# Thoughts on a Career in Geology

## Part 2—Excelling in Your Career

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This article continues my thoughts on a career in geology, expanding beyond the Part 1 discussion on preparing for and landing your first job presented in the December 2008 issue of *AEG NEWS*. In Part 2, I present my thoughts on how to excel in your career. I'll continue posting my thoughts on various aspects of the profession on my website at http://sites.google.com/site/garyrogerspg/, so check in occasionally.

### How to Keep Your Job and Get Promoted

Specialize in something that businesses with money must do for financial or regulatory reasons. It's best to have more than one specialty—times change and clients may not need a particular specialty anymore.

Do everything in your power to keep clients happy (this includes companies that you have contracts with, project managers in your office, contacts in other company offices, and your boss). You should deliver quality work products on-time and on-budget, be courteous and friendly, and bring value to the project. If you do these things, then you will have a loyal customer.

Meet financial expectations. If your company sets a goal for the number of hours that you should bill a client (otherwise known as billable, chargeable, or utilization goal) you should do all you can to meet that goal. If you fall below the goal for too many weeks in a row someone will notice and you may find yourself reviewing this document in preparation for another job search.

Never hoard work. This is a short-term solution for people who have advanced in their profession as far as they are likely to go. The pie is big—share it. If you need a bigger pie (more work) go out and get it from your clients, not by keeping the work to yourself.

### Differentiate Yourself

Being different can be a good thing. As a young professional, you can stand out by following some of these suggestions:

- Get involved in a professional organization. Actively involved. This means that you need to volunteer as a committee member or as an officer and be a real contributor to the organization.
- Be courteous and interested in everyone you meet. It's a very small world. Never burn bridges. Never. Your reputation will likely precede you—make sure that it's a good one.
- Write one technical paper or abstract each year and present it at a conference. Better yet, develop a presentation to educate potential clients about the services that you can provide and present it at a conference that they attend.
- Take the Fundamentals of Professional Practice course from ASFE (www.ASFE.org). This provides a structured program to learn all the things that your boss wants you to know, but does not have the time to teach you before you may need them.

Get your professional license as soon as you can. Honor it—it means that our society has deemed you qualified to make decisions that can affect someone's safety or health.

### Get as Much Field Experience as You Can

It does not matter what field of geology you enter. Those who have spent the most time in the field will have a much higher probability of helping the project team come to a successful result. As a young professional, now is the time in your life where you can spend weeks to months on fieldwork. As you get older and have more responsibilities (kids to tuck in at night and a mortgage to pay) your opportunities to get out and see the rocks in the field will dwindle.

### Maintain a Resume of Your Experience

Keep this in the style that your employer uses in proposals to clients, but you may want to include more detail than is required for your company resume. This well maintained resume should include at least a paragraph that describes every job that you have worked on. Include the date of the project work as a hidden text or comment. Your employer needs this to get work for you, and you need it in case your employer lets you down.

### Be Pleasant, Courteous and Cooperative

Your boss, co-workers, and clients want to work with pleasant and courteous people. You can get promotions, get more done as a team, and get your firm hired for the next project by proving that you can reach the project goal with people that enjoy working with you. Practice good manners, encourage people, and give compliments. Having these qualities does not mean that you can be passive, submissive, or avoid working smart and hard. You must still assert yourself, make sure that management remembers your contributions, stand up for what is right, and get the job done. Just do it as courteously as you can.

I'm still learning how to do this myself, but much of what I learned came from long expedition-style research projects with small groups in polar regions. When you're dropped off on an arctic island for seven weeks with four other people you realize that your attitude, productivity and safety require the most harmonious situation that you can help create. When the going gets tough, I try to imagine myself back in that position to help me remember the importance of harmony.

Here are a few specific thoughts on this subject…

- Get Along—Sooner or later you will find someone who you find it very difficult to get along with. You may not believe this, but your relationship with that person is completely within your control. Once you adopt this understanding, you will actually have the power to change the relationship. Until then, you are being controlled by that person. It's probably not in your job description, but every employer expects that you will not let your personal feelings interfere with your work. Its part of your job, so get along and get the job done.

- Write Personal Notes to Associates and Those Who Help You—Get a box of high quality blank paper and envelopes and use them for thank you notes, condolences, invitations, acknowledgments of a job well done and other personal messages to colleagues and co-workers. Use real stamps for these notes so you don't dilute the personal touch with a postage meter imprint.

## Build Your Technical Library

Buy or download these books. Read them. They will help you solve most of the problems that you will encounter in engineering and environmental geology.

