

**General information**

Wellbore name	6609/10-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6609/10-1
Seismic location	8102-415 SP 3593 & 8102-208 SP 6340
Production licence	082
Drilling operator	Saga Petroleum ASA
Drill permit	383-L
Drilling facility	TREASURE SAGA
Drilling days	28
Entered date	02.08.1983
Completed date	29.08.1983
Release date	29.08.1985
Publication date	30.06.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	26.0
Water depth [m]	262.0
Total depth (MD) [m RKB]	2167.0
Final vertical depth (TVD) [m RKB]	2167.0
Maximum inclination [°]	2.25
Bottom hole temperature [°C]	64
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	RED BEDS (INFORMAL)
Geodetic datum	ED50
NS degrees	66° 14' 42.27" N
EW degrees	9° 14' 59.5" E
NS UTM [m]	7347436.33
EW UTM [m]	511231.96
UTM zone	32
NPDID wellbore	24



Wellbore history

General

Wildcat well 6609/10-1 is located on the Trøndelag Platform outside Mid Norway. The objective was to test the entire stratigraphic column between the seabed and into the Late Triassic. The primary target of the well was Jurassic sandstones on the Nordland Ridge, secondary to test possible sand development in the Paleocene.

Operations and results

Wildcat well 6609/10-1 was spudded with the semi-submersible installation Treasure Saga on 2 August 1983 and drilled to TD at 2167 m in the Late Triassic Red Beds. The well was drilled with spud mud down to 413 m, adding some lignosulphonate (Unical) from 413 m to 1265 m, and with a full lignosulphonate mud from 1265 m to TD.

Apart from the glaciomarine sands and silts of Pleistocene age at the top, the well proved mainly clay and clay stone down to the Lower Jurassic Sandstone. In the Tertiary two unconformities were seen; a Late Miocene unconformity at 1312 m and a major unconformity at 1367 m, ranging in age from Early Eocene to Middle Miocene. The Tertiary unconformably overlies the Late Cretaceous, which in the well is of Campanian-Early Maastrichtian age. This section rests unconformably on Middle Jurassic (Late Toarcian-Early Bajocian) claystones at 1605 m. Beneath a Middle/Early Jurassic unconformity at 1642 m the well penetrated Tilje Formation Sandstone (143 m thick), the Åre Formation 1733 - 1993 m) and the Triassic Grey and Red Beds. Both the Tilje and Åre Formation sandstones had significant shale content. The drilling proved the pressure to be hydrostatic throughout the entire well. The formation pressure is approximately 170 bar at 1700 m. The sand intervals apparently belong to the same pressure regime. All sands proved water bearing. No shows were recorded in any section of the well.

As the Late Jurassic was not present in the well location the only potential source rock found in the well was the Early Jurassic - Late Triassic "Coal Unit" (Åre Formation). The entire well was found immature for any petroleum generation and no migrant hydrocarbons could be detected by organic geochemical analyses.

Two conventional cores were cut, one near the top of the Tilje Formation and one near the top of the Åre Formation. A full suit of logs was run over the sand intervals, but no fluid sample was taken.

The well was permanently abandoned on 29 August 1983 as a dry hole.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
420.00	2166.00

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	1644.0	1655.7	[m]
2	1798.0	1807.4	[m]

Total core sample length [m]	21.1
Cores available for sampling?	YES

Core photos

1644-1647m



1648-1651m



1652-1655m



1798-1802m



1802-1806m



1806-1807m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1380.0	[m]	DC	OD
1405.0	[m]	DC	OD
1475.0	[m]	SWC	PAS
1480.0	[m]	DC	OD
1485.0	[m]	SWC	PAS
1490.0	[m]	DC	OD
1495.0	[m]	SWC	PAS
1500.0	[m]	DC	OD
1505.0	[m]	DC	OD
1509.0	[m]	DC	OD



