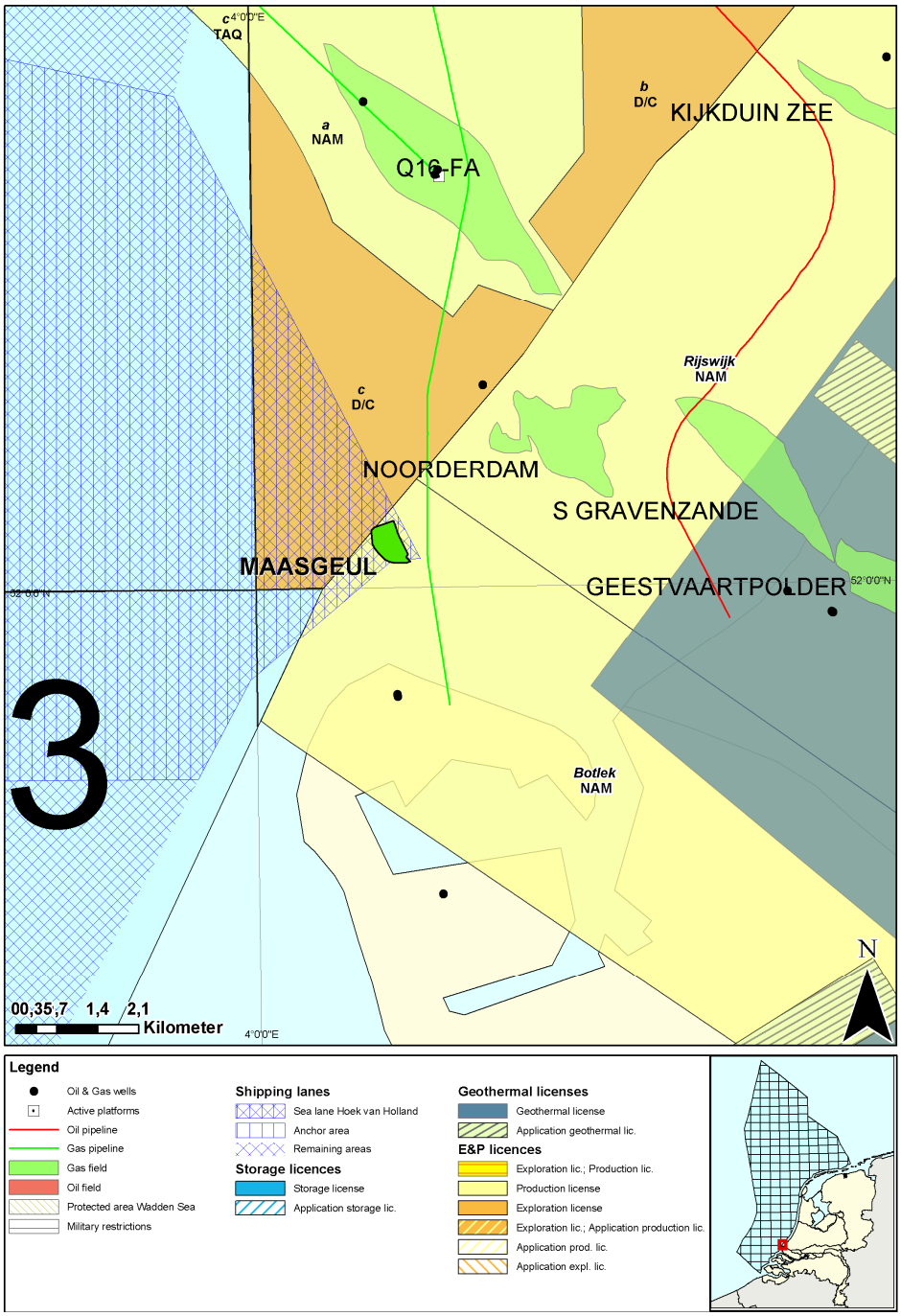
Fact sheet Maasgeul

Stranded fields - Q4 2009



Location map of the Maasgeul gas field

General information

The Maasgeul gas field was discovered in 1989 by NAM. The field contains gas in the Main Buntsandstein Subgroup (RMB). The original NW-SE structure was drilled in the eastern part by Maasgeul-01 (MSG-01) and appeared dry. Well Maasgeul-02 (MSG-02) verified gas in the western part of the structure. The well was plugged and abandoned due to small volumetrics. The field is situated on the southern margin of West Netherlands Basin, close to the London-Brabant Massif in the south. The gas is locally trapped in a large tilted horst block. The field is tested at several reservoir levels in the Main Buntsandstein Subgroup. Complete results of RFT's are available on the composite well logs.

The field lies within the Botlek concession of the NAM, at the western boundary of the concession. The Maasgeul field is located two kilometer west of the Dutch shoreline, near the city Rotterdam.

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

Sequence of events

Date	Event
1981	NAM production license Rotterdam-Zuid
26-09-1989	Spud date Maasgeul-01 (NAM)
18-12-1989	TD reached 4260.0 m ah
19-12-1989	RFT's 3743.8 – 3831.0 m ah
19-12-1989	RFT sample 3743.8 m ah (RBM)
28-12-1989	Well MSG-01 plugged and abandoned
18-02-1992	NAM production license Botlek
30-08-1993	Spud date Maasgeul-02 (NAM)
02-11-1993	TD reached 4218 m ah
05-11-1993	RFT's 4078,2 - 4141,3 m ah
05-11-1993	RFT sample 4078,2 m ah (RBM)
12-11-1993	Well MSG-02 plugged and abandoned

Reservoir data

