



Generell informasjon

Brønnbane navn	31/2-2
Type	EXPLORATION
Formål	APPRAISAL
Status	SUSPENDED
Faktakart i nytt vindu	lenke til kart
Hovedområde	NORTH SEA
Felt	TROLL
Funn	31/2-1 (Troll Vest)
Brønn navn	31/2-2
Seismisk lokalisering	79416 SP.200
Utvinningstillatelse	054
Boreoperatør	A/S Norske Shell
Boretillatelse	241-L
Boreinnretning	WEST VENTURE OLD
Boredager	57
Borestart	27.02.1980
Boreslutt	23.04.1980
Frigitt dato	23.04.1982
Publiseringsdato	23.05.2006
Opprinnelig formål	WILDCAT
Gjenåpnet	NO
Innhold	OIL/GAS
Funnbrønnbane	NO
1. nivå med hydrokarboner, alder	LATE JURASSIC
1. nivå med hydrokarboner, formasjon.	SOGNEFJORD FM
Avstand, boredekk - midlere havflate [m]	32.0
Vanndybde ved midlere havflate [m]	323.0
Totalt målt dybde (MD) [m RKB]	1857.0
Totalt vertikalt dybde (TVD) [m RKB]	1857.0
Maks inklinasjon [°]	1.25
Temperatur ved bunn av brønnbanen [°C]	43
Eldste penetrerte alder	MIDDLE JURASSIC
Eldste penetrerte formasjon	KROSSFJORD FM
Geodetisk datum	ED50
NS grader	60° 46' 47.8" N



ØV grader	3° 37' 23.5" E
NS UTM [m]	6738597.32
ØV UTM [m]	533940.27
UTM sone	31
NPDID for brønnbanen	227

Brønnhistorie

General

Well 31/2-2 was drilled some 4 km east of the discovery well 31/2-1 on seismic line 79-416 at SP 200. The concession requirement for the wells were complete penetration of the prospective Jurassic sequence and terminate in Triassic or older. The particular objectives of well 31/2-2 were: to evaluate lateral variation of reservoir parameters eastwards on the flank of the structure: to test the zone of oil shows seen in 31/2-1 in better reservoir conditions, to test the gas accumulation in a down-dip location: to evaluate the nature of the seismic flatspot, and to provide geological calibration of seismic reflectors above the reservoir for improved regional evaluation.

Operations and results

Well was spudded with the semi-submersible installation West Venture on 27 February 1980 and drilled to TD at 1857 m in the Middle Jurassic Krossfjord Formation. The 36" hole was drilled without incident to 433 m using seawater with viscous pills spotted on connections. From 422 m to 433 m hard drilling was experienced. This was interpreted as a boulder bed similar to that found at a comparable depth in the previous 31/2-1 well. Problems were encountered with the stability of the temporary guide base, and the well had to be abandoned. The rig was moved NE 25 m and re-spudded on 29 February. The well was drilled with seawater and hi-vis pills down to 800 m, and with gypsum/lignosulphonate mud from 800 m to TD.

Top reservoir (Sognefjord Formation) came in at 1544 m and was gas bearing down to a gas/oil contact at 1579 m, and oil-bearing from 1579 m down to an oil/water contact at 1591 m. Both contacts were clearly defined on logs, the gas/oil contact was confirmed by RFT pressure gradients, and moveable oil was confirmed by RFT sampling at 1587.5 m and 1590 m. Gas samples were obtained from 1548 m and 1571 m. Weak oil shows began at 1561 m in the gas zone, strong shows with stained and bleeding cores and a paraffinic smell were observed in the oil zone. Oil shows ceased at 1602 m.

Coring started at 1515 m in the Draupne Formation and terminated below the oil-water contact. A 120 m interval was cored with 94.2 m of core in 13 cores recovered at surface.

After coring and logging of the Late Jurassic sandstones the well was suspended at the 9 5/8 casing shoe and the rig towed to Bergen for inspection and repairs on 22 April 1980.

Testing

No drill stem test was performed



Borekaks i Sokkeldirektoratet

Borekaksprøve, topp dybde [m]	Borekaksprøve, bunn dybde [m]
490.00	2600.00

Borekaks tilgjengelig for prøvetaking?	YES
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Borekjerne i Sokkeldirektoratet

Kjerneprøve nummer	Kjerneprøve - topp dybde	Kjerneprøve - bunn dybde	Kjerneprøve dybde - enhet
1	1515.0	1521.1	[m]
2	1525.0	1527.0	[m]
3	1535.0	1547.6	[m]
4	1553.0	1560.0	[m]
5	1560.0	1569.0	[m]
6	1569.0	1578.0	[m]
7	1578.0	1581.0	[m]
8	1585.0	1598.0	[m]
9	1598.0	1603.6	[m]
10	1604.0	1606.4	[m]
11	1608.0	1617.0	[m]
12	1617.0	1626.0	[m]
13	1626.0	1632.5	[m]

