geLOGIC NEWS

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Quarterly Newsletter - Q2, 2012

CHAIRMAN'S CORNER

by Daniel J. Tearpock, Chairman/CEO

"Domestic Natural Gas: Why are we sitting on our hands?"

An interesting question, but what does it mean? For years now, each president of the United States has talked about petroleum independence from foreign sources of mainly oil. Back in the 1970's those of us who were alive during the OPEC boycott remember long lines for gasoline all across the country. Since then, president after president has said we must become free from the chains of overseas suppliers of oil and gas and stop sending our dollars overseas. In November 2011 it was reported that "We the People" of the United States are sending over $300 billion dollars overseas to feed our petroleum needs.

As I emphasized in my last column entitled, "The Age of Petroleum is Over" (Chairman's Corner, *GeoLOGIC 1st Quarter 2012*), over 6,000 products use oil in their production. Out of a barrel of crude oil, only about ½ of the barrel is used for gasoline - the rest of the oil goes into making these other products. So we are going to need oil for a long time to come. However, there is another side to this energy equation, and that is natural gas. In the early- to mid-part of the 20th century, gas was considered a nuisance when exploring for crude oil. It was basically useless, so everyone thought. But as time went on, people found numerous uses for natural gas.

About 20 years ago, while on a trip to Southeast Asia, I discovered a strange looking container in the trunk of a taxi cab. I asked the cab driver what it was. He informed me that it was a natural gas tank and that his car ran on natural gas. "How ingenious," I thought, "I'm sure this will catch on in the United States since we are strapped for oil to convert to gasoline." Well, I was wrong.

(***Chairman's Corner*** *continued on page 2*)

About SCA and geoLOGIC

SCA is a worldwide petroleum industry leader in professional consultancy and advanced training services. From major synergistic field studies to sequence stratigraphy, from property evaluations to prospect reviews, our staff of geologists, geophysicists, and engineers have the expertise and experience to provide you with the very best consulting and training services available. Since 1988, we have helped our clients discover billions of barrels of oil and train for the challenges of the new millennium. We are proud to serve you and hope you enjoy reading geoLOGIC. For more information on SCA, please contact us today. Visit our website http://www.scacompanies.com/

Inside geoLOGIC News

Pore and Microfabric Studies of Unconventional Resource Shales

Roger M. Slatt[1] and Neal R. O'Brien[2]

[1] Institute of Reservoir Characterization, University of Oklahoma, Norman, OK
[2] State University of New York , College at Potsdam, Potsdam NY

Note from the editor: The following article was contributed by Roger M. Slatt, Ph.D. , a member of SCA's teaching faculty and the Gungoll Family Chair Professor in Petroleum Geology & Geophysics and Director of the Institute of Reservoir Characterization in the Sarkeys Energy Center at the University of Oklahoma. Dr. Slatt's next public classes with SCA are scheduled for August 2012: "Applied Sequence Stratigraphy of Clastic Rocks and Reservoirs", followed by "Petroleum Geology of Deepwater Depositional Systems". Dr. Slatt is also a member of the teaching team for SCA's Geoscience Boot Camp.

With the recent revelation of vast global hydrocarbon resources in shales, considerable new research has given us a quantum leap in understanding their origins and characteristics, particularly with applicability to drilling and production of gas and liquid hydrocarbons. Microfabrics and porosity in shales have emerged as a significant research focus because these characteristics affect hydrocarbon storage, migration, and shale's ability to be artificially fractured.

We are also just learning that traditional analytical techniques for measuring rock properties of sandstone and carbonate reservoirs may not be well suited for shales owing to the latter's fine grain size, composition, pore network and fabric. One relatively new technique (to shale studies) that has been widely accepted in the last few years is the observation of shale features using high resolution scanning electron microscopy (field emission Scanning Electron Microscopy or FESEM) of ultra-smooth, Ar-ion milled surfaces of shale samples. Of particular note and popularity has been the identification of micro- and nano-sized pores within organic matter lodged between or bonded to mineral grains (Loucks and Rupple, 2007; Loucks et al., 2009) (Fig. 1). This dual procedure of continuous milling while simultaneously photographing the milled surface provides a 3D block of very small pieces of shale, in much the same manner as a 3D seismic data set allows visualization at any orientation within the seismic volume. Sequential milling and photographing to acquire a 3D image has become a routine and big business provided by service companies or internally within company analytical facilities. Although the Ar-ion milled surfaces show excellent images of porous organic matter, little else is often visible on the ultra-smooth surface. This fact has not drawn much attention among viewers because 'organopores' have been considered by some to be the only significant pore type for storage of hydrocarbon molecules.

At perhaps the other end of the analytical spectrum is the use of more conventional (i.e. traditional) SEM or FESEM of carefully broken, fresh surfaces of shales; this technique has been used and perfected for many years (Slatt and O'Brien, 1990).

