



Granite State Geologist

The Newsletter of the Geological Society of New Hampshire
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GSNH

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GSNH Membership Update

Steve Shope, Membership

Our membership remains strong. Our database has a total of 304 members; of these, 196 members are current through 2004, 68 members are current as of 2003, and 40 are not current. These 40 will be dropped if they do not renew this fall. Please check the date on your address label and be sure to renew if your membership is not current. Renewal forms can be downloaded at the GSNH website, and 2005 renewal forms are included with this newsletter.

Please welcome Doug Allen who has recently been assisting with membership committee activities, and who will take over this responsibility towards the end of this year. Doug can be reached at: dallen@haleyaldrich.com. Please feel free to e-mail me with any questions or comments at steveshope@comcast.net.

Donations for Mineral Raffle

Thank you to the folks listed below for their generous donations to the GSNH Mineral Raffle prize pool! Please express your thanks in person if you see them at a dinner meeting. Proceeds from the mineral raffles benefit GSNH educational programs.

Stilbite - Donated by Peter Nielsen, Swanzey, NH

Milky Quartz Crystal cluster from Moose-up Quarry - Donated by Tom Minnich, Swanzey, NH

Large Milky Quartz Crystal from Hopkinton, RI - Donated by Nancy and Stephen Millard, EARTHWHEREKS MINERALS, Portsmouth, RI

Green Fluorite Octahedrons - Donated by Tim Bower, THE COLLECTORS, Frankestown, NH

NH Geology Trivia Question

What is the depth of the deepest private/domestic drilled well currently in use in NH? In what Town and bedrock formation do you think it was drilled? Answers at the GSNH Fall 2004 Dinner Meeting...

NHGS Groundwater Level Monitoring for June, July and August 2004

Tim Wilson, NHGS

June 2004

Groundwater levels were measured by NHGS Staff June 28th - June 30th, 2004. Levels dropped in all wells except in Concord (CVW-2) at the Municipal Airport and at Greenfield State Park (GSW-75) increasing by 0.46 feet and 0.41 feet respectively. The overall decrease from last month is 0.94 feet, however, the statewide average is 0.10 feet above 2003 levels at this time. The most significant drops were observed in the western loop with an average decrease of 1.69 feet among those seven wells. Of that group, the dug well in New London (NLW-01) decreased most sharply by 2.85 feet. The northern most well in Colebrook (CTW-73) which is monitored by volunteer David Chappell, dropped by 0.31 feet from last month.

July 2004

NHGS staff Kelley Kugel and Tim Wilson collected monthly water - level measurements on July 21st-July 23rd. Wells SJW-02 in Shelburne and CVW-04 in Concord were the only two wells that made gains over last month; their levels were up slightly at 0.02 feet and 0.12 feet, respectively. Water levels in all other wells in the network fell from June 2004 - dropping on average by 0.38 feet. On the whole however, levels are above last year's observations at this time with an average increase of 0.54 feet statewide.

August 2004

NHGS staff collected water level measurements August 26th-August 30th. Six wells responded to recent precipitation with slight increases averaging 0.21 feet from July measurements. Statewide, however, levels dropped from last month by 0.25 feet. Monitoring wells that continued to decrease from last month were led by ENW-30. Dropping 1.70 feet from last month, this 37.5' deep well is located in Enfield at the southwestern end of Mascoma Lake. August water levels fell vs. 2003 observations at this time with an average decrease of 0.16 feet state wide.

Earth Science Week 2004 and the GSNH Annual Meeting

Don't forget that Earth Science Week 2004 will be October 10-16, 2004. It is never too early to start planning. Put the GSNH Annual Meeting on your calendar (10/14/04); we will have a special mineral raffle, and there will be special packages for NH earth science teachers. See the slate of candidates for the GSNH Board elsewhere in this newsletter.

Help spread the word about Earth Science Week- get a package from the American Geological Institute (AGI) [www.earthsciweek.org] and give a talk at a local library, or just take some of your rocks, mineral specimens or fossils to a local elementary school! Young kids love rocks and fossils! But, their opportunities to learn about them are limited. You can make a difference, and, keep our discipline alive!

Rock and Mineral “Talk boxes”

To make it even easier to give a geological presentation, Lee Wilder (GSNH Past-President) has just completed the second of two “Talk Boxes” containing NH rocks and minerals. The “Mineral Box” and “Rock Box” will be on display at the Annual Meeting for peer review.

The Mineral Talk Box: has all you need to give an interesting, hands-on presentation and includes 20 interesting common minerals. The box contains posters, activities, nice hand specimens, specimens for use with the participants, as well as background information to help the presenter feel "comfortable" with the material.

