



Generell informasjon

Brønnbane navn	6506/12-11 S
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	ÅSGARD
Funn	6506/12-1 Smørbukk
Brønn navn	6506/12-11
Seismisk lokalisering	3 D HWM-94: INLINE 4188 & CROSSLINE 1678
Utvinningstillatelse	094
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	849-L
Boreinnretning	TRANSOCEAN SEARCHER
Boredager	92
Borestart	08.06.1996
Boreslutt	07.09.1996
Frigitt dato	07.09.1998
Publiseringsdato	24.09.2002
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	OIL
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	EARLY JURASSIC
1. nivå med hydrokarboner, formasjon.	TILJE FM
2. nivå med hydrokarboner, alder	EARLY JURASSIC
2. nivå med hydrokarboner, formasjon	ÅRE FM
Avstand, boredekk - midlere havflate [m]	22.0
Vanndybde ved midlere havflate [m]	289.0
Totalt målt dybde (MD) [m RKB]	5268.0
Totalt vertikalt dybde (TVD) [m RKB]	4843.0
Maks inklinasjon [°]	33.2
Temperatur ved bunn av brønnbanen [°C]	167
Eldste penetrerte alder	EARLY JURASSIC



Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	65° 5' 7.2" N
ØV grader	6° 40' 54.75" E
NS UTM [m]	7220144.87
ØV UTM [m]	391047.42
UTM sone	32
NPDID for brønnbanen	2795

Brønnhistorie

General

The well 6506/12-11 S was planned to be completed as a future producer. The main objectives of the well were to collect data on reservoir quality and fluid distribution, perform a long-term test to evaluate the continuity of the reservoir in the Tilje Formation, carry out an interference test between this well and an adjacent gas injector, 6506/11-5 S, and to investigate the effect of stimulation by fracturing on well productivity.

Operations and results

The deviated appraisal well 6506/12-11 S was spudded on 8 June 1996 with the semi-submersible installation "Transocean Searcher" and drilled to a TD of 5268 m (4842.5 m TVD), approximately 60 m into the Åre Formation. Drilling was interrupted for 11 days by a labour conflict. The well was drilled with seawater and high viscosity pills down to 621 m, Anco 2000 mud with glycol from 621 to 2242 m, and with oil based Anco vert from 2242 m to TD. The well penetrated the top of the Tilje Formation and the Åre Formation, respectively, 18 m and 9.5 m shallower than prognosed. Both the Tilje and the Åre Formations were hydrocarbon bearing. Two tests were performed, one in Åre and one in Tilje. In addition, a minifrac test was performed in the Åre Formation. Six cores (196 m, 187 m recovered) were cut in the Tilje and Åre Formations. Three MDT wireline samples were taken in the well, one from each of the formations Åre, Tilje, and Garn. The samples from the Tilje and Åre Formations contained oil and gas, while the sample from the Garn Formation, contained formation water. A 7" liner was run and cemented on 9 August 1996. After testing, well 6506/12-11 S was suspended on 7 September 1996 as an oil appraisal well. The well was re-entered (6506/12-11 SR) on 11 November 1996 for an extended test. Well 6506/12-11 SR was suspended as an oil appraisal well on 1 February 1997 and re-classed to development well 6506/12-I-4 H.

Testing

Test 1 in 6506/12-11 S was carried out over the interval 5226 - 5235.5 m in Åre and flowed with a rate of 685 Sm³/day oil and 453000 Sm³/day gas. Test 2 in 6506/12-11 S was carried out over the interval 5197.5 - 5206.5 m in Tilje and flowed with a rate of 470 Sm³/day oil and 173900 Sm³/day gas. The testing in 6506/12-11 SR consisted of a prefrac test in Tilje 1.1 followed by a massiv hydraulic stimulation and clean up with coiled tubing prior to start the extended well test. Most of the produced oil during the well test was recovered by the floating production, storage and testing vessel "Crystal Sea". When offloading Crystal Sea at Mongstad, the oil was burnt off at the installation.

