

# **NEBOG NEWS**

#### Volume 1, Issue 3



#### December 2002

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#### Rules and Regulations Update By Dick Ehrman

The Geologists' Regulation Act became effective in Nebraska on January 1, 1999. Since that time, the Nebraska Board of Geologists has been active in many areas. One of the most prominent and far-reaching efforts has been the drafting of regulations that govern the administration of the Act. *Title 171—Nebraska Board of Geologists* provides for licensure of professional geologists in the state and establishes a code of practice on professional conduct. Any geologist qualified to practice geology in Nebraska will be affected by these rules.

A public hearing on Title 171 was held in Lincoln on October 4, 2001 at the regular meeting of the Board. No public comments were offered, and in March 2002, the draft regulations were submitted to the office of the Nebraska State Attorney General for review and comment. On June 11, 2002, the Attorney General's office notified the Board that the regulations as submitted could not be approved. There were several reasons for not approving the regulations, although the majority of these involved minor wording changes that were easily corrected. An important reason cited by the Attorney General was that there is no statutory basis for certification as a Geologist in Training (GIT).

#### **Special points of interest:**

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The Board has carefully considered all of the comments provided by the Attorney General, and is in the process of revising the draft of Title 171 to address the concerns that were raised. Within the next few months, the Board hopes to have all outstanding issues resolved so that Title 171 can be officially promulgated. Keep checking the Board of Geologists website for further developments, or feel free to contact the Board office for additional information.

## Meet Our New Administrative Assistant



My name is Sandra Weaver. Previously my work experience has been in county government

for 25 years and almost two years in state government. I moved to Lincoln from Beaver City, Nebraska (a small town of less than 700) in December 2000. My son, Nathan, is a junior at the University of Nebraska-Lincoln and my daughter, Chelsey, is a high school sophomore.

I am excited about working with the Nebraska Board of Geologists. Since the Board's inception, they have worked hard to establish an efficient and sound organization that actively regulates the practice of geology in the best interest of the public. My duties include correspondence with applicants and registrants, record management, providing assistance with Nebraska budgetary requirements, maintaining the registrant database and the website, and preparing board meeting agendas and minutes. I also provide administrative support for the Nebraska Board of Engineers and Architects and the Nebraska Board of Landscape Architects. I can be contacted at 402-471-8383 or <u>geology@nol.org</u>.

#### Promoting Professionalism By Jim Cannia

As professional geologists we have a common goal to provide excellence in our work and to build confidence in the public. When they see your seal on your work, they can be confident of its integrity. Your Board is here to provide the standards that all geologists within Nebraska work under. Toward that end we have developed standards that will provide Nebraska and the nation with the best professionals in the field.

To be a registered geologist in Nebraska, you must have completed a curriculum of study ending in a bachelor of science or arts, with not less than 30 semester hours of geology. The applicant must have completed a group of core courses including mineralogy, petrology, structural geology, stratigraphysedimentology-soils, field methods, and physical geology.

These are also the basic classes from which the Fundamentals of Geology (FG) test are developed. An article on the ASBOG test in this newsletter goes into greater detail on this subject. Testing is a requirement of any person seeking registration as a Professional Geologist in Nebraska. The board is a full member of ASBOG and therefore is part of the national testing program. The test, given nationwide, is an important part of your professional status. By passing the exam you are qualifying yourself for licensure in all other states that are ASBOG members, without further examination. The majority of states that require registration are part of this organization.

The ASBOG test is a two-part test consisting of the Fundamentals of Geology (FG) section and a Practice of Geology (PG) section. As a new geologist coming out of the university, you may take the FG test as soon as you graduate.

After you have gained 5 years professional experience you may take the PG section of the test. Remember, if you do not pass the exam the first time you may retest. The experience you gain from the first test will prepare you for the second examination. Other applicants that have professional experience meeting board approval will be allowed to take test sections at the same time. If you are a professional from another state and have passed the ASBOG test or an equivalent exam approved by the board you may be registered without exam. There are three different paths to take to become a Professional Geologist in Nebraska.

As Professional Geologists you can take pride knowing that you are promoting professionalism by being a registered Geologist in Nebraska.