(***Chronosequence Stratigraphy*** *continued on page 2*)

(***Pore and Microfabric Studies...*** *- continuation from page 1)*

Broken shale surfaces reveal a multitude of pore types, some of which we feel can be more significant in storage, transport, and fracability of shales than are the 'organopores'. These pores occur associated with floccules, fecal pellets and fossil remains, as well as microchannels and microfractures that run through the shale (Fig. 1). It has been argued by some that a freshly broken shale surface suffers from collapse of grains and/or dislodging of grains to create 'pseudo pores', however such pores can be readily identified by the trained analyst.

Why these pore types shown in Figure 1 are not readily visible on milled shale surfaces is not known at the moment, though the occurrence of faint grooves on some milled surfaces suggests the milling process may shear the surface and/or collapse the pores, particularly those associated with floccules. Organic matter tends to be more elastic and could perhaps more readily survive the milling process.

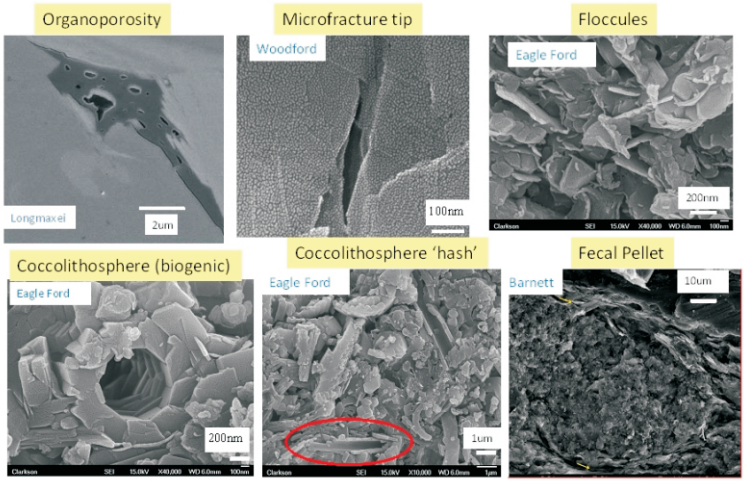

Figure 1. Representative pore types in shales. Milled surface with organoporosity figure provided by S. Ruppel.

Shale research clearly fits the age-old cliché, “more work is needed”. This seems to be particularly true for shale microfabric and pore network studies if we are to become certain that what we observe and measure under the SEM/FESEM represents the natural features of the shales in the subsurface.

References:

Loucks, R. G., and S. C. Ruppel, 2007, Mississippian Barnett Shale: Lithofacies and depositional setting of a deep-water shale-gas succession in the Fort Worth Basin, Texas: AAPG Bulletin, v. 92, p. 579-601.

Loucks, R. G., R. M. Reed, S. C. Ruppel, and D. M. Jarvie, 2009, Morphology, genesis, and distribution of nanometer-scale pores in silicious mudstones of the Mississippian Barnett Shale: Journal of Sedimentary Research, v. 79, p. 848-861.

O'Brien, N. R., and R. M. Slatt, 1990, Argillaceous rock atlas: New York, Springer-Verlag, 141 p.

Slatt, R.M. and N.R. O'Brien, 2011, Pore types in the Barnett and Woodford gas shales: contribution to understanding gas storage and migration pathways in fine-grained rocks. AAPG Bulletin, v. 96, p. 1-14.

CHAIRMAN’S CORNER continued

Here we are 20 years later and very few vehicles in the United States run on natural gas. What happened to all those promises that our past presidents have made about petroleum independence? Democrat or Republican, they have failed to take advantage of this abundant resource.

The British were the first to commercialize natural gas, initially for smaller scale and more limited uses than are common today. Around 1785, natural gas was used to light houses and streetlights. The United States was not far behind. In 1829 Fredonia, Pennsylvania used natural gas to light street lamps. And the natural gas used for lighting these street lamps came from the Marcellus shale, later unlocked by Range Resources in 2004 as a significant resource of natural gas from shale. What took so long for this sizable discovery to occur?

The Energy Information Administration (EIA) has estimated that there may be as much as 2,543 trillion cubic feet (Tcf) of technically recoverable natural gas in the United States from both conventional and unconventional (shale gas) sources. Historically, most of the resources have been in the Texas Gulf Coast, but now the onset of major shale gas plays like the Marcellus, places large resources in New York, Pennsylvania, Arkansas and Oklahoma. Some people have said that the United States is the OPEC of natural gas. I'm not sure I would go that far, but we do have a lot of gas. Consider that in 2010 the U.S. used 24.1TCF. If we divide that by the reserves number of 2,543 TCF, the United States would have over 100 years of reserves of natural gas at current consumption rates.

