



Generell informasjon

Brønnbane navn	30/9-2 R
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	OSEBERG
Funn	30/6-9
Brønn navn	30/9-2
Seismisk lokalisering	ST 8006 - 117 SP 1505
Utvinningstillatelse	079
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	370-L2
Boreinnretning	TREASURE HUNTER
Boredager	38
Borestart	01.06.1986
Boreslutt	07.07.1986
Plugget og forlatt dato	07.07.1986
Frigitt dato	07.07.1988
Publiseringsdato	28.05.2003
Opprinnelig formål	WILDCAT
Gjenåpnet	YES
Årsak til gjenåpning	TESTING/PLUGGING
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	MIDDLE JURASSIC
1. nivå med hydrokarboner, formasjon.	BRENT GP
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	105.0
Totalt målt dybde (MD) [m RKB]	2830.0
Totalt vertikalt dybde (TVD) [m RKB]	2830.0
Maks inklinasjon [°]	12
Temperatur ved bunn av brønnbanen [°C]	107
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	DRAKE FM



Geodetisk datum	ED50
NS grader	60° 27' 53" N
ØV grader	2° 49' 13.03" E
NS UTM [m]	6703339.30
ØV UTM [m]	490116.41
UTM sone	31
NPDID for brønnbanen	937

Brønnhistorie

**General**

The wildcat 30/9-2 was planned as the first well on the Gamma structure in block 30/9. Well 30/6-9 had previously penetrated the structure but this well failed to encounter the oil/water contact. The primary objectives of 30/9-2 were to verify the reserve estimate for the main part of the gamma structure and penetrate the oil/water contact in the lower part of the Brent Group. Additional objectives were to obtain core material from the oil zone in the Etive Formation and perform a water injection test in this, obtain information on the quality of the reservoir in the water zone and stratigraphical information on the southern part of the Gamma structure. & The well was temporarily abandoned for about one year and then re-entered for an extended test.

Operations and results

Wildcat well 30/9-2 was spudded with the semi-submersible installation "Nortrym" on 1 April 1983 and drilled to a total depth of 2830 m in the Early Jurassic Dunlin Group. The well was drilled using water-based mud down to the 12 1/4" hole at 1715 m. The 12 1/4" hole was drilled to TD using oil based mud ("ENVIROMUL" and "IL 2832 oil" as oil base). While running the 13 3/8" casing, this got stuck at 1334 m. The casing was worked free using diesel in the mud and the casing was set at 1680 m. After drilling the 12 1/4" hole to 2203 m the drill pipe got stuck with the bit at 2170 m. Several unsuccessful attempts were made to free the pipe. The drill pipe was then backed off and the well was cemented back and sidetracked from 1482.5 m.

The Brent Group sandstones (2578-2767 m) RKB were hydrocarbon bearing down to 2737m where an oil/water contact was encountered within the Etive Formation sandstones (2698-2767m). & No additional hydrocarbon bearing reservoirs were encountered by this well. Poor hydrocarbon shows reported from Upper Cretaceous limestones were considered uninteresting. The Ness Formation (2578-2698 m) consisted of very fine to coarse-grained sandstones with interbedded shales, coals and occasional siltstones. & The Etive Formation consisted of very fine to predominantly medium grained homogeneous sandstones with pebble beds in the upper part. & The sandstones were locally micaceous and carbonaceous and contained stringers with abundant calcareous cement. & Twelve conventional cores were cut continuously from 2591 m near the top of the Ness Formation and down into the top of the Drake Formation shales at 2777 m. FMT pressure recordings and sampling were performed in the well. & Samples of oil and gas were obtained from the FMT samples at 2599.5 m (Ness Formation) and 2728 m (Etive Formation). & Samples of water/filtrate were obtained from the samples at 2639.5 m (Ness Formation) and 2755 m (Etive Formation).

The well was temporarily abandoned as an oil and gas appraisal on 12 July 1983. The well was re-entered as 30/9-2 R on 1 June 1986 for a test production. The re-entry was formally completed on 7 July, and subsequently re-classified to 30/9-T-2 for the test production. &

Testing

Four DST's were performed in the well, two in the Etive Formation (DST1 from 2738 m to 2737 m and DST2 from 2704 m to 2728 m) and two in the Ness Formation (DST3 2685 m to 2693 m and DST4 from 2595 m to 2604 m). The DST performed in the lower part of the Etive Formation was a combined production and injection test, which produced water. The other DST's produced oil and gas.



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
129	NORDLAND GP
655	UTSIRA FM
715	UNDIFFERENTIATED
867	HORDALAND GP
1114	SKADE FM
1155	NO FORMAL NAME
1167	SKADE FM
1180	NO FORMAL NAME
1233	SKADE FM
1244	NO FORMAL NAME
1269	SKADE FM
1359	NO FORMAL NAME
2014	ROGALAND GP
2014	BALDER FM
2084	SELE FM
2199	LISTA FM
2290	VÅLE FM
2303	SHETLAND GP
2303	HARDRÅDE FM
2420	KYRRE FM
2505	TRYGGVASON FM
2507	CROMER KNOLL GP
2509	VIKING GP
2509	HEATHER FM
2578	BRENT GP
2578	NESS FM
2698	ETIVE FM
2767	DUNLIN GP
2767	DRAKE FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
937_1	pdf	1.86
937_2	pdf	1.33





Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2738	2757	19.0
2.0	2704	2728	10.3
3.0	2685	2693	11.1
4.0	2595	2604	11.1

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningsstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0	11.000			104
2.0				107
3.0				104
4.0				100

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0					
2.0	401	41000	0.865	0.708	102
3.0	495	51000	0.865	0.695	102
4.0	479	58000	0.842	0.730	120

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
2724	1.25	18.0		WATER BASED	