CENTRAL NEW YORK ASSOCIATION OF PROFESSIONAL

CNYAPG

CNYAPG and ASCE Joint Meeting:
HOW ATTORNEYS AND CONSULTANTS CAN WORK TOGETHER PRODUCTIVELY - WITHIN OR OUTSIDE THE COURT ROOM

Presented by

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Just as being a practicing attorney is not usually taught in law school, being a consultant or expert witness is not usually taught as part of a consultant's professional training (whether the consultant is a geologist or engineer). Unfortunately for consultants, working with attorneys is a fact of life. Whether there are environmental legal issues involved or a matter is headed to court, attorneys always seem to be involved. However, this fact, unfortunate or not, can still result in a productive team working environment, as long as each professional knows the boundaries of their expertise.

Once the scene shifts to the court room or hearing room, the consultant should work closely with the attorney on things not taught at school or even in the ordinary course of a consultant's professional life - things like protecting documents under the attorney-client privilege, testifying under direct **and** cross examination, making the proper impression on a judge or jury, rehearsing and preparing prior to actually testifying, and volunteering on subjects or topics that are outside the scope on the issues being addressed, or worse, outside the scope of the consultant's expertise.

Mr. Bernstein will talk about some of the different areas of the law in which geologists and engineers and attorneys (solid waste, wetlands, and mining) work together, what expectations attorneys and consultants should have of each other when working together, and the different ways attorneys can utilize the expertise of consultants. Mr. Bernstein will focus on utilizing a consultant as an expert witness and how a consultant can be an effective witness.

Kevin Bernstein is a partner in the environmental practice group at Bond, Schoeneck & King, LLP. He has extensive environmental experience with matters involving solid and hazardous waste, petroleum contamination, PCBs, wetlands, landfill permitting, mining, wastewater treatment, hazardous substance and petroleum storage tanks, SEQRA, and in defense of claims asserted by federal and state governmental agencies for cleanup costs, penalties, and other relief under federal and state Superfund statutes, New York State Navigation Law, and the Clean Water Act.

Mr. Bernstein also has extensive experience in toxic tort litigation, and defending environmental criminal investigations. Mr. Bernstein has been involved in a number of trials or hearings at which experts with a geology/hydrogeology or engineering background have testified. Prior to joining Bond, Schoeneck & King, LLP, Mr. Bernstein was associated with another local law firm and, before that, he was a law clerk for a federal judge and a faculty member at Vermont Law School, his law school alma mater.

In addition, Dr. William Kelly, President of the New York State Council of Professional Geologists will present an overview of the organization's efforts to achieve professional licensure for geologists in New York State.

INSIDE:

We will convene on Thursday, January 14 at 6 PM, at the Marriott in Carrier Circle for a joint meeting with the ASCE. The meeting will conclude with an open question and discussion period. We look forward to seeing you then!

PRESIDENT'S PAGE

A **thank you** goes out to everyone who participated in December's dinner talk by Mr. Michael Coia of PhytoWorks. I enjoyed the extensive question and answer session where we speculated and envisioned future applications of phytoremediation. It demonstrated again that scientists are creative by nature, or can be creative with nature. CNYAPG had a nice turnout and a lot of fun. **We hope to see more of our members together at the joint meeting with ASCE on January 14 at the Marriot at Carrier Circle in Dewitt.**

At a recent business lunch, I mentioned the upcoming CNYAPG January speaker topic concerning the working relationship between geologists, engineers, and attorneys. Seated with me, the "geologist" by technical trade, were one attorney and one engineer who just looked at each other and poised confused looks. They were amused that such a frequent business situation would be basis for a speaker presentation. For many professionals, the interaction among these professionals is common ground. However, for many of us, the role of geologist or engineer is oriented around completion of a technical task. Seldom is the engineer or geologist directly involved in the negotiations that advance a project to completion. For many, interaction between disciplines is not common and the varied perspectives each profession contibutes are not shared.

