



Generell informasjon

Brønnbane navn	34/10-42 S
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	VALEMON
Funn	34/10-23 Valemon
Brønn navn	34/10-42
Seismisk lokalisering	STM98MS INNLIN 856 & X-LIN 3056
Utvinningsstillatelse	050
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	960-L
Boreinnretning	TRANSOCEAN ARCTIC
Boredager	67
Borestart	15.07.1999
Boreslutt	19.09.1999
Frigitt dato	19.09.2001
Publiseringsdato	11.04.2003
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	135.0
Totalt målt dybde (MD) [m RKB]	4520.0
Totalt vertikalt dybde (TVD) [m RKB]	4378.0
Maks inklinasjon [°]	27.7
Temperatur ved bunn av brønnbanen [°C]	155
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	COOK FM
Geodetisk datum	ED50
NS grader	61° 0' 26.99" N
ØV grader	2° 17' 3.46" E
NS UTM [m]	6763994.22
ØV UTM [m]	461298.18



UTM sone	31
NPDID for brønnbanen	3816

Brønnhistorie

**General**

Block 34/10 covers a structurally complex area located in the Tampen Spur area of the Viking Graben. The Tampen Spur is characterized by a series of rotated fault blocks, where the major faults generally have throws towards the east and stratigraphic dips westwards. The Gullfaks Gamma structure sits on a fault terrace, down thrown from the Gullfaks Sør Field. This terrace also covers the Kvitebjørn area. The structure is a complex, faulted culmination, with a dip closure in all directions. The Gullfaks Gamma area straddles the 34/10 - 34/11 block boundary. The majority of the defined prospective elements, lie within block 34/10

The primary objectives for drilling well 34/10-42 S were to appraise economical Brent hydrocarbon reserves updip from well 34/10-23 and to test the Brent erosion model and thereby to enable a Gullfaks Gamma Field PDO. The hydrocarbon type was to be tested. A secondary objective was to test possible additional reserves in the Cook and Statfjord Formation if the well was extended through these formations. Finally, the well should add data to the field parameter database and provide a key velocity calibration point for time-depth conversion.

Operations and results

The appraisal well 34/10-42 S was spudded with the semi-submersible installation "Transocean Arctic" on 15 July 1999 and drilled to TD at 4520 m (4378 m TVD RKB) approximately 40 m into the Early Jurassic Cook Formation. It was drilled deviated to avoid shallow gas Class II warnings. The well was drilled with sea water and hi-vis pills down to 1133 m, with KCl / polymer / glycol mud from 1133 m to 3666 m, and with oil based mud from 3666 m to TD. The reservoir tops came in deeper than the geological prognosis indicated. The top of the Tarbert and Cook Formations were found 174 m and 112m deeper, respectively. Both the Brent group and the Cook Formation proved to be water wet, indicating a sealing fault between well 34/10-23 and 34/10-42 S.

No visual shows were observed above the Viking Group. Dull, yellowish, direct fluorescence and slow streaming, milky white cut fluorescence was observed on some of the claystone cuttings from the Draupne Formation hot shale. In the sandstones of the Tarbert and upper Ness Formations, no direct fluorescence was observed, but moderate to weak, slow streaming bluish white cut fluorescence was common in the upper half of the cored section. Gas readings were recorded from the 20" shoe. The gas level was generally low, below 0.5 %, down to 3140 m where the gas content increased sharply to a higher level, 2 - 6%, reaching a maximum peak of 9.73% at 3202 m. This continued down to the top of the Viking Group. Gas levels through the Draupne Formation varied from 0.7% and up to 3.1% in the most carbonaceous intervals (C1-C5). Throughout the Heather Formation, the background gas varied between 0.6% and 3% with peaks up to 3.8%. All components from C1 to C5 were recorded. In the Brent reservoir, the gas readings were commonly showing levels slightly below and slightly above 2%, with a maximum of 7.2 % in the relatively tight, arkosic Rannoch Formation. In the Dunlin Group, gas levels were typically between 0.8 % and 2.2% with a local maximum of 6.2% at 4359 m. In a very tight, impermeable, arkosic sand near TD of the well within the Cook sandstone unit, the gas level was peaking 14.4%. One core was cut in the interval 4109 m to 4111 m in the Heather Formation and a second was cut in the interval 4217 m to 4254 m in the Ness Formation. One segregated FMT water sample was taken at 4226.4 m. A 2x20 litres preflush chamber and a 4 litres PVT chamber was run, and a total volume of 32 litres and 3.4 litres were sampled respectively. No contamination was measured offshore (tritium added as tracer in the mud), however some traces of oil are reported from the laboratory. The well was abandoned as a dry appraisal well with shows on 19 September 1999.

