

**General information**

Wellbore name	34/8-9 S
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VISUND
Discovery	34/8-4 S
Well name	34/8-9
Seismic location	NH 9001- RAD 461& KOLONNE 683
Production licence	120
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	746-L
Drilling facility	WEST DELTA
Drilling days	65
Entered date	25.10.1992
Completed date	28.12.1992
Release date	28.12.1994
Publication date	21.12.2012
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
Kelly bushing elevation [m]	29.0
Water depth [m]	301.0
Total depth (MD) [m RKB]	3530.0
Final vertical depth (TVD) [m RKB]	3382.0
Maximum inclination [°]	37.3
Bottom hole temperature [°C]	118
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	LUNDE FM
Geodetic datum	ED50
NS degrees	61° 18' 50.53" N
EW degrees	2° 23' 17.89" E
NS UTM [m]	6798082.19
EW UTM [m]	467241.65



UTM zone	31
NPDID wellbore	2029

Wellbore history

**General**

Well 34/8-9 S is located on the A-structure on the Visund Field. This is a NNE-SSW oriented elongated fault block with the Pre-Cretaceous strata dipping towards WNW. The A-Central fault divides the A-structure into the A-North and A-South compartments. Well 34/8-9 S was drilled on the southern part of the A-South compartment. The primary objective was to establish the inferred OWC at 3100m TVD and confirm the pressure regime in the Statfjord and Amundsen Formations. The secondary objective was to determine the hydrocarbon potential of the Cook Formation in the structure. The well was designed deviated in order that both objectives could be fully evaluated. Furthermore the spud location of the well was chosen so that an optimal, up-dip, sidetrack could be drilled in order to appraise the Lunde A-south gas condensate discovery.

Operations and results

Appraisal well 34/8-9 S was spudded with the semi-submersible installation West Delta on 25 October 1992. The first 36" top hole was abandoned because after casing was set due to drill string lost in hole. The rig was moved 28 m from first spud location and re-spudded. The rig downtime for this well amounted to 30% of the total rig time. Most of this was drilling equipment repairs and fishing for equipment, but no single event had any serious consequence for the personnel or the well objectives. The well was drilled to TD at 3530 m in the Late Triassic Lunde Formation. The well was drilled with seawater and hi-vis pills down to 1698 m and with HF-plus KCl/polymer mud from 1698 m to TD.

The Viking Group, Draupne Formation was encountered at 2903.5 m (2873.5 m TVD). Weak source rock shows were recorded in these shales. The Brent Group was encountered from 2922.5 m to 2983.5 m (2889.5 m TVD to 2940 m TVD). From a gross Brent Group thickness of 61m a net sand thickness of 47 m was identified, with average porosity of 20.8 %. Wire line logs confirmed ca 11 m oil column with an OWC at 2931 m (2900.6 m TVD). RFT pressure tests suggested a free water level around 2933 m (2902.6 m). The Formation pressure in the Brent Group revealed two separate water regimes, approximately 2.1 and 2.8 bar lower than the established common Brent water gradient on the Visund Field. The pressure data showed two separate water regimes also in the Statfjord Formation, ca 1.3 and 2.0 bar lower than the common water gradient interpreted from wells 34/8-1 and 34/8-5.

The Cook, Statfjord and Lunde formations were all water wet. The Cook Formation had no shows, the Statfjord Formation had weak shows on the cores from 3170.5 m to 3196 m and the Lunde Formation had weak shows in the upper part from 3417 to 3426 m.

Six conventional cores were cut in the well. One core was cut in the Nordland Group (Utsira Formation), two cores were taken in the Brent Group, and one core was taken over the Amundsen/Statfjord Formation boundary. Further two cores were taken in the Statfjord Formation. Two RFT fluid samples were taken at 2926.3 m (11 l oil, 0.84 Sm³ gas, and 2.6 l water/filtrate), and 3156 m (water/filtrate).

The well was permanently abandoned on 28 December 1992 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]
1370.00	3530.00

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	1109.0	1113.3	[m]
2	2936.0	2947.5	[m]
3	2948.5	2954.0	[m]
5	3170.5	3176.0	[m]
6	3178.0	3192.9	[m]