# **Renewal Information**

In October of 2002, renewal notices were sent to all licensees. Renewal licenses are valid for one year. The renewal fee is due on or before December 31, 2002. Those who have not received a renewal notice or have an address change please notify the office by email at <u>geology@nol.org</u>.

Those who become licensed prior to December 31 of each year will be sent a renewal notice.

#### How to Renew a License

- Complete and make any changes to the renewal form on or before December 31 and return with the \$55 fee made payable to the: Nebraska Board of Geologists.
- A renewal card with your expiration date and receipt is sent after payment is received.
- All renewal forms are sent out on an annual basis in October of each year.

#### **Penalty Information**

After 12/31/02, add \$5.00 for any month or any part of a month, up to \$55. After 4/1/03, a new application will be required.



**Scottsbluff, Nebraska** Photo by Dr. N. Lindsley-Griffin

#### A Message from the Board Chairperson By Terry Thonen

# As a professional geologist licensed in Nebraska, are you suffering from a professional identity crisis?

In a state not known for scenic mountain landscapes, nor hazardous earthquakes and volcanoes, nor large oil and gas reserves, what is a Nebraska geologist's claim to fame? To help us answer this, let's take a look at a few of the questions we are commonly asked by the public in our State:

1) What does a professional geologist do in Nebraska? Nebraska licensed geologists are responsible for various important activities in our State. They include (but are not limited to): completing hydrogeologic and geologic assessments at hazardous and solid waste sites; cleaning up leaking underground storage tank (LUST) sites; educating students and the public about geologic issues and hazards; conducting geologic research; developing mineral and gas resources; and evaluating and protecting Nebraska's largest natural resource: groundwater.

2) Are there a lot of professional geologists in Nebraska? Currently, we have over 250 geologists licensed in Nebraska. Almost half of this number resides in Nebraska.

3) Who employs professional geologists in Nebraska? Over 75 percent of Nebraska licensed geologists are employed by private consulting firms, about 16 percent are employed by Federal, State, and Local government agencies, and another 8 percent are involved with the academic community.

4) Who uses professional geologists' services in Nebraska? Professional geologists offer consulting services to Nebraska businesses whose activities may impact the environment (including soil and groundwater) or require knowledge of the subsurface geologic environment; Federal, State, and Local government agencies (including the USACE, NDEQ, NRDs, NNRC, NHHSS, municipalities) who are responsible for investigating and remediation former DOD sites, LUST sites, and municipal landfills; and legal firms involved in litigation associated with natural resources or damages due to earth processes. The use of licensed geologic professionals to perform geologic work, especially work affecting public health and safety, is required by Nebraska law.

The professional geologist's educational and work experience standards are similar to other professions such as Nebraska registered engineers and architects. The importance of professional geologists and their high standards for geologic practice is being recognized nationwide with over half of the states now requiring professional registration to perform geologic work. Use your geologist's seal proudly. You are an integral part of protecting the public's health, safety, and welfare in Nebraska, and you are a member of a great nationwide community of professionals.

# THE ASBOG EXAMINATIONS

By Dr. Nan Lindsley-Griffin (Approved for publication by ASBOG)

The ASBOG (National Association of State Boards of Geology) examinations have become the national standard for evaluating professional competence for licensing or certification. Given twice annually (in October and March) on the same date and time in all ASBOG member states, the exams consist of two parts: the Fundamentals of Geology (FG) and the Practice of Geology (PG). The FG exam is designed to assess knowledge attained during the completion of the baccalaureate degree in geology, and the PG exam is designed to evaluate skills and knowledge developed during the first five years of professional geological experience. Most states require applicants to have completed the baccalaureate degree or to be within a semester of completion before attempting the FG exam. In many states the PG exam is not open to applicants until they have completed five years of experience. Some states also require an additional, state-specific exam.

ASBOG member states (as of December 31, 2002) include: Alabama, Arizona, Arkansas, California, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky, Maine, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, North Carolina, Oregon, Pennsylvania, Puerto Rico, South Carolina, Texas, Utah (pending),Virginia, Washington, Wisconsin, and Wyoming.

