

# PETROLEUM GEOLOGISCHE KRING

KONINKLIJK NEDERLANDS GEOLOGISCH MINBOUWKUNDIG GENOOTSCHAP



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<b>Venue:</b>	PGK's monthly lectures are held at the KIVl building, Prinsessegracht 23, Den Haag. Drinks are served from 5 PM; the lecture starts at 6 PM.	<b><u><a href="http://www.pgknet.nl">www.pgknet.nl</a></u></b>	
<b>Membership:</b>	Please apply for membership by contacting the secretariat. Annual dues: Fl 30,-		
<b>Accounts:</b>	VSB Bank: 88 65 82 733 (PGK, Haarlem)	Postbank: 4074482 (PGK, Haarlem)	

## MARCH NEWSLETTER

### MARCH 21<sup>ST</sup>: MONTHLY MEETING

Max van Heijst (University of Utrecht) will give a lecture on how syn-sedimentary faulting can influence the distribution and stacking of reservoir sandstones in a coastal depositional environment. Of course: drinks as usual from 17:00 hrs.

#### **Analogue Flume Modeling of Growth-Faulted Delta Sequences**

*Abstract - The presence of syn-sedimentary growth faults on shelf-margin deltas complicates the sequence stratigraphic interpretation of deltaic successions. Therefore, the effect of growth faulting on the depositional architecture of sedimentary successions on a systems tract scale was studied for the hangingwall and footwall blocks using an analogue flume model. Values for governing variables as eustatic sea-level change, regional subsidence, local subsidence due to fault throw; sediment supply and wave reworking were based on the seismic and well data of the Imo River Field in the Niger Delta, which acted as a prototype. The flume model was spatially scaled, with a tenfold vertical exaggeration to reconcile the different slope angles in the flume model and prototype. The model maintained realistic values for time-averaged sediment transport rates with respect to the prototype. The sediment supply rate was kept constant and was scaled proportional to the gain in accommodation space due to subsidence. The model allowed direct observations of basin scale processes, provided topographic scans of landscape evolution and cross-sections of the final stratigraphy. The sedimentary processes are related to geometry, volume and distribution patterns of the systems tracts across the growth-faulted margin in connection to applied local hangingwall subsidence and imposed eustatic fluctuations. The experimental sequences have been correlated across the fault, which led to the formulation of a conceptual sequence model for growth-faulted margins that shows a difference in systems tract distribution on each side of the fault. The hangingwall succession is composed of offlapping (clinoform) falling stage- and lowstand wedges and onlapping early-transgressive systems tracts. The footwall succession, in contrast, is characterized by late-transgressive incised valley-fill sequences and highstand systems tracts. Stacking patterns of systems tracts in the experimental stratigraphy showed high variability, which was related to inherited relief (antecedent topography). The results showed a high degree of similarity with the prototype and other natural examples of growth-faulted shelf margins. Within certain boundary conditions, conditioned sequence development of our model studies for growth-faulted shelf deltas can also aid in the stratigraphic interpretation of various other common types of shelfal extensional syn-rift strata on a seismic and well-log data scale. Finally, the hydrocarbon trapping potential of stratigraphic features in the experimental sequence model and their field analogues have been reviewed.*

### **PGK EXCURSION: Bentheim Area**

This year's PGK excursion will be a 2-day excursion to the area around Bentheim, just across the border with Germany. It will be held in the weekend of 19 and 20 May. The excursion will include the following stops:

- Bentheim Sandstone, the famous building stone, 25% porosity and up to 1D permeability. Cross-bedded estuarine or shoreface barrier body.
- The fossiliferous bituminous claystones of the lower Bentheim Sandstone.
- Remnants of asphaltite mining in the Gildehauser Sandstone: biodegraded oil known since the Middel Ages, seeps from fissures in the Gildehaus Sandstone. Construction of the Karl-Rudolf shaft, 127m deep, started in 1881.
- Akzo salt production facilities in Hengelo, Twente.

Price fl. 200-250,-. **Register** with the secretary, prior to April 1<sup>st</sup>. For more details refer to [www.pgknet.nl](http://www.pgknet.nl)

### **OTHER PGK EVENTS**

18 April: Stephen Whyte (Clyde Petroleum) will give a lecture under the title: "To boldly go where others have gone before". KIVI building, The Hague.

### **PGK e-mail**

The new e-mail address of the secretary is: [secretary@pgknet.nl](mailto:secretary@pgknet.nl)

### **EXCURSION CANTABRIAN MOUNTAINS**

**Cantabria, September 23-30 2001** - Tom Reijers will organise a field trip to the Cantabrian Mountains (Spain) from September 23-30. The programme will cover the Paleozoic and Mesozoic sedimentological and structural development of the area. Tom prepared an extensive field guide for this trip. The costs are estimated at approx. NLG 1750-2000 including air transport to Leon and accomodation (double room). A minimum number of registered participants is required for this field trip by May 15th. Details on the field trip can be found at the PGK web site [www.pgknet.nl](http://www.pgknet.nl) or can be sent to interested persons upon request. Registrations or request for information: Frank van den Belt (secretary), [secretary@pgknet.nl](mailto:secretary@pgknet.nl) or 071-3019307.

### **MEMBERSHIP**

**Applications for membership** have been received from M. de Keijzer, R.Roeterdink (Shell Rijswijk) and E. Haan (Shell). If no objections have been received by the end of the next meeting they are automatically elected members of PGK.

*PGK is sponsored by:*

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