Generell informasjon

Brønnbane navn	6506/12-10
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	6506/12-10
Seismisk lokalisering	ST 8801- INLINE 920 & CROSSLINE 942
Utvinningstillatelse	094
Boreoperatør	Den norske stats oljeselskap a.s
Boretillatelse	807-L
Boreinnretning	ROSS RIG (2)
Boredager	67
Borestart	21.04.1995
Boreslutt	26.06.1995
Frigitt dato	26.06.1997
Publiseringsdato	24.09.2002
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	SHOWS
Funnbrønnbane	NO
Avstand, boredekk - midlere havflate [m]	24.0
Vanndybde ved midlere havflate [m]	285.0
Totalt målt dybde (MD) [m RKB]	5097.0
Totalt vertikalt dybde (TVD) [m RKB]	5096.0
Maks inklinasjon [°]	2.6
Temperatur ved bunn av brønnbanen [°C]	160
Eldste penetrerte alder	EARLY JURASSIC
Eldste penetrerte formasjon	ÅRE FM
Geodetisk datum	ED50
NS grader	65° 8' 7.82'' N
ØV grader	6° 49' 6.47'' E
NS UTM [m]	7225505.52
ØV UTM [m]	397658.22

UTM sone	32
NPDID for brønnbanen	2445

Brønnhistorie

General

The main objective for well 6506/12-10 was to appraise the down flanks hydrocarbons in the Garn, Ile, Tilje, and the Åre Formations, on the Smørbukk Field.

Operations and results

The vertical appraisal well 6506/12-10 was spudded with the semi-submersible installation "Ross Rig" on 21 April and drilled to 5097 m in the Early Jurassic Åre Formation within the planned budget. Boulders were encountered drilling the 36" section, and was the main reason why the 22" underreamer became stuck in 20" casing. As 12 1/4" pilot hole was drilled to 890 m, gas flow occurred when flow checking with seawater at 628 m. The 20" casing had to be set above this zone, which was considerable higher than planned. A 16" liner was then set to obtain enough integrity below 16" liner shoe to drill 17 1/2" section to 2795 m for optimum setting depth of 13 3/8" casing (lower part of Shetland). All other casing strings were set at planned depths according to "Base case" in the drilling programme. The well was drilled with seawater/bentonite down to 562 m, seawater/bentonite/CMC from 562 m to 1602 m, and Anco 2000 mud with Anco 208 glycol additive from 1602 m to 2790 m. Oil based mud (ANCO VERT) was used from 2790 The 6506/12-10 well proved no producible oil or gas in neither the Fangst nor the Båt Groups, thereby delineating hydrocarbons to the central areas of the field. The results of the 6506/12-10 well lead to the conclusion that there had to be drilled a sidetrack well in order to fulfill the obligations of the well and perform an extended production test of the Tilje Formation. Fourteen cores were cut in the Fangst and Båt Groups. FMT fluid samples were taken at four levels within the Åre and Tilje Formations. They contained mainly base oil (from the drilling fluid) and water. No indigenous hydrocarbons were found. It was decided to sidetrack the well and to penetrate higher up on the structure (6506/12-10 A). The vertical well was plugged with top plug (kick-off plug) in 13 3/8" casing and classified as a dry appraisal well on 16 June 1995.

Testing

No drill stem test was performed.

Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
570.00	4848.00

Borekaks tilgjengelig for prøvetaking?	YES

Borekjerner i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	4564.0	4592.2	[m]
2	4592.2	4616.0	[m]
3	4660.0	4671.1	[m]
4	4672.0	4694.8	[m]
5	4696.0	4717.9	[m]
6	4848.0	4873.3	[m]
7	4873.3	4886.0	[m]
8	4887.0	4908.4	[m]
9	4908.4	4928.0	[m]
10	4928.1	4964.0	[m]
11	4964.6	4986.0	[m]
12	4986.6	5023.0	[m]
13	5023.8	5059.0	[m]
14	5059.5	5096.0	[m]

Total kjerneprøve lengde [m]	352.3
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder


4564-4569m


4569-4574m


4574-4579m


4579-4584m


4584-4589m


4589-4592m


4592-4597m


4597-4602m


4602-4607m


4607-4612m


4612-4616m


4660-4665m


4665-4670m


4670-4671m


4672-4677m


4677-4682m


4682-4687m


4687-4692m


4692-4694m


4696-4701m


4701-4706m


4706-4711m


4711-4716m


4716-4718m


4848-4853m


4858-4863m


4863-4868m


4868-4873m


4873-4873m


4873-4878m


4878-4883m


4883-4886m


4887-4892m


4892-4897m


4897-4902m


4902-4907m


4907-4908m


4908-4913m


4913-4918m


4918-4923m


4923-4928m


4928-4933m


4933-4938m


4938-4943m


4943-4948m


4948-4953m


4953-4958m


4958-4963m


4963-4965m


4965-4969m


4969-4974m


4974-4979m


4979-4984m


4984-4986m


4986-4991m


4991-4996m


4996-5001m


5001-5006m


5006-5011m


5011-5016m


5016-5021m


5021-5023m


5023-5028m


5028-5033m


5033-5038m


5038-5043m


5043-5048m


5048-5053m


5053-5058m


5058-5060m


5060-6064m


5064-5069m


5069-5074m


5074-5079m


5079-5084m


5084-5089m


5089-5094m


5094-5097m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
1850.0	[m]	DC	RRI
1880.0	[m]	DC	RRI
1910.0	[m]	DC	RRI
1940.0	[m]	DC	RRI
1970.0	[m]	DC	RRI
2000.0	[m]	DC	RRI
2030.0	[m]	DC	RRI
2060.0	[m]	DC	RRI
2090.0	[m]	DC	RRI
2120.0	[m]	DC	RRI
2150.0	[m]	DC	RRI
2180.0	[m]	DC	RRI
2210.0	[m]	DC	RRI
2230.0	[m]	DC	RRI
2240.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2270.0	[m]	DC	RRI
2280.0	[m]	DC	RRI
2290.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2310.0	[m]	DC	RRI
2320.0	[m]	DC	RRI
2330.0	[m]	DC	RRI

2340.0	[m]	DC	RRI
2350.0	[m]	DC	RRI
2360.0	[m]	DC	RRI
2390.0	[m]	DC	RRI
2420.0	[m]	DC	RRI
2450.0	[m]	DC	RRI
2480.0	[m]	DC	RRI
2510.0	[m]	DC	RRI
2540.0	[m]	DC	RRI
2570.0	[m]	DC	RRI
2600.0	[m]	DC	RRI
2630.0	[m]	DC	RRI
2660.0	[m]	DC	RRI
2690.0	[m]	DC	RRI
2720.0	[m]	DC	RRI
2750.0	[m]	DC	RRI
2780.0	[m]	DC	RRI
2810.0	[m]	DC	RRI
2840.0	[m]	DC	RRI
2870.0	[m]	DC	RRI
2900.0	[m]	DC	RRI
2930.0	[m]	DC	RRI
2960.0	[m]	DC	RRI
2990.0	[m]	DC	RRI
3020.0	[m]	DC	RRI
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3110.0	[m]	DC	RRI
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3230.0	[m]	DC	RRI
3260.0	[m]	DC	RRI
3290.0	[m]	DC	RRI
3300.0	[m]	DC	RRI
3320.0	[m]	DC	RRI
3330.0	[m]	DC	RRI
3350.0	[m]	DC	RRI
3360.0	[m]	DC	RRI
3380.0	[m]	DC	RRI

3390.0	[m]	DC	RRI
3410.0	[m]	DC	RRI
3430.0	[m]	DC	RRI
3440.0	[m]	DC	RRI
3450.0	[m]	DC	RRI
3470.0	[m]	DC	RRI
3480.0	[m]	DC	RRI
3500.0	[m]	DC	RRI
3510.0	[m]	DC	RRI
3530.0	[m]	DC	RRI
3540.0	[m]	DC	RRI
3560.0	[m]	DC	RRI
3570.0	[m]	DC	RRI
3590.0	[m]	DC	RRI
3600.0	[m]	DC	RRI
3620.0	[m]	DC	RRI
3630.0	[m]	DC	RRI
3650.0	[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
3740.0	[m]	DC	RRI
3750.0	[m]	DC	RRI
3770.0	[m]	DC	RRI
3780.0	[m]	DC	RRI
3800.0	[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
3960.0	[m]	DC	RRI
3980.0	[m]	DC	RRI

