General information

Wellbore name	33/9-21 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
Discovery	33/9-6 DELTA
Well name	33/9-21
Seismic location	inline 2222 & crossline 5494
Production licence	037 D
Drilling operator	Wintershall Norge ASA
Drill permit	1247-L
Drilling facility	MURCHISON A
Drilling days	14
Entered date	17.04.2009
Completed date	30.04.2009
Release date	30.04.2011
Publication date	30.04.2011
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	56.0
Water depth [m]	156.0
Total depth (MD) [m RKB]	6392.0
Final vertical depth (TVD) [m RKB]	3027.0
Maximum inclination [°]	93.8
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	NESS FM
Geodetic datum	ED50
NS degrees	61° 23' 48.26'' N
EW degrees	1° 44' 27.25'' E
NS UTM [m]	6807790.25
EW UTM [m]	432751.22
UTM zone	31
NPDID wellbore	6109

Wellbore history

General

The Delta discovery, made by well 33/9-6 in 1976, is situated approximately 4.5 km east of the Murchison platform. Well 33/9-6 had good oil shows, but was not tested due to mechanical problems. An oil down-to at 2998 m TVDSS corresponding to the top Mid Ness shale was seen in the well. The well had moderate reservoir quality within the Tarbert/Ness Formations, and excellent reservoir quality within the water-bearing Etive Formation.

Appraisal well 33/9-21 S confirmed the reservoir properties found in 33/9-6 and with an OWC in the Etive Formation.

The horizontal sidetrack 33/9-21 A was drilled to further appraise the oil-bearing sands.

The well was drilled from the Murchison Platform on the UK side of the border, where the well name is UK211/19a-M75y.

Operations and results

After two unsuccessful attempts to kick off appraisal well 33/9-21 A was finally kicked off on 17 April 2009 at 5185 m (2687 m TVD SS) in well 33/9-21 S. Kick-off point was in the Shetland Group. The well was drilled as a horizontal producer and reached TD at 6392 m (2971 m TVD SS) in the Late Jurassic Heather Formation. The well was drilled with Versaclean oil based mud from kick-off to TD.

Top target reservoir came in at 5902 m (2970 m TVD SS). The well penetrated 465 m MD of Tarbet and Ness sands and it became evident that the reservoir dipped downwards so that the Etive Formation came below the OWC. After drilling through the top of the reservoir back into the Heather Formation a second sidetrack was decided in order to reach the Etive sands within the hydrocarbon-bearing zone. Shows were reported as "no shows above OBM" throughout the well bore.

No cores were cut and no wire line fluid samples were taken.

The well was permanently abandoned on 30 April 2009 as an oil appraisal.

Testing

No drill stem test was performed.

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
213	NORDLAND GP
971	UTSIRA FM
1093	HORDALAND GP
2618	ROGALAND GP
2618	BALDER FM
2728	SELE FM

2846	LISTA FM
3056	VÅLE FM
3112	SHETLAND GP
5502	CROMER KNOLL GP
5502	RØDBY FM
5518	SOLA FM
5546	ÅSGARD FM
5617	MIME FM
5662	VIKING GP
5662	DRAUPNE FM
5819	HEATHER FM
5902	BRENT GP
5902	TARBERT FM
5939	NESS FM
6366	VIKING GP
6366	HEATHER FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MWD - DI GR RES APWD NEU DEN	6219	6219
MWD - DI GR RES APWD NEU DEN SON	5201	6392
MWD - GR DI	5184	5201

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
INTERM.	13 3/8	1570.0	17 1/2	1580.0	1.61	LOT
INTERM.	9 5/8	5144.0	12 1/4	5156.0	1.78	LOT
OPEN HOLE		6392.0	8 1/2	6392.0	0.00	LOT