MINNESOTA GROUND WATER ASSOCIATION

NEWSLETTER v.2 no.3

The Winter meeting on the professional as an expert witness was well attended, approximately 75 people, and I want to again thank Messrs. Steve Halverson from the law firm of Hart and Bruner; Terry Swor from Twin City Testing; and Myron Greenberg from the Administrative Hearings Office. I have some extra handouts from the seminar and if you are interested, give me a call and I'll send out a bundle of info to you. The next meeting is coming up on May 3rd and is described in the newsletter. The meeting is abit sooner this year than it was last year but that was the result of a general outcry to have it before the field season began to peak. This summer the MGWA is still planning to have a seminar on ground water monitoring. No definitive plans are set and if you are interested in helping, just let us know.

Short Notes: Ground water conference held in Brainerd last April was a tremendous success. The MGWA, one of many cosponsors, supplied brochures on ground water and ground water contamination. It was so good and popular that another conference has been scheduled. "Emerging Ground Water Issues in Northwest Minnesota" will be held on June 13th at the Northland Community College in Thief River Falls. For more information call, Pam Landers, Environmental Education Council, DNR, Box 648, 424 Front Street, Brainerd, MN., 56401, 218/828-2663.

Congratulations to the Twin City Geologists, back from near extinction, who finally had a meeting. Anyone interested in the group should contact the new leader or dictator as she calls herself, Jeane Moore at E.K. Lehmann & Assocs.; 1409 Willow St.; Mpls., MN, 55403; 612/871-6304.

Thanks to those who sent in research articles and special thanks to George Blake, Jane Willard, Janet Dalgleish, Jerry Rick, and Pat Leonard-Mayer for responding to the last newsletter request for ideas on ground water issues to be forwarded to LCMR. If you don't know what LCMR is, ask and you shall be told.

Three postions for the MGWA, President, Vice-Pres., and Secretary, are all up for election this summer. Please think about it, if you are interested, let one of the directors know and I promise that you will be on the slate.

There is a "Call for Papers" for the October 1984 Midwest Ground Water Conference to be held at Lawrence, Kansas. The abstracts should be sent now, probably yesterday. Call me if you want info, or skip the middleman and call Jerry Carr, 913/864-4321, at Lawrence.

In this newsletter on page 2, is an article by Kelton Barr discussing recent proposals by various professional organizations calling for the certification or registration (the article explains the difference) of members of their profession. If you are aware of these programs I think you will find the article to be a concise summary of current events. If you are not aware of what is going on, you should read it, and then remember that you read it here first. This year a bill was introduced to the legislature that established a certification program for hydrologists (SF 1690 - Sen.s DeCramer and Frederickson) and one that established a definition of a geologist (HF 1415 - Rep.s Knuth, Munger, Long, and McDonald). As I understand at this writing, both bills are in committee and possibly the latter has been withdrawn. The MGWA does not currently hold any position on the process of registration or certification though the National Water Well Association has asked support for the program they have initiated. We are an eclectic group of individuals with ground water as our common denominator. The MGWA can take a position regarding the process of registration or certification; however, this must be done by a resolution brought forth, discussed and voted on at one of our quarterly meetings. The members of MGWA must initiate this process. I welcome any discussion or response to Kelton's article, my comments, or written articles to the newsletter on this matter. One final note on this matter, George Bernard Shaw once said that "Every profession is a conspiracy against the laity." Think about that and what Kelton offers; then, let's see a deluge of mail!

Gil Gabanski, President

CERTIFICATION AND REGISTRATION OF GROUNDWATER PROFESSIONALS: AN OVERVIEW

The question of certification or registration of groundwater professionals is becoming increasingly prominent. This issue is generating considerable commentary in professional journals and society newsletters. In the past, the information available to most of us regarding this issue has been fragmentary at best. This article attempts to summarize the pros and cons of certification/registration as well as the actions by several professional organizes on the subject.

Let me begin by defining these terms. Registration involves the satisfaction of requirements imposed by a governmental licensing body, while certification involves the satisfaction of requirements imposed by a non-governmental professional organization. Registration usually involves technical competence proven by examination while certification usually involves technical competence proven by examination or peer review and adherence to a standard of ethics.

