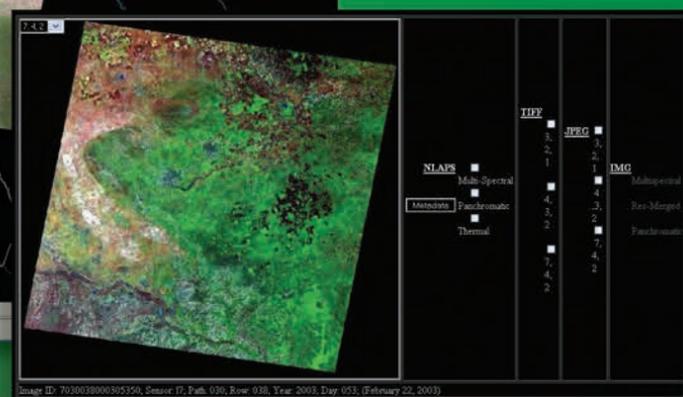
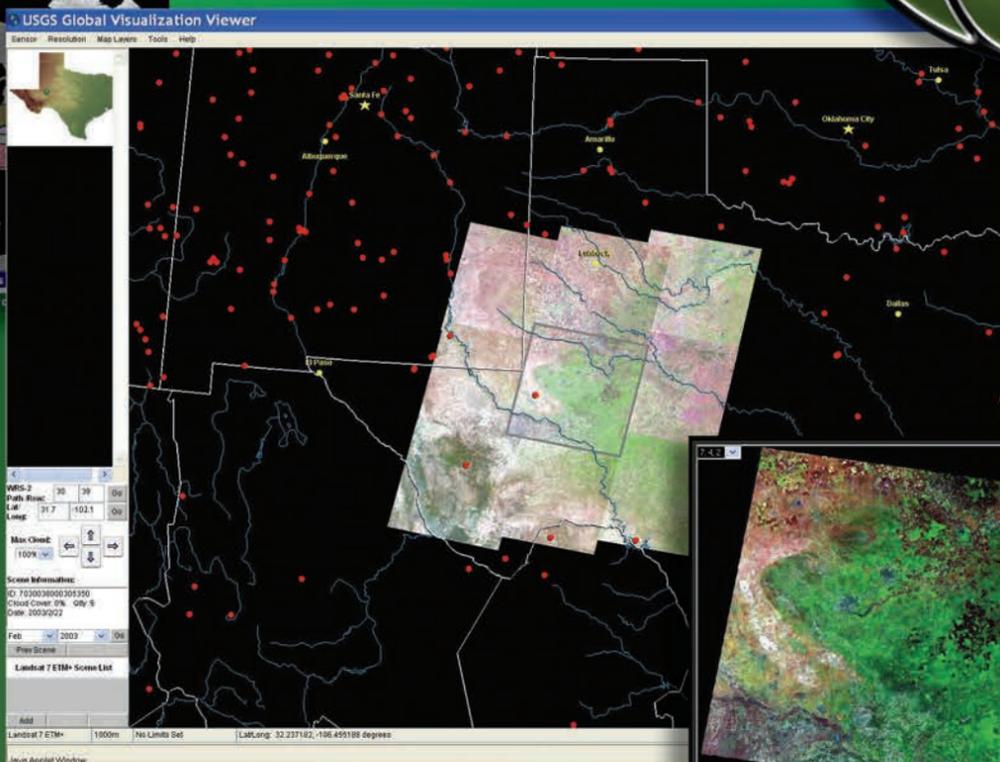


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On the cover: Experts agree that exploring and doing business in today's oil world demands innovative approaches to your work, whether it's in looking at new areas for hydrocarbons or looking at old areas in a new way. This month's EXPLORER takes a look at some of the innovative approaches and visions that already have surfaced – plus some hints at new potential. Cover photos include a view of drilling operations at the Coos Bay Basin in southwestern Oregon (top), plus some of the technology that is now available to everyone via the AmericaView program and network. Photos courtesy of Torrent Energy (top) and the AmericaView Web site.

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PRESIDENT'S COLUMN

'Lights of a New Era' Shine at Meetings

By PETER R. ROSE

Please picture what I witnessed over the last three weeks of September:

✓ Geologists and geophysicists from all over the world, listening attentively to the presentations of other geoscientists, discussing geotechnical problems and solutions, searching for the right words, waving their arms, pointing to maps, sharing and learning hard-won knowledge and insights.

