

**Tuesday, April 22, 2008**  
**SULFATES AS RECORDERS OF MARS NEAR SURFACE PROCESSES**  
**AND THE MER SITES AS FIRST SAMPLE RETURN LOCALITIES**  
**8:00 a.m. Alvarado ABC**

**Chairs: V. W. Lueth**  
**J. J. Papike**

Lueth V. W. \* [INVITED] (20 minutes)

*Encoding of Water-Rock-Atmosphere Interactions in Jarosite: Implications for Mars* [#4040]

Burger P. V. \* Papike J. J. Shearer C. K. Karner J. M. (15 minutes)

*Interpreting Mars Surface Fluid History Using Minor and Trace Elements in Jarosite: An Example from Post Pit, Nevada* [#4010]

King P. L. \* Lane M. D. Hyde B. C. Dyar M. D. Bishop J. L. (15 minutes)

*Fe-Sulfates on Mars: Considerations for Martian Environmental Conditions, Mars Sample Return and Hazards* [#4017]

Hyde B. C. \* King P. L. Spilde M. N. Ali A.-M. S. (15 minutes)

*Characterization of Fe-Sulfate Minerals: Preparation for Mars Sample Return* [#4042]

Lueth V. W. Campbell A. R. Papike J. J. (15 minutes)

*Stable Isotope Characterization of a Terrestrial Kieserite with Comparisons to Other Sulfate Minerals* [#4027]

Zolensky M. E. \* Nakamura-Messenger K. (15 minutes)

*What Can You Do with a Returned Sample of Martian Dust?* [#4007]

Vaniman D. T. \* Bish D. L. Chipera S. J. (15 minutes)

*Salt-Hydrate Stabilities and Mars Sample Return Missions* [#4025]

Mittlefehldt D. W. \* [INVITED] (20 minutes)

*Mars Sample Return from Meridiani Planum* [#4031]

Morris R. V. \* [INVITED] (20 minutes)

*What We Might Know About Gusev Crater if the Mars Exploration Rover Spirit Mission were Coupled with a Mars Sample Return Mission* [#4048]