**Check out the GSNH Talk Boxes at the GSNH Fall Dinner Meeting,
Thursday October 14, 2004 at the Cat n' Fiddle Restaurant in Concord, NH**

The Rock Talk

Box: has all you

need to give an interesting, hands-on presentation on the three rock types; this box contains 20 interesting rock samples, with an emphasis on NH Bedrock samples, where appropriate. The box contains posters, activities, nice hand specimens, specimens for use with the participants, as well as background information to help the presenter feel "comfortable" with the material.

Both of the Talk Boxes are located at the office of the NH State Geologist, at NH DES, in Concord, NH. To schedule the use of one of them, contact Lee Wilder at Tel: 603-271-1976, geology@des.state.nh.us

Did You Feel It?

On August 28, 2004, an earthquake of magnitude 2.1 occurred in NH. The epicenter was six miles southeast of Contoocook, NH. The latest earthquake(s) locator/reporting form can be found at <http://earthquake.usgs.gov/recenteqs/>.

Continuing Education Opportunities for Fall 2004

Julie Spencer

It's back-to-school time, so put on your thinking caps and get out there and learn something new! There's something for everybody in this season's activities.

This fall is a great time for conferences. First on the calendar is the **2004 Fractured Rock Conference**, sponsored by the National Ground Water Association. Held September 13 to 15 in nearby Portland, Maine, the conference will feature presentations of more than 100 papers on characterization and remediation of bedrock contamination. Information can be found at www.ngwa.org or by calling 800-551-7379. Follow the NGWA conference with a trip to Saratoga Springs, New York for the **American Institute of Professional Geologists Annual Meeting**. The theme this year is “From Extraction to Restoration: Geological Management of Natural Resources.” The meeting will be held from October 2 to 7 and will feature technical sessions, short courses and field trips. Detailed information is available at: www.ne-aipg.org. After New York, come back to New England for the **New England Intercollegiate Geological Conference** on October 8 to 10. This year's sponsor is Salem State College. Field trips will be held in eastern Massachusetts, southern New Hampshire and southern Maine. For trip information visit www.neigc.org or <http://www.salemstate.edu/~lhanson/NEIGC/2004NEIGC.html>.

Continuing Education Opportunities for Fall 2004

continued

Looking for fall semester graduate level courses? UMass Lowell will be offering two graduate level courses at ENSR International in Westford, Massachusetts through their Off-Campus program. **Regional Hydrogeology** (89.524) will be held on Tuesdays from 6:00 to 9:00 pm. Concentrating on storage and steady-state flow of groundwater at a basin-wide scale, the class will assist in understanding of groundwater movement in preparation for a groundwater-modeling course. **Energy and the Environment** (87.572) will be held on Thursdays from 6:00 to 9:00 pm. This course will survey primary U.S. and world energy resources, demand and reserves, including fossil, nuclear, and renewable energy. Air and water pollution, solid waste disposal and global warming will also be addressed. Both courses will be held from September through December. Registration information is available at: www.uml.edu/grad/off_campus/off_cam_reg.htm.

Hoping for something with a less intensive time commitment? Southbury Environmental is presenting four 8-hour seminars in Springfield, Massachusetts at the Hilton Garden Inn. **Processes and Contaminants of the Metal Finishing, Surface Coating and Dry Cleaning Industries** will be held on September 13; **Processes and Contaminants of Other Light Industries: Electronic and Electric Devices, Textile Processing and Rubber Processing** is next on September 24; **Petroleum Products** will be held on October 11; and **Pumping-Well Tests of Typical New England Aquifers and Interpretation Using the USGS Program WTAQ** finishes the month on October 22. Course descriptions can be found at: www.southburyenvironmental.com.

Only have one hour to spare? Join the NHDES Waste Management Division for a lunch seminar. These technical seminars are structured as town meetings to facilitate discussion. October 5 offers **“You’ve Got Mail – The NHDES Electronic Submittal Program.”** Next, on October 14 is **“Bedrock Bioremediation – The Final Flintstone Frontier.”** The November 14 topic is **“The New Env-Wm 1600 rule (N/F Env-Wm 412) Tastes Great – Less Filling?”** Following up on December 10 is **“DNAPL’s, Vapor Intrusion, PAHs & Other Post Cards from the Edge.”** RSVP to Amy Azeredo at aazeredo@des.state.nh.us or 271-2905 if you plan to attend any of the lunch seminars.