Testing

No drill stem test was performed.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1150.00	4520.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerper i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	4109.0	4110.7	[m]
2	4217.0	4253.7	[m]

Total kjerneprøve lengde [m]	38.4
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



4109-4111m



4217-4222m



4222-4227m



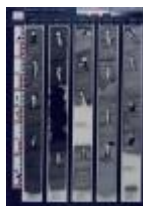
4227-4232m



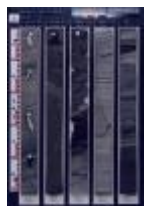
4232-4237m



4237-4242m



4242-4247m



4247-4252m



4252-4253m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1150.0	[m]	DC	GEOSTR
1170.0	[m]	DC	GEOSTR



1190.0	[m]	DC	GEOSTR
1210.0	[m]	DC	GEOSTR
1230.0	[m]	DC	GEOSTR
1250.0	[m]	DC	GEOSTR
1270.0	[m]	DC	GEOSTR
1290.0	[m]	DC	GEOSTR
1310.0	[m]	DC	GEOSTR
1330.0	[m]	DC	GEOSTR
1350.0	[m]	DC	GEOSTR
1370.0	[m]	DC	GEOSTR
1390.0	[m]	DC	GEOSTR
1410.0	[m]	DC	GEOSTR
1430.0	[m]	DC	GEOSTR
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1470.0	[m]	DC	GEOSTR
1490.0	[m]	DC	GEOSTR
1510.0	[m]	DC	GEOSTR
1530.0	[m]	DC	GEOSTR
1550.0	[m]	DC	GEOSTR
1570.0	[m]	DC	GEOSTR
1590.0	[m]	DC	GEOSTR
1610.0	[m]	DC	GEOSTR
1630.0	[m]	DC	GEOSTR
1650.0	[m]	DC	GEOSTR
1670.0	[m]	DC	GEOSTR
1690.0	[m]	DC	GEOSTR
1710.0	[m]	DC	GEOSTR
1730.0	[m]	DC	GEOSTR
1750.0	[m]	DC	GEOSTR
1770.0	[m]	DC	GEOSTR
1790.0	[m]	DC	GEOSTR
1810.0	[m]	DC	GEOSTR
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4518.0 [m]	DC	GEOSTR



4520.0 [m]	DC	GEOSTR
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Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
159	NORDLAND GP
885	UTSIRA FM
970	HORDALAND GP
1940	ROGALAND GP
1940	BALDER FM
1989	SELE FM
1995	LISTA FM
2196	SHETLAND GP
2196	JORSALFARE FM
2451	KYRRE FM
3656	SVARTE FM
3790	CROMER KNOLL GP
3960	VIKING GP
3960	DRAUPNE FM
4008	HEATHER FM
4211	BRENT GP
4211	TARBERT FM
4217	NESS FM
4355	ETIVE FM
4369	RANNOCH FM
4403	DUNLIN GP
4403	DRAKE FM
4485	COOK FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
3816	pdf	0.49

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)





Dokument navn	Dokument format	Dokument størrelse [KB]
3816 34 10 42 S COMPLETION LOG	.pdf	3.51
3816 34 10 42 S COMPLETION REPORT	.pdf	59.32

