Generell informasjon

Brønnbane navn	25/11-16
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	SVALIN
Funn	25/11-16 Svalin
Brønn navn	25/11-16
Seismisk lokalisering	VGD 89 - 212 & SP. 106
Utvinningstillatelse	169
Boreoperatør	Norsk Hydro Produksjon AS
Boretillatelse	733-L
Boreinnretning	VILDKAT EXPLORER
Boredager	26
Borestart	29.06.1992
Boreslutt	24.07.1992
Frigitt dato	24.07.1994
Publiseringsdato	20.06.2011
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	PALEOCENE
1. nivå med hydrokarboner, formasjon.	HEIMDAL FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	120.0
Totalt målt dybde (MD) [m RKB]	1945.0
Totalt vertikalt dybde (TVD) [m RKB]	1945.0
Maks inklinasjon [°]	1.4
Temperatur ved bunn av brønnbanen [°C]	71
Eldste penetrerte alder	LATE CRETACEOUS
Eldste penetrerte formasjon	HOD FM
Geodetisk datum	ED50
NS grader	59° 7' 6.55'' N

ØV grader	2° 23' 6.2'' E
NS UTM [m]	6553559.14
ØV UTM [m]	464790.04
UTM sone	31
NPDID for brønnbanen	1920

Brønnhistorie

General

Well 25/11-16 was drilled south of the Balder Field complex on the Utsira High in the North Sea. The main objective was to test the hydrocarbon potential of the Heimdal Formation within the "Hanna" mound. Possible younger sand developments in the Lista and Sele Formations were secondary targets.

Operations and results

Wildcat well 25/11-16 was spudded with the semi-submersible installation Vildcat Explorer on 29 June 1992 and drilled to TD at 1945 m in the Late Cretaceous Hod Formation. The well was drilled with spud mud down to 1339 m and with CaCO3/Nacl mud from 1339 m to TD.

The primary target Heimdal Formation was encountered from 1767 m to 1872 m. Gross thickness is 105.75 m with 83.9 m net sand. The formation was oil bearing with 18.87 m net pay of heavy oil (0.85 g/cc at reservoir conditions) down to a series of claystone beds at 1786 m. The average porosity in the oil zone was 37.5% and the average Sw was 12.8%. The reservoir sand is very poorly consolidated, homogenous and has a net to gross ratio in the oil zone of 0.96. The average range of both horizontal and vertical permeabilities is 10 to 14 Darcies. A free water contact was established at 1793 m from MDT data. The oil/water contact appears to occur at the base of the sand unit at ca 1790 m (1765 m TVD MSL). In addition to oil shows in the Heimdal Formation oil zone oil two isolated shows were recorded in thin sand stringers at 1713 m in the Balder Formation and at 1735 m in the Sele Formation.

A total of 200 m core was recovered from 14 cores taken in the interval 1699 m to 1914 m (93% recovery), starting 1 m below the top of the Balder Formation and ending 17 m into the Tor Formation. A total of 26 pressure points were recorded with the MDT tool. Fluid samples were taken at 1774 m, 1793.5 m, and 1838 m.

The well was suspended without testing on 24 July 1992 as an oil discovery.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1340.00	1945.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1699.0	1713.0	[m]
2	1713.0	1725.7	[m]
3	1730.0	1740.3	[m]
4	1747.5	1748.0	[m]
5	1748.5	1767.0	[m]
6	1767.5	1784.0	[m]
7	1784.5	1786.0	[m]
8	1786.0	1803.0	[m]
9	1803.0	1820.7	[m]
10	1821.0	1838.4	[m]
11	1839.0	1854.0	[m]
12	1855.0	1881.3	[m]
13	1882.0	1886.0	[m]
14	1887.0	1914.5	[m]

Total kjerneprøve lengde [m]	198.9
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder


