



Generell informasjon

Brønnbane navn	16/7-4
Type	EXPLORATION
Formål	WILDCAT
Status	P&A
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	SIGYN
Funn	16/7-4 Sigyn
Brønn navn	16/7-4
Seismisk lokalisering	ST 8122-732 SP 317
Utvinningstillatelse	072
Boreoperatør	Esso Exploration and Production Norway A/S
Boretillatelse	347-L
Boreinnretning	GLOMAR BISCAY II
Boredager	53
Borestart	15.10.1982
Boreslutt	06.12.1982
Frigitt dato	06.12.1984
Publiseringsdato	02.04.2007
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	GAS/CONDENSATE
Funnbrønnbane	YES
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	INTRA DRAUPNE FM SS
2. nivå med hydrokarboner, alder	TRIASSIC
2. nivå med hydrokarboner, formasjon	SKAGERRAK FM
Avstand, boredekk - midlere havflate [m]	25.0
Vanndybde ved midlere havflate [m]	78.0
Totalt målt dybde (MD) [m RKB]	2781.0
Totalt vertikalt dybde (TVD) [m RKB]	2781.0
Maks inklinasjon [°]	2.25
Temperatur ved bunn av brønnbanen [°C]	96
Eldste penetrerte alder	TRIASSIC



Eldste penetrerte formasjon	SKAGERRAK FM
Geodetisk datum	ED50
NS grader	58° 17' 9.75" N
ØV grader	2° 1' 30.07" E
NS UTM [m]	6461118.04
ØV UTM [m]	442828.36
UTM sone	31
NPDID for brønnbanen	91

Brønnhistorie

General

Well 16/7-4 is located ca 10 km southeast of the Sleipner Øst Field and 6 km east of the 15/9-15 gas discovery in the North Sea. The objective of the well was to test the presence of a structural trap in Jurassic/Triassic sandstones on the A-North Prospect in the southwest corner of Block 16/7.

Operations and results

Well 16/7-4 was spudded with the semi-submersible installation Glomar Biscay II on 15 October 1982 and drilled to TD at 2781 m in the Triassic Group. The well was drilled with seawater and gel all through.

Only 1.5 m Jurassic sediments (Draupne Formation) were present in well position. The Triassic Group sandstone was encountered at 2521.5 m and held a 117.8 m gas/condensate column from top and down to 2639.3 m (-2314.3 m subsea). The gas-bearing sandstones were found interbedded with a few thin shales. The reservoir quality was best near the top of the sand, becoming gradually poorer downwards. The net gas sand was 85.4 m with 23% porosity and 36% average water saturation. No shows were reported from above or below the hydrocarbon-bearing interval in the well.

Six conventional cores were cut from 2568 to 2681.5 m to in the Jurassic - Triassic interval. One Multi Formation Tester (MFT) fluid sample was taken at 2638.5 m. It recovered 1.2 litres of 57 deg API condensate, 1.3 Sm³ gas and 2 litres of water.

The well was permanently abandoned on 6 December 1982 as a gas/condensate discovery.

Testing

Two drill stem tests were performed in the Triassic Group.

DST 1 at 2590.5 - 2597 m flowed 199 Sm³ condensate and 385110 Sm³ gas /day through a 42/64" choke. The gas/condensate ratio was 1938 Sm³/Sm³, the oil gravity was 58 deg API, and the gas gravity was 0.791 (air = 1).

DST 2 at 2525 - 2535 m flowed 253 Sm³ condensate and 472890 Sm³ gas /day through a 42/64" choke. The gas/condensate ratio was 1871 Sm³/Sm³, the oil gravity was 59 deg API, and the gas gravity was 0.797 (air = 1).

Water, other than condensation of water vapour, was not produced in the two tests. The CO₂ content was between 0.3 and 0.4 %. H₂S was not detected.



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
170.00	2780.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	2568.0	2573.4	[m]
2	2591.0	2605.9	[m]
3	2607.0	2624.6	[m]
4	2625.0	2643.5	[m]
5	2643.5	2662.5	[m]
6	2662.5	2680.8	[m]

Total kjerneprøve lengde [m]	93.6
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



2568-2573m



2573-2574m



2591-2596m



2596-2601m



2601-2605m



2607-2612m



2612-2617m



2617-2622m



2622-2624m



2625-2630m



2630-2635m



2635-2640m



2640-2643m



2643-2648m



2648-2653m



2653-2658m



2658-2662m



2662-2667m



2667-2672m



2672-2677m



2677-2680m

Palynologiske preparater i Sjøkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
500.0	[m]	DC	
530.0	[m]	DC	
560.0	[m]	DC	
590.0	[m]	DC	
620.0	[m]	DC	
650.0	[m]	DC	
680.0	[m]	DC	
710.0	[m]	DC	
740.0	[m]	DC	
770.0	[m]	DC	
800.0	[m]	DC	
830.0	[m]	DC	
860.0	[m]	DC	
890.0	[m]	DC	
920.0	[m]	DC	
950.0	[m]	DC	