✓ New connections established, new friendships made, new deals done.

✓ And AAPG, facilitating countless such exchanges, providing venues for the mutual benefit of the geoscience community, the E&P world – and long-term global energy supply.

That's what I experienced, from Sept. 10th through the 26th, in Paris, France; Morgantown, W.Va.; and Jackson, Wyo. Such events are one of AAPG's main functions, and our many dedicated volunteer members and hard-working staff employees carry these meetings off with skill and grace.

I am filled with pride for our profession, our Region and Section members and our Association. We are doing what we are supposed to be doing as professionals and as professional organizations.

* * *

Take it backwards:

□ The annual **Rocky Mountain Section** meeting in Jackson Hole, Sept. 24-26, ramrodded by Jerry Walker with much help, but especially from Donna Anderson, RMS president, and Sandra Mark, both from the Colorado School of Mines. More than 700 people showed up for two and a half days of excellent papers and posters.

Lots of smiling faces and palpable optimism – it's amazing how many new opportunities emerge when oil is \$60 a barrel!

* * *

□ Stopover on the way back from Paris – the annual meeting of the **Eastern Section** in Morgantown, W.Va., Sept. 17-20. Lee Avary ran a first-class meeting with help from a host of ES buddies, particularly Murray Matson, ES president, and Pete McKenzie, president-elect.

Two and a half days of great papers

and posters, fellowship and fun – and the electric atmosphere that goes with higher wellhead prices, and renewed E&P activity – enjoyed by close to 400 geoscientists, exhibitors and guests.

* * *

□ First stop, Paris – it was the second-largest of AAPG's 17 International Conferences and Exhibitions (ICE), with 1,879 attendees. They heard 255 technical papers and visited 240 poster presentations at the CNIT Conference Center at La Defense, the spectacular modern business complex on the western edge of Paris.

The Paris ICE was stoutly supported by international E&P corporations: 53 companies together contributed more than



Rose

\$400,000 to support the conference (see their names and logos displayed on pages 31-32 of this EXPLORER). One hundred exhibitors displayed their E&P products and services in the Exhibits Hall.

General Chairman Jean-Marie Masset, Total's senior VP of Geoscience, and his entire Organizing

Committee planned and implemented the event with efficiency and verve. Institut Français du Pétrole (IFP) was our gracious host, with IFP's executive vice president and director of exploration-technology business unit Gérard Fries serving as vice chair. Mikael Dumeunier, Bernard Colletta, Christophe Mercadier and André Coajou made especially noteworthy contributions.

Sunday's opening session set the stage for the conference – all speakers addressed various aspects of the energy transition the world has now entered. The French Minister for Industry, Francois Loos (a mining engineer), concluded the session and led us all into the Exhibits Hall for the traditional Icebreaker.

* * *

Of course, it was no surprise that the Paris ICE would be preoccupied with the current world energy transition, because of

See **President**, next page

AAPG Officer Candidates Listed

Seven candidates are currently slated to vie for positions as AAPG officers for 2006-07.

The list includes six people selected and approved as candidates by the AAPG Executive Committee (with Advisory Council input), plus one petition candidate. Candidates for officers are:

President-Elect

□ **Willard R. "Will" Green**, an independent/consultant with Green Energy Resources in Midland, Texas.

□ **G. Warfield "Skip" Hobbs**, Ammonite Resources, New Canaan, Conn.

□ **Peter M. Lloyd**, retired, formerly with Schlumberger, teaching for Heriot Watt University, Falcon, France.

Vice President

□ **John C. Dolson**, TNK-BP, Moscow, Russia.

□ **John C. Lorenz**, Sandia National Laboratories, Albuquerque, N.M.

Treasurer

□ **Randi S. Martinsen**, University of Wyoming, Laramie, Wyo.

□ **William A. Morgan**, ConocoPhillips, Houston.

The president-elect winner will serve as AAPG president in 2007-08. The vice president will serve for the 2006-07 term and the treasurer will serve for 2006-08.

Candidate statements and biographies are available online at www.aapg.org, and will appear in the January issue of the EXPLORER. Official candidate campaign guidelines are printed in the accompanying article, and are available online. □

President from previous page

the recent strong rise in global crude oil and natural gas prices, uncertainties regarding the stability of Iraq and U.S. supply interruptions arising from Hurricane Katrina.