Constitutionally, the power to register professionals resides with the states, not the federal government. Accordingly, any effort to register groundwater professionals by national organizations must be translated into state-by-state efforts. At present, the only profession dealing to some extent with groundwater that is registered in Minnesota is engineering. Almost every state has registration of engineers with reciprocity agreements developed among them. These recognize the registration requirements of one state as sufficient for another state and can to a degree ease the efforts for becoming registered and practicing in several states.

Another major group of professionals dealing with groundwater are geologists. Geologists are not currently registered in Minnesota. Nationally, there are only 10 states which register geologists; these are Alaska, Arizona, California, Delaware, Georgia, Idaho, Indiana, Maine, Oregon, and Virginia. At present, there is limited reciprocity among these states.

Several professional organizations are involved in or have taken a stand on the certification/registration issue. For this article, a number of these organizations were polled for their official positions. These are summarized below.

The American Institute of Professional Geologists (AIPG) has had a long-standing involvement in this issue. Formed in 1963, a major function of the AIPG is the certification of geological scientists. In order to be accepted as a member, an applicant must have 1) an academic degree in geology or a related earth science; 2) 3 to 5 years of professional experience, depending upon the academic degrees attained; 3) a record of adherence to highest professional and ethical standards as expressed by the AIPG's code of ethics and as attested to by five geologist peers, three of whom are AIPG members; and 4) a regular, continuing membership in one of the societies affiliated with the American Geological Institute or in certain other scientific and technical societies, including the Ground Water Technology Division of the

National Water Well Association. A successful applicant becomes a Certified Professional Geological Scientist. Applicants are screened at both the state and national level and, in the final analysis, by the entire membership, applicants with less than the required length of experience may be accepted as associate members.

The 4,650 AIPG members and associates have long been divided over the issue of registration. Consequently, the AIPG currently maintains a neutral position on the national level but supports the concensus of its members pro or con on the state level provided that any proposed registration efforts do not act to splinter the profession and that the greatest amount of reciprocity among states is possible. The AIPG considers a professional geologist as a geologist first and as a specialist second. Consequently, it has in the past opposed certificiation or registration of hydrogeologists, engineering geologists, or any other sub-discipline as opposed to general certification or registration. The AIPG has had discussions along these lines with the American Association of Petroleum Geologists (AAPG) and the Assocation of Engineering Geologists (AEG).

The American Institute of Hydrology (AIH) was formed in 1981 in large part to furnish a certification process for professionals in the hydrologic sciences. In order to be accepted as a member, one must 1) meet the educational requirements, generally consisting of an academic degree in hydrology or hydrogeology; 2) have 4 to 8 years of professional experience depending upon the academic degrees attained; 3) have conducted substantive original investigations and have published the results; 4) be of good moral character; 5) be sponsored by five individuals who have present knowledge of the applicant's qualifications, integrity, and professional conduct; and 6) for those applying after July 31, 1983, satisfactorily complete an 8-hour, written examination. A successful applicant is certified as a Professional Hydrologist or a Professional Hydrogeologist. Applicants who do not fulfill all of these requirements can become associate members. The organization currently has several hundred members and has received nearly 700 applications to date. The AIH is actively involved in establishing state registration procedures for professionals in the hydrologic sciencies.

In September, 1983, the National Water Well Association (NWWA) officially adopted a position encouraging the registration of hydrogeologists in each state. To this purpose, they have begun preparation of an examination for adoption or adaptation by state registration programs. The NWWA has also begun to coordinate its efforts for registration with other professional geologic organizations.

The American Geophysical Union (AGU) has also developed a formal position on the matter. They have concluded that 1) existing registrations (e.g., Professional Engineer and Professional Geologist) are adequate; 2) while a major motivation for accreditation is that the requirements for these existing registrations differ from a number of academic programs for hydrologic training, accreditation is more properly a role for a practice-oriented organization such as the American Society of Civil Engineers; and 3) in any event, the AGU is a research organization, and the issue of certification/registration is more properly one for a practice-oriented organization. Another scientific organization, the Geological Society of America is still deliberating over its position on the matter.

The pros and cons of registration and certification have been debated extensively in recent years. The arguments have been scattered in a multitude of professional journals and newsletters. The basic arguments are summarized below, hopefully in a comprehensive manner.

