



Generell informasjon

Brønnbane navn	31/6-6
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TROLL
Funn	31/6-1 (Troll Øst)
Brønn navn	31/6-6
Seismisk lokalisering	NH 8007-129 SP. 156
Utvinningstillatelse	085
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	416-L
Boreinnretning	DEEPSEA BERGEN
Boredager	69
Borestart	22.05.1984
Boreslutt	29.07.1984
Frigitt dato	29.07.1986
Publiseringsdato	23.05.2006
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	INTRA HEATHER FM SS
2. nivå med hydrokarboner, alder	LATE JURASSIC
2. nivå med hydrokarboner, formasjon	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	23.0
Vanndybde ved midlere havflate [m]	313.0
Totalt målt dybde (MD) [m RKB]	2293.0
Totalt vertikalt dybde (TVD) [m RKB]	2291.0
Temperatur ved bunn av brønnbanen [°C]	67
Eldste penetrerte alder	LATE TRIASSIC
Eldste penetrerte formasjon	HEGRE GP



Geodetisk datum	ED50
NS grader	60° 41' 57.08" N
ØV grader	3° 56' 4.61" E
NS UTM [m]	6729804.22
ØV UTM [m]	551028.07
UTM sone	31
NPDID for brønnbanen	127

Brønnhistorie

General

Well 31/6-6 was drilled in the Troll East gas province. It was designed to test possible gas accumulations in the Late to Middle Jurassic sandstones and to test the quality of a reservoir siltstone in the Heather Formation.

Operations and results

Well 31/6-6 was spudded with the semi-submersible installation Deepsea Bergen on 22 May 1984 and drilled to TD 2293 m in the Late Triassic Hegre Group. No significant problem was encountered in the operations. The well was drilled with spud mud down to 716 m, with KCl/polymer mud from 716 m to 1771.5 m, and with pre-hydrated bentonite/CMC mud from 1771.5 m to TD.

The well encountered gas from top Heather reservoir at 1516 m to a GWC at 1568.5 m, 7.5 m into the Sognefjord Formation. No oil shows were reported from the well. Nine conventional cores were cut in the interval 1525 m to 1771.5 m in the Middle to Late Jurassic. FMT samples were taken at 1571.8 m and 1576.5 m in the Sognefjord Formation. Both contained formation water and mud filtrate.

The well was completed on 29 July 1984 as a gas appraisal.

Testing

Two drill stem tests were performed in the well. DST 1A tested 1562 m to 1567.5 m in the Sognefjord Formation sandstone. It produced maximum 779 x 10 Sm³ gas /day on a 64/64" choke. DST 2 from 1523 m to 1536 m in the Heather Formation siltstone showed a very low production rate, 10.7 x 10 Sm³/day. The reservoir temperature was 62.5 deg. C in DST 1A and 58 deg. C in DST 2.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
440.00	2290.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerter i Sokkeldirektoratet



Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1525.0	1544.9	[m]
2	1552.0	1575.9	[m]
3	1579.5	1607.4	[m]
4	1607.0	1633.5	[m]
5	1634.5	1662.3	[m]
6	1662.3	1689.4	[m]
7	1689.4	1716.4	[m]
8	1716.4	1744.6	[m]
9	1744.6	1772.6	[m]

Total kjerneprøve lengde [m]	236.2
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1525-1530m



