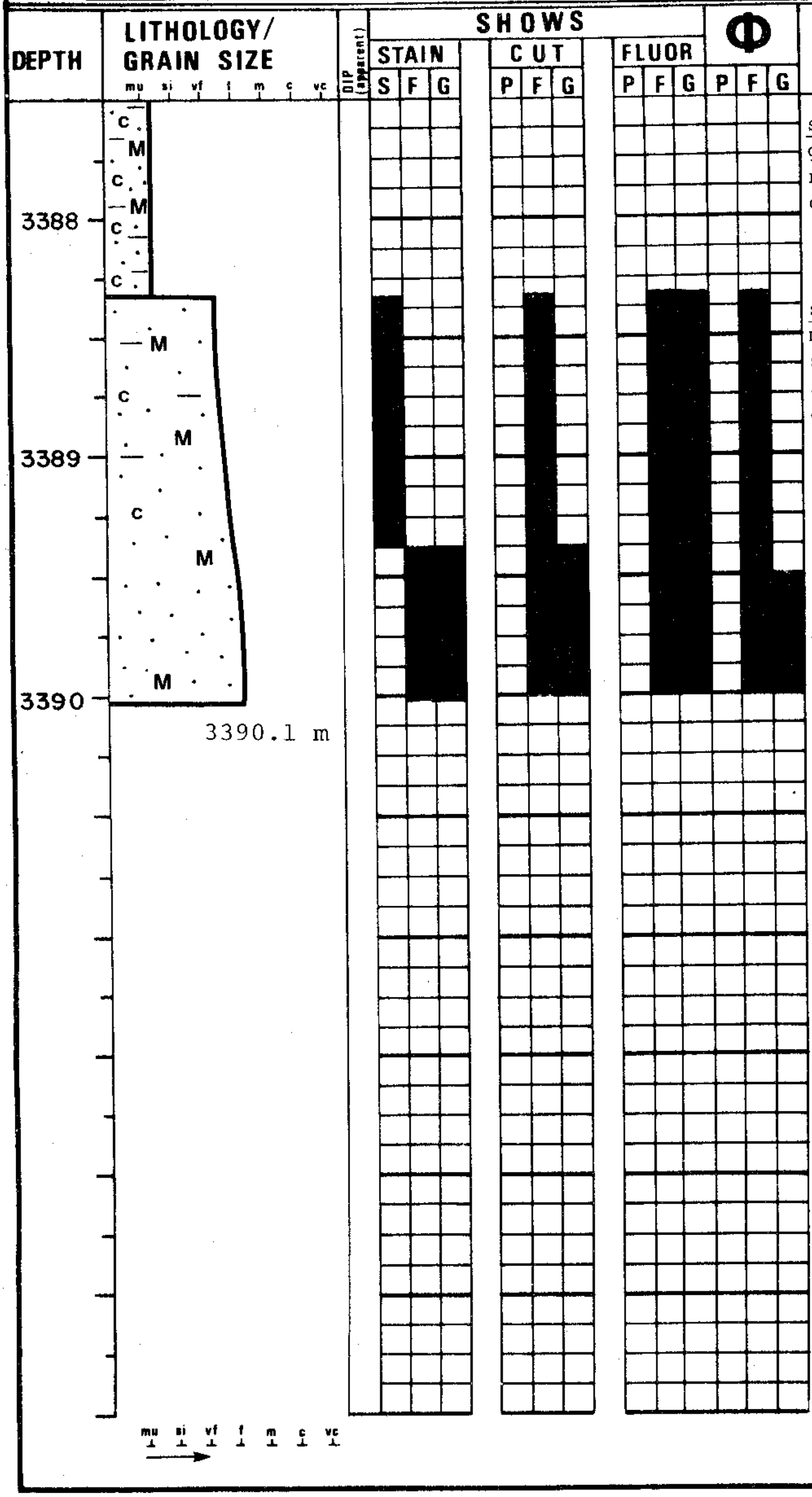
CONVENTIONAL CORE DESCRIPTION

FIELD WILDCAT	WELL NO. 34/10-2	AREA NORTH SEA
CORE NO. 8	INTERVAL from 3382,4 to 3390,1 m	CORED 7,5 · REC 7,5 m · 100 %
FORM.	GEOLOGIST KRÆMER/GLOPPEN	DATE 4 Nov. 78



LITHOLOGIC DESCRIPTION	MISC.
shale, med - brnish gy, hd, sd - slt lams, non calc, v micac, coal lams	
sandstone, clr, lt brn mlky qtz, vf - f, ang-subrnd, poor srt, hd, sil-kao cmt, coal frags and lams, v micac	good odor dull yel fluor, mod str mlky cut bleeding gas
sandstone, f - med, fair srt, no coal lams micac, else a/a	shows a/a

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SIDEWALL CORE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2 | RUN NO.: 1 | INTERVAL:

COORDINATES: 61 ° 06 ' 07,92 " N ; 02 ° 13 ' 39,96 " E

K.B.E.: meters | COMPANY: STATOIL/NH/SAGA

HOLE SIZE: 12" | GEOLOGIST: KRÆMER/GLOPPEN | DATE: 10 Okt. 78

DEPTH	REC. cm	LITHOLOGIC DESCRIPTION	POROSITY	SHOWS
2685	3	sh, med - dk gy, firm, sl slty, calc, micromic, subfiss	v poor	no
2678	2,5	sh, lt - med gy, firm, sl slty, calc, micromic, subfiss	v poor	no
2668	2,5	sh, dk gy, firm, calc, micromicac, subfiss	v poor	no
2638	3	sh, med dk gy, firm, sl slty, calc, micromicac, subfiss	v poor	no
		tr sd, clr qtz, vf, subang - subrnd, fair srt, sl slty, non calc, lse		
2633	3,7	sh, lt - med gy, sft - firm, sl slty, sl calc, micromicac	v poor	no
2627	2,0	sh, med gy, firm, slty, calc, micromicac tr clayst, lt - brnish gy, sft, sl calc, sl slty	v poor	no
2618	2,7	sh, med brnish gy, firm, slty, calc, micromicac tr pyr	v poor	no
		tr glauc		
2563	0	LOST IN HOLE		
2500	2,2	clayst, lt gy, sft, slty, non - calc, micromicac tr pyr, (micronodular)	v poor	no
		tr sd, clr qtz, vf, subang - subrnd, sl slty, non calc, lse	fair in sd	
2345	0	LOST IN HOLE		
2266	5	clayst, lt brnish gy, sft, slty, non calc tr sd, clr qtz, vf, subrnd, non calc, lse	v poor	no
		tr pyr		
2257	4,0	sh, lt gy, sft - firm, sl slty, calc, micromicac, subfiss	v poor	no
		tr pyr		
2252	4,2	sh, lt - med gy, firm, calc, micromicac, fiss tr sd, clr qtz, vf - f, subrnd, lse	v poor	no
		tr pyr tr fossils		
2247	4,3	clayst, med gy, sft, sl slty, sl calc, micromicac tr pyr	v poor	no
2185	5	sh, lt brnish gy, sft - firm, sl slty, v sl calc, fiss tr pyr	v poor	no
2182	5	sh, med gy, firm, sl slty, calc, micromicac, subfiss tr pyr	v poor	no
		tr foss frags		

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SIDEWALL CORE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2 | RUN NO.: 1 | INTERVAL:
COORDINATES: 61 ° 06 '07,92 " N ; 02 ° 13 '39,96 " E
K.B.E.: 25 meters | COMPANY: STATOIL/NH/SAGA
HOLE SIZE: 12" | GEOLOGIST: KRÆMER/GLOPPEN | DATE: 10 Oct. 78

DEPTH	REC. cm	LITHOLOGIC DESCRIPTION	POROSITY	SHOWS
2176	4,0	sh, lt - med gy, sft - firm, sl slty, calc, micro-micac, fiss	v poor	no
		tr foss frags		
2172	4,4	sh, lt brnish gy, sft - firm, sl slty, calc, micromicac, subfiss	v poor	no
		tr pyr tr foss frags		
2155	5	sh, med brnish gy, sft - firm, v slty, calc, micromicac, subfiss	v poor	no
		tr foss frags tr sd, clr qtz, vf, subang, lse		
		tr pyr tr glauc		
2076	3,4	sh, lt gy, firm, slty, v calc, micromicac, fiss tr pyr	v poor	no
		tr sd a/a		
2032	5,3	sh, lt gy, sft - firm, sl slty, calc, subfiss tr pyr	v poor	no
2026	5,5	sh, lt gy, sft - firm, slty, calc, subfiss tr pyr	v poor	no
		tr glauc		
2018	5,5	sh a/a tr pyr		
		tr mica	v poor	no
2013	5,5	clayst, lt gy, sl slty, sl calc, lam tr pyr	v poor	no
		tr sd, clr qtz, vf, lse		
2007	4,5	sltst, lt brnish gy, sft - firm, non calc tr sd a/a	poor-fair	no
		tr pyr tr glauc		
1950	5,2	clayst, wh - med gy, sft, sl slty, grdng to marl tr ls, pyritic	-	dull yel fluor in ls
1935	4,5	clayst, med - dk gy, sft - firm, slty, pyritic, non calc	no	no
1910	5,0	sh, med - dk gy, firm, sl calc	no	no
1860	5,0	sh, micromica, sl sl slty, else a/a	no	no
1854	4,0	sh, firm - hd, non calc, else a/a	v poor	no

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 11.9.78

HOLE SIZE: 17½" | GEOLOGIST: B.A. Rasmussen

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
220	80	sd, v f-f, v slty, qtz, clr, subrnd, mod srt	
	20	cl, med gy, sft, stky, sl calc	
	tr	shell frags, fossils	
	tr	pyr	
	tr	lign	
230	70	sd a/a	
	30	cl a/a	
	tr	shell frags, fossils	
	tr	pyr	
	tr	lign	
240	70	sd, a/a	
	30	cl a/a	
	tr	lign	
250	60	sd a/a	
	40	cl a/a	
	tr	lign	
260	60	sd a/a	
	40	cl a/a	
	tr	shell frags	
	tr	lign	
270	50	sd a/a	
	50	cl a/a	
	tr	shell frags, fossils	
	tr	lign	
280	50	sd a/a	
	50	cl a/a	
	tr	shell frags, fossils	
290	60	sd, a/a, occ med, qtz sd	
	40	cl a/a	
	tr	shell frags, fossils	
	tr	lign	
	tr	glauc	
300	50	sd a/a	
	50	cl a/a	
	tr	shell frags, fossils	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 17½" | GEOLOGIST: B.A. Rasmussen | DATE: 11.9.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
310	50	sd, v f-f , v slty, occ med, qtz, clr, subrnd, mod srt	
	50	cl, med gy, sft, stky, sl calc	
320	50	sd a/a	
	50	cl a/a	
330	50	sd a/a	
	50	cl a/a	
340	50	sd a/a	
	50	cl a/a	
350	50	sd a/a	
	50	cl a/a	
	tr	shell frags	
	tr	lign	
360	50	sd a/a	
	50	cl a/a	
	tr	lign	
370	60	cl a/a	
	40	sd a/a	
	tr	shell frags	
	tr	lign	
380	60	cl a/a	
	40	sd a/a	
	tr	lign	
390	60	cl a/a	
	40	sd a/a	
	tr	shell frags	
	tr	lign	
400	70	cl a/a	
	30	sd a/a	
	tr	shell frags	
410	70	cl a/a	
	30	sd a/a	
	tr	lign	
420	80	cl a/a	
	20	sd a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 17½" | GEOLOGIST: B.A. Rasmussen | DATE: 12.9.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
430	90	cl, med gy, soft, stky, sl calc	
	10	sd, v f-f, v slty, qtz, clr, subrnd, mod srt	
	tr	shell frags	
440	90	cl a/a	
	10	sd a/a	
450	70	a/a	
	30	sd a/a	
	tr	shell frags	
460	80	cl a/a	
	20	sd a/a	
470	80	cl a/a	
	20	sd a/a	
	tr	lign	
	tr	shell frags	
	tr	pyr, cmtd sd	
480	80	cl a/a	
	20	sd a/a	
	tr	lign	
	tr	shell frags	
	tr	pyr cmtd sd	
490	60	cl a/a	
	40	sd a/a	
	tr	sst, v hd, cmt	
	tr	fossils	
500	60	sd a/a	
	40	cl a/a	
	tr	shell frags	
	tr	sst, v hd, cmt	
	tr	lign	
510	80	cl a/a	
	20	sd a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

CO ORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 17½" | GEOLOGIST: T. Hauge | DATE: 15.9.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
520	100	clay, med gy, sft, soluble, non-v sl calc, slty	
	tr	sd, loose grns, f-v crs, angl, var colored qtz	
	tr	shell frags	
530	100	clay a/a	
	tr	sd a/a	
	tr	shell frags a/a	
540	100	cl a/a	
	tr	sd a/a	
	tr	shell frags a/a	
550	100	cl a/a	
	tr	sd a/a	
	tr	shell frags a/a	
560	100	cl a/a	
	tr	sd a/a	
	tr	shell frags a/a	
570	100	cl, bcming sticky else a/a	
	tr	sd a/a	
	tr	shell frags a/a	
580	100	clay a/a	
	tr	sd a/a	
	tr	shell frags a/a	
590	100	clay a/a	
	tr	sd a/a	
	tr	shell frags	
600	100	clay a/a	
	tr	sd a/a	
	tr	shell frags a/a	
610	100	clay a/a	
	tr	sd a/a	
	tr	shell frags	
620	100	clay a/a	
	tr	sd a/a	
	tr	shell frags a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 16/09/78

HOLE SIZE: 12" | GEOLOGIST: HAUGE

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
630	100	clay, med gy, sft, sli stky, slty, tr mica	
	tr	shell fragm	
	tr	sd f-crs	
640	100	clay a/a	
	tr	shell fragm a/a	
650	100	clay a/a	
	tr	shell fragm	
	tr	sd a/a	
660	100	clay a/a	
	tr	sd vf-crs, ang qtz, smoky, frost, clr	
	tr	shell fragm	
670	100	clay a/a	
	tr	sd a/a	
	tr	shell fragm	
680	100	clay a/a	
	tr	sd a/a	
	tr	shell fragm	
690	100	clay a/a	
	tr	sd a/a	
	tr	shell fragm	
700	100	clay a/a	
	tr	sd a/a	
	tr	shell fragm a/a	
710	80	clay a/a	
	20	sd vf-f, clr qtz, rnd, w srt	
	tr		
720	70	clay a/a	
	30	sd a/a occ crs-v crs	
	tr	shell fragm	
730	70	clay a/a	
	30	sd a/a	
	tr	shell fragm a/a	
740	70	clay a/a	
	30	sd a/a	
	tr	shell fragm	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE: 16/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
750	80	clay, med gy, sft stky, non calc, soluble, sli micro mica, slty	
	70	sd vf-f occ crs, rnd, w srt, qtz, gy, wh, smoky, clr	
	tr	shell fragm	
	tr	rock fragm black hd dense, metamorphic ? -unidentified	
760	80	clay a/a	
	20	sd a/a	
	tr	shell fragm a/a	
	tr	rock fragm a/a	
770	80	clay a/a	
	20	sd a/a	
	tr	shell fragm	
	tr	rock fragm	
780	90	clay a/a	
	10	sd a/a	
790	70	clay a/a	
	30	sd a/a	
	tr	shell fragm a/a	
	tr	rock fragm a/a	
800	80	clay a/a	
	20	sd a/a	
	tr	shell fragm	
	tr	rock fragm	
810	80	clay bcmng more slty else a/a	
	20	sd a/a	
	tr	shell fragm a/a	
	tr	rock fragm a/a	
820	90	clay a/a	
	10	sd a/a	
	tr	shell fragm a/a	
	tr	rock fragm a/a	
830	90	clay a/a	
	10	sd a/a	
	tr	shell fragm	
	tr	rock fragm	
840	100	clay a/a	
	tr	sd a/a	
	tr	shell fragm a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE: 16/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
850	80	clay, med gy, sft, stky, v slty, non-v sli calc, sli micro mica, soluble	
	20	sd, vf-f, occ crs, qtz, clr, frost, smoky, rnd, occ ang	
		shell fragm	
860	80	clay bcmng more calc else a/a	
	20	sd a/a	
		shell fragm a/a	
870	60	clay a/a	
	40	sd a/a	
	tr	shell fragm a/a	
880	90	sd, lse, med, occ crs, qtz, clr, gy, rnd-subrnd, w srt tr mica	
	10	clay a/a	
		shell fragm	
890	90	sd a/a	
	10	clay a/a	
	tr	shell fragm and foss	
900	90	sd a/a	
	10	clay a/a	
	tr	shell fragm	
910	60	clay a/a	
	40	sd a/a	
	tr	shell fragm	
920	70	sd a/a	
	30	clay a/a	
	tr	shell fragm, foss	
	tr	glauc	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY	AREA NORTH SEA	FIELD: WILDCAT
WELL NO.: 34/10-2		
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E		
K.B.E.: 25 meters	COMPANY: STATOIL/SAGA/HYDRO	
HOLE SIZE: 12"	GEOLOGIST: HAUGE	DATE: 19/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
930	70	sd, lse, med-v crs, qtz, clr gy, subrnd-rnd, fair srt, mica	
	20	clay, med gy, sft, stky, sli slty, non-v sli calc, micromica	
	10	sltst, lt brn, lt grn, frm, sdy	
	tr	glauc, pyr, foss and shell fragm	
940	80	sd a/a	
	20	clay a/a	
	tr	sltst a/a	
	tr	glauc, pyr, foss and shell fragm	
950	60	sd a/a	
	30	sltst a/a	
	10	clay a/a	
	tr	glauc, pyr, foss and shell fragm	
970	60	sltst a/a	
	20	sd a/a	
	20	clay a/a	
	tr	glauc, pyr, foss and shell fragm	
980	60	sltst a/a	
	20	sd a/a	
	20	clay a/a	
	tr	glauc, pyr, foss and shell fragm	
990	60	sltst a/a	
	90	sd a/a	
	20	clay a/a	
	tr	clauc, pyr, foss and shell fragm	
1000	90	sltst, med gy occ brn, sft-frm, sdy, glauconitic, non calc, micromica	
	10	sd a/a	
	tr	glauc pyr, shell fragm	
1010	100	sltst lt gy-brn, frm, non calc,	
	tr	sd a/a	
	tr	pyr glauc	
1020	100	sltst a/a	
	tr	pyr, glauc	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE: 19/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1030	100	sltst, lt-med gy-brn, sft-frm, non calc, sl mica, sli glauc	
	tr	sd, med-crs, qtz clr wh-gy, subrnd-rnd	
1040	100	sltst a/a	
	tr	sd a/a	
1050	100	sltst a/a	
	tr	sd a/a	
1060	100	sltst a/a	
1070	100	sltst, lt-med gy-brn, sft frm, sli glauc, sli mica, non calc, occ sdy, vf-f, occ grading to clay	
1080	100	sltst a/a	
1090	100	sltst a/a	
	tr	pyr	
1100	100	sltst a/a	
	tr	pyr	
	tr	siderite ? , brn, v hd, homog	
1110	100	sltst a/a bcmng more sdy	
	tr	pyr	
	tr	siderite ? a/a	
1120	90	sltst a/a	
	10	sd, lse, f-med, qtz clr, gy rnd-subrnd	No shows
		pyr	
		siderite ? a/a	
1130	90	sltst a/a occ v sdy, grading to cly	
	10	sd a/a	
	tr	siderite	
1140	50	sltst a/a	
	50	sd a/a	
	tr	siderite a/a	
1150	70	clay lt-med gy-brn, sft-frm sl mica, sli glauc, non calc, v slty, sdy	
	30	sd a/a	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 19/09/78

HOLE SIZE: 12" | GEOLOGIST: HAUGE

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1160	100	clay, lt-med gy brn, frm, sli micromica, sli glauc v slty, occ grading to sltst	
	tr	sd, lse, f-med, qtz, clr, wh rnd-subrnd	
	tr	siderite, brn, ang, v hd	
1170	90	clay a/a	
	10	sd a/a	
	tr	siderite/pyr/glauc-nodules	
1180	100	clay a/a less slty	
	tr	sd a/a	
	tr	sid/pyr/glauc-nod	
1190	100	clay a/a occ v sdy	
	tr	sd a/a	
	tr	sid/pyr/glauc-nod	
1200	80	clay a/a	
	20	sd a/a	
	tr	sid/pyr/glauc-nod	
1210	50	clay a/a	
	50	sd a/a	
	tr		
1220	50	sd a/a	
	30	clay a/a	
	20	clay sft, v stky, soluble, non calc, lt-med gy	
1230	80	clay med gy-brn, frm, slty non calc, occ sdy, micro mica, sli glauc	
	10	clay sft a/a	
	10	sd a/a	
1240	50	clay, frm a/a	
	50	clay sft a/a	
	tr	sd a/a	
1250	60	clay sft a/a	
	40	clay frm a/a	
	tr	sd a/a	
	tr	glauc a/a	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE: 19/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1260	60	clay, med brn, frm, slty, micromica, glauc, non calc	
	40	clay, lt-med gy brn, sft, v stky, sdy in prts non calc	No shows
	tr	sd, lse, f-med, qtz, clr, wh, gy subrnd-rnd, w srt	
1270	50	clay, frm a/a	
	40	clay sft a/a	
	10	sd a/a	
1280	50	clay frm a/a	
	50	clay sft a/a	
	tr	sd a/a	
1290	50	clay frm a/a	
	50	clay sft a/a	
	tr	sd a/a	
1300	60	clay sft a/a	
	40	clay frm a/a	
	tr	sd a/a	
1310	60	clay sft a/a	
	40	clay frm a/a	
	tr	sd a/a	
1320	60	clay sft a/a	
	40	clay frm a/a	
	tr	sd a/a	
1330	60	clay sft a/a	
	30	clay frm a/a	
	10	sd a/a	
1340	80	clay sft a/a	
	10	clay frm	
	10	sd a/a	
1350	80	clay sft a/a	
	10	clay frm a/a	
	10	sd a/a	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE:

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1360	90	clay med gy-brn, sft, occ frm, non calc, slty in prts	
	10	sd lse, f-med, qtz, subrnd-rnd, clr wh, gy	
1370	90	clay a/a	
	10	sd a/a	
1380	90	clay a/a	
	10	sd a/a	
1390	90	clay a/a	
	10	sd a/a	
1400	80	clay a/a	
	20	sd a/a	
1410	100	clayst bcmng grnish gy and less sft else a/a	COLOR CHANGE
	tr	sd a/a	
1420	100	clayst a/a	
	tr	sd a/a	
1430	100	clayst a/a	
	tr	sd a/a	
1440	90	clayst a/a	
	10	sd a/a	
1450	90	clayst a/a	
	10	sd a/a	
	tr	mica	
1460	100	clayst a/a	
	tr	sd a/a	
	tr	mica	
1470	100	clayst a/a	
1480	100	clayst a/a	
1490	100	clayst a/a	
	tr	sd a/a	
1500	100	clayst a/a	
	tr	sd a/a	
1510	100	clayst a/a	
	tr	sd	
1520	100	clayst a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: HAUGE | DATE: 20/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1530	100	claystone, brn, grn, bluish grn, frm blky, non calc, glauc in prts	No shows
1540	100	clayst	
1550	100	clayst a/a	
1560	100	clayst a/a	
	tr	pyr	
	tr	siderite	
1570	100	clayst a/a	
	tr	sltst wh-lt gy, v hd, sdy glauc	
	tr	siderite/pyr nodules	
1580	100	clayst bcmng subfiss else a/a	
	tr	sltst a/a	
	tr	sid/pyr-nod	
1590	100	clayst a/a	
	tr	sltst a/a	
1600	100	clayst a/a	
1610	100	clayst a/a	
1620	100	clayst a/a	
	tr	pyr	
	tr	sltst wh-gy, v hd, glauc	
1630	100	clayst a/a	
1640	100	clayst a/a	Gold yel fluor fast str milky cut
	tr	sst, vf-f, qtz clr, brn, w cmt, poor por	
1650	100	clayst in prts grading to sh else a/a	
	tr	sst a/a	Shows a/a
1660	100	clayst	
	tr	sst a/a	Shows a/a
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: HAUGE/KRÆMER | DATE: 21/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1670	100	clayst, gy, grn, brn, frm, sub-fiss, in prts grading to sh, non calc, occ micromica	In sst lt brn oil stain, bri yel-gold
		sst, vf-f, brn, gy, frm, w cmt, poor srt, poor por	fluor, fast str, milky wh cut
1680	100	clayst a/a	
	tr	sst a/a	
	tr	pyr	
1690	100	clayst occ sft and stky else a/a	Shows a/a
	tr	sst a/a	
	tr	pyr	
1700	100	clayst a/a	
	tr	sst a/a	
	tr	pyr	
1710	100	clayst a/a	
	tr	sst a/a	
	tr	pyr	
1720	100	clay st a/a	Shows a/a
	tr	sst a/a	
	tr	pyr	
1730	100	clayst/sh a/a	
	tr	sst a/a	
	tr	pyr	
1740	100	clayst/sh a/a	
	tr	sst a/a	
	tr	pyr	
1750	100	clayst/sh a/a	Shows a/a
	tr	sst a/a	
1760	100	clayst/sh, a/a	
	tr	sst a/a	
	tr	dol, lt brn, v hd	Shows a/a
	tr	marl, wh, sft	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: KRÆMER | DATE: 21/09/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1776	100	claystst/sh, lt gy-med gy, lt dk brn, lt grn, lt bluish grn, frm, subfiss, occ slty, non calc occ micromicac, occ sl calc	In sdst: oil stain, yel fluor fast str. mlky cut
	tr	sdst, lt brn, qtz, frm, slty, poor por	
	tr	marl, wh, sft	
	tr	dol, lt brn, v hd, microxln	
	tr	pyr	
1782	100	clayst/sh a/a	Shows a/a
	tr	sdst a/a	
	tr	marl, lt gy-wh, sft	
	tr	dol, a/a	
	tr	ls, wh-lt gy, frm-hd, occ sl arg, microxln	
1788	100	clayst/sh a/a	Shows a/a
	tr	sdst a/a	
	tr	marl a/a (up to 5%)	
	tr	ls a/a	
	tr	dol a/a	
1794	100	clayst/sh a/a	Shows a/a
	tr	marl a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	sdst a/a	
	tr	pyr	
1800	100	clayst/sh a/a	Shows a/a
	tr	marl a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	pyr	
	tr	sdst a/a	
1806	95	clayst/sh a/a	
	5	dol a/a	No shows
	tr	ls a/a	
	tr	pyr	
	tr	marl a/a	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 22/09/78

HOLE SIZE: 12" | GEOLOGIST: KRÆMER

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1812	100	claystt/sh, lt-med gy, med brn, grnish gy, bluish gy, occ dk brn, frm, occ sft, subfiss, non calc, occ sl calc, occ slty, occ micromicac	Lt yel fluor, mod str mlky cut in sdst.
	tr	marl, wh-lt gy, sft	
	tr	sdst, gy-brn, hd, slty, poor por	
	tr	ls, gy-wh, frm-hd, microxln	
	tr	pyr	
	tr	dol, lt brn, vhd-hd, microxln	
1818	100	claystt/sh a/a	
	tr	marl a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	pyr	
1825	100	claystt/sh a/a	
	tr	marl a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	pyr	Bottoms up
1827	100	claystt/sh a/a	
	tr	marl a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	pyr	Shows a/a
	tr	sdst a/a	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 26 & 27 Sept. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1830	90	sh, med gy, med brn, brnish red, grnish gy and bluish gy, non - occ calc, firm, occ slty, occ micromicac, occ sl pyritic, mostly fiss	bottoms up
	10	clayst, med-dk gy, occ lt gy, firm, occ sft, mostly slty, sl calc, occ non calc	oil stain and pale yel fluor, mod fast str milky cut
	tr	sdst, clr - brn qtz, vf - f, occ med, fairly sorted tightly cemented	
	tr	dol, lt brn, v hd	
	tr	ls, gy - wh, hd, occ arg, occ micromicac	
	tr	pyr	
1836	80	clst, med gy, lt - med brn, occ dk brn, grnish gy, firm, sft, occ slty, occ stky, occ micromicac, non- sl calc, occ subfiss	cmt in smpl
	20	sd, clr qtz, f, occ vf, ang - subang, lse, occ as sdst	
	tr	ls, lt gy - lt brn, hd - firm, microxln	shows a/a
	tr	dol, lt brn, v hd	
	tr	mica (biotite)	
	tr	pyr	
1839	90	clayst a/a	shows a/a
	10	sd a/a	
	tr	ls a/a	cmt in smpl
	tr	dol a/a	
	tr	mica a/a	
	tr	pyr	
1842	80	claystst a/a	shows a/a
	20	sd a/a	
	tr	ls a/a	cmt in smpl
	tr	dol a/a	
	tr	mica a/a	
	tr	pyr	
1845	95	clst a/a	shows a/a
	5	sd a/a	
	tr	a/a	cmt in smpl

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 29/9-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1850	50	Clst, occ slty, lt-med gy, occ greenish gy, firm	
	50	shale, lt - med gy, med dk gy, firm - mod hd	
	tr	pyr	
	.	v thin calc stringers, wh, sft	
1855	50	clst a/a	
	50	shale a/a	
	tr	pyr	
		calc str a/a	
1860	50	clst a/a	
	50	sh a/a	
1870	60	sh a/a	
	40	clst a/a	
	tr	sd, f, subrnd	
1875	60	sh a/a	
	40	clst a/a	
1880	60	sh a/a	
	40	clst a/a	
	tr	sst frags, calc, v hd	
1885	50	sh a/a	
	50	clst a/a	
	tr	ls frags, hd, buff	
1890	50	sh a/a	
	50	clst a/a	
	tr	ls frags a/a	
1895	60	sh a/a	
	40	clst a/a	
	tr	ls a/a	
	tr	pyr	
1900	60	sh a/a	
	40	clst a/a	
	tr	ls frags, hd, wh - buff	
	tr	dol, hd, brn	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 30.9.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1905	60	sh, lt - med - dk med gy, firm - hd	
	40	clst, occ slty, lt med - med gy, occ greenish gy, firm	
	tr	ls frags, hd, wh - buff,	
	tr	dol frags, hd, brn	
1910	60	sh a/a	
	40	clst a/a	
	tr	pyr	
	tr	ls a/a	
	tr	sd, f, subrnd, w srt	
1915	70	sh a/a	
	30	clst a/a	
	tr	dol a/a	
	tr	sd, qtz, fine, ang - subrnd, w srt	
	tr	sh, tuffaceous, dk gy, w/wh inclutions, non calc, firm	
	tr	ls a/a	
1920	80	sh a/a	
	20	clst a/a	
	tr	ls a/a	
	tr	ls a/a	
	tr	sd a/a	
1925	70	sh a/a	
	30	clst a/a	
	tr	ls a/a	
1930	70	sh a/a	
	30	clst a/a	
	tr	sl a/a	
1935	70	sh a/a	
	30	clst a/a	
	tr	ls a/a	
1940	60	sh a/a	
	40	clst a/a	
	tr	ls a/a	
1945	70	sh a/a	
	30	clst a/a	
	tr	ls a/a	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 30.09.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
1950	60	sh, lt med - dk med gy, firm - hard	
	40	clst, occ slty, lt med - med gy, occ greenish gy, firm	
	tr	ls frags, hd, wh - buff	
	tr	pyr	
1955	60	sh a/a, occ dk reddish brn	
	40	clst a/a	
	tr	ls a/a	
	tr	pyr	
1960	60	sh, a/a	
	40	clst a/a	
	tr	ls a/a	
	tr	pyr	
1965	70	sh a/a	
	30	clst a/a	
	tr	ls a/a	
	tr	pyr	
1970	70	sh a/a	
	30	clst a/a	
	tr	ls a/a	
	tr	sd, qtz, f, subrnd - rounded, w srt	
1975	60	sh a/a	
	40	clst a/a	
	tr	pyr, ls a/a	
	tr	sd a/a	
1985	55	sh a/a	
	40	clst a/a	
	5	sd a/a, mostly coarse	
	tr	ls a/a, pyr	
1995	60	sh a/a	gas: 250 units
	35	clst a/a	
	5	sd, qtz, vf - c, subang - subrnd, mod srt	
	tr	pyr	
	tr	ls a/a	
2000	80	sh a/a	
	20	clst a/a	
	tr	sd a/a	
2003	80	sh a/a, calcareous	
	20	clst a/a	
	tr	sst a/a, pyr	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: H. Carstens | DATE: 30.09.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2006	85	sh, lt - med gy, firm - sft, sl calc, clst, " "	NO SHOWS
	5	pyr	
	5	sst, qtz, rnd - subang, cl - wh	
	5	lst, wh - brn	
2009	80	sh, lt - med gy, grn gy, firm-sft clst " " "	incr. amounts of lst frags
	10	lst, cl - wh - brn	
	5	sst a/a	
	5	pyr	
2012	85	sh, a/a, sl calc clst, a/a	
	10	lst a/a	
	5	pyr	
	tr	sst	
2015		a/a	
2018	80	sh a/a	
	15	clst a/a	
	5	lst a/a	
	tr	sst a/a	
	tr	pyr	
2021	40	sh a/a, plty slty, calc	
	60	clst a/a, calc	
	tr	sst a/a	
	tr	pyr	
2024	50	sh a/a	Note that (sh)/clst now is bcmng calc
	50	clst	
	tr	lst a/a	decreasing amounts of sst
	tr	pyr, occ v crs	
2027	50	sh a/a, sl - non calc	NO SHOWS
	50	clst a/a, sl calc	
	5	slt a/a	
	tr	pyr	
2030	80	sh a/a, sl calc (occ black, brn)	
	15	clst a/a, calc - non calc	
	5	lst a/a	
	tr	sd, 2 - 3%, hard stringers	
2030	80	sh a/a, sl calc - calc	
	20	clst a/a	
	tr	lst, pyr, sd	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST H. Carstens | DATE 30.09.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2036	60	sh, med lt gy - gr gy, sft - firm, calc	NO SHOWS
	40	clst, " " " " "	
	tr	lst, clr, subrnd-subang	sd v sparse!
	tr	pyr	NOTE: decrease in drilling rate at about 2035 m
2039	80	sh a/a	
	15	clst a/a	
	5	lst a/a	
	tr	pyr	
2042	70	sh a/a	
	25	clst a/a	
	tr	lst a/a, sd a/a	
	5	pyr	
2045	80	sh a/a partly calc	
	15	clst a/a	
	5	lst a/a	
	tr	pyr	
2048	60	sh a/a	
	35	clst, lt gy - med gy, occ v calc, grading to marl(?)	
	5	lst a/a	colour of sh seems to be more greenish
	tr	pyr	
2051	20	sh, li-med gy, occ grn gy, non calc	
	75	clst a/a, occ calc	
	5	lst a/a	
	tr	pyr	
	tr	sst, clr, subrnd - rnd, crs	
2054	30	sh, med gy - med dk gy, non calc	
	65	clst a/a, occ calc	
	5	lst a/a	
	tr	pyr, sdst a/a	
2057	30	sh a/a, occ grnish gy	
2060	65	clst a/a, occ calc	
	5	lst a/a	
	tr	pyr	
2063	30	sh a/a	
	50	clst a/a	
	10	pyr	
	10	lst a/a	
	tr	sd a/a	
2066	30	sh a/a	
	60	clst a/a	
	10	lst a/a	
	tr	sd	
	tr	pyr	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: H. Carstens/F. Leinum | DATE: 30.09.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2069	30	sh, gr gy, sft - firm, non calc	
	60	clst, med gy, gr gy, occ calc	NO SHOWS
	5	lst, wh - yel - brn	
	tr	pyr	
	tr	sd, subrnd - subang, wh, occ calc cem	
2072-75	30	sh, a/a	
	60	clst a/a, partly calc	
	5	lst a/a	
	5	pyr	
	tr	sd	
2078	30	sh a/a	
	65	clst a/a	
	5	lst a/a	
	tr	pyr	
	tr	sd	
2081	30	sh a/a	
	55	clst a/a	
	10	lst a/a	
	5	pyr	
	tr	v calc (pyr) siltst	
	tr	marl	
2084	25	sh a/a	
	50	clst a/a	
	20	calc sltst	
	5	lst a/a	
	tr	pyr	
	tr	sd	
2087	30	sh a/a	
	45	clst a/a	
	20	calc sltst	
	5	lst a/a, add, light brown lst fragm	
	tr	pyr	
	tr	sd	
2090	30	sh a/a, non calc	
	45	clst a/a, calc	
	20	calc siltst	
	5	lst, wh-yel, brn	
	tr	pyr	
	tr	sd, subrnd - subang, wh, crs	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Leinum/Carstens | DATE: 30.09.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2093-96	30	sh, lt-gr gy, mod hd-firm, non calc	
	45	clst, lt-med gy, gr gy, soft, calc	NO SHOWS
	5	lst, wh - yel - brn	
	20	siltst, calc	
	tr	sd, subrnd-subang, wh, med-crs	
	tr	pyr	
2099	40	sh a/a	
	40	clst a/a	
	15	sltst a/a	
	5	lst a/a	
	tr	sd a/a	
	tr	pyr	
2102	40	sh a/a	
	40	clst a/a	
	10	sltst a/a	
	5	pyr	
	tr	sd a/a (v sparse)	
	5	lst a/a	
2105	30	sh a/a	
	50	clst a/a	
	10	sltst a/a	
	5	lst a/a	
	5	pyr	
	tr	sd a/a (v sparse)	
2108-11	40	sh a/a	
	40	clst a/a	
	10	sltst a/a	
	5	lst a/a	
	5	pyr	
	tr	sd a/a	
2114	35	sh a/a	
	30	clst a/a	
	20	sltst, calc cem	
	10	pyr	
	tr	sst, calc, cem	
	5	lst, wh - yel	
2117	40	sh a/a	
	30	clst a/a	
	20	sltst a/a	
	5	lst a/a	
	5	pyr	
	tr	sd a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 01.10.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2120	60	sh, lt med - dk med, occ dk gy, firm - hd, non calc	
	30	clst, lt gy - med gy, firm, calc - v calc	
	5	ls, tan - buff, mod hd	
	5	pyr	
	tr	sd, vf - crs, mostly f, qtz, clr, subrnd	
2123	60	sh a/a	
	30	clst a/a	
	5	pyr	
	5	ls a/a	
	tr	sd a/a	
2126	80	sh a/a	
	20	clst a/a	
	tr	sd a/a	
	tr	pyr	
	tr	fossils	
	tr	ls	
2129	50	sh a/a	
	40	clst a/a	
	10	ls, wh - tan, mod hd - hd	
	tr	sd	
	tr	pyr	
2132	40	sh a/a	
	40	clst a/a	
	10	marl, li - med gy - gr gy, firm	
	10	lst a/a	
	tr	sd	
	tr	pyr	
2135	40	sh a/a	
	40	clst a/a	
	10	marl a/a	
	10	lst a/a	
	tr	sd	
	tr	pyr	
2138-41	40	sh a/a	
	45	clst a/a	
	10	lst a/a	
	5	marl a/a	
	tr	pyr& sd, calc cmt	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum/Carstens | DATE: 01.10.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2144	40	clst, li - med gy - gn gy, sft - firm	dull yel fluor in
	35	sh, med gy - gn gy, firm	lst frags
	20	v calc clst (marl), li - med gy, sft - firm	
	5.	lst, wh - yel, hard	
	tr	sst, slr - wh, subrnd, calc cmt (qtz)	
	tr	pyr	
2147	40	clst a/a	
	35	sh a/a	
	20	v calc clst (marl) a/a	
	5	lst a/a	
	tr	sst a/a	
	tr	pyr	
2150	40	sh a/a	
	40	clst a/a	
	10	calc clst a/a	
	5	lst a/a	
	5	pyr	
	tr	sst a/a	
2153-56	50	sh a/a	
	40	clst , calc a/a	
	10	ls a/a	
	tr	pyr	
	sd		
2159	50	sh a/a	
	45	clst a/a, silty	
	5	ls a/a	
	tr	pyr	
	tr	sd	
2165	50	sh a/a	
	45	clst a/a, calc, silty	
	5	ls a/a	
	tr	pyr	
	tr	sd a/a	
2171	70	clst a/a, calc - v calc, silty	
	30	sh a/a	
	tr	pyr	
	tr	sd	
	tr	ls	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Leinum/Rasmussen | DATE: 01.10.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2177	65	clst, li - med gy, gr-gy, sft-firm, silty, calc	
	30	sh, med gy - gr gy, firm, non calc	
	5	lst, wh-yel, hard	
	tr	sst, clr - wh, subrnd-subang, qtz, crs	
	tr	pyr	
2183	75	clst a/a	
	25	sh a/a	
	tr	lst a/a	
	tr	sst a/a	
	tr	pyr	
2189	70	clst a/a	
	30	sh a/a	
	tr	lst a/a, occ brn	
	tr	sd a/a	
	tr	pyr	
2195	75	clst a/a, silty	
	25	sh a/a	
	tr	lst a/a	
	tr	sd a/a (v sparse), sst, calc cmt, subrnd, hard	
	tr	pyr	
2201	70	clst a/a	
	30	sh a/a	
	tr	lst a/a	
	tr	sd a/a (v sparse)	
	tr	pyr	
2204	60	clst a/a	
	40	sh a/a	
	tr	lst a/a	
	tr	sst, li gy - wh, subrnd, hard, calc cmt	
	tr	pyr	
2207	70	clst a/a	
	30	sh a/a	
	tr	lst a/a	
	tr	sst a/a	
	tr	pyr	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 01.10.78

