



MISSOURI GROUNDWATER ASSOCIATION NEWS

December 1, 2004

PRESIDENT'S CORNER

Suzanne Bailey, P.G.
Marshall Miller & Associates Inc.

The MGA board met in June at the University of Missouri in Columbia, Missouri to explore a change of venue for the annual conference and discuss possible themes for the conference. The board toured the facilities at the Student Union and the University Club at the Reynolds Alumni Center, which both offered attractive options for our annual conference. The package offered by the University Club was most appealing to the board, so I am pleased to announce that we will hold our 2005 annual conference there on March 4, 2005. The conference registration form and call for papers are included in this newsletter and posted on our website at www.missourigroundwater.org

The theme for our 2005 annual conference is “**Sustainability of Water Resources – Quality and Quantity**”. We hope to attract papers on a variety of subjects under this theme including, but not limited to, agricultural impacts, endocrine disrupters, non-point source contamination, industry impacts, urban development/redevelopment issues, and risk-based corrective action. The deadline for abstract submission is February 4, 2005.

The MGA now has a mission statement: “Fostering the exchange of ideas and developments for groundwater professionals.” Our annual conference is the primary means of accomplishing this. The newsletter and website are supportive infrastructure to the conference. The conference is useful not only for networking, but for tuning into current groundwater issues, new technologies, and keeping up to date with legislation that affects Missouri groundwater.

Our website has undergone some changes recently. Chris Adams (Marshall Miller & Associates), our website manager, completely revamped the website with a new look and easier to read features. Thanks to Bob Criss and Jim Vandike for donating some of their photographs containing groundwater subject matter, which we will change periodically to freshen up the site. The conference registration form is posted on the website in Adobe (.pdf) format, so it can be easily downloaded for completion. We also plan to post an MGA membership enrollment form on the website in the very near future. We hope this will provide greater accessibility to joining and participating in the MGA through our website.

Missouri Groundwater Association News Vol. 10 No. 2

Editor Bob Archer

Officers of MGA

President Suzanne E. Bailey
Vice President..... Ron Sides
Secretary/Treasurer..... Chris English
Directors Michael Hunt
..... Bob Archer
Web Page Chris Adams

The *Missouri Groundwater Association News* is the official publication of the Missouri Groundwater Association. MGA, a non-profit organization, was founded in 1994 to provide the membership with the opportunity to meet other groundwater professionals in and around the state, and to provide a forum for the exchange of ideas and developments in the technical and regulatory aspects of the industry. Membership is open to anyone interested in groundwater investigation, development, conservation and protection.

All correspondence relating to articles in or for the newsletter should be addressed directly to Bob Archer, Editor, *Missouri Groundwater Association News*, c/o Mo. Department of Natural Resources, P.O. Box 250 Rolla MO 65402-0250

Opinions and views by the authors are their own and do not necessarily reflect those of MGA or its advertisers.

As professionals, we are increasingly required to engage in continuing education to retain various licenses, certifications, and registrations. For example, Kansas requires licensed Professional Geologists to complete 30 professional development units (PDHs) every two years. Other organizations and state boards of professionals also have similar requirements. Still many others are considering adding continuing education requirements. The MGA is pleased to be able to provide continuing education credit for attendance at our annual conference. As I understand it, 10 PDHs equal one (1) continuing education unit (CEU). We provided certificates to all conference attendees in 2004 for one CEU and will do so again in 2005. I welcome your comments and suggestions as we strive to make our conferences useful and informative.

See you in Columbia on March 4th!

LEGISLATIVE UPDATE

Fall 2004

by Michael L. Hunt
Legislative Committee Chair
mhunt@regenesi.com

Two important events occurred recently which impact many in the groundwater industry.

First, there was a judicial ruling in the implementation of the **Dry Cleaner Environmental Response Trust (DERT)**. In a statement to the Missouri Groundwater Association, Ken Koon, DERT Fund Unit Chief stated:

On September 16, 2004, a hearing was held before the Joint Committee of Administrative Rules on the Order of Rulemaking for the DERT Fund. The JCAR heard testimony from Associated Industries of Missouri (AIM) in opposition to the Order of Rulemaking. It was AIM's position that the Order of Rulemaking should be voided because the department did not have the Order of Rulemaking in place by the statutory deadline of July 1, 2002 (Section 260.905, RSMo).