1530-1535m



1535-1540m



1540-1544m



1552-1557m



1557-1562m



1562-1567m



1567-1572m



1572-1575m



1579-1584m



1584-1589m



1589-1594m



1594-1599m



1599-1604m



1604-1607m



1607-1612m



1612-1617m



1617-1622m



1622-1627m



1627-1632m



1632-1633m



1634-1639m



1639-1644m



1644-1649m



1649-1654m



1654-1659m



1659-1662m



1662-1667m



1667-1672m



1672-1677m



1677-1682m



1682-1687m



1687-1689m



1689-1694m



1694-1699m



1699-1704m



1704-1709m



1709-1714m



1714-1716m



1716-1721m



1721-1726m



1726-1731m



1731-1736m



1736-1741m



1741-1744m



1744-1749m



1749-1754m



1754-1759m



1759-1764m



1764-1769m



1769-1772m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
837.0	[m]	SWC	LAP
1015.0	[m]	SWC	LAP
1242.0	[m]	SWC	LAP
1395.0	[m]	SWC	LAP
1410.0	[m]	SWC	LAP
1425.0	[m]	SWC	LAP
1447.0	[m]	SWC	STAT
1450.0	[m]	SWC	LAP
1455.0	[m]	SWC	STATO
1460.0	[m]	SWC	STATO
1471.0	[m]	SWC	LAP
1481.0	[m]	SWC	STATO
1485.5	[m]	SWC	STATO
1495.0	[m]	SWC	STATO
1498.5	[m]	SWC	LAP
1505.5	[m]	SWC	STATO
1510.0	[m]	SWC	LAP
1513.0	[m]	SWC	STATO
1516.0	[m]	SWC	STAT
1522.0	[m]	SWC	STATO
1525.1	[m]	C	OD
1526.5	[m]	C	OD
1529.5	[m]	C	OD



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 20.5.2024 - 00:05

1532.8 [m]	C	OD
1536.0 [m]	C	OD
1537.7 [m]	C	OD
1544.0 [m]	C	OD
1547.0 [m]	SWC	LAP
1547.0 [m]	SWC	STAT
1552.0 [m]	C	OD
1552.1 [m]	C	OD
1555.6 [m]	C	OD
1556.5 [m]	C	OD
1558.5 [m]	C	OD
1560.5 [m]	C	OD
1561.7 [m]	C	OD
1562.2 [m]	C	OD
1562.5 [m]	C	OD
1562.9 [m]	C	OD
1563.5 [m]	C	OD
1564.0 [m]	C	OD
1566.1 [m]	C	OD
1567.5 [m]	C	OD
1571.1 [m]	C	OD
1572.8 [m]	C	OD
1575.9 [m]	C	OD
1577.0 [m]	SWC	LAP
1577.0 [m]	SWC	STAT
1579.5 [m]	C	OD
1580.0 [m]	C	OD
1582.6 [m]	C	OD
1583.1 [m]	C	OD
1585.0 [m]	C	OD
1585.6 [m]	C	OD
1589.6 [m]	C	OD
1591.2 [m]	C	OD
1595.6 [m]	C	OD
1596.1 [m]	C	OD
1596.5 [m]	C	OD
1602.5 [m]	C	OD
1604.5 [m]	C	OD
1605.5 [m]	C	OD
1607.0 [m]	C	OD



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 20.5.2024 - 00:05

1607.5 [m]	C	OD
1612.4 [m]	C	OD
1613.2 [m]	C	OD
1613.3 [m]	C	OD
1615.5 [m]	C	OD
1618.3 [m]	C	OD
1620.1 [m]	C	OD
1621.7 [m]	C	OD
1624.0 [m]	C	OD
1624.5 [m]	C	OD
1624.6 [m]	C	OD
1627.0 [m]	C	OD
1631.4 [m]	C	OD
1636.0 [m]	C	OD
1636.5 [m]	C	OD
1643.6 [m]	C	OD
1644.5 [m]	C	OD
1647.1 [m]	C	OD
1650.5 [m]	C	OD
1654.5 [m]	C	OD
1654.6 [m]	C	OD
1655.0 [m]	C	OD
1658.8 [m]	C	OD
1658.9 [m]	C	OD
1662.9 [m]	C	OD
1669.3 [m]	C	OD
1669.5 [m]	C	OD
1672.6 [m]	C	OD
1672.8 [m]	C	OD
1675.4 [m]	C	OD
1680.2 [m]	C	OD
1684.5 [m]	C	OD
1687.8 [m]	C	OD
1694.9 [m]	C	OD
1698.0 [m]	C	OD
1706.4 [m]	C	OD
1707.6 [m]	C	OD
1711.0 [m]	C	OD
1713.8 [m]	C	OD
1718.4 [m]	C	OD



