

**One-day workshop on  
“Rifting systems and its significance for hydrocarbon exploration  
in the Netherlands”**

**Organised by EBN and TNO Geo-Energy  
5 June 2008, Utrecht**

<p>Date : Thursday June 5<sup>th</sup> 2008 Time : 9.30 – 18.00 Venue : Auditorium of TNO- NITG, Princetonlaan 6, Utrecht (route map on <a href="http://www.nitg.tno">www.nitg.tno</a>)</p> <p>Deadline for pre-registration: May 20<sup>st</sup> 2008</p>	<p>Pre-registration costs : Euro 50 On-site registration: Euro 100 Included : Proceedings, Lunch and Social drinks Registration : TNO Business Unit Geo-Energy, TNO by tel : 030 256 4610 by fax : 030 256 4605 (or e-mail : <a href="mailto:Organisatie-BenO-SecretariaatGEenGI@tno.nl">mailto: <u>Organisatie-BenO-SecretariaatGEenGI@tno.nl</u></a>)</p>
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### **Background**

With the improving subsurface imaging of geological structures, with new 3D acquisition and computer aided imaging tools, it becomes increasingly clear that trapping and accumulation of hydrocarbons in the Netherlands is more complex than earlier realized.

Understanding of the subsurface geology in the Netherlands requires understanding of polyphase tectonic events, driven by large scale plate movement and related rifting.

Understanding of the processes related to rifting are important to understand structural style and subsidence and can be of importance for the seismic interpreter, the explorationist, the development geologist but also the basin modeller.

The North Sea is generally seen as an example of a rifted basin. The Netherlands are an integral part of this basin and forms the complex transition of the North Sea rift system to the German Rhine Graben system. Unfortunately, our current lack of understanding on the geological controls of the rifting processes and its effect on small scale structuration, results in a sub-optimal exploration wells or reservoir development. This symposium aims to fill a number of gaps in our knowledge. The workshop will touch on the mega-tectonic setting but will also highlight a number of detailed examples. The presentations will in particular illustrate a number of rift induced structural styles in the Netherlands.

### **Workshop format and content**

During this year's workshop organized by EBN and TNO we want to share some insights into the latest views on the geological processes and related structuration related to rifting.

Understanding the implications of rifting models allows new play concepts to be developed in areas previously considered unattractive. The new insights are not only important during the exploration phase, but can be also very important when making the development plan.

You will hear state of the art opinions on the mega tectonic setting. Operators active in the Netherlands will highlight some of these problems by presenting case studies.

Subsequently, some speakers will address the geological context of uncertainties related to basin modeling.

Examples of questions to be answered are:

- What areas are affected most in the Netherlands?
- Which stratigraphical formations are to be studied and mapped
- What is the structural style to be expected

### **Primary target group**

Geologists and geophysicists involved in the exploration and exploitation in the deeper subsurface of the Netherlands

# Program Schedule

**Coffee 9.30 Registration**

## **Session 1**

- 10.00 Welcome (TNO/EBN)
- 10.05 JAN DE JAGER (Shell - Rijswijk) – Rifting systems in the Netherlands and exploration – setting the scene
- 10.20 FRED BEEKMAN (Vrije Universiteit Amsterdam) – Post-rift fault reactivation in the Netherlands
- 10.40 Questions/discussion
- 10.50 RICHARD RIJKERS (Gaz de France - Zoetermeer) – Structural development and sealing faults in the Central K&L blocks in the Netherlands
- 11.10 Questions/discussion

**Coffee 11.20**

## **Session 2**

- 11.50 JAN DIDERIK VAN WEES (TNO) – Tectonic heat flow modelling for basin maturation: Methods and applications
- 12.10 Questions/discussion
- 12.20 KEES VAN OJIK (NAM - Assen) – The evolution of an hydrocarbon habitat system in Early Triassic sediments in the Vlieland Basin, offshore Netherlands, in response to Kimmerian rifting events
- 12.40 Questions/discussion

**Lunch 12.50**

## **Session 3**

- 13.30 HERALD LIGTENBERG (NAM - Assen) – Examples of structural development related to rifting in the Netherlands
- 13.50 Questions/discussion
- 14.00 FOKKO VAN HULTEN - HEERLEN/ JO VAN BUGGENUM (EBN/WINTERSHALL- RIJSWIJK) – A 3D geological model of the Dutch Central Graben
- 14.20 Questions/discussion

**Tea 14.30**

## **Session 4**

- 14.50 BERNARD GEISS (Total – Mariahoeve) – Late charge problems in the K5 area
- 15.10 Questions/discussion
- 15.20 HANNEKE VERWEIJ (TNO- Utrecht) – Impact of rifting on fluid migration in the Netherlands
- 15.40 Questions/discussion

## **Panel Discussion**

- 15.50 Are the effects of late movements, related to rifting, underestimated?
- 16.45 Closing Remarks

**Drinks 16.50**