The advantages of registration are that 1) the public would be protected from the services of unqualified persons; 2) there would be recognition of the profession for legal and forensic purposes; 3) this would counter the intrusion of other professions into groundwater matters; 4) the proficiency of groundwater professionals would generally be upgraded; and 5) professional status would be enhanced. The disadvantages for registration are that 1) there is little local evidence that the public has been harmed by the work of unqualified persons; 2) reciprocity would inevitably be a problem; 3) the costs of enacting registration laws and of annual license fees would be high; 4) unqualified, incompetent, and unethical groundwater practioners would be inevitably registered by grandfather clauses; and 5) it would be difficult to legally define the area to be registered (geology? hydrology? hydrogeology? geohydrology? groundwater geology? groundwater hydrology?, etc.)

The advantages of certification are that 1) this can be done on a national basis, making it easier to practice in several states and to establish uniform professional conduct; 2) discipline within and by a professional can have advantages over that provided by registration, and 3) the annual cost would be low. The disadvantages are that 1) it is more difficult to demonstrate to the public that the proper level of ethical conduct and professional competency are attained by the approval of one's peers rather than by state licensing, 2) without formal statutory acceptance, certification leaves one vulnerable to legal and forensic attack, and 3) in the absence of registration, a decertified person can still practice legally.

At present, the Minnesota Legislature is not disposed to pass additional registration laws, partly because of objections from engineering organizations and partly because of conflicting views on the area(s) to be registered (geology vs. hydrology vs. hydrogeology). Alternatives to registration are currently being considered by the AIPG and AIH. It is likely that bills on these matters will be introduced to the legislature in the near future.

This article ends with no conclusions; that task is left to the reader. Hopefully, this article will make that task easier and the decision reached more information. Because the issue is very likely to continue to grow more prominent, it is especially important that the groundwater professionals in Minnesota reach an informed concensus. State-based professional organizations such as the Minnesota Ground Water Association can and should play a vital role in achieving that concensus.

Kelton D. Barr

ACKNOWLEDGEMENTS -- I am indebted in general to all of the above-mentioned organizations for the material provided by them and in specific to the Professional Status Committee, AIPG California Section and the Registration Committee, AIPG Minnesota-Wisconsin Section.

GROUND WATER RESEARCH IN MINNESOTA

Ground-Water Analysis Near Dump Sites

The purpose of a study scheduled for completion in June 1985 is to determine to what extent unpermitted solid-waste dump sites may have contaminated ground water. Fifteen dump sites have been selected in a variety of geographic and geologic settings. Monitoring wells have been installed at each site and will be sampled for numerous physical and chemical parameters and with a limited amount of testing for organic chemicals. The information collected will be used to compare how the observed effects on water quality may be related to location, hydrogeology, and operating history at a given site. Quarterly sampling will begin in March 1984. The study will conclude with development of a technical report and recommendations regarding unpermitted solid-waste dump sites. This research is funded by the Legislative Commission on Minnesota Resources.

Dale B. Thompson
MPCA (612) 296-7753

Interaction of Ground Water and Glacial Stratigraphy;

The Springs of Bloomington

Bloomington, Minnesota possesses many naturally occurring springs located mostly in the riparian areas of the Minnesota River. A study area 2.5 kilometers long revealed 52 springs of measureable discharge, all of which were located in small valleys eroded back from the Minnesota River Valley. Geology of the area consists of several nearly horizontal Paleozoic units cut by ancient gorges and subsequently filled and covered with glacial material. It appears that these buried paleogorges and the contemporary valleys are areally related. Two glacial units within the area are the Grantsburg Outwash, a gray, medium-grained sand, and underlying it, the Superior Lobe till, a red, sandy till with interbedded clayey layers. Field data, in addition to water-well log and soil boring data, show that the Grantsburg Outwash - Superior Lobe till contact occurs at the same elevation as the average spring elevation, suggesting that this manifestation of springs is related to lithologic changes of the glacial stratigraphy.

Peter K. Blomquist
DNR (612) 296-0438

Accelerated Ground-Water Management

The DNR Division of Waters has received funding from the Legislative Commission on MInnesota Resources to develop a ground-water management plan for Swift County and vicinity. The area is dependent on ground water for domestic and municipal supplies and for irrigation. To determine management options it will be necessary to develop an estimate of the water available for use, to describe and quantify present and future demands for water, and to develop alternative strategies to manage the resource.

The estimated available water will depend on the physical parameters of the aquifer system and upon legal constraints defined by Minnesota statutes. A steering committee comprised of area residents was formed to define contraints or limits of various management strategies based on local concerns and interests. The project will also make use of a 3-d model of the area that is being developed by the USGS. Various development and climatological conditions will be testcd.