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 20.5.2024 - 00:05

1725.4	[m]	C	OD
1727.4	[m]	C	OD
1734.4	[m]	C	OD
1735.4	[m]	C	OD
1738.0	[m]	C	OD
1741.4	[m]	C	OD
1745.8	[m]	C	OD
1753.7	[m]	C	OD
1754.0	[m]	C	OD
1762.9	[m]	C	OD
1763.6	[m]	C	OD
1767.8	[m]	C	OD
1768.6	[m]	C	OD
1775.0	[m]	SWC	LAP
1780.0	[m]	SWC	STAT
1795.0	[m]	SWC	STAT
1805.0	[m]	SWC	STAT
1810.0	[m]	SWC	LAP
1820.0	[m]	SWC	STAT
1835.0	[m]	SWC	STAT
1840.0	[m]	SWC	LAP
1850.0	[m]	SWC	STAT
1860.0	[m]	SWC	STAT
1870.0	[m]	SWC	LAP
1880.0	[m]	SWC	STAT
1890.0	[m]	SWC	STAT
1900.0	[m]	SWC	STAT
1900.0	[m]	SWC	LAP
1910.0	[m]	SWC	STAT
1925.0	[m]	SWC	STAT
1935.0	[m]	SWC	LAP
1995.0	[m]	SWC	LAP
2020.0	[m]	SWC	LAP
2035.0	[m]	SWC	LAP
2056.0	[m]	SWC	LAP
2111.8	[m]	SWC	LAP
2134.2	[m]	SWC	LAP
2184.0	[m]	SWC	LAP
2221.9	[m]	SWC	LAP
2241.0	[m]	SWC	LAP



Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST1A	0.00	0.00		15.07.1984 - 00:00	YES
PROD	TEST1A	0.00	0.00	CONDE NSATE	15.07.1984 - 03:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
336	NORDLAND GP
531	HORDALAND GP
650	ROGALAND GP
650	BALDER FM
798	SELE FM
949	LISTA FM
1018	SHETLAND GP
1018	HARDRÅDE FM
1025	UNDIFFERENTIATED
1204	CROMER KNOLL GP
1204	RØDBY FM
1340	ÅSGARD FM
1392	VIKING GP
1392	DRAUPNE FM
1515	HEATHER FM
1561	SOGNEFJORD FM
1706	HEATHER FM
1719	FENSFJORD FM
1947	KROSSFJORD FM
1976	HEATHER FM
2008	BRENT GP
2045	DUNLIN GP
2045	DRAKE FM
2122	JOHANSEN FM
2193	AMUNDSEN FM
2225	STATFJORD GP



2277 [HEGRE GP](#)

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
127	pdf	0.36

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
127_1	pdf	1.19
127_2	pdf	0.26
127_3	pdf	4.73

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
127_01_WDSS_General_Information	pdf	0.24
127_02_WDSS_completion_log	pdf	0.25

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
127_01_31_6_6_Completion_Report_and_Completion_log	pdf	23.66
127_03_31_6_6_Biostratigraphy_Kerogen_Analysis	pdf	8.01
127_03_31_6_6_Formation_Resistivity_Factor	pdf	0.39
127_03_31_6_6_Petrofysisk_evaluering	pdf	3.77
127_03_31_6_6_Reservoir_gas_geochemistry	pdf	0.34
127_04_31_6_6_Grain_Size_Distribution_Analysis	pdf	1.14
127_04_31_6_6_Routine_core_analyses	pdf	3.82
127_05_31_6_6_Compositional_Analysis_DST_2	pdf	0.16
127_05_31_6_6_Pressure_Survey_Report_Test-1	pdf	6.33