- *Environmental Geology and Site Characterization*
  - Site Assessment and Remediation Handbook, Martin Sara, Lewis Publishers
- *Hydrogeology*
  - Handbook of Groundwater Development, Roscoe Moss Company
  - Groundwater and Wells, Johnson Division (the 2nd edition covers much more than the recently released 3rd edition)
  - Basic Ground-water Hydrology, Ralph Heath, USGS (download from http://pubs.er.usgs.gov/djvu/WSP/wsp_2220.pdf). A great quick reference that is highly readable.
  - One or more of these general hydrogeology texts. I've found that reading a subject in two or more general hydrogeology texts is more likely to lead me to an understanding of the subject.
- *Applied Hydrogeology*, C.W. Fetter
- *Physical and Chemical Hydrogeology*, P.A. Domenico
- *Groundwater*, Freeze and Cherry
- *Engineering Geology*
- *Engineering Geology Field Manual*, US Bureau of Reclamation (Download from http://www.usbr.gov/pmts/geology/)
  - Manual on Subsurface Investigations, National Highway Institute, FHWA NHI-01-031. Download: http://www.sil.ucdavis.edu/downloads/NHI_SI_Manual.pdf
- *Rock Mechanics*
  - Practical Rock Engineering, Evert Hoek (download from the RocScience website at http://www.rocscience.com/hoek/Hoek.asp)
  - Foundations of Engineering Geology, 1994, Tony Waltham. Similar in format to Ralph Heath's very usable "Basic ground-water hydrology" (see above).
  - Rock Slope Engineering, Wyllie and Mah, 2004 (an update of Hoek and Bray)

A full bookcase in your office is an indication of the resources that you are familiar with and from which you can quickly glean useful information. Fill your bookcase and file cabinet with resources and know which one to look in to solve a problem. There is nothing more empty looking than a bookshelf without books in the office of a professional. The internet is a great resource, but it has not yet replaced the depth and quality of reference books.

You should also, of course, maintain a well organized digital library of pdf files, internet links, example reports, and other references that can help you solve problems.

## Expand Your Network and Circle of Influence

Meeting new people in the profession will expose you to a lot of people who will influence you. Once you build up some experience, you will be influencing them. Find them by joining one or more professional organizations. As a professional you should strive to be known by other practioners in your area. They are sources of technical help, moral support, potential employment, and potential employees. Plus, you'll have a lot in common with them and will likely find some new friends.

The two key national organizations for engineering and environmental geologists are AEG and NGWA. There are also many regional organizations that are very good.

- AEG—Association of Environmental & Engineering Geologists www.aegweb.org
  - Local sections listed at http://www.aegweb.org/i4a/pages/index.cfm?pageid=3412
  - Membership Application at: https://www.aegweb.org/i4a/forms/form.cfm?id=17
- NGWA—National Ground Water Association www.ngwa.org

And for goodness sakes, don't just pay your dues—get involved.

## Get a Graduate Degree, or an Engineering Degree

There is a difference between the capabilities of someone with a BS versus someone with an advanced degree. A Master's program provides more opportunity for specialized training and requires you to develop and complete your own project. Your employability and potential for promotion are enhanced with an MS. There are many notable individuals who have benefited from having a PhD, but in the practical and project oriented field of environmental and engineering geology you should carefully consider the return on the investment in a PhD before pursuing this option.

If you are interested in an advanced degree in engineering geology, your choices are limited. These are some of the few schools left that specialize in engineering geology, along with a key professor in the engineering geology or geological engineering department.

- Portland State University, Dr. Scott Burns, BurnsS@pdx.edu 503-725-3389 - http://web.pdx.edu/~burnss
- Colorado School of Mines, Dr. Paul Santi, psanti@mines.edu3 03-273-310 - http://www.mines.edu/~psanti/
- Missouri University of Science and Technology (Formerly University of Missouri-Rolla), Dr. J. David Rogers, rogersda@umr.edu
  - http://web.mst.edu/~rogersda/ 573-341-6198
- Kent State University, Dr. Abdul Shakoor, ashakoor@kent.edu 330-672-2968
  - http://dept.kent.edu/geology/people/shakoor.html
- Mississippi State University, Dr. Darrel Schmitz, schmitz@ra.msstate.edu 662-325-3915
  - http://www.msstate.edu/dept/GeoSciences/people/schmitz/index.htm
- Michigan Tech, http://www.geo.mtu.edu/