As AAPG president, I had been looking for an appropriate personal gift for my friend, General Chairman Jean-Marie Masset, one that acknowledged this global transition we are all in, and which conveyed my appreciation for his efforts.

Since 1966 I have followed the evolving career of the revered Texas artist who paints as "G. Harvey." Stopping by a gallery that carries his work last August, I was attracted to a small numbered and signed print of his oil painting of two slickered horsemen leading a packhorse

out of a small town on a rain-drenched dawn, with a couple of wooden oil derricks in the background, each lit by irregular strings of running lights hung along the derrick legs. The title of the painting was "Lights of a New Era." So I bought it, thinking it evoked the notion of an earlier transition period in the oil business, and carried it to Paris for Jean-Marie.

We decided to present it to him at a small dinner planned for Sunday night, after the Icebreaker, which was held to honor a group of international E&P executives who were speaking the next day at a special leadership forum. Arranged by AAPG's international liaison and conferences manager Dana Patterson Free and promoted by ExxonMobil's Pinar Yilmaz, the dinner was held at the Musée Jacquemart-André, an extraordinary 19th century mansion that houses a remarkable collection of paintings and sculptures by 15th to 18th century European masters.

Their collection of paintings by Francois Boucher and Jean-Honoré Fragonard was especially impressive.

Our group sat down to dinner in a spectacular salon with a high decorated ceiling, dazzling crystal chandeliers and walls covered in dark red damask, on which were hung a variety of classic paintings. It is the most elegant room in which my wife, Alice, and I ever enjoyed a meal, with an exceptional international company to match.

After dinner, I rose to acknowledge the group and thank them for attending. Somewhat intimidated by my elegant surroundings, I nevertheless presented to Jean-Marie the G. Harvey painting, emphasizing the theme of Energy Transitions. He received it with his usual grace, and we proceeded on to dessert.

A few minutes later, just before our group dispersed, I glimpsed out of the corner of my eye the little G. Harvey

picture being held up against the damask-covered wall, just below a sensuous Boucher nude, and accompanied by some animated and happy chatter from Jean-Marie's table.

* * *

The 2005 Paris International Conference and Exhibition was a great success. Our hosts were thorough, efficient, accommodating and most gracious. AAPG and our IFP hosts succeeded in providing a splendid venue where international geoscientists could gather and share and learn. European and Middle Eastern geoscientists were especially conspicuous and engaged. And of course, the magical city of Paris provided its inimitable ambience for the four days of the conference.

AAPG is proud to help facilitate such gatherings.

Alice and I experienced a memorable few days in Paris, and departed for home tired but fulfilled, and deeply appreciative of the warm hospitality of our hosts. And I will always carry with me the recollection of that elegant dinner at the Musée Jacquemart-André, and the image of G. Harvey's two grizzled cowpokes on a damask-covered wall, keeping company, however briefly, with the works of Boucher and Fragonard.

* * *

With sadness, I report the death of Bob Megill on Sept. 28 (see page 37).

Robert E. Megill had an enormous, beneficial impact on petroleum geoscientists and engineers by teaching them, clearly and effectively, how to evaluate the financial value of their plays and prospects. He showed scientists that finance and business were their key partners in E&P, and he helped them learn to command the economic part of prospect evaluation, so as to take responsibility for and control of their professional products.

For nine years, Bob wrote a monthly column, "The Business Side of Geology," for the EXPLORER. He also wrote two books that became E&P classics, *An Introduction to Exploration Economics* (1971, 1979, 1988) and *An Introduction to Risk Analysis* (1977, 1984). Together with Ed Capen and myself, Bob designed and taught a seminal AAPG short course, "Managing and Assessing Exploration Risk" for nine years.

Bob Megill was a Christian gentleman, a dedicated teacher, an effective mentor and a splendid personal example. His contributions were legion and lasting. We mourn his passing but celebrate his life.

Sincere condolences to his wife Margie, son Greg, daughter Janna and all Megill family and friends.

* * *

Recommended Reading: *Winning the Oil Endgame – Innovation for Profits, Jobs, and Security*, by Amory B. Lovins and others, 305 pp., Rocky Mountain Institute (2005). Free individual public downloads available at www.oilendgame.com.