So where is the push by the United States government and private industry to take advantage of this large supply of domestically available energy? Wind has no future potential and neither does solar. Imagine running your car on solar or wind energy; how would one do it? Considering the residential, commercial, industrial, transportation, and electric generation uses associated with natural gas, and its abundant supply, both the government and private industry should be moving at light speed to bring natural gas to everyday use. In residential, there is home heating and cooking, natural gas-powered air conditioning, and appliances to name a few. Commercial uses include natural gas space and water-heating for commercial buildings. Industrially, natural gas can provide the base ingredients for plastics, fertilizer, anti-freeze and fabrics. In transportation, the United States is far behind the rest of the world in developing vehicles, including trucks, buses, and cars that can run on natural gas. We currently have about 150,000 natural gas powered vehicles, while the rest of the world has over 5,000,000.

So “Where Has All The Natural Gas Gone?” One aspect of natural gas is finding and developing the fuel source, the other is selling it for use. In order to sell a product, a company needs to make a profit. Figure 1 shows the price of natural gas per mmbtu from 2007 to this past month. Natural gas is currently selling for about $2.00/mmbtu. That is not enough money to keep an oil and gas company profitable at a margin that allows them to stay in business. Look how the price has dropped since 2007, ignoring the spike in early 2008. The relatively warm winter has seriously hurt the sales of natural gas, and in turn hurt the producers.

(***Chairman’s Corner*** *continued on page 5*)

Division of Professional (DPA) Affairs Honors Daniel J. Tearpock, Chairman/CEO of SCA


DanTearpock with Marty Hewitt

(Houston, TX, USA) Daniel J. Tearpock, Chairman/CEO of Subsurface Consultants & Associates, LLC (SCA), was recently honored by the AAPG **Division of Professional Affairs** as the latest recipient of the *Heritage Award*. The announcement was made at an awards luncheon February 29, 2012 at Del Frisco's Restaurant in Houston, Texas. The DPA Heritage Award honors an individual in the oil and gas industry who is generally known for substantial industry contributions, including significant discoveries, business accomplishments, and/or work in academia and publishing. Awardees are selected based on having built a reputation for success in the industry, and having taken a proactive role in passing on their knowledge and experiences to the next generation.

The Heritage Award was first given to Michael T. Halbouty (deceased) in 2004. Other past recipients include such industry luminaries as Robert D. Gunn (2005), William L. Fisher (2006), M. Ray Thomasson (2008), and John J. Amoruso (2009). This year's award was based in large part on the achievements of the company founded by Mr. Tearpock in 1988, Subsurface Consultants & Associates, LLC (SCA). SCA's record of industry success includes consulting assignments with over 350 companies across the world resulting in the discovery and/or development of over six billion barrels of oil equivalent. SCA has also trained tens of thousands of students in a wide variety of upstream course offerings. Further signaling his commitment to training and education, Mr. Tearpock's numerous articles and published works, including *Applied Subsurface Geological Mapping* (1991), *Applied Subsurface Geological Mapping with Structural Methods* (2003), and *Quick Look Techniques for Prospect Evaluation* (1994), are widely-used and respected industry references.

Upon bestowing the 2012 Heritage Award, current DPA President Marty Hewitt remarked, “Your business not only with SCA, but your leadership with the DPA and AAPG has taken this award to a whole new level.”

Reflecting on this honor, Mr. Tearpock commented to the assembly, “One of my goals was to do something significant for the world. At first I thought I could find that billion barrel field, or find some new energy technology to help people…It ended up being training and consulting. We're now at over 23,000 people that we've trained, and the people we've trained are all over the world finding oil and gas. Our consulting company has helped people find and develop over 6 billion barrels of oil equivalent. So in a roundabout way, I was able to accomplish what I set out to accomplish in life…I could not find a better group of friends and associates than I have found working in the oil and gas industry.”

More about Daniel J. Tearpock:

As a working geoscientist, Mr. Tearpock has generated numerous exploration and exploitation prospects, either as the sole generator or as part of an organized multidisciplinary team. Mr. Tearpock was a finalist in 1996 and 1998 for the Ernst & Young Entrepreneur of the Year program and in 1998 received the Distinguished Service Award from Bloomsburg University, Bloomsburg, PA. He holds a Bachelor's degree in Geology from Bloomsburg University, 1970; and a Masters in Geology from Temple University, 1977. He is a (AAPG/DPA) Certified Petroleum Geologist No. 4114, State of Texas Licensed Geologist No. 2660 and (SIPES) Certified Earth Scientist No. 3015.

Mr. Tearpock is a member of numerous associations including the AAPG, SPE, SIPES, SEG, GSA, HGS, EAGE, NOGS, LGS, IPA, SEAPEX & PESGB. He is the past President of the AAPG's Division of Professional Affairs (2011-2012). He is a founding member and current Chairman (2011-2012) of the intersociety “Joint Committee on Reserves Evaluator Training” (JCORET). The member societies represented on JCORET include the AAPG, SPE, SPEE, SEG and WPC.