Total kjerneprøve lengde [m]	94.2
Kjerner tilgjengelig for prøvetaking?	YES

Kjernebilder



1515-1517m



1517-1520m



1520-1521m



1525-1527m



1535-1537m



1537-1540m



1540-1543m



1543-1545m



1545-1547m



1555-1558m



1558-1560m



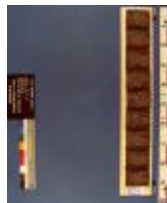
1560-1562m



1562-1565m



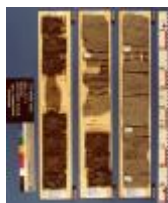
1565-1568m



1568-1569m



1569-1571m



1574-1577m



1578-1580m



1585-1587m



1587-1590m



1590-1593m



1593-1595m



1595-1598m



1598-1600m



1600-1603m



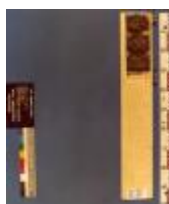
1603-1604m



1604-1606m



1608-1610m



1610-1611m



1616-1617m



1617-1618m



1619-1621m



1622-1623m



1624-1626m



1626-1628m



1628-1631m



1631-1632m

Palynologiske preparater i Sokkeldirektoratet

Prøve dybde	Dybde enhet	Prøve type	Laboratorie
870.0	[m]	DC	GEOCH
900.0	[m]	DC	GEOCH
930.0	[m]	DC	GEOCH
960.0	[m]	DC	GEOCH
990.0	[m]	DC	GEOCH
1167.0	[m]	DC	GEOCH
1203.0	[m]	DC	GEOCH
1233.0	[m]	DC	GEOCH
1263.0	[m]	DC	GEOCH
1287.0	[m]	DC	GEOCH
1317.0	[m]	DC	GEOCH
1347.0	[m]	DC	GEOCH
1377.0	[m]	DC	GEOCH
1398.0	[m]	DC	GEOCH
1428.0	[m]	DC	GEOCH
1455.0	[m]	DC	GEOCH

Litostratigrafi

Topp Dyb [mMD RKB]	Litostrat. enhet
355	NORDLAND GP
650	HORDALAND GP
650	NO FORMAL NAME
703	NO FORMAL NAME
1124	ROGALAND GP
1124	BALDER FM
1205	SELE FM
1303	LISTA FM
1374	SHETLAND GP



1424	CROMER KNOLL GP
1424	RØDBY FM
1431	ÅSGARD FM
1470	VIKING GP
1470	DRAUPNE FM
1545	SOGNEFJORD FM
1665	HEATHER FM
1700	FENSFJORD FM
1848	KROSSFJORD FM

Dokumenter - eldre Sokkeldirektoratets WDSS rapporter og andre relaterte dokumenter

Dokument navn	Dokument format	Dokument størrelse [KB]
227_01_WDSS_General_Information	pdf	0.16
227_02_WDSS_completion_log	pdf	0.18

Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

Dokument navn	Dokument format	Dokument størrelse [KB]
227_01_31_2_2_Completion_Report	pdf	5.70
227_01_31_2_2_Final_well_report_EXLOG	pdf	8.88
227_01_31_2_2_Well_summary_ANCHOR	pdf	2.76
227_02_31_2_2_Completion_log	pdf	1.32
227_02_31_2_2_Drilling_programme	pdf	2.48
227_02_31_2_2_Drilling_programme_encl_1	pdf	0.51
227_02_31_2_2_Drilling_programme_encl_2	pdf	0.17
227_02_31_2_2_Drilling_programme_encl_3	pdf	0.27
227_02_31_2_2_Drilling_programme_encl_4	pdf	0.77
227_02_31_2_2_Exploration_well_proposal	pdf	0.75
227_02_31_2_2_Exploration_well_proposal_encl_1	pdf	6.21
227_02_31_2_2_Exploration_well_proposal_encl_2	pdf	19.85
227_02_31_2_2_Exploration_well_proposal_encl_3	pdf	14.80
227_02_31_2_2_Exploration_well_proposal_encl_4	pdf	12.53
227_02_31_2_2_Exploration_well_proposal_encl_5	pdf	0.16