Ok, so maybe the U.S. public is finally becoming convinced that we need to make some big changes in our energy use, and that we need to start now – but just how should we proceed? Lovins and his group have provided a thoughtful, informed and detailed roadmap for us to use, employing free-market forces and without excessive government intervention.

A must read for all AAPG members, citizens, policymakers and legislators. *Read it, you'll like it!*



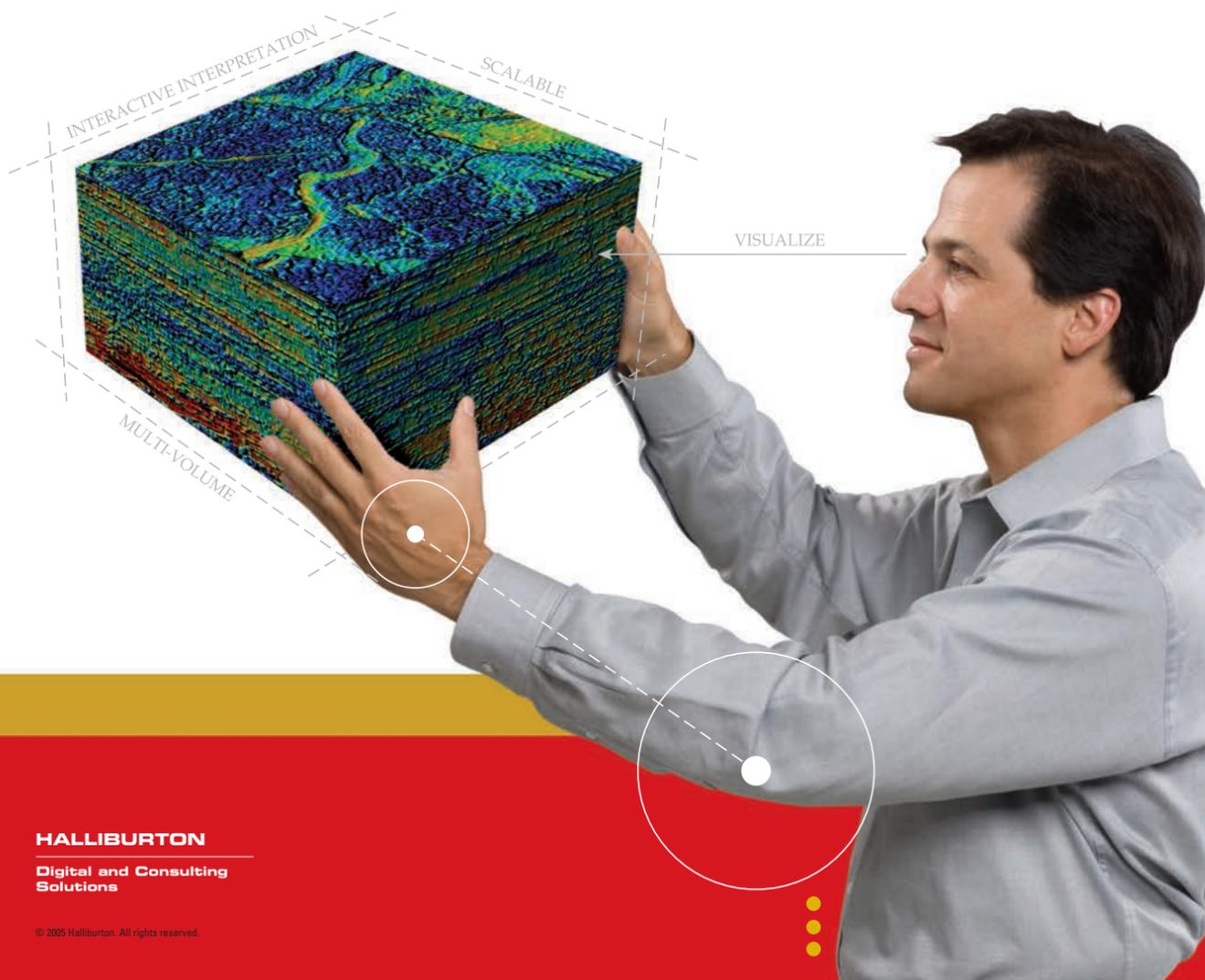
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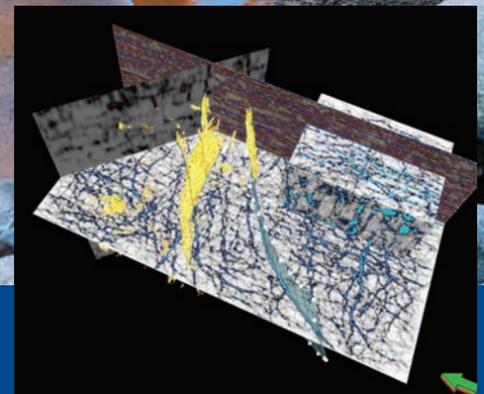


