

**Clathrate special section —  
upcoming in the August/September 2004 issue  
of *American Mineralogist***

Clathrate hydrates, which include natural gas that could provide a transition to a hydrogen-based economy, is the topic of a special section in the August/September issue of *American Mineralogist*, with wide-spread implications not only for many areas of Earth science but for our world. These compounds are of an immediate and practical concern because of the hazards they pose to gas and oil drilling and production operations in both deep marine and onshore Arctic environment. Drilling operations have encountered gas kicks, blowouts, and fires when gas hydrates are penetrated. Blockages can occur in pipelines. Discharge of methane into the atmosphere contributes to global warming, although climatologists and geophysicists are hotly debating this topic. Read about hydrate structure, physics, chemistry, the challenge of hydrate kinetics, and more!

**Preface to the *Clathrate Hydrates* special issue  
BRYAN C. CHAKOUMAKOS (CLATHRATES SPECIAL ASSOCIATE EDITOR)**

**Introductory overview: Hydrate knowledge development  
E. DENDY SLOAN**

**Scanning Electron Microscopy investigations of laboratory-grown gas clathrate hydrates formed  
from melting ice, and comparison to natural hydrates**

LAURA A. STERN, STEPHEN H. KIRBY, SUSAN CIRCONI, AND WILLIAM B. DURHAM

**Dynamics of trimethylene oxide in a structure II clathrate hydrate  
C. Y. JONES AND I. PERAL**

**The stability of methane hydrates in highly concentrated electrolyte solutions by differential scanning  
calorimetry and theoretical computation**

DIDIER DALMAZZONE, DANIELE CLAUSSE, CHRISTINE DALMAZZONE, AND BENJAMIN HERZHAFT

**The effect of elevated methane pressure on methane hydrate dissociation  
SUSAN CIRCONI, LAURA A. STERN, AND STEPHEN H. KIRBY**

**Methane hydrate formation in partially water-saturated Ottawa sand  
W.F. WAITE, W.J. WINTERS, AND D.H. MASON**

**Methanol – inhibitor or promoter of the formation of gas hydrates from deuterated ice?  
SVILEN BOBEV AND KIMBERLY T. TAIT**

**Investigating the performance of clathrate hydrate inhibitors using in situ Raman spectroscopy and  
differential scanning calorimetry**

ANGELA CARSTENSEN, JEFFERSON L. CREEK, AND CAROLYN A. KOH

**Physical properties and rock physics models of sediment containing natural and laboratory-formed  
methane gas hydrate**

WILLIAM J. WINTERS, INGO A. PECHER, WILLIAM F. WAITE, AND DAVID H. MASON

**Experimental studies on the formation of porous gas hydrates  
GEORGI GENOV, WERNER F. KUHS, DOROTEYA K. STAYKOVA, EVGENY GORESHNIK, AND  
ANDREY N. SALAMATIN**

**Investigation of jet breakup and droplet size distribution of liquid CO<sub>2</sub> and water systems—implications  
for CO<sub>2</sub> hydrate formation for ocean carbon sequestration**

DAVID RIESTENBERG, ELIZABETH CHIU, MONSURU GBORIGI, LIYUAN LIANG, OLIVIA R. WEST,  
AND COSTAS TSOURIS

**Measurement of clathrate hydrate precipitation from CO<sub>2</sub> solution by a nondestructive method  
YONGCHEN SONG, BAIXIN CHEN, MASAHIRO NISHIO, AND MAKOTO AKAI**

**Influence of water thermal history and overpressure on CO<sub>2</sub>-hydrate nucleation and morphology  
O.Y. ZATSEPINA, D. RIESTENBERG, S.D. MCCALLUM, M. GBORIGI, C. BRANDT, BRUCE A. BUFFETT, AND T.J. PHELPS**

**Growth-controlling processes of CO<sub>2</sub> gas hydrates  
S. HIRAI AND H. SANDA**

**Thermodynamic prediction of clathrate hydrate dissociation conditions in mesoporous media  
MARIA LLAMEDO, ROSS ANDERSON, AND BAHMAN TOHIDI**

**Modeling dynamic marine gas hydrate systems  
WENYUE XU**