

# *From the Gobi Desert to Genghis Khan: Exploring for Heavy Oil in Mongolia*

**SPEAKER**

**Jürgen Kraus**

Franconia Geoscience Ltd., Calgary

**12:00 Noon**

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**Nexen Annex Theatre**

**ABSTRACT**

Mongolia is possibly one of the earth's most remote and cryptic places for hydrocarbon exploration. Following its early prime under Genghis Khan to his grandson Kublai Khan (12th and 13th centuries), the country was isolated from western civilization until recently. In 1924, Mongolia fell under Soviet control. The country transitioned to a market economy only in 1990 and the last Russian troops left in 1992.

Mongolia hosts 10% of the world's known coal reserves and has a long tradition in open-pit mining. Oil was found in 1940 in the Gobi region and the first PSC was signed in

1993. The Petroleum Authority of Mongolia (PAM) was established in 1990 as the state-owned petroleum agency. Today, there are 30 exploration blocks, and two basins produce: Tamsag and East Gobi.

This is a brief account of frontier exploration in the deformed and inverted lacustrine Nyalga rift basin. The general plate-tectonic setting will be introduced, from the amalgamation of island arcs in the Late Permian through northward subduction underneath Siberia, the complications of which resulted in rift-related subsidence and the development of lacustrine basins in the Late Jurassic/Early Cretaceous. The geometry and structural/sedimentary evolution of Nyalga will be discussed, from the rifting to Late Cretaceous inversion, and put into context with the working petroleum systems.

Join in on a journey heading south from the capital Ulaanbaatar through the steppe and dry steppe into the Gobi desert to investigate the East Gobi basin near the Chinese border, considered to be a Nyalga analog. The "road" you are following is the Transmongolian Railway and your GPS map is almost featureless but for the single point that translates to "Good Spring". You will stay in a traditional yurt, where they serve you a hearty beef stew for breakfast and a marmot with fermented mare's milk for dinner. In the absence of trees (i.e. firewood), "bullshit" will get a comfortable new meaning for you on

cold nights. You will meet nomads in the vast grasslands of the Nyalga basin herding camels and visit an abandoned Soviet airbase.

The two Nyalga reports submitted to PAM can be downloaded from [franconia-geo.com](http://franconia-geo.com). The website also contains a few field video clips.

Refreshments and door prizes will be provided. Please bring a colleague!

**BIOGRAPHY**

Jürgen is a consulting geologist in international hydrocarbon exploration specializing in prospect generation in deformed and fractured frontier basins. Since establishing "Franconia Geoscience Ltd." in 2003, he has helped establish the technical foundations to build small companies on and has worked on international exploration projects in countries such as China, Mongolia, Morocco, and Germany. Previously, he had performed structural modelling and seismic interpretation in the Foothills for Shell Canada. He has 27 years of field experience.

Jürgen holds an M.Sc. in Structural Geology and Geophysics from Göttingen University, Germany (1991), and a Ph.D. in Structural Geology and Tectonics from the University of New Brunswick (1998). Before moving to Calgary, he had assignments with GSC Ottawa, Aachen University of Technology, and the Saskatchewan Geological Survey.



Jürgen Kraus, Franconia Geoscience Ltd., Calgary