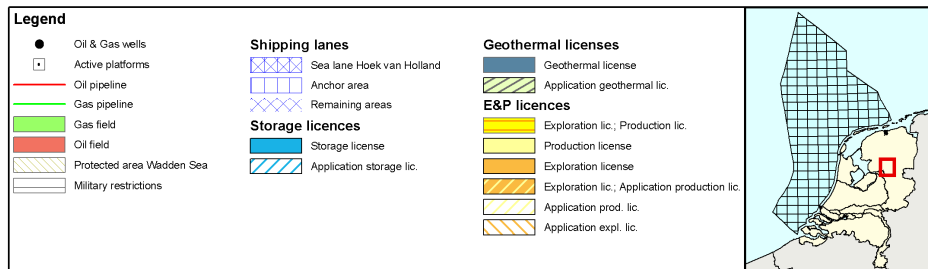
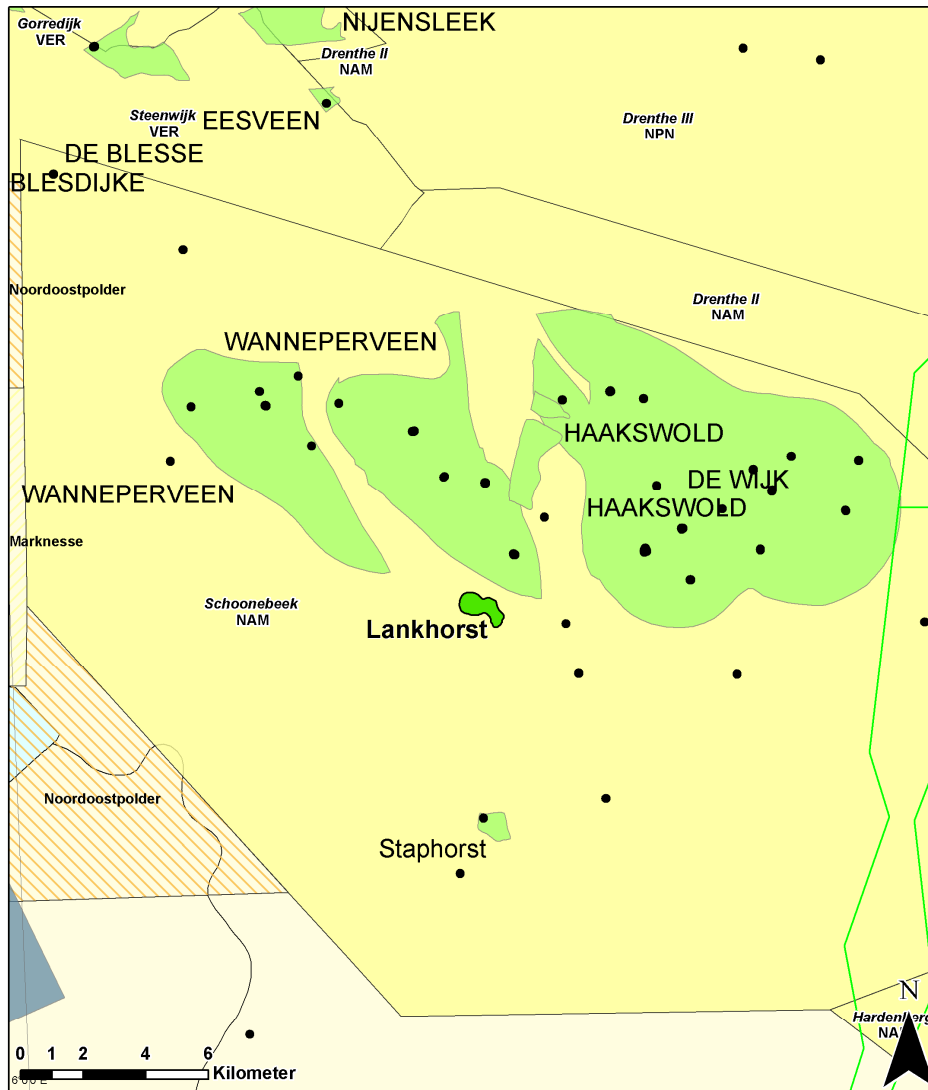




Fact sheet Lankhorst

Stranded fields - Q4 2009



Location map of the Lankhorst gas field

General information

The Lankhorst gas field was discovered in 1999 by NAM by well Wanneperveen-20. The field is situated in the Schoonebeek concession of the NAM. It is located on the southeastern margin of the Friesland platform. Gas is contained in the Zechstein 2 Carbonates (ZEZ2C).

The Zechstein 2 Carbonate is characterized by a great variation in thickness and composition within the area. To the east the Zechstein 2 Carbonate reaches a thickness of more than 190m. More information on the thickness pattern, 3D seismic and facies information is available in Van der Sanden (1996) and Geluk (2000).

Regional information on the geology, including sedimentology and the structural configuration, of the area is available in map sheet V: Sneek-Zwolle (RGD, 1995).

Sequence of events

| Date | Event |
|------------|--|
| 09-06-1948 | Production license Schoonebeek granted (NAM) |
| 16-11-1950 | Production license area expanded with ca 780 km ² (NAM) |
| 29-01-1999 | Spud date WAV-20 (NAM) |
| 26-02-1999 | TD reached 3200 m ah |
| 28-02-1999 | RFT's 3033-3036 m ah (ZEZ2C) |

Reservoir data

| Geological unit | Top m ah | Base m ah | Net m ah | N/G % |
|---|-------------|--------------|-------------|----------|
| RGD & NOGEP (1993) Zechstein Carbonate Member 2 (ZEZ2C) | 3021 | 3097 | ± 76 | ± 100 |

Taken from CWL

Volumes

| Reservoir | GIIP 10 ⁹ m ³ | Reserves 10 ⁹ m ³ | | |
|---|-------------------------------------|---|----------|----------|
| | | Proven | Expected | Possible |
| Zechstein Carbonate Member 2 (ZEZ2C) | 0 - 0,5 | | | |

Productivity

All RFT's indicated tight gas (see CWL).

Well status

Wanneperveen-20: Plugged and abandoned

Infrastructure

The field is located just south of the producing fields Wanneperveen and De Wijk. The nearest production facilities are also located at these fields.

Public References

Geluk M.C. 2000, Late Permian (Zechstein) carbonate-facies maps, the Netherlands,

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RGD 1995. Geological Atlas of the Deep subsurface of the Netherlands. Map sheet V: Sneek-Zwolle. Haarlem.

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 1999: Composite well log (CWL), Wanneperveen-20. *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

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