



General information





Wellbore name	25/10-3
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	BALDER
Discovery	25/11-1 Balder
Well name	25/10-3
Seismic location	line sc 72-shot point 6626
Production licence	028
Drilling operator	Esso Exploration and Production Norway A/S
Drill permit	45-L
Drilling facility	GLOMAR GRAND ISLE
Drilling days	18
Entered date	27.08.1970
Completed date	13.09.1970
Release date	13.09.1972
Publication date	10.01.2010
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	EOCENE
1st level with HC, formation	INTRA BALDER FM SS
Kelly bushing elevation [m]	10.0
Water depth [m]	126.0
Total depth (MD) [m RKB]	1921.0
Final vertical depth (TVD) [m RKB]	1921.0
Bottom hole temperature [°C]	63
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	EKOFISK FM
Geodetic datum	ED50
NS degrees	59° 12' 56.5" N
EW degrees	2° 19' 41.73" E
NS UTM [m]	6564415.06
EW UTM [m]	461647.04
UTM zone	31
NPDID wellbore	182



Wellbore history

General

Well 25/10-3 is located in the western part of the Balder Field complex on the Utsira High in the North Sea. Lower Eocene oil sands had been encountered in Esso wells 25/10-1, 25/11-1 and 25/8-1. The objective of 25/10-3 was to test the Eocene sand in a lower structural position to accurately establish the oil/water contact in the area; to determine their lateral continuity and if they would thicken towards the northwest.

Operations and results

Well 25/10-3 was spudded with the vessel Glomar Grand Isle on 27 August 1970 and drilled to TD at 1921 m in the Early Paleocene Ekofisk Formation. Except for stuck pipe at 1247 m, which was worked free with Diesel oil and pipe lax in 4 hours, drilling operations were routine and trouble-free. The well was drilled with seawater/gel down to 402 m, with seawater Spersene/XP-20/Salinex mud from 402 m to 951 m, and with fresh water/Spersene/XP-20 mud from 951 m to TD.

The Oligocene to Recent sediments consisted of clays and sands with no indications of hydrocarbons. The 518 m thick Eocene section was chiefly grey to grey green clay shales with 6.7 m of wet sand in the interval 1401 m to 1413 m (Grid Formation), a 4 m oil-bearing sand from 1750 to 1754 m (Intra Balder Formation sandstone), and a 1 m wet sand at 1799 m. The 4 m oil sand had 32-36% porosity and tested 26 deg API gravity oil on a wire line formation test. Oil shows were observed in cuttings from 1716 m and down to the top of the oil bearing sand, and shows continued down to 1768 m, all through the cored section. In addition to the Intra Balder Formation sandstone the Paleocene section penetrated was composed primarily of 3 sands interbedded with grey green shale. From top to bottom the Paleocene sands were respectively 29 m thick with 35% porosity, 38 m thick with 35% porosity, and 9 m thick with 30% porosity. These sands were water-bearing.

The OWC was concluded to be somewhere between 1754 m and 1799 m. It was also concluded that the thin Lower Eocene sands did not correlate between wells and appeared to be lenticular and discontinuous.

One core was cut in the Balder Formation from 1752.6 m to 1768.1 m with 100% recovery. Formation Interval Tests (FIT) were conducted at 1750.8 m and at 1752 m. The first, at 1752.8 m, was a seal failure. The second recovered 0.052 Sm³ gas, 0.9 l oil, and 2.3 l gas and oil cut mud.