The department and other parties, including three operators of dry cleaning facilities, gave testimony in favor of the Order of Rulemaking.

JCAR introduced two motions during the hearing. The first motion to "disapprove the Order of Rulemaking" was adopted by a vote of 8-1. The second motion to "send a letter to the General Assembly to recommend that the effective dates of the statute be amended to allow new authority to pass rules" was approved by a vote of 9-0.

From here, under Executive Order 97-97, the Order of Rulemaking is "in abeyance" until the General Assembly has had 30 legislative days to enact a concurrent resolution to disapprove the Order of Rulemaking. The resolution would then be subject to the Governor's approval or veto. The deadlines for the Order of Rulemaking are put on "hold" with the Secretary of State until the period is over or some action is taken.

The department will reconvene meetings with the DERT Fund rule work group to

discuss the JCAR hearing and the path forward that the department will take. This meeting will occur on November 9, 2004 and approximately 600 meeting notifications were sent to dry cleaning facilities, solvent suppliers, and other interested parties.

Current announcements will be placed on the Fund's web site at <http://www.dnr.mo.gov/alpd/hwp/hwvcp-dryclean.htm> . The site also contains a link to the State Coalition for the Remediation of Dry Cleaners site which contains a useful database on dry cleaning solvents.

Next, an agreement between the Missouri Department of Natural Resources **Hazardous Waste Program** and the **Water Protection Program** allows for all future injection permits for remediation projects to be handled by the Hazardous Waste Program. The Memorandum of Understanding dated September 30, 2004 has been reproduced below along with the Attachment.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES
MEMORANDUM**

DATE: September 30, 2004

TO: James D. Werner, Director
Air and Land Protection Division (ALPD)

Scott B. Totten, Director
Water Protection & Soil Conservation Division (WPSCD)

FROM: Edward Galbraith, Director
Hazardous Waste Program (HWP), ALPD

Jim Hull, Director
Water Protection Program (WPP), WPSCD

SUBJECT: Underground Injection Control (UIC) Permits at Remediation Sites.

This memo serves to clarify the procedures for the coordination between the HWP and WPP for contaminated sites where remediation involving the underground injection of compounds for remedial purposes is occurring.

It is understood by our respective programs that the HWP has primary oversight of remedial actions at contaminated sites. Given that our respective programs desire to facilitate and expedite remedial projects at contaminated sites, it is mutually agreed that remedial projects overseen by the HWP where injection of compounds into the ground is necessary to complete the remedial actions, no approval nor permit from the WPP will be needed so long as the remedial action work plans include all the elements described in the attachment to this memo. It is understood that the HWP will be responsible for determining the plan's compliance with those requirements.

The HWP agrees to notify the WPP and the appropriate regional office when these occurrences take place and provide information, when requested, to the WPP and/or appropriate regional office.

Attachment**Information Requirements for Work Plans and Underground Injection Control (UIC) Permits for Remediation of Contaminated Sites**

