THE MAINE GEOLOGIST

NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MAINE

October, 2007
Volume 33
Number 3

THE PRESIDENT'S MESSAGE

As another summer has passed, I find that my first year as president has been an excellent learning experience, and I appreciate all of the help and support from the officers, executive committee and membership to continue to make GSM a dynamic organization. I found the summer field trip to Mt. Apatite and the Newry Quarries (Dunton Pit) very interesting, requiring me to pull out mineral identification books I had not used for some time. More details of the field trip are included below, however, I wish to thank Mary Groves and Poland Mining Camps for hosting our trip and thank Gary Bucklin for helping to organize the trip and serving as our guide. I was happy with the specimens that I found (garnet, tourmaline, lepidolite, etc.) and I hope that everyone found something to take home.

As noted in the Summer newsletter, the Fall Meeting (see below) is dedicated to the memory of Jack Rand and Dee Caldwell. The meeting is again being hosted by Poland Springs. We have the meeting room in the main hotel, so there will be plenty of room. Please plan to stay for dinner (compliments of Poland Springs) and share your stories and anecdotes about Jack and Dee. I want to thank Tom Brennan and Cindy Robbins of Poland Springs for sponsoring the fall meeting for another time.

Now is the time to start planning for the Summer 2008 Field Trip. Please e-mail your field trip ideas to me or other executive committee members.

GSM Members Aid in Rescue: Our summer field trip had some unexpected excitement when an injured 4-wheeler driver was found along one of the trails. Jim Hillier called 911 and coordinated getting them to the site, Deb Hillier served as the on-site nurse pending the arrival of Auburn rescue services, while Gary Bucklin assisted in guiding rescue services to the site, and notified the family of the driver. Auburn Police, Fire and Rescue and other services aided in getting the injured driver transported from the site to the hospital. The photograph below (courtesy of Jim Hillier) shows the injured driver being carried by rescue workers and GSM members from the site of the accident to police transport from the site.

Timing is Everything!!, While we all found specimens at both quarries that were worth taking home, I am sure we wish would have been there after the blasting that occurred a couple of weeks later.

The photo below (courtesy of Gary Bucklin) shows some of the gem quality beryl crystals that were found in the Pulsifer Pit at Mt Apatite.

Finally, I continue to encourage the membership to participate in the organization activities, contributing articles of interest to the newsletter, provide announcements of upcoming events, photographs and other member news. Remember that your dues support this newsletter, the website, student awards, keynote speakers, and meeting and field trip expenses. I look forward to seeing you at the Fall meeting at Poland Springs (www.polandspringinns.com). As a reminder to students and Instructors, start planning for the Spring, 2008 meeting at Bowdoin College in Brunswick Maine.

President Cliff Lippett
clippitt@swcole.com

THE EDITOR'S MESSAGE:

I wish to express my great thanks to Charlotte Lehmann who was Editor during my sabbatical last year, and did a great job keeping things organized. I am back refreshed and ready to continue as editor for at least the coming year. If there is anyone else who is interested in taking this on, however, please let us know – it has its rewards and headaches like any such task, but overall is a fun way to stay in touch with the workings of GSM.

Dan Belknap, Newsletter Editor (1998 – present)
<belknap@maine.edu> (207) 581-2159, FAX: -2202

GSM WEBSITE

www.gsmmaine.org

The GSM website contains copies of present and archived Newsletters, a calendar of events, and other items of interest to the Society, including the updated Bylaws. There are many important links to geology items in Maine and elsewhere. There is a page on Maine geology and the Photo of the Month. Let us know what you think.

Webmaster, Mike Lerley mike@rentageekme.com

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2007 GSM Fall Meeting

October 19 (Friday),
2 p.m. to 8 p.m.
Poland Spring Golf Course Clubhouse,
41 Ricker Road (off Rt. 26),
Poland, ME

This year's meeting; ***Dedicated to Jack Rand and Dee Caldwell*** is being hosted by Tom Brennan of Poland Spring® Brand Natural Spring Water (www.polandspring.com)/ Nestlé Waters North America Inc.

If you are planning to attend, please contact Clifford R. Lippitt at clippitt@swcole.com ASAP so we can get a headcount for dinner.

