



Generell informasjon

Brønnbane navn	6407/9-8
Type	EXPLORATION
Formål	WILDCAT
Status	RE-CLASS TO DEV
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Brønn navn	6407/9-8
Seismisk lokalisering	X-OVER MELLOM SH 9002-570 OG 1215
Utvinningstillatelse	093
Boreoperatør	A/S Norske Shell
Boretillatelse	739-L
Boreinnretning	WEST VANGUARD
Boredager	40
Borestart	14.08.1992
Boreslutt	22.09.1992
Frigitt dato	22.09.1994
Publiseringsdato	28.06.2007
Opprinnelig formål	WILDCAT
Reklassifisert til brønnbane	6407/9-A-58 H
Gjenåpnet	NO
Innhold	DRY
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	22.0
Vanndybde ved midlere havflate [m]	230.0
Totalt målt dybde (MD) [m RKB]	2126.0
Totalt vertikalt dybde (TVD) [m RKB]	2125.4
Temperatur ved bunn av brønnbanen [°C]	65
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	TILJE FM
Geodetisk datum	ED50
NS grader	64° 23' 7.69" N
ØV grader	7° 57' 37.47" E
NS UTM [m]	7140556.61
ØV UTM [m]	449852.14
UTM sone	32
NPDID for brønnbanen	1974



Brønnhistorie

General

Wildcat well 6407/9-8 was drilled on the Husmus East structure, situated east of the Draugen Field on the edge of the Trøndelag Platform on the Mid Norwegian Continental Shelf. The principal objective of the well was to test the hydrocarbon potential of the Late Jurassic Rogn Formation in a dip closure trap. Secondary objective was to test the potential for gas storage in the Rogn Formation and in the middle Jurassic Garn Formation. The well was also drilled to acquire additional stratigraphic information on the reservoir development of the Middle and Early Jurassic Ile and Tilje Formation.

Operations and results

Well 6407/9-8 was spudded with the semi-submersible installation West Vanguard on 14 August 1992 and drilled to TD at 2126 m in the Early Jurassic Tilje Formation. Operations went without significant problems. The well was drilled with seawater and bentonite down to 1120 m, with polymer/gypsum mud from 1120 m to 1582 m, and with KCl/polymer mud from 1582 m to TD.

No potential reservoir zones were found above the Viking Group, which was penetrated from 1606.5 m to 1730 m. The Rogn Formation was poorly developed as a thin (<1 m), well-cemented silty to very fine sandstone facies with low porosity and permeability. A well-developed Garn Formation in a sand facies was encountered, with high porosities and permeabilities. The well was terminated in sandstone of the Tilje Formation after penetration of Ile Formation sandstone. Both the Garn Formation and the Ile Formations appeared to be suitable for gas injection. The well was entirely water wet all through. This was evident from electrical logs, pressure gradients, and lack of shows on cores and cuttings. Post-well geochemical analyses of cores and cuttings confirmed general lack of migrated hydrocarbons. A total of seven cores were cut in the well with 105.95 m recovered. Cores 1 to 5 were cut from 1605 m to 1685 m in the Spekk and Rogn Formations. Cores 6 and 7 were cut from 1723 m to 1760.5 m in the Melke and Garn Formations. A dense FMT pressure-sampling programme confirmed a water-wet reservoir with a pressure gradient close to the theoretical gradient for the established Draugen Formation water. A number of attempts were made to take water samples at depths of 1731.5 m (Garn) and 1940 m (Ile). Some degree of filtrate contamination was noted.

The well was classified as dry and was suspended on 23 September 1992 as a possible future development well for the Draugen Field. It was re-entered on 14 August and taken in use as a gas injector

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1130.00	2127.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1605.0	1622.1	[m]
2	1623.0	1633.1	[m]
3	1633.5	1642.0	[m]
4	1650.0	1666.0	[m]
5	1666.0	1685.0	[m]
6	1723.0	1741.9	[m]
7	1742.0	1758.7	[m]

Total kjerneprøve lengde [m]	106.2
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1605-1609m



1609-1613m



1613-1617m



1617-1621m



1621-1622m



1623-1627m



1627-1631m



1631-1633m



1633-1637m



1637-1641m



1641-1642m



1650-1654m



1654-1658m



1658-1662m



1662-1666m



1666-1670m



1670-1674m



1674-1678m



1678-1682m



1682-1684m



1723-1727m



1727-1731m



1731-1735m



1735-1739m



1739-1741m



1742-1746m



1746-1750m



1750-1754m



1754-1758m



1758-1759m

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
252	NORDLAND GP
252	NAUST FM
438	KAI FM
758	HORDALAND GP
758	BRYGGE FM
1296	ROGALAND GP
1296	TARE FM
1335	TANG FM
1530	CROMER KNOLL GP
1530	LANGE FM
1598	LYR FM
1606	VIKING GP
1606	SPEKK FM
1699	MELKE FM
1730	FANGST GP



1730	GARN FM
1833	NOT FM
1887	ILE FM
2006	BÅT GP
2006	ROR FM
2053	TILJE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
1974	pdf	0.48

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
1974_1	pdf	4.38

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
1974_01_WDSS_General_Information	pdf	0.46
1974_02_WDSS_completion_log	pdf	0.15

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
1974_6407_9_8_COMPLETION_REPORT_AND_LOG	pdf	43.91

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CORGUN	286	400





CORGUN	286	400
CORGUN	1134	1578
CORGUN	1550	2110
CORGUN	1688	1852
CORGUN	1860	1933
CORGUN	1939	2098
DIFL ACL BHC GR	1110	1582
DIFL BHC ACL GR	252	1113
DIFL BHC ACL GR	252	1113
DIFL BHC ACL GR	1110	1582
DIFL BHC ACL GR	1553	1759
DIFL BHC ACL GR	1553	2120
DIPLOG	1550	2110
DLL MLL GR	1553	2115
FMT	1651	1920
FMT	1731	2096
FMT	1880	2105
FMT	1940	1940
MWD	252	160
SBT VDL GR	1419	2086
SPECTRALOG	1553	2120
VSP	1553	2121
ZDL CNL GR	252	1113
ZDL CNL GR	252	1113
ZDL CNL GR	1110	1582
ZDL CNL GR	1553	1759
ZDL CNL GR	1553	2120
ZDL FDC GR	1110	1582

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	309.7	36	310.0	0.00	LOT
INTERM.	18 5/8	1110.0	26	1112.0	0.00	LOT
INTERM.	13 3/8	1553.3	17 1/2	1555.0	1.62	LOT
INTERM.	9 5/8	2118.0	12 1/4	2120.0	1.73	LOT

Boreslam



Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
310	1.02	200.0		WATER BASED	
316	1.01	200.0		WATER BASED	
477	1.02	200.0		WATER BASED	
674	1.02	200.0		WATER BASED	
1117	1.02	200.0		WATER BASED	
1117	1.02	200.0		WATER BASED	
1120	1.02	200.0		WATER BASED	
1125	1.39	60.0		WATER BASED	
1400	1.39	60.0		WATER BASED	
1582	1.39	82.0		WATER BASED	
1598	1.13	37.0		WATER BASED	
1650	1.14	39.0		WATER BASED	
1666	1.14	40.0		WATER BASED	
1702	1.15	40.0		WATER BASED	
1742	1.15	39.0		WATER BASED	
1800	1.16	39.0		WATER BASED	
1962	1.14	38.0		WATER BCSED	
2126	1.14	38.0		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]
1974 Formation pressure (Formasjonstrykk)	PDF	0.28

