

**Wednesday, January 21<sup>st</sup>, 2004: HMPGA Board Member John Arnason, Ph.D. will present:**

## **“Discovery of Depleted Uranium in Sediments of Patroon Reservoir, Albany County, NY, USA”**

Patroon Reservoir, located 1 kilometer (km) downstream of a former depleted uranium (DU) manufacturing plant, contains sediments with elevated levels of uranium (U) and other heavy metals. Activities of U and thorium (Th) series radionuclides were measured by gamma and alpha spectroscopy on selected sediment core samples and were compared to total U concentration profiles. U in the lowermost sediments (greater than 1.9 meters (m)) occurs in background concentrations (less than 3 milligrams per kilogram (mg/kg)) and is in secular equilibrium, indicating a natural source. In contrast, U in the overlying sediments (1.9 – 1.1 m) occurs at elevated concentrations (3 – 320 mg/kg) and is in secular disequilibrium, indicating that it contains DU derived from the plant. Using a simple mixing model, we show that U in the overlying sediments contains between 25 and 97 percent DU.

### **About the Speaker**

Dr. Arnason has been a visiting professor in the Department of Earth and Atmospheric Sciences at the University at Albany since 1996. He teaches courses in introductory geology, mineralogy, and geochemistry and advises undergraduates and graduate student research. His research addresses the distribution and transport of heavy metals in watersheds. Dr. Arnason has a BS in Geology from Harvard University and an MS and Ph.D. in Geology and Environmental Science from Stanford University. Dr. Arnason currently serves on the Board of Directors for HMPGA. He is also a member of GSA, AGU, and MSA and serves on the Town of New Scotland Water Committee.

<b>About Our Meetings</b>	
<b>Where:</b> Holiday Inn Turf 205 Wolf Road, Colonie, NY	<p>Vegetarian or fish meals are available with prior request. <b>***Individuals will be responsible for the cost of dinner unless cancellation notice is received 24 hours prior to the meeting. Walk-ins will be charged an additional \$2, that is, \$22 for members and \$24 for non-members, if seating is available.***</b></p> <p><b>Reservations:</b> Call or e-mail Diane Welch at (518) 348-6995 or <a href="mailto:dwelch@alphageoscience.com">dwelch@alphageoscience.com</a> by the previous <b>Wednesday</b>. Please register even if you are planning on attending only the talk. Thank you for your cooperation.</p>
<b>When:</b> <b>January 21<sup>st</sup>, 2004</b> ; February 18 <sup>th</sup> , 2004; March 17 <sup>th</sup> , 2004; April 19 <sup>th</sup> , 2004	
Board of Directors Meeting <b>4:00 pm</b> Social Hour <b>5:00 pm</b> Dinner <b>6:30 pm</b> Program <b>7:30 pm</b>	
<b>Dinner:</b> \$10.00/person for student members \$20.00/person for members \$22.00/person for non-members	