2 p.m. to 4:30 p.m. Mini-Symposium –
Practical Applications of Geology

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THE STATE GEOLOGIST'S MESSAGE

A Few Program Updates

Over the past year in this column I discussed a number of exciting programs and activities at the Maine Geological Survey and herein provide updates on a few of these.

Landslide hazard mapping: Over the past 18 months, MGS staff developed a digital methodology for identifying potentially hazardous areas, focusing primarily on the distribution of the Presumpscot Formation, steep slopes, aspect, and radius of curvature of water courses, which are all factors in establishing landslide susceptibility. Subsequently, we produced maps of landslide susceptibility for four towns: Wells, Cumberland, Bangor, and Greenbush. Through the summer and fall of 2006, our geologists reviewed aerial photos and made field visits to the four towns to map landslides. This ground-truth exercise shows that 91% of the mapped landslides fall within areas with slopes of 5° or more. Furthermore, 83% of mapped landslides fall within areas that have at least one additional risk factor, whether geologic materials, aspect, or curvature of stream banks that focuses groundwater movement. We are working with FEMA to secure additional funds to continue this work.

Arsenic studies: Working with researchers from Columbia University, our interns collected about 800 water samples from private wells in the greater Augusta area in 2006. This was part of a much larger global effort by Columbia to understand the factors that control arsenic concentrations in ground water and effects on human health. Based on the analytical results from the 2006 samples, our Columbia colleagues selected four areas from within last year's project area for additional sampling in 2007, with the objective of densifying the datasets. Our interns collected about 350 samples this year with analytical work to be completed at Columbia this fall. Preliminary results from the 2006 work show that arsenic is broadly and nearly unpredictably distributed throughout the metamorphic rocks of the area (no great surprise), but perhaps arsenic becomes concentrated the contacts of granites with the metasedimentary rocks. We also found that wells in the two-mica granites in the area have water high in uranium.

Geologic mapping: We continue with our bedrock mapping in the Augusta area. Maps of the Winthrop and Augusta 1:24,000-scale quadrangles are nearly completed and are playing an important role in the arsenic studies. We are also making great strides in surficial mapping the Bangor area, which is an essential step for our plans to assess landslide susceptibility in that area.

Coastal geology: Following the Patriot's Day storm, our marine geologists have committed considerable efforts to map the post-storm shoreline and compare that with past surveys. Not surprisingly to most of us, they have found that the beaches at Camp Ellis, the most hard hit by the April storm, have

advanced landward by about 10 meters through a series of storms over the past several years. They continue to work with Saco officials and others on the best strategies to address coastal erosion.

Aquifer mapping: This effort continues in areas north of Moosehead Lake. A few years ago, many questioned the necessity of aquifer mapping in these remote areas. The Plum Creek proposal has changed that perspective dramatically.

Robert G. Marvinney, Maine State Geologist:
<Robert.G.Marvinney@state.me.us>

GSM MEMBER NEWS

Please send member news to:

Carolyn Lepage, Member News Correspondent
(1996-present) <clepagegeo@aol.com> or
PO Box 1195, Auburn, ME 04211-1195 or
Fax: (207)-777-1370; Phone: (207)-777-1049

Position Available: Geologist or Hydrogeologist

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Bureau of Remediation and Waste Management, Geology Unit of the Technical Services Division, has an opening for a Certified Environmental Hydrogeologist. The Bureau oversees and carries out environmental investigations and remediation of sites contaminated by petroleum and hazardous waste. In addition it is responsible for licensing and enforcement of environmental laws and regulations related to petroleum, hazardous waste, and solid waste management. The successful candidate will provide professional hydrogeologic services to project managers and will be expected to use a variety of database, spreadsheet, GIS, statistical, geochemical and data plotting software for data management and analysis. Strong presentation skills of conclusions to technical/non-technical audiences including Department staff, consultants, responsible parties and the general public.