3990.0	[m]	DC	RRI
4010.0	[m]	DC	RRI
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4070.0	[m]	DC	RRI
4080.0	[m]	DC	RRI
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4110.0	[m]	DC	RRI
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4140.0	[m]	DC	RRI
4160.0	[m]	DC	RRI
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4190.0	[m]	DC	RRI
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4210.0	[m]	DC	RRI
4220.0	[m]	DC	RRI
4230.0	[m]	DC	RRI
4240.0	[m]	DC	RRI
4250.0	[m]	DC	RRI
4260.0	[m]	DC	RRI
4270.0	[m]	DC	RRI
4280.0	[m]	DC	RRI
4290.0	[m]	DC	RRI
4300.0	[m]	DC	RRI
4310.0	[m]	DC	RRI
4320.0	[m]	DC	RRI
4330.0	[m]	DC	RRI
4340.0	[m]	DC	RRI
4350.0	[m]	DC	RRI
4360.0	[m]	DC	RRI
4370.0	[m]	DC	RRI
4380.0	[m]	DC	RRI
4390.0	[m]	DC	RRI
4400.0	[m]	DC	RRI
4410.0	[m]	DC	RRI
4420.0	[m]	DC	RRI
4430.0	[m]	DC	RRI
4440.0	[m]	DC	RRI
4450.0	[m]	DC	RRI

4460.0	[m]	DC	RRI
4470.0	[m]	DC	RRI
4480.0	[m]	DC	RRI
4490.0	[m]	DC	RRI
4500.0	[m]	DC	RRI
4510.0	[m]	DC	RRI
4520.0	[m]	DC	RRI
4530.0	[m]	DC	RRI
4540.0	[m]	DC	RRI
4548.0	[m]	DC	RRI
4557.0	[m]	DC	RRI
4563.0	[m]	DC	RRI
4623.0	[m]	DC	RRI
4635.0	[m]	DC	RRI
4641.0	[m]	DC	RRI
4647.0	[m]	DC	RRI
4653.0	[m]	DC	RRI
4660.6	[m]	C	RRI
4664.6	[m]	C	RRI
4668.2	[m]	C	RRI
4670.5	[m]	C	RRI
4674.6	[m]	C	RRI
4679.6	[m]	C	RRI
4683.4	[m]	C	RRI
4687.3	[m]	C	RRI
4691.0	[m]	C	RRI
4694.7	[m]	C	RRI
4698.1	[m]	C	RRI
4702.4	[m]	C	RRI
4707.4	[m]	C	RRI
4711.8	[m]	C	RRI
4714.7	[m]	C	RRI
4717.6	[m]	C	RRI
4719.0	[m]	DC	RRI
4725.0	[m]	DC	RRI
4803.0	[m]	DC	RRI
4809.0	[m]	DC	RRI
4815.0	[m]	DC	RRI
4821.0	[m]	DC	RRI
4827.0	[m]	DC	RRI

4833.0	[m]	DC	RRI
4839.0	[m]	DC	RRI
4845.0	[m]	DC	RRI
4848.7	[m]	C	RRI
4854.9	[m]	DC	UOS
4860.0	[m]	DC	UOS
4861.0	[m]	DC	UOS
4861.3	[m]	C	RRI
4861.3	[m]	DC	UOS
4862.6	[m]	DC	UOS
4866.5	[m]	DC	RRI
4870.2	[m]	DC	UOS
4874.5	[m]	DC	UOS
4880.0	[m]	DC	UOS
4884.7	[m]	DC	UOS
4887.5	[m]	DC	UOS
4892.8	[m]	DC	UOS
4895.8	[m]	DC	UOS
4898.5	[m]	C	RRI
4898.5	[m]	DC	UOS
4901.8	[m]	DC	UOS
4907.8	[m]	DC	UOS
4912.6	[m]	DC	UOS
4915.9	[m]	DC	UOS
4920.2	[m]	C	RRI
4920.2	[m]	DC	UOS
4924.7	[m]	DC	UOS
4928.1	[m]	DC	UOS
4931.8	[m]	DC	UOS
4940.2	[m]	DC	UOS
4955.0	[m]	DC	UOS
4957.3	[m]	DC	UOS
4975.5	[m]	DC	UOS
4980.6	[m]	DC	UOS
4987.7	[m]	DC	UOS
5000.0	[m]	DC	UOS
5004.6	[m]	C	RRI
5009.4	[m]	C	RRI
5014.2	[m]	C	RRI
5019.6	[m]	C	RRI

