

# The Maine Geologist

The Newsletter of the Geological Society of Maine

June  
1991  
Vol. 17  
No. 2

Geological Society of Maine  
Summer Fieldtrip 1991

July 27 and 28, 1991  
Southern Piscataquis County, Maine

Trip Leader: Dr. Lindley Hanson  
Salem State College

## AGENDA

### Saturday:

On the East Branch of the Pleasant River we will look at a homoclinal section of the Carrabassett Formation and exposures of Devonian turbidite and mudflow deposits. At Katahdin Ironworks we will look at possibly the largest massive sulfide body in the eastern United States. We will also look at the Merrill Quarry, one of the largest of the Brownville slate quarries.

### Sunday:

The trip will look at the sedimentology, metamorphism, and geomorphology of the Carrabassett Formation at Wilson Stream and Boarstone Mountain. We will climb Boarstone Mountain (1300 feet) and observe a progressive metamorphic sequence and look at the regional geomorphology from the top of the mountain.

## CAMPING

We will camp at two different areas on Friday night and Saturday night. Friday night will be at the Jo-Mary Lake Campground off Route 11 on Jo-Mary Lake. On Saturday night we will camp at Lazy Larry's Campground in Abbot. For more information and to reserve a site contact Bob Johnston at the Maine Geological Survey (207-289-2801). For information on bed and breakfasts, RVs, and/or motels contact Bob Johnston.

### President's Message by Carolyn Lepage

I want to thank the speakers who presented papers and posters at the Society's Spring Meeting at Bates College April 4th. Most were last-minute additions answering a plea for volunteers to fill the afternoon schedule. Seems we've hit another low point on the "number of geology students enrolled" curve. While the number of students may have dropped, the performance of our student

speakers indicates that the quality of their work remains high. I also want to thank Dyke Eusden for organizing the meeting, John Williams for presenting our evening program, and the Bates College Geology Department for hosting the event.

Our annual field trip meeting July 27th and 28th promises to be a good one. Lindley Hanson has organized a very interesting itinerary, and Bob Johnston has been working very hard on the logistics. Details on the trip are elsewhere in the newsletter.

Speaking of field trips, the next GSM Bulletin (Number 5) will be a compilation of GSM field trip guides from 1984 through 1991. I will be working with Bob Johnston to assemble the volume. For those of us who have a tendency to "misplace" that writeup we receive the day of the field trip, the bound compilations of field trips, such as the NEIGC guidebooks and GSM Bulletin 3, are great references. They are much easier to keep track of as well. Starting with Bulletin 4, which is due out momentarily, GSM Bulletins will be copyrighted. This involves paying a \$10 fee and providing two copies to the Register of Copyrights (one of those copies will be sent to the Library of Congress).

One of the suggestions made at the GSM Winter Meeting to facilitate cooperation between geologists and earth science teachers was to form a GSM Education Committee. The purpose of the committee would be to identify the role of the Society in assisting earth science teachers, and to identify programs that GSM members could, foster, underwrite, or otherwise participate in. There were several volunteers that stepped forward at the Spring meeting to join the committee. Pat Seaward and Roy Farnsworth are the co-chairs; other members include Bill Berry, Patty Millette, Marianne Dubois, Art Hussey, Woody Thompson, Ellen O'Brian, and Glen Black. I am particularly pleased that Glen, an earth science teacher at Kennebunk High School, will be actively involved. Pat informs me that the committee has already had its first meeting and has a second meeting planned for mid-June. Members will receive a report from the Education Committee at the Summer Meeting. Because most of the geologist/earth science programs, such as CREST and SAGE, are geared to the secondary level, the committee will likely focus on the elementary level.

Suggestions include targeting teachers through workshops and developing low cost/no cost materials for a "topic of the year", such as topographic maps. The committee wants ideas from the GSM membership and will be looking for volunteers in different areas of the state to help out. Please get in touch with one of the committee members to offer your suggestions and support.

**BATES COLLEGE HOSTS HENRY DARCY LECTURER**  
by Ellen O'Brien

On April 18, the Bates College Geology Department was pleased to host Dr. Stephan Wheatcraft, this year's Henry Darcy Distinguished Lecturer (HDDL). The lecture series is sponsored by the Association of Ground Water Scientists and Engineers, a division of the National Water Well Association. For each of the last 5 years AGWSE has sponsored the HDDL to promote interest and foster discussions on ground water at the university level. Last year Bates hosted Ralph C. Heath who spoke on hydrogeology and hazardous waste disposal.