Minimum Qualifications: Certification as a Maine Certified Geologist by the Maine Board of Certification for Geologists and Soil Scientists. (Successful applicant must either be Maine Board certified or obtain certification as a Certified Geologist by the Maine Board of Certification for Geologists and Soil Scientists within 1 yr. from date of hire). For certification information, contact the Maine Board of Geologists and Soil Scientists at 207-624-8603 or http://www.maine.gov/pfr/professionallicensing/professions/geologists/geologist.htm

To Apply: Please mail or fax a completed State of Maine Direct Hire Application, current resume and cover letter to:
Carmen Welch,
Natural Resources Service Ctr.,
155 State House Station,
Augusta, ME 04333-0155,
fax (207) 287-2216.
Must be received by close of business, 11/2/07.
For job specifics, please contact Rob Peale at (207) 287-7679.
Link to Direct Hire Application:
http://www.maine.gov/bhr/state_jobs/how_to/direct.htm
Link to job specifics:
http://www.maine.gov/dep/mdepjobs.shtml
Grade 24: ($35,214.40 - $47,964.80);
Job Code 9481.
Value of State's Share of:
Paid Health & Dental Insurance: $322.97 bi-weekly;
Employee's Retirement: 18.46%
An EEO/AAP Employer - Qualified Women & Minorities Encouraged to Apply.

Grand Canyon Geologic Float Trip?

Alison Jones and Fred Beck

We just completed a week-long raft trip down the Colorado River through the Grand Canyon. The trip included 29 people, about 20 of whom were geologists. The trip was led by John Warme, a professor at Colorado School of Mines. This was the 40th trip he has led through the canyon and he made the geology come alive, with numerous stops along the way to look at outcrops, archaeological sites, scenic waterfalls, swimming holes and many other sights.

We're writing this to inquire of the GSM membership whether there might be enough interest to organize a trip for next August of GSM members, spouses and friends. The cost is $2500 per person not including airfare for a trip of a lifetime - - particularly for geologists. We would need to have a group of either 15 or 30, which means one or two boats. Two would be better. The boats are 35-foot inflatables with pontoons, giving a beam of about 15 feet. The food is excellent and plentiful and cooked by the crew. Tents, sleeping pads, sleeping bags, and camp chairs are all provided (just bring your personal gear, we'll provide a detailed list later). There are almost no flying insects so sleeping outside the tents is usually preferred. The trip is about 188 miles, with about as many rapids, some fairly challenging (rated

up to 10). The boats are powered by 30-HP Honda outboards allowing us to do the equivalent of a 16-day rowing trip in one week. We'll make a quick stop at Phantom Ranch on Day 4 that will be the only chance to make contact with the outside world during the trip. John Warme had indicated that he might be willing to be our guide if we did all the organizing.

One hundred percent exposure of a 5000-foot vertical section of rocks from Triassic to early Precambrian, including two major unconformities is the geologic highlight of the trip. You can put your fingernail into the billion-year hiatus between early Precambrian schists and Cambrian sandstones. There are lots of fossils as well as lung fish burrows to spice up the trip. At Lava Falls, the wildest rapid of the trip, you will see where a 1500-foot high lava dam temporarily blocked the river some 400,000 years ago, creating a lake over 150 miles long.

Logistically, the best way to get there is to fly to Las Vegas and catch a Vision Air flight to Marble Canyon, where there are 2 motels that cater to rafters, on the night before launching. After 188 miles of river we would be helicoptered out of the canyon to a nearby airstrip at the Bar 10 ranch and then flown by Vision Air back to Las Vegas, or to Marble Canyon for those who may have left cars there. The helicoptering and return flights to LV or Marble Canyon are all part of the $2500 cost. We would provide all participants with detailed river guides and maps.

Walt Anderson did the trip with the Association of State Geologists a few years ago and agrees that it would be a wonderful trip for GSM geologists. So our question to the membership is "Are any of you interested?" Please let us know if you are and we will begin the process of reserving boats, getting John Warme on board, and filling the spots. If there isn't enough interest, we would like to know that as well so we don't go too far in the planning process. Individuals needing continuation education credits might check on the eligibility of this trip for that requirement.

Our emails are alison@edithjonesproject.com and fmbeck@fmbeck.net.

GSM SECRETARY'S REPORT

Geological Society of Maine Summer Field Trip

The summer field trip was held on Saturday July 28th and Sunday July 29th. It was hosted by the Poland Mining Camps in Poland, Maine, with collecting from the rock piles at the Mt. Apatite Quarries on Saturday (Dionne, Pulsifer, Raines, Groves, Hole in the Ground, and Wade Quarry) and at the Newry Quarries on Sunday. Gary Freeman of S. W. Cole Engineers led our motley band of rockhounds and provided his expertise in collecting and identifying our mineral finds. Small specimens of green and pink tourmaline were the predominant finds on Saturday. On Saturday evening hamburgers, corn, baked beans, and more, were provided compliments of Poland Mining. Dinner was served in the Pavilion of the Poland Mining Camps, which is a combination dining hall, classroom, mineralogical museum and gathering place. Our hostess, proprietor of the Poland Mining Camps, Mary Groves, provided information on mineralogy and history of the quarries. Approximately fifteen GSM members were in attendance on Saturday. The usual summer field trip business meeting was not held. Please see Cliff Lippett's President's report for more details.