980.0 [m]	DC	
1010.0 [m]	DC	
1050.0 [m]	DC	
1080.0 [m]	DC	
1110.0 [m]	DC	
1140.0 [m]	DC	
1170.0 [m]	DC	
1200.0 [m]	DC	
1230.0 [m]	DC	
1260.0 [m]	DC	
1290.0 [m]	DC	
1320.0 [m]	DC	
1350.0 [m]	DC	
1380.0 [m]	DC	
1410.0 [m]	DC	
1440.0 [m]	DC	
1470.0 [m]	DC	
1500.0 [m]	DC	
1530.0 [m]	DC	
1560.0 [m]	DC	
1590.0 [m]	DC	
1620.0 [m]	DC	
1650.0 [m]	DC	
1680.0 [m]	DC	
1710.0 [m]	DC	
1740.0 [m]	DC	
1770.0 [m]	DC	
1800.0 [m]	DC	
1830.0 [m]	DC	
1860.0 [m]	DC	
1890.0 [m]	DC	
1920.0 [m]	DC	
1950.0 [m]	DC	
1980.0 [m]	DC	
2009.0 [m]	DC	
2040.0 [m]	DC	
2070.0 [m]	DC	
2100.0 [m]	DC	
2129.0 [m]	DC	
2159.0 [m]	DC	



2189.0 [m]	DC	
2219.0 [m]	DC	
2249.0 [m]	DC	
2279.0 [m]	DC	
2300.0 [m]	DC	
2309.0 [m]	DC	
2318.0 [m]	DC	
2327.0 [m]	DC	
2338.0 [m]	DC	
2339.0 [m]	DC	
2354.0 [m]	DC	
2361.5 [m]	SWC	
2369.0 [m]	DC	
2384.0 [m]	DC	
2399.0 [m]	DC	
2405.0 [m]	DC	
2410.0 [m]	SWC	
2414.0 [m]	DC	
2426.0 [m]	SWC	
2429.0 [m]	DC	
2438.0 [m]	DC	
2444.0 [m]	DC	
2453.0 [m]	DC	
2459.0 [m]	DC	
2465.0 [m]	DC	
2467.0 [m]	DC	
2474.0 [m]	DC	
2483.0 [m]	SWC	
2489.0 [m]	DC	
2490.0 [m]	SWC	
2495.5 [m]	SWC	
2501.0 [m]	DC	
2509.5 [m]	SWC	
2517.0 [m]	SWC	
2519.0 [m]	DC	
2520.5 [m]	SWC	
2522.5 [m]	SWC	
2525.0 [m]	DC	
2534.0 [m]	DC	
2535.0 [m]	SWC	



Faktasider

Brønnbane / Leting

Utskriftstidspunkt: 10.5.2024 - 13:31

2536.5 [m]	SWC	
2538.0 [m]	SWC	
2540.0 [m]	SWC	
2540.0 [m]	DC	
2542.0 [m]	SWC	
2549.0 [m]	SWC	
2549.0 [m]	DC	
2553.5 [m]	SWC	
2555.0 [m]	SWC	
2558.0 [m]	SWC	
2560.0 [m]	SWC	
2564.0 [m]	DC	
2568.3 [m]	C	
2569.0 [m]	C	
2573.0 [m]	SWC	
2579.0 [m]	DC	
2581.2 [m]	SWC	
2586.7 [m]	SWC	
2589.7 [m]	SWC	
2593.3 [m]	C	
2594.0 [m]	DC	
2596.5 [m]	C	
2597.0 [m]	C	
2597.6 [m]	SWC	
2598.4 [m]	C	
2602.3 [m]	C	
2602.5 [m]	C	
2603.8 [m]	C	
2609.0 [m]	DC	
2613.5 [m]	C	
2613.7 [m]	C	
2623.7 [m]	C	
2624.0 [m]	DC	
2626.5 [m]	C	
2626.7 [m]	C	
2626.7 [m]	C	
2639.0 [m]	DC	
2641.0 [m]	C	
2645.0 [m]	DC	
2678.2 [m]	C	



2687.0	[m]	DC	
2690.0	[m]	DC	
2692.7	[m]	SWC	
2701.2	[m]	SWC	
2702.0	[m]	DC	
2718.7	[m]	SWC	
2720.0	[m]	DC	
2735.0	[m]	DC	
2747.2	[m]	SWC	
2750.0	[m]	DC	
2752.7	[m]	SWC	
2765.0	[m]	DC	
2765.5	[m]	SWC	
2774.0	[m]	SWC	
2777.0	[m]	DC	
2780.0	[m]	DC	