HOLE SIZE: 12" | GEOLOGIST: H. Carstens

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2210	60	clst, lt-med gy, occ gn-gy, sft-firm, partly calc	NO SHOWS
	40	sh, gy - gn gy, firm, non calc	
	tr	sd, clr - wh, med , qtz, subrnd - subang	
	tr	lst, wh - yel (tan)	
	tr	pyr	
2213	50	sh a/a	
	50	clst a/a	
	tr	sd a/a	
	tr	pyr	
	tr	lst a/a	
2216-19	50	sh a/a	
	50	clst a/a	
	tr	sd a/a	
	tr	pyr	
	tr	lst a/a	
2222	50	sh a/a	
	50	clst a/a	
	tr	sd a/a	
	tr	lst a/a	
	tr	pyr	
2225	50	sh a/a	
	50	clst a/a	
	tr	sd a/a	
	tr	lst a/a	
	tr	pyr	
2228-31	60	clst a/a	
	40	sh a/a	
	tr	sd a/a	
	tr	lst a/a	
	tr	pyr	
2234	50	clst a/a	
	50	sh a/a, partly calc	
	tr	sd a/a	
	tr	lst a/a	
	tr	pyr	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: H. Carstens / F. Leinum | DATE: 01.10.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	40	clyst, lt-med gy, firm	
2237	30	sh, gn-gy, firm, non calc	
	30	sh, li-med gy, sft-frm, calc	
	tr	lst, wh-buff-tan, hrd	
	tr	py	
	tr	sand, wh-dr, subrnd-subang, qts	
2240	70	sh, a/a calc-non calc	
	30	dyst a/a	
	tr	py	
	tr	lst a/a	
	tr	sund a/a	
2243	40	dyst a/a	
	30	sh li-med gy, calc, frm-sft	
	30	sh, gn gy, frm, non calc	
	tr	lst a/a	
	tr	sst a/a	
	tr	py	
	60	sh a/a, calc-non calc	lt .yel.flour. in
2246	30	dyst a/a	lst. fragm.
	5-10	lst, wh, frm-sft	Increas.amnt. of
	tr	py	lst. fragm.
	tr	sst, a/a	
	tr	sst, lt med gy, hard, calc. cement	
	65	sh a/a, gr gry, non calc	
2249-52	30	clyst a/a, med lt gry calc	
	5	lst a/a	
	tr	sand a/a	
	tr	py	
	50	sh a/a	
2255-58	30	clyst a/a	
	20	clyst, lt gry, very calc, grading into marl.	
	tr	lst a/a	
	tr	sand a/a	
	tr	py	
	40	sh a/a	
2261-64	45	clyst a/a	
	15	marl	
	tr	lst a/a, occ lt-brn.	
	tr	sand a/a	
	tr	py	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO | DATE: 2/10-78
HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	50	sh, med, gy-grn gy firm, non calc	lt yel. fluor in lst. fragm.
2270	40	clyst, lt-med gy, firm, calc	
	10	lst, wh-buff, firm-brittle	
	tr	sand, qtz, clr-wh, subrnd-subang, hd	
	tr	py	
	60	sh a/a, firm-hard	
2276	40	lst wh-lt gy-buff, firm-hd	BTMS UP
	tr	py	
	tr	sand a/a	
	35	sh a/a	
2279	35	clayst a/a	
	30	lst, wh, tan, lt gray, firm-hd	
	tr	sand	
	tr	py	
	35	sh a/a	
2282	35	clyst a/a	
	30	ls a/a	
	tr	sand, py	
2285	35	sl a/a	
	35	clyst a/a	
	30	ls a/a	
	tr	sand	
	45	sh a/a	
2288	45	clayst a/a	
	10	ls a/a	
	tr	sand	
		py	
	70	sh a/a	
2291	15	clayst a/a	
	15	ls a/a	
	tr	sand, py	
2294			
	70	sh a/a	
	10	clayst a/a	
	10	ls a/a	
	10	sh, palebrn, mud hd.	
	tr	py	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

CO ORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST Rasmussen/Leinum/Carstens | DATE: 2/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	50	sh med gry, firm-hd, non calc	
2297	30	clayst, lt-med gry, firm, v.calc	
	10	sh, pale brn, mod hd	
	10	ls, wh, mod hd-hd	
	tr	dol, lt brn, mod hd-hd	
	tr	py	
2300	60	sh, mod gry a/a	
	15	sh, pale brn a/a	
	15	clayst a/a	
	10	dol a/a	
	tr	py, ls	
2303	60	sh, med gry a/a	
	15	sh, pale brn a/a	
	15	clayst a/a	
	10	dol a/a	
	tr	py, ls	
2306	70	sh, med gry a/a	
	15	clayst a/a	
	10	dol a/a	
	5	py	
	tr	ls	
2309	60	sh, med gry a/a	
	30	dol	
	5	ls a/a	
	5	py	
	tr	clayst a/a	
2313	60	sh, med gry a/a	
	15	del	
	15	clayst a/a	
	3	py	
	2	ls a/a	
2315	40	sh, med gry a/a	
	40	clayst a/a, mostly lt gry	
	15	dol a/a	
	5	py	
	tr	ls	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Leinum/Carstens | DATE: 02/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	60	sh, lt-med gy, gn-gy, firm, non calc	
2318	35	clyst, lt-med gy, sft-firm, calc	lt.yel flour in dol.
	5	dol, lt brn, hard	
	tr	lst, v.lt gy, firm	
	tr	py	
	45	sh a/a	
2321	40	clyst a/a	
	10	dol a/a	
	5	py	
	tr	lst a/a	
	40	sh a/a	
2324	40	clyst a/a	
	10	dol a/a	
	10	py	
	tr	lst a/a, tr fossils.	
	tr	sand, clr-buff, qtz, subang, med	
	50	sh a/a	
2327	40	clyst a/a	
	5	dol a/a	
	5	py	
	tr	lst a/a	
	tr	sand a/a	
	50	sh a/a	
2330	50	clyst a/a	
	1	dol a/a	
	tr	py	
	tr	lst a/a	
	tr	sand a/a	
2333	50	sh a/a	
	45	clyst a/a	
	5	lst, lt-med gy, sft-firm	
	1	dol a/a	
	tr	sand a/a	
	tr	py	
	tr	fossils	
	50	sh a/a	
2336	35	clyst a/a	
	10	lst a/a	
	2	dol a/a	
	2	py	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Leinum/Rasmussen | DATE: 2/10-78, 3/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	60	sh, med gy-gr, gy, firm, non calc	
2339	35	clyst, lt-med gy, sft-firm, calc	
	2	dol, lt-brn, hard	
	tr.	lst, v.lt, gy, firm	
	3	py	
	65	sh a/a	
2342	35	clayst a/a, mostly v.lt.gry	new bit (no.12)
	tr	dol a/a	2344: T.G. 282
		py	
	70	sh a/a	
2345	30	clyst a/a	
	tr	dol a/a	
	tr	lst a/a (sparse)	
	tr	sand, clr-wh, subrnd-subang, qtz, med gr(v.sparse)	
	tr	py	
	70	sh a/a	
2348	30	clyst a/a	
	tr	dol a/a	
	tr	lst a/a, sparse	
	tr	sand a/a, subang-ang, crs	
	tr	py	
	75	sh a/a	
2351	25	clyst a/a	
	tr	dol a/a	
	tr	lst a/a	
	1	py	
	75	sh a/a	
2345	25	clyst a/a	
	tr	dbl a/a	
	tr	lst a/a (sparse)	
	tr	py	
	80	sh a/a	
2357	20	clyst a/a	
	tr	dol a/a	
	tr	lst (v.sparse)	
	tr	py	
	80	sh a/a, occ, calc	
2360	20	clyst a/a	
	tr	dol a/a	
	tr	lst a/a, hard	
	tr	py	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Leinum/Carstens | DATE: 3/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	80	sh, med, gy-gr.gy, firm, non calc	
2363	20	clyst, h-med gy, sft-firm, calc.	
	1	dol, lt-brn, hd	
	tr.	lst, lt-gy, firm, occ, lt-brn	
	tr	sand, clr-wh, subrnd-subang, qtz, crs. (v.sparse)	
	tr	py	
	70	sh a/a	
2366	30	clyst a/a	
	2	dol a/a	
	tr	lst a/a	
	tr	sand a/a	
	tr	py	
	70	sh a/a	
2369	30	clyst a/a	
	2	dol a/a	
	tr	lst a/a	
	tr	sand a/a	
	tr	py	
2372	50	sh a/a, non-sli.calc	
	45	dyst a/a	
	5	dol a/a	
	1	lst a/a	
	1	py	
	tr	sand a/a	

statoil
Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum/Carstens | DATE: 03.10.78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	60	clyst, pt slt, lt-med dk gy, sft-firm, calc	
2375	35	sh, li-med dk gy, firm, noncalc-sli.calc	tr.of flour, lt yel
	5	lst, arg, wh-lt gy, firm-hd	(in lst.)
	1	dol, lt brn, hrd	
	tr	py	
	tr	sand (qtz), wh-clr, fine-mod gr, subrnd-subang	
2378-81	60	clyst a/a	
	30	sh a/a	
	5	lst a/a	
	2	dol a/a	
	2	py	
	tr	sand a/a	
	50	clyst a/a	
2384	40	sh a/a	
	5	lst a/a	
	3	dol a/a	
	2	py	
	50	clyst a/a	
2387	45	sh a/a	
	2	lst a/a	
	2	dol a/a	
	1	py	
	tr	sand a/a	
2380	70	sh a/a, non calc	
	30	clyst, lt-med gry a/a	
	tr	ls, mod.hd	
		dol, hd	
		py	
	70	sh a/a	
2393-96	30	clyst a/a	
	tr	ls, a/a, occ, lt brn	
	tr	dol a/a	
	tr	py	
	75	sh a/a	
2399	25	clyst a/a	
	tr	ls a/a	
	tr	dol a/a	
	tr	cand, qtz, wh-clr, mod gr, subang-subrnd	
	tr	py	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 3/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	65	sh, med-med dk gy, firm, non calc, occ calc	lt.yel.flour in calc shale and arg. lst.
2402	30	clyst, lt.med gy, sft-firm, calc, occ non calc	
	5	lst, wh-lt gy, firm-mod hd, arg in parts	
	tr.	dol lt brn, hd	
	tr	sand, qtz, wh-clr, med gr, subrnd-subang	
	tr	py	
	65	sh a/a	
2405	30	clyst a/a	
	5	lst a/a, lt gy-buff, occ tan.	
	tr	py,	
	70	sh a/a	
2408	25	clyst a/a	
	5	lst a/a	
	tr	py	
	80	lst a/a	
2411-14	20	clyst a/a, occ lt.gy,	
	tr	lst a/a	
	tr	dol, lt brn, hd	
	tr	py	
	70	sh a/a	lt.yel. flour in arg. lst
2417	20	clyst a/a	
	10	lst, lt gy, arg, hd	NB! Increas. in lst. cont.
	tr	dol, a/a	
	tr	py	Lignite add. in the mud
	70	sh a/a, non calc	
2420	15	clyst a/a, calc	
	15	lst a/a	
	tr	dol a/a	
	tr	py	
	tr	sand a/a	
	70	sh a/a	
2423	20	clyst a/a	
	10	lst a/a	
	tr	sand a/a	
	tr	py	
	70	sh a/a	
2426	25	clyst a/a	
	5	lst a/a	
	tr	dol a/a	
	tr	sand a/a (v.sparse)	
	tr	py	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST Leinum/Rasmussen | DATE: 4/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	50	sh, med-med dk gy, firm non calc	
2429	50	clyst, lt.med, gy, sft-firm, calc, occ.v.calc	
	tr	lst, wh-lt gy, hard, occ arg	
	tr.	py	
	50	sh a/a	
2432	50	clyst a/a	
	tr	lst, wh-lt gy, mod hard	
	tr	sand, qtz, wh-clr, med gr, ang	
	tr	py	
	60	sh a/a	
2435	35	clyst a/a	
	3-5	lst, gy, hd, arg.	lt.yel. flour, in ang. lst.
	tr	lst, a/a	
	tr	dol, lt brn, hd	
	tr	py	
	50	sh a/a, occ gr.gy	
2438	45	clyst a/a, occ lt brn	
	5	lst a/a, arg.	
	tr	dol a/a	
	tr	py	
	55	sh a/a	
2441	40	clyst a/a	
	5	ang. lst	
	tr	lst, wh-lt gy, hard	
	tr	dol a/a	
	tr	py, sand a/a	
	65	sh a/a	
2444	30	clyst a/a	
	5	arg lst a/a	
	tr	lst a/a	
	tr	dol a/a	
	tr	py a/a	
	tr	sand a/a, crs. gr.	
	50	sh a/a	
2447	35	clyst a/a	
	15	lst, ang a/a	
	tr	dd a/a	
	tr	py	

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Den norske stats oljeselskap a.s
Postboks 300 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum | DATE: 4/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2450 - 2462		sample. missing due to stop circ.	
2465	50	sh, lt med-med gry, firm-hd, non calc	
	10	clayst, lt gry, firm, calc, silty	
	10	ls, wh-lt gry, mod hd	
	tr	sand, occ calc cmt.	
		dol lt brn, hd	
2468	80	sh a/a	
	10	clayst a/a, occ silty	
	10	ls a/a	
	tr	siltst. yel gry, mod hd	
		py	
2471	80	sh a/a	
	10	clyst a/a	
	10	lst, lt-med gy, occ lt brn, hd.	
	tr	py	
2474	80	sh a/a	
	10	clyst a/a	
	10	lst a/a	
	tr	py	
	tr	sand, subrnd-subang, med gr	
	tr	sst, v.fn gr, sil.cem.	
2477	70	sh a/a	
	25	clyst a/a	
	5	sst, gy, sil.cmt, hrd, vf-gr, grad to sltst.	
	1	lst a/a	
	tr	sand a/a	
	tr	py	
2486	70	sh a/a	
	20	clyst a/a, occ gn.	
	10	sst, a/a	
	1	lst, wh-lt gy, hd	
	tr	py	
	tr	sand	
2483	75	sh a/a	
	20	clyst a/a	
	5	sst a/a (grad to sltst)	
	tr	py & lst a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Rasmussen/Leinum/Carstens | DATE: 5/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
	90	sh, lt med-med gy, occ gn, sft-hrd, non calc	weall dull flour in lst.
2486	5	clyst, mod gy, sft-frm, calc.	
	3	sst, qtz, v.fn grained, grad.to sltst, hrd, sil.cmt.	
	2	dol, lt-lt.med gy, hrd	v.weak flour
	tr	py	in sst. as well
	tr	dol, lt-brn, hrd	
2489	80	sh a/a	
	15	clyst a/a	
	3	sst a/a	
	2	lst a/a	
	tr	dol a/a	
	tr	py	
	70	sh a/a	
2492	25	clyst a/a	
	5	lst a/a	
	tr	dol a/a	
	tr	py	
	tr	sst a/a	
2495	80	sh a/a	
	15	clyst a/a	
	5	lst a/a	
	1	sst a/a, prtly, calc cmt	
	tr	dol	
	tr	py	
	70	sh a/a	
2498	25	clyst	
	3	lst a/a, lt gy-lt brn	
	2	sst a/a	
	tr	dol	
	60	sh	
2501	15	clyst	
	15	sst a/a v f	
	10	lst a/a	
	tr	dol	
	tr	py	
2504	60	sh a/a	
	25	clyst a/a	
	10	sst a/a	
	5	lst a/a	
	tr	py	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 12" | GEOLOGIST: LEINUM/RASMUSSEN | DATE: 5 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2507	60	sh, med gy, sft-firm-hd, non calc	
	30	clst, med gy, sft - firm, calc	weak dull yel fluor
	5	lst, wh - lt gy - lt brn, hd	in lst
	5	sst, vf gr, gr to sltst, sil cmt, sli calc cmt, hd	& partly sst
	tr	dol, lt brn, hd	
	tr	sd, subang, med gr, clr qtz	
	tr	pyr	
2510	60	sh a/a	
	30	clst a/a	
	5	lst a/a, occ arg	
	5	sst a/a, lt brn - med gy	
	tr	dol a/a	
	tr	sd a/a	
	tr	pyr	
2513	65	sh a/a	
	25	clst a/a	
	5	lst a/a	
	5	sst a/a	
	tr	dol a/a	
	tr	sd a/a	
	tr	pyr	
2516	70	sh a/a	
	25	clst a/a	
	tr	lst a/a	
	5	sst a/a	
	tr	dol a/a	
	tr	sd a/a	
	tr	pyr	
2519	70	sh a/a	
	25	clst a/a	
	5	clst a/a	
	tr	lst a/a	
	tr	sd a/a	
	tr	pyr	
2522	70	sh a/a	
	30	clst a/a	
	tr	sst a/a	
	tr	lst a/a	
	tr	sd a/a	
	tr	pyr	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: LEINUM | DATE: 5 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2525	60	sh, med gy - gr gy, firm - hd, non calc, occ calc	
	35	clst, med lt gy - med gy, sft - firm, calc	
	2	lst, wh - lt gy - lt brn, hd	
	3	dol, lt brn, hd	
	tr	sst, v fine gr, grading to sltst, med gy, calc, cmt, mod hd	
	tr	pyr	
2528	60	sh a/a	
	35	clst a/a	
	3	lst a/a	
	2	dol a/a	
	tr	sst a/a, occ lt brn	
	tr	sd, subang, med gr qtz	
	tr	pyr	
2531	65	sh a/a	
	30	clst a/a	
	5	lst a/a, occ arg, dol a/a	
	tr	sst a/a, hd	
	tr	pyr	
2534	60	sh	
	35	clst	
	4	lst & dol	inter 2534 - 43
	1	sst a/a, hd, occ lt brn	samples lost
	tr	pyr	
2543	70	sh a/a, occ gr - gy	
	20	clst a/a	
	tr	lst a/a	
	5	dol a/a	
	5	sst a/a	
	tr	pyr	
2546	60	sh a/a	
	30	clst a/a	
	10	dol a/a	
	5	lst a/a	
	tr	sst a/a	
	tr	pyr	
2549		A/A? TOO MUCH MUD IN SAMPLE	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY	AREA: NORTH SEA	FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters	COMPANY: STATOIL/SAGA/HYDRO	
HOLE SIZE: 12"	GEOLOGIST: LEINUM/KRÆMER	DATE: 5 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2552	60	sh, med - dk gy, firm - hd, non calc	
	30	clst, lt - med gy, sft - firm, sl calc	
	5	dol, lt brn, hd	
	5	lst, wh - lt gy, occ lt brn, hd	
	tr	sst, vf, lt - med gy, occ lt brn, mostly calc cmt grading to sltst	
	tr	pyr	
2555	60	sh a/a	
	30	clst a/a	
	5	dol a/a	
	5	lst a/a	
	tr	sst, a/a,	
	tr	pyr	
2558	60	sh a/a (non calc)	
	20	clst a/a	
	10	sst a/a	
	5	lst a/a	
	5	dol a/a	
	tr	pyr	
2561	60	sh a/a	
	20	clst a/a	
	10	dol a/a	
	5	sst a/a	
	5	lst a/a	
	tr	pyr	
2564	60	sh a/a, non calc	
	30	clst a/a	
	5	dol a/a	
	5	lst a/a	
	tr	sst a/a	
2567	60	sh a/a	
	25	clst a/a	
	5	dol a/a	
	5	lst a/a	
	5	sst a/a	
	tr	pyr	

4.00.16

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: LEINUM/KRÆMER | DATE: 5 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2570	40	sh, med gy, occ lt gy, firm, slty, micromicac, occ pyritic, sl calc, occ non calc, subfiss	weak dull yel fluor v slow str bluish cu in ls and sltst
	40	sltst, lt gy - brnish gy, hd, sl sdy, calc cmtd, sl micac	
	10	clst, med - dk gy, firm, slty, sl calc	
	tr	dol, lt brn, hd	
	tr	ls, wh - lt gy, occ arg, hd, occ microxln	
	tr	pyr	
	tr	sd, clr - mlky qtz, subang, vf - f, lse	
2573	40	sh a/a	
	30	sltst a/a	
	15	sd, clr - milky qtz, vf, occ f - med,subang-subrnd,lse	
	10	clst a/a	
	5	dol a/a	
	tr	clst a/a	
	tr	ls a/a	2576 LOST
2579	50	sh a/a	
	30	sltst a/a	
	10	clst a/a	
	10	sd a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	pyr	
2581	50	sh a/a, occ gr gy	
	25	sltst a/a	
	10	clst a/a	
	5	sd a/a	
	5	dol a/a	
	tr	ls a/a	
	tr	pyr a/a	
2585	40	sh a/a	
	35	sltst a/a	
	15	clst a/a	
	5	sd a/a	
	5	dol a/a	
	tr	ls a/a	
	tr	pyr	

4.00.16

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: KRÆMER/LEINUM | DATE: 6 Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2588	40	sh, lt gy - dk gy, occ brnish gy and grn, firm, slty occ micromicac, occ pyritic, non - sl calc, occ calc	weak dull yel fluor
	40	sltst, lt gy - brn, lt gy, hd, sl sdy, calc cmtd sl micac	v sl str bluish cut in ls, sltst
	20	clst, med-dk gy, firm, slty, sl calc	
	tr	dol, lt brn, hd	
	tr	ls, wh - lt gy, occ arg, occ microxln	
	tr	pyr	
2491	50	sh a/a	
	30	sltst a/a	shows a/a
	10	clst a/a	
	10	dol a/a	
	tr	sd a/a	
	tr	ls a/a	
	tr	pyr	
2594	50	sltst a/a, partly w/dolic cmt.	
	40	sh a/a	
	5	clst a/a	
	5	sd, vf - med grained, clr - wh	
	tr	lst a/a	
	tr	dol a/a	
	tr	pyr	
2597	70	sltst a/a	
	30	sh a/a	
	tr	sd, med gr, clr - wh, (qtz)	
	tr	pyr	
	tr	lst	
	tr	dol	
2600	80	sltst a/a	
	20	sh (& clyst) a/a	
	tr	sd a/a	
	tr	pyr	
	tr	dol & lst a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: KRÆMER | DATE: 6 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2603	70	sltst, gy - lt brn, qtz, subang, calcite and silica cmt, hd	lt - dull yel fluor in sltst
	15	sh, lt - dk gy, occ gy, silty in parts, firm, non calc	fast milky cut
	10	clst, med dk gy, sft - firm, calc	
	5	lst, li gy - li brn, hd	
	tr	dol, li brn, hd	
	tr	pyr	
	tr	sd, med gr, subang, wh	
2606	85	sltst a/a	
	15	sh a/a, clst a/a	
	tr	lst & dol	
	tr	pyr	
	tr	sd, ang, clr, med - crs grained	
2609	80	sltst a/a	
	20	sh a/a & clst a/a	
	tr	lst & dol a/a	
	tr	pyr	
	tr	sd a/a	
2612	75	sltst a/a	
	25	sh a/a & clst a/a	
	tr	lst	
	tr	dol	
	tr	pyr	
2615	90	sltst a/a	bottoms up
	10	sh a/a & clst a/a	
	tr	lst a/a	weak lt dull yel fluor
	tr	dol a/a	
	tr	sd a/a	
	tr	pyr	

statoil
Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: KRÆMER/GLOPPEN | DATE: 6 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2618	75	sh, lt - dk gy, firm, sl slty, micromicac, occ pyritic, non calc, occ sl calc, subfiss	dull yel fluor
	20	clst, lt - med gy, occ brnish gy, sft - firm, sl slty occ micromicac, non - sl calc, occ grdng to marl	mod - sl str milky bluish cut in
	5	sltst, lt gy - lt brn, hd - firm, occ calc cmt, occ arg, occ sdy, micaceous	sltst & ls
	tr	dol, lt brn, hd	
	tr	ls, wh - lt gy - lt brn, hd, occ arg, microxln	
	tr	sd, clr - milky qtz, vf - crs, subang - subrnd, lse	
	tr	pyr	
2621	75	sh a/a	shows a/a
	25	clst a/a	
	tr	sltst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr	
2624	80	sh a/a	shows a/a
	20	clayst a/a	
	tr	sltst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr	
2627	75	sh a/a	shows a/a
	25	clst a/a	
	tr	sltst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd, occ pink, else a/a	
	tr	pyr	
2630	50	ls, lt gy - med gy, hd, occ firm, arg	shows a/a
	40	sh a/a	
	10	clst a/a	
	tr	dol a/a	
	tr	pyr	
	tr	sltst a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 6/10-1978

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2618	75	sh, lt-dk gy, firm, sl slty, micromicac, occ pyritic non calc, occ sl calc, subfiss	Dull yel fluor
	20	clayst, lt-med gy, occ bruish gy, sft-firm, sl slty, occ micromicac, sl calc occ grdng to marl	mod-sl str cul
	5	sltst, lt gy-lt brn, hd-firm, occ calc cmt, occ arg, occ sdy, micaceous	
	tr	dol, lt brn, hd	
	tr	ls, wh-lt gy-lt brn, hd, occ, arg, microxln	
	tr	sd, clt-milky, qtz, vf- crs, subang-subrnd, lse	
	tr	pyr	
2621	75	sh a/a	
	25	clayst a/a	Shows a/a
	tr	slst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr	
2624	80	sh a/a	
	20	clayst a/a	Shows a/a
	tr	sltst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr	
2627	75	sh a/a	
	25	clayst a/a	Shows a/a
	tr	sltst a/a	
	tr	dol a/a	
	tr	ls a/a	
	tr	sd, occ pink else a/a	
	tr	pyr	
2630	50	ls, lt gy-med gy, hd, occ firm, arg	
	40	sh a/a	Shows a/a
	10	clayst a/a	
	tr	doc a/a	
	tr	pyr	
	tr	sltst a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 7/10/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2633	60	ls, lt-med gy, hd, occ firm, arg microxln	Dull yel fluor,
	40	sh, med-dk gy, firm occ hd, non calc, occ sl calc,	vsl
		micromicac, sl slty, occ pyritic, subfiss-fiss	str milky-bluish cut in ls, sltst
	tr	clayst, lt-gy, occ med gy, sft, sl calc, sl micro-micac, sl slty	
	tr	sltst, brnish gy-lt gy, hd, sil cmt, arg, occ sdy, microceous	
	tr	dol, lt brn, hd	
	tr	pyr	
2636	60	sh a/a	
	40	ls a/a	
	tr	clayst a/a	
	tr	dol a/a	
	tr	sltst a/a	
	tr	pyr	
2639	50	sh a/a	
	40	ls a/a	
	5	sst, clr, occ milky qtz, vf-f grnd, subang-subrnd, mod srt lse, occ fri, occ sl calc	
	3	pyr, occ micronodular	
	2	clayst a/a	
	tr	sltst a/a	
	tr	dol a/a	
2642	50	sh a/a	
	45	ls a/a	
	5	sd a/a	
	tr	clayst a/a	
	tr	sltst a/a	
	tr	dol a/a	
	tr	pyr	
2645	50	ls a/a	
	45	sh a/a	
	5	sd a/a	
	tr	sltst a/a	
	tr	dol a/a	
	tr	clayst a/a	
	tr	pyr	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 7/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2648	50	sh, med-dk gy, hd, occ firm, occ hd, non calc, occ sl calc, micromicac, sl silty, occ pyritic, subfiss-fiss	Dull yel fluor, weak str bluish-milky cut in ls
	40	ls, lt-med gy, hd, occ firm, arg, microxln	
	5	sd, clr, occ, milky qtz, vf-f grnd, SA-SR, mod srtd, lse, occ fri, occ sl calc	
	3	pyr, occ micronodular	
	2	sltst, bruish gy-lt gy, hd, sil cmt, occ sdy, micromicac	
	tr	dol, lt brn, hd	
	tr	clayst, lt gy, sft, sl calc, sl micromicac, sl slty	
2651	45	sh, med-dk gy, occ grnish gy, occ reddish-brn, else a/a	
	35	ls a/a	
	10	sd, clr, qtz, occ milky, occ brn, vf.f grnd, occ med grnd, A-SR, mod srtd, lse	
	5	pyr a/a	
	5	sltst a/a	
	tr	clayst a/a	
	tr	tr dol	
2645	45	sh a/a	Shows a/a
	40	ls /a	
	5	sd a/a	
	5	pyr a/a	
	5	sltst a/a	
	tr	dol	
	tr	clayst	
2657	50	sh a/a	
	40	ls, occ milky wh, else a/a	
	5	pyr a/a	
	5	sltst a/a	
	tr	sd	
	tr	clayst	
	tr	dol	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 7/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2660	50	ls, lt-med gy, occ brnish, occ milky wh, hd, occ firm, arg, microxln, occ xln, occ fibrous	
	45	sh, med-dk gy, occ lt grnish-gy, occ brnish-red, hd to firm, non calc, occ sl calc, micromicac, sl silty, occ pyritic , subfiss-fiss	Dull yel fluor, weak str bluish-milky cut in ls
	5	pyr, occ micronodular	
	tr	sltst, brnish gy-lt gy, hd, non calc, occ sdy	
	tr	tr sd, clr qtz, vf.f gnd	
	tr	dol, lt brn, hd	
	tr	glauc , foss frags	
2663	50	ls a/a	Shows a/a
	45	sh a/a	
	5	pyr a/a	
	tr	a/a	
2666	55	sh a/a	Shows a/a
	40	ls a/a	
	5	pyr a/a	
	tr	a/a	
2669	50	sh a/a	Shows a/a
	45	ls a/a	
	5	pyr a/a	
	tr	a/a	
2671	60	sh a/a	Bottoms up
	40	ls a/a	Shows a/a
	tr	pyr	
	tr	dol a/a	
	tr	foss frags	
	tr	glauc	
	tr	sd	
2672	70	sh a/a	
	15	ls a/a	
	15	claystone, lt-mod gy, occ rd, sft-firm, sl slty, non-sl calc, grdng to marl	
	tr	sltst a/a	
	tr	dol a/a	
	tr	pyr	
	tr	foss frags	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12" | GEOLOGIST: Kræmer/Gloppen | DATE: 08/10/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2675	75	sh, med-dk gy, occ grnish, gy, firm-hd, occ slty, non-sl calc, micromicac, subfiss-fiss	dull yel fluor v slow str milky cut in ls & sltst.
	15	clayst, lt-med gy, occ brnish, slty, sl call, occ non calc, occ grdng to marl	
	10	ls, wh-lt-med gy, firm-hd, arg, microxln	
	tr	dol, lt brn, hd	
	tr	sltst, lt brn, hd sl sdy, micac, non calc, sl pyritic	
	tr	pyr	
2678	75	sh, a/a	12 units
	10	clayst a/a	
	15	ls, occ brn, else a/a	
	tr	dol a/a	
	tr	sltst a/a	
	tr	pyr	
2681	40	ls a/a	Shows a/a
	30	sh a/a	
	20	sltst a/a	
	10	clayst a/a	
	tr	pyr	
	tr	dol a/a	
2684	80	ls a/a	
	15	sh a/a	
	5	clayst a/a	
	tr	pyr	
	tr	sltst a/a	
	tr	dol a/a	
2685	80	ls a/a	
	20	sh a/a	
	tr	clayst a/a	Shows a/a
	tr	sltst a/a	
	tr	dol a/a	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 12 1/4" | GEOLOGIST: Kræmer/Gloppen | DATE: 08/10/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2687	80	ls, wh-lt-med gy, firm-hd, arg, microxln	Dull yel fluor very slow str
	20	sh, med-dk gy, occ grnish gy, firm-hd, occ, slty, non-sl calc, micromicac, subfiss-fiss	
	tr	sltst, lt brn, hd, sl sdy, micac, non calc, pyritic	
	tr	sd, clr-brownish qtz, vf-f gnd, subang-subrnd,lse	
	tr	pyr	
	tr	dol, lt brn, hd	
	tr	clayst, lt gy, sft, occ sdy, occ sl calc	
2690	80	ls a/a	Shows a/a
	20	sh a/a	
	tr	fossil frags occ w/fibrous calc, occ pyritized	
	tr	else a/a	
2693	80	ls a/a	
	20	sh a/a	
	tr	a/a	
2696	70	ls a/a	Shows a/a
	30	sh a/a	
	tr	a/a	
2699	70	ls a/a	Decreasing am of sd
	30	sh a/a	
	tr	a/a	
2702	80	ls a/a	
	20	sh a/a	
	tr	a/a	
2705	80	ls a/a	
	20	sh a/a	
	tr	a/a	
	60	ls a/a	
	40	sh a/a	
	tr	a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" (XIG) | GEOLOGIST: Hage/Gloppen | DATE: 12/10/78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2723	100	ls, lt-med gy, hd, arg, xln	jusert dypet, -3m
		(much cmt. in sample)	
2726	90	clayst, lt-med gy, sft, sl calc, sl slty	
	10	ls a/a	
	tr	sd, clr qtz, vf-f, subrnd, lse	
	tr	pyr	
2729	100	clayst, sft-firm, else a/a	
	tr	sltst, med gy, hd, non-calc	
	tr	pyr	
	tr	sd a/a	
	tr	ls a/a	
2732	100	clayst a)a	
	tr	sltst a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr a/a	
2735	100	clayst a/a	
	tr	sltst	
	tr	sd a/a	
	tr	pyr a/a	
2738	95	clayst, calc a/a	
	5	sd, a/a	
	tr	sltst a/a	
	tr	ls a/a	
2741	100	clayst a/a	
	tr	sd a/a	
	tr	sltst a/a	
	tr	pyr a/a	
2744	100	clayst, sft, lt-med gy, slty, sticky	
	tr	a/a	
2747		clayst a/a	
2750		clayst a/a	
2753		clayst a/a, slight incr. in slt.	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Hage/Gloppen/Ræstad | DATE: 13/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2756	95	clayst, med gy-gy, sft, sticky, slty	
	5	sd, clr-wh, occ org, vf-f, sbrnd, ls	
	tr	ls, lt-med gy, hd, grg	
	tr	sltst, med gy, hd	
2759	95	clayst a/a	
	5	sd a/a	
	tr	ls a/a	
	tr	sltst a/a	
2762	50	ls, lt gy-gy, occ lt brn, hd, arg, blky	
	50	clayst a/a	
	tr	sd a/a	
	tr	sltst a/a	
2765	70	ls, lt gy-gy, occ lt brn-grngy, hd,	No show
	15	sh, dk gy, frm, slty, non-sl calc	
	15	clayst, med gy, v slty, firm, calc	
	tr	sd a/a	
2768	40	ls a/a	
	40	clayst a/a	
	20	sh a/a	
	tr	sd a/a	
2771	60	clayst, slty, calc a/a	
	40	ls, a/a, tr sd, f-vf,	
2774	50	clayst a/a, gy-brnsh in prts.	
	50	ls a/a, tr sd+sh a/a	
2777	60	ls a/a	
	40	clayst, slty, a/a grdg to sh	
	tr	sd+sh a/a, tr pyr	
2780	50	ls a/a	
	45	clayst, slty,	
	5	sd a/a, tr pyr	
2783	50	clayst a/a/ contaminated w/nutplug	
	50	ls a/a	
2786	70	clayst, lt gy, sft, calc, sl slty	
	30	ls+clayst a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 14/10-78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2789	75	clayst, lt gy, sft, calc, sl sticky, slty	
	20	shale, med gy, mod hd-hd, sl calc	
	5	ls, lt-med gy, firm-hd, arg	
2792	75	clayst, lt gy, sft, sticky, slty a/a	silt-vf sd in mud cleaner
	15	sltst-vf sd, lse, lt gy	
	10	shale+ls a/a	
2795	70	clayst, sft a/a slty	
	20	sltst a/a	
	10	shale a/a+ls a/a	
2798	75	clayst, sft a/a	
	20	siltst, vf-sd a/a	
	5	shale+ls a/a (tr)	
2801	100	clayst a/a, slty	
	tr	a/a (ls+shale)	
2804	100	clayst a/a decreasing silt	
2807	100	clayst, a/a, sl slty	
2810	100	clayst, lt gy, sft, calc sticky	
2813	100	clayst a/a	
2816	100	clayst a/a	
2919	100	clayst a/a	
2922	100	clayst a/a, becoming marly	
2925	100	clayst/marl a/a	
2928		claystone, a/a tr:shale reddish-brum sl calc	
2831	100	clayst/marl a/a, tr sd, clr-org, vf-f, subrnd, lse tr pyr	
2834	95	clayst a/a tr pyr a/a	
	5	ls, gy-grn gy-lt brn, hd, arg, blky	
		tr sltst, clr, friable, calc cmtd	
2837	75	clayst a/a tr sd a/a, tr pyr a/a, tr sltst a/a	
	15	ls a/a	
	10	sh, gy, frm, non calc	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 14 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2840	40	clst, lt gy, sft, stky, calc	heavy contamination
	30	ls, gy - brn - lt brn, hd, in parts arg, cryptoxln	of lost circ matr
	25	sd, clr - wh - org, vf - f, subrnd, lse	
	5	sh, gy, firm, non - mod calc	
	tr	pyr,	samples from 2837 -
	tr	sltst, clr, friable, calc cmt	2852 m are not
2843	40	clst, med gy, black mottled, subfiss, sft - firm	representative due
	20	clst, lt gy, sft a/a	to wrong sievesizes
	20	ls a/a	
	15	sd a/a	
	5	pyr	
	tr	sltst a/a	
	tr	fossil frags	
2846	40	clst, med gy, sft - firm	
	30	clst, lt gy - sft	
	25	ls a/a	
	5	pyr	
	tr	sdst, clr, f - mf, subrnd, lse	
2849	90	clst, med gy, sft - firm, dom sft, sticky	
	10	clst, lt gy, soft	
	tr	sst, clr, friable, ls, lt brn - brn, hd	
	tr	pyr & fossils	
2852	100	clst, lt - med gy, soft - firm, sl calc	
	tr	pyr	
	tr	sd, clr - wh, vf - f	
	tr	ls, lt gy - brn	
2855	100	clst, lt gy - med gy, sticky, very calc	
	tr	sd, clr - wh, med, subrnd	
2858	100	clst, med gy, sl calc, silty	
	tr	clst, lt gy	
	tr	sd & sltst a/a	
2861	100	clst a/a, becoming firm w/ depth	
	tr	ls, brn - lt brn, hd	
	tr	marl, buff, w/v thin arg laminae,soft	
2864	95	clst a/a	
	5	marl, buff, sft, v thin arg laminae	
2867	90	clst, med gy, sft - firm, v calc	
	10	sst, wh, hd, mf - c, well sorted, calc cmt	
	tr	sh, dk gy, firm	
	tr	marl, buff - lt gy, sft	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 15 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2870	100	clst a/a	
	tr	ls, dk gy	
	tr	sltst, lt gy, lse	
	tr	sst, wh - med gy, hd, poor srt, f - crs	
	tr	sh, dk gy a/a	
	tr	marl a/a	
2873	70	clst, sl calc, brick red, firm - sft, slty, less calc in hd parts	
	30	clst, sh, gy, firm, slty a/a	
	tr	marl, lt gy, firm, slty, a/a	
2876	100	clst (a/a), sl calc, brn - brick red, firm	
	tr	sltst, sk gy, hd, calc cmt	
	tr	calcite crystals, tabular, soft - firm	
2877	90	clst, gy - reddish - brown, firm, sl calc, slty	
	10	clst, lt gy, firm, non calc	
	tr	calcite, crystals a/a	
2879	100	clst, gy - reddish brown a/a	
	tr	sltst, wh, hd, calc cmt	
	tr	calcite crystals, tabular, soft - firm a/a	
	tr	clst, lt gy, firm	
2882	95	clst, lt brn, sft, sticky, v calc and clst, brick red, sft - firm, calc, slty	
	5	clst, lt gy - gy, firm, non - sl calc, subfiss in prts	
	tr	sltst, a/a	
	tr	pyr	
	tr	calcite crystals a/a	
	tr	marl, lt gy a/a	
2885	90	clst, med gy - brnish - red, soft - firm, slty	
	10	marl, lt gy - slty	
	tr	sst, clr - wh, hd, f - c, calc cmt, no visible por	
	tr	ls, lt gy - pinkish brn	no shows
2888	100	clst a/a, bcmng more greyish	
	tr	ls, lt gy - pinkish brn	
	tr	clst/sh, dk gy, sft - firm, slty	
	tr	marl a/a	
	tr	calcite crystals, clr - lt brn	
2891	70	clst a/a	
	30	ls, lt - med gy, hd, silty, arg	
	tr	pyr	
	tr	sd, lt brn, med, subrnd	
	tr	ls a/a	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Rærstad | DATE: 15 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2894	70	clst, med gy, firm, subfiss, non calc, pyritic, slty	
	30	ls, lt - med gy - brnish, hd - firm, arg	
	tr	clst, brick red, a/a, calc	
	tr	ls, milky wh, aragon, xl	
	tr	pyr	
2897	70	clst a/a (sft clst in sample)	
	30	ls a/a	
2900	60	clst/sh, med gy, firm, mic, sl waxy surface, non calc	
	40	claystone/shale, lt brn - reddish brn, soft - firm, calc - v calc	
	tr	marl, lt gy - wh, soft - firm	
	tr	ls, lt - med brn	
	tr	pyrite concretions	
2903	85	sh/clst, med gy, micaceous, pyritic, non calc	
	10	sh/clst, lt gy - reddish brn, micaceous, soft - firm, calc when soft	
	5	ls, wh - pink	
	tr	marl, buff - lt grey, soft - firm	
2906		a/a	
2909		a/a, pyritic (clusters)	
2912		a/a	
2915	100	shale, a/a, pyritic, slty, med hd, med gy - dk gy, v slty, part w/sd grns, vf,	
	tr	ls a/a (brn)	
	tr	glauc (?)	
2918	100	shale, a/a, pyritic, sl - v slty w/sd a/a	
	tr	ls a/a	
2921	100	sh a/a, occ brick red, sl - v slty in part w/sd a/a	
	tr	ls & pyr	
2924	50	ls, dolic, lt brn - brn, hd, arg, occ lt gy, firm, slty	
	50	sh, a/a, pyritic, tr forams	
2927	60	sh, slty - v slty, else a/a	
	40	ls a/a, tr clst, red, abund. pyr clusters	
2930	60	ls, dolic a/a	
	40	sh, slty - v slty a/a, tr clst, brick red	
2933	70	ls, dolic, brn, a/a	
	30	sh a/a, bcmng brnish in parts, pyric	
2936	75	ls, dolic, brn - pink, firm - hd	
	25	sh/clst, lt - dk gy, hd - soft, sl calc when soft	
	tr	marl, lt gy, wood frags, cacified	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 15 Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2939	50	sh, med gy - dk gy, slty in parts, hd - firm, subfis sl calc	
	45	ls, brn, dolic, hd - firm, xln in parts, arg, slty in parts	
	5	pyrite as clusters, microxln	
	tr	sd, lse, f - vf, subang	
2942	60	sh a/a	
	50	ls, pyr a/a	
	tr	sd a/a	
2945	50	sh a/a	
	40	ls a/a	
	10	marl, lt gy, soft	
	tr	lign, with Fe in coating?	
	tr	pyr	
	tr	calcite cryst, tabular, clr	
	tr	sd, pyritic, dolomitic, subrnd, med - crs	
2948	80	coal, clean, shiny, hd	
	10	sh, med gy, hd, non calc	
	10	sst, clr - lt brn, med - crs, well sorted, fair por	
	tr	ls a/a	
2949	80	shale a/a	
	10	coal a/a	
	10	sst a/a	
	tr	pyr	
	tr	ls a/a	
2950	90	sh a/a	
	5	sst a/a	
	5	ls, dolic a/a	
2951	90	sh, a/a, slty	no fluor
	10	sltst + coal + arg ls a/a	BG up to 700 units
2954	60	sltst, gy - brn, arg, mic, fri, pyritic, tr sd, v f	
	40	sh + coal a/a, tr ls	
2954		sltst+sh+coal a/a in sd (ca. 5%) vf - f, lse, clr qtz incr coal	
2960		a/a	
2961	25	sh, dk gy, hd, micromica, waxy, non calc	BG 500 units no fluor
	25	sh, lt - med gy, soft - firm, sl calc	
	50	sltst, lt gy - lt brn, arg, lignitic, fri, sl calc	
	tr	coal, arg, hd	
	tr	ls, pink, pyritic clusters	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig | DATE: 16 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2963	50	sh, dk gy a/a	
	40	sh, lt - med gy a/a	
	10	sltst, lt gy - lt brn a/a	
	tr	ls, wh - pink	
	tr	sh, dk gy - black,	
	tr	pyr clusters	
2966		sh, sltst a/a	
2969	50	sh/clst, med - dk gy, v micac, firm - soft	
	25	coal, shiny, brittle	
	tr	sltst, lt brn, micac, sl lign, no vixible por	
	tr	ls, pink	
2972	60	sh, dk - med gy, calc, firm a/a	
	25	clst, lt gy - lt brn, soft, mic - v mic, v calc (marly)	
	5	coal a/a	
	tr	marl, wh, sft	
	tr	sltst a/a	
2975	80	sltst a/a	
	20	sh, dk - med gy a/a	
	tr	sd, med, sl subang	
2978	80	sltst/slty clst, lt gy - lt brn, sft - hd, sltst when hd, mic, non calc, siltst grdg into sst	
	20	sh, med - dk gy, hd, non calc, mic a/a	
	tr	sd, clr, v crs, rnd,qtz	
	tr	dol, lt gy	
	tr	pyr	
2981	50	sh, med - dk gy a/a	
	40	sh, lt - med gy	
	10	sst, vf - f, subang, fair srt, silica cmt, poor por	
	tr	coal	
	tr	calcite crystals	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½ | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 16 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
2984		a/a	
	tr	sst - sd, v crs - crs a/a	
2987		a/a	
2990	25	sh, med - dk gy, a/a	
	25	sh, lt - med gy a/a	
	25	coal, arg, pyritic, wood struct	
	25	sltst - sst a/a	
2993	35	sh, med - dk gy a/a	
	35	sh, lt - med gy a/a	
	25	sltst a/a	
	5	coal a/a	
2996	80	sh a/a	
	20	sltst, sdy, fri - hd, a/a	
2999	60	sst - sltst, v f, occ f, hd, calc cmt, arg in parts hd, pyr cmt in parts	
	40	sh a/a	
3002	60	sst - sltst, v f - f, occ med a/a	
	35	sh a/a	no show
	5	sltst, gy - brn, arg, mic, fri,	
	tr	sd, vf	
3005	60	sst - sltst a/a	
	30	sh, med dk gy, firm, sl slty, non - sl calc	no show
	10	coal, blk, brittle, shiny	
3008	50	sh, med - dk gy, firm, in parts slty, non - sl calc, partly dol	no show
	45	sst - sltst, wh - lt brn, vf - f, fri - v hd, partly calc cmt, partly dolic cmt, arg in parts, pyr in parts	
	5	coal a/a	
3011	80	sh a/a	
	10	sst - sltst a/a	no show
	5	sltst, by - brn, arg, mic, fri	
	5	coal a/a	
3014	50	sh a/a	
	45	sltst - sst a/a	
	5	coal a/a	
3017	100	coal a/a	
3020	50	sst, slty, vf - f - med, lse - fri, lt gy, w srt, ang - subrnd, mica	
	40	sh, + coal, a/a 10%: sltst a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hage/Miljeteig/Ræstad | DATE: 17. - 18. Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3023	80	sst, lt gy, vf - med, tr crs, lse - fri, w srt,	
		ang - subrnd, silty in parts, mica	no shows
	20	sh, dk - med gy, a/a + coal a/a	"
	tr	ls, wh	
3025	80	sst a/a	"
	20	sh + coal a/a	
	tr	pyr, ls	"
3026	70	sst a/a	"
	30	sh + coal, siltst, a/a	
3029	50	sh, lt - dk gy, sl slty, sl calc in parts, hd, subfis-	
		fis	
	30	sst a/a	
	20	sltst, ls gy - brn, a/a + tr coal, pyr	
3032	40	sst a/a	
	40	sh a/a	
	10	sltst + coal + tr pyr	Dept. adjusted
3032	90	sh, med - dk gy, sl slty, subfis - fis, hd, non calc	
		sh, lt gy, slty, hd - firm, slty, sl calc	
	10	sltst, lt gy, firm - hd, a/a	
	tr	sd, f, gr, a/a, tr coal, a/a, pyr	
3035	100	sh, med - dk gy, a/a	
	tr	sd, sltst, a/a, tr coal	
3038	100	sh a/a	
	tr	sd, a/a, tr coal	
3044	85	sh, lt - med gy, firm, non calc lign in parts	
	5	sst/sltst, lt brn	
	10	coal, shiny, brittle	
	tr	ls, lt gy - pink	
3047	50	sh, lt - med gy a/a	
	50	sltst, lt gy - lt brn, v mic, coal lam, wood struct	
		in parts	gas bubbling from sh & sltst
	tr	ls a/a	
3050	50	sh, med - dk gy, silty and lign in parts, firm - sft	gas bubbling when slty & sft
	50	sd, f - med, subang - subrnd, lse grns, crs - v crs	
		subrnd, frosted	

