

No. 2



RESTRICTED TO THE MAINE ONE GEOLOGIST

THE NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MAINE

DECEMBER
1979

VOL. 6 NO. 2

NOTICE OF SPRING MEETING

DATE - FRIDAY, MARCH 28, 1980

PLACE - CHASE HALL LOUNGE
BATES COLLEGE, LEWISTON



SCHEDULE - 1:00 - 5:30: Student Papers, followed by the usual Business Meeting.
5:30 - 7:00: Social Hour & Dinner.
7:00 Onward: Special Presentation: David W. Folger on Georges Bank.

If you attended the 1979 Spring Meeting at Bates, you know it's a program not to be missed. For the afternoon session, students from Maine colleges are invited to submit abstracts & present papers describing their projects. The format will follow that of G.S.A. meetings, with 15-minute talks and 5-minute discussion periods. The abstracts will be published in the Spring issue of the Newsletter.

The Business Meeting, possibly starting somewhere around 5:00 PM, may meld into the Social Hour and flow into the Dinner Hour, with all the events held in adjoining rooms of Chase Hall. You can have luncheon before the meeting for about \$2; drinks during Social Hour for about \$2.50; dinner for about \$2.50 (if last year is a fair guide).

The evening's Special Presentation will be by David W. Folger, U.S. Geological Survey, Woods Hole, Massachusetts, on Georges Bank: geologic setting, geologic hazards and environmental considerations relative to petroleum exploration.

Fall Meeting '79

The 1979 Fall Meeting of GSM convened at about 2 PM on November 16th at the University of Maine's oceanographic research laboratory, The Ira C. Darling Center, in Walpole, Maine. About 60 enthusiastic members and guests listened to several impromptu discussions on geology-related items, followed by presentations by the Darling Center staff on recent research activities. Next year, all of the oceanographic program except for projects requiring day-to-day attention in the marine environment will be moved from The Darling Center to the Orono campus.

The GSM thanks The Darling Center and its staff for a very enjoyable and informative meeting.

(Please turn to Page 2 for additional reports on the Fall Meeting at The Darling Center)

WE THANK YOU

It was announced at the Fall Meeting that the Society has received a gift of \$150, as an expression by the donor of admiration for the Society's having undertaken the publication of Bulletin No. 1, MAINE GEOLOGY, and further of a desire to assist in the future publication of Bulletin No. 2. The donor, who wishes to remain anonymous, has given the Society a great boost, both in material resources and spirit, and we extend our thanks for the very kind and thoughtful act of confidence which the gift signifies. Bulletin No. 2 is getting into first gear now, and with this new inspiration will be brought forth in 1980 as a superior work in which the editors, the contributors, the Society and, most certainly not the least, our anonymous donor can take great pride.



New Reports

Crustal Subsidence in Eastern Maine by D.A. Tyler, J. Ladd and H.W. Borns. Maine Geological Survey, thru Weston Observatory, Boston College, Weston, Mass. 02193 (1979); NUREG/CR-0887. Prepared for Division of Reactor Safety Research, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. (Available from National Technical Information Service, Springfield, Va. 22161) "Comparison of vertical leveling data from the U.S. Coast and Geodetic Survey 1942 and 1966 surveys of the line from Bangor to Calais, Maine, coupled with geological and historical data, indicates that the coastal zone is warping downward towards the east. Between 1942 and 1966 the relative subsidence was up to 175mm. This is a minimum figure." (From the abstract).

Bedrock Geology of the Kingfield and Anson 15' Quadrangles, Franklin and Somerset Counties, Maine by Kost A. Pankiwskyj. Maine Geological Survey, Geologic Map Series GM-7, Department of Conservation, Augusta, Maine 04333 (1979). 51 typescript pages; two 1:62,500 geologic maps; a cross-section and explanation sheet. Cartographic design and production by R.D. Tucker and B.J. Wilson, Maine Geological Survey; multicolor offset printing by J.H. French & Son, Brunswick, Maine 04011.

1-80
38900

Fall Meeting (Continued)

GSM President David S. Westerman announced the selection of State Geologist Walter Anderson to fill the Directorship vacancy left open when Bob Doyle recently resigned. Walter Anderson discussed the recent activities of the Maine Geological Survey, and Bob Gerber developed lively audience participation in a discussion of the pros and cons of Geologist Certification (see related articles, elsewhere in this issue). An interesting anecdote from Walter Anderson: it seems that the boys at the Maine Maritime Academy in Castine had quite a scare one day this fall when the training ship's "bow-lines suddenly went taut" and there was "bubbling" and "sounds like depth charges" in the bay near the ship. A call to Ed Chiburis at Weston Observatory revealed no evidence for an earthquake on that occasion. Suggested explanations for the event are invited.

