



General information





Wellbore name	25/1-9
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	25/1-9 (Litjklakken)
Well name	25/1-9
Seismic location	NH 8603 - 405 SP. 175
Production licence	129
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	528-L
Drilling facility	TREASURE SCOUT
Drilling days	33
Entered date	09.09.1986
Completed date	12.10.1986
Release date	12.10.1988
Publication date	27.02.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	EOCENE
1st level with HC, formation	FRIGG FM
Kelly bushing elevation [m]	23.0
Water depth [m]	112.0
Total depth (MD) [m RKB]	2807.0
Final vertical depth (TVD) [m RKB]	2807.0
Maximum inclination [°]	2.8
Bottom hole temperature [°C]	88
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	JORSALFARE FM
Geodetic datum	ED50
NS degrees	59° 50' 13.34" N
EW degrees	2° 13' 30.24" E
NS UTM [m]	6633671.53
EW UTM [m]	456562.10
UTM zone	31
NPDID wellbore	1001



Wellbore history

General

Well 25/1-9 was drilled nearby and south of the Frigg structure close to the UK boarder, and was designed to prove possible hydrocarbon accumulation in the Frigg Formation and "Cod" sandstone (Intra Balder Formation Sandstone). A main objective was to verify the seismo-stratigraphic interpretation in block 25/1. In addition, the well was expected to obtain valuable data input to the Frigg Field reservoir simulation study. The prognosed depth was 2813 m, 50 m into the Shetland Group.

Operations and results

Wildcat well 25/1-9 was spudded with Wi1h. Wi1helmsen installation Treasure Scout 9 September 1996 and drilled to TD at 2807 m in the Late Cretaceous Hardråde Formation. Drilling proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 990 m, with KCl/polymer mud from 990 m to 1965 m, and with PAC/polymer/seawater from 1965 m to TD

The Frigg Formation was encountered at 2035 m. It consisted of very fine to fine, hard sandstones with poor reservoir characteristics down to 2051 m. From 2051 m to 2199 m the lithology was predominantly massive sandstone with excellent reservoir characteristics. Occasional stringers of claystone and what was interpreted as concretions of calcite-cemented sandstone occurred throughout the section. The lower part, from 2196 m to 2237 m was claystone with a3 m conglomerate at the base.

Hydrocarbons were encountered in the Frigg Formation with 2.6 m net pay of gas down to 2054 m and 6.9 m net pay oil down to a free water level at 2063 m. RFT pressure measurements gave an oil gradient corresponding to a fluid density of 0.81 g/cm³. Pore pressure indicated pressure depletion due to production from the Frigg Field. RFT data indicated that the Frigg Formation contains small reserves and the discovery was considered uneconomic.

The gas/oil contact was defined at 2054 m, and the oil/water contact at 2063 m. Only very weak shows were recorded in the underlying water zone and Intra Balder Formation Sandstone. Two segregated fluid samples were taken, one in the gas zone and one in the oil zone. Four cores were cut in the interval 2048 - 2111 m, and one core was cut in the interval 2234 - 2256 m. The Frigg Formation came in at 2035 m as prognosed. The well was permanently abandoned as an oil and gas discovery 12 October 1986.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1000.00	2807.00

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
1	2048.0	2049.2	[m]
2	2049.5	2068.0	[m]
3	2068.0	2087.2	[m]
4	2088.5	2107.0	[m]
5	2234.0	2255.0	[m]

Total core sample length [m]	78.4
Cores available for sampling?	YES

Core photos

2048-2049m



2049-2053m



2054-2058m



2059-2063m



2064-2067m



2068-2072m



2073-2077m



2078-2082m



2083-2087m



2088-2092m



2093-2097m



2098-2102m



2103-2107m



2234-2238m



2239-2243m



2244-2248m



2249-2253m



2254-2255m

**Palynological slides at the Norwegian Offshore Directorate**

Sample depth	Depth unit	Sample type	Laboratory
2055.0	[m]	C	R.R.I
2076.0	[m]	C	R.R.I
2090.0	[m]	C	R.R.I
2200.0	[m]	SWC	R.R.I
2216.0	[m]	SWC	R.R.I
2232.0	[m]	SWC	R.R.I
2235.0	[m]	C	R.R.I
2240.0	[m]	C	R.R.I
2253.0	[m]	C	R.R.I
2254.0	[m]	C	R.R.I
2261.0	[m]	SWC	R.R.I
2287.0	[m]	SWC	R.R.I
2334.0	[m]	SWC	R.R.I
2340.5	[m]	SWC	R.R.I
2347.0	[m]	SWC	R.R.I
2369.5	[m]	SWC	R.R.I
2377.0	[m]	SWC	R.R.I
2385.0	[m]	SWC	R.R.I
2393.5	[m]	SWC	R.R.I
2407.5	[m]	SWC	R.R.I
2416.0	[m]	SWC	R.R.I
2427.0	[m]	SWC	R.R.I
2443.0	[m]	SWC	R.R.I