Shelly Burman
DNR (612) 296-8989

Minnesota Department of Health VOC Study

The Minnesota Department of Health (MDH) is presently conducting a special volatile organic chemical (VOC) survey with the intention of sampling as many community water supply wells as possible to determine if this group of compounds is present in the drinking water obtained from groundwater sources.

VOCs are a class of man-made compounds with wide-spread use as solvents and degreasing agents in commercial, industrial and even residential settings. Additionally, some of the VOC compounds are components of petroleum products. Past sampling efforts in Minnesota by MDH and nationwide by the U.S. Environmental Protection Agency have indicated the presence of VOCs in a considerable number of drinking water wells. Some of these compounds are cancer-causing or suspected of being cancer-causing and can be a threat to the public health at very low levels (parts per billion).

Because of the public health concern created by detection of these compounds in drinking water and the evidence indicating a widespread occurrence of these compounds, the Minnesota Department of Health initiated a VOC survey in October, 1982. Its goal is to sample as many community water supply wells as possible by June, 1985. Funding for this special project is being provided by the Legislative Commission on Minnesota Resoures (LCMR) and the U.S. Environmental Protection Agency.

The basic analytical method employed to detect VOCs in drinking water consists of a purge and trap technique to extract and concentrate the chemicals, and subsequent separation, identification and quantitative determination by gas chromatography. As utilized by the MDH laboratory this basic method identifies 48 VOC compounds, with detection limits ranging from 0.2-3.0 parts per billion.

At the present time there are no Federal or State regulatory standards that establish maximum permissible levels for VOCs in drinking water. The U.S. Environmental Protection Agency is currently in the process of developing standards for approximately 10-15 VOC compounds. These standards will become part of the Federal Safe Drinking Water Regulations and will be enforceable in safe drinking water act primacy states such as Minnesota.

Lacking regulatory standards for VOCs, the MDH has dealt with the public health concerns presented by these compounds in drinking water by utilizing available health risk criteria from EPA to establish acceptable levels for a number of the VOC compounds. In communities where the concentration(s) of a VOC compound(s) in the well water exceeds the designated acceptable level and neither existing treatment systems nor dilution with uncontaminated wells through common reservoirs reduces the VOC concentration(s) below the acceptable level, the MDH then recommends that the well not be used as a potable water source. A couple of the more widely publicized discoveries of the VOC survey have occurred in the cities of Long Prairie and Adrian where two wells in each City were taken out of service due to excessive levels of VOCs.

The following is a summary of the results of the VOC monitoring survey from October 1, 1982, to December 31, 1983.

No. of Community Water Supply Systems sampled:	252
No. of Community Water Supply Wells sampled	657
No. of Community Water Supply Systems with VOCs detected	22
No. of Community Water Supply Wells with VOCs detected	48
No. of Community Water Supply Wells with VOCs exceeding acceptable drinking water levels (EPA levels range from 0.33-27, parts per billion)	10

NOTE: There are 940 community systems utilizing water from approximately 2,000 wells.

Richard Clark
623-5227

"Procedures for Ground Water Monitoring: Minnesota Pollution Control Agency Guidelines" July 1983 draft. A publication of the Minnesota Pollution Control Agency. Contact person: Gretchen Sabel, 612/296-7318.

Ground water monitoring is required by the Minnesota Pollution Control Agency (MPCA) to detect and quantify contamination, as well as to measure the effectiveness of engineered waste treatment and disposal systems. This procedures manual sets forth the MPCA staff position or guidelines for monitoring point construction, sampling, and analytical techniques. It is the MPCA's intent to provide guidance in this manual for all MPCA-required ground water monitoring, thereby fostering the consistent design and use of adequate monitoring systems at all types of treatment and disposal sites.

The July 1983 draft is currently being used in a "field trial" basis, in the belief that through practical experience gained in implementation, additional changes may be necessary before the guidelines are appropriately incorporated by the MPCA into a more formalized program. The draft period of this document will extend through August of 1984. Concerned professionals are urged to review and make comments on the document before that time.