DARLING CENTER PROJECTS

Ken Fink, Detmar Schnitker and Larry Mayer gave brief summaries of their recent research work in marine geology and geochemistry. Ken's work is concerned with beach morphological changes and with heavy metal transport in the marine environment. He has obtained topographic profiles on each sand beach in coastal Maine, and has collected 651 sieve samples (typical grain size range of 2.7 ϕ to 0.9 ϕ). Radiocarbon dating of peat has shown that an Early Holocene relative sealevel rise of 4 to 6 cm per century has increased to 23 cm per century at present. The dominant control of beach morphology is the swell generated by North Atlantic storms. With the increased public interest in the coastal zone since the large winter storms of 1978, it was inevitable that Ken's work should begin to encompass politics. The interaction of preservation, recreation and development interests requires the development and implementation of public policy for the optimum use of the coastal zone.

Larry Mayer has been studying nutrient cycling and trace element transport in the marine environment. Specific research is taking place in the St. Croix River estuary (what is the influence of Georgia Pacific paper company discharges?); the Narraguagus River estuary (what are the effects of agricultural runoff?); Goose Cove, Brooksville (near the former Callahan zinc-copper mine); and the Union River estuary near Ellsworth (what are the effects of municipal sewage?). Rates and patterns of sedimentation can be estimated by identifying those areas where trace metal concentrations in the sediments exceed the expected background levels, and by combining this information with a knowledge of the sources and age of these trace metals.

Detmar Schnitker once again dangled before us the interesting hypothesis that not all of the Gulf of Maine was occupied by grounded continental ice during the Laurentide glaciation. Sediment cores taken in some of the basins of the Gulf of Maine show uninterrupted marine deposition from 21,000 years B.P. to present, with a distinct differentiation between late-glacial and Holocene sediments. All over the Gulf, Holocene sediments are olive green, silty clays,

very soft and sometimes odoriferous. Below the Holocene sediments are red muds containing drop-stones, apparently derived from Triassic redbeds of the Bay of Fundy, and suggesting an unusual circulation pattern in the Gulf of Maine during Late Wisconsinan time. No tills have been taken in the sediment cores. The lack of macro-fossils in the fine-grained sediments makes radiometric dating difficult both to perform and to interpret. To collect "datable" material requires the quite tedious separation of 20 to 30 grams of carbonaceous material (of dubious origin) from the muds. Detmar displayed a tray of sediment core, to the visual and tactile delight of meeting attendees.

(RGG)

Forams and Climate

In the late afternoon of the Fall Meeting of GSM at The Darling Center, Detmar Schnitker delivered a fascinating slide show and lecture on deep-sea core sampling and retrieval, and on the lessons that can be learned from studies of these cores. Keyed to a cruise on the Glomar Challenger, drilling off the continental margin of France, Detmar discussed his studies of the past 7 years on micro-organisms of past and present oceans, attempting to trace the evolution of these deep-water organisms through Tertiary time. Through an understanding of the evolution of micro-organisms, it should be possible to define the evolution of world-wide climate and of the ocean basins through time, and further to see whether deep-sea circulation causes or follows climatic changes.

The fossils of pelagic lifeforms contained in the oceans' sediments can be sampled to depths of 4500 meters by ships like the Glomar Challenger. The deep-sea water conditions and rates of evolution can be determined by analysis of such things as the percentage of forams present and the proximity within the cores of different evolutionary organisms. At sampling sites in the eastern North Atlantic, deep-water Paleocene organisms evolved to Eocene forms, whereas the deep-water Oligocene forms seem to have been recruited from shallow-water Eocene forms. Deep ocean water was warm until the end of the Eocene, when the trend of cold deep-sea water that we presently find was initiated.

In Middle Miocene, the major ocean currents were established when the North Polar Sea connected with the Gulf Stream. This was followed by the establishment of present lifeforms in Late Miocene time. It has been only since mid-Pliocene that ocean waters have been cold enough to permit glacial cycles. The O_{18}/O_{16} ratios used in dating are related to climatic change. When the Arctic ice cap formed, ocean bottom waters became enriched in O_{18} . Forty percent of the world's deep ocean waters are circulated through the North Atlantic, except during glacial periods. A major change occurred 12,000 years ago when glacial waters were flushed out of the North Atlantic. The modern oceanic regime was established about 4000 years ago. Deep-sea cores also reflect high-frequency climatic changes like the "Little Ice Age" (4000 to 2000 years ago). These high-frequency cycles seem to have periods of 500 years and 2500 years, corresponding to turn-over times in the world's oceans.

(RGG)

IGCP METAMORPHIC MAP - MAINE

3

urge you to act on this request in a fairly prompt fashion.

Thank you very much for your help and suggestions. Acting together we should be able to put together a first-rate metamorphic map of Maine." (C.V.G.)