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
135	NORDLAND GP
367	UTSIRA FM
990	HORDALAND GP
2035	FRIGG FM
2237	ROGALAND GP
2237	INTRA BALDER FM SS
2332	BALDER FM



2373	SELE FM
2402	HERMOD FM
2420	LISTA FM
2452	HEIMDAL FM
2480	LISTA FM
2515	HEIMDAL FM
2550	LISTA FM
2603	HEIMDAL FM
2655	LISTA FM
2668	HEIMDAL FM
2675	LISTA FM
2697	HEIMDAL FM
2757	SHETLAND GP
2757	JORSALFARE FM

Composite logs

Document name	Document format	Document size [MB]
1001	pdf	0.36

Geochemical information

Document name	Document format	Document size [MB]
1001_1	pdf	0.51

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

Document name	Document format	Document size [MB]
1001_01_WDSS_General_Information	pdf	0.21
1001_02_WDSS_completion_log	pdf	0.24

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





Document name	Document format	Document size [MB]
1001 25 1 9 COMPLETION REPORT AND LOG	pdf	13.25

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL	865	1947
CST	1968	2764
CST	1968	2347
DIL LSS GR SP	975	1915
DIL LSS GR SP	1947	2776
DIL LSS SP GR	1947	2749
DLL MSFL NSG SP GR	2025	2300
LDL CNL GR CAL	1947	2756
LDL GR CAL	975	1915
MWD - GR RES DIR	135	2807
NGS	2025	2300
RFT	2052	2056
RFT	2052	2736
RFT	2054	2547
SHDT	1947	2757
VSP	1000	2780

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	221.0	36	221.0	0.00	LOT
SURF.COND.	20	974.0	26	990.0	1.33	LOT
INTERM.	13 3/8	1947.0	17 1/2	1965.0	1.74	LOT
OPEN HOLE		2807.0	12 1/4	2807.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
170	1.03			WATER	14.10.1986





221	1.15			WATER	09.09.1986
453	1.15			WATER	10.09.1986
621	1.03			WATER	14.09.1986
990	0.00			WATER	14.09.1986
990	0.00	14.0	7.0	WATER	15.09.1986
990	1.15			WATER	11.09.1986
1034	1.13	10.0	7.0	WATER	16.09.1986
1300	1.15	14.0	11.0	WATER	17.09.1986
1715	1.16	13.0	10.0	WATER	18.09.1986
1797	1.09	16.0	9.0	WATER	09.10.1986
1940	1.16	12.0	10.0	WATER	21.09.1986
1965	1.20	14.0	8.0	WATER	21.09.1986
1965	0.00	14.0	10.0	WATER	21.09.1986
1965	0.00	14.0	10.0	WATER	22.09.1986
1974	1.08	10.0	9.0	WATER	23.09.1986
2050	1.08	13.0	10.0	WATER	24.09.1986
2089	1.08	15.0	8.0	WATER	25.09.1986
2111	1.08	14.0	9.0	WATER	28.09.1986
2234	1.08	17.0	13.0	WATER	28.09.1986
2244	1.08	18.0	13.0	WATER	28.09.1986
2319	1.08	18.0	12.0	WATER	29.09.1986
2511	1.08	18.0	14.0	WATER	30.09.1986
2602	1.09	18.0	14.0	WATER	01.10.1986
2702	1.09	18.0	12.0	WATER	02.10.1986
2723	1.09	17.0	11.0	WATER	05.10.1986
2807	1.08	19.0	13.0	WATER	05.10.1986
2807	0.00	19.0	12.0	WATER	05.10.1986
2807	0.00	16.0	11.0	WATER	07.10.1986
2807	0.00	15.0	11.0	WATER	08.10.1986
2807	0.00	16.0	12.0	WATER	06.10.1986

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]
1001 Formation pressure (Formasjonstrykk)	pdf	0.22

