Monday, April 26, 2010
POSTER SESSION: HYDROTHERMAL SYSTEMS AND ORGANOSYNTHESIS PROCESSES: ORIGIN AND EVOLUTION OF LIFE
6:00 p.m. Marina Plaza Ballroom

Parenteau M. N. Farmer J. D. Jahnke L. L. Cady S. L.
Terrestrial Iron Hot Springs as Analogs for Ancient Martian Hydrothermal Systems **[#5636]**
We have been studying a subaerial terrestrial iron hot spring as an potential analog for hydrothermal systems on Mars. In this multidisciplinary study, we have characterized the aqueous geochemistry, mineralogy, and microbial biosignatures at Chocolate Pots hot springs.

Davis L. E. Crawford I. A. Ward J. M. Hunter S. Cousins C. R. Jones A. P. Shields-Zhou G.
The Culturable Microbial Community from the Hot Springs of an African Soda Lake **[#5293]**
Samples were collected from hot springs around Lake Magadi which ranged in temperature between 82.7°C and 35.7°C. Sample growth was achieved with a medium, analogous to the sampled environment which was varied by the addition of 6.8% and 15% (w/v) sodium chloride.

Rogers K. L. Stephenson S. McCollom T. M. Hynek B. M.
Distribution of Thermophilic Acidophiles at Cerro Negro, Nicaragua, an Analog for Acid-Sulfate Weathering Environments on Early Mars **[#5504]**
Cerro Negro, Nicaragua is an excellent terrestrial analog for putative acid-sulfate weathering systems on early Mars. Sulfur- and sulfate-reducing acidophiles are found throughout Cerro Negro and can further elucidate the habitability of early Mars.

Naraoka H.
Isotope Signatures of Lipid Biomarkers from Terrestrial and Deep-Sea Hot Springs **[#5053]**
Compound-specific $\delta^{13}C$-δD signatures of prokaryotic biomarkers show very large variations at both terrestrial and marine hot springs, which are strongly dependent on carbon and hydrogen sources as well as metabolic pathways.

Fu Q. Socki R. A. Niles P. B.
Carbon Isotopes of Alkanes in Hydrothermal Abiotic Organic Synthesis Processes at High Temperatures and Pressures: An Experimental Study **[#5572]**
An experiment involving hydrothermal abiotic organic synthesis was conducted using a piston cylinder at 750°C and 0.55 GPa. Significant CH_4 and C_2H_6 were observed. No C isotope reversal trend was observed for alkanes with increasing carbon number.

Seitz J. C. Schulte M. D. Hall A. S. Rhett G. W.
Determination of the Volumetric Properties of Dilute D-Glucose Solutions to 50.0 MPa and 433.15 K **[#5451]**
The volumetric properties of dilute glucose solutions have been determined by vibrating tube densimetry to elevated temperatures and pressures. These data have applications including the modeling of metabolic processes in thermophilic organisms.

Bennett A. F. Schulte M. Seitz J. C.
Determination of the Partial Molal Heat Capacities of Dilute D-Glucose at Elevated Temperatures Relevant to Low Grade Hydrothermal Activity **[#5619]**
We have extended the temperature range for experimental measurements of aqueous D-glucose to 428.15K (at 0.7 MPa) in order to evaluate its reaction properties in hydrothermal environments.

Smith J. L. Huber J. A. Coleman M. L. Connelly D. P. Honig D. German C. R. Kinsey J. Kurz M. D. McDermott J. Nakamura K. Sands C. M. Seewald J. Sylva S. Van Dover C. L.
Microbial and Biogeochemical Characterization of Hydrothermal Plumes on the Mid-Cayman Rise **[#5297]**
We present the first systematic characterization of the extent and distribution of hydrothermal activity along the previously unexplored Mid-Cayman Rise, Earth's deepest mid-ocean ridge as part of a NASA-funded ASTEP program.