GVS:brh

Resolving a Ground Water Contamination Dispute

Outside the Courts

An unusual method of resolving damage claims involving ground-water contamination is described in the March-April 1984 Ground Water Readers' Forum by C.W. Fetter, Jr. (v. 22, n. 2, pp. 216-219). The dispute began when, in the Spring of 1980, a group of residents in the Brownsville, Wisconsin area reported to the Wisconsin DNR that their well water was unfit to drink. The residents suspected that the problem was caused in some way by a nearby cheese processing plant. The residents hired a lawyer to represent them and, rather than file a case in court, began negotiations with the cheese company. A Public Intervenor from the Wisconsin Department of Justice also participated, on the side of the citizens. In January 1981, a settlement agreement was reached in which procedures were established for residents to file claims against the cheese company for ground-water comtamination.

As a part of the agreement, the company agreed to hire a consultant to do a ground-water study to determine whether the cheese company was the principal factor in the contamination of wells. If so the company would provide a deeper well for the resident. If claimants were dissatisfied with the conclusion of the consultant, they could appeal to an Environmental Awards Committee, a group of three independent scientists (all university professors, as it turned out). The Committee was to make an indepenent evaluation of ground-water contamination in the area. The Committee was to have access to all available data, including the consultant's study, they could suggest testing methods and analysis to the company's consultant, and they had a budget to do additional tests. The Committee was responsible for evaluating each well, determining if contamination was present, and determining what factors were involved in the contamination. They were then to make a cash award to the claimant based on the amount of contamination contributed by the cheese company.

The article goes on to describe the sources of contamination, the hydrogeology of the area, and the contamination study. In the end, the Environmental Awards Committee awarded 22 out of 28 claimants anywhere from 15 to 100% of the cost of a new well. The author of the article (who was also a member of the Committee) believes that the dispute was settled more quickly and at less cost than it would have had it gone to court. In addition, by cooperating and funding the entire process, the cheese company emerged with a stronger public image than it otherwise would have had. The company later applied for and received the necessary local approval for low interest industrial revenue bonding for expansion and for construction of new waste-water treatment facilities.

MINNESOTA GROUND WATER ASSOCIATION

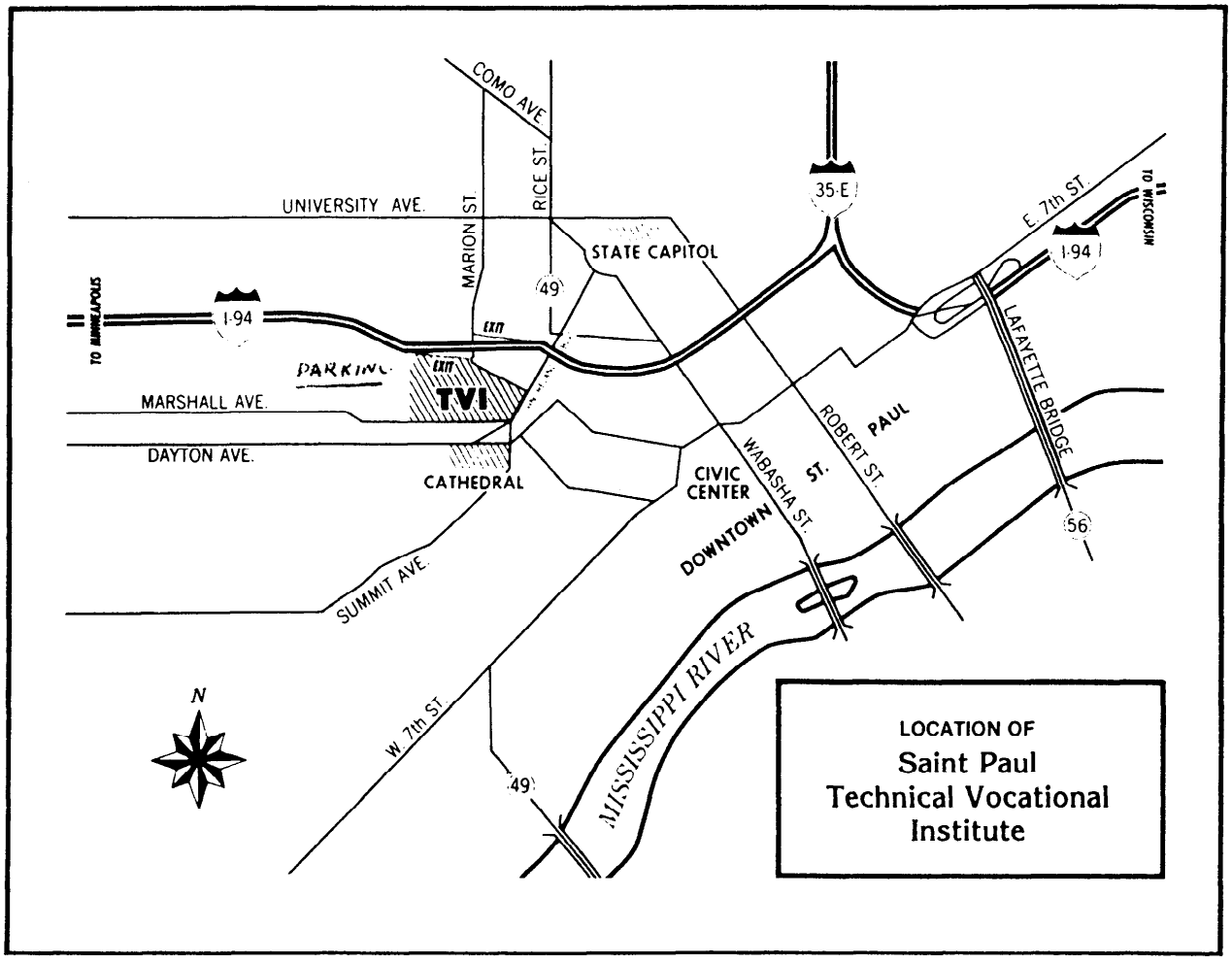
DO YOU FIND YOURSELF IN HOT WATER, AND DON'T KNOW WHERE TO TURN?

