General information

Wellbore name	6406/8-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6406/8-2
Seismic location	crossline 2968-inline 1932(TO05M01 PSDM)
Production licence	323
Drilling operator	Total E&P Norge AS
Drill permit	1124-L
Drilling facility	OCEAN VANGUARD
Drilling days	163
Entered date	28.10.2006
Completed date	08.04.2007
Release date	08.04.2009
Publication date	08.04.2009
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	21.5
Water depth [m]	363.6
Total depth (MD) [m RKB]	4700.0
Final vertical depth (TVD) [m RKB]	4697.0
Maximum inclination [°]	5
Bottom hole temperature [°C]	169
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	TILJE FM
Geodetic datum	ED50
NS degrees	64° 28' 49.95'' N
EW degrees	6° 20' 17.62'' E
NS UTM [m]	7153423.99
EW UTM [m]	372069.89
UTM zone	32
NPDID wellbore	5435

Wellbore history

General

Well 6406/8-2 was drilled to evaluate the Hans prospect, a rotated and truncated Jurassic fault block in the southern part of the Sklinna Ridge on the Halten Terrace. The primary objective of the well was to test the hydrocarbon potential of the Middle and Early Jurassic Ile, Tofte and Tilje Formations. As reservoir pressure of 795 bar and reservoir temperature of 150 deg (+/- 5 deg) were expected at top Ile Formation (-4250m TVDSS), the well was designated as High Pressure High Temperature (HPHT).

Operations and results

Well was spudded with the semi-submersible installation Ocean Vanguard on 28 October 2006 and drilled to TD at 4700m in the Early Jurassic Tilje Formation. The well was drilled and logged in 163 days of which ca 28 days were WOW. The well was drilled with seawater and hi-vis sweeps down to 1422 m, with Performadril WBM (0-5% glycol) from 1422 m to 2361 m, and with XP-07 oil based mud (15 - 35 % iso + n-alkanes) from 2361 m to TD.

A total of 123.5 m of net sands were found in the Middle to Lower Jurassic reservoirs corresponding to a NTG of 33.8%. Effective porosity averaged 15.7% with water saturation of up to 93.4%. All main objectives Ile, Tofte and Tilje Formations were water bearing, with no indication of any hydrocarbons. The only oil shows reported from the well were some very weak shows at 2890 - 2940 m in thin Springar Formation sands. Only one significant gas peak of 5.1% occurred when entering the Ile reservoir.

No coring, fluid sampling or VSP were acquired. MDT pressures acquired in Ile, Ror and Tilje Formations confirmed a water gradient of 1.02 sg. No wire line fluid samples were taken.

The well was permanently abandoned on 8 April 2007 as a dry well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1440.00	4700.00

Cuttings available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
385	NORDLAND GP

385	NAUST FM
1450	KAI FM
2022	HORDALAND GP
2022	BRYGGE FM
2710	ROGALAND GP
2710	TARE FM
2772	TANG FM
2830	SHETLAND GP
2830	SPRINGAR FM
2944	NISE FM
3167	KVITNOS FM
3563	CROMER KNOLL GP
3563	LANGE FM
4240	LYR FM
4248	FANGST GP
4248	NOT FM
4264	ILE FM
4383	BÅT GP
4383	ROR FM
4399	TOFTE FM
4468	ROR FM
4593	TILJE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ACTS GR CBL VDL	1976	2323
ACTS GR CNL TLD DSI GPIT GR	2334	3054
AIT DSI IS GR	4142	4639
AIT DSI IS LDS APS HNGS	4142	4427
DSI CH	2400	3040
DSI IS LDS APS GR ACTS ECRD	3040	4139
GR MDT	4264	4410
GR MDT	4264	4711
MWD - GABI DIR GR RES PWD	1430	1856
MWD - GR RES PWD DIR	1856	2361
MWD - GR RES PWD DIR	4152	4700
MWD - PWD AGR RES DIR	3063	4152
MWD - PWD DGR RES DIR	2361	3063

MWD - PWD GR RES DIR	466	1430
VDL CBL GR CCL	2500	4153

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	458.0	36	466.0	0.00	LOT
SURF.COND.	20	1409.0	26	1422.0	1.67	LOT
INTERM.	16	2332.0	19 3/4	2339.0	1.91	LOT
INTERM.	13 3/8	3034.0	16	3063.0	0.00	LOT
INTERM.	9 5/8	4136.0	12 1/4	4152.0	2.00	LOT
OPEN HOLE		4700.0	8 1/2	4700.0	2.14	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
958	1.20			SPUD MUD	
1200	1.02			SPUD MUD	
1430	1.20			SPUD MUD	
1610	1.50	52.0		KCL/POLYMER-GLY	
1814	1.60	29.0		KCL/POLYMER-GLY	
1855	1.60	58.0		KCL/POLYMER-GLY	
1920	1.60	47.0		KCL/POLYMER-GLY	
2064	1.60	56.0		KCL/POLYMER-GLY	
2361	1.50	21.0		KCL/POLYMER-GLY	
2380	1.70	20.0		NABM	
3063	1.78	30.0		NABM	
3562	1.78	46.0		NABM	
3900	1.92	78.0		NABM	
4032	1.91	58.0		NABM	
4045	1.85	56.0		NABM	
4152	1.91	30.0		NABM	
4338	1.91	30.0		NABM	
4603	1.91	38.0		DUMMY	
4700	1.91	58.0		NABM	