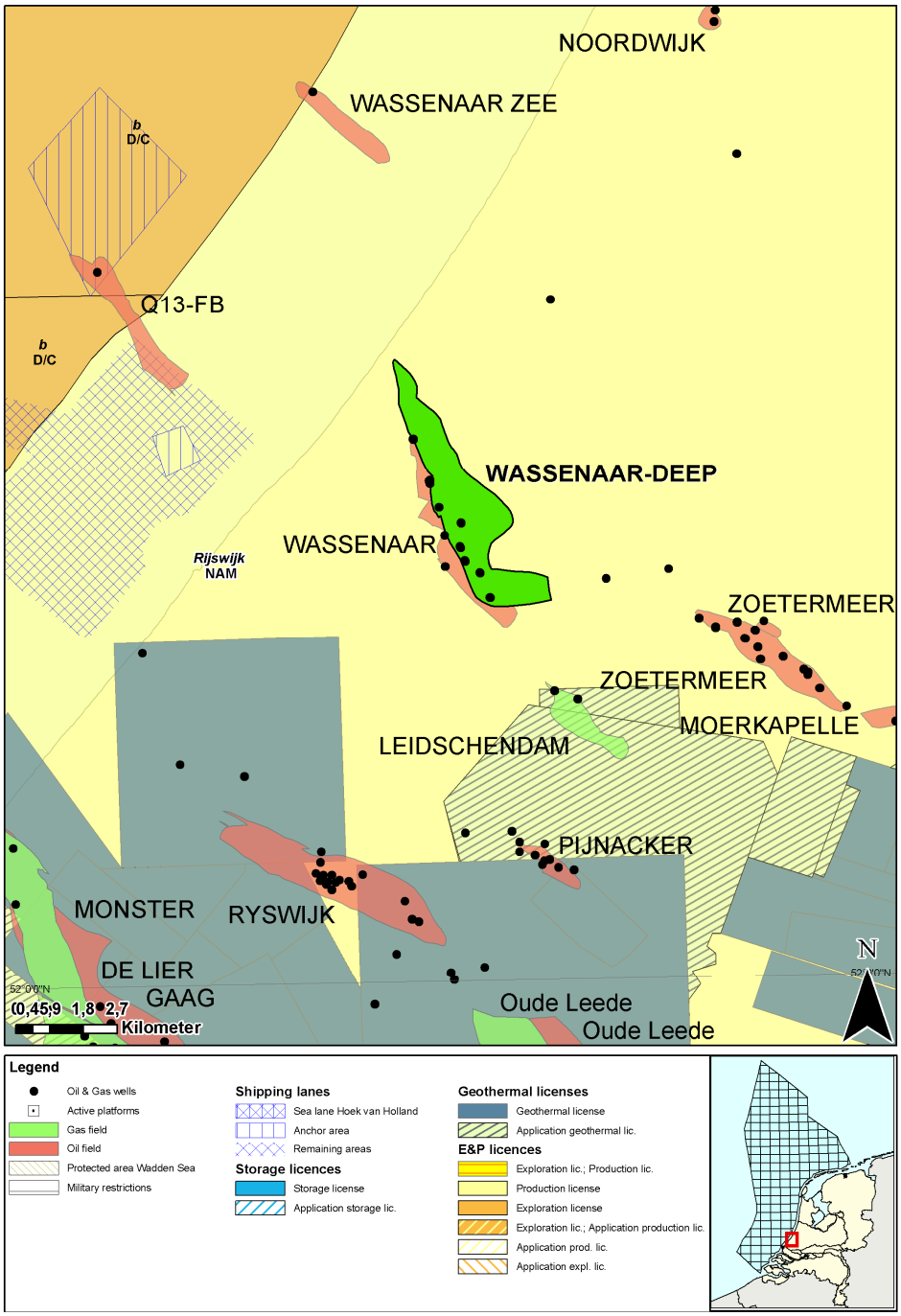
Fact sheet Wassenaar-Diep

Stranded fields - Q4 2009



Location map of the Wassenaar-Diep gas field

General information

The Wassenaar-Diep gas field was discovered in 1988 by NAM by Wassenaar-23-Sidetrack 2. The field contains gas in the Main Buntsandstein Supgroup (RBM) and as a secondary target in the Upper Rotliegend Group (RO). The gas is contained in a faulted elongated horst block. A major southwest trending fault forms the boundary to the west. Complete results of RFT's and production tests are available on the composite well log.

The Wassenaar-Diep gas field lies close to the Wassenaar oil field which is no longer producing. The gas field is situated within the Rijswijk concession near the coast. The field is located in the West Netherlands basin.

Regional information on the sedimentology and the structural configuration of the area is available in map sheet VII Noordwijk-Rotterdam.

