General information

Wellbore name	3/7-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	3/7-2
Seismic location	X ANO 7832 SP: 1343 +line ANO738&SP502
Production licence	023
Drilling operator	Elf Norge A/S
Drill permit	273-L
Drilling facility	DYVI ALPHA
Drilling days	83
Entered date	30.03.1981
Completed date	20.06.1981
Release date	20.06.1983
Publication date	15.02.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	52.0
Total depth (MD) [m RKB]	4330.0
Final vertical depth (TVD) [m RKB]	4330.0
Maximum inclination [°]	9.5
Bottom hole temperature [°C]	126
Oldest penetrated age	EARLY PERMIAN
Oldest penetrated formation	ROTLIEGEND GP
Geodetic datum	ED50
NS degrees	56° 29' 58.37'' N
EW degrees	4° 4' 8.36'' E
NS UTM [m]	6262331.32
EW UTM [m]	565809.72
UTM zone	31
NPDID wellbore	220

Wellbore history

General

Well 3/7-2 was drilled on a structure located across blocks 3/4 (Amoco Group) and 3/7 (Petronord Group. The primary targets were: Tertiary sands found gas bearing in well 2/3-1; Danian/Late Cretaceous limestone (chalk) hydrocarbon bearing in the Ekofisk area and in the Danish well Lulu 1; Middle Jurassic sandstones which were hydrocarbon bearing in well 2/6-2; and Rotliegendes sandstones. The TD was planned into the Carboniferous in order to establish the source potential of this formation.

Operations and results

Wildcat well 3/7-2 was spudded with the semi-submersible installation Dyvi Alpha on 30 March and drilled to TD at 4330 m in the Early Permian Rotliegendes Group. A drilling break occurred at 2534 m. Flow check at 2553 m showed a weak flow, which was controlled by raising the mud weight to 1.46 sg. Drilling resumed and was stopped at 2563 m for logging. Three days were necessary to run the electric logs because of continuous slight flow. Deviation problems were experienced in the salt. The deviation reached a maximum of 9 1/2 deg at 3659 m then was reduced to 2 1/2 deg at 4004 m. The well was drilled with a lignosulphonate mud from 2563 m to 3027 m. Below the 9 5/8" casing shoe at 3012 m the mud was displaced to a salt saturated mud.

The Eocene/Oligocene sands were found missing. Only 8 meters of sand were encountered in the Paleocene. The chalk was tight and water bearing. The Jurassic sandstones were not as developed as prognosed, and they were water bearing. No sandstones were encountered in the Rotliegendes Group, which consisted of an upper shale and a lower volcanic unit. Carboniferous sediments were not penetrated. All the targets above the salt were found water bearing while no reservoir was encountered below 4166 m (base salt, F horizon). Prognosed stratigraphy at base Cretaceous and below was in error. Base Cretaceous was encountered 115 m higher than prognosed, top salt was 209 m higher than prognosed, while base salt (F Horizon) was 150 m deeper than prognosed. The interval velocities were confirmed by the velocity surveys, so the wrong picking was due to a weak base Cretaceous reflector, Jurassic sandstones being too thin to provide good reflectors, and the reflector taken for top salt in fact was an intra-salt reflector corresponding to a thick layer of Potassium salt. Rare and weak fluorescences and cuts in the upper Jurassic Shale were the only shows recorded in the well.

Five cores were cut, three in the Danian/Late Cretaceous Limestone, one in the Middle Jurassic and one at TD in the Rotliegendes basalt. RFT sampling was performed in the Jurassic at 2909 m. The sample was opened and found to contain 9 l salted water (NaCl 115 g/l), slightly contaminated by the lignosulphonate mud. (The mud salinity was 47 g NaCl /l).

The well was permanently abandoned on 20 June 1981 as a dry well.