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
FMT GR	4212	4213
FMT GR	4212	4387
HDIP ORIT DSL TTRM	3968	4516
MAC HDIL DGR TTRM	3945	4521
MAC HDIP ZDL DR TTRM	1132	3973
MWD LWD - MPR LITE	159	4520
VSP GR	1132	3955
VSP GR	3790	4387
ZDL CND SGR TTRM	3968	4515

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	221.0	36	221.0	0.00	LOT
SURF.COND.	20	1133.0	26	1133.0	1.57	LOT
INTERM.	13 3/8	3666.0	17 1/2	3666.0	2.09	LOT
INTERM.	9 7/8	3968.0	12 1/4	3968.0	2.12	LOT
OPEN HOLE		4520.0	8 1/2	4520.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
221	1.39			DUMMY	
255	1.03			DUMMY	
318	1.03			DUMMY	
841	1.03			DUMMY	
963	1.03			DUMMY	
1143	1.20	17.0		BENTONITE/FW	
1145	1.41	19.0		KCL/GLYCOL/PAC	





1150	1.41	20.0		KCL/GLYCOL/PAC	
1200	1.87	60.0		INTERDRILL NT	
1222	1.47			KCL/GLYCOL/PAC	
1342	1.39	19.0		KCL/GLYCOL/PAC	
1400	1.87	61.0		INTERDRILL NT	
1615	1.39	20.0		KCL/GLYCOL/PAC	
1965	1.45	22.0		KCL/GLYCOL/PAC	
2137	1.45	24.0		KCL/GLYCOL/PAC	
2250	1.45	22.0		KCL/GLYCOL/PAC	
2355	1.45	24.0		KCL/GLYCOL/PAC	
2479	1.47	28.0		KCL/GLYCOL/PAC	
2497	1.45	30.0		KCL/GLYCOL/PAC	
2552	1.46	20.0		KCL/GLYCOL/PAC	
2722	1.45	21.0		KCL/GLYCOL/PAC	
2849	1.45	24.0		KCL/GLYCOL/PAC	
2929	1.45	26.0		KCL/GLYCOL/PAC	
2937	1.45	25.0		KCL/GLYCOL/PAC	
2950	1.45	25.0		KCL/GLYCOL/PAC	
3026	1.45	37.0		KCL/GLYCOL/PAC	
3095	1.45	33.0		KCL/GLYCOL/PAC	
3115	1.45	34.0		KCL/GLYCOL/PAC	
3555	1.45	28.0		KCL/GLYCOL/PAC	
3679	1.80	49.0		INTERDRILL NT	
3736	1.80	46.0		KCL/GLYCOL/PAC	
3842	2.02	60.0		INTERDRILL NT	
3900	1.80	44.0		INTERDRILL NT	
3977	1.85	44.0		INTERDRILL NT	
4000	2.04	68.0		INTERDRILL NT	
4097	2.04	72.0		INTERDRILL NT	
4109	2.04	65.0		INTERDRILL NT	
4160	2.04	59.0		INTERDRILL NT	
4211	2.02	58.0		INTERDRILL NT	
4215	2.04	59.0		INTERDRILL NT	
4217	2.04	59.0		INTERDRILL NT	
4254	2.02	57.0		INTERDRILL NT	
4520	2.02	56.0		INTERDRILL NT	

Tynnslip i Sokkeldirektoratet



Dybde	Enhet
4246.65	[m]
4237.75	[m]
4232.75	[m]
4225.78	[m]
4223.00	[m]
4221.77	[m]
4219.42	[m]
1410.00	[m]
1560.00	[m]
2120.00	[m]
2580.00	[m]
3550.00	[m]
3750.00	[m]
4035.00	[m]
4239.00	[m]
4317.00	[m]
4520.00	[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]
3816_Formalion_pressure_(Formasjonstrykk)	pdf	0.22