Secretary, Martha N. Mixon
mmixon@acadiaenvironmental.com

GSM TREASURER'S REPORT

The Society currently has 335 members; unfortunately only 67 are up to date with their dues. In keeping with previously decided policy, we will drop any members more than three years in arrears at the end of this calendar year. The present membership is distributed as follows:

Students:	51		
Associates:	26		
Regular:	250		
Institutional:	8		
TOTAL:	335	Total Paid Up:	67

GSM TREASURER'S REPORT

Balance On Hand April 30, 2007

Anderson Fund Savings	$ 1,343.39
Anderson Fund CD	$ 5,465.89
General Fund Money Market	$ 4,276.33
General Fund Savings	$ 39.92
General Fund CD	$ 5,231.99
General Fund Checking	0.00
Total	$ 16,357.52

Balance On Hand October 02, 2007

Anderson Fund Savings	$ 1,206.15
Anderson Fund CD	$ 5,567.70
General Fund Money Market	$ 4,395.24
General Fund Savings	$ 15.07
General Fund CD	$ 5,329.43
General Fund Checking	$ 157.93
Total	$16,671.52

Respectfully submitted,
Rob N. Peale, Treasurer (2004 -present)

<Rob.N.Peale@maine.gov>

NEWS FROM THE CAMPUSES

University of Maine, Department of Earth Sciences

The Department of Earth Sciences at the University of Maine was given permission to begin a search for a low-temperature, aqueous geochemist. The position would replace that of Steve Norton, who has begun a 3-year phased retirement. We envision that the person filling the position will, like Steve, investigate basic geochemical questions involving surface and near-surface water. The advertisement (below) is going out now and we would like to have someone new on board by September, 2008.
Joe Kelley, Chairman <jtkelley@maine.edu>

Tenure-Track Position in Aqueous Geochemistry

The Department of Earth Sciences at the University of Maine invites applications for a tenure-track position as an assistant professor in low temperature aqueous geochemistry. We seek candidates with interests that include applying environmental geochemistry to interdisciplinary and collaborative ecosystem-based research.

The successful applicant will be responsible for 1) teaching an undergraduate environmental geology course and two other courses on aqueous geochemistry at undergraduate and graduate levels, 2) supervising graduate and undergraduate research projects, and 3) maintaining an externally funded research program. This position has historically been a critical position for research on environmental geochemistry of surface waters and watersheds with close ties to state and federal regulatory agencies, and it has enjoyed both a national and international reputation. The successful applicant is expected to continue this record of achievement through external funding relying on the many field and laboratory research facilities available at The University of Maine. Examples include: the Bear Brook Watershed in Maine, a 20+ year paired watershed experiment utilized for multidisciplinary environmental research, The Sawyer Environmental Chemistry Research Laboratory (a fully instrumented modern environmental chemistry facility, the Senator George J. Mitchell Center for Environmental and Watershed Research (an institute focused on water and watershed issues), and the Climate Change Institute (a research unit focusing on variability of the earth's climate, ecosystems, and other environmental systems). Additional information on related programs can be viewed at http://www.geology.um.maine.edu.

A Ph.D. at the time of appointment is required. Applicants are invited to submit a curriculum vitae, a complete list of publications, up to 3 reprints/ preprints of work that exemplifies their scientific methods and interests, a written statement of research and teaching interests, and the names and addresses of at least three references to: Andrew Reeve, Chair; Search Committee, Department of Earth Sciences, Bryand Global Sciences Center, University of Maine, Orono, Maine, 04469. The anticipated starting date is September 1, 2008. Review of applications will begin December 1, 2007 and will continue until the position is filled. The University of Maine is an Equal Opportunity/Affirmative Action employer.