Some of the more useful words of advice told to me early in my consulting career by an engineer project manager advised that the best means to success is not by personally knowing the answer to all project questions, but knowing who does. I share this here because it reminds me of the working relationship between scientist, engineers, and attorneys. Each discipline brings a unique perspective to a project. My experience has been that attorneys were often participating as project managers on behalf of a client. Given that project concerns are often driven by technical issues, attorneys demonstrated the ideal role of project manager: knowing from whom to get the right information. Luckily for consultants, it is us. As we know, project managers, expert witneses, government agency represesntatives, and clients consist of professionals from varied technical and business disciplines, including engineers and geologists. From many perspectives, attorneys, engineers, and geologists function as a cohesive team working together. **Please join CNYAPG and ASCE on January 14, 1999 as Kevin Bernstien provides an attorney's perspective on the working relationship between geologist, engineers, and attorneys.**

Given the now-standard occurrence of geologists involved in project management issues that include making decisions that affect public health and welfare, whether it be in consulting, in private industry, government organizations, or in academic research, it seems almost amusing that our professional status in New York State is not legally recognized. I do support the licensing of geologists for a number of reasons. But honestly, the most prominent reason is because, by not having the license, it is difficult to conduct environmental business in NYS. Geologists need to ask engineers to sign and review work products that may be beyond their expertise just to be able to submit documents to the NYSDEC. Who's best interest does that serve?

In many ways, I find the licensing system a hindrance. For example, in consulting, if a client has a project issue in another state, obtaining reciprocity to conduct professional business includes completion of significant paper work, money, and time, an element not always available. Sure enough, each state needs the same personal information presented in a slightly different format. I agree that state-by-state licensing is the first step for geologists, however, I aspire to a national program in which professional information can be accessed and one professional title serves an individual in any state. If obtaining a professional license is to provide legal responsibility and accountability to the public in matters that affect human health and welfare, then how does this objective change in any given state?

I realize that this same state-by-state system serves engineers and attorneys. We, as geologists, need to be on equal professional standing in the legal and business system. Therefore, we need licensing in New York State. Although I agree in theory that licensing assists in monitoring professions that have a direct affect on making public health and welfare decisions and infers that appropriately qualified professionals make such decisions, I am, in principle, not for additional government regulation. It appears to me to be more of a necessary business component than an idealistic means to ensure that public health and welfare is maintained by qualified people. Personally, I support licensing because it is already established in other states and, from a business perspective, we need to be on equal status with other professionals seated at the environmental consulting negotiation tables.

I am strongly suspect of the environmental professional programs set into action in Connecticut and Massachusetts. This process has taken the state by state interest issue to the extreme. I view these programs as elitist with the purpose of generating revenue for bureaucratic arenas. For those who read the NYSCPG newsletter article updating the meeting with the NYS Education Department, it is apparent that money is a significant issue in passing licensure in NYS.

Enough of my brief opinion on the issues, **please join CNYAPG on January 14, 1999, when Dr. William Kelly, NYSCPG President will give us an overview of the current licensure status.** CNAYPG welcomes your opinion on the topic; bring your questions and comments.

I regret that I will not be joining you at the January meeting. I hope everyone enjoys the evening.

Best Wishes for Success in 1999,

Vita DeMarchi P.G.
CNYAPG President

GEOLOGIC NEWS

In the Know...

with Jon S. Fox

Arsenic Tragedy: A Compelling Argument for the Importance of Geologic Input into Resource-Based Public Health Decisions

An extensive arsenic contamination event in Bangladesh and portions of western India has been described as "probably the most extensive mass poisoning in history" (*Chemical Engineering and News*, Vol. 76, No. 46). As many as 70 million people have been ingesting groundwater with arsenic concentrations as high as 2,000 parts per billion (ppb). The current World Health Organization guideline for arsenic in drinking water is 10 ppb. Hundreds of thousands of people have been diagnosed with arsenicosis (chronic arsenic poisoning) which can be fatal is left untreated. The tragedy is an unexpected result of well-intended efforts to assist the people of Bangladesh and western India through the installation of water supply wells. Many of the wells were installed with funding from the United Nations Children's Fund (UNCF) beginning in the 1980s to control and minimize the spread of disease through contaminated surface water supplies previously used as drinking water sources. However, UNCF never thought of sampling the aquifers for elevated concentrations of naturally-occurring metals (one would guess that a geologist or hydrogeologist was not a member of the UNCF committee that developed the program).

