General information

Wellbore name	2/2-3
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	2/2-3
Seismic location	SG 8252 - 258 SP 301
Production licence	066
Drilling operator	Saga Petroleum ASA
Drill permit	362-L
Drilling facility	TREASURE SAGA
Drilling days	97
Entered date	04.02.1983
Completed date	11.05.1983
Release date	11.05.1985
Publication date	24.09.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	27.0
Water depth [m]	65.0
Total depth (MD) [m RKB]	4100.0
Final vertical depth (TVD) [m RKB]	4096.0
Maximum inclination [°]	8
Bottom hole temperature [°C]	138
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SMITH BANK FM
Geodetic datum	ED50
NS degrees	56° 47' 36.42'' N
EW degrees	3° 25' 38.14'' E
NS UTM [m]	6294616.14
EW UTM [m]	526100.02
UTM zone	31
NPDID wellbore	3

Wellbore history

General

The wildcat 2/2-3 was drilled on a domal structure, south of the Ula-Gyda fault zone. Main objective was Late Jurassic sandstone in the Vestland Group. Secondary target was Middle Jurassic and Late Triassic sandstones.

According to the license agreement the well should be drilled into the Triassic, salt, or a maximum depth of 5000 m whatever came first

Operations and results

The well was spudded with the semi-submersible rig Treasure Saga on 4 February 1983 and drilled to TD at 4100 m, 170 m into the Triassic Smith Bank Formation. At 3286 m the string was lost after a wiper trip. The well had to be plugged back to 3053 m and sidetracked from this point. At 3420 m the string was again lost but was recovered. The well was drilled using water-based mud. The well was drilled with seawater and bentonite down to 655 m, with polymer/gypsum/"SST 202" mud from 655 m to 1910 m, with lignite/Drispac/gypsum mud from 1910 m to 3523 m, and with lignite/lignosulphonate mud from 3523 m to TD.

The well penetrated 2998 m of Cenozoic sediments represented by the Nordland, Hordaland and Rogaland Groups. The sequence was mainly composed of argillaceous deposits. The Oligocene Sand Unit (Vade Formation) recognized in well 2/2-1 and 2/2-2, was not established in this well. The Cretaceous sequence consisted of two lithostratgraphic units, the Chalk and Cromer Knoll Group. They were separated by an unconformity ranging from Santonian to Middle Albian. The Early Cretaceous and upper part of the Late Jurassic (Ryazanian-Middle Volgian) are highly condensed. The Late Jurassic predominantly consists of claystones of the Mandal (4m) and Farsund Formations. The Ula Formation is present from 3880 m in the bottom part of the Late Jurassic as a sandstone sequence of Early Kimmeridgian - Late Oxfordian age. The formation is resting unconformably on sediments of the Triassic Group.

The Shetland Group chalk, 2965 m to 3494 m, has 112 meters of net porous limestone with an average porosity of 21 percent. The chalk is clean. Where the porosity is highest, 3050 m to 3090 m, the well has a large wash-out. The Ula Formation was a sandstone with 19 percent mean porosity (based on core and log analyses), but with a permeability not exceeding 1 mD in any net sand found. The cored sand was well cemented. The Triassic formation that was penetrated, 3930 m to 4100 m, had 15 meters of sand with a porosity of 16 percent. The sand was more shaly than the Jurassic sand. Fifty attempts were made to get formation pressures with the FMT-tool. Because of tight formation, only one measurement (4084.5 m in the Triassic sand with 10237 psi) can be assumed correct, and even this point was of questionable quality. All porous intervals in the well were water bearing. No shows were reported from this well. One core was cut from 3887.7 m to 3905.5 m in the Ula Formation sand. No fluid sample was acquired. The well was permanently abandoned as dry on 11 May 1983.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
220.00	4100.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3887.7	3905.0	[m]

Total core sample length [m]	17.3
Cores available for sampling?	YES

Core photos


3887-3894m


3894-3901m


3901-3905m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
4035.5	[m]	SWC	OD
4079.0	[m]	SWC	OD
4088.0	[m]	SWC	OD

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
92	NORDLAND GP
1543	HORDALAND GP
2827	ROGALAND GP
2827	BALDER FM
2855	SELE FM

2906	LISTA FM
2947	MAUREEN FM
2965	SHETLAND GP
2965	EKOFISK FM
3090	TOR FM
3442	HOD FM
3494	CROMER KNOLL GP
3494	RØDBY FM
3499	SOLA FM
3523	TYNE GP
3523	MANDAL FM
3527	FARSUND FM
3880	VESTLAND GP
3880	ULA FM
3930	NO GROUP DEFINED
3930	SMITH BANK FM

Composite logs

Document name	Document format	Document size [MB]
3	pdf	0.54

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

Document name	Document format	Document size [MB]
3_01_WDSS_General_Information	pdf	0.17
3_02_WDSS_completion_log	pdf	0.34

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

Document name	Document format	Document size [MB]
3_2_2_3_COMPLETION_REPORT_AND_LOG	pdf	20.97

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CDL CNL GR	1882	3522
CDL CNL GR SPECTRALOG	3517	4099
DIFL BHC GR	214	654
DIFL BHC GR	640	1911
DIFL BHC GR	1850	3522
DIFL BHC GR	3485	4101
DIPLOG	3516	4101
FMT	3511	0
FMT	4084	0
SWC	2185	3013
SWC	3571	4088
VSP	100	4085

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	214.0	36	215.0	0.00	LOT
SURF.COND.	20	650.0	26	655.0	1.39	LOT
INTERM.	13 3/8	1897.0	17 1/2	1910.0	1.93	LOT
INTERM.	9 5/8	3516.0	12 1/4	3523.0	2.14	LOT
OPEN HOLE		4100.0	8 1/2	4100.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
450	1.10	50.0		water	
900	1.11	51.0		water	
1130	1.16	51.0		water	
1320	1.23	60.0		water	
1630	1.27	25.0		water	
1920	1.36	49.0		water	
2080	1.36	59.0		water	
2440	1.44	50.0		water	
2630	1.47	52.0		water	
2720	1.56	52.0		water	

2830	1.62	57.0		water	
3300	1.70	50.0		water	
3450	1.64	45.0		water	
4000	1.68	51.0		water	
4100	1.66	51.0		water	

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]
3_Formation_pressure_(Formasjonstrykk)	pdf	0.22