Here's what you do: Attend the 1984 Spring meeting of your association!!!

At 7:00pm on May 3, 1984, at the St. Paul Technical Vocational Institute's Auditorium, located at 235 Marshall Avenue, Bob Miller will present some of the results of his research on hot water storage and movement in the Ironton-Galesville aquifer under the University of Minnesota, St. Paul campus.

The talk, entitled "Modeling Aquifer Thermal Energy Storage: A Practical Application," will be a review of modeling techniques for practical application to aquifer thermal energy storage. Available techniques include a wide variety of analytical, numerical, and graphical methods. Bob Miller, research hydrologist with the U. S. Geological Survey, has been using numerical techniques to model the aquifer thermal energy storage (ATES) project currently in progress.

Mr. Miller will present a short review of the available techniques for simulating energy transport in ground water, and then discuss the practical application of a numerical model in simulating the recently completed heat injection testing at the ATES site.



Membership

The Minnesota Ground Water Association welcomes the following new members who have joined during January - March, 1984:

Craig Anderson	Bay West, Inc., Shoreview
Bruce Brott	MPCA, Roseville
Scott Carlstrom	MnDOT, St. Paul
Susan Cedarleaf	MPCA, Roseville
Bonita Girard	Student
Michael Hansel	MPCA, Roseville
Henry C. Hunt	Hydro Group, Inc., Westerville, OH
James Japs	DNR, St. Paul
Joe Julik	DNR, St. Paul
Paul Kachelmyer	DNR, St. Paul
Michael Kanner	MPCA, Roseville
Patricia Kuderer	Student
Gail Lowry	Student, Minneapolis
Richard Manser	Barr Engineering Co., Minneapolis
Mark Mason	Soil Exploration Co., St. Paul
Patricia L. Olson	Minneapolis
Lee Paddock	Special Asst. Attorney General, Roseville
Frank Pafko	MnDOT, St. Paul
William Regan	MPCA, Roseville
Dave Richfield	MPCA, Roseville
Robert D. Schmidt	US Bureau of Mines, Minneapolis
James E. Swanson	McGhie and Betts, Inc., Rochester
Lisa Thorvig	MPCA, Roseville
Michael Vennewitz	MPCA, Roseville
Ching-Pi Wang	Golder Associates, Bellevue, WA
Jane Willard	Barr Engineering Co., Minneapolis

The Association has a membership of about 250 and is still growing! It may interest members to know that, in addition to its membership list, the Association maintains a complimentary mailing list of organizations and agencies which are mailed a copy of the quarterly Newsletter. Included on the list are five other states which have started ground water associations - Colorado, Alaska, Georgia, Illinois, and Wisconsin. MGWA is starting a file of newsletters received from these associations.

In response to several questions, the following information is provided regarding renewal of MGWA memberships. Memberships are issued for one year from the month of receipt of the dues. Renewal notices are mailed quarterly in the month preceding the calendar quarter in which the membership expires. For example, members who joined in January, February, and March of 1983 received a notice at the end of December 1983 indicating their renewal date. At that time they should have marked their calendar to remind themselves to send in their check before the membership expired. The cost of mailing does not allow us to send out multiple notices.

