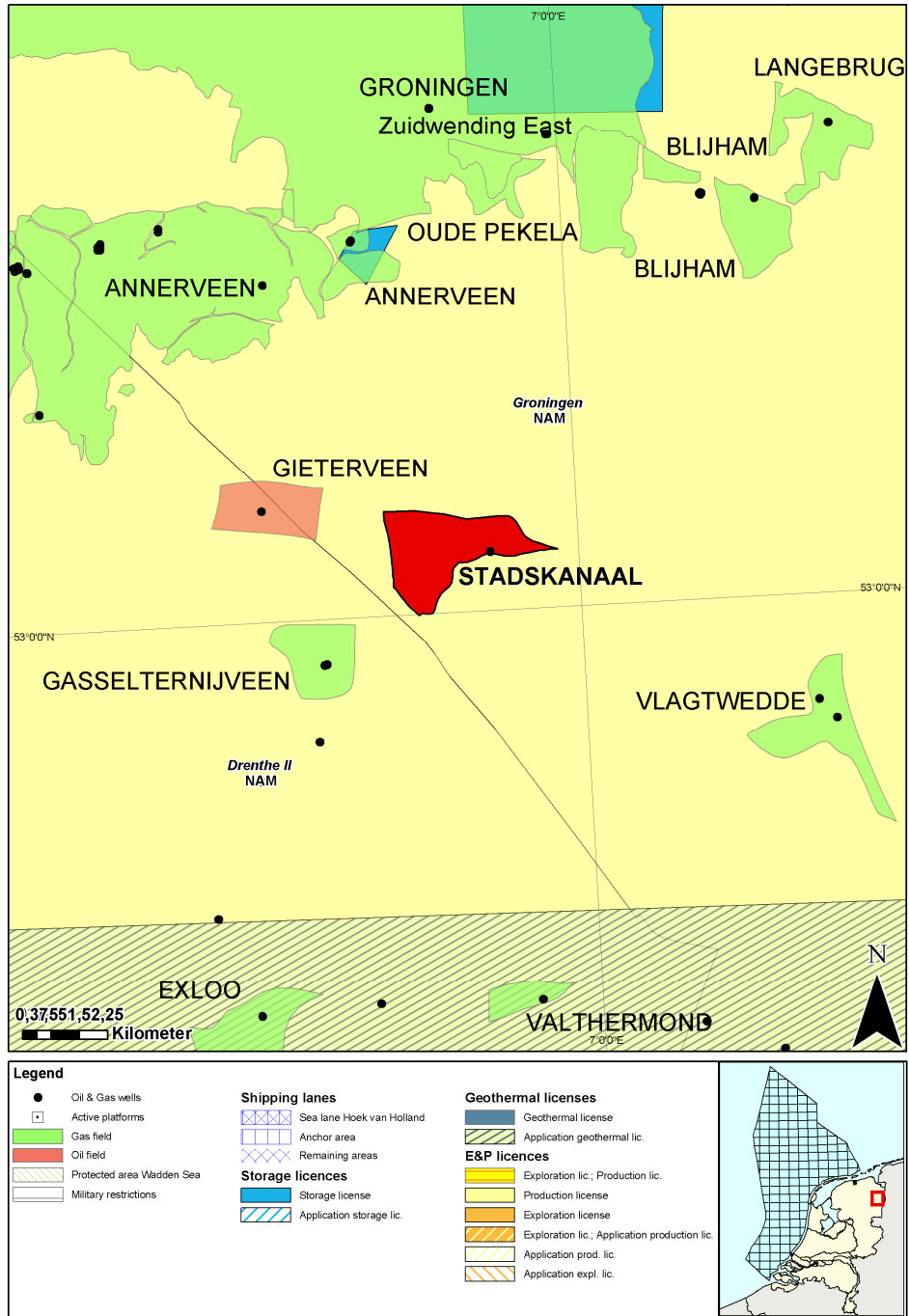




Fact sheet Stadskanaal

Stranded fields - Q4 2009



Location map of the Stadskanaal oil field

General information

The Stadskanaal oil field was discovered in 1981 by NAM by well Stadskanaal-01-sidetrack-3 (STK-01-S3). There is oil in the Z2 Carbonate Member (ZEZ2C) and gas in the Upper Rotliegend Group (RO). The oil is trapped in a fault and dip closed structure. The oil is not produced due to the limited size of the field.

The oil field lies in the Groningen concession of the NAM, close to the Drenthe II concession of the NAM to the southwest. The field is situated on the northwestern edge of the Lower Saxony Basin.

