



General information

Wellbore name	25/5-2
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	FRØY
Discovery	25/5-1 Frøy
Well name	25/5-2
Seismic location	EL 8801-3D rad 204 & rekke 1008
Production licence	102
Drilling operator	Elf Petroleum Norge AS
Drill permit	606-L
Drilling facility	WEST VANGUARD
Drilling days	78
Entered date	18.04.1989
Completed date	04.07.1989
Release date	04.07.1991
Publication date	17.12.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	SLEIPNER FM
Kelly bushing elevation [m]	22.0
Water depth [m]	117.0
Total depth (MD) [m RKB]	3304.0
Final vertical depth (TVD) [m RKB]	3302.0
Maximum inclination [°]	5
Bottom hole temperature [°C]	109
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	59° 42' 13.28" N
EW degrees	2° 32' 8.58" E



NS UTM [m]	6618657.96
EW UTM [m]	473870.96
UTM zone	31
NPDID wellbore	1346

Wellbore history

General

Well 25/5-2 was designed to drill the Frøy structure, which is a NNE-SSW tilted Jurassic fault block located in the northeastern corner of block 25/5. The main objectives of the well were to prove the Southward continuity and extension of the Middle Jurassic reservoir, to determine the OWC in the Frøy Field, to test the productivity in the oil zone, and to test the injectivity in the water zone. The northern extension of the Frøy structure was drilled in 1977 by well 25/2-6 in a down dip position and proved limited oil shows in the Staffjord Formation. Wells 25/5-1 and 25/5-1 A were drilled in 1987 in the central part of the structure, and found oil in the Vestland Group sandstones.

Operations and results

Wildcat well 25/5-2 was spudded with the semi-submersible rig West Vanguard on 18 April 1989 and completed 4 July 1989 at a depth of 3304 m in the Early Jurassic Drake Formation. Drilling went without problems to 2300 m where the bit became stuck after a wiper trip, and the string was backed off at 2231 m. A technical sidetrack was started from 2103 m. The string entered into the old hole, and a second sidetrack was started from 2070 m. Below the 9 5/8" casing at 3066 m BSX mud, based on seawater with added NaCl and polymers, was used. The MWD measurements showed no indication of shallow gas. The Vestland Group, Hugin Formation, came in at 3186 m, 67 m deeper than expected. Hydrocarbons were encountered at the top reservoir with the oil water contact at 3198 m (3176 m TVD MSL), which is 50 m deeper than the estimated OWC in well 25/5-1 A. Still, RFT Pressure measurements in the oil column indicate pressure communication with the oil column in well 25/5-1. A total of 4 cores were cut down to 3226 m. The well was plugged and abandoned as an oil appraisal well.

Testing

Two drill stem tests were performed. Test 1 was a production and injection test in the Middle Vestland Group water zone from 3222 m to 3228 m. In the first attempt, DST 1A, scaling precipitated and blocked the jet pump when seawater came in contact with formation water. In the second attempt, DST 1B, injection was achieved using treated seawater. Test 2 was a production test at the oil/water contact in the interval 3196 m to 3201 m. This interval produced water and oil at maximum rates 56 m³/day and 202 Sm³/day, respectively. The oil was produced with a GOR of 168 Sm³/Sm³.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
220.00	3304.00

Cuttings available for sampling?	YES
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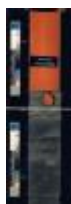


Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3176.0	3194.0	[m]
2	3194.0	3196.7	[m]
3	3197.0	3215.2	[m]
4	3215.2	3226.5	[m]

