

**General information**

Wellbore name	30/6-13
Type	EXPLORATION
Purpose	APPRAISAL
Status	SUSPENDED
Factmaps in new window	link to map
Main area	NORTH SEA
Field	OSEBERG
Discovery	30/6-1 Oseberg
Well name	30/6-13
Seismic location	36 M SW OF SP 490 ON LINE 703 127
Production licence	053
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	366-L
Drilling facility	TREASURE SEEKER
Drilling days	65
Entered date	11.03.1983
Completed date	14.05.1983
Release date	14.05.1985
Publication date	19.12.2007
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	25.0
Water depth [m]	105.0
Total depth (MD) [m RKB]	2775.0
Final vertical depth (TVD) [m RKB]	2775.0
Maximum inclination [°]	1.75
Bottom hole temperature [°C]	107
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	60° 33' 14.59" N
EW degrees	2° 49' 21.76" E
NS UTM [m]	6713288.65
EW UTM [m]	490276.57



UTM zone	31
NPDID wellbore	7

Wellbore history

General

Well 30/6-13 is a replacement for the 30/6-12 well, which was terminated in Pliocene sediments due to technical problems. The appraisal well 30/6-13 was drilled in a down flank position on the Alpha block east of the 30/6-1 Oseberg Discovery well, which tested gas in the Middle Jurassic Brent Group. The main objectives of the well were to confirm the reserves of hydrocarbons, to prove oil in the Etive Formation, to define and refine the geological model for the Alpha structure, to obtain core from the Brent Group, and to do a water injection test in the oil zone. The well was planned to be drilled 50 m into the Drake Formation to a total depth of 2764+/- 50 m.

Operations and results

Well 30/6-13 was spudded with the semi-submersible installation Treasure Seeker on a location ca 40 m to the south-east of well 30/6-12, on 11 March 1983. It was drilled to TD at 2775 m in the Early Jurassic Drake Formation. No major problems occurred during drilling. The well was drilled with spud mud down to 613 m and with a KCl/polymer mud from 613 m to TD. A pill of Imco-spot/Pipelax 140 bbl pill with 50 bbl diesel was spotted from 1410 m to 1525 m to free the 13 3/8" casing, which was stuck. The casing got free and was cemented with shoe at 1705 m.

The well encountered hydrocarbons from 2571 to 2671 m in the Middle Jurassic Brent Group sandstones. No other hydrocarbon bearing reservoirs were encountered. Oil shows reported from limestone stringers in the interval 2120 - 2325 m in the Paleocene and Late Cretaceous were considered uninteresting.

A total of nine cores were cut continuously from the Ness Formation to the Dunlin Group shales. One successful segregated RFT fluid sample was obtained at 2661.5 m (3 l oil and 0.57 Sm³ gas).

The well was permanently abandoned on 14 May 1983 as an oil/gas appraisal well.

Testing

Three DST's were performed in the Brent Group.

DST 1 was a combined production and injection test in the Etive Formation at 2640 - 2650 m. The test produced 450 Sm³ oil and 57766 Sm³ gas /day through a 28/64" choke. The GOR was 128 Sm³/Sm³ and the oil gravity was 34.3 deg API. The CO₂ content was 0.9 %, and the H₂S content was 0.3 ppm. The maximum injection rate was 1586 m³ in the water injection test. The bottom hole temperature was 103.9 deg C.

DST 2 tested the interval 2596 - 2601 m in the Ness Formation. It produced 424 Sm³ oil and 43608 Sm³ gas /day through a 28/64" choke. The GOR was 103 Sm³/Sm³ and the oil gravity was 35.1 deg API. The CO₂ content was 1 % and the H₂S content was 0 ppm. The bottom hole temperature was 101.9 deg C.