Total core sample length [m]	41.7
Cores available for sampling?	YES

Core photos



1109-1113m



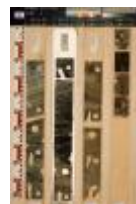
1113-1113m



2936-2940m



2940-2944m



2944-2947m



2948-2952m



2952-2954m



3170-3174m



3174-3176m



3178-3182m





3182-3186m 3186-3190m 3190-3192m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1370.0	[m]	DC	RRI
1390.0	[m]	DC	RRI
1450.0	[m]	DC	RRI
1470.0	[m]	DC	RRI
1490.0	[m]	DC	RRI
1510.0	[m]	DC	RRI
1530.0	[m]	DC	RRI
1550.0	[m]	DC	RRI
1570.0	[m]	DC	RRI
1590.0	[m]	DC	RRI
1610.0	[m]	DC	RRI
1630.0	[m]	DC	RRI
1650.0	[m]	DC	RRI
1670.0	[m]	DC	RRI
1690.0	[m]	DC	RRI
1710.0	[m]	DC	RRI
1730.0	[m]	DC	RRI
1750.0	[m]	DC	RRI
1770.0	[m]	DC	RRI
1790.0	[m]	DC	RRI
1810.0	[m]	DC	RRI
1830.0	[m]	DC	RRI
1850.0	[m]	DC	RRI
1870.0	[m]	DC	RRI
1890.0	[m]	DC	RRI
1910.0	[m]	DC	RRI
1930.0	[m]	DC	RRI
1950.0	[m]	DC	RRI
1970.0	[m]	DC	RRI
1990.0	[m]	DC	RRI
2010.0	[m]	DC	RRI
2030.0	[m]	DC	RRI
2050.0	[m]	DC	RRI
2070.0	[m]	DC	RRI



2080.0	[m]	DC	RRI
2100.0	[m]	DC	RRI
2120.0	[m]	DC	RRI
2140.0	[m]	DC	RRI
2160.0	[m]	DC	RRI
2180.0	[m]	DC	RRI
2200.0	[m]	DC	RRI
2220.0	[m]	DC	RRI
2240.0	[m]	DC	RRI
2260.0	[m]	DC	RRI
2280.0	[m]	DC	RRI
2300.0	[m]	DC	RRI
2320.0	[m]	DC	RRI
2340.0	[m]	DC	RRI
2360.0	[m]	DC	RRI
2380.0	[m]	DC	RRI
2400.0	[m]	DC	RRI
2420.0	[m]	DC	RRI
2485.0	[m]	DC	RRI
2500.0	[m]	DC	RRI
2515.0	[m]	DC	RRI
2530.0	[m]	DC	RRI
2545.0	[m]	DC	RRI
2560.0	[m]	DC	RRI
2575.0	[m]	DC	RRI
2590.0	[m]	DC	RRI
2605.0	[m]	DC	RRI
2620.0	[m]	DC	RRI
2635.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2665.0	[m]	DC	RRI
2680.0	[m]	DC	RRI
2695.0	[m]	DC	RRI
2710.0	[m]	DC	RRI
2725.0	[m]	DC	RRI
2740.0	[m]	DC	RRI
2755.0	[m]	DC	RRI
2770.0	[m]	DC	RRI
2785.0	[m]	DC	RRI
2800.0	[m]	DC	RRI



2845.0	[m]	DC	RRI
2860.0	[m]	DC	RRI
2875.0	[m]	DC	RRI
2890.0	[m]	DC	RRI
2910.0	[m]	DC	RRI
2911.0	[m]	SWC	HYDRO
2914.0	[m]	SWC	HYDRO
2920.0	[m]	SWC	HYDRO
2925.0	[m]	DC	HYDRO
2930.0	[m]	DC	HYDRO
2935.0	[m]	DC	HYDRO
2936.0	[m]	C	HYDRO
2940.0	[m]	C	HYDRO
2941.0	[m]	C	HYDRO
2943.0	[m]	C	HYDRO
2945.0	[m]	DC	HYDRO
2951.0	[m]	C	HYDRO
2952.0	[m]	C	HYDRO
2953.0	[m]	C	HYDRO
2961.0	[m]	SWC	HYDRO
2975.0	[m]	SWC	HYDRO
2982.0	[m]	SWC	HYDRO
2988.0	[m]	SWC	HYDRO
2992.0	[m]	SWC	HYDRO
2997.0	[m]	SWC	HYDRO
3004.0	[m]	SWC	HYDRO
3006.0	[m]	SWC	HYDRO
3008.0	[m]	SWC	HYDRO
3012.0	[m]	SWC	HYDRO
3016.0	[m]	SWC	HYDRO
3019.0	[m]	SWC	HYDRO
3025.0	[m]	SWC	HYDRO
3030.0	[m]	SWC	HYDRO
3037.0	[m]	SWC	HYDRO
3051.0	[m]	SWC	HYDRO
3062.0	[m]	SWC	HYDRO
3071.0	[m]	SWC	HYDRO
3083.0	[m]	SWC	HYDRO
3089.0	[m]	SWC	HYDRO
3090.0	[m]	DC	RRI