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COUNTRY: NORWAY	AREA: NORTH SEA	FIELD: WILDCAT
WELL NO.: 34/10-2		
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E		
K.B.E.: 25 meters	COMPANY: STATOIL/SAGA/HYDRO	
HOLE SIZE: 8½"	GEOLOGIST: Hage/Miljeteig/Ræstad	DATE: 18 Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3053	90	sd a/a	
	10	sh a/a	
3056	90	sltst, dk gy, v mic, sft - firm, non calc	gas bubbling from siltstone
	10	sd a/a	
3059	95	sh/sltst a/a	dk blue fluor in siltst
	5	sd a/a	
3062	60	sh, dk gy - brn, slty, hd, fis, mic in parts	
	20	sltst, lt gy, sdy, hd - firm, occ sft, non calc	
	20	sd, lt gy, vf - f, lse, gr, ang - rnd, w srt	
3065	95	sh, + sltst a/a, more sft sltst	
	5	sdy a/a	
3068	90	sd, vf - med, lse, ang - subrnd, m srt	
	10	sh, + sltst a/a	
	tr	dol, lt brn, arg	
3071	60	sd a/a	
	40	sh + sltst, calc in parts	
3074	50	sltst-sh, lt-med brn	
	45	sd, clr - wh, vf - med, lse, ang - subrnd, m srt	
	5	coal, blk	
3077	80	sd a/a, rarely crs grns	
	20	sh, med - dk gy, when dk slty	
3080	80	sd a/a	
	20	sh a/a	
	tr	sst, med, lt brn, calc cmt	
	tr	wood frags	
3083	80	sd, clr, f - med, subang, rare coarser grns, subrnd, frosted - milky wh	
	20	sh, a/a	
3086	60	sd a/a	
	40	sh a/a	
3088	30	sd a/a	
	50	sh a/a,	
	20	clst, lt gy - wh, sft,	gas bubbling from the coaly part
	tr	pyr	
3089	20	sd a/a	claystone kaolinitic
	40	sh a/a	
	40	clst a/a	
3091	20	sd a/a	
	40	sh a/a	
	40	clst a/a, lt - med gy - buff, slty, sft, non calc	

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COUNTRY: NORWAY	AREA: NORTH SEA	FIELD: WILDCAT
WELL NO.: 34/10-2		
CO ORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E		
K.B.E.: 25 meters	COMPANY: STATOIL/SAGA/HYDRO	
HOLE SIZE: 8½"	GEOLOGIST: Hage/Miljeteig/Ræstad	DATE: 18 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3092		a/a	
3095	40	sd a/a	
	60	sh a/a	
3098		a/a	
3101		a/a	
3104	10	sd, f - mf, clr, subang grains, crs - v crs, milky subrnd, lse	Start coring 2
	10	sltst, med - dk gy, v mic, firm	Cut 11 m, 96% rec.
	80	sh, lt - med gy, silty, mic, firm - hd	
3107	80	sh a/a	
	20	clst, wh - buff, firm, non calc	
	tr	sd a/a	
	tr	sltst a/a	
3110		a/a	
3113		a/a	
3116		a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Miljeteig | DATE: 20 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3119	100	sltst, p yel - brn, mod hd, v mic, sdy, v f	50% of spl is caving
	tr	pyr	buff clst & med gysh
	tr	lign	
3122	100	sltst a/a	
	tr	pyr	
	tr	lign	
3125	100	sltst a/a, calc	
	tr	lign	
3128	90	sltst a/a	
	10	clst, med gy, sft, non calc, slty	
	tr	lign	
3131	80	clst a/a	
	20	siltst a/a	
	tr	lign	
3134	80	clst a/a	
	20	sltst a/a	
3137	50	clst a/a	
	50	sltst a/a	
	tr	lign	
3140	80	clst a/a	
	20	sltst a/a	
	tr	pyr	
3143	90	siltst a/a	
	10	clst a/a	
	tr	pyr	
3146	90	sltst a/a	
	10	clst a/a	
	tr	pyr	
3149	100	sltst a/a	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Gloppen | DATE: 22 Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3152	100	sltst, brnish gy - p yel brn, mod hd, micac, pyritic	
		sdy in parts	
	tr	pyr, occ pyritized foss frags	
3155	100	sltst a/a	
	tr	pyr	
	tr	sh, lt brnish gy, mod hd, fissile, w/plant remains	
	tr	glauc	
3158	100	sh, v slty - slty, med dk - dk gy, non calc	caving: gy calc
	tr	pyr, sltst	sh, brn
3161	100	sh a/a, mic	
	tr	pyr, sltst	
3164	100	sh a/a	
	tr	pyr, sltst	
3167	100	sh a/a	
3170	100	sh a/a, v slty	
	tr	pyr	
3173	100	sh a/a	
	tr	pyr	
3175	100	sd, f - med, qtz, clr, subrnd - subang,	lt yel fluor fair cut
3176	100	sd a/a	
3179	100	sd a/a, f - crs, mostly med, fair srt, lse	
	tr	pyr	
	tr	mica	
3182	90	sh a/a	
	10	sd a/a	
3185	100	sh a/a	
	tr	sd a/a	
3188	50	sh, med - dk gy, occ calc, slty	
	40	sd a/a	
	10	sltst, p yel brn, calc	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Gloppen | DATE: 23 Oct 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3191	100	sh, med - dk gy, slty, mic, occ calc, hd	
	tr	pyr	
	tr	sd	
	tr	ls, wh - lt gy, lt brn, hd	
3194	100	sh a/a	
	tr	ls, lt gy, lt brn, hd	
3197	100	sh a/a, occ slty	
	tr	ls a/a	
	tr	pyr	
3200	100	sh a/a, occ sl calc	
3203	100	sh a/a	
3206	100	sh a/a, occ splintery	
3209	100	sh a/a	
3212	100	sh a/a	decreasing silt content
3215	100	sh a/a	
3218	100	sh a/a	
3221	100	sh a/a	
3224	100	sh a/a	
3227	100	sh a/a	
3230	100	sh a/a	
	tr	pyr	
3233	100	sh a/a	
3236	100	sh, med - dk gy, occ brnish gy, sl slty, mic, non - sl calc, hd	
	tr	sd, clr qtz, vf - f, subang - rnd, lse	
	tr	mica	
	tr	pyr	
3239	100	sh a/a	
	tr	sd a/a	
	tr	mica	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hauge/Gloppen | DATE: 27 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3242	100	sh, med - dk gy, occ brnish gy, occ lt gy, sl slty, micac, non - sl calc, hd	
	tr	sd, clr qtz, vf - f, subang - subrnd, lse	
	tr	mica	
	tr	glauc	
	tr	pyr	
3245	100	sh a/a	
	tr	sd a/a	
	tr	mica	
	tr	glauc	
	tr	pyr	
3248	100	sh a/a	
	tr	sd a/a	
	tr	pyr	
	tr	mica	
3251	100	sh a/a	
	tr	sd a/a	
	tr	pyr	
	tr	mica	
3254	100	sh a/a	
	tr	sd a/a	
	tr	pyr	
	tr	mica	
	tr	sltst, med gy, non calc, firm - hd	
3257	100	sh a/a	
	tr	sd a/a	
	tr	pyr	
	tr	sltst	
3260	100	sh a/a	
	tr	sd a/a	
	tr	sltst a/a	
	tr	pyr	
3263	95	sh a/a	
	5	sd a/a	
	tr	sltst a/a	
	tr	pyr	
	tr	mica, ls, wh - lt gy, hd	

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Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Leinum/Hauge | DATE: 27 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3266	100	sh, med - dk gy, occ brnish gy, occ lt gy, sl slty non - sl calc, hd	
	tr	sd, clr qtz, f - med gr, subang - subrnd	
	tr	sltst, med gy, sl calc, firm - hd	
	tr	ls, wh - lt gy, hd	
	tr	pyr	
3269	100	sh a/a	
	tr	sd a/a	
	tr	sltst a/a	
	tr	pyr	
3272	90	sh a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	pyr	
3275	90	sh a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	pyr	
3278	90	shale a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	pyr	
3281	90	sh a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	pyr	
3284	90	sh a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	lst a/a, occ arg	
	tr	pyr	
3287	85	sh a/a	
	10	sd a/a, occ crs	
	5	sltst	
	tr	lst a/a	
	tr	pyr	
3290	90	sh a/a	
	5	sd a/a	
	5	sltst a/a	
	tr	lst a/a	
	tr	pyr	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92"N ; 02° 13' 39,96"E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Leinum/Hauge | DATE: 29 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3293	90	sh, med - dk gy, occ brnish, hd, slty, occ sdy, mica generally non calc	no shows
	5	sltst, sdy, gy - brn, firm, sl calc, mica	
	5	sd, lse, clr and milky qtz, vf - med, subrnd - ang	
	tr	pyr	
3296	80	sh a/a	
	10	sltst a/a	
	10	sd a/a	
	tr	pyr	
3299	75	sh a/a	
	15	sd a/a	
	10	sltst a/a	
	tr	pyr	
	tr	ls, wh - gy - brn, hd, arg, dol	
3302	75	sh a/a	
	15	sd a/a	
	10	sltst a/a	
	tr	pyr	
	tr	ls a/a	
DESANDER:	100%	sd, vf - f, clr & milky qtz, ang - subang	no shows
3305	70	sh a/a	
	20	sd a/a	
	10	sltst a/a	
	tr	ls a/a	
	tr	pyr	
3308	80	sh a/a	
	10	sd a/a	
	10	sltst a/a	
	tr	ls a/a	
	tr	pyr	
3311	80	sh a/a	
	10	sd a/a	no shows
	10	sltst a/a	
	tr	ls a/a	
	tr	pyr	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Hauge/Leinum | DATE: 29 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3314	80	sh, med - dk gy, occ brn, firm, mica, non - sl calc, slty in parts	no shows
	15	sd, vf - f, clr and milky qtz, lse, ang - subang	
	5	sltst, gy brn, -ica, firm, calc, sdy	
	tr	ls, wh, brn, arg, hd, xln	
	tr	pyr	
3317	80	sh a/a	
	15	sd a/a, occ crs	
	5	sltst a/a	
	tr	ls a/a	
	tr	pyr	
3320	80	sh a/a	
	15	sd a/a	
	5	sltst a/a	
	tr	ls a/a	
	tr	pyr	
3323	75	sh a/a	
	20	sd a/a	
	tr	ls a/a	incr. amount of sd
	tr	pyr	↓
3326	25	sh a/a	
	70	sd a/a, crs	DRILLING BREAK
	5	sltst a/a	at 3327 m
	tr	ls a/a	
	tr	pyr	
3329	30	sh a/a	bri wh-yel fluor
	65	sd a/a, occ crs	and fast bluish
	5	sltst a/a	cut in sd
	tr	ls a/a	
	tr	pyr	
3332	30	sh a/a	
	65	sd a/a, occ crs	
	5	sltst a/a	
	tr	pyr	
	tr	coal	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Hauge/Leinum | DATE: 30 Oct. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3335	100	sd, f - crs, occ v crs, ang - subang	bri wh - yel fluor
	tr	sh, med - dk gy, firm , mica, sl slty, sl calc	v weak wh - bluish
			cut, sl oil stain
3336	100	sd a/a	
	tr	sh a/a	
3337	100	sd a/a	
	tr	sh a/a	
3338	100	sd a/a	
	tr	sh a/a	
		POOH FOR CORING	

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Den norske stats oljeselskap a.s
Postboks 300, 4001 Stavanger

WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 6 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3392	40	sh, lt - med dk gy, firm - hd, slty, occ sdy, micromicac, non calc, occ calc, occ subfiss	TG: 163 units
	40	sltst, med gy, firm, occ sdy, non calc	dull yel fluor
	20	sd, clr - milky qtz, vf - med, occ crs, ang - subrnd, lse, occ as sst, fair srt	no cut in sst
	tr	coal, blk, arg, hd, blocky	
	tr	marl, lt - med gy, sft - firm	
	tr	calcite	
	tr	pyr	
	tr	mica (muscovite)	
3396	50	sltst a/a	shows a/a
	30	sh a/a	
	15	sd, med - crs, occ f and v crs	
	5	coal a/a	
	tr	marl a/a	
	tr	calcite	
	tr	pyr	
	tr	mica (muscovite)	
3398	60	sd a/a	
	25	sltst a/a	
	15	sh a/a	
	5	marl a/a	shows a/a
	tr	coal	
	tr	pyr	
	tr	calcite	
	tr	mica	
3401	90	sd a/a	ROP: 10 m/hr
	5	sh a/a	BG: 50 units
	5	sltst a/a	
	tr	calcite	
	tr	mica	
	tr	coal	
	tr	pyr	
3404	95	sd a/a	
	5	sh a/a	
	tr	sltst a/a	
	tr	calcite, coal, mica, pyr	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 6 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3407	90	sd, clr qtz, occ mlky, f - med, occ crs - v crs, ang - subrnd, lse, occ as sst, fair srt	dull yel fluor in sst, no cut
	5	sltst, med gy, frim, occ sdy, non calc, occ calc	
	5	sh, lt - dk gy, firm - hd, non calc, occ calc, subfiss, slty	
	tr	ls, wh - tan, sft - firm, xln	
	tr	pyr	
	tr	mica	
	tr	lignite	
	tr	calcite	
3410	100	sd, f - med, w srt, else a/a	
	tr	sltst a/a	
	tr	sh a/a	
	tr	ls a/a	
	tr	pyr, mica, calcite	
3413	85	sd a/a	
	10	sltst a/a	
	5	sh a/a	
	tr	ls a/a	
	tr	pyr, mica, lign, calcite	
	tr	marl, lt gy, sft	
3416	100	sd a/a	
	tr	sltst a/a	
	tr	sh a/a	
	tr	calcite, mica, pyr	
	tr	ls a/a	
3419	100	sd a/a	
	tr	sh a/a	
	tr	sltst a/a	shows a/a
	tr	calcite, mica, pyr, lignite	
	tr	ls a/a	
3422	100	sd a/a	
	tr	sh a/a	
	tr	sltst a/a	
	tr	calcite, mica, pyr, lignite	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST Kræmer/Gloppen | DATE: 6 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3425	100	sd, clr qtz, occ milky, f - crs, occ v crs, ang - subang, fair - well srt, lse, occ as sdst, silica cmt	dull yel fluor in sst no cut
	tr	sh, med - dk gy, firm - hd, non calc, slty, subfiss, micromicac	
	tr	sltst, med - dk gy, firm, occ sdy, micac, non calc, occ calc	
	tr	mica, calcite, pyr	
	tr	ls, wh - tan, sft - firm, xln	
3428	95	sd a/a	
	5	sh a/a	
	tr	sltst a/a, ls a/a	
	tr	mica, calcite, pyr	
3431	95	sd a/a	shows a/a
	5	sltst a/a	
	tr	sh a/a	
	tr	dol, tan, hd	
	tr	calcite, pyr, mica	
	tr	ls a/a	
3434	100	sd a/a	"
	tr	sltst a/a	
	tr	sh a/a	
	tr	ls a/a	
	tr	calcite, pyr, mica	
3437	40	sltst a/a	no shows
	40	sh a/a	
	20	sd a/a	
	tr	coal, blk, brittle, mature	
	tr	dol, ls a/a	
	tr	pyr, mica	
3440	50	sh, med - dk gy, brnish gy, firm - hd, non - sl calc, subfiss, micromicac	"
	30	sd a/a	
	20	sltst a/a	
	tr	coal	
	tr	pyr, mica	
	tr	glauc	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 6 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3443	60	sd, clr, occ milky qtz, f - crs, occ v crs, ang - subang, fair - well sorted, lse, occ sil cmt	dull yel fluor
	30	sh, lt - med gy, occ brnish gy, hd - firm, non - sl calc, subfiss, micromicac.	v weak str mlky bluish cut
	10	sltst, lt - dk gy, firm, occ sdy, micac, non - sl calc	
	tr	coal	
	tr	pyr, mica	
	tr	glauc	
3446	95	sd a/a	shows a/a
	5	str a/a	
	tr	pyr, mica	
3449	100	sd a/a	"
	tr	pyr, mica	
3452	100	sd a/a	"
	tr	pyr, mica	
3455	100	sd, m - crs, occ v crs, else a/a	"
	tr	pyr, mica	
3458	100	sd, f - v crs	"
	tr	pyr, mica	
3461	80	sh, lt - med gy, occ brnish gy, hd - firm, non - calc subfiss, micromicac	dull yel fluor in sltst
	15	sd a/a	
	5	sltst, lt - dk gy, occ grnish, firm, occ sdy, non - sl calc	
	tr	lst, lt brn - tan, hd - firm, arg	
	tr	pyr, mica	
3464	50	sltst, sft - firm, else a/a	"
	40	sh, occ sl calc, else a/a	
	10	sd, f - v crs, else a/a	
	tr	ls a/a	
	tr	pyr, lignite, mica	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 7 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3467	80	sd, clr, occ mlky and yel qtz, f - v crs, ang -subrnd, fair srt, sil cmt, non calc	dull yel fluor no cut
	15	sltst, lt - dk gy, brnish and brnish grn, sft - firm, sdy, micac, non - sl calc	
	5	sh, lt - med gy, firm, non calc, slty, subfiss, micromicac	
	tr	ls, wh - lt gy - tan, hd, occ arg, xln	
	tr	pyr, calcite	
3470	80	sd a/a	shows a/a
	15	sltst a/a	
	5	sh a/a	
	tr	ls a/a, pyr, calcite	
3473	80	sd a/a	
	10	sltst a/a	
	10	sh a/a	
	tr	ls a/a, pyr, calcite, mica	
3476	95	sd a/a	shows a/a
	5	sltst a/a	
	tr	sh a/a	
	tr	ls a/a, pyr, calcite, mica	
3478	50	sd a/a	
	35	sltst a/a	
	15	sh a/a, occ brick red	
	tr	ls a/a	
	tr	pyr, calcite, mica	
3479	50	sd a/a	living crude oil in spl, dk brn dull blue fluor
	30	sltst a/a	
	20	sh a/a	
	tr	ls a/a	
	tr	pyr, calcite, mica	
3482	100	sd a/a	
	tr	sltst a/a	
	tr	sh a/a	
	tr	pyr, calcite, mica	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 7 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3503	85	sh, lt - med gy, occ grnish gy, brnish and brick red,	
		firm - hd, non calc, occ calc, micromicac, occ	
		slty, subfiss	no shows
	15.	sltst, lt - dk gy, brn, grn and yel, firm, sdy	
		micac, non calc, occ calc	
	tr	sd, clr - milky qtz, f - crs, ang - subang, fair srt	
	tr	dol, tan, hd	
	tr	ls, wh - tan - lt gy, hd, occ arg xln	
	tr	pyr, mica	
3506	100	sd, clr - mlky qtz, f - med, occ crs - v crs granules	
		ang - subang, fair srt, occ kaolinitic	
	tr	sh, lt - med gy, occ dk gy, grnish gy, firm - hd,	weak dull yel
		non calc, micromicac, occ slty, subfiss	fluor
	tr	ls a/a	mod str mlky cut
	tr	mica	in sdst
3509	100	sd a/a	
	tr	sh a/a	
	tr	ls a/a	shows a/a
	tr	mica	
3512	100	sd a/a	
	tr	sh a/a	shows a/a
	tr	mica	
3515	100	sd a/a	
	tr	sh a/a	
	tr	sltst a/a	
	tr	mica, ls a/a	
3518	100	sd a/a	
	tr	ls a/a	
	tr	sh a/a	
3521	100	sd a/a	
	tr	ls a/a	
	tr	sh a/a	
	tr	mica	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 7 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3485	100	sd, clr, occ mlky qtz, f - med, occ crs, ang - subrnd fair srt	dull yel fluor
	tr	sltst, lt - dk gy occ brnish gy, firm, sdy, micac, non calc, occ calc	no cut in sd
	tr	sh, lt - med gy, occ grnish gy and brick red, firm - hd, non calc, occ calc, micromicac, subfiss (brick red = calc) slty	
	tr	ls, wh - tan - lt gy, hd, occ arg, xln	
	tr	calcite, pyrite, mica	
3488	70	sd a/a	shows a/a
	20	sltst a/a	
	10	sh a/a	
	tr	ls a/a	
	tr	calcite, pyrite, mica	
3491	85	sh a/a	
	10	sltst a/a	
	5	sd a/a	shows a/a ?
	tr	ls a/a	
	tr	mica, calcite	
3494	75	sh a/a	
	15	sd a/a	no shows in sd
	10	sltst, occ wh, occ grn, else a/a	dull yel fluor in sltst
	tr	ls a/a	
	tr	mica, calcite	
3497	70	sd a/a	
	15	sh a/a	
	15	sltst a/a	
	tr	ls a/a	
	tr	lignite, mica	
3500	75	sh a/a	
	15	sltst	
	10	sd a/a	
	tr	ls a/a	no shows
	tr	pyr, calcite	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 9 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3542	95	sh, lt - med gy, brick red, occ brnish and gnish gy, occ sl slty, firm - hd, micromicac, non calc, occ calc	
	5	sltst, lt - dk gy, brn, brn, occ yel, firm, sdy, micac, non calc, occ calc	
	tr	ls, wh - lt gy - tan, hd, occ arg, xln	
	tr	sd, clr - milky qtz, vf - med, occ crs - v crs, ang - subang, fair srt, occ sil - kao cmt	
	tr	pyr, mica, calcite	
3545	100	sh a/a	
	tr	sltst a/a	
	tr	ls a/a	
	tr	sd a/a	
	tr	pyr, mica, calcite	
3548	100	sh a/a	
	tr	ls a/a	
	tr	sltst a/a	
	tr	sd a/a	
	tr	pyr, mica, calc	
3551	100	sh a/a	
	tr	ls a/a	
	tr	sltst a/a	
	tr	sd a/a	
	tr	pyr, mica, calc	
3554	80	sh a/a	
	20	sltst a/a	
		else a/a	
3557	95	sd a/a	
	5	sh & sltst, mostly brn red, else a/a	
	tr	ls a/a	
3560	40	sd a/a	
	30	sltst a/a	
	30	sh a/a	
	tr	ls a/a	
	tr	pyr, mica	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD WILDCAT

WELL NO.: 34/10-2

CO ORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Kræmer/Gloppen | DATE: 7 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3524	90	sd, clr, milky qtz, f - med, occ crs - v crs ang - subang, fair srt, occ sil - kao cmt	dull yel fluor v weak cut in
	10	sh, lt - med gy, occ grnish gy, brnish and brick red, firm - hd, non calc, micromicac, occ calc, occ slty	cmt sst
	tr	sltst, lt - dk gy, brn, grn and yel, firm, sdy, micac, non calc, occ calc	brick red shale
	tr	pyr, mica	is calcareous
3527	80	sd, f - med, ang - subrnd, fair srt, occ sil - kao cmt	
	20	sh a/a	
	tr	sltst a/a	
	tr	mica	
3530	70	sh a/a	
	30	sd a/a	
	tr	mica	
	tr	sltst	
	tr	pyr	
3532	50	sh a/a	bottoms up
	30	sltst a/a	
	20	sd a/a	
	tr	ls a/a	
	tr	pyr	
3534	70	sh a/a	no shows
	25	sltst a/a	
	5	sd a/a	
	tr	ls a/a	
	tr	pyr, calcite	
3536	80	sh a/a	
	20	sltst a/a	
	tr	sd a/a	
	tr	pyr, mica	
3539	70	sh a/a	
	25	sltst a/a	
	5	sd a/a	
	tr	mica, pyr	
	tr	ls a/a	
	tr	calcite	

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Den norske stats oljeselskap a.s
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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61 " 06 ' 07,92" N ; 02 " 13 ' 39,96 " E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Carstens | DATE: 9 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3563	40	sh, dk - p red brn, lt gy, occ dk gy, firm, calc	No shows
	30	sltst, brn - red, dk gy, firm, non calc	
	30	sd, clr - mlky wh, fine - med, ang- subang occ subrnd, calc cmt, well srt	
	tr	lst, wh - tan, hd, xln	
	tr	pyr	
3566	65	sh a/a	
	20	sltst a/a	
	15	sd a/a	
	tr	lst, pyr	
3569	80	sh, non - sl calc	
	10	sltst a/a	
	10	sst a/a, calc	
	tr	ls, pyr	
3572	70	sh a/a	
	30	sltst a/a	
	tr	sd a/a	
	tr	ls, pyr	
3575	40	sh/sltst, dk brn red, non calc, firm	NOTE high content of red sh & sltst
	30	sh/sltst, p - brn red, calc, sft - firm	
	30	lt - med dk gy sh, non calc, firm	
	tr	lst a/a	
	tr	sd a/a	
3578	40	sltst a/a	
	30	sh a/a	
	30	sd a/a	
	tr	ls a/a	
3581	45	sh a/a	
	40	sltst a/a	
	15	sd a/a w/kaolinitic & calc cmt	
	tr	ls a/a	
3584	70	sh & sltst, p - dk brn red, else a/a	
	30	sh, lt - med dk gy, else a/a	
	tr	ls a/a, sd a/a	
3587	70	sh/sltst, red brn, a/a	
	30	sh, gy a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Carstens/Rasmussen | DATE: 10 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3590	50	sd, clr - mlk wh, vf - f, occ med, mod srt, calc cmt firm, ang - subang	no shows
	30	sh/sltst, p - dk red brn, calc - non calc	
	20	sh, lt - med dk gy, occ slty, non calc	
	tr	ls, wh - tan, firm	
3593	95	sd a/a	
	5	sh/sltst a/a	
	tr	ls a/a	
3596	100	sd a/a	
3599	90	sd, vf - f - med, poor srt, else a/a	
	10	sh/sltst, p - dk red brn, else a/a	
	tr	sh, lt - dk gy	
	tr	ls a/a	
	tr	pyr	
3602	80	sd a/a, clr - wh qtz, occ rust brn	
	20	sh a/a	
	tr	ls a/a	
3605	90	sd a/a	
	10	sh a/a	
3608	90	sd a/a, bcomes v micac	
	10	sh a/a	
3611	90	sd, mostly fine a/a	
	10	sh a/a	
3614	80	sd a/a, calc cmt	
	20	sh a/a	
3617	90	sd a/a	
	10	sh a/a	
3620	80	sd a/a	
	10	sh a/a	
	10	ls, wh, mod hd	
3623	50	sd a/a	
	45	sh a/a	
	5	ls a/a	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO.: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Carstens | DATE: 10 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3620	60	sh, partly slty, p - dk red brn, mod hd, non calc - sl calc	
	35	sh, partly slty, lt - med - dk gy, mod hd, non calc	
	5	sd, vf - f, occ med, clr - wh, ang - subrnd, calcite cmt	
	tr	ls, wh - tan, mod hd, xln	
	tr	mica	
3629	80	sh, red brn, a/a	
	15	sh, gy a/a	
	5	sd a/a	
	tr	ls a/a	
	tr	pyr	
3632	80	sh, red brn a/a	
	15	sh, gy a/a	
	5	sd a/a	
	tr	ls a/a	
3635	90	sd, clr - buff - crm, f - med, occ vf, mod srt, ang - subang, occ subrnd, calc cmt, mod hd	no shows
	10	sh, rust - dk red brn & lt - med dk gy, occ gy blk	
	tr	ls a/a	
3638	85	sd a/a	
	15	sh a/a	
	tr	ls a/a	
3641	50	sd a/a	
	30	sh, partly slty, rust - dk red brn, occ sl calc	
	20	sh, partly slty, lt - dk gy, non calc	
	tr	ls a/a	
	tr	pyr	
3644	90	sh a/a mostly red	
	10	sd a/a	
	tr	ls a/a, pyr	
3647	60	sh, red brn a/a	
	30	sh, gy a/a	
	10	sd a/a	
	tr	ls a/a	
	tr	pyr	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61° 06' 07,92" N ; 02° 13' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Carstens | DATE: 11 Nov 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3650	70	sh, partly, rust - dk red brn, subfiss - non fiss mod hd	
	30	sh, pt slty, lt - med dk gy, fiss - subfiss, mod hd	
	tr	sd, clr-wh, occ red, vf-f, occ med, mod srt, ang - subang, occ subrnd, calc cmt, mod hd	
	tr	ls, wh - buff, cln, mod hd	
	tr	mica	
3653	40	sd a/a	
	30	sh, red brn a/a	
	30	sh, gy a/a	
	tr	ls a/a	
3659	60	sd a/a, occ red	
	20	sh, gy a/a	
	20	sh/sltst, brn red a/a	
	tr	ls a/a, mica	
3662	40	sh/sltst, brn red, a/a	
	30	sh gy a/a	
	30	sd a/a	
	tr	ls a/a	
	tr	mica	
3665	80	sd a/a	
	20	sh a/a	
	tr	mica	
3668	80	sd a/a	
	20	sh a/a	
	tr	mica	
3671	85	sd a/a	
	15	sh a/a	
	tr	mica	
3674	50	sd a/a	
	45	sh a/a	
	5	ls a/a	
	tr	mica	
3677	70	sd a/a	
	25	sh a/a	
	5	ls a/a	
	tr	pyr, mica	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA NORTH SEA | FIELD: WILDCAT
WELL NO.: 34/10-2
COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E
K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO
HOLE SIZE: 8½" | GEOLOGIST: Rasmussen/Carstens | DATE: 12 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3683	70	sltst, grading to shale, rust brn, fri, non calc	
	30	sltst, gr to sh, med - med dk gy, fri - mod hd, non calc	
	tr	sst, clr - wh, vf, well srt, ang, calc cmt	
	tr	sd, clr, med, subrnd	
	tr	mica	
	tr	ls, wh - buff - brn, xln	
3686	95	sd, clr - buff - lt brn, vf - f, occ med, ply srt, ang - subang, occ med, calc cmt	
	5	sltst, gr to sh, red brn - med dk gy, else a/a	
	tr	ls, mica	
3689	60	sh a/a	
	40	sd a/a	
	tr	ls a/a, mica	
3692	80	sd a/a	
	20	sh a/a	
	tr	ls, mica	
3695	80	sd a/a	
	20	sh a/a	
	tr	ls, mica	
3698	80	sh a/a	
	20	sd a/a	
	tr	ls	
3701	80	sh a/a	
	20	sd a/a	
	tr	ls, mica	

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WELLSITE SAMPLE DESCRIPTION

COUNTRY: NORWAY | AREA: NORTH SEA | FIELD: WILDCAT

WELL NO: 34/10-2

COORDINATES: 61 ° 06 ' 07,92" N ; 02 ° 13 ' 39,96" E

K.B.E.: 25 meters | COMPANY: STATOIL/SAGA/HYDRO

HOLE SIZE: 8½" | GEOLOGIST: Hauge | DATE: 17 Nov. 78

DEPTH	LITH. %	LITHOLOGIC DESCRIPTION	Shows & Remarks
3707	90	sh, brn - brick red, firm, subfiss, slty, occ sd, calc - non calc, occ grading to sltst, mica	
	5	sh, med gy - grn, firm, fiss, mica, sl calc	BG 5 units no shows
	5	sd, lse, qtz, wh - clr, f - med, ang - subrnd	
3710	90	sh, red, a/a	
	10	sh, gy, a/a	
	tr	sd a/a	DRILL BREAK at 3711
3713	40	sh, red a/a	from 2 m/hr to 10 m/hr
	10	sh, gy, a/a	
	50	sd, f - v crs, lse, milky clr qtz, ang -subrnd, mica	
3716	50	sd a/a	
	40	sh red a/a	
	10	sh, gy a/a	
3719	80	sd a/a	
	20	sh a/a	
3722	80	sd, f - crs, mostly med, else a/a	
	20	sh a/a	
3725	80	sd a/a	
	20	sh a/a	
3728	80	sd a/a	
	20	sh a/a	

III DRILLING REPORT

III 1. SUMMARY

34/10-2 was a wildcat designed to test possible hydrocarbon accumulations in the Alpha closure. The closure is located to the west of a fault running north-east, in the south-eastern part of block 34/10.