Oljeprøver i Sokkeldirektoratet

Test type	Flaske nummer	Topp dyp MD [m]	Bunn dyp MD [m]	Væske type	Test tidspunkt	Prøver tilgjengelig
DST	DST 1	2590.00	2597.00	CONDE NSATE	28.11.1982 - 00:00	YES
DST	DST 1,1	2565.00	2572.00		28.11.1982 - 00:00	YES
DST	DST2	2525.00	2535.00	CONDE NSATE	30.11.1982 - 00:00	YES
DST	DST 2,1	2500.00	2535.00	CONDE NSATE	30.11.1982 - 00:00	YES

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
103	NORDLAND GP
848	UTSIRA FM
1061	HORDALAND GP
2052	ROGALAND GP
2052	BALDER FM
2099	SELE FM



2166	LISTA FM
2220	VÅLE FM
2229	SHETLAND GP
2229	EKOFISK FM
2238	TOR FM
2408	HOD FM
2465	BLØDØKS FM
2493	CROMER KNOLL GP
2520	VIKING GP
2520	DRAUPNE FM
2521	HEGRE GP
2521	SKAGERRAK FM

Geokjemisk informasjon

Dokument navn	Dokument format	Dokument størrelse [KB]
91_1	pdf	0.13
91_2	pdf	0.45
91_3	pdf	1.66
91_4	pdf	0.14

Dokumenter - eldre Sökkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
91_01_WDSS_General_Information	pdf	0.17
91_02_WDSS_completion_log	pdf	0.21

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
91_01_16_7_4_Final_Well_Report	pdf	47.47
91_01_16_7_4_Geological_Completion_Report_and_Completion_log	pdf	8.64
91_02_16_7_4_Drilling_And_Evaluation_Program	pdf	5.73
91_02_16_7_4_End_of_well_Report_Gearhart_Geodata_Services	pdf	33.12





91 03 16 7 4 Geochemical Analysis And Interpretation	pdf	0.74
91 04 16 7 4 Core measurements	pdf	2.19
91 04 16 7 4 Hydrocarbon Source Analysis	pdf	4.05
91 04 16 7 4 Palentological Report	pdf	3.16
91 05 16 7 4 DST 1 PVT Study Report	pdf	6.10
91 05 16 7 4 DST 2 PVT Study Report	pdf	5.90
91 05 16 7 4 Pressure Test Data Summary	pdf	8.40
91 05 16 7 4 Pressure Test Data Summary 2	pdf	13.03
91 05 16 7 4 Results Of Drillstem Tests	pdf	12.57
91 05 16 7 4 Test Report Glomar Biscaya 2	pdf	15.46

Borestrengtester (DST)

Test nummer	Fra dybde MD [m]	Til dybde MD [m]	Reduksjonsven til størrelse [mm]
1.0	2590	2597	16.7
2.0	2525	2535	16.7

Test nummer	Endelig avstengningstrykk [MPa]	Endelig strømningstrykk [MPa]	Bunnhullstrykk [MPa]	Borehullstemperatur [°C]
1.0				
2.0				

Test nummer	Olje produksjon [Sm3/dag]	Gass produksjon [Sm3/dag]	Oljetetthet [g/cm3]	Gasstyngde rel. luft	GOR [m3/m3]
1.0	199	385110	0.750	0.790	1938
2.0	253	472890	0.740	0.800	1871

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CALI	165	1156
CBL VDL	2100	2707
CDL CNL	1278	2779





CDM	1700	2779
CDM AP	1700	2779
DLL MLL	2500	2779
FMT	2523	2743
IEL BHC AC GR	165	2778
TEMP	110	1840
VELOCITY	165	2778

Foringsrør og formasjonsstyrketester

Type utforing	Utforing diam. [tommer]	Utforing dybde [m]	Brønnbane diam. [tommer]	Brønnbane dyp [m]	LOT/FIT slam eqv. [g/cm3]	Type formasjonstest
CONDUCTOR	30	165.0	36	165.0	0.00	LOT
SURF.COND.	20	458.0	26	473.0	1.62	LOT
INTERM.	13 3/8	1277.4	17 1/2	1293.0	1.80	LOT
INTERM.	9 5/8	2271.0	12 1/4	2286.0	1.87	LOT
LINER	7	2776.0	8 1/2	2781.0	0.00	LOT

Boreslam

Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Flytegrense [Pa]	Type slam	Dato, måling
166	1.04			seawater	
465	1.06			seawater	
1125	1.11			seawater	
1308	1.11			seawa/gel	
2051	1.25			seawa/gel	
2286	1.25			seawa/gel	
2607	1.40			seawa/gel	
2781	1.30			seawa/gel	

Trykkplott

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.





Dokument navn	Dokument format	Dokument størrelse [KB]
91 Formation pressure (Formasjonstrykk)	pdf	0.22