127 05 31 6 6 Pressure Survey Report Test-1A	pdf	12.62
127 05 31 6 6 Pressure Survey Report Test-2 Run-1	pdf	11.08
127 05 31 6 6 Pressure Temperature Measurement	pdf	13.55
127 05 31 6 6 SDP Pressure Temperature Survey-Test 2	pdf	5.05
127 05 31 6 6 The Composition of Statoil Gas Well	pdf	1.33
127 03 31 6 6 En Petrografisk Undersøkelse av Brønn	pdf	55.71

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsventil størrelse [mm]
1.0	1563	1567	25.4
2.0	1520	1533	12.5

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				62
2.0		44.000	11.000	62

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0		7790			
2.0		107			

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
ACBL VDL GR	333	1440
ACBL VDL GR	1100	1750
CDL CNL GR CAL	1439	2286
CDL GR CAL	695	1455
DIFL BHC AC GR SP CAL	330	2286
DIPLOG	1443	2286





DLL MLL GR	1439	1768
FMT	1523	1601
VELOCITY	510	2275

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	423.0	36	425.0	0.00	LOT
SURF.COND.	20	699.0	26	723.0	1.53	LOT
INTERM.	13 3/8	1443.0	17 1/2	1460.0	1.55	LOT
INTERM.	9 5/8	1755.0	12 1/4	1771.5	1.49	LOT
OPEN HOLE		2290.0	8 1/2	2290.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
336	1.03	120.0		WATER BASED	24.05.1984
417	1.03	120.0		WATER BASED	24.05.1984
425	1.03	120.0		WATER BASED	24.05.1984
425	1.03	120.0		WATER BASED	25.05.1984
430	1.03	46.0		WATER BASED	28.05.1984
723	1.06	40.0		WATER BASED	28.05.1984
726	1.22	39.0		WATER BASED	01.06.1984
821	1.22	44.0		WATER BASED	01.06.1984
1099	1.23	46.0		WATER BASED	04.06.1984
1253	1.23	46.0		WATER BASED	04.06.1984
1372	1.23	48.0	19.0	WATER BASED	04.06.1984
1460	1.23	50.0	19.0	WATER BASED	05.06.1984
1460	1.23	51.0	18.0	WATER BASED	06.06.1984
1460	1.23	54.0	18.0	WATER BASED	07.06.1984
1460	1.23	52.0	19.0	WATER BASED	08.06.1984
1460	1.23	50.0	18.0	WATER BASED	12.06.1984
1460	1.23	50.0	19.0	WATER BASED	05.06.1984
1460	1.23	51.0	18.0	WATER BASED	06.06.1984
1460	1.23	54.0	18.0	WATER BASED	07.06.1984
1460	1.23	52.0	19.0	WATER BASED	08.06.1984
1460	1.23	50.0	18.0	WATER BASED	12.06.1984



1525	1.21	49.0	20.0	WATER BASED	12.06.1984
1552	1.21	52.0	17.0	WATER BASED	12.06.1984
1586	1.21	51.0	17.0	WATER BASED	12.06.1984
1627	1.21	52.0	16.0	WATER BASED	13.06.1984
1666	1.21	49.0	17.0	WATER BASED	14.06.1984
1712	1.21	49.0	17.0	WATER BASED	15.06.1984
1746	1.21	49.0	9.0	WATER BASED	18.06.1984
1755	1.10	53.0	7.0	WATER BASED	20.06.1984
1772	1.21	49.0	8.0	WATER BASED	18.06.1984
1897	1.10	49.0	8.0	WATER BASED	20.06.1984
2105	1.10	50.0	7.0	WATER BASED	22.06.1984
2229	1.10	48.0	13.0	WATER BASED	22.06.1984
2290	1.10	43.0	12.0	WATER BASED	25.06.1984
2290	1.10	41.0	11.0	WATER BASED	25.06.1984

Tynnslip i Sokkeldirektoratet

Dybde	Enhet
0.00	[m]
1637.00	[m]
1568.00	[m]
1517.50	[m]
1513.80	[m]
1505.60	[m]

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]
127 Formation pressure (Formasjonstrykk)	pdf	0.22