- ◆ Facility and owner information for site.
 - ◆ Brief description of purpose of injection. *
 - ◆ List of contaminants and highest levels found in excess of department cleanup levels in soil and groundwater and the estimated mass of contaminants. *
 - ◆ Soil type(s).
 - ◆ Depth and volume of soil contamination.
 - ◆ Cross section of site that includes depth to bedrock, depth to water bearing zone(s), depth of injection, area of soil and groundwater contamination, utilities, septic tank system, etc. *
 - ◆ Map of site with all pertinent features.
 - ◆ Geological features present in ¼ mile radius of site.
 - ◆ Schematic of injection wells. *
 - ◆ MSDS for the injected materials and a biological profile and literature research if biological agents are introduced as part of the injection process. Are these biological organisms already present in the soil and at what concentration? *
 - ◆ How many pounds of the chemical will be injected? *
 - ◆ If this injection is into an aquifer, please explain how will the injected chemicals be withdrawn or reduced to pre-injection levels? The following information should be collected for each hydraulically distinct zone into which injection is to occur both prior to and following injection: Biological Oxygen Demand (BOD): Chemical Oxygen Demand (COD): Total Organic Carbon (TOC): Ammonia as N; groundwater flow velocity, direction(s) and gradient(s); temperature and pH. *
 - ◆ A listing of other wells at the site. These would include active domestic, commercial and industrial use wells; abandoned water wells; aquifer recharge wells; aquifer remediation wells; automobile service station disposal wells; ground source heat pump wells; improved sinkholes; industrial drainage wells; mine backfill wells, and others not specifically listed. *
 - ◆ If injection wells are to be cased, a permit or other approval may be required from the department's Geological Survey and Resource Assessment Division. *
 - ◆ If this process results in a discharge to surface water, then a separate Missouri State Operating Permit for such discharge may be required from the Water Pollution Program. *
 - ◆ Timetable for the injection process and a description for the groundwater monitoring program to be used to assess the efficacy of the injection. A list of the wells to be sampled and the methods to be used to
-

analyze soil and groundwater samples to demonstrate the effectiveness of the treatment.

- ◆ Contingency plan for further investigation, remediation and/or analysis of different remedial alternatives if levels to do not reach cleanup levels in the time frame predicted. Implementation of the contingency should include further meetings/discussions with the department.
- ◆ A geologist or professional engineer that is registered in the State of Missouri should seal any documents proposing subsurface injection of materials for remediation purposes and/or evaluation of the efficacy of such remediation.

***Items denoted with an asterisk are currently part of the information requirements for the Class V Underground Injection Control (UIC) permitting process.**

Field Trip Notes from Yucca Mountain

by Dan Kelleher

"Hard Hats Required" was read by workshop attendees entering into the Yucca Mountain Proposed Radioactive Waste Repository at the Nevada Test Site last month. Attendees from twenty-one states - including Missouri - participated during the three-day workshop at UNLV conducted by the Midwest GeoSciences Group. The workshop featured a field trip to the Nevada Test Site that is located about 100 miles north of Las Vegas. The workshop "Advances in Hydrogeologic Analysis of Fractured Bedrock Systems" was conducted this year at



Pictured left to right: Kurt Hollman from the Missouri Geological Survey, Maureen Muldoon, James Kauer, and John Stuckless.

the University of Nevada Las Vegas in order to tour inside Yucca Mountain. "For a limited time, non-project-related professionals are allowed access into Yucca Mountain Project tunnel pending Department of Energy approval," stated Tim Kemmis, one of the workshop coordinators. Kemmis added, "The field trip illustrates many of the principles taught during the first day of classroom sessions."

Rob Hoey of the Maine Department of Environmental Protection observing the absence of seepage and low humidity shared "...this tunnel is much drier than I expected". Rob's comment was indicative of many attendees' observations due to the depth of the water table exceeding 1,500 feet below the tunnel entrance. The main criterion for storage of high-level nuclear waste at Yucca Mountain is that the facility be secure for 10,000 years. A major concern, however, is rock fracturing and how that would affect ground water seeping into the facility and to the water table. As a consequence, Yucca Mountain is perhaps the most extensively studied fractured rock site in the world.

Field trip guides from the Department of Energy pointed out the subvertical faults along the tunnel walls and explained how individual joints and fractures were mapped throughout the proposed tunnel area. Another concern about the site is the timing and magnitude of faulting bounding the Yucca Mountain area. Field trip participants observed trenches where extensive investigations were made of the age and displacement of nearby faults. Other concerns about the site were discussed by Yucca Mountain guides, including prediction of long-term climatic change and the effects of rock heating and cooling related to long-term storage of the nuclear waste.