The well was permanently abandoned on 13 September 1970 as an oil appraisal well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
402.34	1908.96

Cuttings available for sampling?	YES
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**Cores at the Norwegian Offshore Directorate**

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	5750.0	5801.0	[ft]

Total core sample length [m]	15.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2970.0	[ft]	DC	
3090.0	[ft]	DC	
3180.0	[ft]	DC	
3270.0	[ft]	DC	
3390.0	[ft]	DC	
3480.0	[ft]	DC	
3600.0	[ft]	DC	
3690.0	[ft]	DC	
3780.0	[ft]	DC	
3900.0	[ft]	DC	
3990.0	[ft]	DC	
4080.0	[ft]	DC	
4200.0	[ft]	DC	
4290.0	[ft]	DC	
4380.0	[ft]	DC	
4500.0	[ft]	DC	
4590.0	[ft]	DC	
4680.0	[ft]	DC	
4800.0	[ft]	DC	
4890.0	[ft]	DC	
4980.0	[ft]	DC	
5000.0	[ft]	DC	
5100.0	[ft]	DC	
5190.0	[ft]	DC	
5280.0	[ft]	DC	
5400.0	[ft]	DC	



5490.0	[ft]	DC	
5500.0	[ft]	DC	
5520.0	[ft]	DC	
5540.0	[ft]	DC	
5560.0	[ft]	DC	
5580.0	[ft]	DC	
5600.0	[ft]	DC	
5620.0	[ft]	DC	
5640.0	[ft]	DC	
5660.0	[ft]	DC	
5680.0	[ft]	DC	
5700.0	[ft]	DC	
5761.0	[ft]	C	
5799.0	[ft]	C	
5800.0	[ft]	DC	
5830.0	[ft]	DC	
5860.0	[ft]	DC	
5860.0	[ft]	DC	
5890.0	[ft]	DC	
5920.0	[unknown]	DC	
5980.0	[ft]	DC	
6040.0	[ft]	DC	
6070.0	[ft]	DC	
6100.0	[ft]	DC	
6160.0	[ft]	DC	
6190.0	[ft]	DC	
6220.0	[ft]	DC	
6280.0	[ft]	DC	

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
136	NORDLAND GP
533	UTSIRA FM
689	NO FORMAL NAME
738	HORDALAND GP
738	SKADE FM
941	NO FORMAL NAME
1122	SKADE FM



1229	NO FORMAL NAME
1401	GRID FM
1410	NO FORMAL NAME
1711	ROGALAND GP
1711	BALDER FM
1750	INTRA BALDER FM SS
1753	BALDER FM
1769	SELE FM
1808	HERMOD FM
1837	SELE FM
1841	HEIMDAL FM
1879	LISTA FM
1900	HEIMDAL FM
1909	LISTA FM
1911	SHETLAND GP
1911	EKOFISK FM

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
182_01_WDSS_General_Information	pdf	0.16

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

Document name	Document format	Document size [MB]
182_01_25_10_3_Completion_Log	pdf	0.98
182_01_25_10_3_Completion_report	pdf	1.02

Documents - Norwegian Offshore Directorate papers

Document name	Document format	Document size [MB]
182_01_NPD_Paper_No.28_Lithology_Balder_area_Well_25_10_3	pdf	18.56
182_02_NPD_Paper_No.28_Lithologic_Correlation_chart_Well_25_10_3	pdf	0.48





182 03 NPD Paper No.28 Log Correlation chart Profile NW-SE Well 25 10 3	pdf	0.25
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Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1750	1752	0.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				

Test number	Oil [Sm ³ /day]	Gas [Sm ³ /day]	Oil density [g/cm ³]	Gas grav. rel.air	GOR [m ³ /m ³]
1.0	900		0.840		

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BHC SON GR	3092	6285
DEN	3092	62295
GR	446	3092
IEL	3093	6295
VELOCITY	0	0

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm ³]	Formation test type
CONDUCTOR	30	173.0	36	177.0	0.00	LOT
SURF.COND.	13 3/8	386.0	17 1/2	402.0	0.00	LOT
INTERM.	9 5/8	942.0	12 1/4	951.0	0.00	LOT
OPEN HOLE		1921.0	8 1/2	1921.0	0.00	LOT

Drilling mud





Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
173	0.00			waterbased	
386	0.00			waterbased	
942	0.00			waterbased	