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*Understanding Basalts May Be the Key***Pacific NW Plays Present a Puzzle**

By DAVID BROWN
EXPLORER Correspondent

Industry wisdom says the U.S. Pacific Northwest holds trillions of cubic feet of natural gas, waiting to be discovered and produced.

The reality?

It's the kind of play that makes grown men cry and strong women shudder.

"We go through this about every 20 years," said Ron Teissere, Washington state geologist and oil and gas supervisor in the Washington State Department of Natural Resources (DNR).

"Everybody comes back and says, 'Okay, we're ready to drill here now.' Then they find out how damn hard it is – no pun intended," he added.

Teissere was talking about the Columbia Basin in southeast Washington, where drilling has kicked back in after a small flurry of exploration in the 1980s.

And "hard" is right. Up to 12,000 feet of Miocene basalt overlies the prospective targets, making seismic suspect and drilling daunting.

"This is as blind of drilling as it gets," Teissere said.

Still, a lot of people are eyeing the Nov. 4 Washington DNR lease sale, which will include parcels in the Columbia Basin. The pre-sale interest has been considerably high.

Shell drilled a series of wildcats in the basin in the 1980s, with drillstem tests showing production from numerous gas zones.

"At that time, there was no infrastructure and the cost of gas was



Photo courtesy of Torrent Energy

A drill site and rig in the 250-square-mile Coos Bay Basin in southwest Oregon, where the Beaver Hill pilot program is targeting the Lower Coaledo formation.

very low. And the drilling was expensive. Shell basically walked away from it," said Rick Carol, a partner in Energy Investments Inc. in Lakewood, Colo.

Now EnCana Corp. is trying a 14,000-foot wildcat near Yakima, Wash., with Shell back as a rumored partner.

EnCana will apply innovative drilling technology to get through the basalt.

"It's going to be difficult to drill because the basalt drills very slowly,"

Carol said, "but there's been some new drilling techniques used out here that should improve the situation."

Others are eyeing the area, as well. Carol's company put together a 100,000-acre play, and Delta Petroleum Corp. of Denver reported that it has 175,000 net acres under lease in the basin.

Despite decades of interest, only one marginal field has gone into commercial production in southeast Washington.



"The only play that ever came out of the basin was the Rattlesnake Field," Carol said. "It was produced in the 1930s out of volcanics at a shallow depth."

A combination of new drilling and production technologies plus higher gas prices has brought renewed interest to the tricky sub-basalt play.

"The wells drilled by Shell proved that there was good reservoir rock below the basalt, and there's a lot of high heat flow in the basin," Carol said. "It's a real cooking pot."

Step on the Gas

The U.S. Geological Survey's most recent full-scale resource evaluation of the Columbia Basin took place 10 years ago.