Borekaks i Sokkeldirektoratet



Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
3640.00	5267.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	5041.0	5054.7	[m]
2	5063.0	5116.8	[m]
3	5117.0	5146.0	[m]
4	5146.0	5166.8	[m]
5	5167.0	5212.7	[m]
6	5212.7	5237.0	[m]

Total kjerneprøve lengde [m]	187.3
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



5041-5046m



5046-5051m



5051-5054m



5063-5068m



5068-5073m



5073-5078m



5078-5083m



5083-5088m



5088-5093m



5093-5098m



5098-5103m



5103-5108m



5108-5113m



5113-5117m



5117-5122m



5122-5127m



5127-5132m



5132-5137m



5137-5142m



5142-5146m



5146-5151m



5151-5156m



5156-5161m



5161-5166m



5166-5167m



5167-5172m



5172-5177m



5177-5182m



5182-5187m



5187-5192m



5192-5197m



5197-5202m



5202-5207m



5207-5212m



5212-5213m



5213-5217m



5217-5222m



5222-5227m



5227-5232m



5232-5237m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
3640.0	[m]	DC	RRI
3660.0	[m]	DC	RRI



3680.0	[m]	DC	RRI
3690.0	[m]	DC	RRI
3710.0	[m]	DC	RRI
3720.0	[m]	DC	RRI
3750.0	[m]	DC	RRI
3760.0	[m]	DC	RRI
3780.0	[m]	DC	RRI
3790.0	[m]	DC	RRI
3810.0	[m]	DC	RRI
3830.0	[m]	DC	RRI
3840.0	[m]	DC	RRI
3860.0	[m]	DC	RRI
3870.0	[m]	DC	RRI
3890.0	[m]	DC	RRI
3900.0	[m]	DC	RRI
3920.0	[m]	DC	RRI
3930.0	[m]	DC	RRI
3950.0	[m]	DC	RRI
3970.0	[m]	DC	RRI
3980.0	[m]	DC	RRI
4000.0	[m]	DC	RRI
4020.0	[m]	DC	RRI
4030.0	[m]	DC	RRI
4050.0	[m]	DC	RRI
4060.0	[m]	DC	RRI
4080.0	[m]	DC	RRI
4090.0	[m]	DC	RRI
4110.0	[m]	DC	RRI
4120.0	[m]	DC	RRI
4140.0	[m]	DC	RRI
4150.0	[m]	DC	RRI
4170.0	[m]	DC	RRI
4185.0	[m]	DC	RRI
4200.0	[m]	DC	RRI
4215.0	[m]	DC	RRI
4230.0	[m]	DC	RRI
4250.0	[m]	DC	RRI
4265.0	[m]	DC	RRI
4280.0	[m]	DC	RRI
4335.0	[m]	DC	RRI



4350.0 [m]	DC	RRI
4365.0 [m]	DC	RRI
4380.0 [m]	DC	RRI
4395.0 [m]	DC	RRI
4410.0 [m]	DC	RRI
4425.0 [m]	DC	RRI
4440.0 [m]	DC	RRI
4455.0 [m]	DC	RRI
4470.0 [m]	DC	RRI
4485.0 [m]	DC	RRI
4500.0 [m]	DC	RRI
4515.0 [m]	DC	RRI
4530.0 [m]	DC	RRI
4545.0 [m]	DC	RRI
4551.0 [m]	DC	RRI
4560.0 [m]	DC	RRI
4566.0 [m]	DC	RRI
4578.0 [m]	DC	RRI
4584.0 [m]	DC	RRI
4587.0 [m]	DC	RRI
4590.0 [m]	DC	RRI
4596.0 [m]	DC	RRI
4611.0 [m]	DC	RRI
4626.0 [m]	DC	RRI
4644.0 [m]	DC	RRI
4656.0 [m]	DC	RRI
4665.0 [m]	DC	RRI
4674.0 [m]	DC	RRI
4683.0 [m]	DC	RRI
4692.0 [m]	DC	RRI
4704.0 [m]	DC	RRI
4713.0 [m]	DC	RRI
4722.0 [m]	DC	RRI
4731.0 [m]	DC	RRI
4740.0 [m]	DC	RRI
4749.0 [m]	DC	RRI
4761.0 [m]	DC	RRI
4770.0 [m]	DC	RRI
4782.0 [m]	DC	RRI
4791.0 [m]	DC	RRI



4800.0 [m]	DC	RRI
4809.0 [m]	DC	RRI
4818.0 [m]	DC	RRI
4827.0 [m]	DC	RRI
4836.0 [m]	DC	RRI
4845.0 [m]	DC	RRI
4854.0 [m]	DC	RRI
4860.0 [m]	DC	RRI
4869.0 [m]	DC	RRI
4878.0 [m]	DC	RRI
4887.0 [m]	DC	RRI
4896.0 [m]	DC	RRI
4905.0 [m]	DC	RRI
4914.0 [m]	DC	RRI
4922.0 [m]	DC	RRI
4932.0 [m]	DC	RRI
4941.0 [m]	DC	RRI
4950.0 [m]	DC	RRI
4959.0 [m]	DC	RRI
4968.0 [m]	DC	RRI
4977.0 [m]	DC	RRI
4986.0 [m]	DC	RRI
4995.0 [m]	DC	RRI
5001.0 [m]	DC	RRI
5007.0 [m]	DC	RRI
5013.0 [m]	DC	RRI
5019.0 [m]	DC	RRI
5025.0 [m]	DC	RRI
5031.0 [m]	DC	RRI
5037.0 [m]	DC	RRI
5041.8 [m]	C	RRI
5050.4 [m]	C	RRI
5054.5 [m]	C	RRI
5063.2 [m]	C	RRI
5065.6 [m]	C	RRI
5072.1 [m]	C	RRI
5076.5 [m]	C	RRI
5082.1 [m]	C	RRI
5087.7 [m]	C	RRI
5096.4 [m]	C	RRI