5024.7	[m]	C	RRI
5029.1	[m]	C	RRI
5034.8	[m]	C	RRI
5039.2	[m]	C	RRI
5045.4	[m]	C	RRI
5050.8	[m]	C	RRI
5055.8	[m]	C	RRI
5060.2	[m]	C	RRI
5065.6	[m]	C	RRI
5070.4	[m]	C	RRI
5075.6	[m]	C	RRI
5079.8	[m]	C	RRI
5084.7	[m]	C	RRI
5089.7	[m]	C	RRI
5092.9	[m]	C	RRI

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
309	NORDLAND GP
1452	KAI FM
1914	HORDALAND GP
1914	BRYGGE FM
2227	ROGALAND GP
2227	TARE FM
2315	TANG FM
2384	SHETLAND GP
2384	SPRINGAR FM
2555	NISE FM
2848	KVITNOS FM
3353	CROMER KNOLL GP
3353	LYSING FM
3372	LANGE FM
4177	LYR FM
4229	VIKING GP
4229	SPEKK FM
4293	MELKE FM
4545	FANGST GP
4545	GARN FM

4605	NOT FM
4636	ILE FM
4723	BÅT GP
4723	ROR FM
4777	TOFTE FM
4814	ROR FM
4858	TILJE FM
5024	ÅRE FM

Spleisede logger

Dokument navn	Dokument format	Dokument størrelse [KB]
2445	pdf	0.60

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
2445_1	pdf	1.19
2445_2	pdf	1.12

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
2445_6506_12_10_COMPLETION_REPORT_AND_LOG	pdf	33.51

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
4-ARM CAL GR	1570	4540
DCBIL GR	3730	5091
DIFL ACL ZDL CN CHT GR	4545	4845
DPIL MAC DSL	4546	5091
FMT GR	4929	5052
FMT VPC QDYNE GR	4565	4779

MAC GR	3730	5091
MWD DPR	372	890
MWD DPR	2158	4811
MWD RGD	372	2158
ZDL CN CAL GR	3300	4540
ZDL CN DEL2 GR	4546	5091
ZDL MAC DSL	4546	5092
ZOVSP MLRG SR	1500	5075

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	36	370.0	30	371.0	0.00	LOT
INTERM.	20	556.0	26	557.0	1.32	LOT
INTERM.	16	1581.0	18	1583.0	1.73	LOT
INTERM.	13 3/8	2780.0	17 1/2	2782.0	1.87	LOT
INTERM.	9 5/8	4550.0	12 1/4	4550.0	1.80	LOT
OPEN HOLE		5097.0	8 1/2	5097.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
615	1.15	13.0	14.5	WATER BASED	03.05.1995
960	1.15	7.0	6.0	WATER BASED	03.05.1995
1338	1.15	8.0	5.5	WATER BASED	03.05.1995
1602	1.15	9.0	6.5	WATER BASED	03.05.1995
1602	1.18	6.0	10.5	WATER BASED	03.05.1995
1602	1.18	11.0	5.5	WATER BASED	05.05.1995
1602	1.18	9.0	6.5	WATER BASED	05.05.1995
1675	1.40	21.0	9.0	WATER BASED	08.05.1995
2050	1.55	29.0	13.0	WATER BASED	08.05.1995
2144	1.60	33.0	13.0	WATER BASED	08.05.1995
2155	1.60	29.0	12.5	WATER BASED	09.05.1995
2355	1.65	31.0	12.0	WATER BASED	10.05.1995
2450	1.65	40.0	20.5	WATER BASED	11.05.1995
2450	1.65	36.0	19.0	WATER BASED	12.05.1995
2450	1.65	42.0	20.0	WATER BASED	15.05.1995