Testing

No drill stem test was performed in the well.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
155.00	4320.00

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	2570.0	2572.0	[m]
2	2575.5	2588.8	[m]
3	2602.0	2604.8	[m]
4	2911.0	2919.0	[m]
5	4310.0	4319.0	[m]

Total core sample length [m]	35.1
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1960.0	[m]	DC	RRI
2010.0	[m]	DC	RRI
2040.0	[m]	DC	RRI
2060.0	[m]	DC	RRI
2090.0	[m]	DC	RRI
2110.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2160.0	[m]	DC	RRI
2180.0	[m]	DC	RRI
2200.0	[m]	DC	RRI
2220.0	[m]	DC	RRI
2240.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2280.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2320.0	[m]	DC	RRI
2340.0	[m]	DC	RRI
2353.0	[m]	DC	RRI
2370.0	[m]	DC	RRI

2395.0	[m]	DC	RRI
2405.0	[m]	DC	RRI
2415.0	[m]	DC	RRI
2435.0	[m]	DC	RRI
2450.0	[m]	DC	RRI
2460.0	[m]	DC	RRI
2470.0	[m]	DC	RRI
2485.0	[m]	DC	RRI
2495.0	[m]	DC	RRI
2505.0	[m]	DC	RRI
2515.0	[m]	DC	RRI
2525.0	[m]	DC	RRI
2535.0	[m]	DC	RRI
2550.0	[m]	DC	RRI
2557.5	[m]	DC	RRI
2560.0	[m]	DC	RRI
2570.0	[m]	DC	RRI
2824.0	[m]	DC	RRI
2836.0	[m]	DC	RRI
2870.0	[m]	DC	RRI
2882.0	[m]	DC	RRI
2904.0	[m]	DC	RRI
2912.3	[m]	C	RRI
2916.5	[m]	C	RRI
2936.5	[m]	C	RRI

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
RFT		2909.00	0.00	WATER		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
77	NORDLAND GP
1403	HORDALAND GP

2456	ROGALAND GP
2456	BALDER FM
2487	SELE FM
2507	LISTA FM
2545	MAUREEN FM
2558	SHETLAND GP
2558	EKOFISK FM
2596	TOR FM
2799	CROMER KNOLL GP
2830	TYNE GP
2907	VESTLAND GP
2945	NO GROUP DEFINED
2945	SKAGERRAK FM
2998	ZECHSTEIN GP
4166	ROTLIEGEND GP

Composite logs

Document name	Document format	Document size [MB]
220	pdf	0.68

Geochemical information

Document name	Document format	Document size [MB]
220_1	pdf	0.19

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

Document name	Document format	Document size [MB]
220_01_WDSS_General_Information	pdf	0.11
220_02_WDSS_completion_log	pdf	0.31

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

Document name	Document format	Document size [MB]
220_01_3_7_2_GEOLOGICAL_COMPLETION_REPORT	PDF	21.52
220_02_3_7_2_Completion_Report	pdf	21.52
220_03_3_7_2_Completion_log	pdf	1.85
220_3_7_2_BIOSTRATIGRAPHICAL_REPORT	PDF	0.86
220_3_7_2_CALIBRATED_SONIC_AND_IMPEDANCE_LOG_ON_SEISMIC_SECTION	PDF	1.93
220_3_7_2_CORE_DESCRIPTION_CORE_1-5	PDF	0.15
220_3_7_2_FLUIDS_PROGRAM	PDF	1.97
220_3_7_2_PRELIMINARY_REPORT_CORE_1-4	PDF	0.46
220_3_7_2_SIDEWALL_CORES_DESCRIPTION	PDF	2.03

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	300	2551
CBL	2300	3012
FDC CNL GR CAL	753	2562
FDC GR CAL	148	772
HDT	1732	2560
HDT	2554	3026
HDT	3010	4293
ISF SONIC GR	148	773
ISF SONIC GR	754	1850
ISF SONIC GR	1800	2562
ISF SONIC NGT	2554	3027
ISF SONIC NGT	3010	4244
ISF SONIC NGT	4023	4324
LDL CNL GR CAL	2553	3026
LDL CNL GR CAL	3011	4243
LDL CNL GR CAL	4122	4301
NGS	3010	4244
SONIC GR	3001	4000

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	148.0	36	148.0	0.00	LOT
SURF.COND.	20	754.0	26	770.0	1.48	LOT
INTERM.	13 3/8	2554.0	17 1/2	2563.0	1.82	LOT
INTERM.	9 5/8	3012.0	12 1/4	3027.0	2.05	LOT
OPEN HOLE		4330.0	8 1/2	4330.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
170	1.15			seawater	
350	1.19			seawater	
1140	1.19	55.0		waterbased	
2450	1.40	33.0		waterbased	
2805	1.50	36.0		waterbased	
3050	1.52	32.0		waterbased	
3550	1.65	65.0		waterbased	
3930	1.70	70.0		waterbased	

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]
220_Formation_pressure_(Formasjonstrykk)	pdf	0.22