General information

Wellbore name	25/2-18 A
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	HUGIN
Discovery	25/2-18 S (Langfjellet)
Well name	25/2-18
Seismic location	DN13303-04010. SP 1295 / DN13303-02005. SP 1214
Production licence	442
Drilling operator	Det norske oljeselskap ASA
Drill permit	1638-L
Drilling facility	MAERSK INTERCEPTOR
Drilling days	39
Entered date	11.09.2016
Completed date	19.10.2016
Release date	19.10.2018
Publication date	19.10.2018
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	55.0
Water depth [m]	121.0
Total depth (MD) [m RKB]	4066.0
Final vertical depth (TVD) [m RKB]	3723.0
Maximum inclination [°]	42.2
Bottom hole temperature [°C]	125
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	59° 49' 30.11'' N
EW degrees	2° 37' 54.1'' E

NS UTM [m]	6632137.57
EW UTM [m]	479347.43
UTM zone	31
NPDID wellbore	8043

Wellbore history

General

Well 25/2-18 A is a geological sidetrack to 25/2-18 S, located on the Bjørgvin Arch, four kilometers south of the 25/2-10 S (Frigg Gamma Delta) oil/gas discovery and eight kilometers north of the Frøy field in the North Sea. The 25/2-18 S well discovered oil in the Middle Jurassic Hugin Formation, the Langfjellet prospect. The target for well 25/2-18 A was southeast of 25/2-18 S but within the same segment. The objectives for sidetrack 25/2-18 A was to confirm hydrocarbons in the Hugin and Sleipner formations and to perform a drill stem test (DST).

Operations and results

Appraisal well 25/2-18 A was kicked off from the main bore below the 13 3/8" casing shoe at 1555 m. It was drilled with the jack-up installation Mærsk Interceptor to TD at 4066 m (3723 m TVD) m in the Early Jurassic Drake Formation. No significant problem was encountered in the operations. The well was drilled with Versatec oil based mud from kick-off to TD.

The Hugin Formation came in at 3698 m (3361 m TVD) and the Sleipner Formation came in at 3825.5 m (3486.3 m TVD). The well proved oil proved in the Hugin Formation with an “oil down to” contact at approximately 3768 m (3430 m TVD). A total of 63 m gross reservoir thickness with 53 m net reservoir distributed across two separate compartments was recorded. No shows were recorded on cuttings due to flushing by OBM. No significant change was observed in shows on sidewall cores going from an oil zone to water zone, indicating that also sidewall cores are flushed and shows masked by OBM.

No conventional cores were cut. A total of 17 MDT samples were acquired: 3 oil samples at 3701.5 m, 4 oil samples at 3715.4 m, 3 oil samples at 3742.2 m, 3 oil samples at 3765.8 m, 1 water sample at 3776.3 m, and 3 water samples at 3789.3 m.

The well was plugged back for sidetracking on 19 October. It is classified as an oil appraisal well.

Testing

Two drill stem tests were conducted in the Hugin Formation.

DST 1 tested the interval 3741.5 to 3767.1 m. It produced 600 Sm3 oil and 86413 sm3 gas /day through a 40/64" choke. The gas contained 3.5 ppm H2S and 4% CO2. The GOR was 144 Sm3/Sm3. Maximum flowing temperature was 115.8 °C.

DST2 tested the interval 3713.7 to 3724.9 m. It produced 349 Sm3 oil and 51624 sm3 gas /day through a 32/64" choke. The gas contained 3.5 ppm H2S and 4% CO2. The GOR was 149 Sm3/Sm3. Maximum flowing temperature was 115.0 °C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1560.00	4066.00

Cuttings available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
176	NORDLAND GP
506	UTSIRA FM
642	HORDALAND GP
642	SKADE FM
1446	UNDEFINED GP
1542	HORDALAND GP
2158	ROGALAND GP
2158	BALDER FM
2240	SELE FM
2327	HERMOD FM
2426	LISTA FM
2722	VÅLE FM
2806	SHETLAND GP
2806	EKOFISK FM
2854	HARDRÅDE FM
3136	KYRRE FM
3337	TRYGGVASON FM
3482	BLODØKS FM
3490	SVARTE FM
3524	CROMER KNOLL GP
3524	RØDBY FM
3567	ÅSGARD FM
3585	VIKING GP
3585	DRAUPNE FM
3669	HEATHER FM
3698	VESTLAND GP
3698	HUGIN FM
3826	SLEIPNER FM
4049	DUNLIN GP

4049	DRAKE FM

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3742	3767	15.8
2.0	3714	3725	12.7

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

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	600	86413			144
2.0	349	51624			149

Logs

Log type	Log top depth [m]	Log bottom depth [m]
LWD - DI RES GR NEU DEN SON	1555	4066
MDT MINIDST TT	3701	3792
MSCT GR	3694	4035
PP LITHOS MAGN RES	3699	4044
RES SON DEN NEU SP GR	3675	4055

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	222.0	36	214.0	0.00	
SURF.COND.	20	444.5	26	450.0	1.32	LOT
PILOT HOLE		450.0	9 7/8	450.0	0.00	
SURF.COND.	13 3/8	1533.5	16	1541.0	1.58	FIT
INTERM.	9 5/8	3680.0	12 1/4	3685.0	1.88	LOT
LINER	7	4050.0	8 1/2	0.0	0.00	

OPEN HOLE		4066.0	8 1/2	4066.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1533	1.40	32.0		Versatec	
2064	1.37	28.0		Versatec OBM	
2900	1.40	30.0		NaCl brine	
2967	1.37	29.0		Versatec OBM	
3685	1.17	21.0		Versatec OBM	
3685	1.40	29.0		Versatec OBM	
4066	1.17	21.0		Versatec OBM	