2450	1.65	42.0	18.0	WATER BASED	15.05.1995
2450	1.67	34.0	14.0	WATER BASED	15.05.1995
2450	1.67	26.0	10.0	WATER BASED	18.05.1995
2450	1.67	25.0	7.0	WATER BASED	18.05.1995
2450	1.67	26.0	7.0	WATER BASED	18.05.1995
2700	1.66	47.0	6.5	OIL BASED	26.06.1995
2758	1.65	40.0	20.5	WATER BASED	11.05.1995
2780	1.66	46.0	6.5	OIL BASED	26.06.1995
2795	1.65	42.0	18.0	WATER BASED	15.05.1995
2795	1.67	26.0	10.0	WATER BASED	18.05.1995
2795	1.53	40.0	7.0	OIL BASED	22.05.1995
2795	1.67	25.0	7.0	WATER BASED	18.05.1995
2795	1.67	34.0	14.0	WATER BASED	15.05.1995
2795	1.65	42.0	20.0	WATER BASED	15.05.1995
2795	1.65	36.0	19.0	WATER BASED	12.05.1995
2795	1.67	26.0	7.0	WATER BASED	18.05.1995
2795	1.67	25.0	7.0	WATER BASED	19.05.1995
2850	1.66	47.0	6.5	OIL BASED	26.06.1995
2900	1.66	43.0	8.0	OIL BASED	23.06.1995
3201	1.53	40.0	7.0	OIL BASED	22.05.1995
3722	1.53	41.0	7.5	OIL BASED	22.05.1995
3985	1.53	39.0	6.5	OIL BASED	23.05.1995
4182	1.53	38.0	6.0	OIL BASED	26.05.1995
4321	1.60	45.0	7.5	OIL BASED	26.05.1995
4466	1.60	48.0	8.5	OIL BASED	26.05.1995
4531	1.64	43.0	8.5	OIL BASED	29.05.1995
4531	1.66	49.0	10.5	OIL BASED	29.05.1995
4548	1.66	50.0	10.0	OIL BASED	29.05.1995
4564	1.20	21.0	10.0	OIL BASED	07.06.1995
4564	1.20	22.0	9.0	OIL BASED	08.06.1995
4564	1.20	25.0	6.0	OIL BASED	20.06.1995
4564	1.20	22.0	8.5	OIL BASED	09.06.1995
4564	1.20	22.0	8.0	OIL BASED	12.06.1995
4564	1.20	22.0	8.0	OIL BASED	12.06.1995
4564	1.20	22.0	7.0	OIL BASED	12.06.1995
4564	1.20	24.0	6.0	OIL BASED	14.06.1995
4564	1.20	24.0	6.0	OIL BASED	15.06.1995
4564	1.20	25.0	6.0	OIL BASED	20.06.1995
4592	1.20	17.0	7.0	OIL BASED	07.06.1995
4619	1.20	20.0	6.5	OIL BASED	07.06.1995

4660	1.20	18.0	8.5	OIL BASED	07.06.1995
4696	1.20	23.0	7.5	OIL BASED	07.06.1995
4718	1.20	21.0	7.0	OIL BASED	07.06.1995
4811	1.20	21.0	10.0	OIL BASED	07.06.1995
4848	1.20	22.0	9.0	OIL BASED	08.06.1995
4872	1.20	22.0	8.5	OIL BASED	09.06.1995
4887	1.20	22.0	8.0	OIL BASED	12.06.1995
4908	1.20	22.0	7.0	OIL BASED	12.06.1995
4908	1.20	22.0	8.0	OIL BASED	12.06.1995
4908	1.20	24.0	6.0	OIL BASED	15.06.1995
4964	1.20	24.0	6.0	OIL BASED	14.06.1995
5024	1.20	25.0	6.0	OIL BASED	20.06.1995
5052	1.20	26.0	7.0	OIL BASED	22.06.1995
5077	1.20	25.0	6.0	OIL BASED	20.06.1995
5097	1.20	28.0	6.0	OIL BASED	20.06.1995
5097	1.20	26.0	7.0	OIL BASED	22.06.1995
5097	1.20	26.0	7.5	OIL BASED	20.06.1995
5097	1.20	27.0	7.0	OIL BASED	20.06.1995
5097	1.20	27.0	6.0	OIL BASED	20.06.1995
5097	1.20	26.0	7.0	OIL BASED	21.06.1995

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]
2445_Formation_pressure_(Formasjonstrykk)	pdf	0.28