

**General information**

Wellbore name	25/2-12
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	LILLE-FRIGG
Discovery	25/2-4 Lille-Frigg
Well name	25/2-12
Seismic location	EL 8706 - 116 SP 430
Production licence	026
Drilling operator	Elf Petroleum Norge AS
Drill permit	584-L
Drilling facility	WEST VANGUARD
Drilling days	119
Entered date	17.07.1988
Completed date	12.11.1988
Release date	12.11.1990
Publication date	17.12.2003
Purpose - planned	APPRAISAL
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	22.0
Water depth [m]	115.0
Total depth (MD) [m RKB]	4102.0
Final vertical depth (TVD) [m RKB]	4102.0
Maximum inclination [°]	2.8
Bottom hole temperature [°C]	150
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	59° 57' 48.34" N
EW degrees	2° 23' 40.78" E
NS UTM [m]	6647648.17
EW UTM [m]	466196.96



UTM zone	31
NPDID wellbore	1290

Wellbore history

General

Well 25/2-12 was the second hole drilled on an NNESSV-oriented structural height in the northwestern part of the block. Well 25/2-4, which was drilled in 1975 in a more down flank position, found a 21 m gas column and a 48 m oil column in the Vestland Group. The Statfjord Formation was water bearing in 25/2-4, but its position was not optimal on the structure with regards to the Jurassic prospects.

The main objective of well 25/2-12 was to examine the Statfjord Formation higher up on the structure than 25/4-2, including getting more information about the oil and gas discovery in the Vestland Group.

Operations and results

Appraisal well 25/2-12 was spudded 17 July 1988 by Smedvig semi-submersible rig West Vanguard and completed 13 November 1988 at a depth of 4103 m in the Late Jurassic Statfjord Formation. A 17 1/2" pilot hole was drilled from 197- 907 m and then opened to 26". Sand layers were encountered at 214 m and 259 m RKB, and MWD measurements showed no indication of shallow gas. Drilling proceeded without any significant problems down to 1366 m where metamorphic gravel plugged the bit so that it had to be changed. During clean-up of the hole, mud was lost to the sand formation at 890 m to 1000 m. "Lost circulation material" (LCM) was pumped into the well to isolate it. The well was in periods unstable.

The Frigg Formation was water bearing. The gas readings were at times very high (up to 80 %). There was danger of losing the mud in Turonian limestone. Some fractures were observed higher up in the section. There were traces of gas in the limestone. Top Vestland Group came in at 3685.5 m, 112 m deeper than prognosed. The reason for this was assumed to be that the top of the Vestland Group had been faulted. The fluid contact was set to 3701 m. Analysis of this showed that it was a condensate column of 15 m. A total of five cores were cut. Core 1 was a "junk core". Cores 2 & 3 were cut in the Vestland Group and core 4 in the Dunlin Group. Core 4 was for geochemical studies. Core 5 was cut in the Statfjord Formation. RFT fluid sampling at 3697.2 m gave recovered 3.5 l mud filtrate, 1.1 l condensate/oil, and 1.8 Sm³ gas.

When the Statfjord Formation was found water bearing, the NPD permitted EAN to change TD from 4225 m (Triassic) to 4100 m (113 m into the Statfjord Formation). It was plugged and abandoned as a gas/condensate appraisal.

Testing

One DST test was attempted in the interval 3685.5 m to 3690.5 m, but had to be stopped due to large sand production.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
910.00	4100.00



Cuttings available for sampling?	YES
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Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
2	3685.0	3686.1	[m]
3	3690.0	3715.4	[m]
4	3943.0	3952.2	[m]
5	3994.0	4019.0	[m]

Total core sample length [m]	60.7
Cores available for sampling?	YES

Core photos



3685-3686m



3685-3686m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



3690-3715m



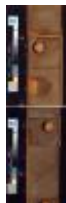
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3690-3715m



3690-3715m



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3690-3715m



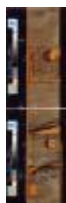
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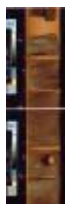
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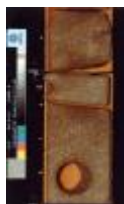
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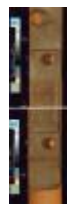
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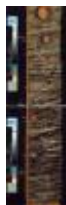
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3690-3715m



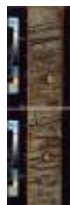
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3690-3715m



3690-3715m



3690-3715m



3690-3715m



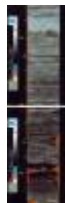
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3948-3952m



3994-4019m



3994-4019m



3994-4019m



3994-4019m



3994-4019m



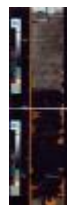
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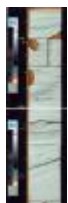
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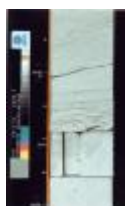
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3994-4019m



3994-4019m



3994-4019m



3994-4919m



3994-4019m



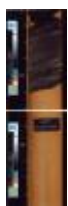
3994-4019m



3994-4019m



3994-4019m



3994-4019m

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
137	NORDLAND GP
416	UTSIRA FM



