

SPHERES OF INFLUENCE

A QUARTERLY NEWSLETTER FOR DEG – FEBRUARY 2013

Issue 1 of the *Spheres of Influence*

By Tom J. Temples, DEG President 2012-2013

The leadership of DEG hopes you find this issue of *Spheres of Influence* informative and interesting. This issue includes a book review, a “Rant” dealing with the Scientific Method by Krisin Carter, our Editor-in-chief, and our other regular features .



The countdown has begun to the ACE meeting in Pittsburgh, May 2013. There will be several sessions of interest to DEG members there. This is also the 20th anniversary of the founding of DEG. We would like to have as many of the charter members as possible attend the ACE in Pittsburgh. Also, please encourage your fellow AAPG members to join DEG. We believe that being a member of DEG can enhance your career and make you more aware of the environmental issues surrounding our industry.

I want to encourage all members to make the *Spheres of Influence* “yours” by submitting articles or photos for it. We are always looking for new “Rants” on topics of interest to DEG members and the geosciences community in general. Please let us know if there are subjects that you would like to see covered in future issues of *Spheres of Influence*.

From the Editor-In-Chief’s Desk

Kristin M. Carter, P.G.

Our Spring 2013 issue of *Environmental Geosciences* will be distributed within the next couple weeks, and I am pleased to say that we’re featuring two very detailed and unique pieces of research. The first offering, from Timothy Considine and others, analyzes environmental compliance with respect to the Marcellus shale gas play using publicly available records garnered from the Pennsylvania Department of Environmental Protection. Our second paper, by Olusoga Akintunde and others, explores deep structure beneath coastal plain sediments in Southeast Georgia with seismic techniques, the intent of which is to better assess geologic CO2 sequestration opportunities in the South Georgia Rift basin.

Division of Environmental Geosciences Mission Statement and Purpose:

- EDUCATING the membership of AAPG and the general public about important issues that affect petroleum energy minerals exploration and production.
- **COMMUNICATING** to the general public and government agencies the Association’s commitment to protect the environment while developing the world’s natural resources in a responsible manner.
- **APPLYING** the expertise developed in the petroleum/energy minerals industries and hydrogeology to resolve environmental problems.
- **PROMOTING** environmental self-regulation within the petroleum/energy minerals industries.
- **PROVIDING** relevant educational opportunities and services for professional development of the AAPG membership through seminars and conferences in environmental geosciences, hydrogeology, and related fields.



SPHERES OF INFLUENCE

Book Review

Environment, Media, and Communication by Anders Hansen

This textbook serves as a guide for those working closely with media in various capacities, including interviews, press releases, ongoing messaging to the public, public outreach, and damage control scenarios. The book provides theoretical approaches and models, as well as case studies and examples of environmental issues involving television, film, advertising, newspaper, and books. Hansen provides tools to deconstruct situations in order to identify the key components of an environmental situation and develop a messaging strategy or framework in a way that addresses the situation at hand, while communicating the message that you are intending to deliver. This strategy includes predicting the timing and content of public and media response and how to manage that response when it is not in agreement with the original messaging.



The book provides a history of media and communication's involvement with environmental issues, and particularly the central role that media and communication play in environmental debate. Of particular interest is Hansen's discussion of "agenda setting," which he defines as "the power of the news media to influence public perception of the relative prominence and importance of different event, issues, and actors/agencies."

Two key components to Hansen's framework are balancing a constructionist approach with content analysis. The constructionist approach is used to identify rhetoric and claims-making, in which the analyst focuses on the social aspects of communication - the process of messaging, the mass media response, and the claims-making that will ensue (regardless of content validity). This aspect of the framework is balanced by content analysis, a "systematic and quantitative method for analyzing media content," in which the analyst establishes validity in news reporting.

Perhaps one of the most useful aspects of the book is Hansen's discussion of the key tasks of the claims-maker in environmental issue reporting: commanding attention, claiming legitimacy and invoking action. Hansen breaks these tasks into five components: a) timing with respect to the environmental issue, b) intelligence gathering for provision to news media, c) latching onto issues or highly visible people, and d) alliance with science (or the perception of an alliance with science). These aspects can be used as a guide for environmental situation framework building and message strategizing.

This book, while focusing on the theory of media aspects of environmental issue communication, provides a foundation for understanding how media has shaped and changed the public view of the environment, and how to manage the power of media in environmental messaging. In some cases, one can get lucky and avoid claims-making, false messaging, or exaggerated claims. But I prefer the notion that luck favors a prepared mind, and this book aids in the preparation for messaging, particularly in prepping oneself with the tasks of the claims-makers in order to predict and hopefully prevent false messaging and exaggerated claims.

New to DEG website:

Shale Gas Highlights

**A compilation of articles, papers,
proceedings and datasets**

deg.aapg.org/ShaleGas.aspx

Danielle Deemer, Talisman Energy USA

The Rant

Good Science and the Scientific Method

Kristin Carter, Pennsylvania Geological Survey

I recently attended a national meeting of geologists, and to be perfectly honest, I found myself asking the question, “Do people even know what the scientific method is anymore?”