5096.7	[m]	C	RRI
5102.8	[m]	C	RRI
5108.8	[m]	C	RRI
5116.4	[m]	C	RRI
5122.5	[m]	C	RRI
5128.5	[m]	C	RRI
5134.6	[m]	C	RRI
5139.4	[m]	C	RRI
5143.0	[m]	C	RRI
5146.7	[m]	C	RRI
5152.7	[m]	C	RRI
5158.5	[m]	C	RRI
5163.9	[m]	C	RRI
5169.4	[m]	C	RRI
5224.4	[m]	C	RRI
5229.0	[m]	C	RRI
5232.6	[m]	C	RRI
5236.8	[m]	C	RRI

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST1	0.00	0.00		23.08.1996 - 09:30	YES
DST	DST2	0.00	0.00		03.09.1996 - 05:30	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
311	NORDLAND GP
1523	KAI FM
2027	HORDALAND GP
2027	BRYGGE FM
2372	ROGALAND GP
2372	TARE FM
2464	TANG FM
2540	SHETLAND GP



2540	SPRINGAR FM
2813	NISE FM
3002	KVITNOS FM
3681	CROMER KNOLL GP
3681	LYSING FM
3728	LANGE FM
4554	LYR FM
4577	VIKING GP
4577	SPEKK FM
4590	MELKE FM
4731	FANGST GP
4731	GARN FM
4804	NOT FM
4835	ILE FM
4901	BÅT GP
4901	ROR FM
4980	TOFTE FM
5026	ROR FM
5042	TILJE FM
5211	ÅRE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
2795	pdf	0.61

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
2795_1	pdf	1.00

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2795_6506_12_11_S_COMPLETION_REPORT_AND_COMPLETION_LOG	pdf	44.41





Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	5236	5226	20.6
2.0	5207	5198	19.0

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0		12.000		162
2.0		73.000		162

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	690	453000	0.840		656
2.0	470	173900	0.831	0.775	360

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
6CAL CHT GR	2207	4730
DIFL MAC CHT GR	4735	5271
DPR	617	4756
FMT VPC CHT GR	3709	4369
MAC HXDIP GR	3600	5270
MDT GR	4768	5230
MRIL CHT GR	4736	5233
TRIPLE COMBO	4756	5264
VSP GR	1825	5260
ZDL CN CHT GR	3590	5275

Foringsrør og formasjonsstyrketester





Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 14.5.2024 - 12:49

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	370.0	36	370.0	0.00	LOT
INTERM.	20	617.0	26	618.0	1.40	LOT
INTERM.	13 3/8	2227.0	17 1/2	2230.0	1.87	LOT
INTERM.	9 5/8	4739.0	12 1/4	4739.0	0.00	LOT
OPEN HOLE		5268.0	8 1/2	5268.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
1070	1.25			DUMMY	
1720	1.28			DUMMY	
2242	1.36	18.0		ANCO 2000	
2340	1.65	65.0		ANCO VERT	
2560	1.66	52.0		ANCO VERT	
3980	1.76	59.0		ANCO VERT	
3986	1.66	52.0		ANCO VERT	
4326	1.72	54.0		ANCO VERT	
4548	1.76	56.0		ANCO VERT	
4619	1.76	55.0		ANCO VERT	
4727	1.76	57.0		ANCO VERT	
4756	1.76	56.0		ANCO VERT	
4790	1.20			DUMMY	
4790	1.20	18.0		ANCO VERT	
4802	1.20	30.0		ANCO VERT	
4831	1.20	29.0		ANCO VERT	
4950	1.20			DUMMY	
4953	1.20	23.0		ANCO VERT	
4999	1.20	25.0		ANCO VERT	
5041	1.20	27.0		ANCO VERT	
5063	1.20	18.0		ANCO VERT	
5117	1.20			DUMMY	
5146	1.20			DUMMY	
5212	1.20			DUMMY	
5237	1.20			DUMMY	
5268	1.20	30.0		ANCO VERT	
5268	1.20			DUMMY	



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]
2795 Formation pressure (Formasjonstrykk)	pdf	0.30