Geological unit RGD & NOGEPA (1993)	**Top** m ah	**Base** m ah	**Porosity** %
Main Buntsandstein Subgroup (RBM)	3750.0 m ah	4100.0 m ah	10 - 20

Plug data

Depth m	**Porosity** %	**Hor. Permeability** mD	**Density** g/cm3
3753.1	9.5	25.55	2.677
3753.7	25.4	9524.41	2.636
3755.6	22.5	4616.9	2.637
3757.4	13.5	61.76	2.65
3757.7	22.5	1112.31	2.641
3758	16.3	456.95	2.639
3758.95	25.1	14561.66	2.638
3761.6	18.4	171.31	2.638
3761.9	20.1	1297.74	2.646
3763.7	23.5	6268.69	2.648

3764	24	18680.39	2.642
3767.2	20.1	555.76	2.638
3771.05	18.4	670.51	2.649
3777.1	16	40.99	2.655
3782.8	14.8	112.83	2.641
3783.4	11.7	9.22	2.649
3783.75	15.2	163.5	2.642

Hydrocarbon specifications

Reservoir	**GHV** MJ/m^3
Main Buntsandstein Subgroup (RBM)	35.17

Volumes

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

Productivity

Test depth MSG-01	**Reservoir pressure** bar
RFT 3743.8 m-RT (BSMB)	306.7
RFT 3744.0 m-RT (BSMB)	
RFT 3744.5 m-RT (BSMB)	
RFT 3763.0 m-RT (BSMB)	303.4
RFT 3794.5 m-RT (BSMB)	306.2
RFT 3831.0 m-RT (BSMB)	309.5

Test depth MSG-02	**Reservoir pressure** bar
RFT 4078.2 m-RT (BSMB)	294.5
RFT 4124.2 m-RT (BSMB)	297.3
RFT 4141.3 m-RT (BSMB)	298.6

More productivity data is available on the CWL's

Well status

MSG-01 is plugged and abandoned.
MSG-02 is plugged and abandoned.

Infrastructure

The nearest offshore platform is located six kilometers to the north. The nearest onshore production facility is located approximately three kilometers to the south.

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 1989: Composite well log; Maasgeul-1. *On open file*

NAM 1993: Composite well log; Maasgeul-2. *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