



Generell informasjon

Brønnbane navn	6507/5-4
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	SKARV
Funn	6507/5-1 Skarv
Brønn navn	6507/5-4
Seismisk lokalisering	xline 1865 & inline 1157
Utvinningstillatelse	212
Boreoperatør	BP Amoco Norge AS
Boretillatelse	995-L
Boreinnretning	STENA DEE
Boredager	65
Borestart	10.02.2001
Boreslutt	15.04.2001
Plugget dato	15.04.2001
Frigitt dato	15.04.2003
Publiseringsdato	28.06.2007
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY CRETACEOUS
1. nivå med hydrokarboner, formasjon.	LANGE FM
2. nivå med hydrokarboner, alder	MIDDLE JURASSIC
2. nivå med hydrokarboner, formasjon	GARN FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	421.0
Totalt målt dybde (MD) [m RKB]	3812.0
Totalt vertikalt dybde (TVD) [m RKB]	3811.2
Maks inklinasjon [°]	6.7



Temperatur ved bunn av brønnbanen [°C]	124
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	65° 41' 44.78" N
ØV grader	7° 34' 13.62" E
NS UTM [m]	7286930.97
ØV UTM [m]	434346.79
UTM sone	32
NPDID for brønnbanen	4209

Brønnhistorie

**General**

Exploration wells 6507/6-1 and 6507/6-2 were drilled by Saga in the period 1986 to 1991. Both were plugged and abandoned as dry with shows. The Amoco operated exploration well 6507/5-1 well was completed in 1998 and was suspended as an oil and gas discovery in the Jurassic and Cretaceous. The discovery was named Skarv while the Cretaceous part of it has informally been named Gråsel. In 1999, well 6507/5-2 was drilled by BP Amoco to appraise Skarv. The well was plugged and abandoned as a gas well. The Snadd structure was explored by the 6507/5-3 well in June 2000 and plugged and abandoned as a gas discovery.

Well 6507/5-4 was drilled on the southern C-segment of the Skarv structure. The main reservoir target was sandstone in the Early - Middle Jurassic Garn, Ile and Tilje Formations. In the discovery case the objective was to gather the data required to allow confident oil reserves estimates. High-risk secondary targets were the Cretaceous Lysing and Lange Formations.

Operations and results

Wildcat well 6507/5-4 was spudded with the semi-submersible installation Stena Dee on 10 February 2001 and drilled to TD at 3812 m (3820 m loggers depth) in the Early Jurassic sediments of the Åre Formation. The well was drilled with seawater and hi-vis sweeps down to 522 m, with KCl/glycol mud from 522 m to 1468 m, and with KCl mud from 1468 m to TD.

Well 6507/5-4 successfully completed a logging program across Cretaceous secondary targets in the 12.25" hole, and a logging and coring programme of the primary Jurassic targets in 8.5" hole. Oil shows of variable strength were recorded from 3060 in the Lange Formation and down to TD. Oil and condensate were discovered in poor quality Early Cretaceous sands. The thin Lysing Formation was tight without shows. Oil and gas were discovered from 3513 m, top of the primary Garn reservoir target, while Ile and Tilje were water-wet. A gas/oil contact was indicated at 3542 m based on logs and cores, but no OWC was seen.

Four conventional cores were cut in the Garn, Not, Ile, Ror, and Tilje Formations in the interval 3512 m to 3724 m. The core-log shift was ca + 7 m for all four cores. MDT fluid samples were taken in the Lange Formation as well as in the Fangst Group. Organic geochemical analyses of these indicated a similar source rock, but with a somewhat higher maturity in the Lange Formation petroleum.

The well bore was plugged back to 1450 m on 15 April 2001 as an oil/gas appraisal of the Skarv Discovery. Since no OWC had been found a sidetrack, 6507/5-4 A, was decided to appraise the Garn down-dip oil leg.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1470.00	3812.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sakkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	3512.5	3534.5	[m]
2	3535.0	3594.5	[m]
3	3594.0	3679.0	[m]
4	3678.0	3722.5	[m]

Total kjerneprøve lengde [m]	211.0
Kjerner tilgjengelig for prøvetaking?	YES

Palynologiske preparater i Sakkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1470.0	[m]	DC	RESLAB
1500.0	[m]	DC	RESLAB
1530.0	[m]	DC	RESLAB
1560.0	[m]	DC	RESLAB
1590.0	[m]	DC	RESLAB
1620.0	[m]	DC	RESLAB
1650.0	[m]	DC	RESLAB
1680.0	[m]	DC	RESLAB
1710.0	[m]	DC	RESLAB
1740.0	[m]	DC	RESLAB
1770.0	[m]	DC	RESLAB
1800.0	[m]	DC	RESLAB
1830.0	[m]	DC	RESLAB
1860.0	[m]	DC	RESLAB
1890.0	[m]	DC	RESLAB
1920.0	[m]	DC	RESLAB
1950.0	[m]	DC	RESLAB
1980.0	[m]	DC	RESLAB
2000.0	[m]	DC	RESLAB
2030.0	[m]	DC	RESLAB
2050.0	[m]	DC	RESLAB
2080.0	[m]	DC	RESLAB
2100.0	[m]	DC	RESLAB
2130.0	[m]	DC	RESLAB