Total core sample length [m]	50.2
Cores available for sampling?	YES

Core photos



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3176-3194m



3716-3194m



3176-3194m



3194-3196m



3194-3196m



3194-3196m



3194-3196M



3194-3196M



3197-3215M



3197-3215M



3197-3215M



3197-3215M



3197-3215M



3197-3215m



3197-3215m



3197-3215m



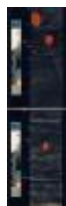
3197-3215m



3197-3215m



3197-3215m



3197-3215m



3197-3215m



3197-3215m



3197-3215m



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3197-3215m



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3197-3215m



3197-3215m



3197-3215m



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3197-3215m



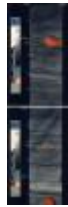
3197-3215m



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3197-3215m



3197-3215m



3197-3215m



3197-3215m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3225-3226m



3215-3226m



3215-3226m



3225-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m



3215-3226m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2160.0	[m]	DC	PETROSTR
2170.0	[m]	DC	PETROS
2180.0	[m]	DC	PETROS
2190.0	[m]	DC	PETROS
2200.0	[m]	DC	PETROS
2210.0	[m]	DC	PETROS
2220.0	[m]	DC	PETROS
2230.0	[m]	DC	PETROS
2240.0	[m]	DC	PETROS
2250.0	[m]	DC	PETROS
2260.0	[m]	DC	PETROS
2270.0	[m]	DC	PETROS
2280.0	[m]	DC	PETROS
2290.0	[m]	DC	PETROS
2300.0	[m]	DC	PETROS



2310.0	[m]	DC	PETROS
2320.0	[m]	DC	PETROS
2330.0	[m]	DC	PETROS
2340.0	[m]	DC	PETROS
2350.0	[m]	DC	PETROS
2360.0	[m]	DC	PETROS
2370.0	[m]	DC	PETROS
2380.0	[m]	DC	PETROS
2390.0	[m]	DC	PETROS
2400.0	[m]	DC	PETROS
2410.0	[m]	DC	PETROS
2420.0	[m]	DC	PETROS
2430.0	[m]	DC	PETROS
2440.0	[m]	DC	PETROS
2450.0	[m]	DC	PETROS
2460.0	[m]	DC	PETROS
2470.0	[m]	DC	PETROS
2480.0	[m]	DC	PETROS
2490.0	[m]	DC	PETROS
2500.0	[m]	DC	PETROS
2510.0	[m]	DC	PETROS
2520.0	[m]	DC	PETROS
2530.0	[m]	DC	PETROS
2540.0	[m]	DC	PETROS
2550.0	[m]	DC	PETROS
2560.0	[m]	DC	PETROS
2570.0	[m]	DC	PETROS
2580.0	[m]	DC	PETROS
2590.0	[m]	DC	PETROS
2600.0	[m]	DC	PETROS
2610.0	[m]	DC	PETROS
2620.0	[m]	DC	PETROS
3179.7	[m]	C	APT
3179.8	[m]	C	OD
3180.0	[m]	C	APT
3180.1	[m]	C	APT
3180.5	[m]	C	OD
3180.5	[m]	C	APT
3180.6	[m]	C	APT
3180.9	[m]	C	APT



3181.5 [m]	C	APT
3181.8 [m]	C	APT
3185.4 [m]	C	APT
3186.6 [m]	C	OD
3187.8 [m]	C	APT
3188.9 [m]	C	APT
3189.1 [m]	C	APT
3189.9 [m]	C	APT
3190.2 [m]	C	APT
3190.5 [m]	C	OD
3192.4 [m]	C	APT
3195.3 [m]	C	APT
3195.5 [m]	C	OD
3195.5 [m]	C	APT
3196.0 [m]	C	APT
3196.4 [m]	C	APT
3196.5 [m]	C	APT
3197.4 [m]	C	OD
3197.5 [m]	C	APT
3197.9 [m]	C	APT
3198.8 [m]	C	APT
3201.6 [m]	C	APT
3201.9 [m]	C	OD
3202.2 [m]	C	APT
3202.9 [m]	C	OD
3203.0 [m]	C	APT
3203.5 [m]	C	APT
3205.6 [m]	C	APT
3205.6 [m]	C	OD
3206.9 [m]	C	APT
3207.3 [m]	C	OD
3208.9 [m]	C	APT
3209.7 [m]	C	APT
3210.4 [m]	C	APT
3210.8 [m]	C	APT
3210.9 [m]	C	OD
3211.0 [m]	C	APT
3211.9 [m]	C	APT
3212.4 [m]	C	APT
3212.8 [m]	C	OD



3213.4	[m]	C	APT
3213.9	[m]	C	OD
3216.0	[m]	C	APT
3216.4	[m]	C	OD
3216.5	[m]	C	APT
3217.9	[m]	C	APT
3219.9	[m]	C	OD
3221.6	[m]	C	APT
3221.6	[m]	C	APT
3221.8	[m]	C	APT
3222.2	[m]	C	APT
3222.7	[m]	C	OD
3223.4	[m]	C	APT
3224.3	[m]	C	APT
3224.9	[m]	C	APT
3224.9	[m]	C	OD
3225.2	[m]	C	APT
3225.6	[m]	C	APT
3225.7	[m]	C	APT
3226.0	[m]	C	APT
3226.2	[m]	C	APT
3226.5	[m]	C	APT
3226.5	[m]	C	OD