227 02 31 2 2 Exploration well proposal e ncl 6	pdf	12.76
227 02 31 2 2 Exploration well proposal e ncl 7	pdf	12.64
227 02 31 2 2 Exploration well proposal e ncl 8	pdf	11.26
227 02 31 2 2 Exploration well proposal e ncl 9	pdf	6.20
227 03 31 2 2 Geochemical analysis	pdf	0.84
227 03 31 2 2 Geochemistry evaluation of source rock	pdf	0.57
227 03 31 2 2 Geochemistry evaluation of source rock encl 1	pdf	0.07
227 04 31 2 2 Biostratigraphy	pdf	8.08
227 04 31 2 2 Biostratigraphy appendix 3	pdf	3.79
227 05 31 2 2 Core description	pdf	5.02
227 05 31 2 2 Core report core 1-13 Final report	pdf	3.96
227 05 31 2 2 Evaluation of core data	pdf	8.36
227 05 31 2 2 Geological investigations of cores vol 1	pdf	28.43
227 05 31 2 2 Geological investigations of cores vol 2	pdf	24.38
227 05 31 2 2 Geological investigations of cores vol 3	pdf	0.48
227 05 31 2 2 Sidewall sample description	pdf	0.70
227 05 31 2 2 Sieve analysis	pdf	3.90
227 05 31 2 2 Source rock analysis by IK U	pdf	1.52
227 05 31 2 2 Source rock analysis encl 1	pdf	0.06
227 05 31 2 2 Source rock analysis encl 2	pdf	0.03
227 05 31 2 2 Source rock analysis encl 3	pdf	0.02
227 05 31 2 2 Source rock analysis encl 4	pdf	0.03
227 05 31 2 2 Source rock analysis encl 5	pdf	0.02
227 05 31 2 2 Source rock analysis encl 6	pdf	0.04
227 05 31 2 2 Special core analysis	pdf	2.58
227 06 31 2 2 Crude oil source rock correlation	pdf	1.22
227 06 31 2 2 Pressure survey report completion test 1 by SPERR	pdf	0.79





227 06 31 2 2 Pressure survey report completion test 3 by SPERR	pdf	2.78
227 06 31 2 2 Pressure survey report test 1 run 1 by SPERRY	pdf	0.09
227 06 31 2 2 Pressure survey report test 1 run 1 SPERRY	pdf	0.89
227 06 31 2 2 Pressure survey report test 2 run 1 by SPERRY	pdf	1.99
227 06 31 2 2 Pressure survey report test 3 run 1 by SPERRY	pdf	0.55
227 06 31 2 2 Pressure survey report test 3 run 2 by SERRY	pdf	1.37
227 06 31 2 2 Pressure survey report test 4 by SPERRY	pdf	0.86
227 06 31 2 2 Pressure survey report test 4 run 2 by SPERRY	pdf	1.75
227 06 31 2 2 Pressure survey report test 4 run 3 by SPERRY	pdf	1.83
227 06 31 2 2 Pressure survey report test 4 run 4 by SPERRY	pdf	0.13
227 06 31 2 2 Pressure survey report test 4 run 5 by SPERRY	pdf	1.48
227 06 31 2 2 Production test	pdf	0.30
227 06 31 2 2 Production test b	pdf	0.28
227 06 31 2 2 Production test nr1 part1 by OTIS	pdf	7.44
227 06 31 2 2 Production test nr1 part2 by OTIS	pdf	10.03
227 06 31 2 2 Production test nr1 part3 by OTIS	pdf	6.68
227 06 31 2 2 Production test nr2 by OTIS	pdf	11.62
227 06 31 2 2 Production test nr3 by OTIS	pdf	8.95
227 06 31 2 2 Production test nr4 by OTIS	pdf	8.22
227 06 31 2 2 Production test programme	pdf	2.42
227 06 31 2 2 Produksjonstest nr 2 av oljezone by OTIS	pdf	3.02
227 06 31 2 2 Produksjon av oljezonen	pdf	0.77
227 06 31 2 2 Well test interpretation report	pdf	9.04
227 07 31 2 2 Reservoir engineering	pdf	1.79
227 07 31 2 2 Reservoir engineering encl 1	pdf	1.33
227 07 31 2 2 Reservoir engineering encl 2	pdf	1.07





227 07 31 2 2 Reservoir fluid study	pdf	0.32
227 07 31 2 2 Reservoir fluid study analysis	pdf	0.30
227 07 31 2 2 Reservoir fluid study RFLA 80078A	pdf	0.70
227 07 31 2 2 True boiling point distillation	pdf	0.19

Logger

Type logg	Topp dyp for logg [m]	Bunn dyp for logg [m]
CBL CCL GR	775	1825
CBL GR CCL	354	1844
FDC CNL GR CAL	430	797
FIT	1506	1506
FIT	1595	1595
HDT	1469	1855
HDT	1845	2590
ISF BHC GR SP	430	809
ISF BHC GR SP	1800	2590
LSS CTR	1845	2590
LSS GR	1469	1855
MSFL DLL SP CAL	1469	1855
RFC CNL GR CAL	1800	2590
RFT	1	0
RFT	2	8
VELOCITY	0	0

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	398.0	36	400.0	0.00	LOT
SURF.COND.	20	768.0	26	780.0	1.72	LOT
INTERM.	13 3/8	1438.0	17 1/2	1448.0	1.64	LOT
INTERM.	9 5/8	1817.0	12 1/4	1826.0	1.65	LOT
OPEN HOLE		2568.0	8 1/2	2568.0	0.00	LOT

Boreslam





Dybde MD [m]	Egenvekt, slam [g/cm3]	Viskositet, slam [mPa.s]	Fløtegrense [Pa]	Type slam	Dato, måling
708	1.22	41.0		seawater	
1000	1.22	49.0		seawater	
1408	1.22	50.0		seawater	
1624	1.26	45.0		seawater	

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]
227 Formation pressure (Formasjonstrykk)	PDF	0.20