To view a video of the DPA Heritage award presentation, please visit SCA's Upstream Petroleum YouTube Channel.

The People of SCA

Meet Bob “Clasticman” Shoup

SCA welcomes Robert “Bob” Shoup to our consulting division ,in addition to his role as a member of SCA ‘s training faculty .Bob is a Board Certified Petroleum Geologist with over 30 years of experience in oil and gas exploration, including basin analysis, regional studies, new play generation, prospect evaluation, field studies and development planning, drilling operations, and project management. Bob began his career at Shell Oil in 1980; followed by four years working for private oil companies before becoming an independent consultant in 2003. Headquartered in Kuala Lumpur Malaysia, Bob is currently consulting in the Asia Pacific region, working Thailand, Malaysia ,Viet Nam ,Australia and New Zealand .Over the course of his career Bob has discovered or helped to discover over 100 MMBOE with an exploration success rate of 46%. Bob and SCA ‘s CEO Dan Tearpock, longtime friends and colleagues, plan to leverage their combined expertise and Bob ‘s extensive network in SE Asia to grow SCA ‘s presence in that region.

Bob is a recognized expert in clastic depositional environments, syndepositional structural systems and salt tectonics ,and in rift basins .In 1994 he was a nominee for the Pulitzer Prize in drama for his play *Second Alarm* .

Bob is an active contributor in the professional community .He is a Past President of the Bangkok Chapter of the South East Asia Petroleum Exploration Society and AAPG ‘s Division of Professional Affairs, and past Secretary-Editor of the AAPG House of Delegates. He has served on numerous AAPG Committees and was Chairman of AAPG's Mentor ,Membership and Student Chapter Committees .He is a recipient of AAPG Certificates of Merit in 1990, 1991, and 1998; AAPG’s Distinguished Service Award in 2000, the DPA ‘s Distinguished Service Award in 2008 ,and DPA ‘s Honorary Life Member in 2010. He currently serves as an ethics lecturer for the DPA .

In March, Bob presented SCA ‘s first ever “Applied Problems in Interpreting Clastic Depositional Systems ”course to much success at our Houston, TX training facility. The course is scheduled to be repeated in Perth, Australia this coming December 10-14, and is available to bring in-house on demand. Bob is also slated to teach upcoming sessions of one of SCA ‘s most popular courses: Applied Subsurface Geological Mapping, as well as other courses on the SCA training schedule. See SCA ‘s 2012 Training Calendar for more details .

Word Scramble

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SCA UPSTREAM TRAINING

SCA FEATURED INSTRUCTOR: ROGER M. SLATT, Ph. D.

SCA's Training Department is proud to have Dr. Roger Slatt as one of our instructors for over 11 years. Dr. Slatt's courses are always well received by our clients and include; Sequence Stratigraphy of Clastic Rocks and Reservoirs, Reservoir Characterization of Clastic (Sandstone) Reservoirs and Petroleum Geology of Deepwater (Turbidite) Depositional Systems.

Dr. Slatt is the Director of the School of Geology and Geophysics at the University of Oklahoma. He formerly was Head of the Department of Geology and Geological Engineering at Colorado School of Mines (1992-2000) and Director of the Rocky Mountain Region Petroleum Technology Transfer Council (1995-2000). After receiving his Ph.D. in 1970 from the University of Alaska, he taught geology for 8 years at Memorial University of Newfoundland and Arizona State University. He then spent 14 years in the petroleum industry with Cities Service Research, ARCO Research, and ARCO International Oil and Gas Co. before joining the Colorado School of Mines in 1992.

Dr. Slatt's Course: *Sequence Stratigraphy of Clastic Rock/Reservoirs*
August 2011 - SCA's Geoscience Boot Camp

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OBTAIN YOUR CEU'S WITH SCA

SCA is certified by the International Associate for Continuing Education and Training (IACET) to award Continuing Education Units (CEU's) for it's entire line-up of training courses.

Professionals who are required to obtain CEU's or Professional Development Hours (PDH's) to maintain their state, federal or society licensing, registration or certification, can now fulfill their requirements by attending SCA training courses. One (1) CEU is equal to ten (10) Professional Contact or Development Hours.

For more information, contact our Training Department today at +1.713.789.2444.