The well was drilled to rocks of Triassic age, to a total depth of 3730 m. The drilling was conducted by Ross Rig.

Due to expected severe weather conditions during the winter season, the well was temporarily abandoned, to be tested during the summer season.

There were no particular drilling problems during the first phase, but a total of almost 15 days was lost because of severe weather conditions.

The well was re-entered with Ross Rig in the summer and was tested extensively without any problems.

The first phase of this well was budgeted for around 37 million kroner, while the actual cost was about 36 million. The second phase was budgeted for 14 million, while the actual cost was 15 million. The overall well costs were exactly as budgeted.

III 2. DRILLING OPERATION IN INTERVALS

36" hole, 158 - 210 meters.

The well was spudded at 1200 hours on 9 Sept. 78. The final position was 61^{o} 06' 07.92" N, 02^{o} 13' 39.96" E. The water depth was 133 meters. The hole was drilled with a 26" bit and 36" hole-opener in one run.
The 30" casing was run and cemented without any trouble, with the shoe at 209 meters.

26" hole, 210 - 517 meters

The 30" casing was cleaned out with a 26" bit and the pin connector and riser were run. The riser was displaced with 1.06 specific gravity mud, and a 17½" pilot hole was drilled to 517 meters in one run. The formation was argillaceous sand, and the penetration rate was controlled to a rate of about 30 meters/hour.
The maximum gas encountered was 324 units at 338 meters. The hole was logged and then underreamed because of the gas.
The hole was displaced with 1.26 specific gravity mud and the 20" casing was run to 504 meters and cemented. Returns were lost half way through the displacement. The BOP was then run and tested.

17½" hole, 517 - 1830 meters

The 20" casing was drilled out with a 17½" bit. Two meters of new formation was drilled, and a formation integrity test of 1.52 specific gravity was obtained. It was decided that a 12" pilot hole be drilled in order to be able to run the Repeat Formation Tester (RFT). The 12" hole was then drilled to 1827 meters. Apart from sand from 870 to 965 meters and some sandstringers below, the lithology was mainly claystone. The gas readings were a maximum of 105 down to 870 meters and 19 below that.

The rate of penetration was mostly about 28 meters/hour decreasing to around 10 meters/hour towards the end. About two days were lost waiting on weather and in recovering the Lower Marine Riser Package AX-ring, which was left on the Blow-out Preventer when pulling the LMRP . The 12" hole was then opened up to 17½", and a 13 3/8" casing was run to 1802 meters and cemented.

12" hole, 1830 - 2721 meters

The 13 3/8" casing was drilled out with a 12" bit and 3 meters new formation was drilled. A leak off test was run at 1833 meters and showed a specific gravity of 1.63. The hole was drilled to 1840 meters and a new leak off test was run, resulting in a specific gravity of 1.66. This was lower than expected.
The formation (claystone) was then squeezed and plugged off with 17 tons of cement.
The cement and 4 meters of new formation were drilled and two leak off tests were made, the results of which were 1.83 and 1.76 specific gravity, respectively. The 12" hole was then drilled to 2723 meters without problems. The lithology was claystone down to approximately 2300 meters and then shale which graded into limestone. The gas readings showed peaks of a maximum of 600 units down to approximately 2260 meters, and then stayed at about 10 - 50 units to 2721 meters. At 2721 meters there was a drilling break and a gas reading of 250 units.
The penetration rate decreased from 11 m/hr to 3.4 m/hr over the interval. The hole was then logged, and 9 5/8" casing was run to 2700 meters and cemented. While running casing, 4 m^3 of mud were lost to the formation; and while circulating before cementing, another 16 m^3 of mud were lost. The casing was then lifted off the hanger and the losses stopped. An 8 m^3 Lost Circulation Material (LCM) pill was pumped ahead of the cement.

8½" hole, 2721 - 3730 meters

The 9 5/8" casing was drilled out with an 8½" bit. After drilling 3 meters of new formation, a formation integrity test showing 1.89 specific gravity was conducted at 2724 m. The hole was drilled without problems to 3031 meters. The rate of penetration was approximately 5 meters/hour.

The lithology was mainly claystone/shale with coal, siltstone and sandstone towards 3031 meters. The gas readings showed a maximum of 1350 units at 2966 meters.

A core was cut from 3031 - 3043 meters, and 93% recovery was achieved.

The hole was drilled to 3103 meters. A second core was cut from 3103 meters to 3114 meters with 96% recovery. After drilling to 3122 meters, approximately one day was lost due to waiting on weather (WOW).
The hole was then drilled to 3235 meters, where almost two days were lost due to WOW. An intermediate log run was done at this point.

After drilling to 3282 meters, two cones were lost in the hole.

Some junk was recovered and drilling continued to 3338 meters. Then core no. 3 was cut to 3345 meters, where it jammed. There was 100% recovery on core no. 3. Core no. 4 was cut from 3345 to 3363 meters, with 89% recovery. Core no. 5 was cut to 3367 meters, with 100% recovery. Core No. 6 was cut to 3372 meters, where the barrel jammed, but where 100% recovery was achieved. Core no. 7 was cut to 3382 meters with 100% recovery.

Core no. 8 had been cut to 3390 meters, when the kelly broke 2.5 meters below the upper kelly valve. The string dropped to 3.5 meters below the rotary table, but was recovered without problems. Eight joints of drillpipe were bent. 100% recovery was achieved on core no. 8.

The lithology was mainly shale/sandstone over the cored interval. The gas readings were mainly in the region of 10 - 50 units with peaks of up to 790 units at 3116 meters.

The hole was then drilled to a total depth of 3730 meters. The average penetration rate was about 3 meters/hour, and the lithology was mainly shale and sand. The gas readings were mostly around 0 - 20 units with some peaks of about 170 units at approximately 3500 meters.

Three times during this interval the rig was shut down due to very bad weather, and as a result about 3½ days were lost.

At 3707 meters half a cone was lost and the junk was drilled out.

The hole was then logged. The RFT got stuck twice, and the line had to be cut and stripped over.

The weather was bad again during logging. Anchors no. 6 and 7 started slipping and had to be reset. Two days were lost waiting on weather and because of the anchor problems.

The 7" liner was run to 3725 meters where it got stuck. The liner was then hung off and cemented.

The overlap did not test and was squeezed with cement. The cement was drilled out, and the liner tested OK.

Abandonment plugs were then set, and the BOP was pulled after waiting on weather for 1.5 days.

The corrosion cap was set, and the anchors were pulled after 3 days of WOW. The well was temporarily abandoned on 9 December 1978.

Re-entry

The well was re-entered for testing by Ross Rig, which left Dusavik for the location on 4 July 79. The guide wires were run, and the corrosion cap retrieved. Then the BOP was run and tested. After the four cement plugs were drilled out, five Drill Stem Tests (DST) were conducted.

After the last DST was completed and squeezed off, a plug was set across the overlap.

The 13 3/8" and the 20" shoes were squeezed off with cement after perforating, and a final cement plug was set.

The wellhead was blown off by an explosive charge and recovered. The rig left the location on 11 August 79 on schedule.

III 3. EXTRACT OF DAILY ACTIVITIES 34/10-2.

8.9.78	Under tow to new location
9.9	Arrive location. Set anchors. Drill 36" hole to 176 m
10.9	Drill 36" hole to 210 m, run and cement 30" csg, drill out cmt
11.9	Run riser, drill 17½" hole to 517 m
12.9	POOH, run ISF/SONIC/GR, log. R.I.H. w/26" underreamer, ream to 517 m
13.9	POOH, pull riser, wiper trip w/26" bit, run and cement 20" csg
14.9	Run and test BOP
15.9	Test BOP, RIH w/17½" bit. Drill cmt. leak off test, 1.52 sp.gr. at 519 m,RIH w/12" bit
16.9	Drill 12" hole to 861 m, wiper trip, drill to 870 m, POOH, disconn. riser, WOW
17.9	WOW, pull LMRP, test LMRP, AX-ring left on BOP
18.9	Fish AX-ring, run LMRP and riser, test BOP, RIH, drill 12" hole to 912 m
19.9	Drill 12" hole 1228 m, wiper trip, drill 12" hole to 1549 m
20.9	Drill 12" hole to 1582 m, POOH, change bit, RIH, drill 12" hole to 1680 m
21.9	Drill 12" hole to 1827 m, wiper trip
22.9	Circ., POOH, run ISF/SONIC, FDC/CNL-GR-caliper, FDC. RIH w/new bit
23.9	Cont. RIH w/17½" bit, ream to 917 m, wiper trip, ream to 1300 m
24.9	POOH, cut drlg. line, RIH, lay down stabilizer, ream 17½" hole
25.9	Ream to 1599 m, POOH, change bit, RIH, ream to 1827 m, wiper trip
26.9	Circ., POOH, run 13 3/8" csg to 1802 m

27.9	Cmt csg, RIH, drill cmt., circ
28.9	Leak-off test, 1.63 sp.gr. at 1833 m, drill 12" hole to 1846 m, POOH, RIH open ended, squeeze cmt., POOH, RIH, drill cmt
29.9	Drill cmt., 2 leak off tests at 1850 m, 1:1.83 sp.gr., 2:1.76 sp.gr., circ, POOH, change bit, RIH, drill 12" hole to 1960 m
30.9	Drill 12" hole to 1997 m, circ, wiper trip, drill to 2127 m, POOH, change bit

OCTOBER

1.10	RIH, drill 12" hole to 2278 m, wiper trip, drill to 2298 m
2.10	Drill to 2342 m, circ, POOH, change bit, RIH, drill 12" hole to 2362 m
3.10	Drill to 2373 m, wiper trip, drill 12" hole to 2463 m
4.10	Drill 12" hole to 2481 m, circ, POOH, change bit, RIH, drill 12" hole to 2533 m
5.10	Drill to 2615 m, circ, POOH
6.10	POOH, test BOP, RIH w/bit no 14, drill 12" hole to 2642 m
7.10	Drill to 2671 m, circ, POOH, RIH w/new bit, drill 12" hole to 2680 m
8.10	Drill to 2723 m, circ, raise MW to 1.56, wiper trip, circ, POOH
9.10	POOH - logging ISF/SONIC/GR, FDC/CNL/CAL, RFT, ST
10.10	Logging, RIH, circ, wiper trip, POOH, run 9 5/8" csg
11.10	Run 9 5/8 csg, cement csg, break down 12" BHA
12.10	Make up 8½" BHA, test BOP, RIH, drill cmt, circ, leak-off test 1.89 sp.gr. at 2724 m
13.10	Drill 8½" hole to 2788 m, POOH, change bit, drill to 2810 m

14.10	Drill to 2870 m, POOH, change bit, RIH, drill to 2882 m
15.10	Drill 8½" hole to 2936 m, circ, drill to 2961 m, wiper trip
16.10	Circ, POOH, change bit, drill to 2976 m, circ, raise MW to 1.70, drill to 3031 m
17.10	Wiper trip, circ, POOH, RIH w/core bit, core to 3043 m, jam core bbl, POOH
18.10	Recover core 93%, RIH w/bit 21, ream to 3043 m, drill to 3103 m, wiper trip, POOH
19.10	POOH, RIH w/core bbl, core to 3114 m, circ, POOH, rec. 96%, RIH w/bit 22, drill to 3118 m
20.10	Drill to 3122 m, circ, POOH 23 std, hang off at 2625 m, displace riser, WOW
21.10	WOW, displace riser, pull hang off tool, RIH, circ, drill to 3166 m
22.10	Drill to 3174 m, circ, POOH, test BOP, RIH, drill to 3188 m
23.10	Drill to 3235 m, circ, wiper trip, circ
24.10	Circ, POOH, hang off, displace riser, WOW
25.10	WOW, retrieve hang off tool, RIH, ream, circ, wiper trip
26.10	Circ, POOH logging, RIH w/bit 24, drill to 3240 m
27.10	Drill to 3282 m, circ, POOH, lost two cones on bit, RIH w/reverse circ basket
28.10	Wash, POOH,no steel recovery, RIH, wash, no steel recovery, RIH w/bit 25, drill junk
29.10	POOH, RIH w/bit 26, drill to 3334 m, circ, POOH
30.10	RIH w/bit 27, drill to 3338 m, circ, POOH, RIH w/core bit, core to 3345 m, POOH
31.10	POOH, recovery core no 3 100%, change core bit, RIH, core to 3363 m, POOH

NOVEMBER

1.11	Retrieve core no 4, test BOP, RIH w/core bbl, WOW, core to 3366 m
2.11	POOH, recovery core no. 5 100%, RIH, core to 3372 m, jam core bbl, POOH, recover core no 6 100%, RIH, core to 3381 m
3.11	Core to 3382 m, POOH, recovery 100% core no 7, RIH, core to 3390 m, kelly broke, fish, POOH
4.11	POOH, recover core no 8 100%, RIH w/bit 30, wash and ream
5.11	Ream, POOH, RIH w/bit 31, drill to 3421 m
6.11	Drill to 3462 m, circ, POOH, RIH w/bit 32, drill to 3471 m
7.11	Drill to 3532 m, circ, POOH
8.11	RIH w/bit 33, hang off, displ. riser, WOW, displ. riser, drill to 3554 m
9.11	Drill to 3606 m
10.11	Drill to 3675 m.
11.11	Drill to 3681 m, POOH, test BOP, RIH, W/bit 34, drill to 3697 m.
12.11	Drill to 3707 m, POOH to csg shoe, hang off, displace riser, WOW
13.11	WOW
14.11	WOW, displace riser, RIH
15.11	Circ, stuck pipe, pull free, POOH, hang off, WOW, RIH, circ
16.11	Ream to TD, POOH, lost 1/2 cone, RIH to drill junk
17.11	Work junk basket, drill to 3730 m, wiper trip, POOH, log ISF/sonic/GR
18.11	Log FDC/CNL/NGS, velocity survey, DLL/MSFL
19.11	Finish logs, RIH to cond. hole, POOH, log HDT, misrun, RFT stuck, RIH w/overshot, stripping over logging line.
20.11	RIH w/overshot, POOH w/wireline/fish test BOP ok, RIH w/bit no 36

21.11	Hang off, circ, RIH, circ, POOH, hang off, WOW
22.11	WOW, RIH, circ, POOH, hang off, WOW
23.11	WOW, test BOP, RIH, ream, circ, wiper trip, POOH, rig and run HDT log
24.11	Rig and run RFT, cable failure, RIH w/bit, circ, wait for cable
25.11	Circ, wiper trip, circ, POOH, run HDT, run RFT
26.11	Run RFT, RIH, circ,wiper trip , circ ,POOH
27.11	Run RFT, stuck, RIH w/overshot stripping over line, POOH
28.11	Rec. fish, RIH w/bit, wash and ream, wiper trip, circ, POOH, rig and run 7" liner
29.11	Run 7" liner, cement same, POOH, RIH w/8½" bit and csg. scraper
30.11	Circ, POOH, lay down DC, RIH w/RTTS packer, test liner, squeeze liner, POOH w/RTTS

DECEMBER

1.12	RIH, drill cmt, POOH, test liner ok, RIH w/packer, test ok, RIH, drill flapper valve
2.12	POOH, RIH, set cement plug no 1, lay down pipe, set cement plug no 2, lay down pipe
3.12	Set cement plug no 3, lay down pipe, set cement plug no 4, lay down pipe, WOW
4.12	WOW, pull, split and set back BOP
5.12	Latch corrosion cap to wellhead, run guide frame, cut guide lines, WOW
6.12	WOW to pull anchors. Pull piggyback anchors no 3 and 8
7.12	WOW to pull anchors. Test BOP on test stump
8.12	WOW, pulled anchors
9.12	Pulled and secured anchors, leave location at 1600 hrs dec. 9, 1978

III 3. Extract of Daily Acitivities 34/10-2 R.

4.7.79	On move from Dusavig to location.
5.7	Under way. Arrive on location. Anchoring
6.7	Run guide wires. Jump divers. Retrieve corr. cap
7.7	Test BOP. Run same. Jump divers. Land and test BOP.
8.7	RIH. Drill cmt. plug no. 1 from 213m - 301m w/1.70 mud. Drill plug no. 2 from 477 - 498m.
9.7	Drill to 528m. Drill cmt. plug no. 3 from 1753 - 1767m. Change bit.
10.7	Drill cmt. to 1821m. Drill cmt. plug no. 4 from 2429m to top liner at 2450m. Test overlap to 275 bars.
11.7	Drill cmt. from 2540m w/5 7/8" bit to 2570m. Clean out liner to 3686m. Press. test to 275 bar. Run CBL/VDL log.
12.7	Log. Perf. 3385-3395m. RIH w/test string. Part, of internal tester fell into test string. POOH. Reset recorders.
13.7	RIH w/test string. Tested to 345 bar. P.U. SSTT. Tested some. Set packer and landed SSTT in WH. Tested surface eqt. RIH w/press. recorders.
14.7	Stuck w/recorders. Parted W/L. POOH w/test string. Retrieved recorders in SSTT. RIH. Set packer. Tested eqt. Performed DST 1. Attempted to bullhead. Reversed out water. POOH.

15.7	POOH. RIH w/5 7/8" bit+ scraper to 3400m. POOH. Cone+ shank lost on bit. Ran Schl. junk basket and gauge ring.
16.7	Set retainer on W/L at 3382m. RIH w/stinger. Squeezed cmt. POOH. Perforate at 3348m. RIH w/RTTS packer. Set same and press. up. No press. drop.
17.7	Spotted water. No injection. Performed drawdown test, negative. Reversed out. Spotted water. Pressured up to 345 bars. Squeezed perfs. w/cmt. POOH.
18.7	Tested BOP. RIH. Firm cmt. at 3368m. POOH. RIH w/RTTS packer.
19.7	RIH. Tested to 413 bars. OK. Performed drawdown test. Well flowing. Shut in. Reversed out. Squeezed cmt. POOH. RIH w/bit. Clean out to 3377m. POOH.
20.7	RIH w/RTTS packer. Tested to 310 bar. Performed drawdown test. POOH. Log: CBL/VDL + GR/CCL. Perforate 3355-3365m. RIH w/test string.
21.7	RIH w/test string. Landed and tested OK. Tested surface eqt. OK. Performed DST no. 2. APR valve closed due to press. drop in annulus.
22.7	Opened RTTS circ. valve. Reversed out. POOH to locate leak. Found same in slip jt.
23.7	POOH. RIH w/5 7/8" bit + scraper to 3380 m. POOH. Set retainer on W/L at 3351m. RIH w/stinger
24.7	Squeezed perfs. POOH. Tested BOP. Perf. 3335-3345m. RIH w/test string.
25.7	RIH. Tested string + surface lines. Ran press. recorders on W/L. Performed DST 3.

26.7	APR closed due to leak. Reversed out. POOH. RIH w/bit + scraper.
27.7	Circ. & cond. mud. POOH. RIH w/test string. Test surface eqt.
28.7	Continued DST 3. Problems with APR valves.
29.7	Continued DST 3. Bullheaded. Circ. out
30.7	Circ. POOH. RIH w/bit & csg. scraper. Found sand from 3347-3351m. Circ. POOH.
31.7	Set retainer on W/L at 3325m. RIH w/stringer. Squeezed perfs. POOH. Test BOP. Perforate 3110-3115m.
1.8	RIH w/test string. Press. tested same + surface eqt. Run press. recorders on W/L. Perform DST 4.
2.8	Cont. DST 4. Shut in. Bullhead. Circ.
3.8	POOH. RIH w/bit & scraper. Circ. Set retainer at 3105m on W/L. RIH w/ stinger.
4.8	Squeeze cmt. POOH. Perf. 3017-3027m. RIH w/test string. Tested OK. Perform DST 5.
5.8	Cont. DST 5. Bullheaded. Circ.
6.8	POOH. RIH w/bit & scraper. Circ. POOH.
7.8	Set retainer at 3010m on W/L. RIH w/ stinger. Squeezed perfs. POOH. Laid down tubing.
8.8	RIH open ended. Set cmt. plug 2590-2410m.POOH. Perf. at 1714m. Set retainer at 1710m. RIH w/ stinger. Squeeze perf. POOH. RIH open ended.

9.9	Perf. through DP at 400m, No injection. POOH. Perf. again at 400m. Set retainer at 395m. RIH w/stinger. Squeezed perfs. Set cmt. plug 360-210m. Pull BOP & riser.
10.8	Run charge. Blow wellhead. Recover same. Pull anchors. Leave location at 0120 hrs 11/8.

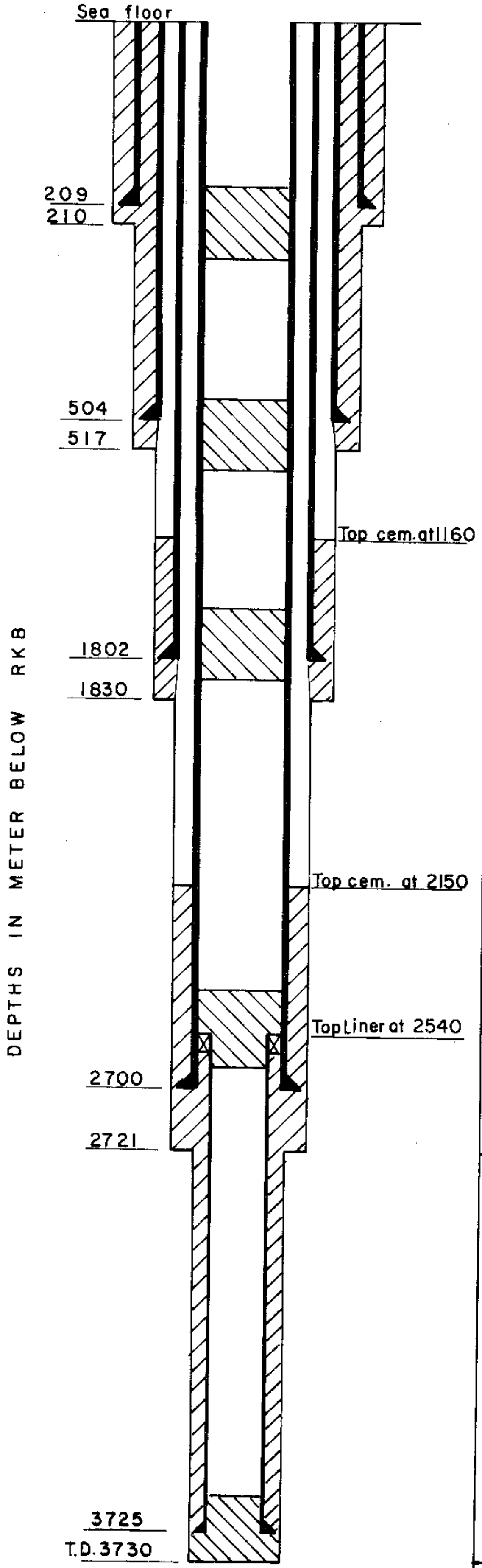
III 4. WELLBORE SCHEMATIC 34/10-2

(Not to scale)

RKB - MSL : 25 m.

WATER DEPTH : 133 m.

Hole	Casing
36"	30" GRADE B 1jt.1 1/2"th 3jt.1"th
26"	20" J 55 94 lb/ft
17 1/2"	13 3/8" N 80 72 lb/ft
12"	9 5/8" 156-1500 N 80 47 lb/ft 1500-3400 N 80 43.5 lb/ft
8 1/2"	7" N 80 29 lb/ft 3260.5
	7" N 80 32 lb/ft

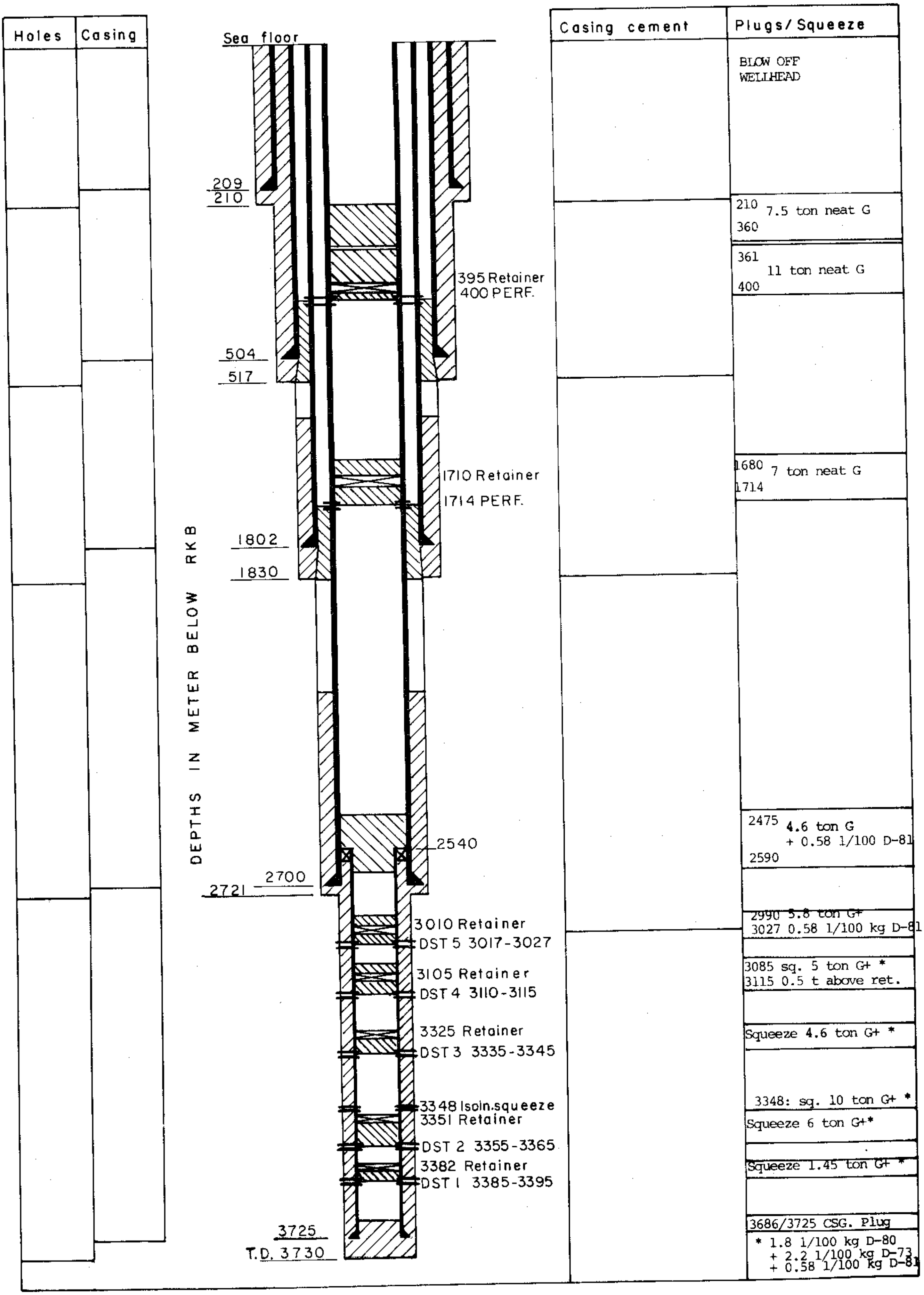


Casing cement	Plugs/Squeeze
LEAD 13.6 ton "G" 3.2 1/100 kg D-75 seawater sp.g. 1.56 TAIL 12.8 ton "G" seawater with 2% Ca Cl_2 sp.g. 1.90	Temporarily abandoned. Corrosion cap set.
	200 cement plug 5.1 ton neat "G" 300
LEAD 67.1 ton "G" 64.4m ^{3} seawater 3.2 1/100 kg D-75 sp.g. 1.56 TAIL 16.3 ton "G" 7.2 m^3 seawater sp.g. 1.96	
	490 cement plug 3.2 ton neat "G" 520
LEAD 83.8 ton "G" 682 l D-75 79 m^3 seawater TAIL 1.3 ton neat "G" 5.7 m^3 freshwater	
	1756 cement plug 3.2 ton neat "G" 1820
Slurry composition: 2.3 ton "G" 41.36 1/100 kg freshwater 2.22 1/100 kg DS-80 0.27 1/100 kg D-81	
	2427 cement plug 6.4 ton neat "G" 2570
	Squeezed overlap w/ 8.5 ton "G" with 0.53 1/100 kg D81
Slurry composition 5.3 ton "G" 2.22 1/100 kg DS-80 1.78 " D-73 0.71 " DS 28 LR	
	3700 cement plug 3725 7" liner cement

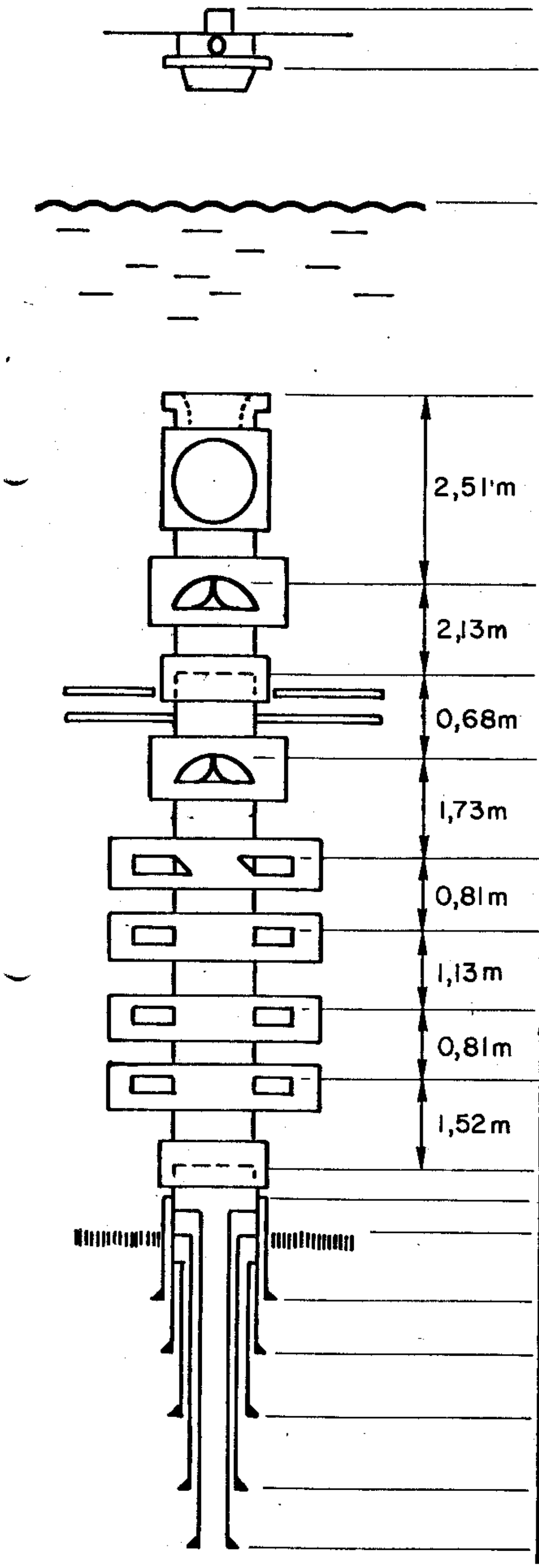
III 4. WELLBORE SCHEMATIC 34/10-2R

RKB - MSL : 25 m.

WATER DEPTH : 133 m.



III 5. ROSS RIG SUBSEA ASSEMBLY — WELL 34/10-2



M.	
0	RKB
3,81	DIVERTER RISER CONNECTOR FLANGE
25	SEA LEVEL MEAN
144,47	FLEX JOINT RISER CONNECTOR FLANGE
146,98	UPPER ANNULAR RUBBER TOP (CLOSED)
149,11	LOWER STACK ASSEMBLY TOP
149,79	LOWER ANNULAR RUBBER TOP (CLOSED)
151,52	SHEAR RAMS TOP
152,33	U.P. RAMS TOP
153,46	M.P. RAMS TOP
154,27	L.P. RAMS TOP
155,79	18 3/4 WELLHEAD TOP
156,30	30" HOUSING TOP
158	MUD LINE
209	30" SHOE
504	20" SHOE
1802	13 3/8" SHOE
2700	9 5/8" SHOE
3725	7" SHOE

III 6. FORMATION INTEGRITY TESTS.

statoil

FORMASJONSSTYRKETEST

Dato: 15.9.79

Brønn nr.: 34/10-2 **Dybde:** Brønn: 517 m Foring: 504 m Test: 519 m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25 m Over sjøb.: 158 m

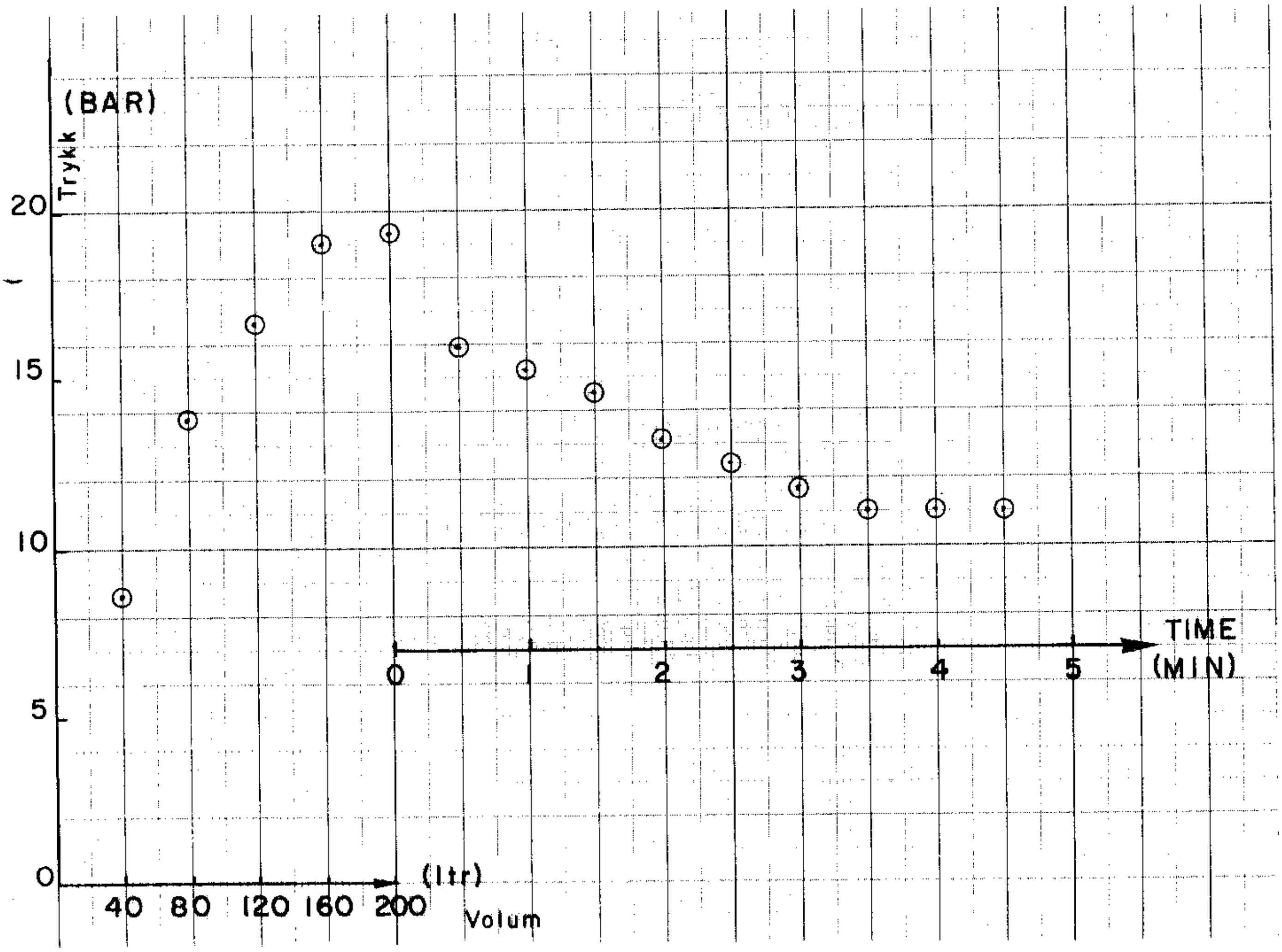
Foring: Diam.: 20" Tyngde: 94 lb/ft Grad: J 55 Maks. trykk: 100 bar

Boreslam: Tetthet: 1.21 s.g. Vis: 44 sec P.V.: 20 cp Y.P.: 12 lb/100/ft^2 Filt: 12 cc Gel.: 5/30 lb/100 ft^2

Pumpe: Type: Dowell Kapasitet: Vol./tidsenh.: 40 l/min Tilb.str.:

Antatt styrke: 1.50 s.g. Obs. spr. trykk: 16.67 bar Ekv. formasj. styrke: 1.52 s.g.

Volum/tid (l)	Trykk (bars)	Volum/tid (min.)	Trykk (bars)	Volum/tid (min.)	Trykk (bars)	Anmerkninger
40	8.6	0.5	15.9	4.5	11.0	
80	13.8	1.0	15.2			Pumped 200 l
120	16.6	1.5	14.5			Bleed back 80 l
160	19.0	2.0	13.1			
200	19.3	2.5	12.4			Hydrostatic head
		3.0	11.7			RKB - Cmt. UNIT: 1.4 bar
		3.5	11.0			
		4.0	11.0			Sign.: Thoresen/Brinch



statoil

FORMASJONSSTYRKETEST

Dato: 28.09.78

NO.1

Brønn nr.: 34/10-2 **Dybde:** Brønn: 1833m Foring: 1802m Test: 1810m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

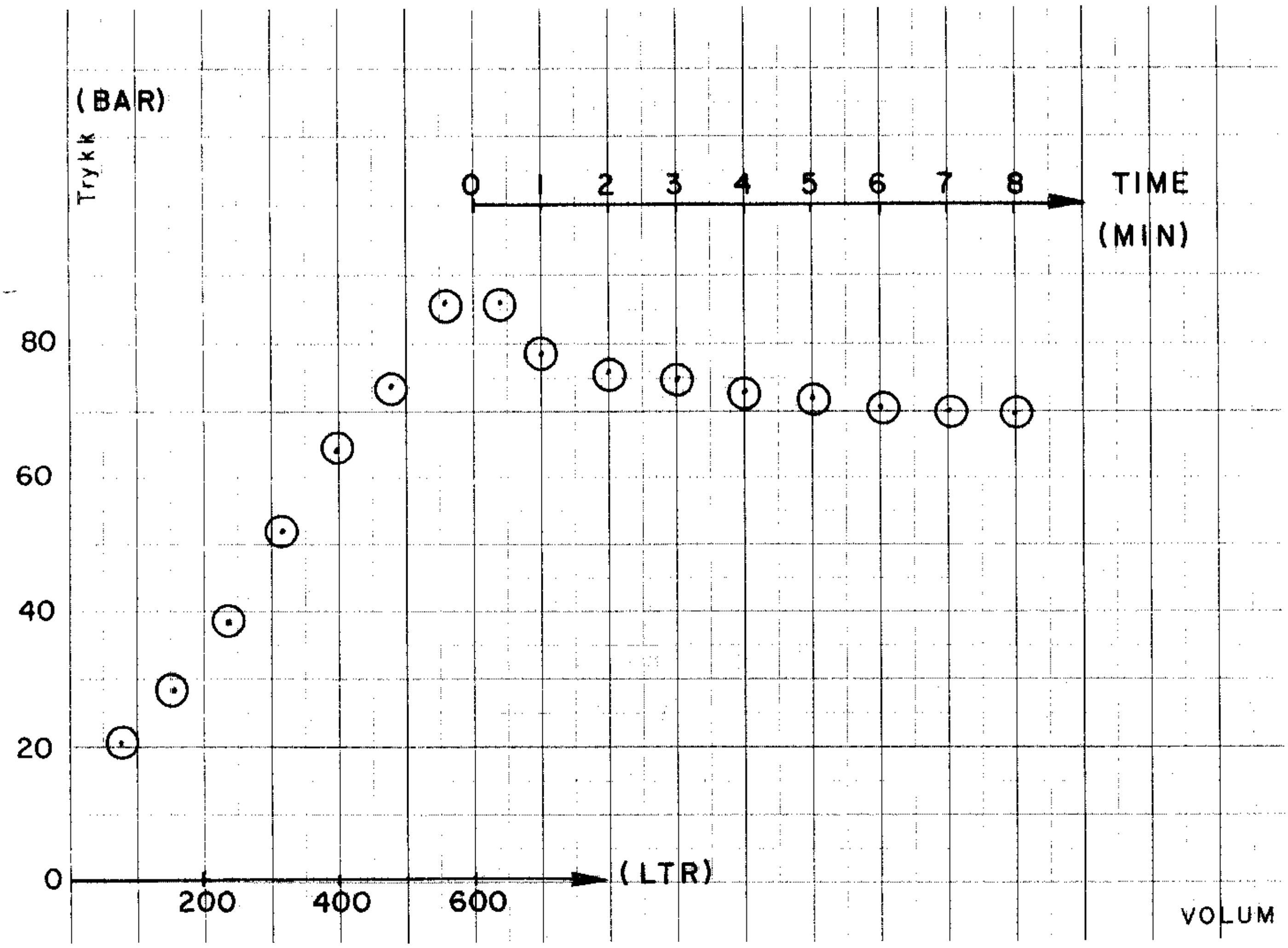
Foring: Diam.: 13 3/8" Tyngde: 72 lbs/ft Grad: N80 Maks. trykk: 145 bar

Boreslam: Tetthet: 1.25 s.g. Vis: 47 sec P.V.: 21 cp Y.P.: 18 lb/100 ft^2 Filt: 8.7 cc Gel.: 5/21 lb/100 ft^2

Pumpe: Type: cmt unit Kapasitet: Vol./tidsenh.: 79.5 l/min Tilb.str.:

Antatt styrke: 1.78 s.g. Obs. spr. trykk: 69 bar Ekv. formasj. styrke: 1.74 s.g.