1515.0 [m]	DC	OD
1521.0 [m]	DC	OD
1524.0 [m]	DC	OD
1525.0 [m]	SWC	PAS
1530.0 [m]	DC	OD
1535.0 [m]	SWC	PAS
1539.0 [m]	DC	OD
1545.0 [m]	SWC	PAS
1551.0 [m]	DC	OD
1555.0 [m]	SWC	PAS
1565.0 [m]	SWC	PAS
1569.0 [m]	DC	OD
1572.0 [m]	DC	OD
1575.0 [m]	SWC	PAS
1578.0 [m]	DC	OD
1585.0 [m]	SWC	PAS
1590.0 [m]	DC	OD
1595.0 [m]	SWC	PAS
1600.0 [m]	SWC	PAS
1607.0 [m]	SWC	PAS
1611.0 [m]	DC	OD
1620.0 [m]	DC	OD
1620.0 [m]	SWC	PAS
1625.0 [m]	SWC	PAS
1629.0 [m]	DC	OD
1638.0 [m]	DC	OD
1644.0 [m]	DC	OD
1647.0 [m]	C	PAS
1650.0 [m]	C	PAS
1653.0 [m]	C	OD
1665.0 [m]	DC	PAS
1680.0 [m]	DC	PAS
1695.0 [m]	DC	PAS
1701.0 [m]	DC	OD
1713.0 [m]	DC	PAS
1722.0 [m]	DC	PAS
1740.0 [m]	DC	PAS
1758.0 [m]	DC	PAS
1759.0 [m]	SWC	PAS
1770.0 [m]	DC	PAS



1770.0	[m]	DC	OD
1786.0	[m]	SWC	PAS
1791.0	[m]	DC	OD
1798.1	[m]	C	PAS
1800.0	[m]	DC	OD
1805.0	[m]	C	PAS
1811.5	[m]	SWC	PAS
1826.0	[m]	SWC	PAS
1833.0	[m]	SWC	PAS
1839.0	[m]	DC	OD
1845.0	[m]	DC	PAS
1860.0	[m]	DC	PAS
1875.0	[m]	DC	PAS
1890.0	[m]	DC	PAS
1890.0	[m]	DC	OD
1905.0	[m]	DC	PAS
1920.0	[m]	DC	PAS
1935.0	[m]	DC	PAS
1941.0	[m]	DC	OD
1953.0	[m]	SWC	PAS
1965.5	[m]	SWC	PAS
1980.0	[m]	DC	PAS
1980.0	[m]	DC	OD
1997.5	[m]	SWC	PAS
2010.0	[m]	DC	PAS
2025.0	[m]	DC	PAS
2040.0	[m]	DC	PAS
2049.0	[m]	DC	OD
2057.0	[m]	SWC	PAS
2076.0	[m]	DC	PAS
2091.0	[m]	DC	PAS
2100.0	[m]	DC	OD
2100.5	[m]	SWC	PAS
2115.0	[m]	SWC	PAS
2130.0	[m]	DC	PAS
2130.0	[m]	DC	OD
2145.0	[m]	DC	PAS

Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
288	NORDLAND GP
288	NAUST FM
1312	KAI FM
1367	HORDALAND GP
1367	BRYGGE FM
1405	ROGALAND GP
1405	TARE FM
1473	TANG FM
1509	SHETLAND GP
1509	SPRINGAR FM
1605	BÅT GP
1605	ROR FM
1642	TILJE FM
1733	ÅRE FM
1993	GREY BEDS (INFORMAL)
2102	RED BEDS (INFORMAL)

Composite logs

Document name	Document format	Document size [MB]
24	pdf	0.29

Geochemical information

Document name	Document format	Document size [MB]
24_1	pdf	0.13
24_2	pdf	2.99
24_3	pdf	7.66

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

Document name	Document format	Document size [MB]
24_01_WDSS_General_Information	pdf	0.16
24_02_WDSS_completion_log	pdf	0.22



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

Document name	Document format	Document size [MB]
24_01_Completion_Report_and_Composite_log	pdf	14.44

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ACBL	300	1247
CALIPER	400	667
CDL CNL CAL GR	653	1265
CDL CNL CAL GR	1246	2167
COREGUN	1246	2167
DIFL LSBHC GR SP	413	667
DIFL LSBHC GR SP	653	1265
DIFL LSBHC GR SP	1246	2167
FMT	1246	2167
GR	262	413
HRDIP	1246	2167
SPECTRALOG	1246	2167
VELOCITY	0	0

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	413.0	36	415.0	1.38	LOT
SURF.COND.	20	654.0	26	668.0	1.56	LOT
INTERM.	13 3/8	1247.0	17 1/2	1265.0	1.87	LOT
OPEN HOLE		2166.0	12 1/4	2166.0	0.00	LOT

Drilling mud





Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
400	1.06		30.0	spud mud	
668	1.15		30.0	water based	
927	1.26		30.0	water based	
1352	1.37		30.0	water based	
1807	1.36		35.0	water based	
2130	1.27		18.0	water based	

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]
24 Formation pressure (Formasjonstrykk)	pdf	0.24