DST 3 tested the interval 2573.5 - 2579.5 m in the Ness Formation. It produced 428 Sm³ oil and 42192 Sm³ gas /day through a 28/64" choke. The GOR was 99 Sm³/Sm³ and the oil gravity was 35.8 deg API. The CO₂ content was 1 % and the H₂S content was 0 ppm. The bottom hole temperature was 101.7 deg C.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
230.00	2775.00

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	2584.0	2599.6	[m]
2	2599.9	2616.4	[m]
3	2616.5	2619.7	[m]
4	2623.0	2629.1	[m]
6	2642.0	2645.7	[m]
7	2646.0	2654.9	[m]
8	2654.0	2669.6	[m]
9	2669.0	2672.3	[m]

Total core sample length [m]	72.8
Cores available for sampling?	YES

Core photos

2584-2588m



2589-2593m



2594-2598m



2599-2599m



2599-2604m



2604-2608m



2609-2613m



2614-2616m



2616-2619m



2623-2628m



2628-2629m



2642-2645m



2646-2651m



2651-2654m



2654-2659m



2659-2660m



2669-2672m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2404.1	[m]	SWC	RRI
2414.0	[m]	SWC	RRI
2428.0	[m]	SWC	RRI
2435.0	[m]	SWC	RRI
2455.0	[m]	SWC	RRI
2474.9	[m]	SWC	RRI
2520.0	[m]	SWC	RRI
2545.1	[m]	SWC	RRI
2565.0	[m]	SWC	RRI
2570.0	[m]	SWC	RRI
2584.9	[m]	C	RRI
2594.2	[m]	C	RRI
2599.5	[m]	C	RRI
2616.7	[m]	C	RRI
2619.3	[m]	C	RRI
2627.8	[m]	C	RRI
2669.8	[m]	C	RRI
2672.0	[m]	C	RRI

Oil samples at the Norwegian Offshore Directorate



Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST	DST1	2640.00	2650.00		27.04.1983 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
130	NORDLAND GP
705	UTSIRA FM
800	UNDIFFERENTIATED
904	HORDALAND GP
1032	SKADE FM
1080	UNDIFFERENTIATED
1410	NO FORMAL NAME
1528	UNDIFFERENTIATED
2036	ROGALAND GP
2036	BALDER FM
2091	SELE FM
2164	LISTA FM
2260	VÅLE FM
2288	SHETLAND GP
2288	HARDRÅDE FM
2375	KYRRE FM
2387	CROMER KNOLL GP
2387	RØDBY FM
2394	ÅSGARD FM
2401	VIKING GP
2401	DRAUPNE FM
2424	HEATHER FM
2571	BRENT GP
2571	NESS FM
2628	ETIVE FM
2671	DUNLIN GP
2671	DRAKE FM

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





Document name	Document format	Document size [MB]
7 01 WDSS General Information	pdf	0.20
7 02 WDSS completion log	pdf	0.29

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

Document name	Document format	Document size [MB]
7 01 30 6 13 Completion Report and Completion log	pdf	15.34

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2640	2650	11.1
2.0	2596	2601	11.1
3.0	2573	2580	11.1

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				
3.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	450	58000	0.852	0.680	128
2.0	423	44000	0.852	0.680	102
3.0	428	42000	0.847	0.680	99

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST	2305	2672
CST	2404	2649
DLL MSFL GR CAL	2260	2700





EPT PDC	2550	2766
ISF LSS GR SP	600	1698
ISF LSS GR SP	1703	2778
LDT CAL GR	600	1698
LDT CNL CAL GR	1703	2779
NGT	2250	2763
RFT	2290	2370
RFT	2573	2598
RFT	2600	2668
RFT	2613	2613
RFT	2661	2661
RFT	2687	2587
SHDT	1980	2773
VELOCITY	315	2780

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
CONDUCTOR	30	217.0	36	222.0	0.00	LOT
SURF.COND.	20	600.0	26	613.0	1.46	LOT
INTERM.	13 3/8	1705.0	17 1/2	1725.0	1.72	LOT
INTERM.	9 5/8	2762.0	12 1/4	2775.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
185	1.05	100.0		waterbased	
610	1.07	40.0		waterbased	
1085	1.10	39.0		waterbased	
1330	1.11	35.0		waterbased	
1640	1.12	33.0		waterbased	
2210	1.25	36.0		waterbased	
2300	1.25	36.0		waterbased	
2510	1.25	40.0		waterbased	
2600	1.25	38.0		waterbased	
2775	1.25	38.0		waterbased	

**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]
7 Formation pressure (Formasjonstrykk)	pdf	0.23