Dr. Wheatcraft is affiliated with the Desert Research Institute in Las Vegas, where he teaches and conducts research within the Water Resources section. The lecture, "Fractal Approaches to Modeling Geologic Variability in Aquifers" reflected his research interest on the spatial variability or heterogeneity of aquifer materials and provided introductory information on fractal concepts relating them to geologic variability of aquifers. Dr. Wheatcraft's interest in the fractal nature of geologic materials developed as he found that current theories and models address small scale problems but are often unsuccessful in predicting transport behavior on a large scale.

Dr. Wheatcraft appears to be at the forefront of what may be a major revision in contaminant transport modeling techniques. In addition to his stop in Maine, Dr. Wheatcraft presented the lecture to 25 other institutions throughout the country, and will present the keynote address to the AGWSE annual meeting in October in Washington, D.C. Bates College hopes to continue to sponsor the distinguished speakers associated with this lecture series.

**AMERICAN INSTITUTE OF HYDROLOGY**

Ed Bradley notes that the Vermont, New Hampshire, and Maine sections of the American Institute of Hydrology met in Concord, NH, on May 23, 1991 and proposed that they merge to form a single section. For information regarding this proposed merger or membership to AIH contact John Tewhey at 772-2242.

**QUATERNARY MEETINGS**

**Friends of the Pleistocene**

The 54th annual meeting of the Friends of the Pleistocene was held in Herkimer, New York, May 17-19, 1991. Jack Ridge from Tufts University led an excellent trip on the late Wisconsinan glaciation of the western Mohawk and West Canada valleys of central New York. The Quaternary geology of the Mohawk Valley is complex due to numerous ice readvances from ice lobes from the northwest and the southeast in very deep glacial lakes. The importance of the chronology of events here has been tied by the paleomagnetic declination record to the varve record and radiocarbon-determined age of glacial Lake Hitchcock in the Connecticut River Valley.

The guidebook contains a compilation of several articles (published and in press or preparation) which focus on the late Quaternary history of this very interesting region. Jack still may have guidebooks available (Department of Geology, Tufts University, Medford, Massachusetts 02155).

**Canadian Quaternary Association**

The biennial meeting of the Canadian Quaternary Association was held in Fredericton, New Brunswick, June 3 - 7, 1991. The meeting theme was late glacial and post-glacial events in coastal and adjacent areas. Along with technical sessions and posters, a 3-day field excursion to southwestern New Brunswick focused on the late Quaternary history of the region. The guidebook, which is a useful reference for Quaternary geology just over the Maine southeastern border still may be available from CANQUA secretary/treasurer Toon Pronk.

Like the American Quaternary Association (AMQUA), CANQUA is an interdisciplinary group representing geological, archeological, geochronological, and paleoenvironmental components. Attendance at the meeting varied from 50 - 70 people, however, only three U.S. participants were present. Those in the U.S. (and especially in Maine) who are not aware of CANQUA, or its subdivision AQQUA (Quebec Quaternary Association) should contact CANQUA secretary/treasurer A.G. Pronk, Geological Survey Branch, Department of Natural Resources and Energy, Fredericton, New Brunswick, E3B 5A3. Those interested in AMQUA should contact Wayne Wendland, Illinois State Water Survey, 2204 Griffith Drive, Champaign, Illinois 61820.

## NEW MINING RULES

by

Fred Beck

The widely recognized need by mining companies and state regulators for regulatory changes and additions to existing LURC and DEP administered rules led in late 1989 to the initiation of a rule making process. This process had the initial objective of creating a stand-alone body of rules which would incorporate most existing regulations and any needed new ones into a single document. This "comprehensive stand-alone" rule approach was favored by the DEP over the alternative of amending existing rules and adding an additional chapter to the solid waste rules.

In December 1989, the DEP requested proposals from contractors to write the rules. In May of 1990, E. K. Lehmann & Associates of Minnesota was chosen as the contractor. Interviews were held by Lehmann with dozens of interested parties to determine the issues of concern. This led to an "issues and options" report in July which identified a wide variety of issues and listed options for resolving those issues, with specific recommendations and explanation by Lehmann.