The Zechstein 2 Carbonate is characterized by a great variation in thickness and composition within the area. To the south 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 geological information of the Zechstein 2 Carbonate, the Slochteren Formation and the Tubbergen Formation, including the structural, regional porosity distribution of the Zechstein 2 Carbonate and burial history of the area is available in map sheet VI Veendam-Hoogeveen (TNO-NITG 2000). Furthermore, a reference is made to map sheet III: Rotummeroog-Groningen for information on the sedimentology and the structural configuration of the area.

Sequence of events

| Date | Event |
|---------------|--|
| 04-04-1963 | Production license Groningen effective (NAM) |
| 08-03-1981 | Spud date Stadskanaal-01-sidetrack-3 |
| 18-04-1981 | TD reached 2795 m ah |
| 22-04-1981 | RFT's 2689.0 - 2715,5 m ah (RBM) |
| 08/17-10-1981 | DST's 3771-3879 m ah (ROSL/DC) |
| 01/21-09-1982 | Production test 3717-3736 m ah (ZEZ2C) |

Plug data

| Depth m | Porosity % | Density g/cm ³ | Formation |
|------------|---------------|------------------------------|------------------------------|
| 3725.1 | 0.6 | 2.685 | Zechstein 2 Carbonate Member |
| 3725.2 | 0.4 | 2.693 | Zechstein 2 Carbonate Member |
| 3725.3 | 3.2 | 2.677 | Zechstein 2 Carbonate Member |
| 3725.4 | 3.4 | 2.666 | Zechstein 2 Carbonate Member |

Reservoir data

| Geological unit RGD & NOGEPA (1993) | Top m ah | Base m ah | Porosity % |
|--|-------------|--------------|---------------|
| Z2 Carbonate Member (ZEZ2C) | 3717.0 | 3737.0 | 0 - 10 |
| Upper Rotliegend Group (RO) | 3780.5 | >3879 | 0 - 10 |

Hydrocarbon specifications

| Reservoir | CH ₄ % | CO ₂ % | N ₂ % | H ₂ S % | GHV MJ/m ³ |
|--|-------------------|-------------------|------------------|--------------------|-----------------------|
| Z2 Carbonate Member (ZEZ2C) ¹ | | | | | 40.92 |
| Upper Rotliegend Group (RO) | 5 - 10 | 0 - 5 | 70 - 80 | | |

¹Characteristics of associated gas

Volumes

| Reservoir | | Reserves | | |
|-----------------------------|---|----------|----------|----------|
| | | Proven | Expected | Possible |
| Z2 Carbonate Member (ZEZ2C) | STOIP 10 ⁶ m ³ 0 - 0,5 | | | |
| Upper Rotliegend Group (RO) | GIIP 10 ⁹ m ³ 0 - 0,5 | | | |

Productivity

| Test depth | Reservoir pressure (bar) |
|------------------------|--------------------------|
| RFT 2689.0 m-RT (RBSS) | 382.2 |
| RFT 2689.1 m-RT (RBSS) | 378.6 |
| RFT 2689.2 m-RT (RBSS) | 379.4 |
| RFT 2715.5 m-RT (RBSS) | 383.8 |

| Test depth | Reservoir pressure in bar abs | GOR m ³ /10 ⁶ m ³ | Q well production s.c. m ³ /d/bar |
|-----------------------------|-------------------------------|--|--|
| Z2 Carbonate Member (ZEZ2C) | | 234,4 | 0,447 |

More RFT and production test information is available on the well log

Well status

Stadskanaal-01-sidetrack-3: Plugged and abandoned

Infrastructure

The nearest producing oil field is the Schoonebeek field, approximately 38 kilometers to the south.

Public References

- Geluk M.C. 2000, Late Permian (Zechstein) carbonate-facies maps, the Netherlands, *Geologie en Mijnbouw*: 79 (1) 17-27
- RGD 1995. Geological Atlas of the Deep subsurface of the Netherlands. Map sheet III: Rotummeroog-Groningen, Haarlem.
- TNO-NITG 2000. Geological Atlas of the Deep subsurface of the Netherlands. Map sheet VI: Veendam-Hoogeveen. Utrecht.
- RGD & NOGPA 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 1981: Composite well log, [Stadskanaal-01](#). *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/NCP1.html

Liability

Facts and figures supplied on this fact sheet have been compiled carefully. Great care has been taken to ensure correct coverage of all information. TNO and the Ministry of Economic Affairs do not accept any liability for any direct or indirect damage of any kind ensuing from the use of information published on this sheet.