EMD Gas Hydrates Committee

EMD Gas Hydrates Annual Committee Report - 2011

Art Johnson, P.G., Chair

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Vice-Chairs:

Ashley Rose Gould, (Vice-Chair: University), Texas A&M, College Station, Texas
TBA, (Vice-Chair: Industry)
TBA, (Vice-Chair: Government)
Mary K. Harris, Ph.D., P.G, (Vice-Chair: Representative of DEG)
Daniel J. Tearpock, (Vice-Chair: Representative of DPA)

Advisory Committee:

TBA

Committee Activities:
Low natural gas prices in the U.S. and the deferral of field programs in the Gulf of Mexico and Alaska have combined to diminish industry interest in gas hydrate as an energy resource. Field programs outside of the U.S. are continuing, but at a slow pace and with interest primarily coming from government agencies and academic institutions.

The Gas Hydrate Committee has 204 observing committee members from 41 nations, with 65% residing outside of the U.S., an indication that the committee should encourage participation in gas hydrate sessions at AAPG conferences at international venues. In addition, vice chairs and advisory committee members will be actively sought.

Gas Hydrate in Alaska
The field test in Prudhoe Bay, Alaska to assess sustainable production rates for hydrate reservoirs was originally scheduled to commence this year and continue for 18 to 24 months. The test is currently on hold for reasons that a spokesperson for operator BP said would be announced at a later date. Contacts within the project have indicated that the test may move forward in the next year or two. The Gas Hydrate Committee's role to the broader membership of AAPG has been limited as gas hydrate has been widely seen as a resource for the distant future. It was hoped that a successful production test in Prudhoe Bay would lead to a greater interest by AAPG members in the near term, with the committee playing an increasing role in communicating development in this field.

ConocoPhillips has begun operations on a Prudhoe Bay well that will test the concept of CO2 injection into a methane hydrate reservoir to determine the potential for methane production while permanently sequestering CO2. Drilling operations began in February of this year and the

current plan is for the well to be cased and suspended, with the CO2 injection to take place next year after injection procedures are finalized.

Gas Hydrate in the Gulf of Mexico

The explosion, fire, and oil release from the Deepwater Horizon disaster has led to the delay of additional gas hydrate field operations in the Gulf of Mexico that were planned as a follow-up to the highly successful 2009 expedition. During that expedition (conducted April 16 - May 6, 2009), 15,700 feet of stratigraphic section were drilled and logged in seven wells at three locations (Walker Ridge 313, Green Canyon 955 and Alaminos Canyon 21).

The expedition verified that gas hydrate can and does occur within sand reservoirs in the Gulf of Mexico. Thick, highly-saturated gas hydrate-bearing sands discovered in 4 of 7 wells drilled. In addition, a range of gas hydrate systems, including both fracture-shale accumulations and potential low-saturation deposits in sands, were documented. The high level of success also validated the prospecting approach used in the selection of expedition targets. Results of the expedition are available online at:
http://www.netl.doe.gov/technologies/oil-gas/FutureSupply/MethaneHydrates/JIPLegII-IR/

Gas Hydrate in South Korea

A gas hydrate drilling program was conducted by South Korea during the summer of 2010 under the direction of the Korea Institute of Geoscience & Mineral Resources. The program targeted sand reservoirs and is a follow-up to the successful hydrate drilling program conducted offshore South Korea in 2007. Results of the program have not yet been officially released.

Gas Hydrate in Japan

A deepwater hydrate production test is planned for offshore Japan in fiscal 2012 (calendar 2013). The test will provide important information for MH21, the Japanese gas hydrate program, but may not be designed to yield high production rates. Site selection, test details, and other considerations are currently under review.

Gas Hydrate in China

In late 2009, China released an initial report of the gas hydrate being recovered from the Tibetan Plateau. Given the large area with pressures and temperatures within which gas hydrate would be stable, this suggests a very large potential onshore gas resource base.

Gas Hydrate in India

Site selection has begun for a second hydrate drilling program offshore India as a follow-up to the 2006 program that recovered significant amounts of gas hydrate in cores, but without reservoir lithologies suitable for production. India's National Gas Hydrate Program (NGHP) is currently focusing on reservoir delineation and resource assessment in the Krishna Godavari Basin.

Gas Hydrate at 2011 ACE

The 2011 AAPG annual meeting in Houston includes Theme 4 – "Challenged Resource Frontiers" and will include a poster session with six posters.

Other Gas Hydrate Activities

The 7th triennial International Conference on Gas Hydrate (ICGH) will be convened in Edinburgh, Scotland in July. Over 650 gas hydrate abstracts have been submitted, covering topics including from physical chemistry and laboratory studies, climate change implications, flow assurance, resource assessment, and extraterrestrial occurrence.