The initial working hypothesis regarding the cause of the contamination was that withdrawal of large volumes of groundwater lowered regional water tables and exposed pyrite naturally present in the unconsolidated sedimentary aquifers to oxidation, forming relatively soluble arsenic-containing oxypyrites. However, recent research suggests the condition may be typical of an anoxic sedimentary aquifer where arsenic-rich iron oxyhydroxides are reduced to a more soluble state by reaction with organic matter. Several remedial technologies are being contemplated for the area, mostly centering on simple aeration of influent groundwater, forming iron hydroxides precipitates which should scavenge arsenic out of the water.

Radon Ingestion vs. Inhalation

A recent report compiled by the National Research Council (NRC) entitled "Risk Assessment of Radon in Drinking Water" suggests radon in groundwater poses few risks to human health (*Environmental Science and Technology*, Vol. 32, No. 23; *GSA Today*, Vol. 8, No. 11). Radon is a byproduct of the radioactive decay of uranium occurring naturally in soil and rock, particularly in shale-dominated terrains (i.e., areas overlying the Middle Devonian Hamilton Group and similar stratigraphic units). The report suggests inhalation of radon in poorly-ventilated residences is a far greater threat than ingestion of drinking water. The NRC estimates that of the 160,000 Americans who die annually from lung cancer, approximately 19,000 (8.4%) developed lung cancer from a combination of smoking and exposure to gaseous radon. An estimated 160 deaths (0.01%) are attributable solely to inhalation of radon gas emitted from agitated residential groundwater (i.e., taking a shower, spraying the lawn, etc). Copies of the report are available (for sale) from the National Academy Press at (800) 624-6242.

So-called Synthetic Organic Compounds?

Research recently published in the journal *Environmental Science and Technology* (Vol. 32, No. 23, pp. 3724-3729) indicates that chloroform and possibly other trihalomethane compounds (i.e., bromodichloromethane, bromoform, etc.) occur naturally in soil. Apparently, hydrogen peroxide in the presence of hydrogen and chlorine ions forms hypochlorus acid (HOCl), which subsequently reacts with humic material to produce chloroform and various chlorinated humic compounds. This research may have important implications for natural attenuation-based remediation projects involving the use of hydrogen peroxide in soil with high organic matter content. Additionally, trihalomethane compounds are commonly-detected disinfection byproducts in municipal drinking water systems which are also being investigated with increasing concern regarding possible carcinogenic properties.

Global Mining Developments

A recent survey of 279 companies involved in exploration for mineral resources indicated a total mining exploration budget in 1997 was $4.03 billion (*Geotimes*, Vol. 43, No. 9). Exploration for gold continues to dominate with 65% of the budget, followed by the base metals copper, lead, and zinc (27%), diamonds (6%), and other metals (2%). Exploration in the U.S. and Canada accounted for 19.9% of the total budget (approximately $802 million). Recent significant discoveries that are near or entering production include:

- The Batu Hijau porphyritic copper-gold deposit in Indonesia with reserves of 12 million ounces of gold and 10.6 billion pounds of copper;
- The Hartley Platinum deposit on Zimbabwe's Great Dike with an estimated annual production of 150,000 ounces of platinum and 110,000 ounces of palladium;
- The Ekati diamond deposit in Canada's Northwest Territories with an expected production of 3 to 4 million carats annually with 30% of the diamonds expected to be gem quality;
- The 45-million ton Cannington lead-zinc-silver deposit in Queensland, Australia grading 11.1 % lead, 4.4% zinc, and 16 ounces per ton silver;
- The Turquoise Ridge gold deposit in Nevada with estimated reserves of 4 million ounces; and
- The El Penon gold deposit in northern Chile with estimated reserves of over 1 million ounces.