If you’re absolutely chained to your desk, how about live online training? GroundwaterSoftware.com offers online classes for software such as **Surfer, Visual Modflow and AquiferTest**. Classes are offered on scheduled dates or you can schedule a class at your convenience. Check them out at www.GroundwaterSoftware.com.

Finally, don’t forget that the lecture portion of GSNH dinner meetings counts as 1.5 hours of continuing education credit!

These opportunities and more are also listed on the Continuing Education page of our website: GSNHonline.org. If you hear of any continuing education events that are not listed, please contact Julie Spencer at jspencer@ENSR.com.

****For the PGs out there, remember that the New Hampshire Joint Board **does not** pre-approve any activity for continuing education hours. A Generic Activity Form to use when certificates are not provided by the sponsor is available at www.state.nh.us/jtboard/pgce.htm.****

Happy Learning!



Proposed Slate Of Candidates For The GSNH Board Of Directors For 2005

GSNH Nominating Committee

The following slate of candidates for the GSNH Board of Directors is offered for your consideration in accordance with the requirements of the GSNH Constitution and By-laws. Voting for said slate will occur at the GSNH Fall 2004 Annual Dinner Meeting to be held at the Cat-n-Fiddle Restaurant in Concord, NH on Thursday October 14, 2004. Polls will be open at 6 pm and close 7:30 pm.

Candidates proposed for 2005:

President - Mike Robinette worked eight years as a Superfund remedial project manager for the NH-DES. He is currently a full time dad [no salary, long hours, great benefits, enormous personal satisfaction] at their home in Gilmanton Iron Works. Mike has recently served the GSNH as Member at Large and is the current GSNH President.

Society VP - Dave Wyman lives in Concord and is President of Buoy Technology, Inc. Dave has been Secretary of GSNH and is the current Society VP.

Council VP - Tim Stone is a resident of Portsmouth, NH and principal at StoneHill Environmental. He is Past President of the NHCPG and has served two years as the GSNH's Council VP.

Treasurer - Suzanne Wall lives in Lawrence MA and works as a consulting geologist. She is interested in geotech and geoarcheology and has volunteered with the GSNH Board and is currently the GSNH Treasurer.

Secretary - Chip Crocetti is a principal at Sanborn, Head & Associates, Inc. in Concord. He lives in Manchester, NH. Chip has volunteered with the GSNH Board and is currently the GSNH Secretary.

Member at Large - Rich Moore is a hydro-geologist for the USGS in Pembroke, NH. He lives in Bedford, where his family is very active in civic affairs. Rich has served as GSNH Member at Large for two years.

(FYI: Member at Large – Ralph Wickson lives in Henniker NH. He works as a hydrogeologist for the NH Department of Environmental Services in Concord, in the Site Remediation Program. This is Ralph's second year as M-at-L...he is not up for election for 2005.)

...and of course, write-in candidates are always welcome.

Submitted September 16, 2004

GSNH Nominating Committee 2004: Julie Spencer; Tania Coffin; Lee Wilder

Seeking Position

Suzanne Wall is seeking an opportunity to contribute her knowledge and experience in geology to a positive team practicing in the geo-sciences. Surface water /groundwater interactions and glacial geology were the focus of her master's degree. Most recently she has been providing consulting services in geo-archaeology and forensic geology. Suzanne has five years experience in geotechnical engineering and heavy construction, and two years experience in technical project management in hazardous waste site assessments. Contact information: wall-porter @ comcast.net, or (978-688-3654) 978 -688-3654). Available immediately. Resume available on request.

Joint GSM and GSNH Field Trip: Surf and Turf: Wells, Lebanon and Acton, Maine

Suzanne Wall and Rich Moore

The Joint GSM and GSNH Field Trip (Surf and Turf: Wells, Lebanon and Acton, Maine, and Rochester and Barrington, New Hampshire), was hosted this year by the Geologic Society of Maine. Lisa Churchill-Dickson, President GSM, Rob Peale of the Maine DEP, and Tom Weddle of the Maine Geologic Survey were the trip organizers. Steve Dickson of the Wells Reserve was our host for the (Surf) coastal tour part of the program. Peter Thompson of UNH was our infield host for the Saturday afternoon tour of the (Turf) bedrock lithology of the Milton, NH-ME, quadrangle. Peter was joined Sunday by Wally Bothner, of UNH and Art Hussey of Bowdoin College, Maine, to examine nearby outcrops in Maine and New Hampshire.