We have received the following solicitation from Chuck Guidotti for references, information, material, suggestions, etc., to assist him in compiling the Maine portion of a new metamorphic map of the Appalachians. If you have something to offer, and need further information on facies conventions or other things, please contact:

Prof. Charles V. Guidotti
Department of Geology & Geophysics
Lewis G. Weeks Hall
University of Wisconsin-Madison
Madison, Wisconsin 53706
Telephone: (608) 262-8960

Chuck's words:

"I have recently been appointed to be the IGCP compiler in the State of Maine for the metamorphic map of the U.S. Appalachians. Although this will be a difficult task, it will nonetheless allow us to assess the extent of our knowledge of the metamorphism in Maine - a knowledge that has resulted from our cumulative efforts over the years.

Various other parts of New England will be compiled by J. B. Thompson, Doug Rumble, Peter Robinson etc. In view of the large amounts of data available on the metamorphism in the other parts of New England as well as Maine, it is evident that we can expect the maps of the other parts of New England to be quite detailed. Thus, it behooves us to expend every effort to make our metamorphic map of Maine as refined as possible.

Hence, my request to you is to provide me with whatever data or information you can that will enable me to compile the best possible metamorphic map of Maine. I will then take this information and adjust it (as best I can) to fit the mapping conventions chosen by the International Committee.

In particular, I would appreciate it very much if you could send me the following types of information:

(1) References to all of your publications that you feel have some information relevant to the State metamorphic map. And in cases where the publication is in a not-readily available source, try to send me a reprint or Xerox of the paper or map.

(2) Any published material, pre-prints, open-file reports etc. that you think might be useful. Especially in the case of any unpublished material you might provide, please add comments that will aid in my integration of the material with that of other workers.

(3) I would also greatly appreciate any suggestions, qualifications, etc. that you think would enable compilation of a top-notch map.

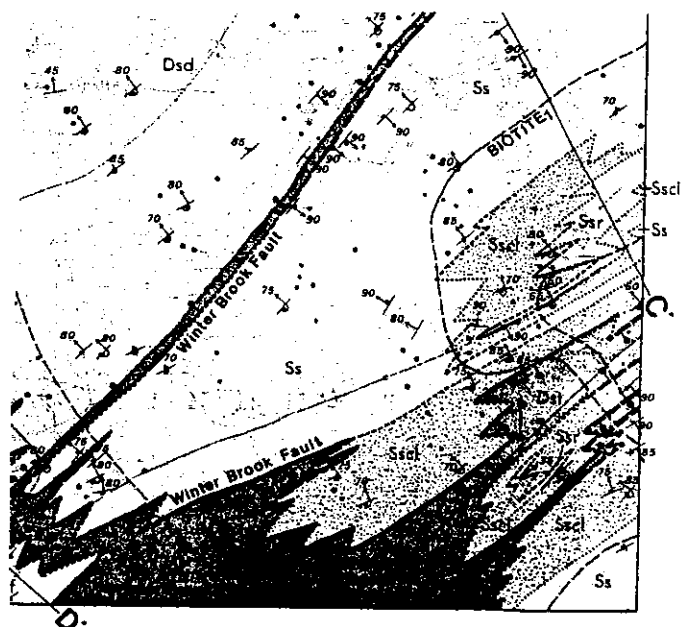
... If you feel that you have any kind of data which will contribute to the production of this map, please do send it to me. The target date for submitting the preliminary compilation of Maine is September 1980. Hence, the amount of time available for me to do the compiling is not really that great. Thus, I would like to

GOALS & CONVENTIONS FOR THE IGCP METAMORPHIC MAP OF THE U.S. APPALACHIANS

(from a letter of George Fisher, enclosed with Chuck Guidotti's solicitation)

"Our goal will be to prepare a black and white base map showing both grade and (where possible) time of metamorphism, then to color the map in two versions: one highlighting the variation in metamorphic grade, and one showing the variation in time of metamorphism. The facies scheme which we have adopted...is similar to that being used in the metamorphic map of the world and is very close to that used on a number of other recent compilations. Although imperfect in some respects, these definitions do appear to be workable, and adaptable to areas where data are limited. In general the idea is to depict the maximum grade achieved during the Paleozoic, but if two or more periods of superimposed Paleozoic metamorphism can be distinguished, both can be shown (the later by solid lines, and earlier by dashed lines). Each facies boundary is to be designated by the indicated symbol (W, GS, E, AA, etc.) subscripted wherever possible by a symbol denoting the time of metamorphism (C, O, S, etc.). Where sufficient data exist, the amphibolite facies should be subdivided into low, medium and high grade divisions; where data are inadequate it can be shown undivided. On the map colored to show the age of metamorphism, Cambrian will be represented by red, Ordovician by orange, Silurian by yellow, Devonian by green, and Carboniferous by blue. I hope that these conventions are satisfactory. If you have any difficulties with them, please let me know."

Where IS it ??