Volum/tid	Trykk	Volum/tid	Trykk	BLEEDING Volum/tid	Trykk	Anmerkninger
79.5 l	20.7 bar			1 min	78.6 bar	
159 l	27.6 bar			2 min	75.9 bar	
238.5 l	37.9 bar			3 min	75.2 bar	
318 l	51.7 bar			4 min	73.1 bar	
397.5 l	63.8 bar			5 min	72.4 bar	
477 l	74.1 bar			6 min	70.7 bar	
556.5 l	86.2 bar			7 min	70.3 bar	Sign.: T.Gjedrem / HØ
636.0 l	86.2 bar			8 min	69 bar	



statoil

FORMASJONSSTYRKETEST

Dato: 28.9.78

NO.2

Brønn nr.: 34/10-2 **Dybde:** Brønn: 1846m Foring: 1802 m Test: 1796 m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

Foring: Diam.: 13 3/8" Tyngde: 72 lbs/ft Grad: N80 Maks. trykk: 145 bar

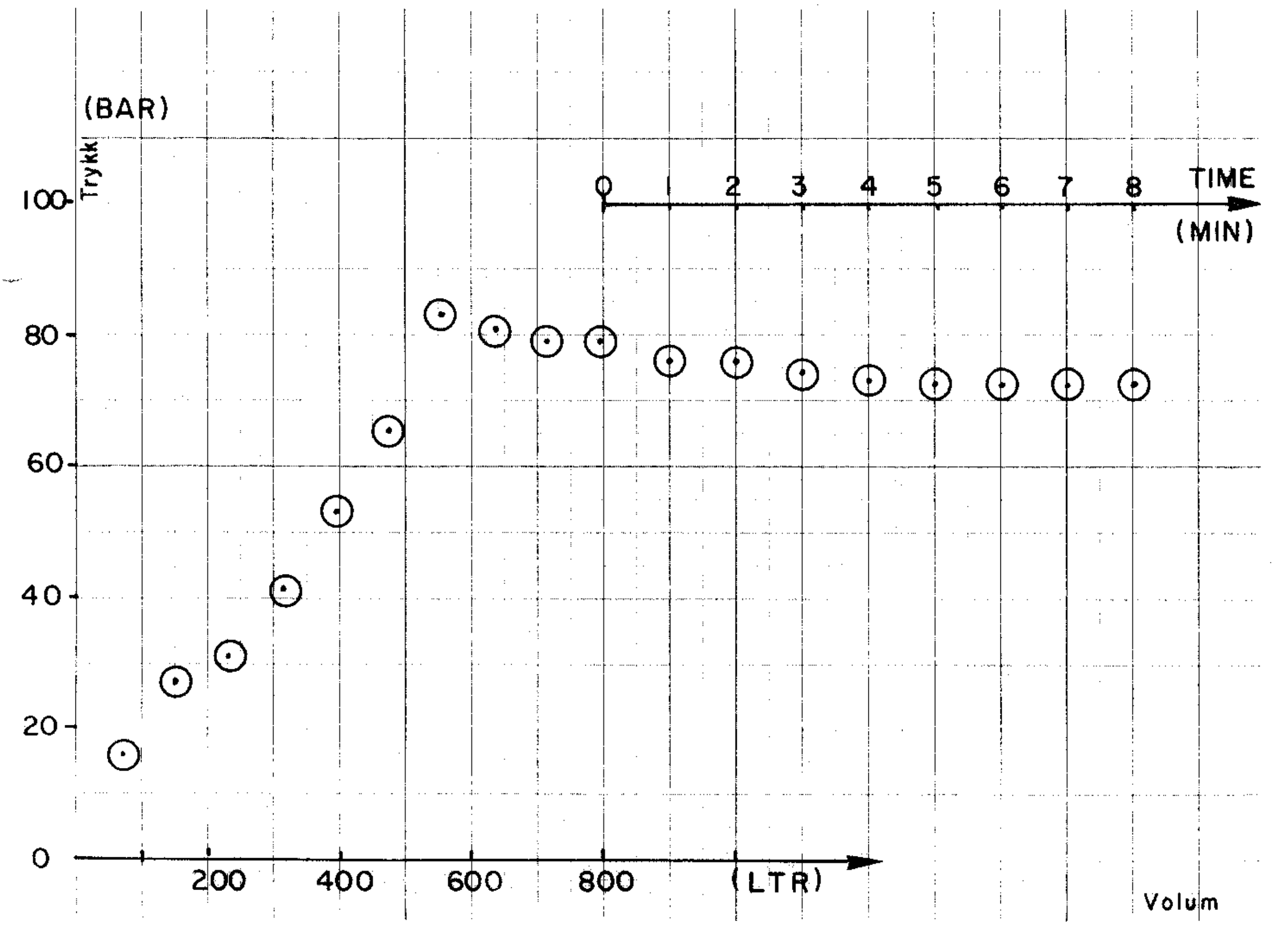
Boreslam: Tetthet: 1.25 s.g. Vis: 47 sec P.V.: 21 cp Y.P.: 18 lb/100 ft^2 Filt: 8.7 cc Gel.: 5/21 lb/100 ft^2

Pumpe: Type: CMT UNIT Kapasitet: Vol./tidsenh.: 79,5 l/min Tilb.str.: 437 ltr

Antatt styrke: 1.78 s.g. Obs. spr. trykk: 72.4 bar Ekv. formasj. styrke: 1.71 s.g.

BLEEDING

Volum/tid	Trykk	Volum/tid	Trykk	Volum/tid	Trykk	Anmerkninger
79,5 l	15,5 bar	715,5 l	79,3 bar	1 min	75,9	
159	27,6	795	79,3	2	75,9	
238,5	31,0			3	74,5	
318	41,4			4	73,1	
397,5	53,4			5	72,4	
477	65,5			6	72,4	
556,5	82,8			7	72,4	Sign.:
636	81,0			8	72,4	T.Gjedrem / HØ



statoil

FORMASJONSSTYRKETEST

NO.3

Dato: 29.9.78

Brønn nr.: 34/10-2 **Dybde:** Brønn: 1850m Foring: 1802m Test: 1850m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

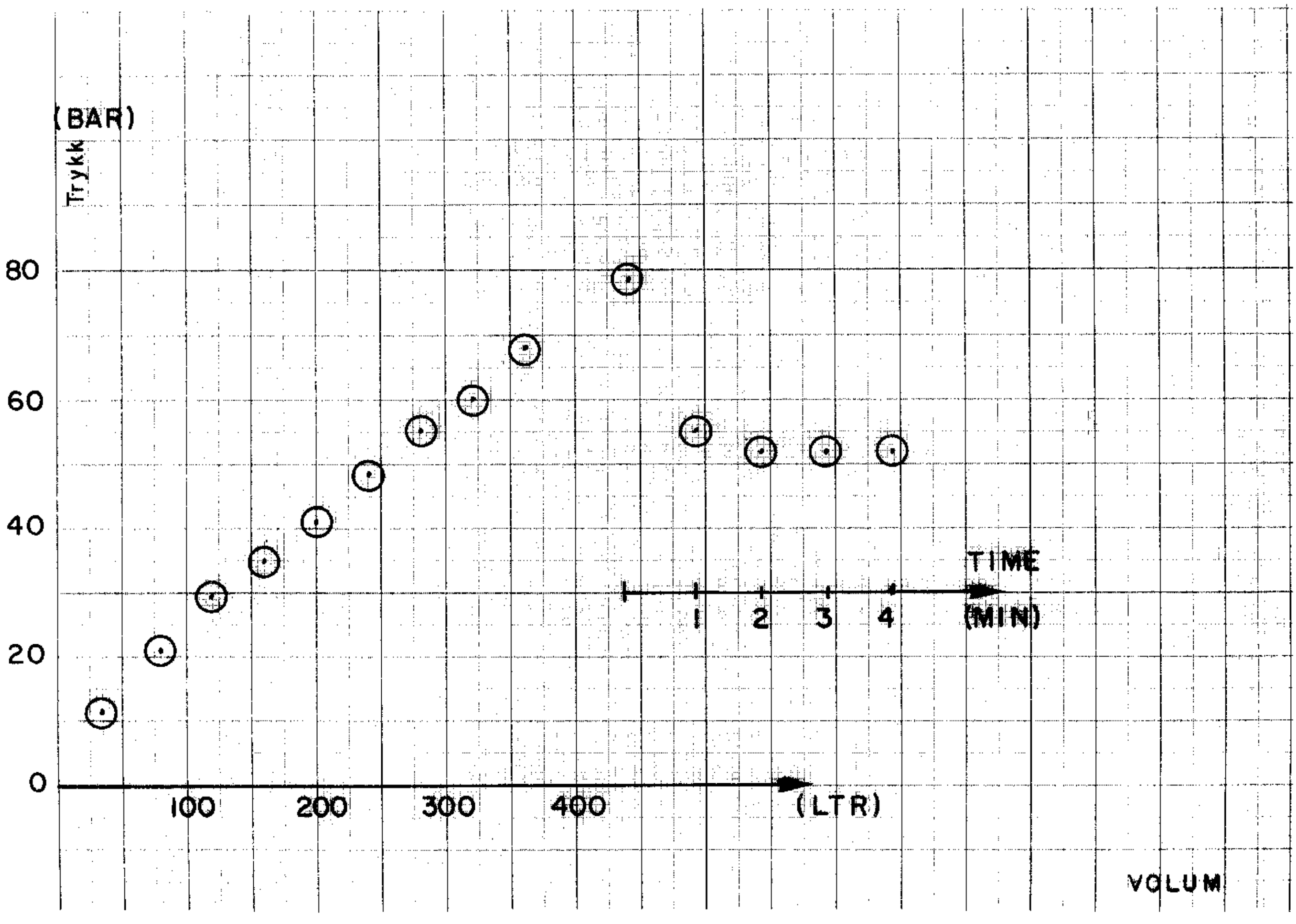
Foring: Diam.: 13 3/8" Tyngde: 72 lb/ft. Grad: N-80 Maks. trykk: 337 bars

Boreslam: Tetthet: 1.40 s.g. Vis: 51 sec P.V.: 32 cp Y.P.: 18 lb/100 ft² Filt: 13 cc Gel.: 4/35 lb/100 ft²

Pumpe: Type: Dowell Kapasitet: Vol./tidsenh.: 90 l/min Tilb.str.:

Antatt styrke: 1.80 sp.gr. Obs. spr. trykk: 78.6 bars Ekv. formasj. styrke: 1.83 sp.gr. at 1850

Volum/tid (l)	Trykk (bars)	Volum/tid (l)	Trykk (bars)	Volum/tid (min)	Trykk	Anmerkninger
0	11,03	320	60,34	0	78,62	Bled back
40	17,24	360	68,28	1	55,17	320 ltr.
80	20,69	440	78,62	2	51,72	
120	29,31			3	51,72	
160	34,48			4	51,72	
200	40,69					
240	48,28					
280	55,17					Sign.: TCB



statoil

FORMASJONSSTYRKETEST

Dato: 29.9.78

NO.4

Brønn nr.: 34/10-2 **Dybde:** Brønn: 1850m Foring: 1802m Test: 1850m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

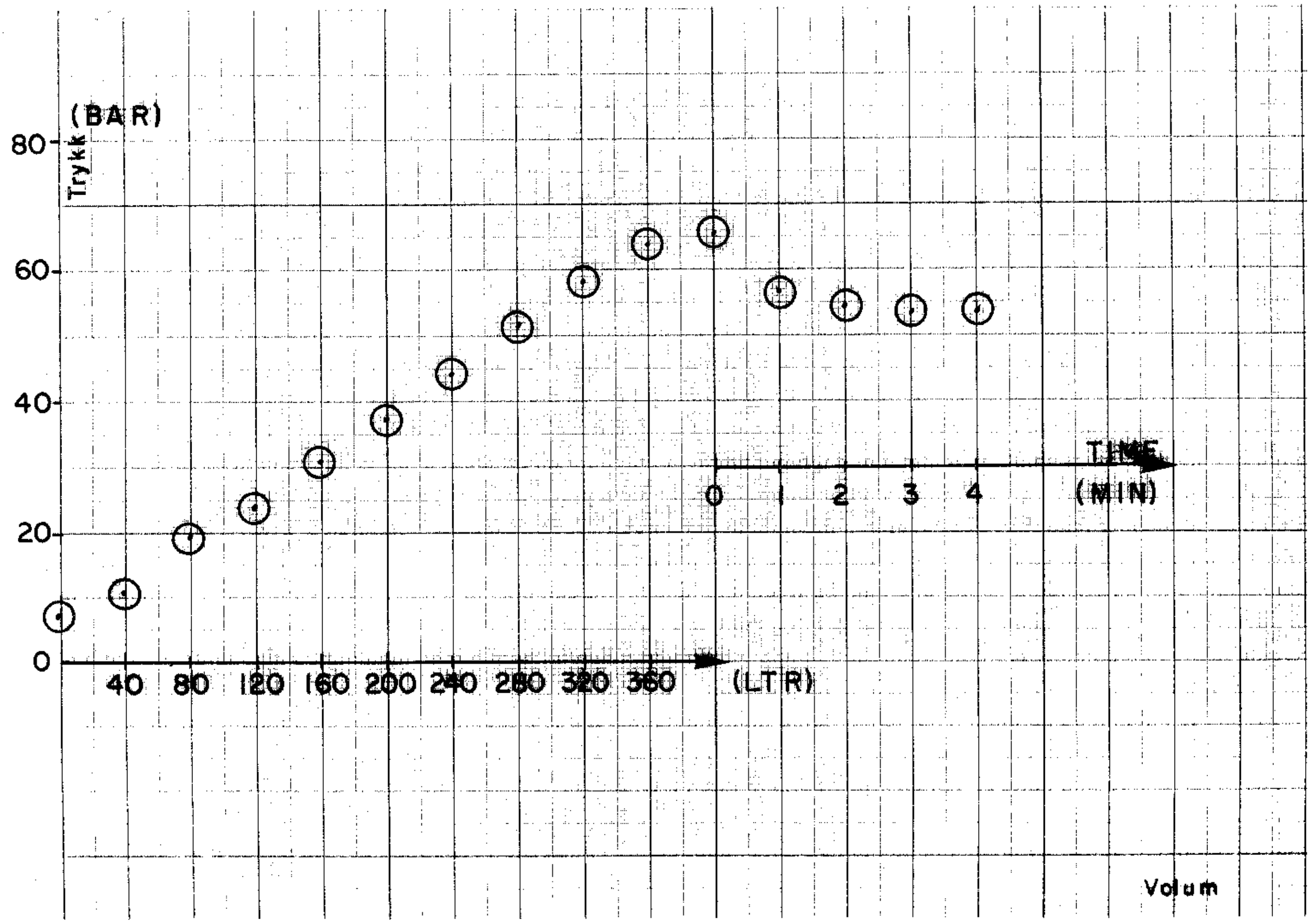
Foring: Diam.: 13 3/8" Tyngde: 72 lb/ft. Grad: N-80 Maks. trykk: 337 bars

Boreslam: Tetthet: 1.40 s.g. Vis: 51 sec P.V.: 32 cp Y.P.: 18 lb/100 ft^2 Filt: 13 cc Gel.: 4/35 lb/100 ft^2

Pumpe: Type: Dowell Kapasitet: . Vol./tidsenh.: 80 l/min Tilb.str.:

Antatt styrke: 1.80 sp.gr. Obs. spr. trykk: 65 bars Ekv. formasj. styrke: 1.76 sp.gr. at 1850

l Volum/tid	bar Trykk	l Volum/tid	bar Trykk	min Volum/tid	bar Trykk	Anmerkninger
0	6,90	320	57,93	0	65,51	Bled back
40	10,34	360	63,79	1	56,90	360 ltr.
80	18,97	400	65,51	2	54,48	
120	24,14			3	53,45	
160	31,03			4	53,40	
200	37,93					
240	44,14					Sign.:
280	51,72					TCB



statoil

FORMASJONSSTYRKETEST

Dato: 2.10.78

NO:I

Brønn nr.: 34/10-2 **Dybde:** Brønn: 2342m Foring: 1802m Test: 1802-2342m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

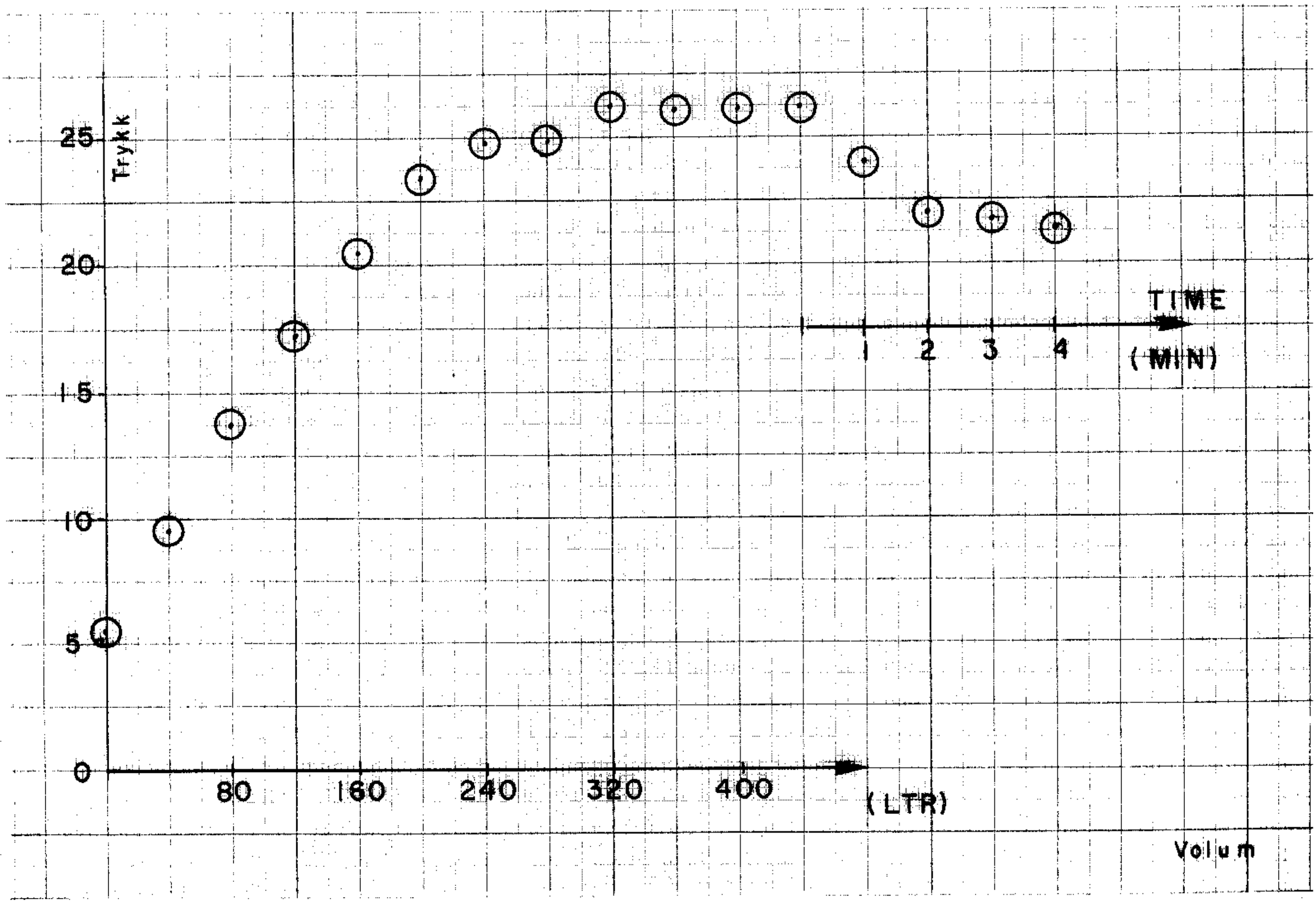
Foring: Diam.: 13 3/8" Tyngde: 72 lb/ft. Grad: N-80 Maks. trykk: 371 bar

Boreslam: Tetthet: 1.52 s.g. Vis: 50 sec P.V.: 37 cp Y.P.: 12 lb/100 ft² Filt: 6.1 cc Gel.: 3/14 lb/100 ft²

Pumpe: Type: Dowell Kapasitet: Vol./tidsenh.: 80 l/min Tilb.str.: 280 ltr

Antatt styrke: 1.82 sp.gr. Obs. spr. trykk: 25.5 bar Ekv. formasj. styrke: 1.66 sp.gr.at 1802

Volum/tid (l)	Trykk (bars)	Volum/tid* (l/min)	Trykk (bars)	Volum/tid	Trykk	Anmerkninger
0	5,52	320	26,21			
40	9,66	360	26,21			
80	13,79	400	26,21			
120	17,24	440	26,21			
160	20,69	1 *	24,14			
200	23,45	2 *	22,07			
240	24,83	3 *	21,72			Sign.:
280	24,83	4 *	21,38			TCB



statoil

FORMASJONSSTYRKETEST

Dato: 2.10.78

NO: II

Brønn nr.: 34/10-2 **Dybde:** Brønn: 2342m Foring: 1802m Test: 1802-2342m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

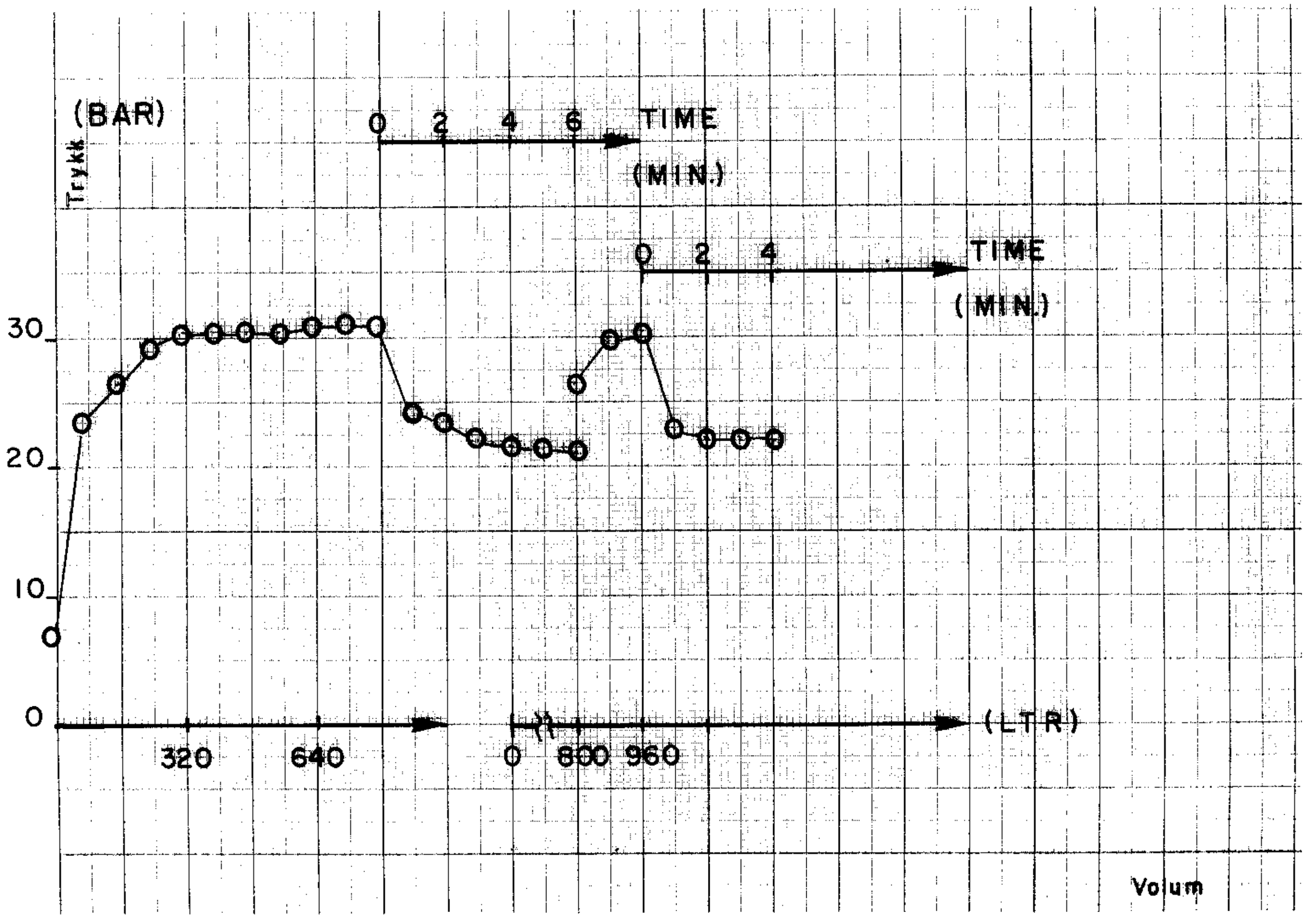
Foring: Diam.: 13 3/8" Tyngde: 72 lb/ft. Grad: N-80 Maks. trykk: 371 bar

Boreslam: Tetthet: 1.52 s.g. Vis: 50 sec P.V.: 37 cp Y.P.: 12 lb/100 ft^2 Filt: 6.1 cc Gel.: 3/14 lb/100 ft^2

Pumpe: Type: Dowell Kapasitet: ______ Vol./tidsenh.: 160 l/min Tilb.str.: 560 ltr

Antatt styrke: 1.82 sp.gr. Obs. spr. trykk: 30,34 bar Ekv. formasj. styrke: 1.69 sp.gr. at 1802

Volum/tid (l)	Trykk (bars)	Volum/tid (l/min)	Trykk (bars)	Volum/tid	Trykk	Anmerkninger
0	6,89	640	30,69	6	21,38	
80	23,45	720	31,03	800	26.21	
160	26,21	800	31,03	880	29,66	120 l/min
240	28,97	1	24,14	960	30,34	
320	30,34	2	23,45	1	22,76	
400	30,34	3	22,07	2	22,07	
480	30,34	4	21,72	3	22,07	Sign.:
560	30,34	5	21,38	4	22,07	TCB



statoil

FORMASJONSSTYRKETEST

Dato: 3.10.78

NO: III

Brønn nr.: 34/10-2 **Dybde:** Brønn: 2342m Foring: 1802m Test: 1802-2342m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25m Over sjøb.: 158m

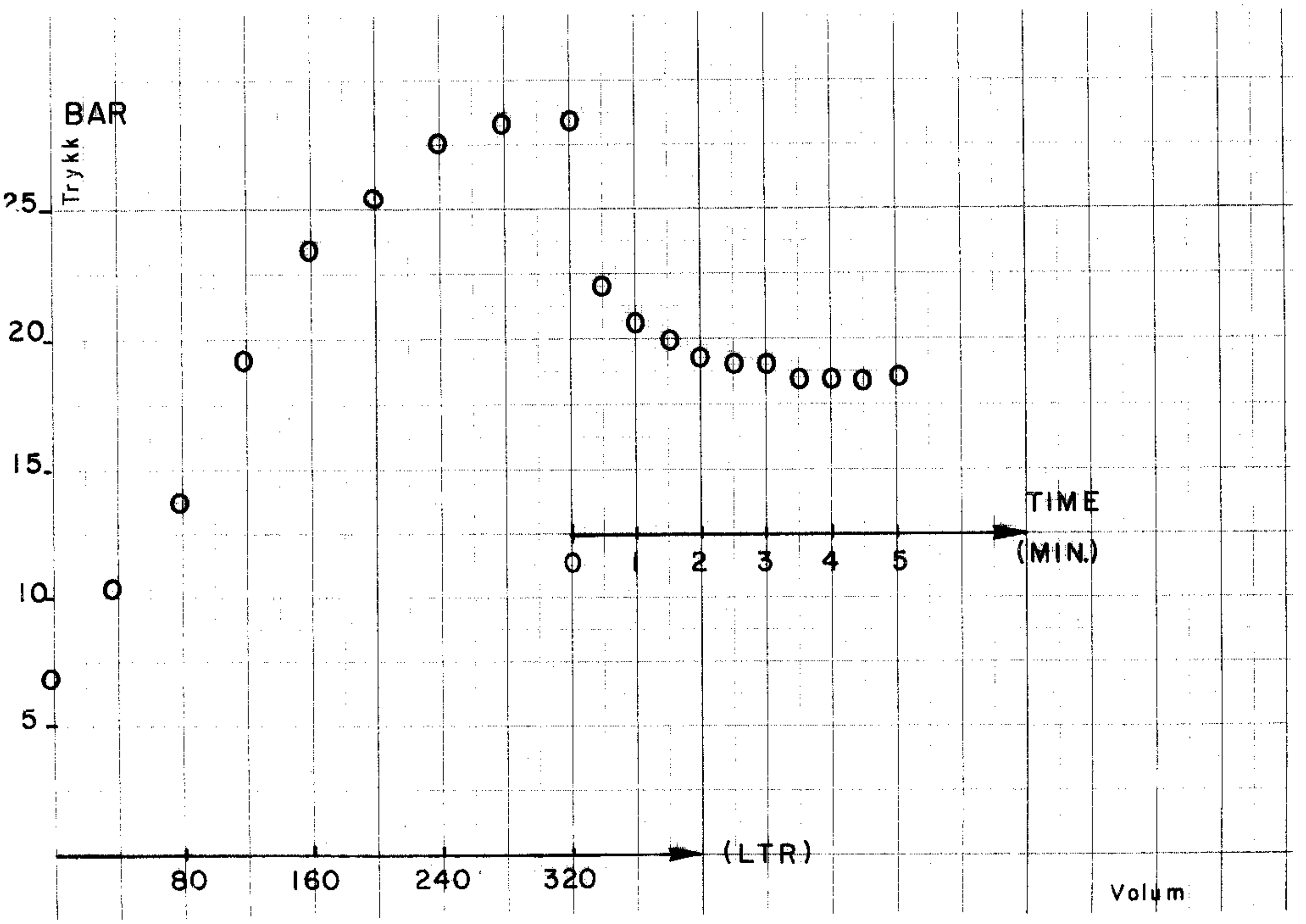
Foring: Diam.: 13 3/8" Tyngde: 72 lb/ft. Grad: N-80 Maks. trykk: 371 bar

Boreslam: Tetthet: 1,52 s.g. Vis: 52 sec P.V.: 35 cp Y.P.: 15 lb/100 ft² Filt: 6.2 cc Gel.: 3/19 lb/100 ft²

Pumpe: Type: Dowell Kapasitet: Vol./tidsenh.: 120 l/min Tilb.str.: 280 ltr

Antatt styrke: 1,82 s.g. Obs. spr. trykk: 27,6 bar Ekv. formasj. styrke: 1,68 sp.gr. at 1802m

Volum/tid (l)	Trykk (bars)	Volum/tid (l/min)	Trykk (bars)	Volum/tid (min)	Trykk (bars)	Anmerkninger
0	6,9	320	28,3	3½	18,6	
40	10,3	min		4	18,6	
80	13,8	½	22,1	5	18,6	
120	19,3	1	20,7			
160	23,4	1½	20,0			
200	25,5	2	19,3			
240	27,6	2½	19,3			Sign.:
280	28,3	3	19,3			KK



statoil

FORMASJONSSTYRKETEST

Dato: 12.10.78

Brønn nr.: 34/10-2 **Dybde:** Brønn: 2724 m Foring: 2700 m Test: 2700 m

Fartøy: Ross Rig **Høyde R.K.B.:** Over vannfl.: 25 m Over sjøb.: 158 m

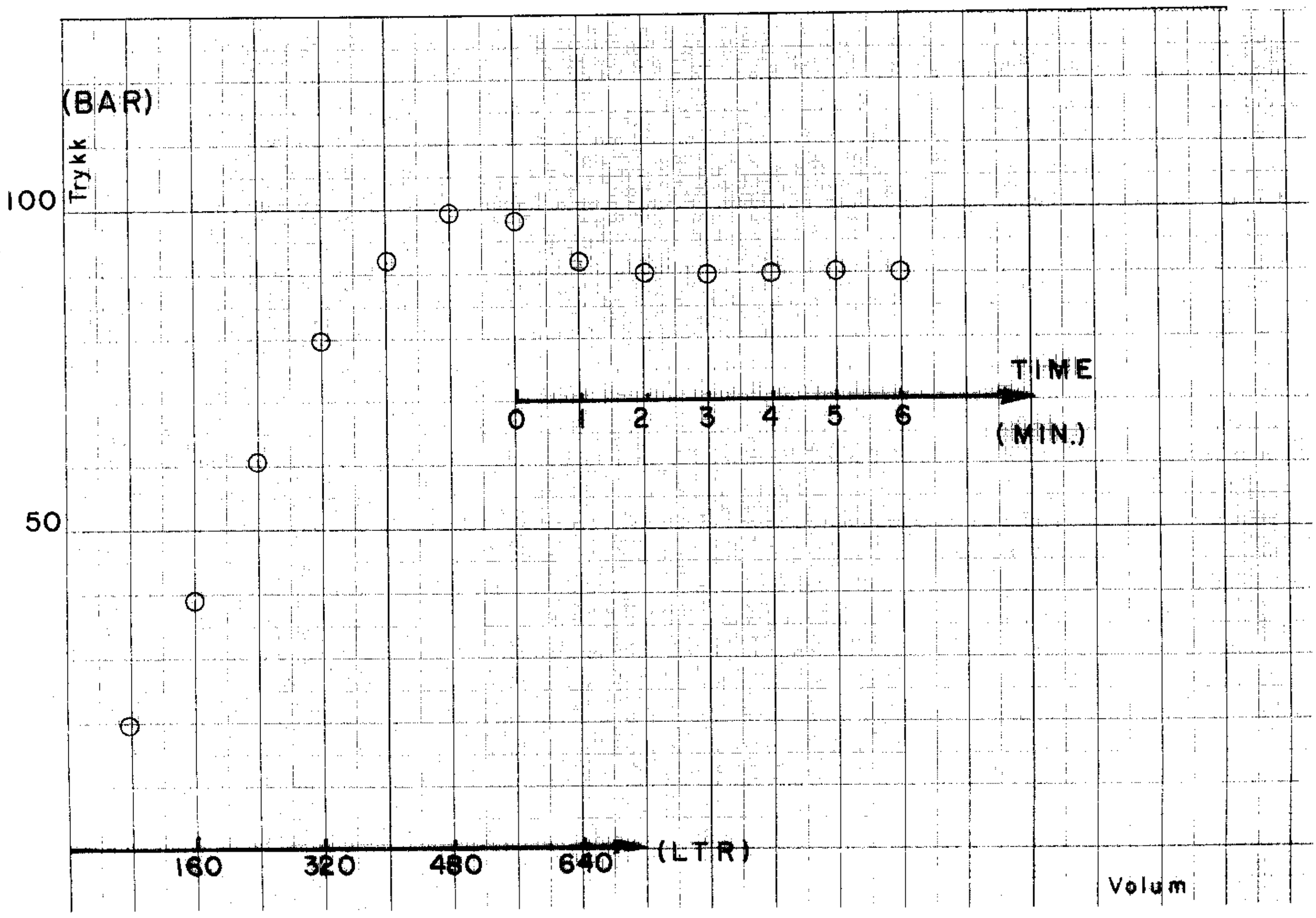
Foring: Diam.: 9 5/8" Tyngde: 43.5/47 lb/ft Grad: N-80 Maks. trykk: 437 bar

Boreslam: Tetthet: 1.56 sp.gr Vis: 49 sec P.V.: 28 cp Y.P.: 17 lb/100 ft^2 Filt: 6.0 cc Gel.: 6/31 lb/100 ft^2

Pumpe: Type: Dowell Kapasitet: - Vol./tidsenh.: 40 l/min Tilb.str.: 480 l

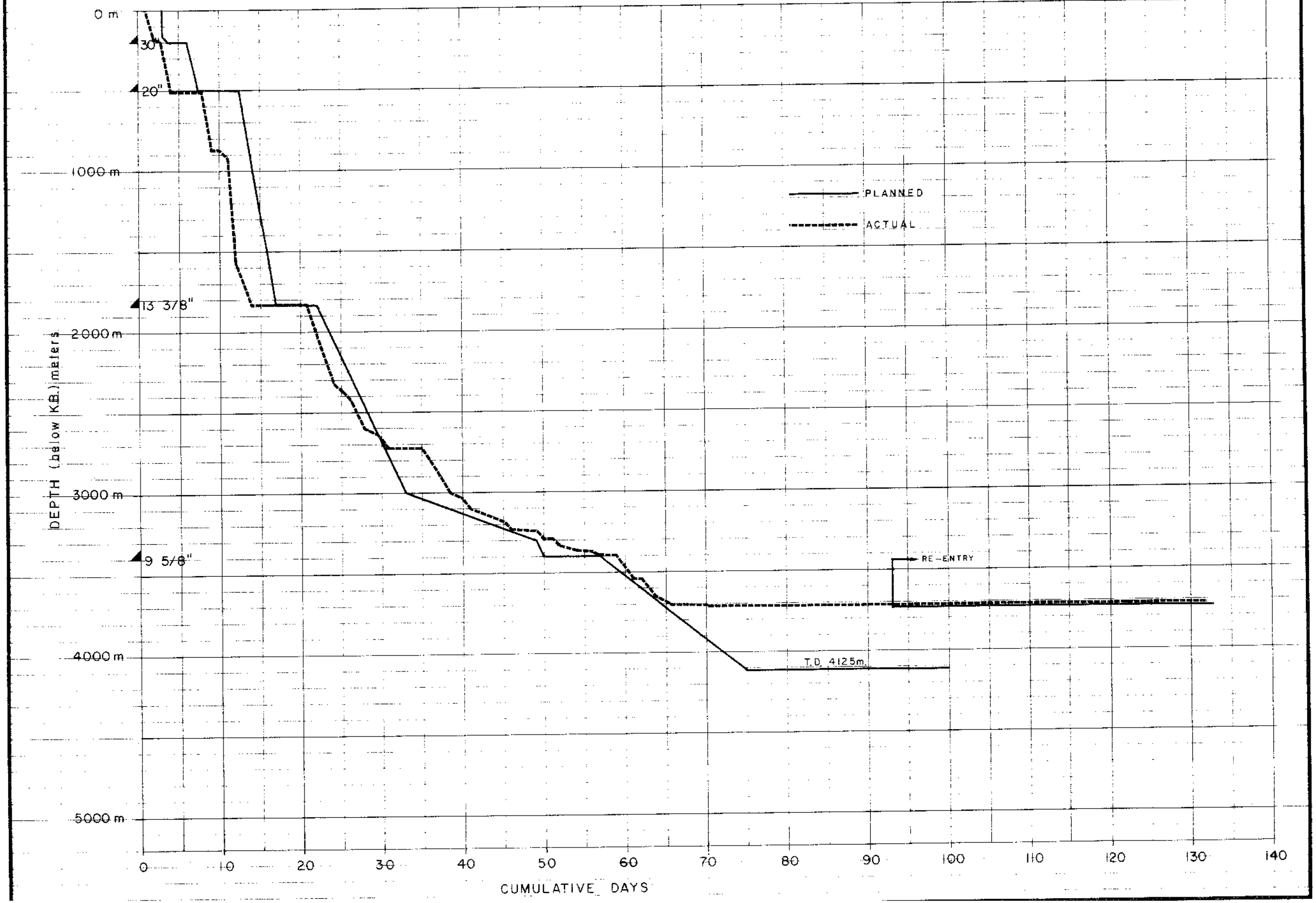
Antatt styrke: - Obs. spr. trykk: 89 bars Ekv. formasj. styrke: 1.89 s.g.

