General information

Wellbore name	9/2-5
Type	EXPLORATION
Purpose	APPRAISAL
Status	RE-CLASS TO DEV
Factmaps in new window	link to map
Main area	NORTH SEA
Field	YME
Discovery	9/2-3
Well name	9/2-5
Seismic location	ST 9413- INLINE 760 & CROSSLINE 655
Production licence	114
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	816-L
Drilling facility	DEEPSEA BERGEN
Drilling days	29
Entered date	23.06.1995
Completed date	21.07.1995
Release date	21.07.1997
Publication date	24.09.2002
Purpose - planned	APPRAISAL
Reclassified to wellbore	9/2-B-1 H
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	SANDNES FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	BRYNE FM
Kelly bushing elevation [m]	23.0
Water depth [m]	77.0
Total depth (MD) [m RKB]	3355.0
Final vertical depth (TVD) [m RKB]	3354.6
Maximum inclination [°]	1.8
Bottom hole temperature [°C]	118
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	BRYNE FM
Geodetic datum	ED50
NS degrees	57° 45' 15.3'' N

EW degrees	4° 21' 21.16'' E
NS UTM [m]	6402303.16
EW UTM [m]	580693.95
UTM zone	31
NPDID wellbore	2599

Wellbore history

General

The objective for the well 9/2-5 was to appraise the extension of the oil-bearing sequence in the Beta East structure on the Yme field.

Operations and results

Appraisal well 9/2-5 was spudded with the semi-submersible installation "DeepSea Bergen" on 23 June 1995 and drilled to a total depth of 3355 m in the Middle Jurassic Bryne Formation. The well was drilled with very small target tolerances, hence a directional assembly with motor was utilized in order to steer. The well had a final inclination of 2.1° and hit target according to tolerances. The well was drilled 13 days faster than planned; especially the drilling operations went faster than expected. The well was planned and drilled without the use of 20" casing, which gave substantial time saving. The well was drilled with seawater and hi-vis pills down to 1750 m and KCl mud with glycol from 1750 m to TD. The Sandnes and the Bryne Formations were penetrated slightly deeper than prognosed. Both proved better reservoir quality than expected based on information from the well 9/2-3. FMT sampling proved that the Beta East structure has the same oil gradient and water gradient as the Gamma structure. The oil/water contact was recorded at 3270 m TVD (3247 m TVD MSL). Two cores were cut in the interval 3154 to 3193 m in the Sandnes Formation. Several FMT runs were initiated to obtain representative formation fluid samples from the Sandnes Formation. The content of the first segregated sample, Run 2A, confirmed considerable invasion of mud filtrate and made it necessary to increase the volume of the pre-flush chamber. This change in tool configuration led to several misruns due to operational tool failures. Finally, in Run 2F, indications of a successful segregated sample were obtained and the 4-liter PVT chamber was transferred to standard PVT bottles for onshore PVT analysis. One more attempt, Run 2G, was performed

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1590.00	3355.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3154.0	3163.6	[m]
2	3164.5	3192.9	[m]

Total core sample length [m]	38.0
Cores available for sampling?	YES

Core photos


3154-3159m


3159-3163m


3164-3169m


3169-3174m


3174-3179m


3179-3184m


3184-3189m


3189-3193m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2990.0	[m]	DC	GEOSTR
3006.0	[m]	DC	GEOSTR
3018.0	[m]	DC	GEOSTR
3030.0	[m]	DC	GEOSTR
3042.0	[m]	DC	GEOSTR
3054.0	[m]	DC	GEOSTR
3066.0	[m]	DC	GEOSTR
3078.0	[m]	DC	GEOSTR
3080.0	[m]	DC	GEOSTR
3090.0	[m]	DC	GEOSTR
3100.0	[m]	DC	GEOSTR
3102.0	[m]	DC	GEOSTR
3110.0	[m]	DC	GEOSTR