#### How are the topics on the exam chosen?

ASBOG conducts a task analysis periodically, sending questionnaires to a randomly selected group of professional geologists in every member state; in 2000 the survey included geologists in nine Canadian provinces<sup>1</sup> as well. These questionnaires list over 60 tasks that are commonly performed by professional geologists. Each respondent is asked to rate each task on three scales: 1) the time she or he spends performing the task, 2) the importance of each task in protecting the general public, and 3) the degree to which competence in this task upon graduation as well as at the time of licensure is essential.

Professional statisticians analyze responses to determine which types of knowledge and skills are most important at the post-baccalaureate level and at the post-five year experience level. They also examine demographics of the respondents to evaluate differences between regions or subgroups of professionals. In general, the results are surprisingly consistent among geologists in different states, provinces, and regions, suggesting that the task analysis is valid for the entire population served. The main difference is that U.S. geologists rank mineral and petroleum exploration tasks lower, and groundwater and engineering geology tasks higher, than their Canadian counterparts.

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# Nebraska Board of Geologists Professional Geologist Examinations

Plans are in progress for the March 7, 2003 Nebraska ASBOG Exam. The Association provides exams for State Boards of Geology (ASBOG) at a fee established by their Board. <u>Please remember all fees are non-refundable and not</u> <u>transferable.</u>

Arrangements can be made to take the Nebraska exam at another state Board's examination site (e.g. Wyoming), provided they are also an ASBOG member. If you require this option or would like more information please contact us by email at <u>geology@nol.org</u>



# ASBOG Schedule

Friday March 7, 2003 Friday October 3, 2003 2003 2004

Friday March 5, 2004 Friday October 8, 2004

Examination "site" information can be downloaded from the website at <u>http://www.geology.state.ne.us/board/nbg.htm</u>.

# Fee Schedule

Application Fee	\$50.00			
Licensing Fee (payable upon approval of application)	\$240.00			
TOTAL	\$290.00			
Other Fees				
Annual Renewal Fee	\$55.00			
Expired Registration Penalty				
\$5 fee per month, not to exceed \$55				
Temporary Licensing Fee*	\$175.00			
Emeritus Fee (lifetime fee)	\$25.00			
Certificate of Authorization for Organization	\$100.00			
Examination Fees:				
<b>Fundamentals (FG)</b>	\$125.00			
Practice (PG)	\$150.00			
Both (FG & PG)	\$275.00			
<b>Reservation Fee (For one or both tests)</b>	\$35.00			
Duplicate Certificate Fee	\$15.00			
Licensee Listing	\$25.00			

\*A Temporary license is good for one project only, for the period of one year. An individual or company may receive a temporary license only once in each 3-year period. If you do not have an active PG license in another state, you must apply for registration in Nebraska on our regular application form.

#### NEBRASKA BOARD OF GEOLOGISTS Examination Registration Form

\_\_\_\_\_

(Please use one form per individual registrant. Copy as needed.)

Name				PG#	
Mailing Address					
City	State	Zip Code	Phone	Fax Number:	
Company Name			E-Mail		
Mail Examination Fees to:	State of Nebraska	Board of Geolog	ists		

Mail Examination Fees to: State of Nebraska Board of Geologists P.O. Box 94844 Lincoln, NE 68509-4844

I will take the: (Please check all that apply) \*\*\* Exam Fees are due on or before January 15, 2003 for March Exam Graph FG Exam (8:00 – 12:00) (\$125.00) Graph PG Exam (1:30 – 5:00) (\$150.00)

Please direct any questions to Sandra Weaver via email at geology@nol.org or phone at 402-471-8383.

# **Reciprocity and Comity - Defined**

The Board spent a great deal of time discussing the issues of reciprocity and comity before coming up with our current policy [see below]. According to Webster's New World Dictionary, *reciprocity* refers to equivalent or interchangable things; *comity* (in law) is the principle by which courts in one jurisdiction may accept decisions made under the laws and decisions of another jurisdiction. Although the concepts are similar, they are not quite the same, and even ASBOG states have not been able to agree on a uniform application of reciprocity/comity. The main reason for the difficulty is that each state's law (or province, territory) is slightly different than the others.