The DEP-LURC committee (Task Force) assigned the responsibility of overseeing Lehmann's work was established by the Legislature and consisted of 2 DEP Board members, 2 LURC Commission members, and the directors of DEP and LURC. This task force approved most of Lehmann's recommendations, but disagreed on some key issues. Lehmann was directed to write a set of draft rules incorporating the Task Force's choice of options. This resulted in a working draft submitted in September. Lehmann's working draft was not acceptable to the Task Force and ultimately Lehmann was discharged as contractor. A DEP-LURC in-house Work Group was formed in October to write a set of rules. This resulted in a Workshop Draft which was issued in mid-November. Subsequent public workshops in Presque Isle, Skowhegan and Rockland confirmed that there was a lot of disagreement by practically everyone with the draft. This resulted in a revised draft in late January 1991 which was subject to the benefit of input from all parties involved. This revised draft eventually became the Hearing Draft which was sent to the combined DEP and LURC boards early in April for review and public hearing. As might be expected, there was still considerable controversy expressed at the hearings.

At the present time, all of the written and oral testimony is being reviewed by the DEP-LURC Work Group and each issue raised will be considered and responded to. The April Hearing Draft will be modified by the Work

Group and a final draft submitted to the combined DEP/LURC Board/Commission meeting on July 10 at 1:00 PM in Augusta. This final draft will be available for public review on June 27. Presumably there will be opportunities for public comment to the Board/Commission on July 10, and the Board/Commission may adopt, adopt with amendments or decline to adopt the proposed rules.

What is the geologic significance of all this paper work and head scratching? Well, if jobs in geology are important this issue is of interest. If finding, mining and using geologic materials is important, the issue is of interest. And finally, if helping to develop an extractive industry which will be financially supportive of college level geology programs is of interest the importance is clear. There are at least three known mineral deposits in Maine which have the potential to be economically viable projects. There are many more which have yet to be discovered. If even one of these is able to survive the rigorous permitting process and receives all the permits necessary for production to begin, there will be a revival of exploration interest which will create numerous job opportunities for students and graduates alike. Extensive drilling will yield new information on the geology of specific areas. Mining companies will support graduate students in research which will enhance exploration success. And every operating mine will have a geologic department with one or more geologists depending on the size of the mine. And last but not least, the existing consultants, contractors and labs in the State will benefit from the increased level of work. Conversely, if the rules are not flexible enough to allow the presently known deposits to be developed, all mineral exploration in Maine will surely terminate for the foreseeable future.

Modern mines can and do operate in an environmentally responsible way in many states today. They unfortunately don't get the media attention which the older polluting mines do. It should be possible for Maine to learn from those states with healthy mining industries. It's interesting to note that the major issues of contention in the Hearing Draft rules were not related to technical issues of environmental protection. Rather, they were (and will be?) administrative issues such as life of permit, form of bonding, statutory inconsistencies and permitting "process", i.e., who does what when. The new rules, if adopted in July, will have a major impact on our profession, one way or the other.

## BUSINESS MEETING MINUTES

### Geological Society of Maine Spring Meeting - April 5, 1991 Bates College, Lewiston, Maine

The GSM Business Meeting was called to order about 4:30 p.m. by GSM President Carolyn Lepage. The first item of business was GSM Bulletin 4, the hydrogeology bulletin. The bulletin is back from author review and the goal is to publish the bulletin later this summer. An education committee was announced and members are needed to sit on that committee. It is an offshoot of the Winter Meeting at Bowdoin that dealt with concerns on earth science education. Contact Roy Farnsworth at Bates College or Pat Seaward at the Maine DEP for more information. The summer meeting was announced - more information is elsewhere in this newsletter. Members who have not paid their dues in the last few years will soon be taken off of the mailing list. Contact Mike Foley at the Maine Geological Survey if you are wondering about your status. New Society officers will need to be elected at the Fall Meeting. A nominating committee will be formed at the Summer Meeting in July. The meeting was adjourned for social hour, dinner, and John Williams as the evening speaker (reviewed below).

#### GEOPOLITICAL ASPECTS OF THE SITING OF A LOW-LEVEL RADIOACTIVE WASTE FACILITY IN MAINE

by

John Williams, Executive Director  
Maine Low-Level Radioactive Waste  
Authority

John, in his most relaxed mood for a month, was roundly applauded after being introduced by Art Hussey. He said it was the first time he had been applauded at the beginning of a public meeting in a long time. He had just come from the legislature which had been busy imposing fresh constraints on the ways in which a site for a low-level radioactive waste (LLRW) facility may be approved.