Volum/tid (l)	Trykk (bars)	Volum/tid (min)	Trykk (bars)	Volum/tid	Trykk	Anmerkninger
80	19.3	1	91.7			
160	38.6	2	90			
240	60.3	3	90			
320	79.3	4	90			
400	91.7	5	90			
480	99.3	6	90			
590	97.9					Sign.: Gjedrem/Hansson
Finish pumping						



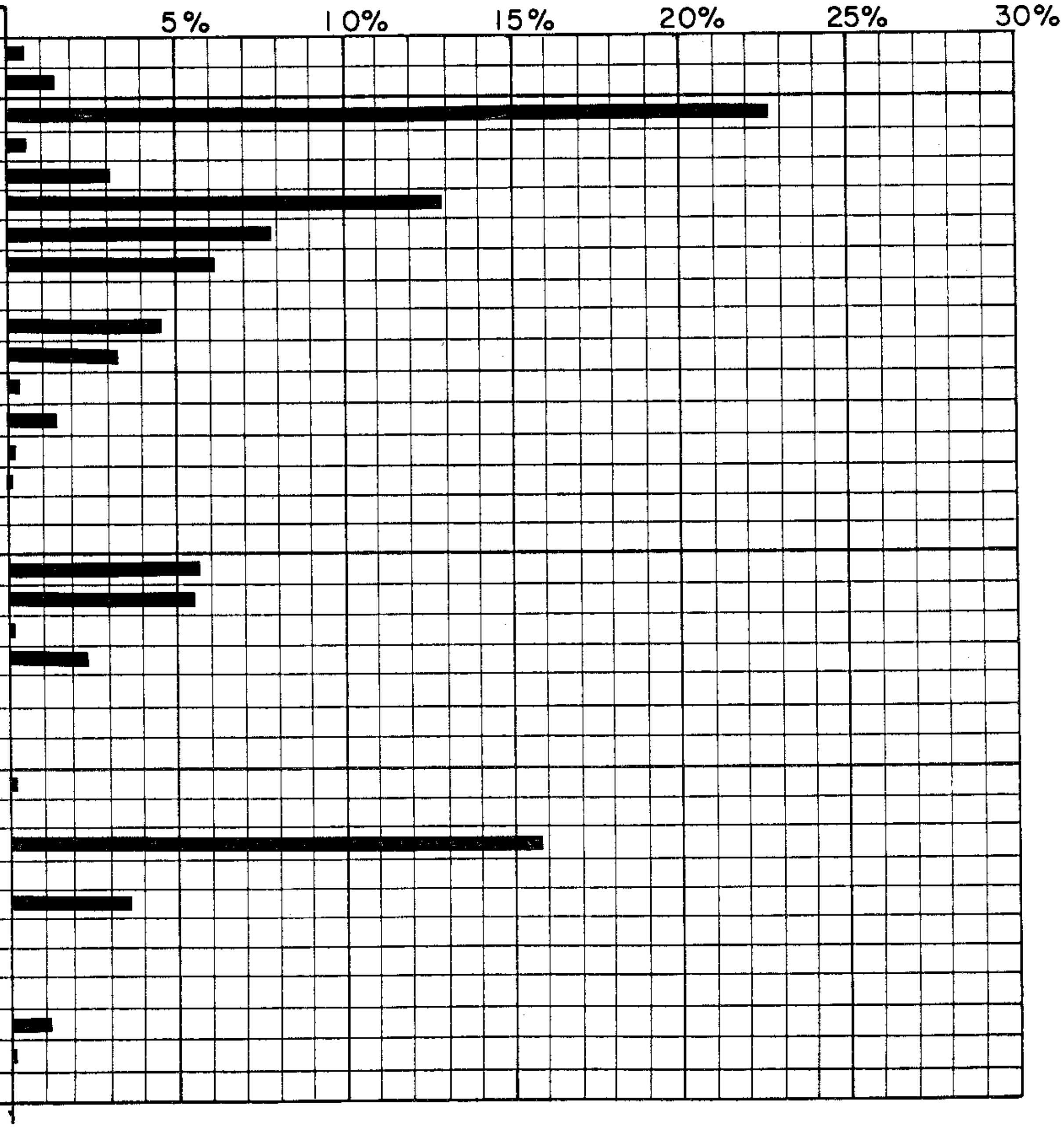
III 7. TIME VS. DEPTH CURVE

WELL 34/10-2



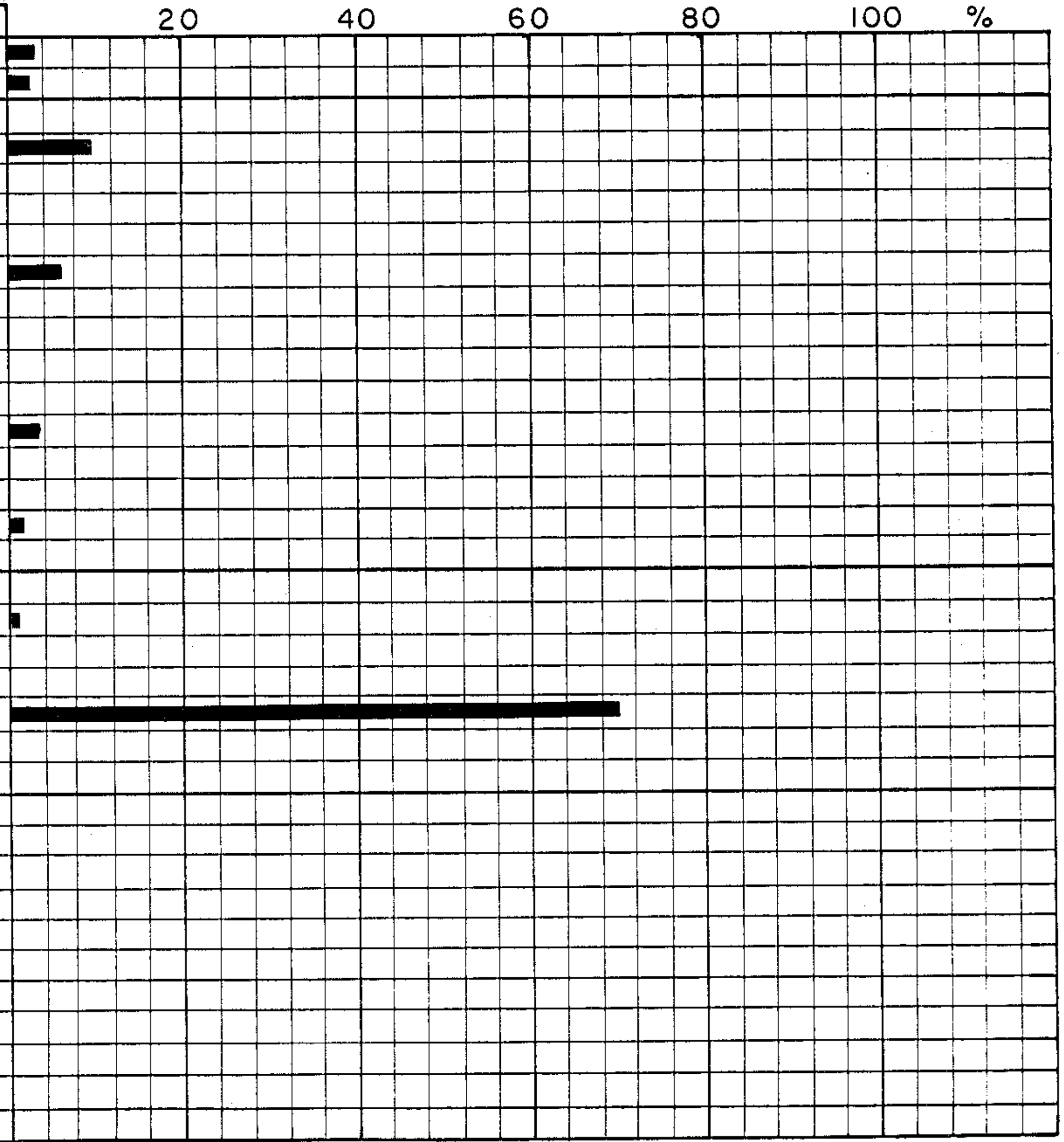
III 8. RIG TIME DISTRIBUTION FOR WELL 34/10-2

		HRS	%
	Moving	11.5	0.52
	Mooring	32.5	1.47
DRILLING OPERATION	Efficient drilling	505	22.8
	Other drilling	15	0.68
	Hole opening	68.5	3.09
	Regular tripping	285	12.9
	Casing and cementing	175	7.89
	Sub sea eq. and BOP	135.5	6.11
	Abnormal press. detection		
	Cond. and circ.	103	4.64
	Reaming	72	3.25
	Directional survey	7	0.32
	Plugging	31.5	1.42
	Formation leak-off test	3.5	0.16
	Maintenance	2.5	0.11
	Other		
FORMATION EVALUATION	Coring	127.5	5.75
	El. logging	124	5.59
	Circ. for samples	3	0.14
	RFT	53.5	2.41
	Production testing		
	Other		
DOWNTIME	Rig repairs	3.5	0.16
	Rig moving		
	Waiting on weather	351	15.8
	Subsea eq. and BOP		
	Fishing	80.5	3.63
	Lost sirculation		
	Well control		
	Hole problems		
	Formation evaluation	26	1.17
	Diving	1.5	0.07
	Other		
	TOTAL	2218	100



III 8. RIG TIME DISTRIBUTION FOR WELL 34/10-2 R

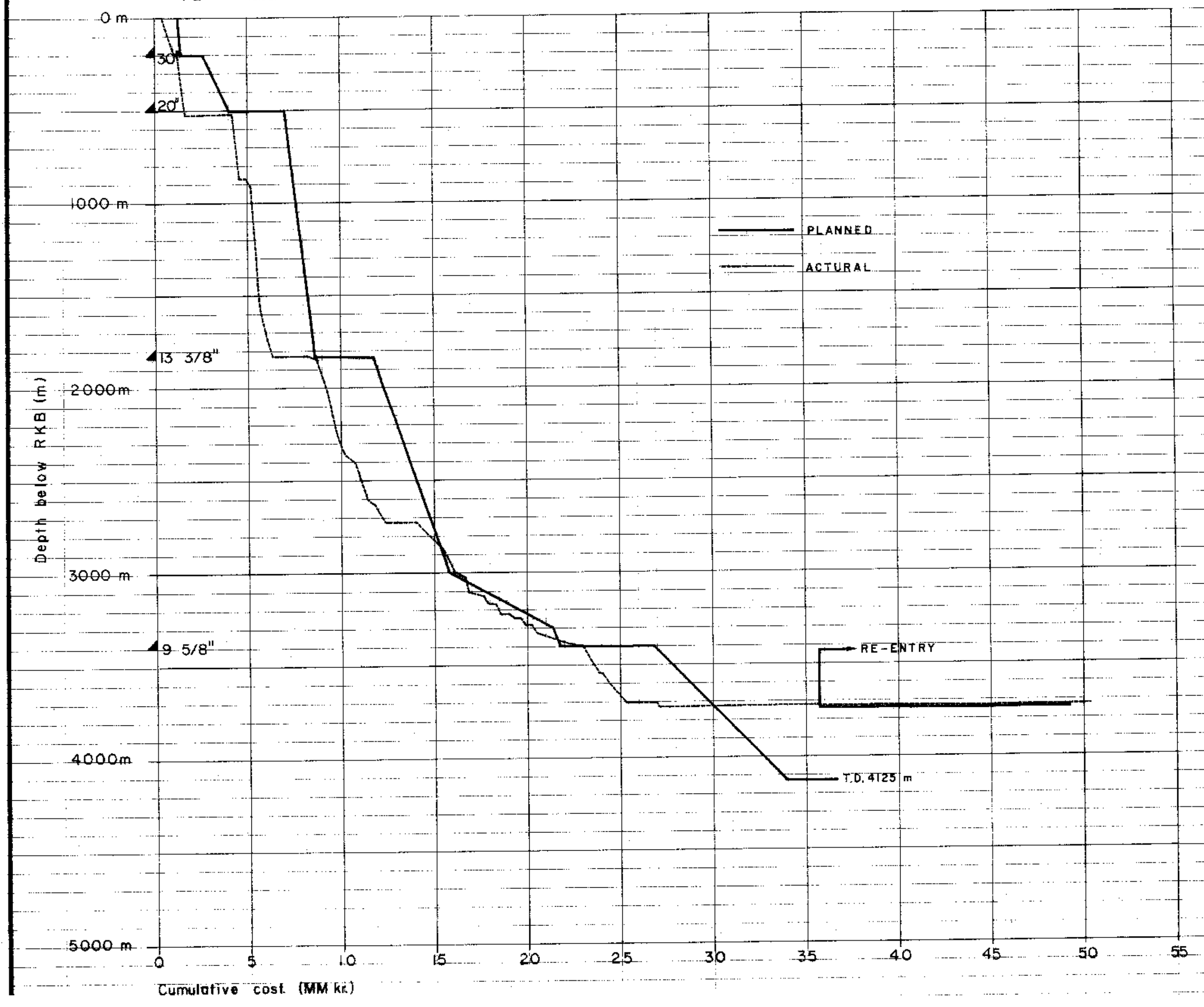
		HRS	%
	Moving	33	3.62
	Mooring	25.5	2.79
DRILLING OPERATION	Efficient drilling		
	Other drilling	90.5	9.92
	Hole opening		
	Regular tripping		
	Casing and cementing		
	Sub sea eq. and BOP	58.5	6.41
	Abnormal press. detection		
	Cond. and circ.		
	Reaming		
	Directional survey		
	Plugging	35	3.84
	Formation leak-off test		
	Maintenance		
	Other*	15.5	1.70
	*Cut csg., recd. W.H.		
FORMATION EVALUATION	Coring		
	El. logging	10	1.10
	Circ. for samples		
	RFT		
	Production testing	644.5	70.63
	Other		
DOWNTIME	Rig repairs		
	Rig moving		
	Waiting on weather		
	Subsea eq. and BOP		
	Fishing		
	Lost sirculation		
	Well control		
	Hole problems		
	Formation evaluation		
	Diving		
	Other		
	TOTAL	912.5	100.0



III 9. COST VS. DEPTH CURVE

WELL 34/10-2

Statoil
Den norske stats oljeselskap a.s



III 10. BIT RECORD.

statoil

BORKRONEDATA

Brønn nr.: 34/10-2

Nr.	B. k. Nr.	Diam.	Fabr.	Type	Serie no.	Dyser 1/32"	Dybde ut	Fremdrift	Rot. tid	Total rot.tid	V.p.b.	O.p.m.	Pumpe			Tilstand			Anmerkninger
													Trykk	V.grad	v/t	T	B	G	
1	1	26"	H.T.C.	OSC 3AJ	VE540	3x24	210	52	8	8	2/6	75	75	0.96	3040				+36" H.O.
2	1RR	26"	H.T.C.	"	"	"	212	2	0.75/ 0.25	8.25									Drlg 5 mtr cmt in 30" + 2m hole
3	2	17½"	SMITH	DGJ	VW504	3x20	516	304	12.5	20.75	2/10	115	133/ 167	0.96	2020/ 4050	2	3	1	Drlg 17" pilot hole
4	2RR	"	"	"	VW504	"	"	0											+ 26" underr.
5	1RR	26"	HTC	VES04	OSC 3AJ	3x24	"	0											Wipertrip
6	2RR	17½"	SMITH	DGJ	VW504	3x20	519	3	1.5/0.5	21.25	2/10	60/80	172	0.96	3750	3	5	1	Drlg 19m cmt in 20" + 3m new hole
7	3	12"	SMITH	DSJ	717RN	3x16	870	351	12.5	33.75	6/20	60/140	207	0.96	3240	4	4	1	pulled to hang off for weather
8	4	12"	HTC	XIG	LK098	3x15	1592	722	25.5	59.25	0/17	140	200	0.96	2750	8	5	1/4	-
9	5	12"	HTC	XV	LF375	3x15	1827	235	24.5	83.75	13	100	200	0.96	2700	7	5	1	pulled as csg pt.was reached.
10	6	17½"	SECURITY	S3GJ4	4661	4x18	1305	801	22	Rea-ming	0-10	120	206	0.96	4630	6	5	3/8	reamed hole from 12" To 17½"
11	7	17½"	SMITH	SDG		3x18	1599	294	14	"	0-10	120	206	0.96	4400	3	3	1/4	" "
12	8	17½"	SECURITY	M4N		3x18	1830	231	10	"	0-10	110	206	0.96	4400				" "
13	9	12"	HUGHES	XIG	LV985	3x15	1846	55+16	2	85.75									Drilled 55m cmt
14	9RR	12	"	"	"	3x15	1850	102 +4	0.5	86.25	0-10	90	150	0.96	2200	5	2	1	Drill 102m cmt 75% of spear point broken
15	10	12	HTC	XIG	LM127	3x15	2127	277	25.5	111.75	14-18	100	204	0.96	2120	6	6	1	
16	11	12	HTC	XIG	LM126	3x15	2342	215	25.5	137.25	18	110	204	0.96	2300	6	6	1	
17	12	12	HTC	XIG	LM079	3x15	2483	141	24.5	164.75	18	110	204	0.96	2300	6	5	1	

statoil

BORKRONEDATA

Brønn nr.: 34/10-2

Nr.	B. k. Nr.	Diam.	Fabr.	Type	Serie no.	Dyser 1/32"	Dybde ut	Fremdrift	Rot. tid	Total rot.tid	V.p.b.	O.p.m.	Pumpe Trykk	Pumpe V.grad	Pumpe v/t	Tilstand T	Tilstand B	Tilstand G	Anmerkninger
18	13	12"	HTC	XIG		3x15	2615	132	28.5	193.25	14-25	80-110	190	0.96	2200	6	7	I	
19	14	12"	HTC	XV	LL132	3x15	2671	56	20	213.25	12-25	70-90	208	0.96	2235	4	5	I	some broken teeth
20	15	12"	HTC	XIG	LKO60	3x15	2723	52	15.5	228.75	17-34	110	209	0.96	2200	3	4	I	
21	16	8½	HTC	XIG		3x11	2788	67	19	247.75	12-16	80-100	209	0.96	1380	4	6	I	B.T.
22	17	8½	HTC	XIG		3x11	2870	82	18.5	266.25	12-16	90-110	209	0.96	1360	4	8	I	BT Locked cone skidding
23	18	8½	HTC	XIG		11-11-10	2961	91	17.2	283.45	12-16	80	203	0.96	1250	4	6	I	
24	19	8½	REED	S2IG		3x11	3031	70	14.5	297.95	12-16	80	204	0.96	1290	3	3	I	pulled to core
25	20	8 15/32	CHR	C-18		-	3043	12	8.0	305.95	9	100	69	0.96	770	-			
26	21	8½	HTC	XDV		3x11	3103	60	11.0	316.95	16	100	202	0.96	1290	4	3	I	pulled to core
27	20RR	8 15/32	CHR	C-18		-	3114	11	6.0	322.95	9.0	100	52	0.96	670	15%			
28	22	8½	HTC	XDV	X13335	3x11	3174	60	21	343.95	18	100	205	0.96	1380	4	8	I	
29	23	8½	HTC	XDV	247YL	3x11	3235	61	24.5	368.45	18	100	205	0.96	1380	5	5	1/16	
30	24	8½	REED	FP51		3x11	3282	47	16	384.45	15	150	207	0.96	1370				lost 2 cones + bearing on last one ½" undergauge
31	Reverse circ. basket Bowen																		
32	25	8½	SECURITY	H7U		3x11	3283	1	1	385.45	6-12	80-100	207	0.96	1370	3	5	I	B.T.Drlg junk
33	26	8½	HTC	XDV		3x11	3334	51	16	401.45	16	100	207	0.96	1290	6	6	I	Drilled some junk.
34	27	8½	HTC	XDV		3x11	3338	4	1	402.45	16	160	207	0.96	1290	1	1	I	
35	20RR	8 15/32	CHRIST	C-18			3345	7	6.55	409.0	4.9	160	70	0.96	1290				

![statoil]

BORKRONEDATA

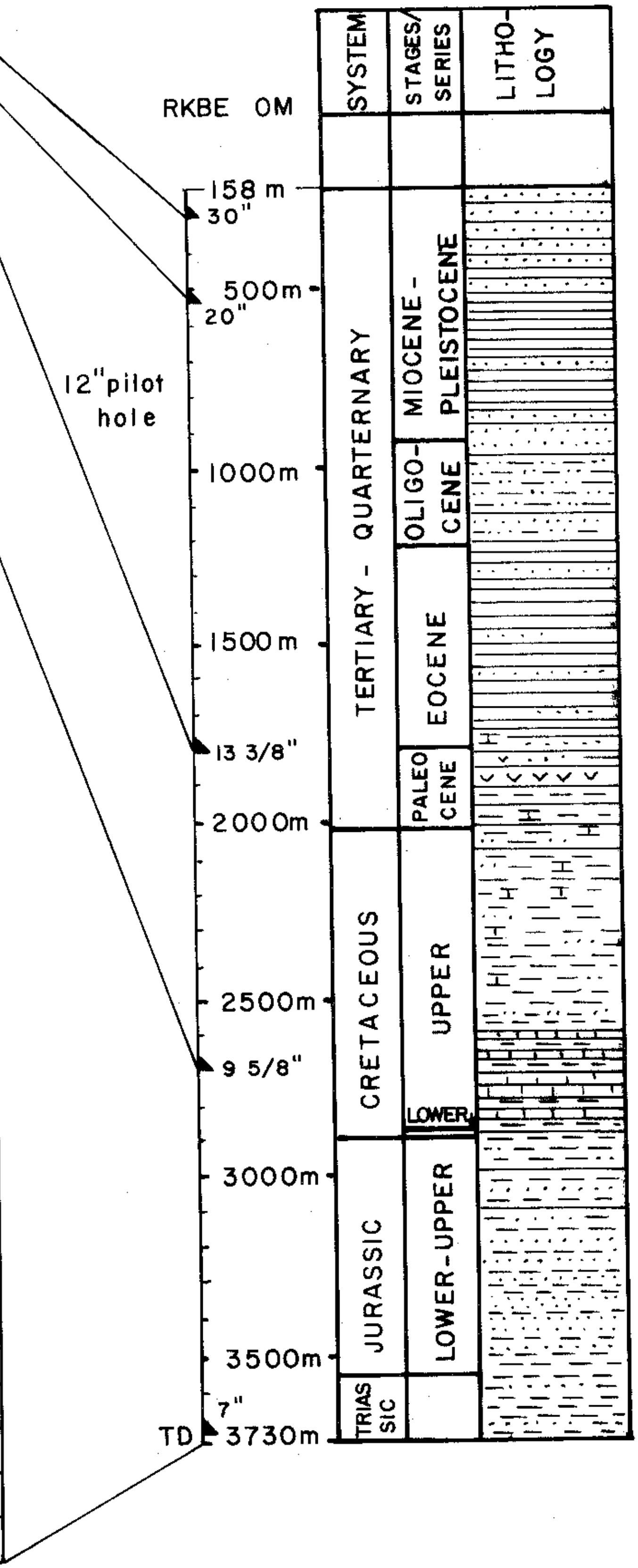
Brønn nr.: 34/10-2

Nr.	B. k. Nr.	Diam.	Fabr.	Type	Serie no.	Dyser 1/32"	Dybde ut	Fremdrift	Rot. tid	Total rot.tid	V.p.b.	O.p.m.	Pumpe Trykk	Pumpe V.grad	Pumpe v/t	Tilstand T	Tilstand B	Tilstand G	Anmerkninger
36	28	8 15/32	CHRIST	C-18			3363	18	11	420	11	120	100	0.96	1000	25%			
37	20RR	8 15/32	CHRIST	C-18			3367	4	4.5	424.5	8-11	120	40-100	0.96	1000	20%			
38	29	8 15/32	CHRIST	C-22	P3332G		3372	5	3.5	428.0	8-11	120	58-60	0.96	700	5%			
39	29RR	8 15/32	CHRIST	C-22	"		3382	10	5.5	433.5	8-11	120	58-60	0.96	700	15%			
40	29RR	8 15/32	CHRIST	C-22	"		3390	8	6.0	339.5	8-11	120	58-60	0.96	750	20%			
41	30	8½	HTC	XDV		3x11	–	–	–	–	0-5	90-100	205	0.96	1400	1	2	I	
42	31	8½	HTC	XDV		3x11	3461	71	20	359.5	20	90	206	0.96	1275	7	6	I	
43	32	8½	HTC	XDV		1x10 2x11	3532	71	20	379.5	20	90	206	0.96	1275	6	7	I	
44	33	8½	REED	FP52		3x11	3681	149	62	441.5	19	36	186	0.96	1160	2	4	I	
45	34	8½	REED	FP52		3x11	3707	26	11.5	453	19	45-50	207	0.96	1210	8	8	1/8	lost 1/2 cone no.2 19 hrs. hard reaming.
46	35	8½	HTC	XV	UL074	3x11	3730	25	7.5	460.5	12-16	80-90	207	0.96	1210	4	4	I	

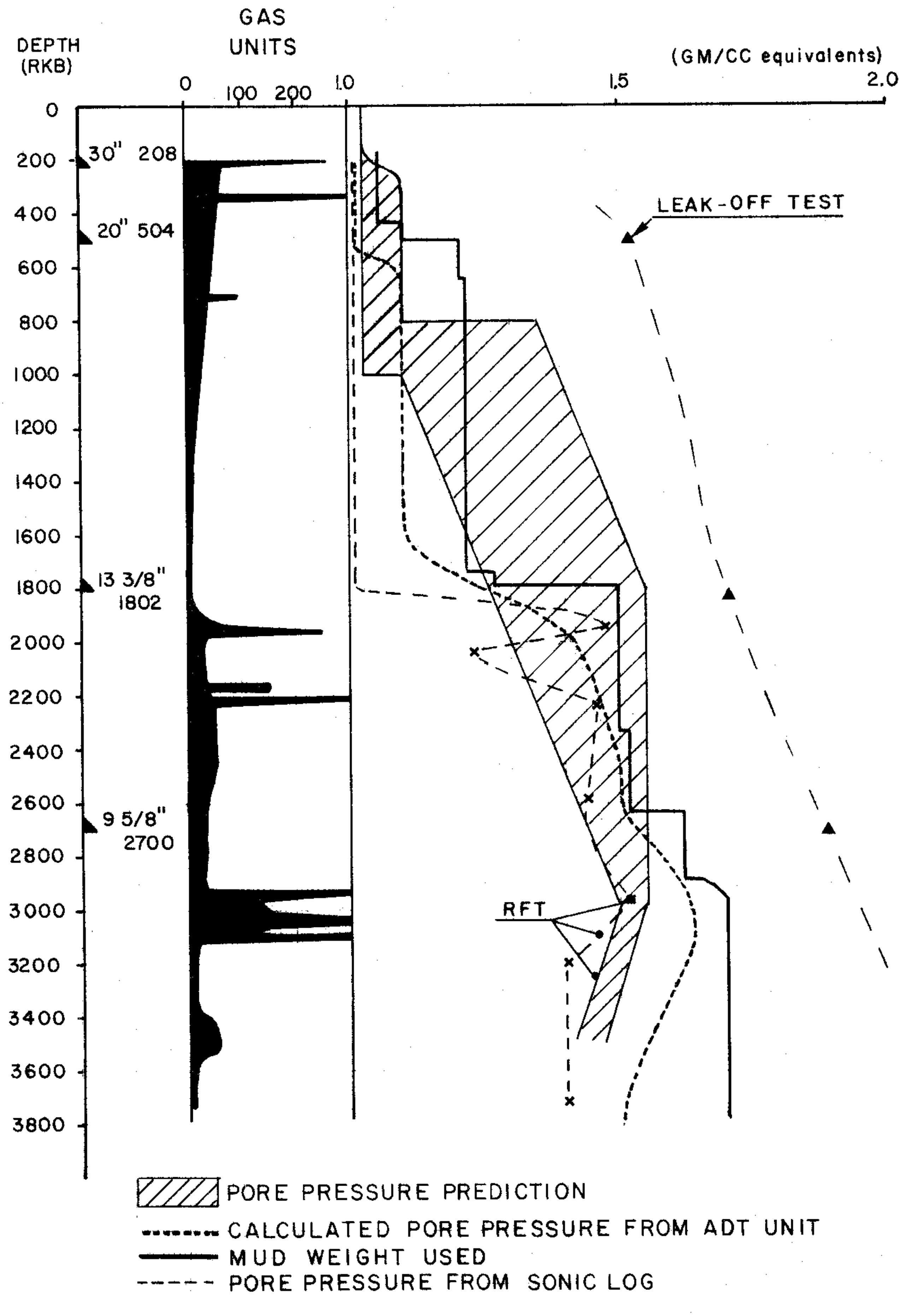
III. II. BIT SEQUENCE AND LITHOLOGY COLUMN

34/10-2

NO.	TYPE	DEPTH OUT(m)	ROP (m/hr)	HRS
1	OSC 3AJ	210	6.5	8
2	DGJ	516	24.3	12.5
3	DSJ	870	28.1	12.5
4	XIG	1592	28.3	25.5
5	XV	1827	9.6	24.5
9	XIG	1846	8	2
10	XIG	2127	10.9	25.5
11	XIG	2342	8.4	25.5
12	XIG	2483	5.8	24.5
13	XIG	2615	4.6	28.5
14	XV	2671	2.8	20
15	XIG	2723	3.4	15.5
16	XIG	2788	3.5	19
17	XIG	2870	4.4	18.5
18	XIG	2961	5.3	17.2
19	S2IG	3031	4.8	14.5
20	C-18	3043	1.5	8
21	XDV	3103	5.5	11
20RR	C-18	3114	1.8	6
22	XDV	3174	2.9	21
23	XDV	3235	2.5	24.5
24	FP51	3282	2.9	16
26	XDV	3334	3.2	16
27	XDV	3338	4	1
20RR	C-18	3345	1.1	6.6
28	C-18	3363	1.6	11
20RR	C-18	3367	0.9	4.5
29	C-22	3372	1.4	3.5
29RR	C-22	3382	1.8	5.5
29RR	C-22	3390	1.3	6
31	XDV	3461	3.6	20
32	XDV	3532	3.6	20
33	FP52	3681	2.4	62
34	FP52	3707	2.3	11.5
35	XV	3730	3.1	7.5



III 12. 34/10-2 PORE PRESSURE PROFILES



III 13. DRILLING FLUID SUMMARY.

GENERAL SUMMARY

OPERATOR	STATOIL
WELL NO.	34/10-2
OPERATOR'S REPRESENTATIVES	K. KJELDSTAD, T. BRINCH R. THORESEN, T. GJEDREM B. HANSSON, H. ØDEGÅRD
CONTRACTOR	ROSS DRILLING CO.
RIG	ROSS RIG
CONTRACTOR'S REPRESENTATIVES	B. PEDERSEN J. JONASSEN A. HAUGEN
ANCHOR ENGINEERS	J. BRAY, S. ASBJØRNSEN, R. LARSEN M. ÅRSETH, T. HELLSTRAND, A. TORSVOLL A. VIGEN
WATER DEPTH	133 M
SEABED to RKB	158 M
36" HOLE DRILLED TO	210 M
30" CASING SET AT	209 M
26" HOLE DRILLED TO	517 M
20" CASING SET AT	504 M
17½" HOLE DRILLED TO	1830 M
13⅜" CASING SET AT	1802 M
12¼" HOLE DRILLED TO	2723 M
9⅝" CASING SET AT	2700 M
8½" HOLE DRILLED TO	3730 M
7" LINER SET AT	3725 M
6" HOLE DRILLED TO	

SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 34/10-2

36" **HOLE/** 30" **CASING INTERVAL**

This section was drilled without difficulty or problems. However additional volume was required over and above that originally programmed.
30" casing was run and cemented with no problems.

SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 34/10-2

26" **HOLE/** 20" **CASING INTERVAL**

The 26" hole section was drilled with satisfaction, however additional costs were experienced due to the necessary increses in weight of the total system, and losses of mud amounting to approx 1000 bbls.
However the 20" casing was run and cemented without problem.

SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 34/10-2

17-1/2" **HOLE/** 13-3/8" **CASING INTERVAL**

This section caused minor problems but it is felt that the period spent W.O.W. may explain the necessity for having to ream following the logging program. It is felt that the clays and shales in this area could possibly be effected by over exposure and therefore the problem could be time related.

SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 34/10-2

12-1/4" **HOLE/** 9-5/8" **CASING INTERVAL**

This section was drilled with no difficulty and the casing run and cemented with no problem.
However, it can be seen from the mud reports that a considerable amount of volume was lost during this section for various reason beyond our control. Although the section cost was more or less within the programmed amounts a large saving could have been made if these losses had been eliminated.

SUMMARY OF EVENTS

OPERATOR: STATOIL

WELL NO. 34/10-2

8½" HOLE/ ____________ CASING INTERVAL

This section was drilled with problems, although throughout a greater percentage of the time severe weather necessitated hanging off with large losses of volume, the hole stayed in a fairly stable condition.
Some additional 2 weeks plus were spent on this section over and above that programmed, this together with higher mud weights and high surface losses mainly due to weather conditions explains part of the additional costs.
A careful investigation of this section has been made by Anchor Drilling Fluids and the following information may be found interesting.

ACTUAL MUD LOSSES AT SURFACE	2800 BBLS.	APPROX
ESTIMATED LOSSES AT SURFACE DURING THIS OPERATION UNDER NORMAL CONDITIONS	1575 BBLS.	APPROX
EXCESS LOSSES APPROX	1225 BBLS.	

With the cost of this mud in excess of $20.00 per barrel, something approaching $30.000.00 was spent over and above the programmed costs. This together with the higher mud weights and additional time spent on the section. It is felt this goes a long way in explaining the disappointing interval costs.

OPERATOR STATOIL

WELL NO. 34/10-2

MATERIAL CONSUMPTION & COST ANALYSIS

36" HOLE DRILLED TO 210 Meters ~~Feet~~ 30" CASING SET AT 209 Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 52 Meters ~~Feet~~ DAYS ON INTERVAL 2

DRILLING FLUID SYSTEM SPUD MUD

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	5	10	+5	$ 1090.00
WYOMING BENTONITE	50KG	250	355	+105	$ 3727.50
CAUSTIC SODA	25KG	6	13	+7	$ 130.00
SPERSENE	50LBS		19	+19	$ 270.75
CALCIUM CHLORIDE	50KG		11	+11	$ 93.50

COST/DAY $ 2655.75

TOTAL COST FOR INTERVAL $ 5311.75

COST/Mt. or Ft. $ 102.15

PROG. COST FOR INTERVAL $ 3230.00

ENGR. COST $ 600.00

COST VARIANCE FOR INTERVAL + $ 2081.75

OPERATOR STATOIL

WELL NO. 34/10-2

MATERIAL CONSUMPTION & COST ANALYSIS

26"	HOLE DRILLED TO	517	Meters ~~Feet~~	20"	CASING SET AT	504	Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED: 307 Meters ~~Feet~~

DAYS ON INTERVAL: 3

DRILLING FLUID SYSTEM: SPUD MUD

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	8	83	+75	$ 9047.00
WYOMING BENTONITE	50KG	350	474	+124	$ 4977.00
CAUSTIC SODA	25KG	5	6	+1	$ 60.00
SPERSENE	50LBS		15	+15	$ 213.75
LIME	25KG		1	+1	$ 3.60
SODA ASH		8		-8	

COST/DAY	$ 4767.10	TOTAL COST FOR INTERVAL	$14.301.35
COST/Mt. or Ft.	$ 46.58	PROG. COST FOR INTERVAL	$ 4.693.00
ENGR. COST	$ 1350.00	COST VARIANCE FOR INTERVAL	+ $ 9.608.35

OPERATOR STATOIL

WELL NO. 34/10-2

MATERIAL CONSUMPTION & COST ANALYSIS

17½"	HOLE DRILLED TO	1830	Meters ~~Feet~~	13-3/8"	CASING SET AT	180	Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 1326 Meters ~~Feet~~ DAYS ON INTERVAL 13

DRILLING FLUID SYSTEM GEL/LIGNO.

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	165	170	+5	$18530.00
WYOMING BENTONITE	50KG	550	461	-89	$ 4840.50
EUROPEAN BENTONITE	50KG		20	+20	$ 140.00
CAUSTIC SODA	25KG	30	129	+99	$ 1290.00
SPERSENE	50LBS		61	+61	$ 869.25
CHROME LIGNOSULF.	25KG	230	205	-25	$ 2921.25
DRISPAC REGULAR	50LBS		11		$ 1265.00
SODA ASH	50KG		3		$ 36.00
DRILLING DETERGENT	200L		1		$ 175.00
SODIUM BICARB.	50KG	6		-6	
CMC LO VIS	25KG	60		-60	
DRISPAC SUPERLO	50LBS	45		-45	
AL. STEARATE	25KG	10		-10	

COST/DAY	$ 2312.84	TOTAL COST FOR INTERVAL	$30067.00
COST/Mt. or Ft.	$ 22.67	PROG. COST FOR INTERVAL	$36144.50
ENGR. COST	$ 5840.00	COST VARIANCE FOR INTERVAL	$ 6077.75

OPERATOR STATOIL

WELL NO. 34/10-2

MATERIAL CONSUMPTION & COST ANALYSIS

12" HOLE DRILLED TO 2723 Meters ~~Feet~~ 9-5/8" CASING SET AT 2700 Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 921 Meters ~~Feet~~ DAYS ON INTERVAL 15

DRILLING FLUID SYSTEM GEL/LIGNO.