The Geologists Registration Act (Nebraska Statutes 81-3501 to 81-3541) lists four requirements for professional registration: 1) character; 2) B.S. degree in Geology; 3) 5 years of postbaccalaureate experience working in geology; and 4) passing scores on examinations covering the Fundamentals of Geology and the Practice of Geology. Although the Act does not specifically define either reciprocity or comity, it does state that the first three criteria...

"may be considered by the board to be fulfilled if the applicant maintains a current certificate of licensure to practice geology issued pursuant to the authority of any state or possession of the United States or the District of Columbia based on requirements that do not conflict with the Geologists Regulation Act and were of a standard not lower than that specified in the applicable licensure in effect in this state at the time the certification was issued."

In other words, we are authorized to offer reciprocity (but not comity) provided the applicant has been licensed elsewhere on the same basis as Nebraska registrants, AND HAS TAKEN THE ASBOG EXAMS OR THEIR EQUIVALENT.

#### **Complaints** By Jim Cannia

The Nebraska State Board of Geologists exists to protect the public health and safety of the people of Nebraska. This citation from the law outlines the responsibility of the board:

**81-3502.** Geology; regulation; prohibited acts. In order to safeguard life, health, and property and to promote the public welfare, the profession of geology is declared to be subject to regulation in the public interest. It is unlawful for any person to (1) practice or offer to practice geology in this state, (2) use in connection with his or her name or otherwise assume the title professional geologist, or (3) advertise any title or description tending to convey the impression that he or she is a licensed geologist; unless the person is duly licensed or exempt from licensure under the Geologists Regulation Act. The practice of geology and use of the title geologist is a privilege granted by the state.

Over the few years we have been active as a Board, we have investigated several complaints. Mainly, these complaints deal with a person allegedly practicing without a license or persons advertising themselves as geologists and are not. All cases brought before the board are investigated as quickly as time permits. To this date only one investigation has resulted in a warning letter to the offending party.

Please take note that the board is quick to react to complaints and will investigate all presented to it. We as professional geologists, all have a duty to be aware that people practicing outside the law are subject to having a complaint filed against them and possible action by the board. The Board is your vehicle to protect your profession. Allowing people to violate the law weakens us all.

# **Reciprocity Policy**

The Board's position is that reciprocity will be granted if the applicant for reciprocity meets the following requirements listed below:

# TO APPLY FOR A PG LICENSE:

1. Must have a current geologist registration or license in good standing in another state. (Contact your local state board of registration and ask them to send a "verification of your registration" and good standing to the address below).

2. Submit a completed application form with a \$50.00 application fee to the Nebraska Board of Geologists. (Transcripts or letters of reference are not required at this time if in good standing).

3. Must have passed the ASBOG examinations Fundamentals of Geology and Practice of Geology, or their equivalent. (The Board may waive the requirement for passing the ASBOG examinations or equivalent, if applicant has continuously held geologist registration or licensure in good standing since December 31, 1991. Such applicants may be asked to submit additional material, including transcript or letters of reference.)

4. Meet the Nebraska statutory education requirement:

Have "...a minimum of thirty semester hours or forty-five quarter hours of course work in geology and have received a baccalaureate or advanced degree in geology or a geologic specialty...."

5. Meet the Nebraska statutory requirements for experience: "...a documented record of a minimum of five years of progressive experience, obtained subsequent to completion of the education requirements, in geologic work of a grade and character which indicates to the board that the applicant is qualified to assume responsible charge of such work upon licensure as a geologist"

An application packet and verification form may be downloaded from our website. <u>http://www.geology.state.ne.us/board/app.htm.</u>

#### Continued from page 3...

Here are some examples of tasks and the results on each from the 2000 Task Analysis. Highest average ratings on all three scales were given to the task "Construct and interpret maps and other graphical presentations". The lowest ranked in both time spent and importance was "Plan and conduct applicable paleontological investigations". The lowest ranked in competence needed was "Evaluate submarine currents and transport processes in sedimentary sequences". These latter two tasks as well as "Evaluate isostatic effects on shorelines" were deemed too insignificant to be included on any ASBOG exam. Each remaining task statement was classified by Subject Matter Experts (SMEs) as to whether it is appropriate for the FG exam, the PG exam, or both. The relative weight of each task was calculated from the formula:

#### Task Weight = Time Spent Mean x (Importance Mean)<sup>2</sup>

From these data, "blueprints" of the ideal FG and PG exam contents are developed, which govern the number of questions pertaining to each task that will be included on each exam. For example, 11 questions for "construct and interpret maps" might be included on each FG exam, but only 4 on each PG exam. For the task "Plan and conduct field operations", no questions might be included on the FG exam, but as many as 8 questions might be on the PG exam. (Table 1 gives additional examples of task statements).

