

**General information**

Wellbore name	2/4-21 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	FENRIS
Discovery	2/4-21 Fenris
Well name	2/4-21
Seismic location	VGCNSO5R07NH-inline 7862 & trace 18770
Production licence	146
Drilling operator	Statoil Petroleum AS
Drill permit	1407-L
Drilling facility	MÆRSK GALLANT
Drilling days	55
Entered date	25.05.2012
Completed date	24.07.2012
Release date	24.07.2014
Publication date	24.07.2014
Purpose - planned	APPRAISAL
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	NO
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	FARSUND FM
Kelly bushing elevation [m]	48.1
Water depth [m]	67.4
Total depth (MD) [m RKB]	5573.0
Final vertical depth (TVD) [m RKB]	5285.0
Maximum inclination [°]	59.8
Oldest penetrated age	LATE JURASSIC
Oldest penetrated formation	FARSUND FM
Geodetic datum	ED50
NS degrees	56° 42' 0.81" N
EW degrees	3° 8' 34.31" E
NS UTM [m]	6284166.46



EW UTM [m]	508748.77
UTM zone	31
NPDID wellbore	6933

Wellbore history

General

Well 2/4-21 A is a sidetrack to well 2/4-21 on the King Lear prospect in the Central Graben of the Norwegian North Sea, approximately 20 km north of the Ekofisk Field. The objective of the sidetrack 2/4-21 A was to prove the gas-water contact and prove reservoir distribution.

Operations and results

Well 2/4-21 A was kicked off below the 9 5/8" liner shoe, at 4649 m in the primary well bore on 25 May 2012. It was drilled with the jack-up installation Mærsk Gallant to TD at 5573 m (5285 m TVD) in the Late Jurassic Farsund Formation. Operations proceeded with few problems, but the sidetrack was terminated i above planned TD due to differential sticking in the Farsund Formation. The well was drilled with oil based XP07-HPHT mud from kick-off to TD.

Sidetrack 2/4-21 A penetrated top Mandal Formation at 4769 m (4768 m TVD) and top Farsund Formation at 4797 m (4796 m TVD). The main intra-Farsund Formation sandstone was penetrated at 5445 m (5214 m TVD). The sidetrack confirmed condensate with a gas-down-to contact at 5497 m (5241 m TVD), ca 70 m TVD deeper than in 2/4-21. The pressure surveys in well 2/4-21 A confirmed the gradients and the pressure depletion in the main sandstones found in well 2/4-21.

A reduced data acquisition programme was carried out. All logs except MDT sampling and GR were run on LWD. No coring was carried out. MDT oil and gas samples were taken at 5472 m and 5489 m. The samples had 40 - 52% mud filtrate contamination. PVT analyses showed a GOR in the range 900 to 1000 Sm³/Sm³.

The well was permanently abandoned on 24 July 2012 as a gas-condensate discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
4652.00	5573.00

Cuttings available for sampling?	YES
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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
MDT		0.00	5471.00	CONDE NSATE	01.07.2012 - 00:00	YES
MDT		0.00	5489.00	CONDE NSATE	01.07.2012 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
115	NORDLAND GP
510	UTSIRA FM
1823	HORDALAND GP
3168	ROGALAND GP
3168	BALDER FM
3192	SELE FM
3262	LISTA FM
3354	VÅLE FM
3382	EKOFISK FM
3505	SHETLAND GP
3505	TOR FM
3977	HOD FM
4519	BLODØKS FM
4520	HIDRA FM
4540	CROMER KNOLL GP
4540	RØDBY FM
4560	TUXEN FM
4605	ÅSGARD FM
4769	TYNE GP
4769	MANDAL FM
4797	FARSUND FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MDT GR	4638	5560
MWD - ABG GM EMRP4 PWD ALD CTN Q	5076	5573



MWD - GEO GM EWRP4 PWD DIR	5471	5565
MWD - GM EWR P4 PWD CTN ALD GEO	4698	4722
MWD - GM EWR P4 PWD DIR	4649	4698
MWD - GM EWR P4 PWD GT DIR	4722	4938
MWD - GM PWD DIR	4938	5076

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
OPEN HOLE		4649.0	8 1/2	5573.0	2.27	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
650	1.60	19.0		OBM-Low ECD- HTHP	
2500	1.78	34.0		OBM-Low ECD- HTHP	
3985	2.08	79.0		OBM-Low ECD- HTHP	
4652	2.08	77.0		OBM-Low ECD- HTHP	
4695	2.08	70.0		OBM-Low ECD- HTHP	
4723	2.08	72.0		OBM-Low ECD- HTHP	
4787	2.08	66.0		OBM-Low ECD- HTHP	
4937	2.08	67.0		OBM-Low ECD- HTHP	
5011	2.08	66.0		OBM-Low ECD- HTHP	
5076	2.08	64.0		OBM-Low ECD- HTHP	
5285	2.08	65.0		OBM-Low ECD- HTHP	
5573	2.08	64.0		OBM-Low ECD- HTHP	