3114.0	[m]	DC	GEOSTR
3125.3	[m]	DC	GEOSTR
3138.0	[m]	DC	GEOSTR
3144.0	[m]	DC	GEOSTR
3150.0	[m]	DC	GEOSTR
3154.0	[m]	DC	GEOSTR
3156.0	[m]	DC	GEOSTR
3158.5	[m]	C	GEOSTR
3159.0	[m]	DC	GEOSTR
3167.8	[m]	C	GEOSTR
3171.5	[m]	C	GEOSTR
3172.9	[m]	C	GEOSTR
3173.2	[m]	C	GEOSTR
3181.9	[m]	C	GEOSTR
3183.5	[m]	C	GEOSTR
3184.7	[m]	C	GEOSTR
3191.4	[m]	C	GEOSTR
3195.0	[m]	DC	GEOSTR
3201.0	[m]	DC	GEOSTR
3207.0	[m]	DC	GEOSTR
3213.0	[m]	DC	GEOSTR
3222.0	[m]	DC	GEOSTR
3228.0	[m]	DC	GEOSTR
3234.0	[m]	DC	GEOSTR
3240.0	[m]	DC	GEOSTR
3246.0	[m]	DC	GEOSTR
3252.0	[m]	DC	GEOSTR
3261.0	[m]	DC	GEOSTR
3267.0	[m]	DC	GEOSTR
3273.0	[m]	DC	GEOSTR
3279.0	[m]	DC	GEOSTR
3285.0	[m]	DC	GEOSTR
3291.0	[m]	DC	GEOSTR
3297.0	[m]	DC	GEOSTR
3303.0	[m]	DC	GEOSTR
3309.0	[m]	DC	GEOSTR
3315.0	[m]	DC	GEOSTR
3321.0	[m]	DC	GEOSTR
3327.0	[m]	DC	GEOSTR
3333.0	[m]	DC	GEOSTR

3339.0	[m]	DC	GEOSTR
3345.0	[m]	DC	GEOSTR
3351.0	[m]	DC	GEOSTR
3355.0	[m]	DC	GEOSTR

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
100	NORDLAND GP
414	HORDALAND GP
923	ROGALAND GP
923	BALDER FM
961	SELE FM
988	LISTA FM
1020	VÅLE FM
1035	SHETLAND GP
1035	EKOFISK FM
1134	TOR FM
1386	HOD FM
1795	BLODØKS FM
1832	CROMER KNOLL GP
1832	RØDBY FM
1849	SOLA FM
1945	ÅSGARD FM
2595	BOKNFJORD GP
2595	FLEKKEFJORD FM
2706	SAUDA FM
3021	TAU FM
3078	EGERSUND FM
3146	VESTLAND GP
3146	SANDNES FM
3263	BRYNE FM

Composite logs

Document name	Document format	Document size [MB]
2599	pdf	0.36

Documents - reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
2599_9_2_5_COMPLETION_REPORT_AND_LOG	pdf	8.03

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIFL ACL GR	1572	3124
DIFL ACL ZDL CN GR	3095	3354
DIPLOG GR	2400	3115
DLL MLL DSL	3312	2253
DPR	3125	3355
DPR TF4-5A	144	3125
FMT CHT OD GR	3152	3322
ZOVSP	500	3105

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
SURF.COND.	30	159.0	36	160.0	0.00	LOT
CONDUCTOR	13 3/8	1572.0	17 1/2	1573.0	1.81	LOT
INTERM.	9 5/8	3115.0	12 1/4	3117.0	1.80	LOT
LINER	7	3355.0	8 1/2	3355.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
240	1.03			WATER BASED	26.06.1995
1218	1.03	26.0	26.0	WATER BASED	26.06.1995
1586	1.40	19.0	21.5	WATER BASED	28.06.1995
1586	1.03	18.0	39.0	WATER BASED	29.06.1995
1660	1.04	18.0	39.0	WATER BASED	30.06.1995

1825	1.45	27.0	15.5	WATER BASED	03.07.1995
2230	1.42	26.0	17.5	WATER BASED	03.07.1995
2710	1.50	32.0	15.5	WATER BASED	04.07.1995
2819	1.42	25.0	16.0	WATER BASED	03.07.1995
2975	1.50	32.0	15.5	WATER BASED	04.07.1995
3115	1.40	25.0	16.5	WATER BASED	17.07.1995
3115	1.40	24.0	18.0	WATER BASED	18.07.1995
3115	1.40	25.0	17.0	WATER BASED	12.07.1995
3125	1.40	20.0	16.0	WATER BASED	11.07.1995
3154	1.40	20.0	16.0	WATER BASED	11.07.1995
3166	1.40	25.0	17.0	WATER BASED	11.07.1995
3234	1.40	25.0	17.0	WATER BASED	12.07.1995
3284	1.40	23.0	15.5	WATER BASED	14.07.1995
3329	1.40	23.0	17.0	WATER BASED	14.07.1995
3355	1.40	25.0	16.5	WATER BASED	17.07.1995

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
2599_Formation_pressure_(Formasjonstrykk)	PDF	0.22