By William A. Burroughs
Department of Geology
Syracuse University
Syracuse, New York 13210

Recent mapping in the northwestern third of The Forks quadrangle, Somerset County, west-central Maine, reveals that Lower Paleozoic metasediments exposed therein have undergone at least three phases of deformation. Two early episodes of folding and a later episode(s) of shearing and faulting have produced northeasterly-trending folds and a major fault, noteworthy because of its proximity to a proposed dam on the Kennebec River as recently reported in the news media. These structures control the outcrop pattern in this area.

These rocks, which mainly consist of the friable phyllites of the pre-Silurian Dead River Formation (elements of O_{ss}, O_{ep} and O_{eu} in Hussey, 1967), as well as associated Silurian & Devonian metasediments, crop out in a four-mile-wide belt extending along the northern bank of the Kennebec River northeast from The Forks to Indian Pond. The Dead River Formation itself is characterized by a simple sericite-quartz-chlorite mineral assemblage. Regional metamorphism of these rocks was very low grade, attaining a degree no higher than lowermost greenschist facies, probably equivalent to zeolite facies metamorphism.

The most prominent structures, affecting pre-Silurian through Devonian rocks, are northeasterly-trending, horizontal to gently plunging, tight, upright folds of Acadian age with an associated steeply dipping axial-plane cleavage. Within pre-Silurian rocks there also exist traces (including refolds, a pre-Acadian strain-induced foliation, and a locally inverted stratigraphic sequence) of an earlier deformation of inferred Taconic or Penobscottian age. These vestiges may reflect an early phase of large-scale, nearly recumbent, isoclinal folding, either obliterated by subsequent events or not obvious on the scale of this mapping.

Of particular interest among the late shears and faults is a major fault zone trending north-east across the mouth of Cold Stream and thence upstream along the Kennebec River (west-central ninth of The Forks quadrangle). Repetition of lithologies and quartz veining, igneous intrusion, and anomalous fold and foliation orientations within the Lower Paleozoic rocks mark the fault trace. This structure may connect with a similarly trending fault mapped near the Dead River northwest of The Forks by E. V. Post (unpubl. map, 1962). The length of the combined fault trace exceeds 7 km. Although this structure affects Acadian-age structures, its exact age, movement, and capability have yet to be determined but are of more than academic interest in view of the Cold Stream hydroelectric project under consideration nearby on the Kennebec River.

Reference:

Hussey, A.M. II, and others, 1967, Preliminary Geologic Map of Maine: Maine Geological Survey, Augusta, Maine; map.

As noted here on the front page, Bulletin No. 2 of MAINE GEOLOGY has started to get rolling, and to keep the schedule on course your Editors have issued an urgent Call for Papers. Arthur Hussey now has one paper already on the editing-correction-review path, and has received word from three (maybe 4) other authors of their intent to submit papers. More articles are needed.

Dave Westerman noted at the Fall Meeting that candidate papers do NOT have to be of great length, nor do they initially have to be polished and beautifully ready for the printer's camera. All that is needed at the moment is people with articles on Maine geology looking for a place to be published. And it should be a very reasonable bet that there are MANY Society members with worthwhile geologic studies (big or small) tucked away in cubbyholes; studies which should see the light of day, which should be made available to others, on the pages of Bulletin No. 2.

Come in out of the cold today. Contact A.M. Hussey II, Department of Geology, Bowdoin College, Brunswick, Maine 04011, with your paper or your thoughts for a paper. Bulletin No. 2 is going to be a winner. You'll like being a part of it.

AGS SYMPOSIUM

The Atlantic Geoscience Society has announced the schedule for a Special Symposium: Lower Paleozoic Rocks of the Maritimes (Cambrian to Devonian) - Stratigraphy, Structure, Sedimentology, Paleontology. The Symposium will be held at the Wandlyn Motel, Amherst, Nova Scotia on Friday & Saturday, January 18 & 19, 1980. Those interested in participating in the Symposium should contact for further details: Dr. Howard V. Donohoe, Jr., Nova Scotia Department of Mines, P.O. Box 1087, Halifax, Nova Scotia B3J 2X1.

VOLUNTEERS, ANYONE ?

The Society is looking for ideas on where, what and how to do the 1980 Annual Meeting, with the particular hope to return to a meeting-field trip format. We have since 1975 held Annual Meetings in Bowdoinham, Sidney, Walpole, Machias, Gorham and Waterville, with 2-day field trips in eastern Washington County and Cape Elizabeth-to-Liberty, respectively, in 1977 and 1978. Annual Meetings commonly take place on the last weekend of July or the first weekend of August.

There is a bit of work involved, for only a handful of public-spirited citizens, to put together a smoothly-flowing combined Annual Meeting and Field Trip program. For the Big Combination it has been found historically quite effective to use sleeping-and-conference facilities at colleges (UM-Machias and USM-Gorham, the last 2 times), to avoid the hassle and EXPENSE of commercial motels at the peak of the tourist season.