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2012 UPCOMING TRAINING COURSES

AVO, Inversion and Attributes: Principles & Applications - **NEW**
June 11 - 15, 2012
(Houston, TX - 5 day course) - instructor Dr. J. Willis

Dipmeter and Image Log Applications & Interpretations - **NEW**
June 18 - 22, 2012
(Houston, TX - 5 day course) - instructor Dr. J. Willis

Applied Subsurface Geological Mapping
June 25 - 29, 2012
(Kuala Lumpur - 5 day course) - instructor Mr. B. Shoup

Quality Control for Subsurface Maps (QLT's)
July 9 - 11, 2012
(Houston, TX - 3 day course) - instructor Mr. J. Brewton

Applied Subsurface Geological Mapping
July 16 - 20, 2012
(Houston, TX - 5 day course) - instructor Mr. S. Agah

Basic Petroleum Geology
July 23 - 27, 2012
(Houston, TX - 5 day course) instructor Dr. J. Willis

Depositional Evolution of the Gulf of Mexico - **NEW**
August 6 - 7, 2012
(Houston, TX - 2 day course) instructor Dr. J. Snedden

Drilling Basics for the Geoscientist - **NEW**
August 6 - 9, 2012
(Houston, TX - 4 day course) instructor Mr. B. Siegel

GEOSCIENCE BOOT CAMP
August 13 - November 2, 2012
(Houston, TX - 12 week course) instructor - various

Applied Subsurface Geological Mapping
August 13 - 17, 2012
(Dallas, TX - 5 day course) - instructor Mr. J. Brewton

Applied Sequence Stratigraphy of Clastic Depositional Systems - **NEW**
August 13 - 17, 2012
(Houston, TX - 5 day course) instructor Dr. J. Snedden

Basics of the Petroleum Industry
August 18, 2012
(Houston, TX - 1 day course) instructor Mr. H. Miller

Structural Styles in Petroleum Exploration & Production
August 20 - 24, 2012
(Houston, TX - 5 day course) instructor Dr. S. Mitra

Practical Interpretation of Open Hole Logs
August 27 - 31, 2012
(Houston, TX - 5 day course) instructor Dr. R. Maute

Shale, CBM & Tight Oil & Gas Reservoirs
August 27 - 31, 2012
(Dallas, TX - 5 day course) - instructor Mr. C. Jenkins

Petroleum Geology of DW (Turbidite) Depositional Systems
August 27 - 31, 2012
(Dallas, TX - 5 day course) - instructor Dr. R. Slatt

Practical Seismic Exploration & Development
September 4 - 7, 2012
(Houston, TX - 4 day course) instructor Dr. J. Willis

Cased Hole and Production Log Evaluation
September 10 - 14, 2012
(Houston, TX - 5 day course) instructor Dr. J. Smolen

Applied Subsurface Geological Mapping
September 10 - 14, 2012
(Houston, TX - 5 day course) - instructor Mr. J. Brewton

Seismic Interpretation Workshop
September 17 - 19, 2012
(Houston, TX - 3 day course) - instructor Mr. A. Cherry

For a complete list of the 2012 public course schedule including course descriptions, target audience and dates available, please visit our website at www.scacompanies.com

A Glorified Business Card !

By: Mark Connor, SCA Recruiter

Drilling Engineers have a tendency to get straight to the point, and it was a Drilling Engineer who summarized the essence of a resume to me in 4 words – "A Glorified Business Card". A business card is a few square inches of space in which a professional is required to sum themselves up as concisely as possible, so what information makes it on there? Your name, job title, company and contact details. Nothing else makes the cut. A resume is intended to relate the same core information, albeit in a little more detail - but where a business card is an effective tool to use when making a new business contact, what is the real purpose of a resume?

One vital misconception regarding the role of a resume is that a resume will get you a job. In reality, your goal when writing a resume should be to get an INTERVIEW. Your success in a job search will hinge on your interview and a well written resume will get you that interview. With that in mind, resumes should contain enough information to catch attention and get you in front of a decision maker.

A second misconception regarding the resume is that it WILL be evaluated by the hiring manager. In reality, the resume will more than likely be assessed by at least three other people before it reaches the decision maker, and those other people are unlikely to be from a technical background. Consider the following scenarios.

- You are acquainted with the hiring manager and you send your resume directly to that person. In this case, the likelihood is that the manager will already be aware of your abilities and the resume acts merely as a formality.
- You deal with a specialized Recruiting/Consulting firm. These companies deal with Hiring Managers day in, day out and they have a deep understanding of the technical areas they handle. A Professional Recruiter may not be from a technical background, but they are able to look past "key words" and understand the nuances of your technical abilities and how they relate to their client's needs. A recommendation from a specialist Recruiter can be extremely effective in gaining an interview.
- You deal with a generalist staffing company that has international clientele but no true specialization. These companies often have access to every vacancy that their client has open, so they work on many unrelated job openings every day. The key word search becomes a factor in resume selection and an understanding of technical suitability becomes limited.
- You "apply online". Regularly described as "black holes", web portals do an excellent job of tracking applications but it is extremely difficult to influence the selection process.

So, considering the above scenarios, how should you approach resume preparation? It needs to appeal to different audiences. A resume should contain easily identifiable key words and a sufficiently simplistic breakdown of your job role to be understood by a Recruiter. However, it also needs to be detailed enough to inform a Hiring Manager that you are capable of performing the duties required. It requires a delicate balance but in order to be successful in a job search, your resume will need to convince more than just the Hiring Manager that you are the right person to call in for an interview.