AAPG member Lynn Tennyson, a USGS research geologist in Denver,

See **Washington**, page 8

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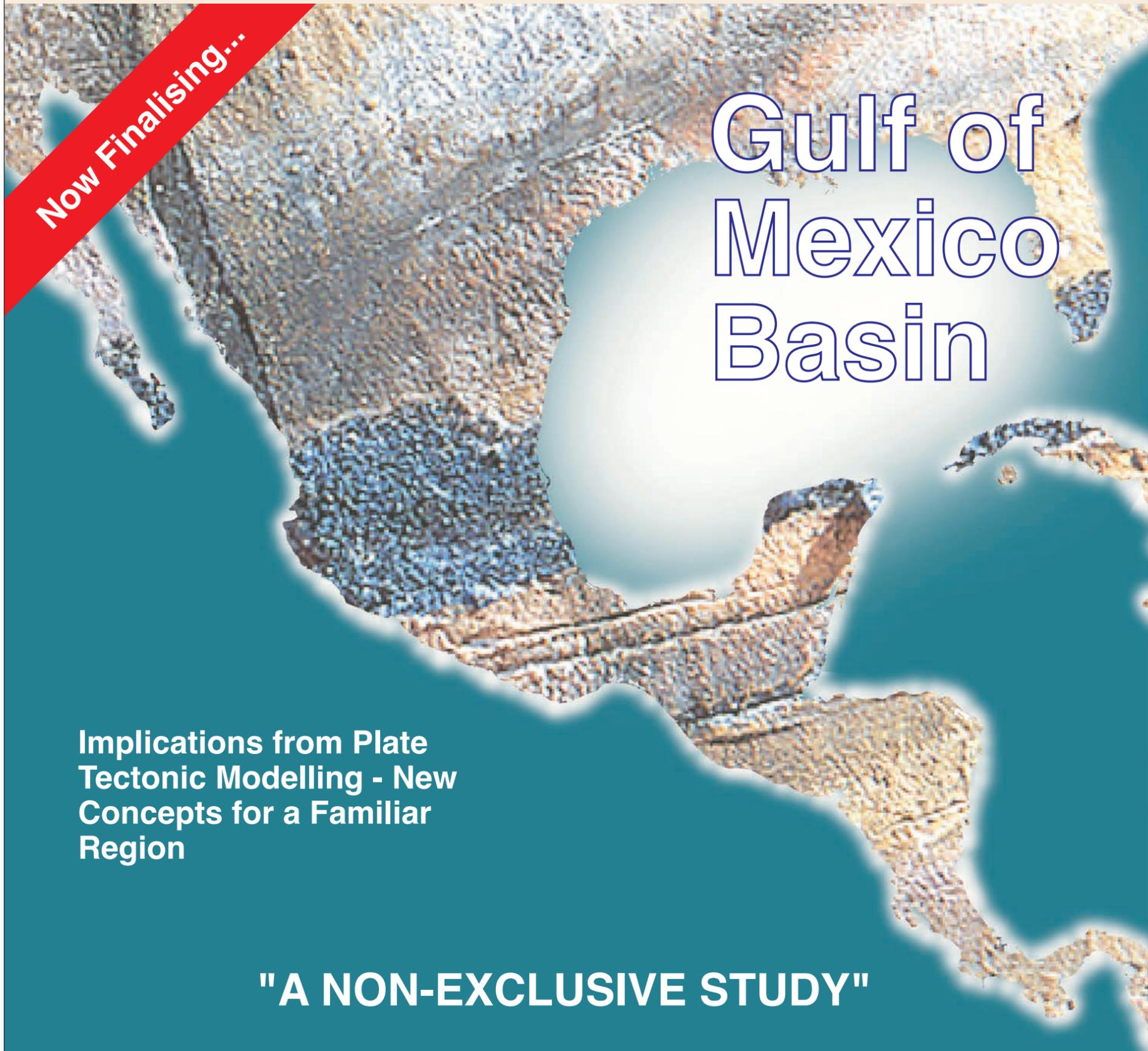


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Washington

from page 6

worked on that assessment.

"A lot of water wells have gas in them in that part of the world," she said. "You get the feeling that there's gas everywhere out there."

If the basin holds gas in commercial quantities, it could be in a basin-centered gas play or in a series of conventional plays.

There's an eye-popping difference between those two possibilities.

For a basin-centered play, the USGS mean estimate for potential reserve additions was 12 Tcf, with a 5 percent chance of 30 Tcf.

Reserve additions from a conventional play?

A few hundred billion cubic feet.

According to USGS reports, sub-basalt rocks in the basin consist mainly of Paleogene/Lower Tertiary fluvial and lacustrine rocks of highly variable thickness, consisting of sandstone, mudstone, conglomerate and minor coal.

On the play's northern margin, the Columbia River Basalt Group unconformably overlies thick, folded Paleogene strata. To the west, Oligocene to Quaternary volcanic rocks of the Cascade arc overlie the Paleogene sequence.

Eocene arkosic fluvial sandstone bodies in the Swauk, Chumstick Roslyn, Manastash and Wenatchee units comprise potential reservoirs, at depths from 8,300 to more than 17,000 feet.

Some good news: The thickness of the gas-bearing interval is at least 6,400 feet, based on previous drilling that didn't fully penetrate the prospective zones.

Some bad news: Reservoir units are interbedded with volcanics, probably contain significant zeolitization and have only fair to poor porosities.

