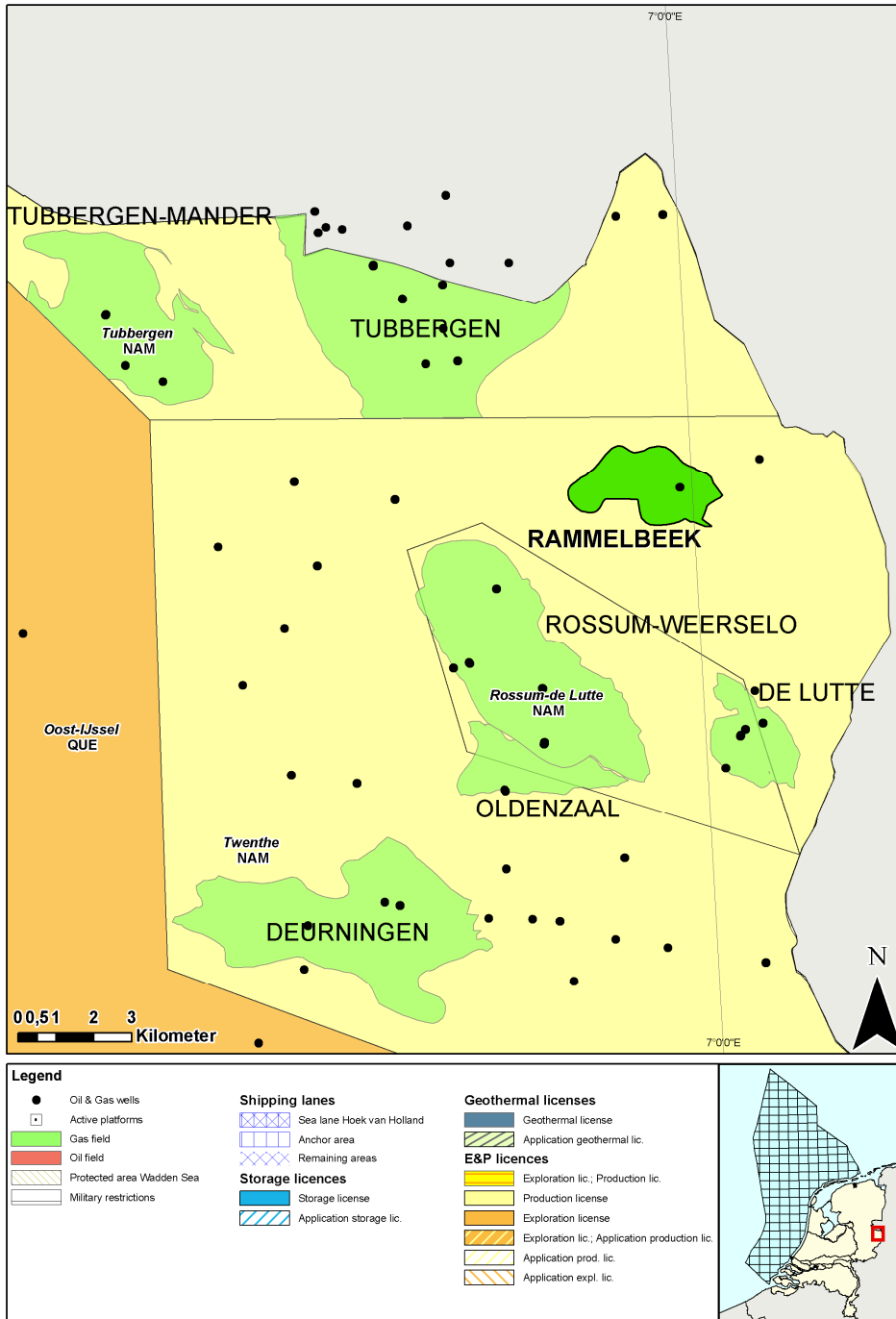




# Fact sheet Rammelbeek

## Stranded fields - Q4 2009



Location map of the Rammelbeek gas field

### **General information**

The Rammelbeek gas field was discovered in 1970 by NAM by well Rammelbeek-02. The field contains gas in the Zechstein 2 Carbonate (ZEZ2C) and the Zechstein 3 Carbonate (ZEZ3C). The Rammelbeek structure is fault and dip closed on both the ZEZ2C and ZEZ3C reservoir levels. The two reservoirs have low porosities and permeability is largely related to fractures.

The Rammelbeek gas field is situated within the Twenthe concession of NAM in the eastern part of the onshore of the Netherlands. The field is located in the Lower Saxony Basin, 2.5 km from the Dutch border.