CHAIRMAN'S CORNER continued

Natural gas needs a steady market and steady price in order to thrive. And at the present time, we have neither. Figure 2 shows the glut of gas in Texas storage from 2005 to 2012. Inventory is high and demand is low. *So the found and produced natural gas has gone into storage.*

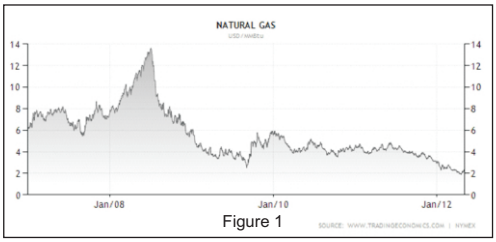

Figure 1

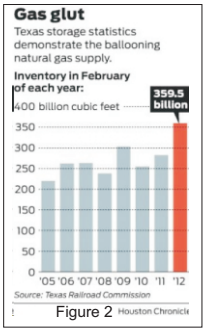

Figure 2

Aubrey McClendon, founder of Chesapeake Energy Corporation, had a dream: To find and develop natural gas resources in the United States so that we can become petroleum independent. As I understand it, he started Chesapeake with a $50,000 loan from his parents and has grown it into the second largest natural gas producer in the United States. I can say after seeing the natural gas tanks in cars 20 years ago in Asia, I too would have bet that the natural gas market would have rapidly grown in the United States. Aubrey's dream was right on the money. It is the rest of the United States, both government and private sector that has failed to seize this opportunity (*Carpe Diem*). I believe over the next few years if government actually does something, and private industry considers the advantages of natural gas, we will begin to develop a strong gas market in the United States and internationally. It will be the beginning of petroleum independence for the United States and other countries around the world that are rich in natural gas resources.

Chairman/CEO

Build Your Company with Top Geoscience and Engineering Professionals

By: Hal F. Miller, Sr. Vice President of Operations of SCA

As a global consulting company, we at SCA have the opportunity to see how companies effectively engage top candidates, and occasionally to see how our clients lose top candidates to their competitors. Based on our experience, here are some suggestions to hiring managers from the SCA Recruiting and Business Development Team on how to stand out when hiring new employees:

1. **Always be on the lookout for the best talent that fits your long term recruiting strategy, and be prepared to move quickly when a top candidate comes on the radar screen.** Highly qualified candidates don't need to advertise and don't stay on the market very long. Even if you need to adjust the position to fit the candidate, it is usually worth filling the position a few months early (or waiting a month or two) to get the best person for the job.
2. **When you offer the job, have a clear, concise job description that focuses on objectives, spells out the essential job requirements, terms, and location of the job, and is consistent with how the hiring manager described the job during the interview.** Don't change the job description, terms or location after it is offered; this makes your company look like you don't have a clear vision. Bait and switch does not make a good first impression on potential new employees.
3. **The interview process can play a key role in a candidate accepting or declining an opportunity.**
   - Include senior level managers in the interview process to reassure top candidates that your company is well run, to share long term corporate objectives straight from the decision makers, and to discuss organizational needs and corporate structure.
   - Include employees with similar skill and demographic backgrounds in the interview process to provide peer level perspective, help the candidate understand work expectations and corporate culture, and provide a real success story as an example of potential career development.
   - Set expectations up front on the timing and flow of the hiring process.
   - Multiple rounds of interviews can become counter-productive, with each additional interview possibly creating a feeling that the hiring company lacks decisiveness or commitment.
   - Prompt feedback, good or bad, leaves a positive impression vs. competitors who leave the candidate in limbo.
4. **Proven oil finders are not easy to find.** During the interview, focus on bringing in quality professionals with the skills and experience that you need. Don't get mired in less significant details like software skills (the learning curve for most quality software tools is relatively short), or the candidate having worked a particular field if there is experience in the same trend or play. Having worked the identical geographic area is beneficial, but broadening the requirements can bring in additional candidates with new perspective.

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5. **Your HR department can play a big role in making your company attractive**. Include your HR representatives and internal recruiters from the beginning of the search, making sure they are aligned with the importance of attracting top people and helping to make your company's paperwork and on-boarding processes easier. Understand their process for identifying and screening new candidates, such as internal and external job postings and recruiting agencies, and make sure that you can support their efforts.
6. **Be sure to exhaust your internal job posting options**. It is not uncommon for external hiring offers to be derailed at the last minute by an internal candidate popping up. This does not create a good impression on the candidate market.
7. **Ensure that your salary offer is competitive.** Good candidates will of course consider the entire offer package including their perception of corporate culture and the potential for new challenges and career progression, but a competitive salary and benefits package is a factor that cannot be downplayed. While it is important to live within your salary budget, it really doesn't make sense to haggle over a few thousand dollars in annual salary expectations with a person who can make (or save) your company millions of dollars.