3110.0	[m]	DC	RRI
3114.0	[m]	SWC	HYDRO
3120.0	[m]	SWC	HYDRO
3132.0	[m]	SWC	HYDRO
3149.0	[m]	SWC	HYDRO
3170.0	[m]	C	HYDRO
3173.0	[m]	C	HYDRO
3174.0	[m]	C	HYDRO
3180.0	[m]	C	HYDRO
3181.0	[m]	C	HYDRO
3183.0	[m]	C	HYDRO
3185.0	[m]	C	HYDRO
3187.0	[m]	C	HYDRO
3190.0	[m]	C	HYDRO
3202.0	[m]	DC	RRI
3217.0	[m]	DC	RRI
3232.0	[m]	DC	RRI
3250.0	[m]	DC	RRI
3265.0	[m]	DC	RRI
3280.0	[m]	DC	RRI
3295.0	[m]	DC	RRI
3310.0	[m]	DC	RRI
3327.0	[m]	DC	RRI
3340.0	[m]	DC	RRI
3352.0	[m]	DC	RRI
3390.0	[m]	DC	RRI
3405.0	[m]	DC	RRI
3420.0	[m]	DC	RRI
3435.0	[m]	DC	RRI
3485.0	[m]	DC	RRI
3512.0	[m]	DC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
330	NORDLAND GP
1131	UTSIRA FM
1160	HORDALAND GP
1291	NO FORMAL NAME



1323	NO FORMAL NAME
1386	NO FORMAL NAME
1434	NO FORMAL NAME
1687	NO FORMAL NAME
1751	NO FORMAL NAME
1842	ROGALAND GP
1842	BALDER FM
1909	LISTA FM
1982	NO FORMAL NAME
2006	LISTA FM
2037	SHETLAND GP
2904	CROMER KNOLL GP
2908	VIKING GP
2908	DRAUPNE FM
2914	HEATHER FM
2923	BRENT GP
2923	TARBERT FM
2943	NESS FM
2956	ETIVE FM
2963	RANNOCH FM
2984	DUNLIN GP
2984	DRAKE FM
3009	COOK FM
3113	BURTON FM
3123	AMUNDSEN FM
3150	STATEJORD GP
3245	HEGRE GP
3245	LUNDE FM

Geochemical information

Document name	Document format	Document size [MB]
2029_GCH_1	pdf	1.02
2029_GCH_2	pdf	6.59

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





Document name	Document format	Document size [MB]
2029_01_WDSS_General_Information	pdf	0.51
2029_02_WDSS_completion_log	pdf	0.22

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

Document name	Document format	Document size [MB]
2029_34_8_9_S_Completion_log	pdf	2.20
2029_34_8_9_S_Completion_report	pdf	17.82

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ACBL GR	2070	2449
ACL GR SP	2449	3523
COREGUN GR	2895	3149
DIFL ACL GR SP CHT	330	2466
DLL MLL GR	1862	3509
FMT GR	2921	3290
FMT GR	2922	3192
FMT GR	2926	2926
FMT GR	2926	2973
FMT GR	2931	3486
HEXDIP GR	2449	3506
VSP	480	3520
ZDL CN GR	330	1271
ZDL CN GR	2449	3531

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	414.0	36	415.0	0.00	LOT
INTERM.	13 3/8	1344.0	17 1/2	1359.0	1.55	LOT
INTERM.	9 5/8	2451.0	12 1/4	2467.0	1.80	LOT
OPEN HOLE		3530.0	8 1/2	3530.0	0.00	LOT



**Drilling mud**

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1109	1.20			WATER BASED	
1350	1.20			WATER BASED	
1360	1.05	18.0		WATER BASED	
1698	1.30	17.0		WATER BASED	
1703	1.30	18.0		WATER BASED	
1940	1.37	19.0		WATER BASED	
2102	1.41	23.0		WATER BASED	
2467	1.43	21.0		WATER BASED	
2470	1.51	15.0		WATER BASED	
2531	1.51	22.0		WATER BASED	
2559	1.51	21.0		WATER BASED	
2665	1.51	22.0		WATER BASED	
2707	1.51	23.0		WATER BASED	
2749	1.51	24.0		WATER BASED	
2869	1.60	28.0		WATER BASED	
2899	1.62	27.0		WATER BASED	
2924	1.64	29.0		WATER BASED	
3015	1.64	34.0		WATER BASED	
3135	1.64	30.0		WATER BASED	
3162	1.64	32.0		WATER BASED	
3171	1.65	32.0		WATER BASED	
3190	1.64	31.0		WATER BASED	
3243	1.64	26.0		WATER BASED	
3285	1.64	36.0		WATER BASED	
3332	1.64	40.0		WATER BASED	
3417	1.64	37.0		WATER BASED	
3435	1.64	34.0		WATER BASED	
3530	1.67	42.0		WATER BASED	

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]
2029 Formation pressure (Formasjonstrykk)	pdf	0.22