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	300	456	+156	$49704.00
WYOMING BENTONITE	50KG	300	313	+13	$ 3286.50
CAUSTIC SODA	25KG	120	77	-43	$ 770.00
SPERSENE	50LBS		66	+66	$ 940.50
CHORME LIGNOSULF.	25KG	420	304	-116	$ 4332.00
TANNATHIN	50LBS		10	+10	$ 185.00
XP-20	50LBS		7	+7	$ 99.75
DRISPAC REGULAR	50LBS		4	+4	$ 460.00
DRISPAC SUPERLO	50LBS	40	22	-18	$ 2640.00
SODA ASH	50KG		14	+14	$ 168.00
SAPP	50KG		9	+9	$ 621.00
CMC LO VIS	25KG	110	21	-89	$ 1050.00
MICA FINE	25KG		10	+10	$ 115.00
WALNUT	25KG		12	+12	$ 145.80
ADF CHROME LIGNITE	25KG	300		-300	
EML	DRUM	5		-5	
AL. STEARATE	25KG	10		-10	

COST/DAY	$ 4301.17	TOTAL COST FOR INTERVAL	$64517.55
COST/Mt. or Ft.	$ 70.05	PROG. COST FOR INTERVAL	$61945.00
ENGR. COST	$ 6740.00	COST VARIANCE FOR INTERVAL	+ $ 2572.55

OPERATOR STATOIL

WELL NO. 34/10-2

MATERIAL CONSUMPTION & COST ANALYSIS

8½" HOLE DRILLED TO 3730 Meters ~~Feet~~ 7" CASING SET AT 3725 Meters ~~Feet~~

ACTUAL AMOUNT OF HOLE DRILLED 1030 Meters ~~Feet~~ DAYS ON INTERVAL 51

DRILLING FLUID SYSTEM GEL-CHEMICAL

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	280	704	+424	$ 76736.00
WYOMING BENTONITE	50KG	280	584	+304	$ 6132.00
CAUSTIC SODA	25KG	120	269	+149	$ 2690.00
BARITE	50KG		96	+96	$ 460.80
SPERSENE	50LBS		34	+34	$ 484.50
CHROME LIGNOSULF.	25KG	400	697	+297	$ 9932.25
ADF CHROME LIGNITE	25KG	280	421	+141	$ 7788.50
CMC LO VIS	25KG	150	10	-140	$ 500.00
DRISPAC SUPERLO	50LBS	40	17	-23	$ 2040.00
EML	DRUM	5		-5	
DEFOAMER	25KG	10		-10	
SOLTEX	50LBS		32		$ 1216.00

COST/DAY $ 2117.25

TOTAL COST FOR INTERVAL $107980.05

COST/Mt. or Ft. $ 104.83

PROG. COST FOR INTERVAL $ 60300.00

ENGR. COST $16800.00

COST VARIANCE FOR INTERVAL + $ 47680.05

OPERATOR STATOIL

WELL NO. 34/10-2

TOTAL CONSUMPTION & COST ANALYSIS

TOTAL DEPTH: 3730 Meters ~~Feet~~

TOTAL HOLE DRILLED: 3572 Meters ~~xxxx~~

TOTAL DAYS: 84

MATERIAL	UNIT SIZE	PROG.	USED	VARIANCE ±	COST
BARITE	M/T	758	1423	+665	$155107.00
BARITE	50KG		96	+96	$ 460.80
WYOMING BENTONITE	50KG	1730	2187	+457	$ 22963.50
EUROPEAN BENTONITE	50KG		20	+20	$ 140.00
CAUSTIC SODA	25KG	281	494	+213	$ 4940.00
CHROME LIGNOSULF.	25KG	1050	1206	+156	$ 17185.50
CHROME LIGNITE	25KG	580	421	-159	$ 7788.50
SPERSENE	50LBS		195	+195	$ 2778.75
XP-20	50LBS		7	+7	$ 99.75
TANNATHIN	50Lbs		10	+10	$ 185.00
DRISPAC REGULAR	50LBS		15	+15	$ 1725.00
DRISPAC SUPERLO	50LBS	130	39	-91	$ 4680.00
DRILLING DETERG.	200L		1	+1	$ 175.00
CALCIUM CHLORIDE	50KG		11	+11	$ 93.50
LIME	25KG		1	+1	$ 3.60
SODA ASH	50KG	14	17	+3	$ 204.00
MICA FINE	25KG		10	+10	$ 115.00
WALNUT	25KG		12	+12	$ 145.80
SOLTEX	50LBS		32	+32	$ 1216.00
CMC LO VIS	25KG	320	31	-289	$ 1550.00
SAPP	50KG		9	+9	$ 621.00

COST/DAY: $ 2645.00

COST/Mt. or Ft.: $ 62.20

ENGR. COST: $31320.00

TOTAL COST FOR INTERVAL: $222177.70

PROG. COST FOR INTERVAL: $166312.50

COST VARIANCE FOR INTERVAL: + $ 55862.50

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: GEL-CHEMICAL

WELL NAME: 34/10-2 AREA: NORTH SEA
OPERATOR: STATOIL RIG: ROSS RIG
ENGINEERS: J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND, M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 SEPT	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE M/T	BENTONITE	SACK MATERIALS: BENTONITE	CAUSTIC	SPERSENE	CHR. LIGNO.	THINNERS		DRISPAC reg.	POLYMERS				SODA ASH	OTHERS			DRILLING DETERGENT			CALCIUM CHLORIDE	LIME
1	9.			1350	10		280	10	19																	
2	10.	950		519			75	3																	11	1
3	11.		352	1000	22		230	5	6																	
4	12.		338	800			175		8																	
5	13.	1490		500	61		69	1	1																	
6	14.	979		1250	33		186	1		1																
7	15.		120	330			15	13	21				4					1								
8	16.		120	170	25		20	24	19	2			1					1								
9	17.		70	300	20								6													
10	18.		14																							
11	19.		100	344	16		60	17																		
12	20.		74	100	22		63	32		55								1				1				
13	21.			215	29			29		60																
14	22.		105					4		10																
FORWARD																										
ESTIMATED TOTALS		3419	1293	6878	238		1173	139	74	128			11					3				1			11	1

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Drilling Fluid & Material Consumption Report

MUD SYSTEM GEL-CHEMICAL

Day No.	DATE 1978 SEPT.	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE M/T	BENTONITE	SACK MATERIALS: WYOMING BENTONITE	CAUSTIC SODA	MATERIALS ADDED TO CONTROL PROPERTIES — THINNERS: SPERSENE	CHROME LIGNOSULF.	TANNATHIN	XP-20	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO				OTHERS: SODA ASH	SAPP	CMC LO VIS	DRILL. DETERGENT	MICA FINE	CHROME LIGNITE	WALNUT	CALCIUM CHLORIDE	LIME
15	23.		50	98			60	5																		
16	24.		45	195	2		75																			
17	25.		50	149	12		2	4		61																
18	26.				11				21	16																
19	27.	730						4	19																	
20	28.	15	245		6		3	5	30									11	1							
21	29.		24	50	112		5		3	59								3	8							
22	30.		75	84	37		81			58										21						
23	1.10		182	350	78		86			54			2	6												
24	2.		56		22		13			23																
25	3.		250	577	100		70	20		26	7		2	8												
26	4.		28	56	20			6	5		3															
27	5.		50	100	40		27	6	9	15		7		8												
28	6.		60	60						7																
FORWARD		3419	1293	6878	238		1173	139	74	128			11					3	0	0	1					
ESTIMATED TOTALS		4164	2408	8597	678		1595	189	161	447	10	7	15	22				17	9	21	1					

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM GEL-CHEMICAL

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRANI
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 Okt.	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE M/T	BARITE SXS	SACK MATERIALS: WYOMING BENTONITE	CAUSTIC SODA	MATERIALS ADDED TO CONTROL PROPERTIES — THINNERS: SPERSENE	CHROME LIGNOSULF.	TANNATHIN	XP-20	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO				OTHERS: SODA ASH	SAPP	CMC LO VIS	DRILLING DETERGENT	MICA FINE	CHROME LIGNITE	WALNUT	CALCIUM CHLORIDE	LIME	
29	7.		209	278	7			16		22																	
30	8.		63	140	18		28	15		25																	
31	9.		50		13					5																	
32	10.		80							3																	
33	11.		100	70	3			5		7												10		12			
34	12.		35		8	96		5		32																	
35	13.		80		17		57	5		20																	
36	14.			100	10			13		36										1							
37	15.			140	40			16		50													40				
38	16.		25	40	14			7		21																	
39	17.		20	20	5			8		29																	
40	18.		35	40				7		20																	
41	19.		10	20	5			2		15																	
42	20.		111				3	3	9																		
FORWARD		4164	2408	8597	678		1595	189	161	447	10	7	15	22				17	9	21	1				11	1	
ESTIMATED TOTALS		4164	3226	9445	818	96	1683	291	170	732	10	7	15	22				17	9	22	1	10	40	12	11	1	

REMARKS:

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM GEL-CHEMICAL

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 OCT.	ESTIMATED DAILY MUD VOLUMES			BULK MATERIALS		SACK MATERIALS		MATERIALS ADDED TO CONTROL PROPERTIES																	
										THINNERS			POLYMERS								OTHERS					
		LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BARITE M/T	BARITE SXS	WYOMING BENTONITE	CAUSTIC SODA	SPERSENE	CHROME LIGNOSULF.	TANNATHIN	XP-20	DRISPAC REGULAR	DRISPAC SUPERLO				SODA ASH	SAPP	CMC LO VIS	DRILLING DETERGENT	MICA FINE	CHROME LIGNITE	WALNUT	CALCIUM CHLORIDE	LIME
43	21.		50	91	35		30	17	25	20																
44	22.		20	52	15		15	10		44																
45	23.		50	70	32		44	12		39																
46	24.		20	47	61		7	5		23													19			
47	25.		85																							
48	26			14																						
49	27.		85	200	20		35	1		12													3			
50	28.			26	4																					
51	29.		40	68	10		30	8		17				3									10			
52	30.		15		1		20	4		27																
53	31.		141	120	31		31	5		33													4			
54	1.11				4					17																
55	2.				6																		14			
56	3.				9			5		16													10			
FORWARD		4164	3226	9445	818	96	1683	291	170	732	10	7	15	22				17	9	22	1	10	40	12	11	1
ESTIMATED TOTALS		4164	3737	10133	1046	96	1895	358	195	980	10	7	15	25				17	9	22	1	10	100	12	11	1

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: GEL-CHEMICAL

WELL NAME: 34/10-2 AREA: NORTH SEA
OPERATOR: STATOIL RIG: ROSS RIG
ENGINEERS: J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND, M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 NOV.	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE M/T	BARITE SXS	WYOMING BENTONITE	SACK MATERIALS: CAUSTIC SODA	THINNERS: SPERSENE	CHROME LIGNOSULF.	TANNATHIN	XP-20	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO				OTHERS: SODA ASH	SAPP	CMC LO VIS	DRILLING DETERGENT	MICA FINE	CHROME LIGNITE	WALNUT	CALCIUM CHLORIDE	LIME
57	4.									4													5			
58	5.		74		19		32	8															10			
59	6.			200	19		32	6															16			
60	7.				20					30													17			
61	8.		150	100	10		29	5		4													8			
62	9.			67	18			8		9													27			
63	10.		108	75	21		24	6		14													24			
64	11.		80	75	25		27	5		7													9			
65	12.			110	25		24	7		9													11			
66	13.																									
67	14.																									
68	15.		165	150	12		50	8		11													12			
69	16.		150	276	58		12	11		13				6									22			
70	17.		20		10			4		20					12								12			
FORWARD		4164	3737	10133	1046	96	1895	358	195	980	10	7	15	25				17	9	22	1	10	100	12	11	1
ESTIMATED TOTALS		4164	4484	11186	1283	96	2125	426	195	1101	10	7	15	31	12			17	9	22	1	10	273	12	11	1

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM GEL-CHEMICAL

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 NOV.	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE M/T	BARITE SXS	SACK MATERIALS: WYOMING BENTONITE	CAUSTIC SODA	MATERIALS ADDED TO CONTROL PROPERTIES — THINNERS: SPERSENE	CHROME LIGNOSULF.	TANNATHIN	XP-20	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	SOLTEX			OTHERS: SODA ASH	SAPP	CMC LO VIS	DRILLING DETERGENT	MICA FINE	CHROME LIGNITE	WALNUT	CALCIUM CHLORIDE	LIME
71	18.																									
72	19.		124		20			3		6													4			
73	20.																									
74	21.		358		4			8		7										3			10			
75	22.		13	370	62		70	10		16				2						6			37			
76	23.			50	10			8		34				3									26			
77	24.				8					4													4			
78	25.				16			10		12				3									20			
79	26.		52		6			6		6													16			
80	27.		33																							
81	28.		5				10	7		20					12								24			
82	29.			117	14		2	8							8								7			
83	30.																									
84	1.12							8																		
FORWARD		4164	4484	11186	1283	96	2125	426	195	1101	10	7	15	31	12			17	9	22	1	10	273	12	11	1
ESTIMATED TOTALS		4164	5069	11723	1423	96	2207	494	195	1206	10	7	15	39	32			17	9	31	1	10	421	12	11	1

REMARKS.

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM: GEL-LIGNOSULFONATE

WELL NAME: 34/10-2 AREA: NORTH SEA

OPERATOR: STATOIL RIG: ROSS RIG

ENGINEERS: J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND, M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 SEP.	DEPTH (FEET ☐ METERS ☒) M	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl⁻ ppm	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
1	9.	0	1.06	85	42.5							10.5												Arr loc. Mix spud
2	10.	210	1.06	82	41							10.5												Drill. 36" hole
3	11.	445	1.10	50	25	14	22	8/48	NC			9.5	4000	100	0.01		6	1/4	22			.48	1.75	" 17½" hole
4	12.	517	1.13	47	23.5	7	35	12/65	NC			9.0	3500	100	0.01		7	TR	25½			.22	10.9	Underream. 17½ to 26"
5	13.	517	1.26	53	26.5	12	36	12/68	NC			9.0	3300	150	0.01		9.5	TR	26			.31	7	Used 1.26 SG mud belc runn. casing
6	14.	517	1.20	43	26	19	14	10/35	NC			9.0	3200	150	0.13		9.5					.65	.60	Mix. jud for next sec Drill. out casing
7	15.	520	1.21	44	26	20	12	5/35	12	2		10.2	3600	180	1.3		13	TR				.70	.42	shoe P.O.O.H.
8	16.	867	1.22	43	22.5	11	23	26/42	13.8	2		10.5	7200	120	.62		14	1/4	12½			.46	1.8	Drill. 130"/hr.
9	17.	867	1.22	43	21.5	12	19	20/36	13.6	2		10.4	7200	120	.82		14	1/4	12½					W.O.W.
10	18.	867	1.22	42	20	11	18	14/28	13.4	2		10.4	7200	110	.9		13	TR	15					Nippled up mud riser
11	19.	1400	1.22	45	22.5	13	19	16/32	12.4	2		10.4	8700	160	.65		9	TR	20			.62	.84	Drill. 30-70 m/hr.
12	20.	1617	1.22	43	23	17	12	5/35	10.2			10.5	9600	150	.42		8.5	.3	15			.62	.61	Drill. clay + sand stringers
13	21.	1810	1.27	48	28	21	14	8/32	6.7	2		10.8	11000	150	.61		12	TR	17½			.61	.81	Wt. up to 1.27 per orders.
14	22.	1827	1.27	51	28	20	14	9/36	6.8	2		10.6	11200	150	.6		12	TR	17½			.599	.98	

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAND M.ÅRSETH, A.VIGEN, A.TORSVOLL

MUD SYSTEM GEL-CHEMICAL

Day No.	DATE 1978	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	VISCOSITY A.V. cps	VISCOSITY P.V. cps	VISCOSITY Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm	Filtrate Analysis Ca ++ ppm	Filtrate Analysis Pf	RETORT % OIL	RETORT % SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARK
15	23.	1020	1.23	49	29.5	20	19	6/36	6	2		10.1	8000	100	.3	0	11	1/4	18			.59	.98	Reaming W/17½" bit.
16	24.	1225	1.22	49	30	19	19	6/37	6.2	2		10.0	7800	100	.3	0	12	1/4	18			.38	1.0	Let wt. fall back per orders.
17	25.	1568	1.22	48	27	20	18	6/32	8.1	2		9.8	7000	100	.2	0	12	1/4	18			.56	1.5	Raising wt. to 1.25 per orders.
18	26.	1830	1.25	51	34	24	20	5/31	8	2		9.7	6000	150	.15	0	11	1/4	20			.55	1.45	Circulate to run 13-3/8" Casing.
19	27.	1830	1.25	50	30	21	19	6/27	7.8	2		9.8	5100	135	.15	0	11	TR	18.5			.58	.92	Ran casing lost 73[illegible] bbls. displacing [illegible]
20	28.	1802	1.25	47	30	21	18	5/21	8.7	2		10.3	7000	375	.15	0	11.5	TR	19			.62	.84	Lost 245 bbls. over shakers.
21	29.	1891	1.50	49	41.5	34	15	3/32	11.2	3		10.8	7200	425	.3	0	20	1/4	21			.76	.45	Wt. up mud to 1.50 per orders.
22	30.	2128	1.50	47	37	34	14	2/14	7.5	3		10.8	6000	240	.35	0	20	1/4	20			.78	.56	Drl. mud making cla of shale.
23	1.	2278	1.50	55	46	38	16	3/17	6.0	2		10.8	5800	210	.40	0	16	1/8	22			.70	.75	Trip for bit. Built 500 bbl. of mud for
24	2.	2342	1.52	50	45	37	12	3/14	6.1	2	17.2	10.0	5500	150	.30	0	17	1/4	20			.78	.43	reserve per orders. Trip for bit. Raise
25	3.	2439	1.52	49	38	32	17	3/11	4.8	2	15	10.5	5200	110	.40	0	17	1/8	20			.78	.37	wt. to 1.52 per ord Mix.500 bbl. lost 2
26	4.	2494	1.52	49	42	35	16	3/25	5.4	2	16	10.0	5300	100	.20	0	20	1/4	22			.70	.45	bbl. in heaves. Load.barite 10t us
27	5.	2602	1.52	52	42	34	18	5/32	5.0	1	14.8	10.2	5350	110	.30	0	18	1/8	20			.72	.60	10t overblown board 15 t barite lost in
28	6.	2623	1.52	53	35	30	17	3/28	4.8	2	17	10.0	5200	110	3/10	0	18	1/8	20			.72	.51	shipment. Drill,trip for bit, drag. RIH,drill ahe

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL-CHEMICAL

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRA, M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 OCT.	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl⁻ ppm	Ca ++ ppm	Pf	% OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
29	7.	2671	152	49	33	26	15	6/35	4.8	2	17	10.6	6200	100	.48/1.50		19	1/8	20			.70	.52	Dr. 2-2.8m/hr. POOH for new bit. No drag
30	8.	2723	156	49	36	28	16	5/39	4.7	2	16	10.8	6800	100	.48/1.71		19	TR	22.5			.71	.32	shale + limest. Increas.mudwt. to
31	9.	2723	156	48	34.5	27	15	5/38	4.9	2	17	10.6	6800	100	.45/1.60		19	TR	22.5			.71	.50	1.56SG POOH for log Log.Dump.&cl.sh.box
32	10.	2723	156	50	32	24	16	3/28	4.4	2	17.9	10.8	7600	110	.34/1.52		19	TR	22.5			.68	.57	Run 5logs,no cl.up. RIH circ.btm. up.
33	11.	2721	156	49	32	24	15	3/29	4.6	2	20	11.0	7600	110	.45/1.7		19	TR	22.5					Run 95/8"Csg,cmt.lo 90bbl.to form bef.c
34	12.	2724	162	50	36	29	16	5/36	5.1	2	19.2	11.0	7600	300	1.17/1.62		22	1/4	22.5					Test.BOP,made up ne bha.Drl.cmt & shoe.
35	13.	2788	162	52	33.5	29	9	5/10	5.0	2	20.2	10.7	8200	100	.68/1.8		22	TR	22.5			.74	.26	Drl.clay+silt.POOH new bit. No drag.
36	14.	2870	162	51	36	29	16	3/10	5.0	1	18.4	10.8	9100	60	1.0/2.1		22	TR	22.5			.67	.70	Drl.clay+silt.POOH change bit. No drag
37	15.	2959	168	54	35.5	30	11	3/7	5.0	1	17.5	10.7	10000	40	1.2/2.7		25	0.4	25			.79	.32	Drl.to 2909, weight up to 1.68SG.
38	16.	3006	170	59	32.5	28	11	3/6	4.0	1	12.0	10.6	10000	40	1.0/2.7		25	1/4	24			.81	.24	Drl. 2961mto2976m, weigh. up to 1.70SG
39	17.	3040	170	62	31	26	10	2/6	3.9	1	16.5	10.8	9600	40	1.05/2.5		25	1/4	23			.81	.27	Drl.to3031m.POOH, m up BHA w/core bbl.
40	18.	3101	170	61	37	31	12	3/6	3.3	1	15.2	10.3	10200	40	1.4/2.9		25.5	1/4	24			.78	.35	Cut core no. 1.
41	19.	3112	170	59	29	25	8	2/5	3.1	1	11.6	10.5	9800	40	1.1/2.9		24.5	1/4	21			.81	.29	Cut core no. 2. POOH, new bit.
42	20.	3110	170	59	29	28	8	2/5	3.1	1	11	10.5	9800	40	/1.1		24.5	1/4	21			.81	.22	W.O.W.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG ROSS RIG
MUD SYSTEM GEL-CHEMICAL
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRAN
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 OCT/NOV.	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	VISCOSITY A.V. cps	VISCOSITY P.V. cps	VISCOSITY Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm	Filtrate Analysis Ca ++ ppm	Filtrate Analysis Pf	RETORT % OIL	RETORT % SOLIDS	RETORT % SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
43	21.	3122	1.70	55	32	28	8	1/4	3	1	11	10.8	8800	40	1.8		24	1/8	20			.81	.24	W.O.W.
44	22.	3155	1.70	52	29	22	14	2/4	3	1	10.8	11	8800	40	2.4		23	TR	22			.68	.54	Maintain pH above 11 per orders.
45	23.	3221	1.70	50	28	25	6	1/3	2.8	1	11.1	11.5	8900	40	3.5		24	TR	20			.84	.152	Centrifuge down.
46	24.	3231	1.70	53	28	24	9	1/4	2.7	1	11.2	11.5	9000	40	3.5		24	TR	22			.78	.20	Circ. to log WOW.
47	25.	3234	1.70	53	28	25	10	1/4	2.7	1	11.1	11.2	9200	40	2.5		24	TR	22			.75	.20	No flow WOW.
48	26.	3234	1.70	53	29	27	5	1/4	2.5	1	12	11.2	9200	40	2.6		23	TR	22			.1	.09	Logging.
49	27.	3234	1.70	54	30	26	8	1/4	3	1	12	11.2	11500	40	2.8		23	TR	22			.85	.18	Mix 200 bbls. pre-hydr. gel.
50	28.	3282	1.70	52	30	25	10	1/4	4	1	12	11	7800	20	2.5		24	TR	24			.78	.27	Lost 2 cones on bit
51	29.	3283	1.70	53	29	26	10	1/4	4.1	2	12	11	8000	20	2		24	TR	24			.80	.23	Fishing - built 100bbls. pre-hydr.
52	30.	3338	1.70	52	29	25	8	1/4	4.3	2	11.8	11	7800	20	2		24	TR	22			.80	.23	
53	31.	3341	1.70	52	28	24	8	1/4	3.8	1	12.1	11	7600	20	2.1		24	TR	22			.81	.21	CORING
54	1.	3363	1.70	51	29	24	7	1/4	4	2	11.8	11	6800	20	2		24	TR	22			.79	.23	CORING WOW
55	2.	3367	1.70	68	39	34	10	3/6	5.8	1	12.5	11	6700	40	1.4		25	TR	22			.84	.22	CORING
56	3.	3390	1.70	59	29	26	8	2/4	4.8	1	12.5	11	7000	40	1.4		25	TR	25			.84	.22	CORING

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM: GEL-CHEMICAL

WELL NAME: 34/10-2 AREA: NORTH SEA

OPERATOR: STATOIL RIG: ROSS RIG

ENGINEERS: J.BRAY, S.ASBJØRNSEN,R.LARSEN, T.HELLSTRAND
M.ÅRSETH, A.VIGEN, A.TORSVOLL

Day No.	DATE 1978 NOV.	DEPTH FEET ☐ METERS ☒	DENSITY PPG ☐ SG ☒	VISCOSITY sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis Cl⁻ ppm	Ca ++ ppm	Pf	RETORT % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
57	4.	3390	1.70	47	26	24	8	2/4	4.6	1	11.5	11.0	6900	40	1.40		24	TR	25.0			.80	.25	
58	5.	3410	1.70	49	30	26	8	2/4	4.8	1	11.0	11.0	7000	40	1.4		23	TR	26.0			.80	.23	
59	6.	3461	1.70	51	32	27	10	3/5	4.2	1	12.0	11.2	6900	40	1.4		24	TR	26.0			.79	.27	DRILLING
60	7.	3527	1.70	56	36	31	11	3/5	4.4	1	11.8	11.0	6200	40	1.4		22	1/4	27.5			.80	.29	DRILLING
61	8.	3548	1.70	54	34	29	9	3/6	4.6	1	13.5	11.0	5900	40	1.3		22	1/4	27.5			.82	.23	DRILLING
62	9.	3597	1.70	55	33	29	9	2/7	4.4	1	9.8	11.2	5800	40	1.4		23	TR	25.0			.81	1.19	DRILLING
63	10.	3663	1.70	54	34	30	8	2/6	3.8	1	10.2	11.1	5700	60	1.3		23	TR	25.0			.82	1.05	DRILLING
64	11.	3688	1.70	58	33	29	8	2/5	4.0	1	10.6	11.3	5600	60	1.1		23	TR	25.0			.82	1.1	DRILLING
65	12.	3707	1.70	49	27	23	8	2/4	4.2	1	11.4	10.8	6100	80	1.0		22	TR	22.5			.80	1.07	DRILLING
66	13.	3707	1.70	49	27	23	8	2/4	4.2	1	11.4	10.8	6100	80	1.0		22	TR	22.5			.80	1.07	W.O.W.
67	14.	3707	1.70	56	27	24	8	2/6	4.2	1	11.4	10.8	6000	80	1.0		23	TR	22.5					W.O.W.
68	15.	3707	1.70	54	30	26	8	2/9	4.8	1	12.0	11.0	6100	80	1.1		24	TR	22.5					REAMING
69	16.	3707	1.70	54	30	26	8	2/9	4.8	1	12.0	11.0	6100	80	2.1		24	TR	22.5			.81	.28	Built 500 bbls. New mud.
70	17	3730	1.70	58	33	29	9	2/8	3.0	1	10.5	11.2	5800	60	2.3		23	TR	24.0			.80	.22	Circulate to log.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM GEL-CHEMICAL

WELL NAME 34/10-2 AREA NORTH SEA
OPERATOR STATOIL RIG. ROSS RIG
ENGINEERS J.BRAY, S.ASBJØRNSEN, R.LARSEN, T.HELLSTRA M.ÅRSETH, A.VIGEN, A.TORSVOLL

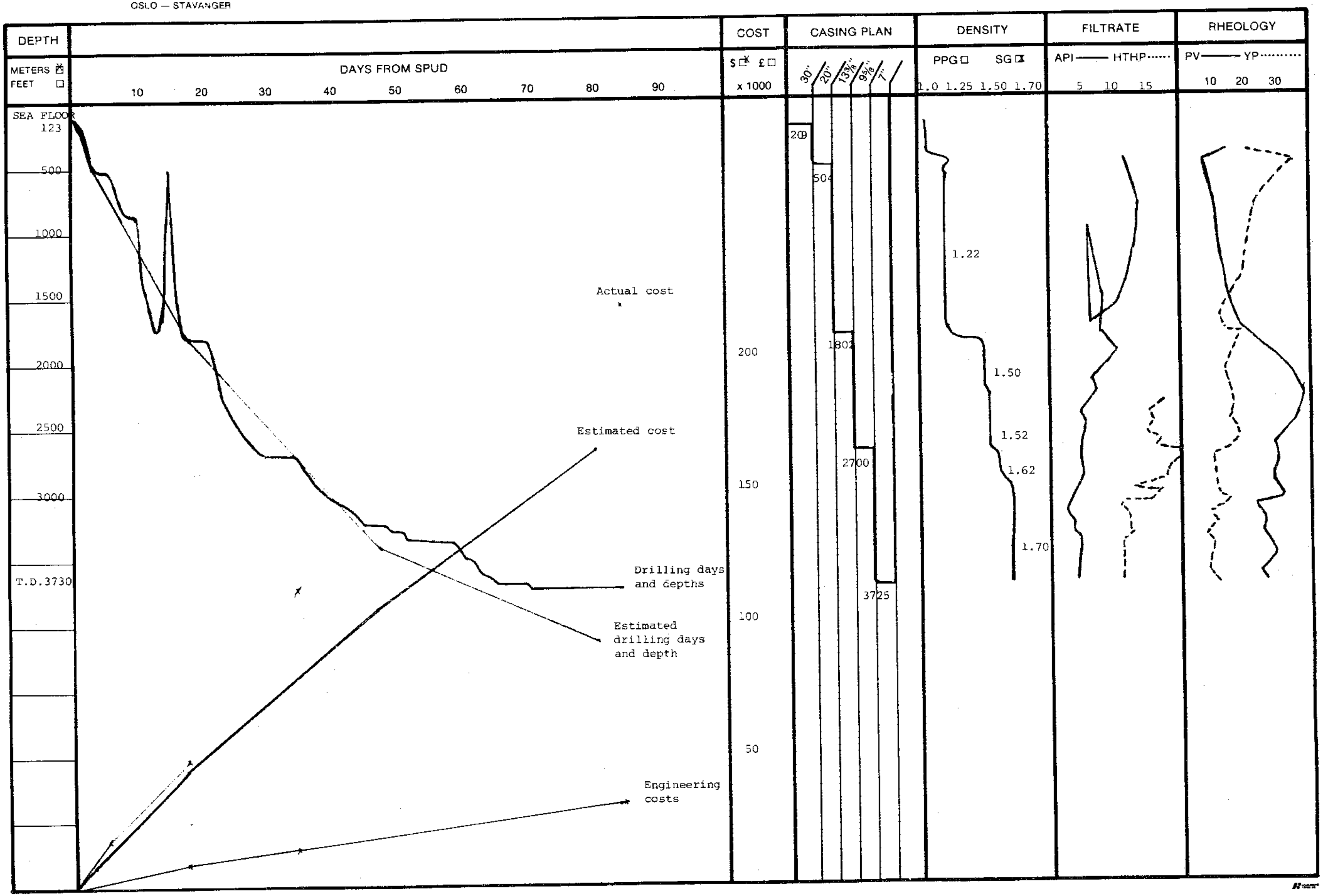
Day No.	DATE 1978 NOV.	DEPTH FEET ☐ METERS ☒	MUD PROPERTIES: DENSITY PPG ☐ SG ☒	VISCOSITY: sec/qt	VISCOSITY: A.V. cps	VISCOSITY: P.V. cps	VISCOSITY: Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis: Cl⁻ ppm	Filtrate Analysis: Ca ++ ppm	Filtrate Analysis: Pf	RETORT: % OIL	RETORT: % SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMAR
71	18.	3730	1.70	58	30	25	8	2/8	4.0	1	10.2	11.0	5750	40	2.0		24	TR	24.0			.80	.22	LOGGING
72	19.	3730	1.70	57	31	26	9	2/8	4.1	1	10.7	11.0	6000	60	2.3		24	TR	24.0			.78	.27	WIPER TRIP
73	20.	3730	1.70	57	31	26	9	2/8	4.1	1	10.7	11.0	6000	60	2.3		24	TR	24.0			.78	.27	Schlum. stuck.
74	21.	3730	1.70	57	31	28	9	2/9	4.0	1	10.4	11.2	6400	80	1.9		24	TR	24.0			.81	.22	Lost 358 bbls. W.O.W. in heaves.
75	22.	3730	1.70	53	29	25	7	2/7	3.8	1	10.0	11.1	6800	80	2.3		24	TR	22.5			.85	.21	
76	23.	3730	1.70	63	32	28	10	2/12	4.5	2	10.5	11.3	6800	80	2.0		25	TR	22.5			.78	.35	
77	24.	3730	1.70	52	29.9	24	8	2/8	3.8	1	10.3	11.0	6300	60	1.9		24	TR	22.5			.84	.21	Logging
78	25.	3730	1.70	51	29	24	7	2/8	3.5	1	10.1	11.2	6300	60	2.3		24	TR	24.0			.80	.22	Logging
79	26.	3730	1.70	58	30	26	9	2/9	4.0	1	10.3	11.2	6000	60	2.3		25	TR	24.0			.81	.23	Logging
80	27.	3730	1.70	58	30	26	9	2/9	4.0	1	10.3	11.2	6000	60	2.3		25	TR	24.0			.81	.23	Logging
81	28.	3730	1.70	55	30	26	10	3/12	3.9	1	10.0	11.1	5800	40	2.1		24	TR	22.5			.75	.38	Circ. after fishing
82	29.	3730	1.70	58	31	27	12	3/15	4.0	2	10.5	11.0	5700	60	2.1		25	TR	22.5			.80	.21	Run 7" liner.
83	30.	3730	1.70	68	29	25	8	3/13	3.6	2	10.5	11.0	5700	40	1.4		25	TR	22.5					Test csg no success
84	1.12	3730	1.70	66	29.5	25	9	3/14	3.8	2	10.5	11.5	5700	40	1.8		25	TR	22.5					Eng. released from

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

GRAPHI-CAP

OPERATOR: STATOIL
WELL NAME: 34/10-2
CONTRACTOR: ROSS DRILLING
PAGE NO:
SPUD DATE: 9/9/78
RIG: ROSS RIG



OPERATING AREA Statoil 34/10-2

CONCLUSIONS AND RECOMMENDATIONS

The Ross Rig was used to reenter well 34/10-2 for testing. Five drill stem tests were successfully completed in 37 days on location, including the time needed for reentry and plugging the well.

The mud cost for the reentry was $74,638.32 of which $48,615.00 were for Barite to build 2600 bbls (413 m^3) of new 1.70 S.G. mud. The total mud volume built was 3400 bbls (540 m^3) after lowering the mud weight to 1.20 S.G. when plugging the well. The total mud cost for 34/10-2 was approximately $311,000.00 for drilling and testing. Throughout the reentry and testing there were no problems with the mud.

NL Baroid

OPERATING AREA Statoil 34/10-2

MATERIALS USED PER CASING INTERVAL

REENTRY AND TESTING OF 34/10-2

MATERIAL	UNIT	QUANTITY	COST/UNIT $	COST $
BARITE IN BULK	M.T.	463 MT	105.00	48,615.00
WYO. BENTONITE	M.T.	50 MT	298.68	14,934.00
WYO. BENTONITE	50 kg	120 sx	10.67	1,280.40
Q-BROXIN	25 kg	197 sx	11.88	2,340.36
CMC (LV)	25 kg	139 sx	40.46	5,623.94
CMC (HV)	25 kg	7 sx	46.86	327.02
CAUSTIC SODA	25 kg	63 sx	11.12	700.56
SODA ASH	50 kg	19 sx	14.00	266.00
SOD. BICARB.	50 kg	42 sx	13.12	555.04
TOTAL COST				74,638.32
COST/ BARREL (3400 bbls)				21.95
COST/ BARREL PER DAY (37)				0.59

WELL NAME: Statoil 34 [illegible]-2

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISCOSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1979	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft² - gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
8.7	Pit	1.70	51	9.8	3			11.2	21	9	3	23	11000	140	.45	.6	.8		76	24	17			
9.7	400 out	1.70	56	7.9	2			11.6	24	11	3	20	11000	300	2.0	1.5	4.6		77	23	15			
	Pit	1.70	51	7.3	2	28.8	5	11.8	23	11	3	22	11500	280	2.1	1.7	4.7		77	23	15			
10.7	out 518	1.71	55	5.6	2			11.9	27	10	2	9	11500	400	2.4	3.1	5.8		77	23	15			
	Pit	1.69+	54	6.7	2	27.9	5	12.0	21	7	2	11	12000	280	3.0	4.1	8.2		77	23	15			
11.7	2533 out	1.71	80	6.6	2	27.4	5	12.0	31	14	3	24	13500	220	4.8	5.8	12.0		76	24	15			
	Pit	1.70	63	5.8	2	25.6	5	12.0	27	10	2	14	14500	260	5.1	5.9	17.2		76	24	15			
12.7	out 2686	1.70	69	5.9	2	24.8	5	12.0	29	9	2	10	14000	160	3.3	4.6	13.2		76	24	15			
	Pit	1.70	62	5.4	2	24.1	5	12.0	27	8	2	13	14500	170	3.3	4.6	12.2		76	24	15			
13.7	Pit	1.70	58	5.2	2	24.0	5	12.0	24	7	2	14	14500	160	3.2	4.4	12.0		76	24	15			
14.7	Pit	1.70	60	5.3	2	24.2	5	12.0	26	8	2	14	14500	180	3.2	4.3	12.1		76	24	15			
15.7	Pit	1.70	63	5.1	2	24.1	5	12.0	25	8	2	18	14500	180	2.5	3.7	9.4		76	24	15			
16.7	out 3348	1.71	62	5.8	2	25.7	5	11.9	27	7	2	11	14000	180	2.1	3.1	8.9		76	24	15			
	Pit	1.70+	59	5.4	2	25.1	5	12.0	26	6	2	10	13500	180	2.0	3.1	8.6		76	24	15			
17.7	Pit	1.69+	54	5.8	2	25.6	5	12.0	22	6	2	11	14000	200	1.9	3.0	9.6		76	24	15			
18.7	out 3330	1.70	63	5.2	2	24.3	5	12.0	26	7	2	12	14000	200	2.0	3.1	8.2		76	24	15			
	Pit	1.70	57	5.0	2	24.2	5	11.9	24	6	2	12	13500	190	1.7	2.6	7.8		76	24	15			
19.7	out 3370	1.70	62	5.6	2	25.1	5	11.8	23	6	2	14	13000	160	1.6	2.7	7.2		76	24	17½			
	Pit	1.70	55	5.3	2	24.7	5	11.8	20	7	2	15	13500	160	1.3	2.5	6.8		76	24	17½			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE 1979	DEPTH feet / metres	DENSITY PPG/ Spcf/ SG	VISCOSITY secs	FILTRATE ccs	FILTRATE Cake 1"/32 /mm	HT/HP filt °500psi ccs	HT/HP filt 1"/32 /mm	pH	RHEOLOGY PV cp	RHEOLOGY YP lbs/100ft²-gms/100 cm²	RHEOLOGY 10"	RHEOLOGY 10'	FILTRATE ANALYSIS Cl mg/litre	FILTRATE ANALYSIS Ca ppm	FILTRATE ANALYSIS Pf	FILTRATE ANALYSIS Mf	FILTRATE ANALYSIS Pm	RETORT ANALYSIS Oil %	RETORT ANALYSIS Water %	RETORT ANALYSIS Corr. Solids %	CEC PPB Bent. Eq.	OTHER		
19.7	3362	1.70	52	5.8	2	26.2	6	12.1	21	8	1	7	13000	200	1.7	2.1	8.0	0	76	24	17½			
20.7	3376	1.70	57	5.2	2	25.0	5	12.2	22	8	1	11	12500	120	1.7	3.0	7.8	0	76	24	20			
	3321	1.71	56	5.6	2			11.9	21	8	1	10	12000	120	1.7	2.8	8.5	0	76	24	20			
21.7	Pit	1.72	52	5.4	2	25.4	5	12.0	21	7	0	9	12000	120	1.6	2.7	8.2	0	76	24	20			
	Pit	1.70	54	5.1	2	24.8	5	11.9	21	7	3	21	12000	120	1.2	2.4	7.8	0	76	24	20			
22.7	Pit	1.70	51	4.8	2	24.4	5	11.7	22	10	6	30	12500	160	1.0	2.1	7.4	0	76	24	20			
	3321	1.71	50	5.8	2	26.2	6	11.7	21	7	1	4	12500	140	1.1	2.1	7.1	0	76	24	20			
23.7	Pit	1.70	54	5.1	2	24.0	5	11.9	21	8	2	10	12000	120	1.5	2.4	7.6	0	76	24	22½			
	3380	1.70	68	5.9	2	27.2	6	11.7	23	7	1	5	12000	140	.8	1.8	8.0	0	76	24	22½			
24.7	Pit	1.72	52	4.8	2	26.2	5	11.7	23	6	1	8	11500	120	1.0	2.0	8.0	0	76	24	22½			
	Pit	1.70	53	5.6	2			11.8	20	7	3	27	10000	120	1.0	1.9	8.0	0	76	24	22½			
25.7	Pit	1.70	50	5.7	2			11.6	20	6	2	15	10000	140	.9	1.7	7.8	0	76	24	22½			
	Pit	1.70	49	5.8	2			11.6	20	7	3	21	11000	130	.8	1.7	5.0	0	76	24	20			
26.7	Pit	1.71	48	5.5	2			11.7	19	6	3	23	11000	140	.75	1.7	4.8	0	76	24	20			
	-	1.70	52	7.0	2			11.5	20	6	1	10	10500	120	.75	1.8	4.3	0	76	24	20			
27.7	Pit	1.70	48	6.0	2			11.5	18	6	2	14	10000	140	.7	1.7	4.2	0	76	24	20			
	Pit	1.71	54	5.5	2			11.4	24	6	3	21	10500	140	.7	1.7	4.0	0	76	24	20			
28.7	Pit	1.70	53	5.2	2			11.4	21	6	2	20	11000	140	.65	1.5	4.0	0	76	24	20			
	Pit	1.70	52	5.2	2			11.3	21	6	1	17	12000	180	.6	1.4	3.8	0	76	24	20			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISCOSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1979	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
29.7	Pit	1.71	52	5.2	2			11.0	22	5	2	20	11500	180	.55	1.3	3.4	0	76	24	20			
	Pit	1.70	52	5.4	2			11.0	22	6	2	19	11500	160	.55	1.4	3.5	0	76	24	20			
30.7	3330	1.70	53	5.5	2			11.0	22	6	2	23	11500	160	.6	1.5	3.5	0	76	24	20			
	Pit	1.71	52	5.8	2			11.0	21	6	4	28	12000	160	.6	1.5	3.7	0	76	24	20			
31.7	3350	1.70	50	5.9	2			11.1	21	5	2	21	12000	160	.6	1.5	3.5	0	76	24	20			
	3325	1.70	51	6.5	2			11.1	21	9	7	35	11500	200	.7	1.6	3.8	0	76	24	20			
1.8	Pit	1.72	60	5.8	2			11.6	23	7	4	37	11000	80	1.6	3.3	4.3	0	76	24	22½			
	Pit	1.71	58	6.3	2			11.4	21	6	3	32	11000	100	1.4	2.8	3.8	0	76	24	22½			
2.8	out 3110	1.68	61	5.5	2			11.3	23	10	3	26	12000	160	.8	1.8	2.8	0	76	24	22½			
	Pit	1.70	61	5.3	2			11.3	23	8	3	21	12500	140	.8	1.7	2.9	0	76	24	22½			
3.8	out 3100	1.68+	62	5.2	2			11.3	23	7	2	21	12500	160	.6	1.5	2.9	0	76	24	22½			
	Pit	1.70	57	5.2	2			11.2	22	7	2	23	13000	140	.55	1.5	2.7	0	76	24	22½			
4.8	Pit	1.70	57	5.1	2			11.2	21	7	2	24	12500	140	.6	1.4	2.5	0	76	24	22½			
5.8	Pit	1.70+	57	4.9	2			11.3	23	7	2	26	12500	160	.5	1.4	2.6	0	76	24	22½			
	3000	1.71+	62	5.1	2			11.3	26	9	4	31	12500	140	.45	1.3	2.5	0	76	24	22½			
6.8	out 3000	1.69+	62	5.3	2			11.3	21	8	3	33	12500	160	.55	1.5	2.5	0	76	24	22½			
	Pit	1.70	60	5.4	2			11.3	21	8	2	22	12500	140	.5	1.4	2.4	0	76	24	22½			
7.8	Pit	1.70	61	5.6	2			11.3	22	8	2	23	12500	140	.4	1.2	2.5	0	76	24	22½			

WELL NAME: Statoil 34/10-5

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISCOSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1979	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.			
8.8	Pit	1.70	58	5.6	2			11.2	22	7	2	21	12500	140	.5	1.3	2.4		76	24	22½			
	out 400	1.38	38	15.8	3			9.8	10	4	2	11	16000	360	.2	.7	1.4		87	13	17½			
	Pit	1.28	38	NC	4			10.4	8	5	2	8	18000	640	.5	.9	1.6		90	10	17½			

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

July 5, 1979	Arrive on location. Running anchors.
July 6, 1979	Finish running anchors. Rig up.
July 7, 1979	Test stack on deck. Rehook quideline. Run stack and riser. Pick up diverter. Retrieve wear bushing, testing stack. Build 1210 bbls on new 1.70 S.G. mud.
July 8, 1979	Test kelly kocks. Make up BHA, tag cement at 213 m. Displace riser with mud. Drilled cement 213 m to 301 m. RIH to 346, break circulation wash to 477 m. Drilled cement 477 m to 494 m. Prehydrate 80 bbls of Bentonite.
July 9, 1979	Drilled cement 494 m to 528 m, wash to 567 m. RIH to 1030 m, break circulation. RIH to cement plug at 1753 m. Circulate out old mud. Drilled cement 1753 m to 1767 m. POOH for bit, built 230 bbls new 1.70 S.G. mud.
July 10, 1979	Finish trip for bit. Drilled cement 1767 m to 1821 m. RIH to cement plug at 2429 m. Circulate and condition, dump 80 bbls (13 m^3) old mud. Drilled cement 2429 m to 2540 m. Circulate bottoms up, test liner lap, OK. POOH built 220 bbls new mud. Some cement contamination.