At SCA we work closely with hiring managers to understand the critical aspects of the job, both in terms of technical skill requirements and also intangibles that relate to the work environment. Our objective is to target a few prime candidates that hit the mark so the job gets filled efficiently with minimal disruption to our clients. Once we turn the process over to you, following the simple guidelines above can go a long way to retaining top professionals through the final stages of hiring and onboarding, enabling you to effectively fill key roles in your organization.

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Geologists, Geophysicists and Engineers are in high demand...

Visit SCA's website to view our job postings or to submit your resume for either consulting or direct hire positions at www.scacompanies.com.

Subsurface Consultants & Associates, LLC. is a full service consultancy firm, providing experienced consultants to the petroleum industry. We employ the best people available, maintain state-of-the-art technology, and provide our clients a level of service unparalleled in the industry.

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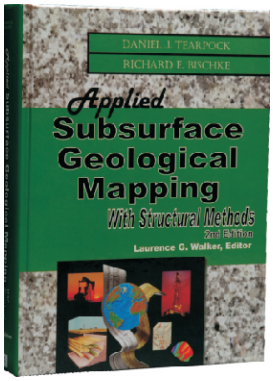
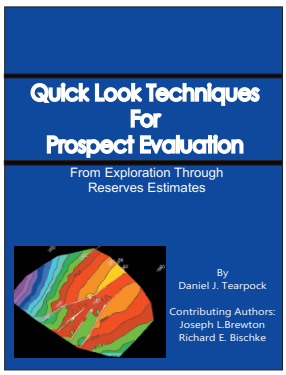


Applied Subsurface Geological Mapping with Structural Methods, 2nd Edition (2003), one of the most demanded and referenced texts on subsurface interpretation, mapping and structural geological methods is available from SCA, Prentice-Hall, various industry associations and internet bookstores around the world.

The 2nd edition of the highly demanded textbook: "Quick Look Techniques: From Prospect Evaluation Through Reserves Estimates", hit the market in 2007.



We Practice What We Teach

Publications can be purchased through our website

The People and Activies of SCA

SCA Q1 Safety Meeting

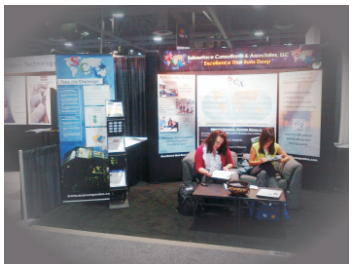
SCA's HR Generalist, Cathy Jankovic, met with employees on January 25th for 2012's first quarterly safety meeting.

The topic was Office Safety and covered the importance of practicing daily safety and security awareness both inside and outside the office. While most office safety tips such as avoiding slip and fall hazards and keeping exits clear may seem ridiculously obvious, the meeting was a good reminder that every work area holds some potential for illness or injury. Building and parking lot security, securing personal valuables, protecting personal and professional identity and network security were also covered. The meeting concluded with a fun game of Office Safety Bingo.

SCA Celebrated the following Employee Anniversaries

Month	Employee	Year Joined SCA
January:	Mary Atchison	2009 / 3 years
March:	Don Lanman	2004 / 8 years
April:	Paula Hebert	1991 / 21 years
	Cheryl Reynolds	2003 / 9 years
	Tim Riepe	2008 / 4 years

