

**General information**

Wellbore name	15/12-5
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VARG
Discovery	15/12-4 Varg
Well name	15/12-5
Seismic location	ST 8503 - 109 SP. 306
Production licence	038
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	507-L
Drilling facility	ROSS ISLE
Drilling days	54
Entered date	12.03.1986
Completed date	04.05.1986
Release date	04.05.1988
Publication date	06.01.2015
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	22.0
Water depth [m]	84.0
Total depth (MD) [m RKB]	3150.0
Final vertical depth (TVD) [m RKB]	3149.0
Maximum inclination [°]	3.6
Bottom hole temperature [°C]	135
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	58° 4' 53.36" N
EW degrees	1° 54' 53.24" E
NS UTM [m]	6438443.61
EW UTM [m]	435998.33



UTM zone	31
NPDID wellbore	113

Wellbore history

General

Well 15/12-5 was drilled on the Beta Central structure ca 3.3 km north-east of the 15/12-4 Varg discovery well in the North Sea. Primary objective was the Jurassic sandstones. Secondary objective was the Frigg Formation sand and fractured limestone of Cretaceous age. Seismic anomalies indicated shallow gas. Prognosed TD was 3100 m RKB in sandstone of Triassic age.

Operations and results

Well 15/12-5 was spudded with the semi-submersible installation Ross Isle on 12 March 1986 and drilled to TD at 3150 m in the Late Triassic Skagerrak Formation. No shallow gas was encountered. Drilling proceeded without significant problems. The well was drilled with Spud mud down to 217 m, with gel/seawater/XC-polymer from 217 m to 619 m, with gypsum/polymer mud from 619 m to 2889 m, and with gel/lignosulphonate/lignite from 2889 m to TD.

Top Cretaceous came in at 2457 m, and top Jurassic at 2841 m. Top of the reservoir, an Oxfordian sandstone, was encountered at 2918 m with good shows. The OWC was found at 2942 m, 28 m below that of well 15/12-4. This is probably due to a flow barrier caused by the fault system with a maximum throw of ca 100 m that separates the Beta West and Beta Central structures. Due to FMT pressure measurements and fluid samples, Statoil decided to go for "sole risk" testing, since Esso denied participating in the testing program.

Three cores were cut in the interval 2892 m to 2967 m with 100% recovery. The core-log depth shifts were small, in the range 0.0 to -0.5 m for all three cores. FMT fluid samples were taken at 2919.3 m (oil), 2923.5 m, 2937.0 m (oil), and at 2941.5 m (water mud filtrate and a little oil).

The well was permanently abandoned on 4 May 1986 as an oil appraisal of the Varg Field.

Testing

One DST test was performed in the interval 2926 m to 2936 m. The test produced 520 Sm³ oil and 42000 Sm³ gas /day through a 40/64" choke. The GOR was 81 Sm³/Sm³, oil gravity was 0,909 g/cm³, and the gas gravity was 0.795 (air = 1). The test temperature was 127 °C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
240.00	3150.00

Cuttings available for sampling?	NO
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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	2892.0	2904.0	[m]
2	2910.5	2938.5	[m]
3	2939.0	2967.0	[m]

Total core sample length [m]	68.0
Cores available for sampling?	YES

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	FMT2	2937.00	2937.00		20.04.1986 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
106	NORDLAND GP
1024	UTSIRA FM
1247	HORDALAND GP
2276	ROGALAND GP
2276	BALDER FM
2291	SELE FM
2325	LISTA FM
2418	MAUREEN FM
2439	SHETLAND GP
2439	EKOFISK FM
2457	TOR FM
2615	HOD FM
2740	BLODØKS FM
2792	CROMER KNOLL GP
2792	RØDBY FM
2827	SOLA FM



2841	VIKING GP
2841	DRAUPNE FM
2888	HEATHER FM
2918	VESTLAND GP
2918	HUGIN FM
3077	HEGRE GP
3077	SKAGERRAK FM

Geochemical information

Document name	Document format	Document size [MB]
113_GCH_1	pdf	0.12
113_GCH_2	pdf	4.11
113_GCH_3	pdf	4.17
113_GCH_4	pdf	0.13

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

Document name	Document format	Document size [MB]
113_01_WDSS_General_Information	pdf	0.24
113_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]
113_15_12_5_Completion_log	pdf	1.67
113_15_12_5_Completion_report	pdf	18.98

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2926	2936	15.9





Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	33.000	24.000	34.000	

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	560	46000	0.900		81

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ACBL VDL GR	100	3100
CDL CNL GR CAL	217	3150
COREGUN	2280	2885
COREGUN	2879	3138
DIFL ACL GR SP CAL	217	3150
DIP	2876	3150
FMT	2919	3009
FMT	2933	2950
FMT	2937	0
MLL GR	2875	3134
MWD	106	2883
VSP	285	3150

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	217.0	36	217.0	0.00	LOT
SURF.COND.	20	597.0	26	618.0	1.37	LOT
INTERM.	13 3/8	1608.0	17 1/2	1625.0	1.72	LOT
INTERM.	9 5/8	2875.0	12 1/4	2892.0	2.18	LOT
LINER	7	3149.0	8 1/2	3150.0	0.00	LOT

Drilling mud



Factpages

Wellbore / Exploration

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Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
217	1.10		10.0	WATER BASED	17.03.1986
217	1.10	6.0	13.4	WATER BASED	17.03.1986
618	1.16	7.0	17.0	WATER BASED	20.03.1986
698	1.10	52.0	8.0	WATER BASED	24.03.1986
1068	1.10	54.0	8.5	WATER BASED	02.04.1986
1337	1.11	52.0	8.1	WATER BASED	02.04.1986
1600	1.57	20.0	4.3	WATER BASED	02.05.1986
1622	1.18	52.0	9.0	WATER BASED	02.04.1986
1622	1.22	55.8	8.5	WATER BASED	02.04.1986
1768	1.22	60.0	8.6	WATER BASED	02.04.1986
2084	1.27	63.0	8.6	WATER BASED	02.04.1986
2223	1.27	65.0	9.1	WATER BASED	02.04.1986
2341	1.57	60.0	11.0	WATER BASED	03.04.1986
2445	1.57	32.0	10.0	WATER BASED	04.04.1986
2445	1.57	32.0	10.0	WATER BASED	07.04.1986
2570	1.57	31.0	8.6	WATER BASED	07.04.1986
2590	1.57	30.0	8.6	WATER BASED	07.04.1986
2687	1.57	30.0	8.6	WATER BASED	09.04.1986
2735	1.57	33.0	9.1	WATER BASED	09.04.1986
2798	1.57	30.0	8.6	WATER BASED	10.04.1986
2840	1.57	31.0	8.6	WATER BASED	11.04.1986
2876	1.57	30.0	9.1	WATER BASED	14.04.1986
2885	1.35	19.0	6.2	WATER BASED	30.04.1986
2889	1.57	30.0	9.1	WATER BASED	14.04.1986
2889	1.57	28.0	8.6	WATER BASED	14.04.1986
2892	1.35	26.0	7.2	WATER BASED	16.04.1986
2918	1.35	18.0	6.2	WATER BASED	17.04.1986
2965	1.35	17.0	5.3	WATER BASED	18.04.1986
2966	1.35	20.0	6.2	WATER BASED	23.04.1986
3150	1.35	19.0	5.3	WATER BASED	23.04.1986
3150	1.35	19.0	6.2	WATER BASED	25.04.1986

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
2944.30	[m]

**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]
113 Formation pressure (Formasjonstrykk)	pdf	0.22