As I sat in the audience during many technical sessions, I watched researchers present findings from various geologic- and hydrogeologic-based studies. The only problem was that many of them didn't seem to be practicing good science. Something was missing, but what? In my mind, good science includes three key components:

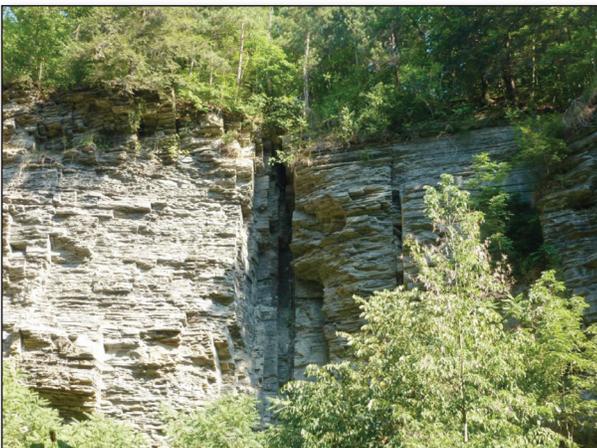
(1) It follows the scientific method

If you took a trip in the WABAC machine (yes, I'm a Rocky and Bullwinkle fan) to your grade school science class, I hope you would remember learning about the scientific method – you know, that stepwise progression of scientific inquiry, where you start with a question and systematically formulate and test hypotheses using experiments to come to some sort of conclusion. Depending on who you ask, the scientific method can include anywhere from four to six steps, but the important thing about it is that it allows you to conduct a fair evaluation of a problem or phenomenon using verifiable observation and reasoning. You ask a question, do some background reading, make some observations, and then develop a hypothesis that gets tested through experimentation. At the end of the day, you have collected a set of data from which you can draw a conclusion, and communicate your findings to the scientific community. Good conclusions are always supported by factual, concrete evidence, and in professional circles, those findings have even more credence when subjected to appropriate peer review.

Beauty in Geology

Watkins Glen State Park, Watkins Glen, New York

Anonymous submission by an AAPG member



Prominent jointing and fracturing in Devonian age strata.

(2) It is based on data collected by the researcher

In other words, scientists should be exploring problems by gathering new and unique data they collect themselves, not exclusively using data collected elsewhere. To be sure, research can build on pre-existing scientific data, but only so long as the researcher has verified its credibility, confirmed its applicability to their work, and properly cited the source (There's never any room for plagiarism in the scientific community!). So, whether you're starting at ground level with a research project that has no data on which to build, or working on a long-standing research effort that has yet to answer the desired question, the only way to ensure that you have adequately taken responsibility for your work is to collect your own data and augment it, as necessary, with existing, credible data sets.

(3) It is not predetermining

A real scientist (whether a geologist, biologist, chemist, physicist, ecologist or astronomer) has no preconceived notions about the outcome of the experimental process, nor does he or she have a required outcome. If you do, I suspect your motivation is not really the advancement of science.

Good science, including the scientific method, is objective and fact-based. It is not guided by financial gain, politics, or notoriety. If you call yourself a scientist, as I do, then remember that we owe it to our namesake to follow the scientific method.



What started out as a Devonian sea floor is now a scenic area of gorges formed by glaciers approximately 10,000 years ago.

The Good, The Bad, and The Ugly

This issue, we've focused on the topic of oil sands. Enjoy the latest internet-based information regarding oil sand development.

Links of Interest

<http://www.ogj.com/articles/2013/01/ihs-us-still-needs-supply-from-canadian-oil-sands.html?cmpid=EnlDailyJanuary152013>

An article from Oil & Gas journal regarding the United State's need for oil sand from Canada, regardless of the shale gas boom within the states. The article states that even with "tight oil" development at home, the volume is only enough to meet 1/3 of the US's oil needs by the end of the decade.

<http://www.oilsands.alberta.ca/>

A "one-stop shop" website by the Government of Alberta, Canada regarding information on the oil sands from environmental impacts to economic impacts and responsible actions. The website is self-proclaimed as a "tell it like it is" site with the real story behind Alberta's oil sands.

http://www.nytimes.com/2013/01/13/world/americas/oil-sand-industry-in-canada-tied-to-higher-carcinogen-level.html?ref=oilsands&_r=0

An article from the New York Times in which the Canadian oil sands are blamed for higher carcinogen concentrations in lakes near development sites. The article details a study performed by the Canadian government to outline the historical record of contamination in layers of sediment dating back 50 years. The study found that while the ponds are not "poisonous", the trend is dim.

<http://dirtyoilsands.org/>

A website that aims at "uncovering the Canadian oil sands disaster". The website includes new articles, blog entries, and other publications discussing the detrimental effects of the Canadian oil sand and offering a common meeting place for those lobbying against it. The website also boasts a Facebook page and Twitter feed.

<http://www.greenpeace.org/canada/en/campaigns/Energy/tarsands/>

A website put together by Greenpeace Canada which calls for oil companies and the Canadian government to put a stop on oil sands development. The website explains that Greenpeace's methods include "pressuring governments, educating shareholders, and working with impacted communities. The website features blogs, news stories, and other multimedia as well as donation options and email alerts.

<http://uofa-oilsands-delegation.org/>

The Oil Sand Delegation is a non-partisan biased student group from the University of Alberta that is focused on unraveling the complex issues surrounding oil sand development. The group has its own constitution which is committing to educating students through field trips around the region to the impacts of oil sand development. Trip descriptions, galleries, primers, and reports can all be found on the website.

<https://www.facebook.com/TarSandsBlockade>

A Facebook page dedicated to the "sustained non-violent civil disobedience" to stop Canadian tar sand expansion. The page features videos and photos of blockaders along with some other blogs and new stories. The pages currently have over 21,000 "Likes".

We welcome your articles, comments and feedback for this quarterly Newsletter publication.

Kristin Carter, DEG Editor-In-Chief

Submissions deadline for 2nd Quarter Issue: April 1), 2013

Submit to ddeemer@talismanusa.com



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