John started out by defining what the LLRW problem in Maine was. He said that most of the waste by volume consisted of discarded and only slightly radioactive safety clothing, 89% of it from Maine Yankee. He showed us a slide of such clothing neatly laid out, but with nobody in it. Somebody asked him what had happened to the person who had been wearing that clothing. John replied that that was biological waste and not in his domain.

Ninety-nine percent of the radioactivity in LLRW comes from Maine Yankee and consists of the resins which are used to filter the cooling water at Maine Yankee before that

water is discharged into the bay at Wiscasset. All the isotopes are removed except for tritium, which is discharged into the bay in the belief that dilution is the solution to pollution. John said there is probably more radioactivity discharged from the filtered waste water than is stored and later disposed of as low-level radioactive waste each year.

Each year, however, 300 curies of waste and about 10,000 cubic feet must be disposed of. This amount will presumably continue until the closure of Maine Yankee when either it will drop dramatically if the structure of Maine Yankee remains intact and entombed in Wiscasset, or it may increase dramatically if the company decides to break up the structure of Maine Yankee and transport it to the designated LLRW facility.

At present, all of Maine's LLRW is transported to one of two sites. Most of it goes to Barnwell, South Carolina, where it is buried neatly in a thick clay deposit. Some of it goes to Beatty, Nevada, where it is buried in a trench in the dry sand. Not long ago, there were six similar sites in the U.S., but half of them have recently been closed due to geo-technical problems associated with shallow land burial.

The Canadians have a very different idea about what to do with LLRW. They don't dispose of it, they store it. At one site, Point Lepreau in New Brunswick, they store it in giant concrete boxes. They figure that if one box should leak, they could take out all the waste and put it in another while they repaired the leak. However, such storage, as opposed to disposal, is not currently allowed under U.S. law.

At another site the Canadians store waste above a sandy aquifer located on the banks of the Ottawa River. This aquifer is carefully monitored. They did have a problem with that site in the 1950's when radioactive liquid was poured into a gravel pit, leading to the formation of a groundwater plume. In that plume, all of the radioactive isotopes, except tritium, absorbed onto the sandy soil particles. Only tritium reached the river, at which time it became undetectable due to dilution.

So much for the basics.

John gave us a good description of the process by which geological and sociological factors which will control the siting of a LLRW facility in Maine had been decided upon by a representative citizen advisory committee. Some of the factors to be avoided at all costs were state parks, sand and gravel aquifers, and land above 2,700 feet. Application of these factors eliminated only

15% of the state's land area. Much more land area was excluded from consideration by applying the avoidance criterion of "any land within the watershed of a great pond".

And so the number of possible sites and areas was narrowed.

To encourage positive public involvement, anyone prepared to offer 200 acres or more for study, was promised the possibility of the princely sum of up to \$1,000,000 for the chosen parcel. This process has solicited six possible sites, in Cornville, Industry, T1R6, Edinburg, Auburn, and Wiscasset. (As the Maine LLRW Authority maintains that a facility would be safe, population centers are not excluded.)

But poor John, dragging himself around to public meetings in each of these towns, has not been met with any encouragement from the townsfolk. Once again, it seems doubtful that a site can ever be found. Even if it is in your backyard, your neighbors may strenuously object to having a facility near their backyard.

It may end up being stored by default, at the Maine Yankee site in Wiscasset, which has been offered as one of the six, but which may not be the most geologically suitable.

Two bright lights appear at the end of the tunnel. One is that this whole process has established a state-wide geographic information system (GIS) as a realistic workable tool, with many databases now installed. The second is that the Maine LLRW site search program has developed a significant credibility with other states and compacts across the nation. According to Walter Anderson (LLRWA member), this may mean that several other states may look favorably towards accepting Maine's LLRW into their facility.

John went out with more applause. He had almost forgotten how it was to be applauded afterwards, too.

#### SPRING MEETING ABSTRACTS

Many of the talks presented at the GSM spring meeting were also presented at Northeastern GSA this year. Abstracts for those talks can be found in The Geological Society of America Northeastern Section/Southeastern Section 1991 Abstracts with Programs, Volume 23, Number 1, February 1991; ISSN 0016-7592. The following presentations are included in the GSA abstract volume:

Daniel Belknap; New Seismic and Core Data from the Gulf of Maine: Glaciomarine and Grounding Line Deposits.

Dykstra Eusden; The Origin of Mirolitic Cavities in the Conway Granite, Conway, New Hampshire.