The Zechstein 2 Carbonate Formation consists of fine grained dolomitic limestone with high organic material contents and shows a large variation in thickness (TNO, 2000). The Zechstein 2 Carbonate is characterized by a great variation in thickness and composition within the area. More information on the thickness pattern, 3D seismic and facies information is available in Van der Sanden (1996) and Geluk (2000). Further regional information on the sedimentology and the structural configuration of the area is available in map sheet X Almelo-Winterswijk (TNO-NITG, 1998).

### **Sequence of events**

Date	Event
30-10-1970	Spud date Rammelbeek-02
21-12-1970	TD reached 2606.0 m ah
21/31-01-1971	Production test 2057,3 - 2110 m ah (ZEZ2C)
27-11-1972	Applied for Production license Twenthe (NAM)
27-01-1977	Production license Twenthe granted (NAM)
5/15-02-1985	Production test 1973 - 1983 m ah (ZEZ3C)

### **Plug data**

Depth m ah	Porosity %	Horizontal permeability mD	Grain Density gr/cm <sup>3</sup>
1965.7	0.3		2.88
1968.1	0.9		2.886
1969	1		2.905
1970.5	3.9		2.869
1971.1	8.4	1.4	2.865
1974.4	9.3	1.7	2.858
1974.7	6.8	0.4	28.522
1975.6	5	2.6	2.848
1975.9	8.3	3.5	2.864
1976.6	11	0.8	2.857
1976.9	7.9	0.5	2.855
1977.5	12.7	1.1	2.851
1977.8	7.3	0.6	2.849
1982	1.9	0.6	2.811
1989.2	0.8	1.7	2.805
1992.5	1.1	1.2	2.829
1994	1.7	0.6	2.823
1995.8	0.4		2.825

### ***Reservoir data***

<b>Geological unit</b> RGD & NOGEPa (1993)	<b>Top</b> m ah	<b>Base</b> m ah	<b>Net</b> m ah	<b>N/G</b> %	<b>Porosity</b> %
Zechstein 2 Carbonate (ZE2C)	2024.1	2079.5	8..5	7.7	2.5
Zechstein 3 Carbonate (ZE3C)	1941.0	1968.4	27.7	50.6	3.4

### ***Hydrocarbon specifications***

<b>Reservoir</b>	<b>CH<sub>4</sub> %</b>	<b>CO<sub>2</sub> %</b>	<b>N<sub>2</sub> %</b>	<b>H<sub>2</sub>S %</b>	<b>GHV MJ/m<sup>3</sup></b>
Zechstein Group (ZE)	83,6	2,4	5,7	-	41,05

### ***Volumes***

<b>Reservoir</b>	<b>GIIP 10<sup>9</sup> m<sup>3</sup></b>	<b>Reserves 10<sup>9</sup> m<sup>3</sup></b>		
		<b>Proven</b>	<b>Expected</b>	<b>Possible</b>
Zechstein Group (ZE)	0 - 0,5			

### ***Productivity***

<b>Test depth</b>	<b>Reservoir pressure</b> in bar abs	<b>CGR</b> m <sup>3</sup> / 10 <sup>6</sup> m <sup>3</sup>	<b>WGR</b> m <sup>3</sup> / 10 <sup>6</sup> m <sup>3</sup>	<b>Q well</b> production at s.c. m <sup>3</sup> /d	<b>Drawdown</b> bar
Zechstein Group (ZE2C & ZE3C) 2050 m-RT	218.1 (2050 m ah) 204.0 (2050 m ah)	160	-	990000 120000	50 50

*More detailed production information on CWL*

### ***Well status***

Well RAM-02 is plugged and abandoned.

### ***Infrastructure***

The nearest production facility is located approximately five kilometers to the northwest.

### ***Public References***

- Geluk M.C. 2000, Late Permian (Zechstein) carbonate-facies maps, the Netherlands, *Geologie en Mijnbouw*: 79 (1) 17-27
- NITG-TNO 1998. Geological Atlas of the Deep subsurface of the Netherlands. Map sheet X: Almelo-Winterswijk. Utrecht.
- RGD & NOGEPa 1993, Stratigraphic nomenclature of the Netherlands, Mededelingen Rijks Geologische Dienst, Nr. 50
- Van der Sanden et al. 1996, Multi-disciplinary exploration strategy in the Northeast Netherlands Zechstein 2 Carbonate play, guided by 3D seismic. In: Rondeel, Batjes & Nieuwenhuijs (eds.) *Geology and gas and oil under the Netherlands*. Kluwer Academic Publishers (Dordrecht): 125-142

NAM 1970: Composite well log; [RAM-02](#). *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 DINOloket:

<http://www.dinoloket.nl>

For geological maps of the deep subsurface of the Netherlands:

[http://www.nlog.nl/nl/pubs/maps/geologic\\_maps/NCPI.html](http://www.nlog.nl/nl/pubs/maps/geologic_maps/NCPI.html)

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