



Generell informasjon

Brønnbane navn	31/2-2 R
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TROLL
Funn	31/2-1 (Troll Vest)
Brønn navn	31/2-2
Seismisk lokalisering	79416 SP.200
Utvinningstillatelse	054
Boreoperatør	A/S Norske Shell
Boretillatelse	241-L2
Boreinnretning	WEST VENTURE OLD
Boredager	126
Borestart	02.06.1980
Boreslutt	06.10.1980
Plugget og forlatt dato	06.10.1980
Frigitt dato	06.10.1982
Publiseringsdato	23.05.2006
Opprinnelig formål	WILDCAT
Gjenåpnet	YES
Årsak til gjenåpning	DRILLING/PLUGGING
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	32.0
Vanndybde ved midlere havflate [m]	323.0
Totalt målt dybde (MD) [m RKB]	2600.0
Totalt vertikalt dybde (TVD) [m RKB]	2599.0
Maks inklinasjon [°]	3
Temperatur ved bunn av brønnbanen [°C]	68
Eldste penetrerte alder	TRIASSIC
Eldste penetrerte formasjon	HEGRE GP



Geodetisk datum	ED50
NS grader	60° 46' 47.8" N
ØV grader	3° 37' 23.5" E
NS UTM [m]	6738597.32
ØV UTM [m]	533940.27
UTM sone	31
NPDID for brønnbanen	504

Brønnhistorie



General

Well 31/2-2 R is a re-entry of well 31/2-2, which was suspended due to rig repair after setting the 9 5/8" casing. The aim of the re-entry was to drill through the Jurassic and into the Triassic, and to conduct a drill stem test in the Late Jurassic oil and gas zones. The oil test was considered very important and should replace the abandoned test of the oil zone in well 31/2-1.

Operations and results

Well 31/2-2 was re-entered (31/2-2 R) with the semi-submersible installation West Venture on 2 June 1980. The re-entry depth was 1857 m and new formation was drilled to TD at 2600 m in the Triassic Hegre Group. The testing phase was interrupted by a 31 days strike from 14 July 1980. The well was drilled with gel and lignosulphonate from the re-entry point to TD.

The well below re-entry depth consisted of well-developed Middle to Early Jurassic sequences (Brent and Dunlin Groups, Statfjord Formation) and 100 m of Triassic Hegre Group sediments before TD was reached.

After plugging the well it proved impossible to retrieve the Temporary Guide Base, which was left on the se floor, below the mud line in a crater. The well was permanently abandoned on 6 October 1980 as a gas and oil appraisal.

Testing

A full production test was carried out over three intervals in order to test both the oil zone from 1579 m to 1591 m and the gas zone from 1544 m to 1579 m.

Test #1 from the interval 1586.5 m to 1588.5 m tested the oil zone, and a gravel pack completion and regular production string were used. A total of 42 days were spent on this test as it was of extreme importance to get this zone properly tested. A maximum flow rate of 132 Sm³/day at a GOR of 53 Sm³/Sm³ was obtained during 24 hours after acid stimulation of the well, but it declined to 76 Sm³/day during the next days. At this point operations were interrupted for a month by the strike. After the strike a further test of the oil zone was conducted, using gas lift to improve the production rates. A rate of 223 Sm³/day with a GOR of 231 Sm³/Sm³ including lift gas was obtained. After acidisation the production rate increased to some 397 Sm³/day but then declined rapidly to some 214 Sm³/day. The reported oil gravity was 25 deg API for all flows.

Test #2 of the more micaceous sand was performed over the interval from 1570 m to 1575 m without applying a gravel pack. The maximum flow obtained was 1500800 m³ gas/day. Condensate was produced at a rate of 4 bbl/MMSCF (0.0000224 Sm³ condensate/Sm³ gas). Condensate gravity was from 46.2 to 49.5 deg API.

Test #3 was in the cleaner gas sand, from 1553 m to 1562 m. It was performed with a gravel pack and maximum flow obtained was 1407300 m³ gas/day.

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST		0.00	0.00		02.07.1980 - 00:00	YES



Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
355	NORDLAND GP
650	HORDALAND GP
650	NO FORMAL NAME
703	NO FORMAL NAME
1124	ROGALAND GP
1124	BALDER FM
1205	SELE FM
1303	LISTA FM
1374	SHETLAND GP
1424	CROMER KNOLL GP
1424	RØDBY FM
1431	ÅSGARD FM
1470	VIKING GP
1470	DRAUPNE FM
1545	SOGNEFJORD FM
1665	HEATHER FM
1700	FENSFJORD FM
1848	KROSSFJORD FM
1961	HEATHER FM
1985	BRENT GP
2070	DUNLIN GP
2070	DRAKE FM
2162	COOK FM
2202	AMUNDSEN FM
2233	JOHANSEN FM
2344	AMUNDSEN FM
2360	STATFJORD GP
2500	HEGRE GP

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
504	pdf	0.42





Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
504_1	pdf	0.58
504_2	pdf	1.97
504_3	pdf	0.91
504_4	pdf	1.04

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
504_01_WDSS_General_Information	pdf	0.16

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	1554	1556	12.7
2.0	1538	1543	25.4
3.0	1521	1530	25.4

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				
3.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	128	5888	0.904		46
2.0	34	1501000	0.790		44147
3.0		1407000			





Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
HDT	1845	2590
ISF BHC GR SP	1800	2590
LSS CTR	1845	2590
RFC CNL GR CAL	1800	2590

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	398.0	36	400.0	0.00	LOT
SURF.COND.	20	768.0	26	780.0	1.72	LOT
INTERM.	13 3/8	1438.0	17 1/2	1448.0	1.64	LOT
INTERM.	9 5/8	1817.0	12 1/4	1826.0	1.65	LOT
OPEN HOLE		2568.0	8 1/2	2568.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
1817	1.16	48.0		seawater	
1919	1.15	52.0		seawater	
2225	1.17	52.0		seawater	
2348	1.18	48.0		seawater	