Dykstra Eusden; Correlation of Acadian Structures in New Hampshire.

Joseph Kelley; New Radiocarbon-Dated Sea-Level Indicators from Inner Continental Shelf Vibracores, Western Gulf of Maine.

Charlotte Lehmann; Heavy Mineral Provenance of Estuarine Sediments: Western Gulf of Maine.

Robert Marvinney; Preliminary Structural Investigation of a 25 KM Topographic Lineament in Cental Maine.

Detmar Schnitker; The End of Glacial Conditions in the Gulf of Maine.

Woodrow Thompson; Recession of the Laurentide Ice Sheet from Southwestern Maine to the Quebec Border.

Another presentation was given by Patricia M. Millette entitled, "Real World Writing in a Secondary-School Earth-Science Class." This paper has been published in the Journal of Geologic Education, Volume 39 Number 3, May 1991, the abstract of which is presented below.

ABSTRACT While completing a study unit on surface water, a group of 22 high-school freshmen started asking questions about local water degradation and its connection to the regulatory process. They studied new regulations currently being drafted by the Maine Department of Environmental Protection and rewrote them in what they considered everyday English. Once the regulation were clearer, the ninth graders contacted politicians and key legislators by mail, wrote a citizen's guide to wetlands protection, prepared personal testimony, and presented that testimony at a state regulatory hearing.

Concerned about their credibility with the Board of Environmental Protection, the students found that they needed to have a clear understanding of the scientific information, and needed to write their opinions in a concise and persuasive manner. They learned the necessity of writing multiple drafts, paid more attention to grammatical details, and were unwilling to turn documents over to the Board if the writing was not polished and clear. Using the writing process on an environmental issue which concerned them, ninth graders learned more because writing was a tool they used for their own chosen goal. The process of writing enhanced earth science.

## WALLROCK STRUCTURES, CAPE NEDDICK GABBRO, YORK BEACH ME.

MERSHON, G. Dept. of Geology, Bowdoin College,  
Brunswick ME, 04011

The pre-Silurian Kittery formation (turbidites) was intruded by the Cape Neddick gabbro complex during the Cretaceous period (116MA) at York Beach, Maine. Prior to this emplacement, the Kittery had experienced several episodes of regional metamorphism and deformation as well as the intrusion of early to mid- mesozoic dike complexes of essentially basic composition. An exposure of the gabbro contact zone on the north shore of Cape Neddick was mapped at scales of 1:60 and 1:240, revealing a number of small scale deformational and metamorphic structures related to the gabbro. These include highly localized and fairly tight folds, the fragmentation and overlapping of pelitic turbidite beds, and the development of intense transverse fracturing and brecciation of the basic dike complexes, subsequently filled by felsic material. This fill material and the matrix surrounding fragmented pelitic beds appears to be an anatectic melt related to the quartzo-feldspathic component of the Kittery and created by the heat of the intrusive body. This selective melting allowed the Kittery to be injected into fractures in the dikes and to take up compressional strain generated by the gabbro, causing the more refractory pelitic and calc-silicate turbidite components to be offset and pushed past one another.

Sediments and Sedimentary Processes in Arctic Lakes: Implications for Detailed Climate Proxy Records

Michael J. Retelle  
Department of Geology  
Bates College  
Lewiston, Maine 04240

Unlike mid-latitude areas, where instrumental climate information has been collected in many locations for long periods of time (ca. 150 years in some cases) and tree-rings provide long records for climate reconstruction, the polar regions suffer from lack of both types of high-resolution climate proxy data. In the best cases in the Canadian Arctic, detailed climate data has been collected at meteorological stations since the 1940s. The best detailed climate proxy data in this area with an annual to seasonal resolution are the melt and isotope records from the high-latitude ice sheets and ice caps but even these are limited in number and location. Because lakes are located across the arctic regions in many settings, laminated lake sediment records may provide the critical detailed records that extend beyond the 50 years of instrumental record and perhaps show evidence of trends in climate changes in this region.

Recent research in meromictic lakes in the Canadian Arctic has demonstrated that sedimentation patterns and processes are more complex than previously imagined and include the interplay between clastic, chemical and biological processes.

