Monday, November 14, 2011

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: $28 Preregistered members; $35 non-members & walk-ups

To guarantee a seat, you must pre-register on the HGS website and pre-pay with a credit card.
Pre-registration without payment will not be accepted.
You may still walk up and pay at the door, if extra seats are available.

Richard S. Bishop (speaker),
Rick A. Baggot, Wayne L. Kelley,
Robert E. Fargo
RSK [UK] LIMITED
Houston, TX

What is the Current Potential Shale Oil and Gas Production in the U.S.A.?

The large potential resource volumes reported for shale oil and gas have generated comparably large expectations for increased future oil and gas supplies in both the United States and the rest of the world. These expectations include the substitution of domestic gas for imported oil, utilizing domestic gas as a cleaner or safer alternative for coal and nuclear generated electricity, as well as providing gas exports.

Unfortunately, however, the large resource volumes of unconventional oil and gas are not easily converted to increased delivery rates to meet these expectations.

This talk presents results from a macro-modeling method to estimate the production rate, duration, and limitations to unconventional energy supplies. The methodology starts with total estimated ultimate resource (EUR) and models the timing, duration, and rates for potential supply additions and the number of wells and rigs necessary. The computational model concept is straightforward:

- Assume representative well production profiles i.e., decline curves
- Assume drilling effort i.e., number of rigs and wells drilled per rig per month
- Sum individual well production per month assuming 100% chance of success for each well
- Limit the production by EUR, area of the resource, or years to drill the resource

In addition, several physical, financial, and political constraints impacting the potential resource development are acknowledged but not quantified. Shale oil and shale gas share high production costs and are therefore the first to suffer from global price downturns. Indeed, a negative side effect of the improved technology may be lower international demand due to increased domestic production from unconventionals in other countries.

Based on these models,
- Shale gas can significantly reduce the negative economic impact of imported oil but not in the near term due to slow market growth

- Shale gas may displace some coal and nuclear use but probably will not completely replace coal and nuclear due to long term energy needs of the nation
- Shale oil will help to maintain and to increase U.S. production modestly but its current EUR is probably not large enough to provide oil economic independence, let alone actual oil independence. ■

Biographical Sketch

RICHARD S. BISHOP, PH.D. is a geologist who has worked the spectrum of research, exploration, and production for 29 years at ExxonMobil, 2 years at Unocal, and 7 years including RSK as a consultant/independent. During this time he has 'seen the world' both as an explorationist and as a synthesizer of global exploration opportunities. Mr. Bishop is a past president of the HGS and AAPG. He has been recognized with AAPG's Sproule Award, as a Distinguished Alumnus of the University of Missouri, and as an Honorary Member of both the AAPG and HGS.

Mr. Bishop earned his Ph.D. from Stanford University, his M.A. from the University of Missouri, and B.S. from Texas Christian University. He is currently Executive Director and Chief Geologist of RSK.