2150.0 [m]	DC	RESLAB
2180.0 [m]	DC	RESLAB
2200.0 [m]	DC	RESLAB
2230.0 [m]	DC	RESLAB
2250.0 [m]	DC	RESLAB
2280.0 [m]	DC	RESLAB
2300.0 [m]	DC	RESLAB
2320.0 [m]	DC	RESLAB
2350.0 [m]	DC	RESLAB
2380.0 [m]	DC	RESLAB
2400.0 [m]	DC	RESLAB
2430.0 [m]	DC	RESLAB
2450.0 [m]	DC	RESLAB
2480.0 [m]	DC	RESLAB
2500.0 [m]	DC	RESLAB
2530.0 [m]	DC	RESLAB
2550.0 [m]	DC	RESLAB
2580.0 [m]	DC	RESLAB
2600.0 [m]	DC	RESLAB
2630.0 [m]	DC	RESLAB
2650.0 [m]	DC	RESLAB
2670.0 [m]	DC	RESLAB
2701.0 [m]	DC	RESLAB
2725.0 [m]	DC	RESLAB
2749.0 [m]	DC	RESLAB
2776.0 [m]	DC	RESLAB
2785.0 [m]	DC	RESLAB
2800.0 [m]	DC	RESLAB
2815.0 [m]	DC	RESLAB
2830.0 [m]	DC	RESLAB
2842.0 [m]	DC	RESLAB
2860.0 [m]	DC	RESLAB
2875.0 [m]	DC	RESLAB
2890.0 [m]	DC	RESLAB
2905.0 [m]	DC	RESLAB
2920.0 [m]	DC	RESLAB
2935.0 [m]	DC	RESLAB
2950.0 [m]	DC	RESLAB
2964.0 [m]	DC	RESLAB
2980.0 [m]	DC	RESLAB



2995.0	[m]	DC	RESLAB
3010.0	[m]	DC	RESLAB
3025.0	[m]	DC	RESLAB
3028.9	[m]	SWC	RESLAB
3046.8	[m]	SWC	RESLAB
3070.0	[m]	DC	RESLAB
3089.9	[m]	SWC	RESLAB
3101.7	[m]	SWC	RESLAB
3111.0	[m]	SWC	RESLAB
3129.9	[m]	SWC	RESLAB
3145.0	[m]	DC	RESLAB
3160.0	[m]	DC	RESLAB
3190.0	[m]	DC	RESLAB
3205.0	[m]	DC	RESLAB
3225.1	[m]	SWC	RESLAB
3235.0	[m]	DC	RESLAB
3244.4	[m]	SWC	RESLAB
3265.0	[m]	DC	RESLAB
3331.0	[m]	DC	RESLAB
3346.0	[m]	DC	RESLAB
3727.0	[m]	DC	RESLAB
3739.0	[m]	DC	RESLAB
3748.0	[m]	DC	RESLAB
3754.0	[m]	DC	RESLAB
3766.0	[m]	DC	RESLAB
3772.0	[m]	DC	RESLAB
3781.0	[m]	DC	RESLAB
3796.0	[m]	DC	RESLAB
3802.0	[m]	DC	RESLAB
3812.0	[m]	DC	RESLAB

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
446	NORDLAND GP
446	NAUST FM
1398	KAI FM
1819	HORDALAND GP
1819	BRYGGE FM



2002	ROGALAND GP
2002	TARE FM
2047	TANG FM
2102	SHETLAND GP
2102	SPRINGAR FM
2186	NISE FM
2576	KVITNOS FM
2788	CROMER KNOLL GP
2788	LYSING FM
2793	LANGE FM
3364	LYR FM
3371	VIKING GP
3371	MELKE FM
3513	FANGST GP
3513	GARN FM
3581	NOT FM
3609	ILE FM
3632	BÅT GP
3632	ROR FM
3687	TILJE FM
3774	ÅRE FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
4209_1	pdf	4.70
4209_2	pdf	4.25

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
4209_6507_5_4_COMPLETION_LOG	.pdf	1.93
4209_6507_5_4_COMPLETION_REPORT	.PDF	0.71

Logger





Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
HRLA DSI GR SP EMS GPIT	420	3475
HRLA DSI GR SP EMS GPIT	3300	3820
IPLT GR	1460	3473
IPLT GR	3498	3820
LWD - CWR GR	519	2203
LWD - MPR GR	1700	3512
MDT GR	2788	3245
MDT GR	3514	3621
MDT GR	3514	3575
MDT GR	3562	3811
MDT GR	3566	3582
MSCT GR	3028	3245
VSP	445	3460
VSP GR	3350	3810
VSP GR	3765	3810

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	519.0	36	522.0	0.00	LOT
SURF.COND.	20	1461.0	26	1466.0	1.62	LOT
INTERM.	9 5/8	3494.0	12 1/4	3501.0	2.01	LOT
OPEN HOLE		3820.0	8 1/2	3820.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	flytegrense [Pa]	Type slam	Dato, måling
519	0.00	1.0		SPUD MUD	
1051	0.00	1.0		SPUD MUD	
1466	0.00	1.0		SPUD MUD	
1623	0.00	15.0		KCL	
1635	1.39	24.0		KCL	
2143	0.00	20.0		KCL	
2203	0.00	20.0		KCL	
2648	1.61	27.0		KCL	



2850	1.61	25.0		KCL	
2999	1.61	30.0		KCL	
3271	1.61	20.0		KCL	
3488	1.61	27.0		KCL	
3500	1.62	36.0		KCL	
3535	1.30	17.0		KCL	
3709	1.63	25.0		KCL	
3812	1.34	20.0		KCL	
3883	1.25	0.2		WATER/BRINE	
3883	1.28	12.0		KCL	

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 brønnspar. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

Dokument navn	Dokument format	Dokument størrelse [KB]
4209_Formalion_pressure_(Formasjonstrykk)	PDF	0.28