1020	HORDALAND GP
1073	SKADE FM
1110	NO FORMAL NAME
1210	GRID FM
1255	NO FORMAL NAME
1427	GRID FM
1440	NO FORMAL NAME
2042	FRIGG FM
2169	ROGALAND GP
2169	BALDER FM
2182	INTRA BALDER FM SS
2286	SELE FM
2300	HERMOD FM
2350	SELE FM
2419	LISTA FM
2492	VÅLE FM
2580	TY FM
2622	SHETLAND GP
2622	HARDRÅDE FM
2850	KYRRE FM
3333	TRYGGVASON FM
3550	BLODØKS FM
3572	SVARTE FM
3606	CROMER KNOLL GP
3606	RØDBY FM
3614	VIKING GP
3614	DRAUPNE FM
3634	HEATHER FM
3686	VESTLAND GP
3686	HUGIN FM
3713	SLEIPNER FM
3800	DUNLIN GP
3800	COOK FM
3876	AMUNDSEN FM
3990	STATFJORD GP

Composite logs





Document name	Document format	Document size [MB]
1290	pdf	0.60

Geochemical information

Document name	Document format	Document size [MB]
1290_1	pdf	1.67
1290_2	pdf	1.15

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
1290_01_WDSS_General_Information	pdf	0.24
1290_02_WDSS_completion_log	pdf	0.28

Documents - reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
1290_25_2_12_COMPLETION_REPORT_AND_LOG	pdf	32.58

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3686	3691	0.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					





Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	648	3780
CST GR	1021	2469
DIL SLS GR SP	880	4101
DLL MSFL GR	3593	3818
FMS GR	3412	4013
LDL CNL NGT GR	3415	4103
LDL GR	890	3383
MWD	199	4090
RFT GR	3687	3797
VSP	199	3800

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
CONDUCTOR	30	197.0	36	199.0	0.00	LOT
SURF.COND.	20	890.0	26	912.0	1.25	LOT
INTERM.	13 3/8	2848.0	17 1/2	2879.0	1.88	LOT
INTERM.	9 5/8	3412.0	12 1/4	3512.0	2.05	LOT
LINER	7	4102.0	8 1/2	4102.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1195	1.12	43.0	16.6	WATER BASED	27.07.1988
1355	1.14	35.0	14.2	WATER BASED	28.07.1988
1367	1.13	32.0	10.7	WATER BASED	29.07.1988
1508	1.14	33.0	10.7	WATER BASED	01.08.1988
1707	1.17	35.0	12.7	WATER BASED	01.08.1988
1993	1.20	30.0	9.8	WATER BASED	10.08.1988
2054	1.19	29.0	12.2	WATER BASED	11.08.1988
2134	1.19	34.0	13.7	WATER BASED	12.08.1988
2134	1.19	30.0	10.7	WATER BASED	15.08.1988



2296	1.19	30.0	10.7	WATER BASED	15.08.1988
2427	1.19	32.0	12.7	WATER BASED	15.08.1988
2453	1.22	32.0	12.2	WATER BASED	16.08.1988
2572	1.22	28.0	11.7	WATER BASED	19.08.1988
2594	1.22	23.0	10.7	WATER BASED	19.08.1988
2599	1.24	28.0	9.3	WATER BASED	22.08.1988
2607	1.24	27.0	10.7	WATER BASED	22.08.1988
2629	1.24	26.0	10.7	WATER BASED	23.08.1988
2651	1.24	24.0	10.7	WATER BASED	24.08.1988
2688	1.24	25.0	9.8	WATER BASED	25.08.1988
2736	1.24	24.0	11.7	WATER BASED	26.08.1988
2767	1.24	27.0	12.7	WATER BASED	29.08.1988
2795	1.24	35.0	12.7	WATER BASED	30.08.1988
2863	1.26	34.0	13.7	WATER BASED	31.08.1988
2867	1.28	36.0	11.7	WATER BASED	02.09.1988
2867	1.30	23.0	10.7	WATER BASED	05.09.1988
2879	1.50	34.0	9.3	WATER BASED	14.09.1988
2936	1.53	35.0	9.8	WATER BASED	15.09.1988
2958	1.53	34.0	9.3	WATER BASED	16.09.1988
3021	1.53	36.0	13.7	WATER BASED	19.09.1988
3157	1.66	36.0	10.2	WATER BASED	19.09.1988
3221	1.74	37.0	9.8	WATER BASED	20.09.1988
3281	1.79	33.0	9.8	WATER BASED	21.09.1988
3325	1.85	35.0	9.8	WATER BASED	22.09.1988
3369	1.85	36.0	9.8	WATER BASED	26.09.1988
3392	1.85	33.0	9.8	WATER BASED	26.09.1988
3803	1.92	49.0	11.7	WATER BASED	14.10.1988
3910	1.92	53.0	13.7	WATER BASED	20.10.1988
3948	1.92	58.0	13.7	WATER BASED	24.10.1988
3982	1.92	52.0	10.7	WATER BASED	24.10.1988
4008	1.92	53.0	13.7	WATER BASED	24.10.1988
4052	1.92	50.0	13.7	WATER BASED	24.10.1988

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.





Document name	Document format	Document size [MB]
1290 Formation pressure (Formasjonstrykk)	pdf	0.22