Colby College, Department of Geology

This advertisement for a part-time Teaching Assistant will be posted to local newspapers in Portland, Waterville, and Bangor in the very near future. We also will have advertisements posted nationally for two tenure-track positions - one in mineralogy/geochemistry and the other in structure/remote sensing. But, I suspect that the others will get more exposure than the TA position.

COLBY COLLEGE Geology Part Time Teaching Assistant

The Department of Geology at Colby College is seeking a part-time Teaching Assistant in an introductory course for advanced students ("Exploring the Physical Earth"), beginning January 15, 2008. Candidates should have at least a bachelor's degree in geology or related field; M.Sc. is preferred. Duties include the instruction of two laboratory sections of GE 112 for Spring semester (approximately 12 hours of prep work, teaching, and grading per week). Please submit a letter of application and resume to:

Robert A. Gastaldo, Chair
Department of Geology
5807 Mayflower Hill
Colby College Waterville, ME 04901-8858
E-mail: ragastal@colby.edu

A review of applications will begin immediately and will continue until the position is filled. Colby is an Equal Opportunity/Affirmative Action employer, committed to excellence through diversity, and strongly encourages applications and nominations of persons of color, women, and members of other under-represented groups. For more information about the College, please visit the Colby web site at www.colby.edu.

Regards, Bob Gastaldo, ragastal@colby.edu

MEMBERSHIP DUES STATEMENT

The GEOLOGICAL SOCIETY OF MAINE, INC. (often referred to as **GSM**) is a non-profit corporation established as an educational Society to advance the professional improvement of its members; to inform its members and others of current and planned geological programs in Maine; to encourage continuing social contact and dialog among geologists working in Maine; and to further public awareness and understanding of the geology of the State of Maine; and of the modem geological processes which affect the Maine landscape and the human environment.

The Society holds three meetings each year, in the late fall (Annual Meeting), early spring, and mid-summer (usually field trips). A newsletter, ***The Maine Geologist***, is published for all members three times a year. The Society year runs from August 1 to July 31. Annual dues and gift or fund contributions to the Society are tax deductible. There are three classes of memberships:

$12.00	REGULAR MEMBER	Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.	***PLEASE NOTE NEW FEE SCHEDULE AS OF August 1, 2003***
$12.00	INSTITUTIONAL MEMBER	Libraries, societies, agencies, businesses with interests in or practicing geology and related disciplines.	
$10.00	ASSOCIATE MEMBER	Any person or organization desirous of association with the Society.	
$ 5.00	STUDENT MEMBER	Persons currently enrolled as college or university students.	

THE GEOLOGICAL SOCIETY OF MAINE ANNUAL RENEWAL / APPLICATION FOR MEMBERSHIP

Regular Member	$12.00	$__________	Name ____________________________________	**Make checks payable to:**
Institutional Members	$12.00	$__________		Geological Society of Maine
Associate Member	$10.00	$__________	Address ____________________________________	Rob Peale, Treasurer
Student Member	$ 5.00	$__________		Maine Dept. Enviromental Protection,
Contributions to GSM		$__________	____________________________________	
(please write gift or fund on check)				State House Station 17
TOTAL ENCLOSED		$__________	____________________________________	Augusta, ME 04333-0017

Email Address____________________________________

(GSM funds include the Walter Anderson Fund___, the Education Fund___, and discretionary gifts___as noted by contributor)

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2005/2006 SOCIETY YEAR BEGINS AUGUST 1 - PLEASE SEND DUES TO TREASURER.
The DATE on your mailing address refers to PAID UP DUES DATE

THE GEOLOGICAL SOCIETY OF MAINE
c/o Daniel F. Belknap, Newsletter Editor
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111 Bryand Global Sciences Center
University of Maine
Orono, ME 04469-5790 <belknap@maine.edu>

THE MAINE GEOLOGIST is the Newsletter of the Geological Society of Maine, published three times a year, in mid-winter, summer, and early fall, for members and associates.

Return Service Requested

Correspondence about **membership** in the Society, **publications** and **dues** should be mailed to:
Rob Peale, Department of Environmental Protection
State House Station 17, Augusta, ME 04333-0017 <rob.n.peale@maine.gov>

Items for inclusion in the **Newsletter** may be directed to:
Daniel F. Belknap, Dept. Earth Sciences, University of Maine,
Orono, ME 04469-5790 <belknap@maine.edu>