2012 AAPG Convention in Long Beach



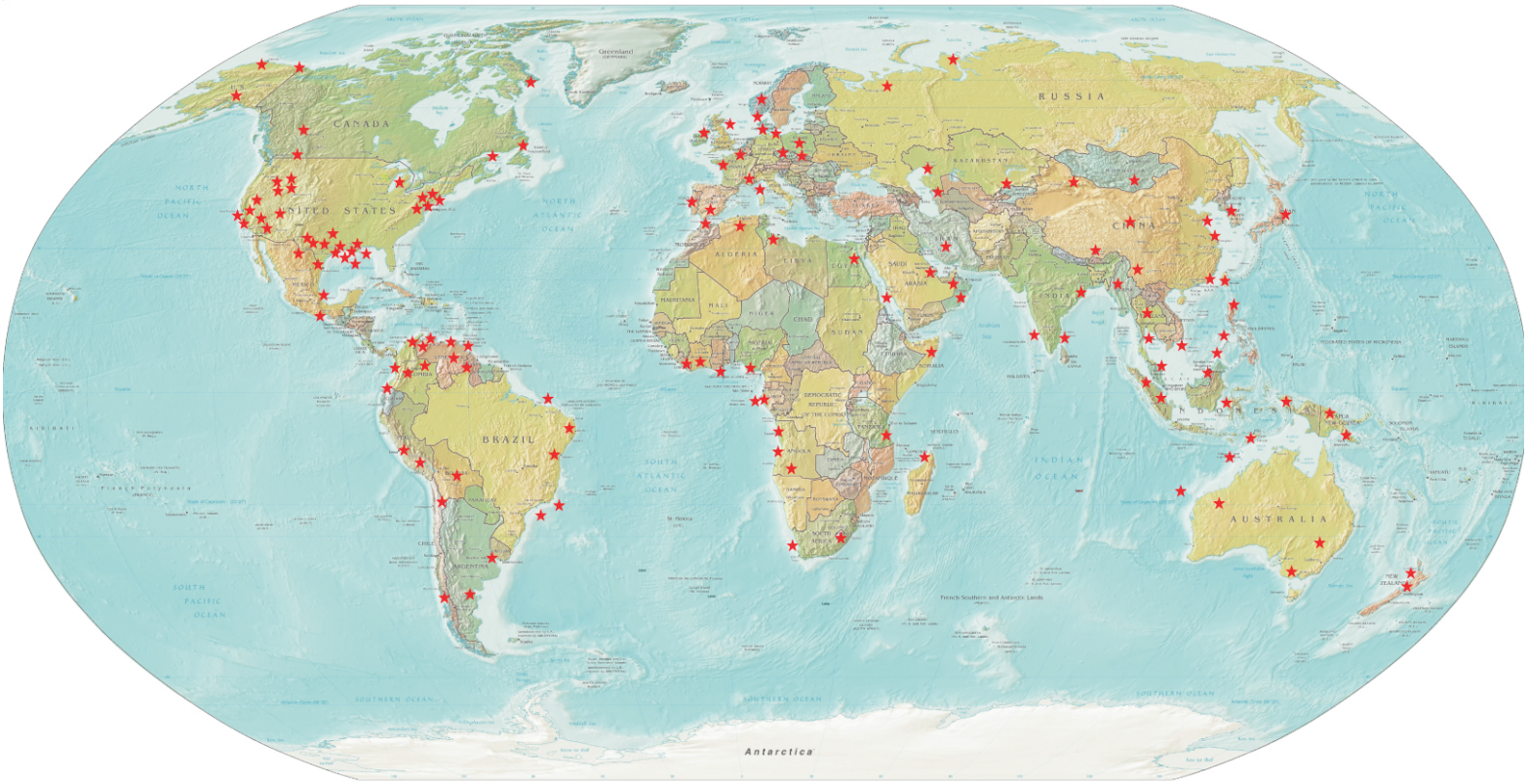
SCA was well represented at April's AAPG Annual Convention in Long Beach, CA. Hal Miller, Mary Atchison, Tim Riepe, Mark Nowak, and Bob Shoup were all in attendance at SCA's booth. SCA's "Play of the Day" mapping problem sparked a lot of interest, although only a few brave souls ventured to submit a solution. We congratulate Nikki Morris of Fire Wheel Energy, LLC on submitting the correct answers. As the winner, she has her choice of any of SCA's 5-day training courses at no cost.

Also on display were the Ten Habits of Highly Successful Oil Finders, recently featured on SCA's Upstream Petroleum Blog. Consider taking the time to review these yourself – they have been the basis of some interesting discussions and will be highlighted in depth over the next several months.

UPCOMING E&P INDUSTRY EVENTS

May 10 - 11, 2012	GTW - Unconventional Gas Shales in Poland: A Look at the Science	Warsaw, Poland
June 4 - 7, 2012	74th EAGE Conference & Exhibition incorporating SPE EUROPEC 2012	Copenhagen, Denmark
July 15 - 17, 2012	GTW - Unconventional Resources: New Ideas for Future Challenges in Brazil	Rio de Janeiro, Brazil
August 13 - 15	GTW - Hydraulic Fracturing: New Controversies and Key Plays	Golden, CO USA
September 16 - 19, 2012	AAPG 2012 International Conference & Exhibition	Singapore
October 8 - 10, 2012	SPE Annual Technical Conference and Exhibition	San Antonio, TX USA
December 3 - 5, 2012	Arctic Technology Conference 2012	Houston, TX USA
December 5 - 7, 2012	2012 International Petroleum Technology Conference (IPTC)	Bejing, China

SCA's CONSULTING AND TRAINING SERVICES



REACH AROUND THE WORLD !

SUBSURFACE CONSULTANTS & ASSOCIATES, LLC.
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To Be The Leader In Petroleum Consultancy And Training,
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THIS IS TO BE ACCOMPLISHED BY:

1. **Applying our proven philosophy for finding and developing oil and gas resources and reserves,**
2. **Creating an efficient work environment that is enjoyable for all,**
3. **Employing the best people available,**
4. **Maintaining state-of-the-art technology, and**
5. **Providing our clients the desired results they need.**

The results of our success are to provide social and financial benefits to our company, people, clients, industry and community.