Task Statements	FG Exam	PG Exam
A. Field Methods and Remote Sensing		
Plan and conduct field operations		Х
Select and interpret appropriate base maps for field investigations	Х	Х
Identify geological structures, lineaments, or fracture systems from surface	Х	Х
mapping or remote imagery		
Prepare soil, sediment, geotechnical, and lithological logs	Х	Х
Construct and interpret maps and other graphical presentations	Х	Х
B. Mineralogy, Petrology, Petrography & Geochemistry		
Identify chemical and physical characteristics of rocks	Х	
Identify rock-type sequences, associations and genesis	Х	
Evaluate geochemical data and construct geochemical models related to	Х	
rocks and minerals		
C. Sedimentology, Stratigraphy, & Paleontology		
Identify and interpret sedimentary structures	Х	
Establish stratigraphic correlations and interpret rock sequences, positions,	Х	Х
and ages		
D. Geomorphology		
Identify and classify landforms	Х	
E. Structural Geology & Tectonics		
Identify structural features and interrelationships	Х	
Determine orientation of structural features	Х	
F. Geophysics & Seismology		
Design, implement, and interpret data from borehole geophysical programs	Х	Х
G. Hydrogeology		
Design and install groundwater exploration, development, monitoring, and		Х
pumping/injection wells		
Characterize or determine hydraulic properties of formations	Х	Х
Characterize water quality and quality-altering processes (natural and	Х	Х
man-made)		
Define and characterize groundwater flow systems	Х	Х
Evaluate, manage, and protect groundwater supply resources		Х
H. Engineering Geology		
Interpret geologic data for engineering and development purposes		Х
Identify, map, and evaluate geologic hazards	Х	Х
Plan and evaluate remediation and restoration programs		Х
I. Mineral, Petroleum, & Energy Resources		
Design and conduct rock/mineral resource exploration programs		Х

Table 1. Examples of task statements (based on 2000 Task Analysis).

#### How are exams put together?

Any professor will tell you that there's no such thing as a perfect exam. Although ASBOG has a test bank of questions that have accumulated over the past decade, the test bank is continually being reevaluated and improved, and the questions on individual exams are carefully critiqued. This is done by the professional psychometricians in conjunction with the Council of Examiners (COEs), composed of a representative from each state board, plus Subject Matter Experts (SMEs). All of these volunteers are registered professional geologists themselves. COEs and SMEs meet at workshops held twice a year, about a month after each national exam. Typically, some 15-20 experts will focus on each of the two exams, keeping in mind that the FG exam is testing the knowledge that a properly trained geologist with a baccalaureate degree would have, and the PG exam is testing the skills needed by the working professional after five years of experience.

The SMEs begin by taking the most recent exam in their focus area (FG or PG). After an hour or two to read and answer the questions, they go down the list and item-by-item give their answer. If all the SMEs agree on the correct answer, that's a good sign the item is well written and clear. If the SMEs disagree on the correct answer, both the item and its key are subjected to intense scrutiny. Comments written by examinees on specific items are read to the group at this time and their concerns are addressed. If an item has two possible answers the group may decide to double-key it, or even to discard it from the exam. This is rare - but in such cases the exams are re-scored. No item that has performed poorly is ever returned to the test bank. If the SMEs feel that any item is vague, out of date, or inappropriate in the light of current professional practice, it will be revised or even discarded and replaced with one or more new items appropriate for that task. The SMEs also review items selected for the next upcoming examinations. Items are selected randomly from each of the test bank categories by the psychometricians, in percentages based on the exam blueprints developed from the task analysis study. The SMEs read each item on their focus group's draft exam critically for clarity, applicability, and correctness. Questionable items are revised or replaced before the new exam is finalized. SMEs are encouraged to bring new items to the workshop as well as to write additional items for future use. This can be a very humbling experience, because every new item (as well as every revision) must be approved by three other SMEs, each of whom is free to "improve" your original item. By the time your original write-up works its way around the table back to you, it may be unrecognizable - but it probably will be much better than you thought it was!