How about some suggestions??? A half-dozen people working together is all it takes to stage a really good event, enjoyable and educational for all concerned. We would like your thoughts before the Spring Meeting (March 28th at Bates), so that it can all be hashed out at that meeting. Think.

CERTIFICATION MATTERS

GEOLOGIST CERTIFICATION LAW AMENDMENTS AND CHALLENGE FOR THE FUTURE

By Robert G. Gerber, Chairman
Maine State Board of Certification
for Geologists and Soil Scientists

The 1979 session of the Maine legislature enacted 3 bills that affect the certification of geologists and soil scientists: 1) the administration of the Board was transferred from the Department of Conservation to the Central Licensing Division of the Department of Business Regulation; 2) the certification renewal fee was changed from annual to biennial payments and was increased from an annual rate of \$15 up to \$20; and 3) State of Maine employees are no longer exempt from certification requirements, but a transition period has been established to give presently-employed but uncertified individuals an exemption until they qualify to take the geologist or soil scientist examination for certification.

The Certification Board was surprised in October to receive a report from the Department of Business Regulation that concludes that State certification is "superfluous and should be eradicated". The report states that Maine "departmental staff geologists and soil scientists, and the Department of Human Services' licensing program for Site Evaluators presently assure that State and local land use policy is based on sound geological and pedological data, whether or not that data is supplied by a certificate holder". The report's author, Mr. Peter Colesworthy, apparently assumed that most of the geologic work in the State consisted of subsurface sewage disposal investigations. Certified Soil Scientist Albert Frick of the Division of Health Engineering, Department of Human Services, replied to the report on Departmental stationery, clearly delineating the distinctions between "Site Evaluators" and Certified Geologists and Soil Scientists. The Colesworthy report also states that the geologists' "client is a sophisticated consumer who has proven himself capable of selecting competent practitioners". If this is true, there would also seem to be no need for licensing doctors, dentists, engineers and lawyers.

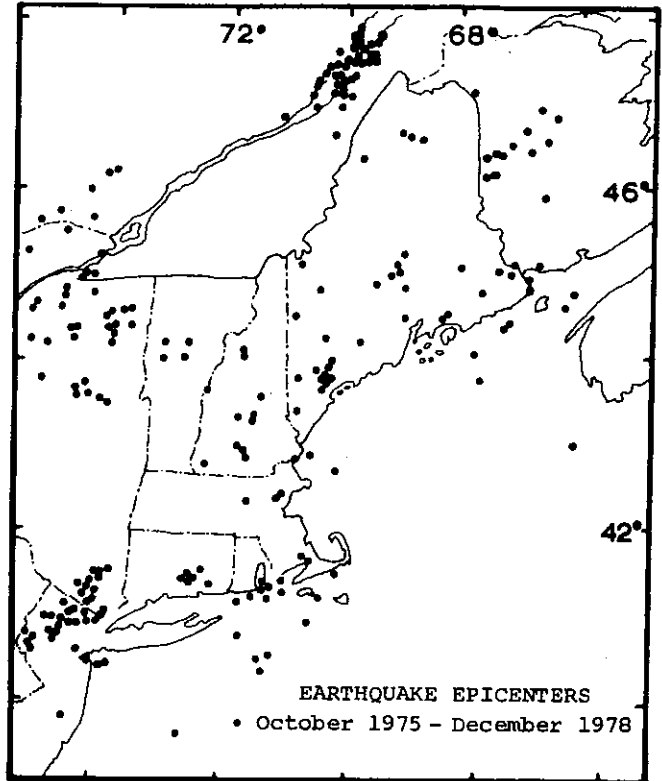
Additional arguments advanced by Colesworthy to support his conclusion that certification is not necessary are: a) the Board has received only two formal complaints in the last six years (the Board can handle complaints ONLY against certified individuals; non-certified individuals are outside of the Board's jurisdiction), and b), only one other state certifies or licenses geologists (this is false: there are 6 other states performing this function). Finally, Colesworthy makes a statement that leaves one to wonder:

"Geological and pedological data is (sic) unquestionably a detriment (emphasis added) in State and local land use policies affecting the general public."

The report does, however, make one valid point: a loophole that has been carried along from the original certification law has been informally interpreted by the Attorney General's office to mean that one does not necessarily have

to be certified to practice geology or soil science for the public. One only has to be certified if he or she intends to sign his reports as "Certified Geologist (or Soil Scientist)". This loophole has prevented the Board from being able to police the profession as a whole, to ensure that all geologists and soil scientists who practice for the public are accountable for their professional work. The Board intends to submit legislation in the next regular session to close this loophole.