Tom Clark
Membership Chairperson

PUBLIC EDUCATION

MGWA has pamphlets on ground water obtained from NWWA for distribution at MGWA-sponsored events and presentations given by members at schools or meetings. Contact Gil Gabanski for information.

The following is a list of films on ground water and related topics. The films have not been reviewed by MGWA. We will try to put together a price/rental list within the next few weeks. You may wish to give a copy of this list to your local science teacher or to the program director of organizations that you belong to.

Ground Water
18 minutes; Encyclopedia Britannica Educational Corp., 425 N. Michigan Ave., Chicago, Illinois 60611; 1982
The film, produced with the cooperation of the American Geological Institute, treats the following subjests: the hydrologic cycle, water table, porosity, permeability, artesian wells, sink holes, cave deposits, hot springs and gysers at Yellowstone, petrified wood, ground water as aresource, depletion of ground water, salt water intrusion, pollution. It is recommended for high school and college level students.

The Quiet Crisis
55 minutes; Indiana University Audio-Visual Center, Bloomington, Indiana 47405; 1980
This award winning film treats the potential crisis of an inadequate supply of water due to increased rates of usage and pollution. Some of the subject matter: agriculture-related pollution, acid rain, sewage disposal, disapperance of wetlands, movement of ground water (especially in limestone. It is recommended for jr. high school to college level.

Lakes, Rivers and Other Water Sources
17 minutes; Journal Films, Inc., 930 Pitner Ave., Evanston, Illinois 60202; 1982
This is a pleasant, scenic film on the elementary concepts of the water cycle, for grades 5-8.

Secrets of Limestone Ground Water
14 minutes; Indiana University Audio-Visual Center, Bloomington, Indiana 47405; 1980
Outlines how limestone forms and how it may be dissolved by rain water along fractures to form sink holes and underground rivers. Normal purification of material from septic tanks and landfills does not occur. The problems are outlined; no solutions are presented. Suitable for lower grades to jr. high school.

The Water Cycle (2nd Ed.)
14 minutes; Encyclopedia Britannica Educational Corp., 425 N. Michigan Ave., Chicago, Illinios 60611; 1980
The water cycle is simply, accurately presented. For younger students. Describes the distribution of water on earth, contrasts rain forest and desert to illustrate the variation in precipitation and to explain the roles of oceans and mountains in the water cycle.

Water: A Precious Resource
23 minutes; National Geographic Society; distributed by Karol Media, E. 36 A. Midland Ave., Paramus, NJ 07652; (201) 262-4170
An examination of the hydrologic cycle, water uses, and environmental problems.

Water Circulation in Karst
26 minutes; FACSEA, 972 Fifth Ave., NY, NY 10021; (212) 570-4440
Describes research on the structure, problems and hydrodynamic behavior of karst aquifers.

Ground Water - A Part of the Hydrological Cycle
29 minutes; Cherry Film Productions, 25 Bell Street, Regina, Saskatchwan, Canada, S4S 4B7; (306) 586-5177
Covers springs, soil leaching, saline soils, riverbank erosion, landslides, caves, and origin of streamflow.

Iowa's Precious Water
29 minutes; Iowa State University Research Foundation, 315 Beardshear, Ames, Iowa 50011; (515) 294-4740
Covers competion of water users and the need for state-wide resource coordination.

The above list was compiled from information in the Journal of Geological Education, volumes 29-32.

MEETINGS / NOTES

Rochester

A conference entitled "Karst, Ground Water, and Local Resposibility" was held in Rochester on March 30. Over 200 people, primarily local officials and staff, attended the meeting at the invitation of two four-county task forces which have been established to work on ground-water protection in southeastern Minnesota.

The morning speakers set the stage for the discussion groups held in the afternoon. Dr. Calvin Alexander, University of Minnesota, addressed "Ground Water Pollution in Southeastern Minnesota;" Bernie Hoyer of the Iowa Geological Survey reported on research that he is working on in "Ground Water Quality in a (Northeastern Iowa) Rural Watershed." Finally, Arvid Houglum, M.D., M.P.H., closed the morning session by discussing "Health Implications of Ground-Water Contamination."

The afternoon workshops included panels of speakers on the topics of Agriculture, Health Implications, and Local Government - Local Responsibility. Following short presentations, panelists engaged in discussion with workshop attendees, trying to outline some of the problems and perceptions relating to workshop subjects and ground-water quality.