Sequence of events

Date	Event
03-01-1955	Production license Rijswijk granted (NAM)
20-03-1957	Production license area expanded with ca 1900 km^2 (NAM)
26-10-1960	Spud date Wassenaar-23 (NAM)
17-12-1960	TD reached 2093 m ah
22-04-1976	Sidetrack #1 (Kickoff 1141,3 m ah) (NAM)
13-05-1976	TD reached 1330,3 m ah
07-06-1979	Production license area expanded with ca 25 km^2 (NAM)
22-05-1988	Sidetrack #2 (Kickoff 598 m ah) (NAM)
19-07-1988	TD reached 3149,3 m ah
21-07-1988	RFT's 2579,5 - 3053,5 m ah (RBM & ROSL)
21-07-1988	RFT samples 2579,5 m ah (RBM) and 3037 m ah (ROSL)
20/23-12-1988	Production tests 2577 - 3008 m ah (RBM & ROSL)

Plug data

Depth m	Porosity %	Hor. Permeability mD	Density g/cm3	Stratigraphy
3011.1	7.3	0.16	2.66	ROSL
3015.9	8.9	0.55	2.66	ROSL
3018.93	10.1	1.3	2.67	ROSL
3021.89	10.7	3.2	2.67	ROSL
3023.69	11.1	5.6	2.67	ROSL
3024.59	11.8	20	2.66	ROSL
3027	11.1	4.4	2.66	ROSL
3028.8	12.1	12	2.67	ROSL
3034.4	11.3	3.2	2.66	ROSL
3034.7	6.6	0.17	2.66	ROSL
3036.5	9.8	59	2.68	ROSL
3036.82	9	1	2.66	ROSL
3040.1	11.3	5.3	2.67	ROSL
3040.4	8.8	0.41	2.66	ROSL
3042.23	13.4	50	2.66	ROSL
3042.5	12.6	26	2.66	ROSL
3043.4	7.3	0.22	2.68	ROSL

More detailed information of this interval is available (WAS-23-s2)

Reservoir data

Geological unit RGD & NOGEPA (1993)	**Top** m ah	**Base** m ah	**Net** m ah	**N/G** %	**Porosity** %
Main Buntsandstein Subgroup RBM (upper)	2647	2990	0 - 5	61 (RBM) 34 (RBMD) 15 (RBMDC)	10 - 15
Main Buntsandstein Subgroup RBM (middle/lower)	2647	2990	0 - 5	68 (RBMV) 45 (RBMVU) 89 (RBMVL) 83 (RBMH)	0 - 10
Upper Rotliegend Group ROSL	2993.0 m ah	3065.0 m ah	10 - 20		0 - 10

Hydrocarbon specifications

Reservoir	**CH_4** %	**CO_2** %	**N_2** %	**H_2S** %	**GHV** MJ/m^3
Main Buntsandstein Subgroup (RBM)	91.57	0.12	0.85	0	42.8

Volumes

Reservoir	**GIIP** 10^9 m^3	**Reserves** 10^9 m^3 Proven	Expected	Possible
Main Buntsandstein Subgroup (RBM)	0,5 - 1			

Productivity

Test depth	**Reservoir pressure** in bar abs	**CGR** m^3 / 10^6 m^3	**Q** well production at s.c. m^3/d
Main Buntsandstein Subgroup RBM (upper)			350
Main Buntsandstein Subgroup RBM (middle)	120	50 - 60	200000

Well status

Wassenaar-23: Plugged and abandoned
Wassenaar-23-sidetrack1: Plugged and abandoned
Wassenaar-23-sidetrack2: Closed-in

Infrastructure

The nearest production facility is located approximately fourteen kilometers to the southwest.

Public References

TNO-NITG 2002. Geological Atlas of the Deep subsurface of the Netherlands. Map sheet VII: Noordwijk-Rotterdam, Map sheet VIII: Amsterdam Gorinchem. Utrecht.

RGD & NOGEPA 1993, Stratigraphic nomenclature of the Netherlands, Mededelingen Rijks Geologische Dienst, Nr. 50

NAM 1961: Composite well log, Wassenaar-23. *On open file*
NAM 1976: Composite well log, Wassenaar-23-s1. *On open file*
NAM 1988: Composite well log, Wassenaar-23B. *On open file*

For more information stranded Oil&Gas fields in the Netherlands:

http://www.nlog.nl/nl/reserves/reserves/stranded.html

For released Well data and Seismic data contact DINO*loket:*

http://www.dinoloket.nl

For geological maps of the deep subsurface of the Netherlands:

http://www.nlog.nl/nl/pubs/maps/geologic_maps/NCP1.html