Well Points to Ponder – No Doubt, a Deep Subject

How many of you have had the opportunity to model an aquifer and, based on the aquifer characteristics, design an extraction well? Did the well yield match your expectations? Did the size of your capture zone mimic your calculations? What about well spacing? Did the well(s) provide hydraulic capture on your site? If not, why not? Well, CNYAPG might just have some answers for you! Come to the March meeting and learn about where the theoretical and practical collide when it comes to well design, installation, and development.

For instance, did you ever consider…

In the water well industry, well yields represent the degree to which the success of a project is judged. Therefore, wouldn't it make sense that, when planning an extraction well(s) project on a hazardous waste site, one would mimic the approaches used on a water supply project?

Why are 10 or 20 slot screens installed in bedrock wells? Why are sand packs installed around a screen in a bedrock well? Why not develop bedrock wells prior to installing the sand pack and seal, thereby reducing development time and dramatically increasing efficiency?

Did your slug test results ever give you fits? How many of us have advanced augers through sand and then into stiff clay and silt, backfilled the boring to the bottom of the sand unit, installed a well and then wondered why your slug test data does not match our estimate for sand? Did you ever wonder where the clay cuttings went while drilling? Maybe the extra thickness of the sand pack required by the agency to reduce turbidity wasn't really such a good idea. And, while on the subject, is it a sand pack?...a filter pack?...a gravel pack?...formation stabilizer? Why are sand packs installed anyway?

Is it in your client's best interest to develop a 4-inch extraction well with a bailer and a small-diameter pump? And, while we're thinking along these lines, why are extraction wells designed, drilled, and developed as if they were simply large-diameter monitoring wells?

Did you ever consider that slug-tested wells developed on Fridays often yield lower estimates than those developed earlier in the week? And why is it that, so often, the water table contour map seems to have the groundwater flowing towards the last well installed?

These questions, and more, will be addressed when Bill Morrow takes the podium for the March meeting for CNYAPG.

What Next?

Do you have any ideas for a CNYAPG sponsored Spring Field Trip or Seminar? Let us know at **www.dreamscape.com/cnyapg**.

Keep the newsletter input coming. Send ideas, articles of interest, requests, and questions for the newsletter to Vita DeMarchi at **vdemarchi@secor.com**.

Special Note: We need a short course/seminar committee to work on a program for Fall 1999. Your input and volunteer time is greatly appreciated by all members!

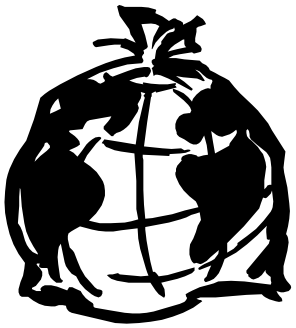
You've Read the Book, You've Lived the Reality, and now... Disney Brings You the Movie!

The Touchstone Pictures movie version of Jonathan Harr's *A Civil Action* opens on Christmas Day, bringing the issues of our everyday business into a courtroom drama for the big screen. Perhaps you took your vacation time to read the book and stay immersed in the nature of your business; now you can see John Travolta play an ambitious and flamboyant attorney taking on the big guys, first to promote himself, then to fight the good fight for the townspeople of a small Massachusetts town, who are recognizing a high frequency of leukemia due to pollution of their drinking water. In the end, the attorney fights the case because it is justice he desires. Or so the pre-release reviews are saying.

The book was a dramatized telling of a real-life case that took nearly a decade of courtroom battles by personal injury attorney Jan Schlichtmann against W.R. Grace and the Beatrice Corporation on behalf of the townspeople of Woburn, Massachusetts. The movie will show his battle and the results, both personally and with relation to the case.

The movie features not only John Travolta, but Robert Duvall, Kathleen Quinlan, John Lithgow, Kathy Bates, William Macy, and a host of other familiar faces. It was directed by Stephen Zaillian, known for his movie, *Searching for Bobby Fischer*. The film was produced by Robert Redford and Scott Rubin.