Still Creaking



After: Chiburis, E.F., R.O. Ahner & T. Graham (1979) Seismicity of the Northeastern United States. Bulletin 13, Northeastern U.S. Seismic Network; Weston Observatory, Weston 02193

GSA BANGOR

The Northeastern Section of the Geological Society of America will meet in Bangor, Maine, in the spring of 1981. Walter Anderson announced at the GSM Fall Meeting that he and Brad Hall, as Co-Chairmen of the GSA meeting, have now negotiated a contract with the Bangor Civic Center and City officials for meeting facilities. Having recently been elevated to a new job as Assistant to the President of UMO, Brad has elected to forego further GSA responsibilities. His Co-Chairman slot has fortunately been picked up by Phil Osberg at UMO. One of these days, Walter and Phil will be calling on us, as a group or individually, to go to work on any of the four million details that must be addressed to make the Bangor meeting and adjunct field trips run with the efficiency and quality one would expect of a Maine production.

WATER WELL GEOLOGY

By Raynold R. Holmes
RFD #1 - Box 126
Union, Maine 04862

In 1972, Win Rowe, a geologist with Hanna Mining Company, came to Maine to work with Knox Mining Company. He had worked on a project in the western states where rotary water well drillers were hired to drill bulk samples of metal ores. When Win saw that there were many local water well drilling contractors active in our area, he asked how some of the information they were digging up might be collected and added to our store. There are many areas where bedrock is not exposed, and bedrock information would be especially valuable in those places.

We contacted Earl Cross & Sons of Belmont, a local driller who does most of his work in our area of interest, and they agreed to save us samples. While drilling, a rotary drill blows out water and rock chips constantly. Gary Cross put a vegetable strainer under the water and chips, and a sample was taken out of this strainer every 10' and put in labeled waterproof bags. Churn drills (cable-tools) are usually bailed every 5', so these samples were collected at each bailing.

After Cross had collected samples for us for several months, six other drilling organizations agreed to collect samples in selected areas. The drillers were paid \$1 for each sample, and we provided the sample bags, marker pens and the strainers.

To display the samples, 3" wide strips were cut from 4-by-8-foot sheets of $\frac{1}{4}$ " thick untempered Masonite. These strips were then painted white with exterior Latex house paint. Lines were drawn on the "core boards" $\frac{1}{2}$ " in from the right and left sides with a #1 Rapidograph pen, and lines were drawn across the core boards at 2" intervals to differentiate each 10-foot sample of drill cuttings. Each core board was labeled on top with a code number which defined the USGS topographic quadrangle, the well driller, the hole number and sample interval, and the year of drilling. The landowner's name and general well location were also noted on the core board, and the sample depths were labeled. A $\frac{1}{2}$ " hole was drilled in the top of each core board so they could be hung on iron rods driven into a 2-by-4 nailed on the wall.

The drilling samples were sieved (often still wet) with vegetable strainers which passed chips less than about $\frac{1}{8}$ " in size. Each sample was sieved and dried in order. Elmer's glue was put on the center of each appropriate space on the core board and spread evenly inside the lines. Coarse samples were sprinkled on the inside 2" space, and fine samples were applied to the right side of the core board. Initially, we used a gold pan to separate heavy minerals from the fine sieved sample, but this took 3 minutes average and was judged too slow to be worth the time. A record form was printed, and the wells were logged.

As time passed, we started to combine 10' units of similar rock types (40' of schist, 30' of granite, 30' of schist, 10' of pegmatite, etc.), and found by this that we could keep most of the

information and save space with cuttings from 1 water well applied to a single 1' to 2 $\frac{1}{2}$ ' board.

The water well sampling program was stopped when our exploration budget was reduced in January 1975. A total of about 200 wells were sampled.