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

July 11, 1979	Finish POOH. Changed BHA. RIH to 2540 m. Drill cement 2540 m to 2591 m. Wash and ream 2591 m to 2800 m. RIH to 3686 m. Circulate and condition mud. Test liner lap, OK. POOH. Dumped 6 m^3 old mud.
July 12, 1979	Log. Test stand pipe manifold. Make up testing equipment. Perforate. Pick up test string and RIH with tubing.
July 13, 1979	POOH with tubing to recover broken piece of test equipment. RIH with tubing. Test tubing. Pick up SSSTT and test. Set packer. Rig up test equipment. Slightly water contamination (20 bbls) in pits from testing.
July 14, 1979	Rig up to test. DST no. 1 reverse circulation to kill well. POOH.
July 15, 1979	POOH. Swab 5 bbls. Circulate bottoms up at 3454 m, 785 units gas. POOH. Lay down BHA. RIH with bit and scraper. Circulate bottoms up. POOH.
July 16, 1979	Run packer with Schlumberger. RIH with stinger, squeeze. Reverse out cement, perforate. Break circulation. Attempting to squeeze. Built 100 bbls new mud.

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

July 17, 1979	Attempt to squeeze, could not get injection. Attempt to inject with 10 bbls (1.6 m^3) water, no success. Displace string with 54 bbls (8.6 m^3) water, no flow. Displace with 80 bbls (12.9 m^3) water, no flow. Reverse out, 946 units gas. Get injection, circulate and condition mud, 161 units gas. Cemented, squeeze. POOH.
July 18, 1979	Test stack. RIH with bit and scraper. Tag cement at 3351 m. Drill cement 3351 m to 3353 m. RIH to 3368 m. Circulate bottoms up POOH. RIH with RRTS packer. Built 180 bbls new mud. 70 bbls prehydrated Bentonite.
July 19, 1979	Set RTTS tool at 3330 m. Run drawdown test. Immediate back flow. Reversed out. Reset packer at 3320 m. Squeezed cement into formation. Reversed out. POOH. RIH with bit and scraper.
July 20, 1979	Drilled out cement to 3376 m. POOH. RIH with packer and draw down test. OK. Reversed out. Got approximately 10 bbls water in mud. Necessary to circulate and condition mud for 2½ hours.
July 21, 1979	Run Schlumberger perforating gun. Picked up and run test string. Started DST no. 2.

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

July 22, 1979	Lost surface pressure. Checked for leak. Surface lines OK. Possible leak in tubing or test tools. Reversed out. Lost approx. 160 bbls mud. Built 95 bbls new mud. Circulate 8½ hours to work gas out of mud. POOH.
July 23, 1979	Pulled test string. RIH with bit and scraper. Circulate gas out of mud. Built 105 bbls new mud. POOH.
July 24, 1979	Run bridge plug on wire line. Set at 3351 m. Squeezed perforations with cement. Reversed out. POOH. Tested BOP. Tested test string and RIH. Built 50 bbls new mud.
July 25, 1979	Run Schlumberger perforating gun. Picked up test string and RIH. Set RTTS tool and began DST no. 3. Built 65 bbls new mud.
July 26, 1979	Run DST no. 3. Lost press on annulus. Necessary to stop test. Reversed out and killed well. Circulate out gas. POOH.
July 27, 1979	RIH with bit and scraper. Tight spot at 3343 m. Washed to bottom. Circulate out gas. Maximum 2400 units. POOH.
July 28, 1979	RIH with test string and rerun DST no. 3.

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

July 29, 1979	Finished DST no. 3A. Displaced tubing with 90 bbls mud to kill well. Reverse circulated to work gas out of mud. Circulate long way until gas worked out.
July 30, 1979	Finished circulating gas out of mud. Pulled test string. RIH with bit and scraper to clean out casing. 3 m fill on bottom. Circulated gas out of mud. Maximum 2974 units.
July 31, 1979	Finished circulating. POOH. Run cement retainer. Set at 3325 m. RIH with drill pipe and squeezed cement below retainer. Reversed out excess cement. POOH. Tested BOP.
August 1, 1979	Perforated new test zone. RIH with test string. Built 115 bbls new mud.
August 2, 1979	DST no. 4 - bull head well - reverse out, maximum gas 1250 units. Circulate, maximum gas 961 units.
August 3, 1979	Finished circulate out gas. POOH with test string. RIH with bit and scraper. Circulate through choke, maximum gas 1080 units. POOH.
August 4, 1979	Run retainer with Schlumberger. RIH with stinger. Pressure test lines, squeeze. POOH with stinger. Rig up Schlumberger and perforate. Make up test string and RIH. Test surface equipment for DST no. 5.

NL Baroid

OPERATING AREA Statoil 34/10-2

DAILY OPERATIONS LOG

August 5, 1979	DST no. 5, bull head to kill well. Reverse circulation to circulate out gas. Free packer and reverse circulation. Maximum gas 628 units.
August 6, 1979	Finished circulate out gas. POOH. Lay down test string. RIH with bit and scraper. Circulate maximum gas 2428 units. POOH.
August 7, 1979	Run retainer with Schlumberger. RIH with stinger. Cemented, squeeze. POOH with stinger. Laying down tubing.
August 8, 1979	Set cement plugs to Abandon well. Lowering mud weight to 1.20 S.G.
August 9, 1979	Plug well. Dump active mud pits.
August 10, 1979	Pull stack. Pick up anchors.

III 14. DIRECTIONAL SURVEYS AND WELL PROFILE.

SINGLE SHOT SURVEY 34/10-2

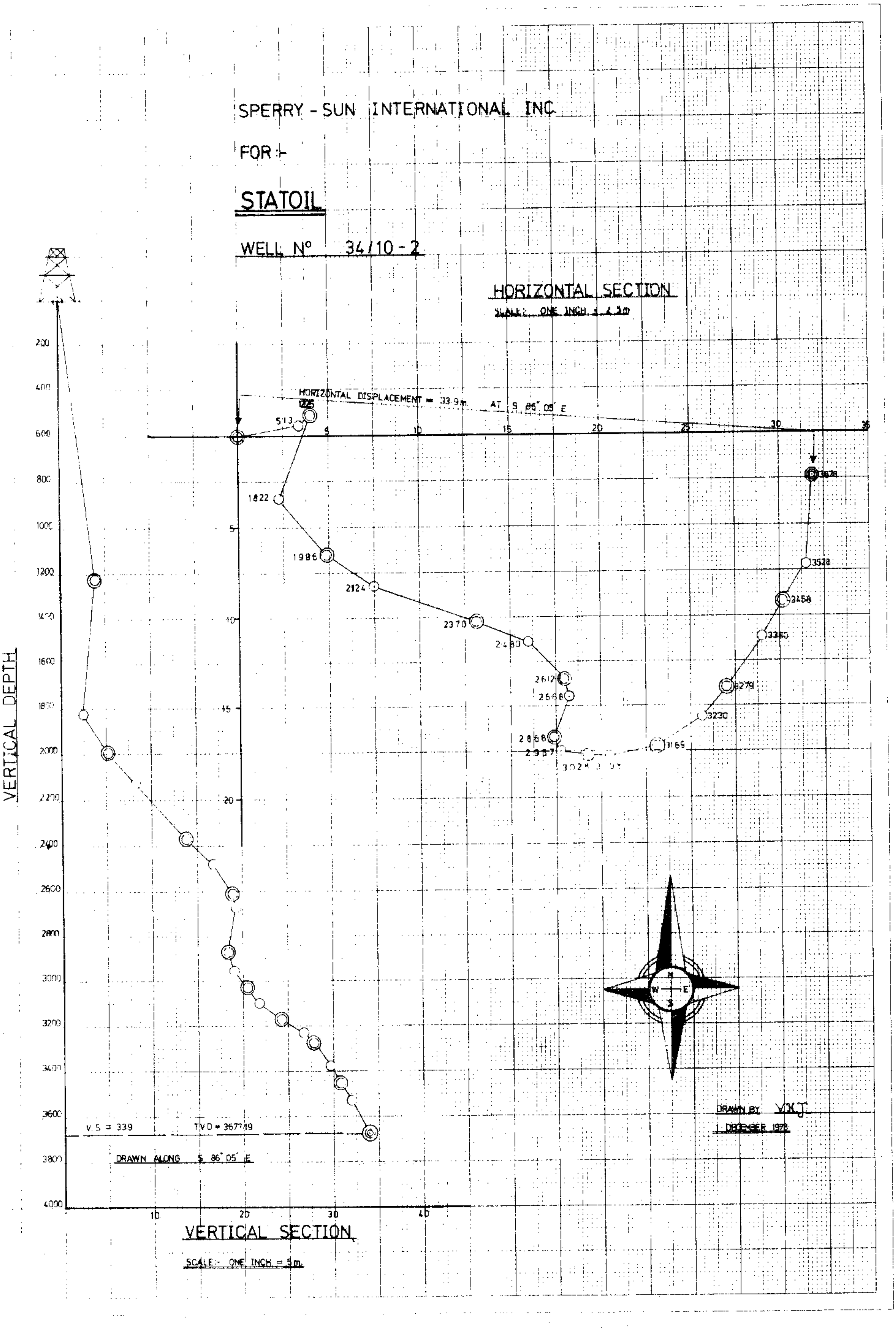
30 November 1978

Total Depth	Direction Deg	Angle Deg	Angle Min	Vertical Depth	Latitude Metres	Departure Metres	Vertical Section	Dog Leg
	N .0 E			.00	.00 N	.00 E	.00	.00
513	N 80.0 E		45	512.97	.58 N	3.31 E	3.26	.04
1225	S 86.0 W		38	1224.95	1.12 N	3.97 E	3.88	.06
1822	S 20.0 E		53	1821.92	3.44 S	2.25 E	2.48	.06
1996	S 50.0 E	1	49	1995.87	6.47 S	4.82 E	5.25	.20
2124	S 70.0 E	1	8	2128.83	8.21 S	7.57 E	8.11	.20
2370	S 70.0 E	1	37	2369.75	10.23 S	13.11 E	13.78	.06
2480	S 65.0 E	1	33	2479.71	11.39 S	15.92 E	16.66	.04
2612	S 19.0 E	1	15	2611.67	13.50 S	18.01 E	18.89	.26
2668	S .0 W		45	2667.66	14.45 S	18.21 E	19.15	.32
2868	S 41.0 W		43	2867.64	16.70 S	17.39 E	18.48	.08
2957	S 70.0 E	1	5	2956.64	17.41 S	17.81 E	18.96	.51
3028	S 90.0 E	1	15	3027.62	17.64 S	19.22 E	20.37	.19
3098	S 81.0 E	1		3097.61	17.73 S	20.58 E	21.74	.13
3169	N 72.0 E	3	20	3168.55	17.19 S	23.16 E	24.28	1.07
3230	N 39.5 E	2	25	3229.48	15.65 S	25.66 E	26.67	.92
3279	N 39.0 E	2	20	3278.43	14.08 S	26.95 E	27.85	.05
3380	N 28.0 E	1	40	3379.37	11.18 S	28.93 E	29.63	.23
3458	N 34.0 E	1	48	3457.34	9.17 S	30.15 E	30.70	.09
3528	N 34.0 E	2	15	3527.29	7.12 S	31.53 E	31.94	.20
3678	N 17.0 E	1	53	3677.19	2.32 S	33.90 E	33.98	.14

The dogleg severity is in degrees per one hundred feet.
The vertical section was computed along S 86 5 E.

Based upon minimum curvature type calculations. The bottom hole displacement is 33.98 metres, in the direction of S 86 5 E.

Bottom hole displacement calculated from wellhead.



SPERRY - SUN INTERNATIONAL INC.
FOR :-
STATOIL
WELL N° 34/10-2
HORIZONTAL SECTION
SCALE: ONE INCH = 2.5m
HORIZONTAL DISPLACEMENT = 33.9m AT S 86° 05' E
VERTICAL DEPTH
V.S = 339
TVD = 3677.19
DRAWN ALONG S 86° 05' E
VERTICAL SECTION
SCALE:- ONE INCH = 5m.
DRAWN BY VKJ
1 DECEMBER 1978
N
W
E
S

IV MARINE REPORT.

IV. 1 Weather and anchor tension summary.

There was extensive downtime due to severe weather as the well was drilled in the winter season.

A total of 15 days were lost because of weather during the drilling phase.

The wind speed exceeded 30 m/s on 10 occasions. Themost severe weather came from N, S and W.

The wave height exceeded 10 m on three occasions, with the waves coming from the SE and S.

The maximum anchor tension experienced was 173 ton on anchor no. 8.

This occured when anchors no. 6 and 7 had to be reset due to slipping 22.11.78.

During the testing phase there was no problems with the weather or the anchor tension, as this was during the summer season.

LOCATION WEATHER DATA SUMMARY

statoil
Den norske stats oljeselskap a.s

WELL: 34/10-2 RIG: Ross Rig
TIME PERIOD: FROM 8.9.78 TO 9.12.78 - 19
READINGS PR. MONTH: 30

WIND

dir. \ m/sec.	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	> 30	total
N			2	1			1	4
NNE		1				1	1	3
NE		1					1	2
ENE	1							1
E								
ESE		2						2
SE			1	2	2	2	1	8
SSE		1			1			2
S		4	1	4		2	3	14
SSW		3	2	1	2			8
SW	1	4		5	1			11
WSW		3	2	1		1		7
W	3	5	4	2	1		3	18
WNW	1	2	2					5
NW		2	2			3		7
NNW								
total	7	28	16	16	7	9	10	

WAVE

dir. \ height (m)	0 - 1	1 - 2	2 - 3	3 - 5	5 - 7	7 - 10	> 10	total
N	1		1	1	1	1		5
NNE		1		1				2
NE	1	1						2
ENE	1							1
E								
ESE		1						1
SE	1	1	1	2	1	3	1	10
SSE	1							1
S	1	4	2	2	1	2	2	14
SSW				1				1
SW	7	7	1	5	1	1		22
WSW		2				1		3
W	5	3	6	2	1	4		21
WNW			1					1
NW	1	2	1	2	1	2		9
NNW								
total	19	21	13	16	6	14	3	

LOCATION WEATHER DATA SUMMARY

statoil
Den norske stats oljeselskap a.s

WELL: 34/10-2R RIG: Ross Rig
TIME PERIOD: FROM 4.7. TO 11.8. -1979
READINGS PR. MONTH: 30

WIND

dir. \ m/sec.	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	> 30	total
N	3	4	1	1				9
NNE								
NE	1	2						3
ENE			1					1
E	1							1
ESE			1					1
SE				2				2
SSE								
S	1	2				1		4
SSW			1					1
SW	1		1					2
WSW	1	1						2
W	1	2	2					5
WNW			1					1
NW		3						3
NNW	1							1
total	10	14	8	3		1		

WAVE

dir. \ height (m)	0 - 1	1 - 2	2 - 3	3 - 5	5 - 7	7 - 10	> 10	total
N	2	5	2					9
NNE								
NE	1							1
ENE			1					1
E		1						1
ESE		1						1
SE			1		1			2
SSE								
S	2							2
SSW		1						1
SW	1	1						2
WSW	1	1						2
W	2	4						6
WNW	1							1
NW	1	2						3
NNW	2	1						3
total	13	17	4		1			

statoil
18/9-1978
ErH/NH

NAVIGATION REPORT

RIG MOVE OF "ROSS RIG" FROM 34/10-1 TO 34/10-2

1. Final position 13 Sept. 1978 hours: 11.58

Lat.: 61^{o} o6' 07,92" N   Lon.: 02^{o} 13' 39,96"E

Rig heading: 319^{o}

Deviation from intended location: 14 m - 184^{o}

Accuracy: ± 10 meters

2. Navigation/positioning method

a) Final positioning: JMR, satellite positioning system.
b) Navigation: Pulse/8 navigation system with computer and plotter.
Navigation contractor: Decca Survey Norway
Navigation engineers : Arne Sleire, Kjell Pedersen

3. Duration of move

Navigation equipment and personell dept.

Bergen	: 1.Sept. 1978 at 14.40 hours
Start from	: 8.Sept. 1978 at 19.45 hours
Start run-in	: 9.Sept. 1978 at 06.00 hours
First anchor (no. 5) set	: 9.Sept. 1978 at 07.05 hours
Stop anchor handling due to bad weather	: 9.Sept. 1978 at 01.45 hours
Start anchor handling again	: 9.Sept. 1978 at 06.00 hours
Last piggy-back anchor set	: 9.Sept. 1978 at 16.15 hours

All anchor tensioned : 10.Sept. 1978 at 03.30 hours

Total time from start of move till all anchors tensioned: 31 hours, 45 min.

Wheater down time : 4 hours 15 min.
Donetime due to anchor no.8 slipping : 8 hours 00 min.
Effective time from setting first anchor till last anchor set : 9 hours 10 min.

4. <u>Techniques/problems</u>

To ensure good and continous navigation control during run in a Pulse/8 receiver interfaced with computer and plotter was used. The Pulse/8 system performed well indicat move of the rig approx. 10-15 meters. The satellite navigation system was to be used for final positioning.

The rig move started at 19.45 hours 8.Sept. from location 34/10-1. To ensure a short transit time from location 34/10-1 to location 34/10-2 one supply-boat did tug at anchor no. 1. As the wind was 35-40 knots we did only approx 1-5 knots during the transit.

At 01.45 9.Sept we were at the turnpoint (4000 m south-east of location 34/10-2). As the wind and sea-state was to rough we couldn't start any anchorhandling at that time. After stand bye for 4 hours we started anchor handling as the wind and sea-state then was favourable.

As the wind was southernly, it was desided to drop anchor no 5 at the run in, then anchors no 1 and 4 to keep the rig on location. As the rig position was within a circle of 100 m after setting anchors nos 5 and 1, the piggy-lack anchors were set in the same run as the main anchors from anchor no 1. Last piggy back anchor no 5 and set 16.15 hours 9.Sept.
During pretensioning anchor no 8 did slip and was resent at 23.30 hours 9.Sept.

All anchors were pretension to 400000 at 03.30 hours 10.Sept. Discrepancy between Pulse/8 and Sat.nav is 21 m - 350^{o} (Pulse/8 NNW of Sat.nav).

Erik Håvardsen

VI TESTING OPERATIONS AND RESULTS

1. SUMMARY OF THE DST RESULTS

DST No. 1

DST no. 1 was run in order to investigate the waterbearing interval from 3380 to 3420 m RKB in Statfjord formation.
Perforated interval 3385 - 3395 m RKB.
A standard Halliburton test string was run for the test. The RTTS packer was set at 3357 m.

Flow periods:

- Initial flow: 5 min
- Initial build up: 58 mins
- Second flow: 237 mins
- Final build up: 299 mins

Flow data

During the final flow, the well was produced at a fixed choke of 48/64" at a metered water rate declining from 4400 to 3600 BBL/D. Water samples were caught during this period.

Testanalysis

Estimated reservoir pressure	6932 psi
Flowing pressure before shut in	5483 psi
Capasity	304 md ft
Permeability for h = 32.8 ft (perforated interval)	9.3 md
Permeability for h = 57 ft (reservoir thickness)	5.3 md
Skinfactor for h equal to res. thickness	- 3.7
$\Delta\rho$ skin	- 1980 psi
radius of investigation	137 ft
Productivity index	2.9 bbl/d/psi

DST No. 2

DST no. 2 was performed in order to obtain information from the interval 3350 to 3370 m RKB in the Statfjord formation. Perforated interval 3353 - 3365 m RKB. Test string as before and the RTTS packer was set at a depth of 3315 m RKB.

Flow periods

- Initial flow : 20 mins
- Initial shut in : 126 min

Second flow : 375 min

After 375 mins a leak in the Slip joint caused mud flow into the teststring which caused declining annulus pressure and closure of the APR-n valve. The string had to be pulled before the second flow and a final build up was obtained.

Flowdata

Due to failure of the slip joint only two gas rate measurements were performed. The gasrate was close to 7 MSCF/D.
It is impossible to give a credible test analysis on the basis of these results.
A preliminary analysis of the initial build up data and rates based on 7 MSCF/D and a GOR of 850 SCF/BBL have been done.
The results seems to be unrealistic. Further work will be carried out before the final well test report is completed

DST No. 3, 3A

DST no. 3 was run to investigate the interval from 3330 to 3300 m in the Statfjord formation and get reliable fluid samples. Perforated interval 3335 to 3345 m RKB.
DST no. 3 was cancelled due to low response on second flow period. The sand-screen was plugged by mud and partly damaged. DST no. 3A was run with out sand-screen and was mecanically successful. Teststring as previous with the RTTS packer set at 3302 m RKB.

- Initial flow : 2 mins
- Initial build up : 32 mins
- Second flow : 521 mins
- Final build up : 672 mins

Flowdata
During the final flow the well was produced through a 48/64" fixed choke at an average rate of 800 STB/D of oil and about 700 MSCF/D of gas.
Oil and gas samplers were caught at the separator during the final flow. After final build up two bottom hole samplers were run and samples were caught at a depth of 3063 m RKB.

Testanalysis

Estimated reservoir pressure	6925 psi
Flowing pressure before shut in	1229 psi
Capasity	92.4 md ft
Permeability for h = 32.8 ft (perforated interval)	2.4 md
Permeability for h = 55.8 ft (reservoir thickness)	1.4 md
Skinfactor for h equal to reservoir thickness	2.55
Δp skin	1758.6 psi
Radius of investigation	131.8 ft
productivity index	0.12 STB/D/psi

DST No. 4

DST No. 4 was run in order to investigate the Brent formation interval from 3100 to 3115 mRKB. Perforated interval 3110 - 3115 m RKB. Tests string as previous and the RTTS packer was set at a depth of 3075 m RKB.

Flow periods

- Initial flow : 6 mins
- Initial build up : 37 mins
- Second flow :681 mins
- Final build up :100 mins

Flow data

During the final flow the well was produced at a metered gas rate of about 3.4 MMSCF/D. Tank measurement indicated a condensate rate of about 75 bbl/d and a waterrate of about 40 bbl/d. Oil, gas and water samples were caught during this period.

Testanalysis

Estimated reservoir pressure	6410 psi
Flowing pressure before shut in	5120 psi
Capasity	25 md ft.
Permeability for h = 16.4 ft (perforated interval)	1.5 md.
Permeability for h = 133 ft (reservoir thickness)	0.19 md
Skinfactor	- 0.4
Δp skin	- 150 psi
Radius of investigation	7 ft
Productivity index	2902 SCF/D/psi

DST No. 5

DST No. 5 was performed to obtain reliable information and samples of the Brent formation sand at the interval 3016 - 3030 m RKB. Perforated interval : 3017 - 3022 m RKB. Teststring as before with the RTTS packer set at 2985 m.

Flow periods:

- Initial flow : 2 mins
- Initial build up : 66 mins
- Second flow : 595 mins
- Final build up : 605 mins

Flowdata

During the final flow period the choke manifold was bypassed and the flow directed through a 2 x 24/64" choke on the heater. The gas rate was meatered to about 25.9 MMSCF/D and the condensate rate was in the range of 1100 to 1500 bbl/d. Three complete PVT samples were caught during the final flow period.

Preliminary Testanalysis

Esimated reservoir pressure	6417 psi
Flowing pressure before shut-in	6271 psi
Capasity	9200 md ft
Permeability for h = 16.4 ft (perforated interval)	560 md
Permeability for h = 49.2 (reservoir thickness)	187 md
Skinfactor fo4 h = 49.2	13
Radius of investigation	537 ft
Productivity index	0.2 MMSCF/psi/D

2. RFT RESULTS

RFT pressurepoints:

RUN No.	DEPTH ISF/Sonic	DEPTH mMSL	CORRECTED PRESSURE psi
1a	2949	2925	6391
	2963.5	2939.5	6398
	2986	2962	6408
	3023	2999	6422
	3045	3021	6430
	3064	3040	6439.5
	3078	3054	6445
	3098	3074	6453.5
	3113	3089	6461
	3104	3080	6455
2a	3018	2994	6417
	3037.5	3013.5	6425.5
	3050	3026	6430
	3059	3035	6433.5
	3072.6	3048.6	6439
	3086.5	3062.5	6445.5
	3093.6	3069.6	6447
3	3106.5	3082.5	6454.5
	3023	2999	6419
4	2963.5	2939.5	6396.5
5	3346	3322	6906.5
	3359	3335	6922.5
	3337	3313	6919.5
	3368	3344	6930.5
	3389	3365	6953
	3392	3368	6956.5
	3401	3377	6970
	3418	3394	6996
	3446	3422	7039
6	3481	3457	7088.5
	3506	3482	7172.5

V SUMMARY OF PETROPHYSICAL PROPERTIES

SUMMARY OF PETROPHYSICAL PROPERTIES

Abstract

The petrophysical properties of Jurassic formations have been calculated based on log, core, RFT and DST data. Log and core data have been digitized and evaluated on computer.

SUMMARY

Two hydrocarbonbearing formations were penetrated; Brent formation (2945 - 3124 m RKB) and Statfjord Formation (3325 - 3585 m RKB).

Brent encounters 109.25 m of net pay gas bearing sand. Average porosity is 20.8% and average water saturation is 13.8%. Gas/oil/water contact can not be seen in Brent.

Statfjord encounters 31.75 m of net pay oil bearing sand. Average porosity 15.9% and average water saturation is 21.6%. Oil/water contact is estimated to be at 3385 m RKB. (This is in fair agreement with RFT pressure plot which gives 3390 ± 2 m). Residual hydrocarbon saturation is calculated below 3385 m. A DST at 3385 - 3395 m produces pure water.

RESULTS SUMMARY 34/10-2

FORMATION	INTERVAL	GROSS THICKNESS	NET PAY THICKNESS	AVERAGE NET POROSITY (%)	AVERAGE NET WATERSATURATION (%)	AVERAGE Vs SHALE	NET/GROSS
NESS	2945-3071.5	126.5	58.00	20.9	15.6	46.1	0.46
Etive	3071.5 -3082.25	10.75	10.75	24.1	4.9	1.2	1.0
RANNOCH	3082.25-3124	41,75	40.50	19.8	13.7	12.0	0.97
Total BRENT	2945-3124	179.0	109.25	20.8	13.8	11.5	0.61
STATFJORD *	3325-3585	260	31.75 / 107.25	15.9 / 16.7	21.6 / 52.8	12.2 / 9.3	0.41

FOR BRENT : NET SAND = NET PAY

* NET PAY / NET SAND

CUTOFF CRITERION:

VSH > 40 %

PHIF < 12 %

SW > 65 %

Thickness > 1 m

statoil /N. HYDRO/SAGA

COMPLETION LOG 34/10-2
Scale 1:500

COORDINATES: 61° 06' 07,92" N
02°13' 39,96"E
K.B.: 25 m
WATER DEPTH: -133 m
TOTAL DEPTH: 3729 m
DEEPEST FORM. PEN.: TRIASSIC
SPUD DATE: 10/9-78 PRELIM. P and A: 9/12-78
REENTRY: 6/7-79 RIG RELEASE: 11/8-79
WELL STATUS: P and A
RIG: ROSS RIG
CONTRACTOR: ROSS DRILLING Co. A/S
GEOLOGISTS: Hage, Rasmussen, Gloppen, Hauge, Kræmer, Leinum, Miljeteig
PREPARED BY: B.A. Rasmussen

DATE: May 10th 1979

LOCATION PLAT

CASING DATA:
30" at 208 m
20" at 508 m
13 3/8" at 1802 m
9 5/8" at 2699 m
7" at 3725 m

VELOCITY SURVEY: 20 checkshots, levels from 850 m - 3720 mKB

LOGS RUN (SCHLUMBERGER DEPTHS IN M. BELOW K.B.)

ISF/SONIC-GR-SP	FDC/CNL-GR-CAL	DLL/MSFL-GR	HDT	CBL	NGS
Run 1: 208-507,7 m (GR to sea floor) Run 2: 508-1829,5 m Run 3: 1802-2718 m ~~Run 4: 2699-3226,8m~~ Run 5: 2901-3726,8m	Run 1: 508-1829,5 m Run 2: 1802-2718 m Run 3: 2699-3228,5m Run 4: 2900-3729 m	Run 1: 2900-3728 m	Run 1: 2699-3727,5 m (misrun) Run 2: 2699-3330m	Run 1: 400-1798 m Run 2: 1991-2695 m	Run 1: 2923-3532 m

LITHOLOGIC SYMBOLS

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

SHOW OR STAIN · HYDROCARBON CUT · FLUORESCENCE · GAS SHOW

SIDEWALL CORES (Drillers dpth) ○→ REC. ●→ REC. W/SHOW · CORES CORE NO. · DST · R.F.T. · CASING SHOE/LINER · BIT

[illegible]

RUN NO.	DEPTH ISF/SONIC	CORRECTED PRESSURE psi
1a	2949	6391
	2963.5	6396
	2986	6408
	3023	6422
	3045	6430
	3064	6439.5
	3078	6445
	3098	6453.5
	3113	6461
	3104	6455
2a	3018	6417
	3037.5	6425.5
	3050	6430
	3059	6433.5
	3072.6	6439
	3085.5	6445.5
	3093.6	6447

RUN NO.	DEPTH ISF/SONIC	CORRECTED PRESSURE psi
3	3106.5	6454.5
	3023	6419
4	2963.5	[illegible]396.5
[illegible]	3346	6906.5
	3359	6922.5
	3337	6915.5
	3368	6930.5
	3389	6953
	3392	6956.5
	3401	6970
	3418	6996
	3446	7039
[illegible]	3481	7086.5
	3506	7172.5

DST NO. 1: 3385 - 3395 m RKB

Flow data.

During the final flow, the well was produced at a fixed choke of 48/64" at a metered water rate declining from 4400 to 3600 BBL/D. Water samples were caught during this period.

Test analysis

Estimated reservoir pressure	6932 psi
Flowing pressure before shut in	5483 psi
Capacity	304 md ft
Permeability for h = 32.8 ft (perforated interval)	5.3 md
Permeability for h = 57 ft (reservoir thickness)	5.3 md
Skinfactor for h equal to res. thickness	-3.7
Δp skin	-1980 psi
Radius of investigation	137 ft
Productivity index	2.9 bbl/D/psi

DST NO. 4: 3110 - 3115 m RKB

Flow data:

During the final flow the well was produced at a metered gas rate of about 3.4 MMSCF/D. Tank measurement indicated a condensate rate of about 75 bbl/d and a water-rate of about 40 bbl/d. Oil, gas and water samples were caught during this period.

Test analysis

Estimated reservoir pressure	6410 psi
Flowing pressure before shut in	5120 psi
Capacity	25 md ft
Permeability for h = 16.4 ft (perforated interval)	1.5 md
Permeability for h = 133 ft (reservoir thickness)	0.19 md
Skinfactor	-0,4
Δp skin	-150 psi
Radius of investigation	7 ft
Productivity index	2902 SCF/D/psi

DST NO. [illegible]: 3353 - 3365 m RKB

[illegible]

Due to failure of the slip joint only two gas rate measurements were performed. The gas rate was close to 7 MSCF/D. It is impossible to give a credible test analysis on the basis of these results.

A preliminary analysis of the initial build up data and rates based on 7 MMCF/D and a GOR of 850 SCF/BBL have been done. The results seem to be unrealistic.

DST NO. 3: 3335 - 3345 m RKB

Flow data:

During the final flow the well was produced through a 48/64" fixed choke at an average rate of 800 STB/D of oil and about 165 MSCF/D of gas.

Oil and gas samples were caught at the separator during the final flow. After final build up two bottom hole samplers were run and samples were caught at a depth of 3063 m RKB.

Test analysis

Estimated reservoir pressure	6925 psi
Flowing pressure before shut in	12[illegible] psi
Capacity	92.4 md ft
Permeability for h = 32.8 ft (perforated interval)	2.4 md
Permeability for h = 55.8 ft (reservoir thickness)	1.4 md
Skinfactor for h equal to reservoir thickness	2.55
Δp skin	1758.6 psi
Radius of investigation	131.6 ft
Productivity index	0.12 STB/D/psi

DST NO. [illegible]: 3017 - 3022 m RKB

Flow data

During the final flow period the choke manifold was bypassed and the flow directed through a 2 x 24/64" choke on the heater. The gas rate was metered to about 25.9 MMSCF/D and the condensate rate was in the range of 1100 to 1500 bbl/d. [illegible] complete PVT samples were caught during the final flow period.

Test analysis

Estimated reservoir pressure	6417 psi
Flowing pressure before shut in	6271 psi
Capacity	9200 md ft
Permeability for h = 16.4 ft (perforated interval)	560 md
Permeability for h = 49.2 (reservoir thickness)	187 md
Skinfactor for h = 49.2	13
Radius of investigation	537 ft
Productivity index	0.2 MMSCF/psi/D


WELL 34/10-2
COMPANY STATOIL
ROSS RIG
WILDCAT
Baroid
LEGEND
LITHOLOGY
CUTTINGS ANALYSIS
TOTAL GAS
METHANE
LIQUID HYDROCARBONS
DRILLING RATE
LITHOLOGY
ppm HYDROCARBONS IN MUD M=1000
WATER DEPTH FOR THIS LOCATION 133 meters - RKB TO SURFACE OF WATER 25 m ALL DEPTHS ARE MEASURED FROM RKB
STATOIL SAGA HYDRO 34/10-2
DRILLED WITH ROSS RIG TF 103
SPUD DATE 10 SEPT 1978
denotes PPM
denotes UNIT
DRLG RATE in M/HR
11 SEPT
NB 2 DSJ 17.5"
SD QTZ VFG-MED, BSD SUB RND, POOR STD
CLY LT GY, OCC DK GY, SFT STKY, SM SLTY
TR PYR, SHELL FRAGS
SD A/A
CLY A/A
TR SHELL FRAGS
TR PYR, SHELL
TR SST

wo321　　　　　　　　　　　　　　　　　　　　　　　　　　　　　13600

BAROID LOGGING SYSTEMS

NL BAROID PETROLEUM SERVICES

DIVISION N. INDUSTRIES, P.O. BOX 1675 HOUSTON, TEXAS 77001.

WELL 34/10-2
COMPANY STATOIL
NORTH SEA
NORWAY
(ROSS RIG)

LEGEND

DEPTH CORRESPONDS TO DRILL PIPE MEASUREMENTS.

NB	NEW BIT	E-LOG	ELECTRIC LOG
TG	TRIP GAS	NCB	NEW CORE BIT
ST	SHORT TRIP	STG	SHORT TRIP GAS
NR	NO RETURNS	CFK	CHECK FOR FLOW
CO	CIRCULATE OUT RETURNS	DST	DRILL STEM TEST

PERMANENT DATUM M.S.L., ELEV: 25m. ABOVE PERM DATUM

WATER DEPTH 133m.

SAND　CLAY　SHALE　LS　SLTST　DOL

ADT LOG

DRILL RATE FT/HR. □ 400 300 200 100
DRILL RATE M/HR. ■ 100 75 50 25

'd_c' EXPONENT 0·4 0·6 0·8 1·0 1·5 2·0 2·5

TOTAL GAS —
CONNECTION GAS BAR GRAPH —
(GAS UNITS IN AIR) 100 200 300 400

SHALE FACTOR - - - ml/gm. 0 5 10 20 30 40
SHALE DENSITY — gm/cc. 1·8 1·9 2·0 2·2 2·4 2·6

MUD WEIGHT —
PORE PRESSURE - - -
SCALE: A ■ SG. B □ PPG.
1·2 1·4 1·6 1·8 A
10 12 14 16 ■

REMARKS

SPUD 10/9/78.
NB 2 DGJ. 11/9/78.
CLY-LT GY DK GY, OCC BRN, SFT, STKY, SLTY IN PART.
TRS MICA, PYR, SHELL FRAGS.
SD-CLR WH, VF MD GN, SUB RD SUB ANG, POOR SORT.
12/9/78.
13-16/9/78.
NB 3 DSJ
CLY-GY, SFT, STKY, V SLTY.
TRS M/MORPHIC, GRN BLK, M XLN
17/19-9-78. WOW.
NB4 XIG
SD-CLR QTZ, F OCC CRS GN, UNCONS, FAIR SORT, ABUN FOSS FRAGS
SLTST-LT GY-GN, FRM, OCC HD, TRS FN SD, GLAUC, PYR.
20/9/78.
NB5 XV
21/9/78
CLYST-LT-DK GY, SFT, NON CALC, PYR, GLAUC.
22/9/78
CLYST A/A
SH-DK GY, BLKY.
OPEN HOLE TO 17 1/2" W/BITS 6,7,8,8
23-28/9/78
NB9 XIG 29/9/78
NB10 XIG
30/9/78
SH-DK GY, FM-FHD, SL-NON CALC, SLTY IN PT, PYR.
CLYST-MGY, OCC LT GY, SFT -FM, SL-NON CALC, OCC SLTY, SDY IN PT
1/10/78
NB 11 XIG
SH LT MGY, LT GRN, SFT FM, NON CALC.
CLYST-LT GY, SFT, SLTY, CALC
2/10/78
LS-BRN, HD, ARG
NB 12 XIG 3/10/78
SH-LT GY, FM, FISS, NON-SL CALC
4/10/78
NB13 XIG
5/10/78
SLTST-LT-MGY, HD, CALC
6/10/78
NB14 XV
LS-LT GY, HD, ARG.
NB 15 XIG 7/10/78
8-12/10/78. NB 16 XIG.
13/10/78 NB 17 XIG
CLYST-LT GY, SFT STKY, SLTY IN PART
14-15/10/78 NB 18 XIG.
COAL-BLK, HD, SHINY, FRACD.
16/10/78 NB 19 S2IG.
SH-DK GY, HD, SUB FISS.
17/10/78.
18/10/78 NCB C18.
NB 21 XDV
SST-YEL BRN, FN GN, SUB RD SUB ANG, CALC CMT.
19/10/78 RR CB C18.
20-21/10/78 NB22 XDV.
22/10/78. WOW.
23/10/78 NB23 XDV.
SH-GY, OCC RD BRN, MD HD, SLTY IN PART.
24/10/78
25-27/10/78 WOW.
NRB 24 FP51
NRB25 H7U 28-29/10/78
NRB 26 XDV
NRB 27 XDV
30/10/78
RR 20 C18 31/10/78
NB 28 C18 1/11/78
RR 20 C18 2/11/78
NB 29 C22 3/11/78
RR 29 C22 4/11/78
RR 29 C22 5/11/78
NB 31 XDV 6/11/78
NB 32 XDV 7/11/78
SD-CLR, F-C GN, ANG-SUB ANG, YEL FLUOR.
NB33 FP52 8/11/78
SH-BRICK RD GY, SUB FIS, W/OCC RD SLTST.
9/11/78.
SD-CLR OCC WH, ANG SUB ANG, F-M GN, CALC CMT POOR SORT
10/11/78.
11/11/78 NB 34 FP52.
12-17/11/78 W.O.W NB 35 XV
SLTST GRD SH, GY RD, M HD
TD 3730m.

EHO ADT NB3/8.