A little touch of drama, a bit of what we, as consultants, take as everyday realities. But if your friends and family don't know what it is you do all day (and half the night, and weekends!), this is a chance to clue them in.



✹ CONTRIBUTIONS TO THIS MONTH'S CNYAPG NEWSLETTER WERE MADE BY:
Vita DeMarchi Jon. S. Fox
Gerry Gould
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CNYAPG CALENDAR

January 14, 1999

CNYAPG and ASCE join to welcome Kevin Bernstein, Esq., with Bond, Schoeneck & King, to discuss the professional working relationship between geologists, engineers, and attorneys. Dr. Bill Kelly, president of the New York State Council of Professional Geologists (NYSCPG) will give an overview of professional geologist licensing status. See meeting details below.

February 12, 1999

CNYAPG will host a ***Geology Student Poster Session*** (location to be announced). Meg Harris is coordinating with regional colleges and universities to bring up-and-coming geologists for the opportunity to meet and mingle with CNYAPG professionals. Dr. Bill Kappel of the USGS will give an update on Tully's Bear Mountain Study and set forth an offer to be involved (as a volunteer) in future research. **We need more students! All willing participants are welcome, including recent graduates with thesis presentations ready to go! Call Meg Harris or Chris Grachowski for more info.**

March 11, 1999

CNYAPG will host a series of short technical presentations. The prospective agenda includes "Practical Considerations for Well Design, Installation, and Development," by Bill Morrow of Parratt-Wolff, Inc., and a new method in PCB, dioxin, and PAH screening techniques by Columbia Analytical Services, Inc.

March 21 - 25, 1999

Contaminated Site Remediation Conference, "Challenges Posed by Urban & Industrial Contaminants," Fremantle, Western Australia; organized by the Centre for Groundwater Studies. When you can only attend one conference per year, go for it! For more information about it, find their Web site ***http://www.clw.csiro.au/CGS/conferences*** or call **+61-8-9257-2088**.

April 8, 1999

Members of CNYAPG have voiced an interest in an update on **Onondaga Lake**. We are coordinating speakers to accommodate this request. Tentatively, the evening will include a viewing of a slide show produced by Atlantic States Legal Foundation to generate new excitement about the lake's future and trace the history that created one of the most polluted bodies of water in the U.S.

May 1999

CNYAPG Walking Tour with Mr. Bob Preyer of the MOST. Tour downtown Syracuse, reflecting on the geologic origins of local building materials and stone work. The tour will conclude with dinner and end-of-year party at a downtown pub location.

Directions to the Marriott at Carrier Circle

CUT & PASTE MAP HERE

January CNYAPG & ASCE Joint Meeting: Offering a private-party cash bar starting at **6:00 PM through 7:30**. Dinner starts at **6:30 PM**, and includes several salads, chicken Marsala with brown mushroom gravy, pasta Primavera, veggies, potatoes, etc. Our speaker will take the podium at **7:30 PM**.. The cost is $22 in advance, **$24** at the door, and **$18** for students. We need reservations early to help with planning. ***Please call Buck Gabriel at (315) 437-6100, ext. 2656, by January 8th.***

The Board Members would like to thank all of the corporate and individual supporters of CNYAPG throughout the past year. We would like to encourage you to continue your pledge of support throughout the upcoming year. Contact Steve Crook at (315) 437-1429 or (518) 827-5720 details.

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CNYAPG MISSION STATEMENT

The CNYAPG was founded in 1993 to strengthen and advance the geologic sciences as a profession and to provide an open forum for the exchange of ideas; to promote the protection of public welfare through the professional practice of geologic sciences; to inspire and maintain the highest standards of professional conduct, business ethics, and personal honor of the membership; to foster the spirit of scientific research throughout the membership; to publish and otherwise disseminate information related to the geologic sciences and associated technologies; to maintain and encourage intra- and inter-association activities, to enhance the association's programs, and to encourage the affiliation of individual members with other scientific and technical organizations.