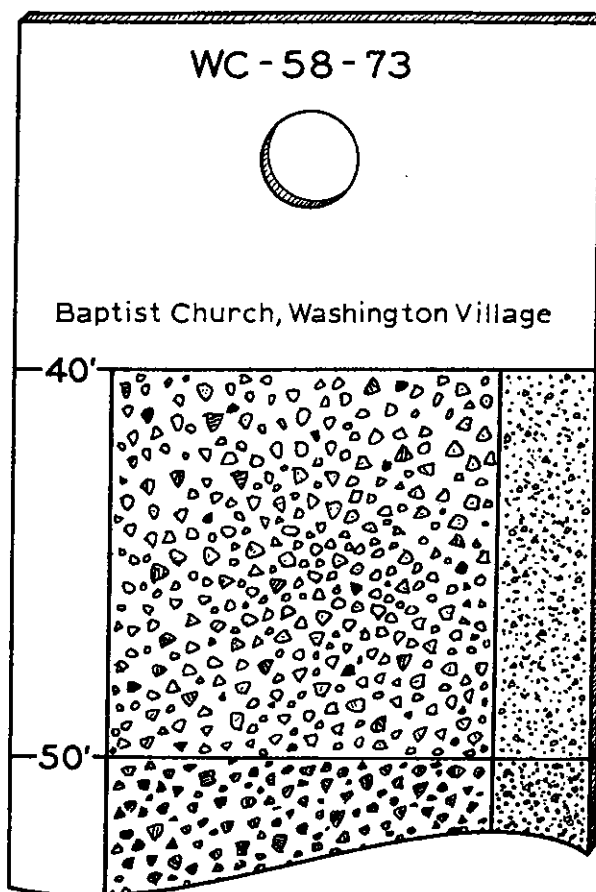
Explanation for Water Well Code Numbers

Quadrangles	Drilling Companies
B Belfast	B Brackett & Sons, New Harbor
J Jefferson	C Earl Cross & Sons, Belmont
S Searsmont	J Jolander, Newburgh
W Washington	D R. W. Drinkwater, Camden
..Etc.	..Etc.

Well Index Codes

Belfast Quadrangle
Earl Cross & Sons, Driller
Hole #11, sampled every 10'
Drilled in 1972
BC-11-72

Design of "Core Boards"



Where IS it REVEALED ! (From Page 3)

Of COURSE: it's a lousy reproduction of Kost Pan-kiwskyj's mapping in the SE corner of the Kingfield Quadrangle, newly published by the Maine Survey. To see the whole works in beautiful and living color (plus the Anson quad, profiles and text), write the Maine Geological Survey, Dept. of Conservation, Augusta 04333 for Geologic Map Series GM-7, Kingfield & Anson Quadrangles, 1979; \$6.00 plus 30¢ sales tax for in-State purchases.

MAINE SURVEY NEWS

A CRITICAL AREA

GEOLOGY - MAINE STATE PLANNING OFFICE STYLE

Walter A. Anderson, State Geologist, has appointed Dr. Woodrow B. Thompson to be Director of the Physical Geology Division. Woody will be managing both bedrock and surficial programs. He has been with the USGS for the past year compiling a part of the new Surficial Geologic Map of Connecticut. From 1975 to 1978 he worked for the Maine Survey doing surficial mapping in coastal Maine and writing the Surficial Geology Handbook.

The Survey has updated its mailing list, and all GSM members should soon receive the latest Survey Publications List and a notice of new Survey publications.

The Survey has recently created a Resource Center containing a Reference collection of Maine geological literature, a seismograph, and a growing collection of rocks and minerals. The Center is open to the public from 8 AM to 5 PM, Monday thru Friday. Although the Department of Conservation has moved to the Harlow Building in the AMHI Complex, the Survey has retained its old quarters in the basement of the Ray Building.

The Survey has submitted a proposal to the legislature for appropriations to hire a marine geologist. Money is tight, and our prominent support will be needed when the hearings are initiated.

The Critical Areas Program of the Maine State Planning Office (SPO) recently distributed two more geologically-oriented draft reports: "Eskers in Maine" by Dr. Harold W. Borns, Jr., of UM-Orono; and "List of Potentially Significant Whitewater Rapids Based Upon Information from Maine Canoeists". Although no author was identified for the latter report, it is the third part of a 3-part study to identify significant waterfalls, gorges and whitewater rapids. Dr. Thomas Brewer of Boston College wrote reports identifying significant waterfalls & gorges in Maine.

Briefly stated, the Critical Areas Program was established by the Maine legislature to identify and register significant natural features in Maine, including geological features. Although the registration has no legal effect on the landowners involved, registration should enhance the landowners' awareness of the significance of the features, and encourage them to preserve the resources. There is little publicity concerning specific registered critical areas, primarily to prevent curiosity-seekers from vandalizing the resource or causing inconvenience to the landowner. To date, SPO has issued ten separate reports that are related to geology, not including (Please turn to Page 8)

MEMBERSHIP DUES STATEMENT

THE GEOLOGICAL SOCIETY OF MAINE, INC. is a non-profit Maine corporation established as an educational Society to advance the professional improvement of its members; to inform its members and others of current and planned geologic 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 geologic processes which affect the Maine landscape and the human environment.

The Society holds three meetings each year, in the late fall, early spring and (with the Annual Meeting and sometimes field trips) in mid-summer. 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 through July 31st. Annual dues and gift contributions to the Society are tax deductible. There are three classes of annual memberships:

- \$5 REGULAR MEMBER - Graduate geologists, or equivalent, with 1 year of practice in geology, or with an advanced academic degree in geology
- \$4 ASSOCIATE MEMBER - Any person or organization desirous of association with the Society
- \$2 STUDENT MEMBER - Persons currently enrolled as students in college who are interested in geology
- \$2 APPLICATION FEE - A one-time fee to all new members, payable when applying for membership

ANNUAL RENEWAL or APPLICATION FOR MEMBERSHIP - THE GEOLOGICAL SOCIETY OF MAINE

NAME _____
(Please print or type)

ADDRESS _____
(Permanent Mailing Address)

Regular Member	\$5 per year	\$ _____
Associate Member	\$4 per year	\$ _____
Student Member	\$2 per year	\$ _____
Application Fee	\$2 One-time	\$ _____
<u>TOTAL ENCLOSED:</u>		\$ _____

_____ Zip Code
Please Make Checks Payable TO:
THE GEOLOGICAL SOCIETY OF MAINE, INC.

MAIL TO: FREDERICK M. BECK, TREASURER
The Geological Society of Maine
140 Main Street
Yarmouth, Maine 04096



A CRITICAL AREA (Continued from Page 7)

Several general reports that touch on geology as a subsidiary topic.