ASBOG and the Council of Examiners have strict guidelines concerning confidentiality, so please don't ask your Nebraska COEs and SMEs for specifics about the exams. For examples of the kinds of questions you might see on the exams, as well as other information about the exams, log on to the ASBOG web site at http://www.asbog.org.



Wildcat Hills of the Nebraska Panhandle Photo by Dr. N. Lindsley-Griffin

# LICENSURE UPDATES

August 1, 2001 through July 31, 2002

- William G. Alexander; Fort Collins, CO; 1/02/02 Peter E. Godfrey; Mesa, AZ; 5/31/02
  - Ted A. Koelsch; Lake Forest, CA; 10/26/01
  - Michael Krokosz; Cottonwood, AZ; 6/25/02
  - Mark A. McMullen; Littleton, CO; 5/31/02
- Michael C. Moore; Oklahoma City, OK; 10/22/01 Randolph J. Paetz; Omaha, NE; 12/13/01 Daniel J. Plazak; Scottsdale, AZ; 4/23/02
- Scott R. Stanley; West Des Moines, IA; 1/02/02
- Cathryn R. Stewart; Centennial, CO; 12/03/01

Jeffrey H. White; Ames, IA; 11/26/01

# **REGISTRATION BY GIT**

Clint P. Carney; North Platte, NE; 5/9/02 Steven M. Peterson; Holdrege, NE; 5/9/02

Christopher M. McCormick; Grand Island, NE; 11/15/01



Congratulations to those that passed the September 2001, the March 2002 and October 2002 ASBOG Exams!

## Fundamentals of Geology Examination

Clint P. Carney, NE ■ Dustin J. Cruikshank, NE ■ Thomas P. Fox, CO ■ Peter E. Godfrey, AZ ■ Michael Krokosz, AZ Chris M. McCormick, NE ■ Mark A. McMullen, CO Deborah Myers, NE ■ Randolph J. Paetz, NE Steven M. Peterson, NE ■ Scott R. Stanley, IA Cathryn R. Stewart, CO ■ Jeffrey H. White, IA ■ James Wonder, IA

#### Practice of Geology Examination

David Becker, NE ■ Peter E. Godfrey, AZ ■ Michael Krokosz, AZ Mark A. McMullen, CO ■ Deborah Myers, NE Randolph J. Paetz, NE ■ Xiaodan Song, AZ Cathryn R. Stewart, CO ■ Jeffrey H. White, IA ■ James Wonder, IA



# WHO SHOULD BE REGISTERED IN THE STATE OF NEBRASKA?

#### THE GEOLOGISTS REGULATION ACT [81-3501 through 81-3541]

*Purpose:* to safeguard life, health, and property and to promote the public welfare through the regulation of the profession of geology.

**Board of Geologists:** established to oversee the registration and licensing of professional geologists for the state of Nebraska, and to enforce the Geologist Regulation Act.

In general, if you are a geologist whose work is in areas affecting public health and safety, you should be registered. Examples include, but are not limited to, geologists working in environmental geology, engineering geology, and hydrogeology.

**A Geologist** is a person who is qualified to practice geology by reason of special knowledge and use of the earth sciences and the principles of geology and geologic data collection and analysis acquired by geologic education and geologic experience.

*Geology* means the science which includes treatment of the earth and its origin and history, in general: investigation of the earth's constituent rocks, soils, minerals, solids, fluids including underground waters, gases, and other materials; the study of the natural agents, forces, and processes which cause changes in the earth or on its surface; and the application of this knowledge of the earth.

*The Practice of Geology* means "any service or creative work if the adequate performance of the service or work requires geologic education, training, and experience to include such services or creative work as geological consultation, investigation, planning, surveying, mapping, and inspection of geological work, and the responsible supervision thereof, the performance of which is related to public welfare or the safeguarding of life, health, property, and the environment and teaching, including research and service, of advanced geological subjects." [81-3515]

# We're on the Web!

http://www.geology.state.ne.us/board/nbg.htm