Laudholm Farm on the Wells National Estuary Research Reserve in Wells, Maine, the center of activity for the trip, is situated on a till upland. Steve Dickson led the walking tour of the Maine coastal barrier beach and dunes, past, present, and future. The traverse passed through the upland that was dominated by re-growth oak forest, which changed abruptly into a salt marsh and back barrier pond assemblage. In the area east of Laudholm Farm, the two most notable coastal features are the lag deposit of cobbles and boulders from the erosion of the till headlands and drumlins and the low dune ridge with its steadily eroding escarpment. Steve Dickson pointed out that the dune face is being eroded at the rate of several centimeters per year and that sea level is rising at a rate of 15 cm per hundred years. Largely as a result of this rise, the dune deposits have been transgressing over the salt marsh deposits and are relatively thin. Records of sand budgets for the environment indicate the beach and dunes are currently affected by three factors: sea level rise, disruption of the sand budget by historic removal of sediments from the estuarine channels, and by periodic beach enrichment and construction by coastal dune residents. Erosional processes were observed by all hands as a driving rain continued throughout Steve's talk. However, the ranks of bright yellow rain suits and gay circles of umbrellas were characteristically undismayed by the continuum of the water cycle.

Saturday afternoon, Peter Thompson of UNH provided an insightful tour of the Maine part of the Milton, NH-ME, quadrangle. Afternoon stops included the Rindgemere, Gully Oven, Towow, Madrid, and Littleton Formations. Several stops were intriguing. The Gully Oven Formation, a highly metamorphosed pelitic schist (sillimanite grade) with boudinage structures, was sculpted at "Gully Oven" by late glacial streams into meters-wide potholes, which curve upwards like a vaulted ceiling. The erosional feature, formed in contact with the glacial ice, resembles the elliptical ovens used by the 17th century settlers who encountered the feature. In the Town of Lebanon, in the Towow Formation, the stop at a silver mine prospect was also most interesting. A century after the venture was abandoned; trip participants were still able to see the hand worked pits and piles of vein quartz blocks strung in a dotted line along the east wall of the Little River stream valley. Attendees were enriched only by the natural beauty of the valley.

On Sunday, the trip continued, and Peter Thompson was joined by New Hampshire and Maine geologic ambassadors, Wally Bothner and Art Hussey, respectively. Sunday stops included the examination of exposures of a primarily overturned (?) bedrock stratigraphy (Rindgemere, Gully Oven, Towow, Madrid, Littleton, Smalls Falls, Perry Mountain, Rangeley, and Berwick Formations). The units are highly metamorphosed and deformed, which often makes it difficult to correlate units. The Gonic stops were fascinating, not only for the euhedral garnets (a family favorite), but also for the question whether they represented a metamorphosed phyllonite. The long traditions of field geology along both sides of the Maine and New Hampshire border are typified in local names like Gonic, Towow, and Gully Oven. Diplomatic discussions of the integration of the bedrock formations along "border faults" between the two colonies are ensuing.



Geological Society of New Hampshire

2004 Annual Meeting

Speaker: Richard B. Moore
USGS, Pembroke, NH

Topic: “New England SPARROW: Application of the National Hydrography Dataset for Watershed Water-Quality Nutrient Modeling”

When: Thursday, October 14, 2004

Where: Cat ‘n Fiddle Restaurant
Manchester Street, Concord, NH

6:00 pm Social Hour

7:00 pm Dinner

Polls open 6:00 to 7:30 PM

GSNH Annual Meeting, Thursday October 14, 2004

Dinner will be a buffet.

Reservations: _____ members @ \$18.00 _____ non-members @ \$20.00 (in advance)

Half-price for students (must show student ID card)

Reservations will be taken until Monday afternoon, October 11, 2004

There will be a \$2.00 surcharge for those paying at the door without reservations

Make checks payable to: Geological Society of New Hampshire

Mail to: Dave Wyman, Buoy Technologies, Inc., 31 Columbus Ave., Concord, NH 03301

phone: 603-224-9031 or davew@buoytec.com for information

Name: _____

Address: _____

Phone and/or Email: _____

Half the cost of the dinner may be tax-deductible as a business expense.

The lecture part of the program counts as 1.5 hours of CEU contact hour credit.

Dates to Remember!

- AIPG Annual Meeting, October 2-7, 2004
Saratoga Springs, NY
- NEIGC, October 8-10, 2004, Salem, MA
<http://www.salemstate.edu/~lhanson/NEIGC/2004NEIGC.html>
- Capital Mineral Club 2004 Gem and Mineral Show
October 9-10, 2004 www.capitalmineralclub.org
- ***GSNH Annual Meeting, October 14, 2004, Concord, NH***
- Next Newsletter deadline Monday November 29, 2004
 - GSNH Board Meeting, December 9, 2004

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Your membership status is listed on the mailing label.