In the simplest form, the main sediment flux into the lake is clastic sediment deposited during the spring freshet or meltwater pulse. The sediment may be preserved in deep central portions of the lake basin beneath anoxic waters where burrowing fauna are excluded from the lake bottom. In this anoxic zone iron sulfides are precipitated from the bottom waters by sulfate reduction forming framboidal aggregates and spherules. In shallow areas of the lake bottom, complex laminae are formed by the combination of clastic and biogenic sediment. One portion of the couplet consists of clastic sediment (sand, silt and clay) deposited during the early melt season. The other part of the couplet includes diatom frustules presumably deposited later in the season when ice cover on the lake is minimal.

At present we are studying the relationships between climatology, hydrology, limnology and sedimentology in several high arctic basins. This information will hopefully provide the critical link between modern processes and understanding the sedimentary record in light of past climate variation.

### SEDIMENT DEPOSITION IN A HIGH ARCTIC MEROMICTIC LAKE: RELATIONSHIP BETWEEN CLIMATIC CONDITIONS AND SEDIMENTARY PROCESSES

CHILD, Jonathan K., Dept. of Geology, Bates College, Lewiston,  
Maine 04240

Lake C2 is a meromictic lake located at Taconite Inlet on the north coast of Ellesmere Island in the Canadian High Arctic. Because of the extreme northern location and severe climatic conditions, clastic sediment is introduced into the lake only during the short summer melt season. Meltwater originating from snowpack and glacier melt coalesces into the major inlet stream which forms a large delta system in the southeast corner of the lake. This major inlet stream provides the bulk of clastic sediment to the lake basin. This study examines the relationship between modern climatic conditions and the processes of transport and deposition of sediment in this high arctic lake.

Field research for this study was conducted at Taconite Inlet during June and July of 1990. Sediment traps were deployed in the lake prior to runoff and recovered at the end of the two month field season. Daily secchi disk readings were taken at sediment trap sites and at peripheral locations in the lake. The sediment trap samples were used to quantify the distribution of sediment throughout the lake. The secchi disk readings were used to plot the movement of sediment plumes which originated at the delta and advanced through the lake. Finally, a model is presented which describes the characteristics and distribution of sediment which entered lake C2 in the 1990 summer melt season.

## Golden Gate Concentrator Co.

Assignees of the *Imlay* Patents for Maine and other States. Manufacturers of the *Imlay* Concentrator, the *Golden Gate* Concentrator and the *Golden Gate* Draining Table and Amalgamator.

15 OLIVER STREET, BOSTON, MASS.

## NEW ENGLAND INTERCOLLEGIATE GEOLOGIC CONFERENCE 83rd Annual Meeting

September 27, 28, 29, 1991

Hosted by: Geology Department of Queens  
College, Flushing, NY and the University of  
Maine at Machias

The 1991 NEIGC will focus on the geology of the Coastal Lithotectonic Block of coastal Maine and New Brunswick, and on neighboring terranes to the northwest. Bedrock trips will examine the Coastal Lithotectonic Block in several areas, ranging from Saint John, New Brunswick to Camden, Maine. These trips will explore stratigraphic, structural, and plutonic complexities and provide a forum for discussion of a variety of tectonic and petrologic problems. Other trips will provide a cross-strike traverse that will visit nearby lithotectonic belts including: the Avalon platform, Saint Croix, Fredericton Trough, Miramichi, and Aroostook-Matapedia belts. These focus on problems of correlation, timing and nature of accretion, and the roles played by major faults in the region, including the Norumbega Fault Zone. Surficial trips will explore deglaciation on Mount Desert Island, the evolution of shoreline and glacial features in east-coastal Maine, and the evolution and commercial development of peat deposits.

For more information, or a registration form, write to:

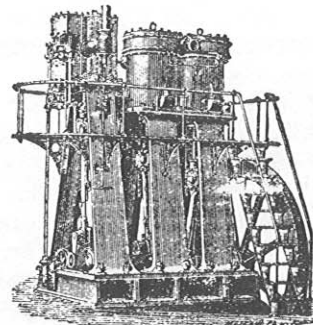
Dr. Allan Ludman  
Department of Geology  
Queens College/CUNY  
Flushing, NY 11367-0904

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## DEP TASK FORCE UPDATE

by  
Carolyn Lepage

In the last newsletter I reported that the DEP Task Force would present its suggestions for enhancing career paths and project management to the DEP Senior Management Team (Commissioner, Deputy Commissioner, and Bureau Directors) in April. The Task Force has continued its discussions of these topics at its monthly meetings and will likely make its report to Senior Management in late June/early July. The possibility of a pilot peer review program has also been discussed. If approved, projects submitted to the Bureau of Land Quality Control would likely be the first selected.