Other than the State University system, the Maine Geological Survey (MGS) has the primary role in the generation and distribution of State-sponsored geological research in Maine. The recent upsurge in interest in geologically-oriented natural resource planning has resulted in the initiation of basic geologic studies within several other State agencies, of which the SPO is one. There is some concern that this causes fragmentation of the overall geologic research effort, however. The SPO program has been managed primarily by non-geologists. The geologically-oriented Critical Areas reports usually represent simple inventories of previously-researched material, but some reports, such as Nelson & Fink's report on sand beaches, and Forbes' report on fossil localities, represent important compilations of basic geologic information. The small budget allocated to the Critical Areas studies has meant that all of the contracts for specific studies were granted either to university geologists or to Maine Survey personnel. Many of the reports lack polish, particularly as to the graphic fig-

ures, but represent reasonably good coverage of the topics. In keeping with the low-budget constraints of the individual projects, the SPO attempts to obtain editing and peer review of its reports by soliciting comments from other geologists, usually without compensation for reviewers.

The Maine Coastal Program of the SPO has been the funding source for the "Surficial Geology Handbook for Coastal Maine", "Groundwater Handbook for the State of Maine", Maine Coastal Area Water Supply and Demand", and the someday-to-be-released "Handbook on the Marine Geology of the Maine Coast". These documents were written by personnel of the Maine Geological Survey. There are some geologists who believe that all of the funds for geological work now allocated to the SPO should be fed to the Maine Survey, based on the thought that the MGS has the expertise and staff to turn out a good product, and can best integrate the work into the overall geologic research effort in Maine. It is not known at this time whether the SPO will continue to receive funding for geological inventory and research. If so, however, State Geologist Walter Anderson has pledged to have "in-depth" discussions with the SPO concerning the role of the MGS in any geological studies for which such funds may be intended. (RGG)

→ GSM SPRING MEETING - MARCH 28, 1980 - BATES COLLEGE ←

GEOLOGICAL ASSOCIATION OF CANADA JOINT ANNUAL MEETING: MAY 19-21, 1980, DALHOUSIE UNIVERSITY, HALIFAX
MINERALOGICAL ASSOCIATION OF CANADA
For details, write: D.J.W. Piper, Dept. of Geology, Dalhousie Univ. Halifax, Nova Scotia - B3H 4H6

THE GEOLOGICAL SOCIETY OF MAINE
c/o John R. Rand, Cundy's Harbor
RD2 - 210A, Brunswick, Maine 04011

THE MAINE GEOLOGIST is published four times a year, more-or-less, in September, late Fall, late Winter and maybe June or July, for members of the Geological Society of Maine, a non-profit educational Maine corporation interested in all aspects of the geology of the State of Maine.

Correspondence about membership in the Society should be mailed to Frederick M. Beck, 140 Main St., Yarmouth 04096. Items for inclusion in the Newsletter may be directed to J. R. Rand, Cundy's Harbor, RD2-Box 210A, Brunswick 04011.

- | | |
|--------------------------|------------------|
| President | D. S. Westerman |
| Vice-President | B. A. Bouley |
| Secretary | A. W. Berry, Jr. |
| Treasurer | F. M. Beck |
| Director - 1980 | W. A. Anderson |
| Director - 1981 | R. G. Gerber |
| Director - 1982 | I. Novak |
| Newsletter Editor | J. R. Rand |
| Assistant Editor | R. G. Gerber |
| BULLETIN | B. A. Hall |
| Publication Committee | A. M. Hussey II |
| | W. S. Westerman |
| DICKEY-LINCOLN Committee | |
| R. G. Gerber | E. D. Koons |
| B. A. Hall | J. R. Rand |

U. S. POSTAGE
PAID
Permit No. 20
BRUNSWICK, MAINE
04011

NON-PROFIT ORGANIZATION

Address Correction Requested

ADDRESS LABEL

NEATEST TRICK OF THE ERA: "If our Stone Age predecessors had set about safeguarding dinosaurs, where do you suppose we'd be?" FORBES Magazine, Vol. 124, No. 10, p.30; 60 5th Ave., N.Y. 10011.