1699-1704m


1704-1709m


1709-1713m


1713-1718m


1718-1723m


1723-1725m


1730-1735m


1735-1740m


1740-1740m


1747-1748m


1748-1753m


1753-1758m


1758-1763m


1763-1767m


1767-1772m


1772-1777m


1777-1782m


1782-1784m


1784-1786m


1786-1791m


1791-1796m


1796-1801m


1803-1808m


1808-1813m


1813-1818m


1818-1820m


1821-1826m


1826-1831m


1831-1836m

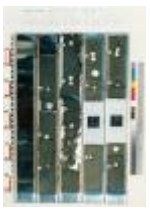

1836-1838m


1839-1844m


1849-1854m


1844-1849m


1855-1860m


1860-1865m


1865-1870m


1870-1875m


1875-1880m


1880-1881m


1882-1886m


1887-1892m


1892-1897m


1897-1902m


1902-1907m


1907-1912m


1912-1914m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1365.0	[m]	DC	CGG
1395.0	[m]	DC	CGG
1430.0	[m]	DC	CGG
1450.0	[m]	DC	CGG
1490.0	[m]	DC	CGG
1510.0	[m]	DC	CGG
1520.0	[m]	DC	CGG
1530.0	[m]	DC	CGG
1565.0	[m]	DC	CGG
1590.0	[m]	DC	CGG
1620.0	[m]	DC	CGG
1650.0	[m]	DC	CGG
1685.0	[m]	DC	CGG
1697.0	[m]	DC	CGG
1712.0	[m]	C	CGG
1715.5	[m]	C	CGG
1722.1	[m]	C	CGG
1731.7	[m]	C	CGG
1733.4	[m]	C	CGG
1733.7	[m]	C	CGG
1738.1	[m]	C	CGG
1749.9	[m]	C	CGG
1752.7	[m]	C	CGG

1760.9	[m]	C	CGG
1774.2	[m]	C	CGG
1788.5	[m]	C	CGG
1792.4	[m]	C	CGG
1798.0	[m]	C	CGG
1810.1	[m]	C	CGG
1817.3	[m]	C	CGG
1836.1	[m]	C	CGG
1856.6	[m]	C	CGG
1861.1	[m]	C	CGG
1872.2	[m]	C	CGG
1874.4	[m]	C	CGG
1876.9	[m]	C	CGG
1880.9	[m]	C	CGG
1884.9	[m]	C	CGG
1890.0	[m]	C	CGG

Litostratigrafi

Top depth [mMD RKB]	Lithostrat. unit
145	NORDLAND GP
663	UTSIRA FM
764	NO FORMAL NAME
836	HORDALAND GP
836	SKADE FM
953	NO FORMAL NAME
1521	GRID FM
1562	NO FORMAL NAME
1698	ROGALAND GP
1698	BALDER FM
1733	SELE FM
1739	LISTA FM
1767	HEIMDAL FM
1872	LISTA FM
1885	VÅLE FM
1897	SHETLAND GP
1897	TOR FM
1936	HOD FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1920_2	pdf	2.84

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1920_01_WDSS_General_Information	pdf	0.44
1920_02_WDSS_completion_log	pdf	0.14

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1920_25_11_16_COMPLETION_REPORT_AND_LOG	pdf	17.29

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CST GR	1355	1939
DIL DSI LDL CNL NGT SP AMS	1335	1926
DLL MSFL GR AMS	1336	1934
FMI GR	1335	1615
FMI GR	1580	1940
MDT GR AMS	1524	1871
MWD - GR RES DIR	145	1945
VSP	590	1930

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	232.0	36	233.0	0.00	LOT
INTERM.	9 5/8	1333.0	12 1/4	1335.0	1.70	LOT

LINER	7	1764.0	8 1/2	1945.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
232	1.06			WATER BASED	
340	1.06			WATER BASED	
1145	1.06			WATER BASED	
1699	1.28	2.5		WATER BASED	
1730	1.28	25.0		WATER BASED	
1767	1.28	24.0		WATER BASED	
1803	1.28	20.0		WATER BASED	
1855	1.28	21.0		WATER BASED	
1855	1.28	21.0		WATER BASED	
1914	1.28	19.0		WATER BASED	
1945	1.28	19.0		WATER BASED	

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]
1920_Formation_pressure_(Formasjonstrykk)	pdf	0.19