



Generell informasjon

Brønnbane navn	6507/2-4
Type	EXPLORATION
Formål	APPRAISAL
Status	P&A
Pressemelding	lenke til pressemelding
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORWEGIAN SEA
Felt	MARULK
Funn	6507/2-2 Marulk
Brønn navn	6507/2-4
Seismisk lokalisering	Survey ST9717RO4-inline3894 & Trace 3766
Utvinningstillatelse	122
Boreoperatør	Eni Norge AS
Boretillatelse	1163-L
Boreinnretning	WEST ALPHA
Boredager	95
Borestart	17.11.2007
Boreslutt	19.02.2008
Frigitt dato	19.02.2010
Publiseringsdato	19.02.2010
Opprinnelig formål	APPRAISAL
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE CRETACEOUS
1. nivå med hydrokarboner, formasjon.	LYSING FM
Avstand, boredekk - midlere havflate [m]	18.0
Vanndybde ved midlere havflate [m]	365.0
Totalt målt dybde (MD) [m RKB]	3600.0
Totalt vertikalt dybde (TVD) [m RKB]	3600.0
Maks inklinasjon [°]	2
Temperatur ved bunn av brønnbanen [°C]	126
Eldste penetrerte alder	EARLY CRETACEOUS
Eldste penetrerte formasjon	LYR FM



Geodetisk datum	ED50
NS grader	65° 56' 27.42" N
ØV grader	7° 35' 38.18" E
NS UTM [m]	7314229.99
ØV UTM [m]	436037.20
UTM sone	32
NPDID for brønnbanen	5685

Brønnhistorie

General

Well 6507/2-4 was drilled on the Marulk structure on the Dønna Terrace in the Norwegian Sea. The main purpose was to appraise the Lysing Formation discovery in the previous well 6507/2-2, and to confirm the reserves down flank. Lange Formation (Intra Lange sandstones UL2 and UL1) was the secondary target. Planned TD was set 50 m into the Jurassic.

Operations and results

Appraisal well 6507/2-4 was spudded with the semi-submersible installation West Alpha on 17 November 2007 and drilled to TD at 3600 m in the Early Cretaceous Lyr Formation. Operations proceeded without really serious problems, but in the 12 1/4" and 8 1/2" sections a considerable amount of time was NPT due bad weather conditions and hole instability with tendency of stuck BHA. Due to very low rate of penetration it was agreed among the License Partners to set TD in the Cretaceous Lyr Formation. The well was drilled with sea water and hi-vis sweeps down to 1350 m and with Ultradril mud from 1350 m to TD.

All stratigraphic tops were encountered generally 10-27 meters higher than expected; Lysing formation was found 10.4 m higher than prognosed, UL2 sandstone 14.5 m deepest and UL1 sandstone was hit 19 m higher. The primary target Lysing sandstone was found at 2832 m and was found Gas/Condensate bearing all through down to a GDT at 2853 m. Unit UL2 was found water bearing at 3331.5 m, composed by many sand layers interbedded with claystone. Unit UL1 was found at oil bearing at 3378.5 m, consisting in one sand body 3 meters thick. Oil shows and gas peaks were recorded in numerous thin sandstone stringers in the Lange Formation between 3320 m and 3465 m.

One core was cut from 2835 to 2852 m in the Lysing Formation, and two cores were cut in the interval 3334 to 3344.8 m in the Lange Formation. MDT gas/condensate samples were taken at 2838 m and 2850 m in the Lysing Formation, water was sampled in the intra-Lange Formation UL2 level at 3337 m, and oil in the intra-Lange Formation UL1 level at 3380.5 m.

The well was permanently abandoned on 19 February 2008 as a gas/condensate appraisal well.

Testing

No drill stem test was performed.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
1360.00	3600.00
Borekaks tilgjengelig for prøvetaking?	YES

Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2835.0	2852.0	[m]
2	3334.0	3342.3	[m]
3	3342.3	3344.8	[m]
Total kjerneprøve lengde [m]		27.8	
Kjerner tilgjengelig for prøvetaking?		YES	

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST		0.00	0.00			YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
383	NORDLAND GP
1375	KAI FM
1800	HORDALAND GP
1800	BRYGGE FM
1852	ROGALAND GP
1852	TARE FM
1964	SHETLAND GP
1964	SPRINGAR FM
2456	KVITNOS FM
2832	CROMER KNOLL GP



2832	LYSING FM
2853	LANGE FM
3332	NO FORMAL NAME
3378	NO FORMAL NAME
3552	LYR FM

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CMR XPT GR	3291	3600
CMR XPT GR ACTS	2755	2971
FMI MSIP GR PPC ACTS	2247	3071
MDT MINI DST	2838	2850
MDT MINI DST	3337	3380
MSCT	3296	3480
MSIP FMI GR	1200	3597
MWD - ARCGR ARCRES DIR	1310	2260
MWD - ARCGR ARCRES DIR SON	447	1310
MWD - GR	383	447
MWD - RAB GR RES BIT RES GDIR EC	3074	3600
MWD - RAB GR RES BIT RES GEODIR	2260	3074
PEX ECS HRLA GR	2247	3074
PEX ECS HRLA GR ACTS	2819	3584
VSP	1440	3550

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	443.0	36	445.0	0.00	LOT
SURF.COND.	20	1343.0	26	1355.0	1.73	LOT
INTERM.	13 3/8	2247.0	17 1/2	2263.0	1.85	LOT
INTERM.	9 5/8	3065.0	12 1/4	3080.0	1.93	LOT
OPEN HOLE		3600.0	8 1/2	3600.0	0.00	LOT

Boreslam



Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
446	1.30			SPUD MUD	
518	1.05			SPUD MUD	
547	1.05			SPUD MUD	
1089	1.05			SPUD MUD	
1350	1.30	120.0		SPUD MUD	
1400	1.25	15.0		ULTRADRIL DW	
2070	1.55	35.0		ULTRADRIL DW	
2260	1.55	31.0		ULTRADRIL DW	
2591	1.48	29.0		ULTRADRIL DW	
2722	1.48	30.0		ULTRADRIL DW	
2756	1.48	28.0		ULTRADRIL DW	
2772	1.48	27.0		ULTRADRIL DW	
2834	1.48	310.0		ULTRADRIL DW	
2954	1.48	31.0		ULTRADRIL DW	
3051	1.49	33.0		ULTRADRIL DW	
3074	1.49	29.0		ULTRADRIL DW	
3084	1.52	32.0		ULTRADRIL DW	
3170	1.56	32.0		ULTRADRIL DW	
3225	1.62	38.0		ULTRADRIL DW	
3237	1.63	37.0		ULTRADRIL DW	
3257	1.66	37.0		ULTRADRIL DW	
3286	1.67	33.0		ULTRADRIL DW	
3334	1.73	41.0		ULTRADRIL DW	
3400	1.73	37.0		ULTRADRIL DW	
3600	1.52	28.0		ULTRADRIL DW	
3601	1.73	39.0		ULTRADRIL DW	

Tynnslip i Sokkeldirektoratet

Dybde	Enhet
2836.00	[m]
2837.00	[m]
2839.50	[m]
2842.50	[m]
2844.45	[m]
2846.50	[m]
2849.75	[m]



3334.60	[m]
3336.05	[m]
3339.50	[m]
3340.05	[m]
3340.45	[m]
3340.57	[m]
3340.90	[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]
5685 Formation pressure (Formasjonstrykk)	pdf	0.28