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST	DST2	3196.00	3201.00		27.06.1989 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
139	NORDLAND GP
470	UTSIRA FM
555	NO FORMAL NAME
700	HORDALAND GP



700	SKADE FM
1092	NO FORMAL NAME
1388	GRID FM
1448	NO FORMAL NAME
2160	ROGALAND GP
2160	BALDER FM
2222	INTRA BALDER FM SS
2292	LISTA FM
2502	TY FM
2607	VÅLE FM
2630	SHETLAND GP
2630	HARDRÅDE FM
2855	KYRRE FM
2980	CROMER KNOLL GP
2980	SOLA FM
2990	ÅSGARD FM
3008	VIKING GP
3008	DRAUPNE FM
3131	HEATHER FM
3186	VESTLAND GP
3186	HUGIN FM
3194	SLEIPNER FM
3231	DUNLIN GP
3231	DRAKE FM

Composite logs

Document name	Document format	Document size [MB]
1346	pdf	0.43

Geochemical information

Document name	Document format	Document size [MB]
1346_1	pdf	1.12
1346_2	pdf	0.95



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

Document name	Document format	Document size [MB]
1346_01_WDSS_General_Information	pdf	0.26
1346_02_WDSS_completion_log	pdf	0.16

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

Document name	Document format	Document size [MB]
1346_25_5_2_COMPLETION_REPORT_AND_LOG	pdf	16.35

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
2.0	3196	3201	9.5

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
2.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
2.0	200	35000	0.821		170

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AMS	3066	3306
CBL VDL GR	1690	3262
DIL GR SLS	1186	3057
DIS GR SLS	3066	3306
DLL MSFL GR SP	3066	3302
EVA	3065	3307
FMS GR	3066	3306





HP RFT GR	3188	3226
LDL CNL NGS	3066	3306
LDL GR	1186	3047
MWD	139	3304
SHDT GR	1186	3058
VSP	1220	3240

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	212.0	36	212.0	0.00	LOT
INTERM.	13 3/8	1185.0	17 1/2	1200.0	1.85	LOT
INTERM.	9 5/8	3062.0	12 1/4	3077.0	1.81	LOT
LINER	7	3304.0	8 1/2	3304.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
212	1.08			WATER BASED	21.04.1989
888	1.08			WATER BASED	24.04.1989
1467	1.09	16.0	10.2	WATER BASED	26.04.1989
1741	1.13	15.0	11.2	WATER BASED	27.04.1989
2016	1.25	44.0	17.6	WATER BASED	08.05.1989
2044	1.13	18.0	13.7	WATER BASED	28.04.1989
2109	1.13	17.0	12.7	WATER BASED	02.05.1989
2120	1.25	31.0	15.6	WATER BASED	05.05.1989
2190	1.26	363.0	10.7	WATER BASED	08.05.1989
2232	1.25	34.0	14.7	WATER BASED	05.05.1989
2248	1.27	35.0	12.2	WATER BASED	09.05.1989
2329	1.15	21.0	13.7	WATER BASED	02.05.1989
2414	1.27	35.0	15.1	WATER BASED	11.05.1989
2508	1.27	33.0	16.1	WATER BASED	12.05.1989
2767	1.26	32.0	14.7	WATER BASED	18.05.1989
2781	1.26	35.0	15.6	WATER BASED	19.05.1989
2901	1.27	29.0	13.7	WATER BASED	22.05.1989
2952	1.26	31.0	12.7	WATER BASED	22.05.1989
3014	1.26	32.0	14.7	WATER BASED	23.05.1989



3077	1.26	33.0	15.1	WATER BASED	24.05.1989
3078	1.11	20.0	15.1	WATER BASED	30.05.1989
3115	1.11	17.0	16.6	WATER BASED	30.05.1989
3177	1.12	18.0	17.6	WATER BASED	31.05.1989
3197	1.13	20.0	17.6	WATER BASED	01.06.1989
3215	1.13	21.0	17.6	WATER BASED	02.06.1989
3241	1.13	181.0	16.6	WATER BASED	05.06.1989
3304	1.13	21.0	18.6	WATER BASED	05.06.1989

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]
1346 Formation pressure (Formasjonstrykk)	pdf	0.22