Linda Bruemmer

Brainerd

The Crow Wing River Environmental Education Council, in conjunction with 7 other organizations, including the MGWA, sponsored a day long conference held in Brainerd on April 3. The conference, "Emerging Ground-Water Issues in Central MInnesota" brought together a diverse group of individuals to hear speakers address topics the basis of ground water occurrence to the extent, implications, and migration of ground water contamination. The attendance - about 250 people - illustrated the large interest in ground water at the local level. A similar conference is planned for Fergus Falls in June.

Ron Thompson

Groundwater & Waste Disposal: What's the Health Connection?

This conference, to be held April 25, 1984 at the Minneapolis Hilton, will address the growing concern for ground water contamination by solid and hazardous waste and the potential effect on public health. The registration fee is $40.00 per person. For further information, contact Leslie Denny, Program Coordinator, at (612) 373-5325.

Water Well Drilling ... A Short Course

The Staples Technical Instute, Staples, Minnesota, is offering a four-day course in water well drilling. The course will cover well drilling theory, well design and construction, drilling fluids, development methods, and geophysical techniques. Students will operate and drill a 12x6 gravel pack well with a Gardner Denver Rotary Rig. Students will develop the well using different methods and will install a submersible pump and perform pumping tests. Participants will also drill 2-4" rotary drilled holes with various types of screens. Dates: June 4-7; tuition: $150. For more information: Adult Education Office, Staples Technical Institute, (218) 894-2430.

Ground Water Investigations at Hazardous Materials Sites: An Intensive Safety Short Course

Part I of this two-part course will be held in Bloomington, August 21-22 at the Thunderbird Hotel. The intensive two-day lecture course on safety and liability considerations for hazardous materials work sites will cost $225 for NWWA members and $275 for nonmembers. Attendees will receive a 758 page note book on Safety at Hazardous Materials Sites, and a copy of NWWA's Manual of Recommended Safe Operating Procedures and Guidelines for Water Well Contractors. Further information: NWWA (614) 846-9355.

WGWA

The first membership meeting of the Wisconsin Ground Water Association will be held on April 24 at the University of Wisconsin - Stevens Point Union. A 1-hour business meeting will be followed by a presentation by Senator David Halbach; he will be speaking on the recent Wisconsin ground water legislation. Anyone who wants a copy of the bill can get a copy from MGWA - call Pat Leonard-Mayer at (612) 623-5297.

Solid Waste Regulations

The Minnesota Pollution Control Agency is beginning to rewrite its solid waste regulations. The new regulations will include improved provisions for landfill siting, design, operation, monitoring, and closure. First drafts will be completed some time this summer. In April or May the MPCA will send out letters asking recipients to state their areas of interest — respondents will form the mailing list for future mailings about the rules. Contact Don Jakes or Myrna Halbach (612/296-7375) if you want to make sure that your organization gets this first mailing.

Join the Minnesota Ground Water Association

MGWA sponsored activities are paid for with dues and contributions from our members. If you wish to attend MGWA meetings and seminars and to receive the quarterly Newsletter, please become a member of the Association.

Dues are $10.00 ($5.00 for students). Send to MGWA, P.O. Box 3362, St. Paul, MN 55165.

Board of Directors

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Tom Clark, Membership
MPCA, 612/296-7791

Material for the MGWA Newsletter can be mailed to
MGWA
P.O. Box 3362
St. Paul, MN 55165
or to Pat Leonard-Mayer at
Minnesota Dept. of Health
717 S.E. Delaware Street
P.O. Box 9441
Minneapolis, MN 55440

RURAL-WATER SYSTEMS IN MINNESOTA

Diana Lee Schaefer of Searles, Minnesota, is currently monitoring the expansion of government sponsored county-wide rural water systems. In particular, she has been closely following the court proceedings concerning the status of the proposed Red Rock Rural Water System near Windom, Minnesota. The case is concerned with several problems such as information regarding average water usage by potential system users and available ground water resources in the aquifer. As of March 22nd, the case was still active.

Diana is supported by the Minnesota Water Well Association and is seeking any advice and/or information regarding rural water systems. She also would like any help or support anyone can lend her. If you would like more information about rural water systems or the Red Rock system, please contact Diana at Box 245, Searles, MN, 56084; or call her at 507-354-2937.

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