Generell informasjon

Brønnbane navn	2/5-6
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Brønn navn	2/5-6
Seismisk lokalisering	
Utvinningstillatelse	006
Boreoperatør	Amoco Norway Oil Company
Boretillatelse	196-L
Boreinnretning	NORSKALD
Boredager	95
Borestart	14.05.1978
Boreslutt	16.08.1978
Frigitt dato	16.08.1980
Publiseringsdato	02.04.2007
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	68.0
Totalt målt dybde (MD) [m RKB]	4132.0
Maks inklinasjon [°]	4.75
Temperatur ved bunn av brønnbanen [°C]	147
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	SKAGERRAK FM
Geodetisk datum	ED50
NS grader	56° 34' 13.24'' N
ØV grader	3° 37' 16.57'' E
NS UTM [m]	6269872.65
ØV UTM [m]	538176.24
UTM sone	31
NPDID for brønnbanen	261

Brønnhistorie

General

Well 2/5-6 was drilled on the Siv structure, only 800 m northeast of the 2/5-4 discovery well. The Siv structure is a north-south trending anticline. The primary objective of well 2/5-6 was to establish the possibility of Jurassic sands being present along the west side of the Mandal High and to evaluate the hydrocarbon potential of these sands on the Siv structure. Sands of this age had previously been encountered in the BP block 7/12 further to the north. In addition, the well was planned to appraise the Chalk reservoirs found to be oil-bearing by Amoco well 2/5-4.

Operations and results

Wildcat well 2/5-6 was spudded with the semi-submersible installation Norskald on 14 May 1978 and drilled to TD at 4132 m in the Triassic Skagerrak Formation. A bentonite slurry used while drilling the first two intervals, 30" casing was set at 166 m and 20" casing at 540 m. The 17 1/2" hole was drilled using a seawater native solids mud. Problems were encountered as casing point was approached, sloughing shale and tight hole proved troublesome and the mud weight was increased to 10.6 lb/gal before running 13 3/8" casing to 1852 m. The 12 1/4" hole was drilled initially with a gypsum CMC mud. Tight hole was a significant problem until a depth of approximately 2900 m. At 2950 m the mud was converted to a dispersed lignosulphonate system to obtain more stable rheological properties. This mud was used until a depth of 3967 m. Tight hole was experienced on trips at a depth of 2000 m. The pipe was stuck at 3640 m and a fish was left in the hole. The 9 5/8" casing was set above the fish at a depth of 3560 m and a technical sidetrack was performed. The 8 1/2" hole was drilled using the same mud to a depth of 3967 m. At this point, in a Middle Jurassic sand, a salt water flow high in magnesium and calcium delayed operations considerably. The mud was converted to a brine polymer type system and the mud weight was raised to 17.4 lb/gal in order to quell the salt-water flow. This mud was used to TD.

Top Paleocene (Balder Formation) was encountered at 2910 m, top Danian Chalk (Ekofisk Formation) at 3048 m, top Maastrichtian chalk (Tor Formation) at 3151 m, and top Campanian chalk (Hod Formation at 3285 m. The primary objective, the Jurassic sands were encountered at depths of 3912 m (Late Jurassic) and 3946 m (Middle Jurassic). Gross sand thickness for each interval was 13 m and 142 m respectively, with net sand thickness of 10 m and 69 m. The average porosities for these sands were 19.4% (from core) and 25-30% in the Late and Middle Jurassic, respectively. Analysis of electric logs indicated 60% water saturation in these sands and only poor shows were observed. The chalk, the secondary target, was water wet with only poor shows.

One conventional core was cut, after sidetracking, at 3915 - 3925 m in the Late Jurassic sand. A wire line FIT fluid sample was taken at 3919.5 m in the Late Jurassic sand. The sample recovered 8.5 l mud/water and 71 l gas.

The well was permanently abandoned on 16 August 1978 as a dry well with shows.

Testing

No drill stem test was performed

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
200.00	3946.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3915.0	3925.0	[m]

Total kjerneprøve lengde [m]	10.0
Kjerner tilgjengelig for prøvetaking?	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
93	NORDLAND GP
2910	ROGALAND GP
2910	BALDER FM
2923	SELE FM
2929	LISTA FM
3024	VÅLE FM
3048	SHETLAND GP
3048	EKOFISK FM
3151	TOR FM
3285	HOD FM
3596	TYNE GP
3946	VESTLAND GP
4087	NO GROUP DEFINED
4087	SKAGERRAK FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
261_1	pdf	0.31
261_2	pdf	1.67

261_3	pdf	0.21
261_4	pdf	0.39

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
261_01_WDSS_General_Information	pdf	0.21
261_03_WDSS_lithlog	pdf	0.06

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
261_01_2_5_6_Completion_Report2	pdf	22.76
261_01_2_5_6_Completion_Report_and_Completion_log	pdf	45.21

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CDM	1850	3590
CDM	3972	4135
CDM AP	1865	3585
DLL MSFL	2850	3590
DLL MSFL	3970	4135
FDC CNL	2850	4137
ISF SONIC	166	528
VELOCITY	166	4130

Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	167.0	36	168.0	0.00	LOT
SURF.COND.	20	540.0	26	541.0	0.00	LOT
INTERM.	13 3/8	1847.0	17 1/2	1850.0	0.00	LOT
INTERM.	9 5/8	3540.0	12 1/4	3542.0	0.00	LOT
LINER	7	3967.0	8 1/2	3967.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
166	1.01			bentonit	
550	1.01			bentonit	
1855	1.13			Gypsum	
2193	1.55			Gypsum	
2550	1.61			Gypsum	
2988	1.66			seaw/ligno	
3134	1.66			seaw/ligno	
3211	1.70			seaw/ligno	
3544	1.68			seaw/ligno	
3602	1.70			seaw/ligno	
3967	1.98			brine/polym	
4057	2.13			brine/polym	
4132	2.13			brine/polym	

Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
261_Formation_pressure_(Formasjonstrykk)	pdf	0.22