Ken Bradbury and Maureen Muldoon from Wisconsin, Willard Murray and Glenn Duffield from the east coast, and John Peck from Las Vegas were the primary course instructors. The course focused on combining fundamental approaches with recent advances in hydrogeologic site characterization of fractured bedrock settings. Rob Hoey reported that site characterization and aquifer testing topics are much more comprehensive than other courses dedicated to the subject of fractured bedrock.

This Midwest GeoSciences Group recently announced that they are offering the same course again next year at the Desert Research Institute at UNLV with a field trip into Yucca Mountain again.



Above: A beautiful waterfall, probably in Hawaii, Costa Rica, or some other lovely, tropical place where we would all rather be this time of year. We can dream, can't we?



**Missouri Groundwater
Association**

*Fostering the exchange of ideas and
developments for groundwater
professionals.*

www.missourigroundwater.org

MISSOURI GROUNDWATER ASSOCIATION

2005 ANNUAL CONFERENCE

March 4, 2005

NEW LOCATION!

**UNIVERSITY CLUB OF MU
107 Reynolds Alumni Center
Columbia, Missouri 65211**

2005 Conference Focus

Sustainability of Water Resources—Quality and Quantity

REGISTRATION FORM

NAME: _____

ADDRESS: _____

COMPANY: _____

PHONE NUMBER: () _____ **EMAIL ADDRESS:** _____

CATEGORY: MEMBER _____ (\$65.00)

STUDENT MEMBER _____ (\$25.00)

NON-MEMBER _____ (\$85.00)

PAYMENT ENCLOSED: _____ Yes _____ No

Notes:

- Advanced payment for the conference with your reservation form is appreciated; however, payment may also be made at registration during the conference.
- Individuals wishing to join MGA or renew their membership dues may do so at the conference for a fee of \$10.
- Conference fees include continental breakfast, lunch, and refreshments.
- If you have a disability and require special accommodations during the conference, please submit your request (address below) by February 4, 2005

CONFERENCE SCHEDULE

- Registration: 8:30 to 9:00 AM
- Morning Session: 9:00 AM to 12:00 PM
- Lunch (provided): 12:00 PM to 1:00 PM
- Afternoon Session: 1:00 PM to 4:15 PM

Please send your conference reservation form and payment to:

Neil Mansuy mansuy@attglobal.net
Subsurface Technologies, Inc.
1828 Walnut, Suite 819
Kansas City, Missouri 64108
Phone: (816) 221-7770 Fax: (816) 221-7997

CALL FOR PAPERS MGA 2005 Annual Conference

The Missouri Groundwater Association (MGA) has scheduled the 2005 Annual Conference in Columbia, Missouri for **March 4, 2005 at the University Club of MU**. MGA is currently seeking individuals, both members and non-members that would like to present a technical paper at the conference. Our annual conferences provide a forum for the exchange of ideas and developments in the technical and regulatory aspects of the industry. In addition, the conference will qualify for continuing education units (CEU's).

The focus of this year's conference is "**Sustainability of Water Resources—Quality and Quantity**"

The Topics of Interest include, but are not limited to:

- Agricultural Impacts
- Endocrine Disruptors
- Non Point Source Impact
- Industrial
- Urban Development / Redevelopment
- Coal Fired Power—Impact on Water Quality
- Risk Based Corrective Action (RBCA).

The presentations are limited to 20 minutes, with an additional 10 minutes reserved for questions and answers. MGA requests that each presenter provide an abstract and so that we can publish the agenda prior to the conference. **The deadline for abstracts is February 4, 2005. Please submit as early as possible, as the time slots fill up quickly.** Papers are generally accepted on a first come, first served basis.

If you are interested in presenting a paper or have any questions, please contact:

Neil Mansuy
Subsurface Technologies
1828 Walnut Street, Suite 819
Kansas City, MO 64108
Ph: 816-221-7770 Fax: 816-221-7997
E-Mail: nmansuy@subsurfacetech.com



Missouri Groundwater Association

C/O

Bob Archer

Mo. Department of Natural Resources

P.O. Box 250

Rolla MO 65402-0250

bob.archer@dnr.mo.gov

www.missourigroundwater.org