The first educational effort of the Task Force, the Fate and Transport of Contaminants Modeling short course held in April and May in Brunswick, was a great success. The course was "sold out" before USM had a chance to mail out the announcements. The course has already been scheduled to be given again through USM beginning March 4, 1992. There are also discussions about holding it in the Bangor area and/or using the University of Maine's interactive television for a Fall 1991 offering. Stay tuned. The one-day modeling symposium will be scheduled for the fall.

### FATE AND TRANSPORT SEMINAR SERIES

The Fate and Transport Seminar Series that was offered in Brunswick was filled to capacity prior to the mailing of the course announcements. We apologize for any confusion this may have caused. Due to overwhelming response to this course, we plan to offer it again for five Wednesday evenings beginning March 4, 1992.

The course covers topics relating to the fate and transport of contaminants in the subsurface, and the application of transport models. The classes move progressively from basic mechanisms of chemical behavior in the subsurface to site conceptualization and finally to discussions of both analytical and numerical transport models. The course is designed for individuals who have a basic understanding of groundwater principles. Each 2-1/2 hour session moves rapidly through a series of topics with class notes for further reading.

This is a non-credit course. No exams or projects are planned as part of this course.

## INSTRUCTORS

**Charles S. Hebson**, Robert G. Gerber, Inc., Freeport, ME

**Ron Lewis**, ABB Environmental Services, Portland, ME

**John Sevee**, Sevee & Maher Engineers, Inc., Cumberland, ME

**Carol White**, C.A. White & Associates, Yarmouth, ME

## LOCATION

USM Intown Center, 68 High Street, Portland, ME

## REGISTRATION AND FEES

The cost for the course is \$100 per person, including materials. To obtain information on registration, please contact Continuing Education for Business at the University of Southern Maine, (207) 874-6510.

### NATIONAL WATER WELL ASSOCIATION 1991 Focus Conference on Eastern Regional Ground Water Issues

October 29-31, 1991  
Portland, Maine

The Maine Geological Survey will co-sponsor the National Water Well Association 1991 Focus Eastern Conference in Portland, Maine, this fall. The Survey has been a co-sponsor to this annual meeting since 1985 when it was last held in Portland. While the meeting is in early planning stages as of this writing, this year it will feature poster sessions, something new for this conference. The posters were a suggestion by MGS for discussion of works which may not be final but could benefit by this presentation format, or studies which are best presented as posters. The poster opportunity was offered only to the Maine geological community because of the late timetable when the suggestion was made. The response by the community, however, was overwhelmingly in support of this offer, and as of May posters will be part of the conference. Maybe this will set a trend? Those who submitted poster summaries should have received a letter noting this action, and that additional information concerning planning and scheduling will follow. If you have questions, call Chris Miller (NWWA 614-761-1711) or Tom Weddle (MGS 207-289-2801). See you in Portland in October!

MEMBERSHIP DUES STATEMENT

The GEOLOGICAL SOCIETY OF MAINE, INC. 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 dialogue among geologists working in Maine; and to further public awareness and understanding of the geology of the State of Maine, and of the modern 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 four times a year (more or less), approximately on a quarterly basis starting in September. The Society year runs from August 1st to July 31st. Annual dues and gift contributions to the Society are tax deductible. There are three classes of memberships:

- \$7.00 REGULAR MEMBER Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.
- \$6.00 ASSOCIATE MEMBER Any person or organization desirous of association with the Society.
- \$4.00 STUDENT MEMBER Persons currently enrolled as college students.
- \$2.00 APPLICATION FEE A one-time fee to all new members, payable when applying for membership.

ANNUAL RENEWAL/APPLICATION FOR MEMBERSHIP  
THE GEOLOGICAL SOCIETY OF MAINE

Regular Member \$7.00/year \$ \_\_\_\_\_  
 Associate Member \$6.00/year \$ \_\_\_\_\_  
 Student Member \$4.00/year \$ \_\_\_\_\_  
 Application Fee \$2.00 one time \$ \_\_\_\_\_

TOTAL ENCLOSED \$ \_\_\_\_\_

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(Please print or type)

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(Permanent mailing address & zip code)

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 c/o Michael Foley  
 Maine Geological Survey  
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 c/o Arthur M. Hussey, II, Department of  
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