"The porosities are very low – at the depth they're testing, you're probably looking at 4 to 7 percent," Teissere said. "There's better porosities at shallow depths, but there's probably not much shallow gas."

A 'Frustrating' Factor

Interpreting reverse faults and folds, or reading the ripples, also presents a challenge in the area. Pressures may have affected the basalt differently from surrounding rock, according to Teissere.

"The question of how those basalts got pushed into those structures is an issue today," he said.

One major question for exploration is whether fold crests in the basalt coincide with sub-basalt structural highs.

"There could be a disconnect between the surface anticlines and the sub-basalt, but nobody knows for sure," Carol said.

"It's a frustrating play," Tennyson noted. "Seismic just doesn't work well through basalt."

Only further drilling can define the nature of the sub-basalt formations and the amount of gas they hold. A study subsequent to the USGS evaluation appeared to point away from a basin-centered play.

"One guy took another look and found with the Shell wells showing more water than we thought, that we might be talking about conventional instead of continuous gas," Tennyson said.

"His conclusion was that there's too much water in the tests for it to be a classic basin-centered gas accumulation," she added.

Teisserre's thinking leans the same way.

"I suspect you're going to find lots of pockets of gas, but you'll have trouble connecting the dots," he said.

"A lot of water wells have gas in them in that part of the world. You get the feeling that there's gas everywhere out there."

Still, he conceded, "there may be surprises down there" because of the lack of current information about the sub-basalt geology.

"We know so little about the reservoir rock potential," Tennyson noted. "We assume it isn't much, but we have so few samples to go on."

The Source

Eocene coalbeds and carbonaceous rocks provide a proven gas source in the

Columbia Basin. On the western side of the Cascade range, along the Washington and Oregon coasts and at shallower depths, gas-bearing beds have given rise to a nascent coalbed methane (CBM) play.

Methane Energy Corp., a subsidiary of Torrent Energy of Vancouver, is developing a methane-production pilot program in the 250-square-mile Coos Bay Basin in southwestern Oregon.

"On the east side of the mountains the oil and gas prospects are covered by

basalt. These (coalbed) deposits are much shallower, in the 2,000 to 3,000 to 4,000 foot depth," said AAPG member Steve Pappajohn, Methane Energy president.

The company is drilling five wells in its Beaver Hill pilot program, primarily targeting the Lower Coaledo formation at a depth of 4,200-4,400 feet. Pappajohn said it already has applied for five permits for a second project in the area.

Methane Energy began with holdings of 70,000 contiguous acres at Coos Bay, and expects to increase that number to 100,000 acres.

At an estimated 10 Bcf of gas in place for each square-mile section – much higher than a more typical 2-to-5 Bcf content for CBM projects – the company

continued on next page



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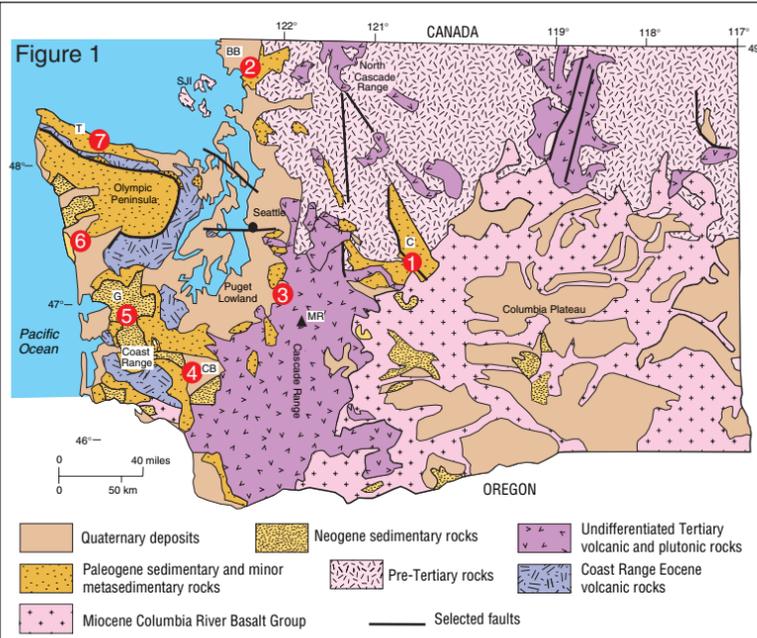


Figure 1 – Schematic geologic map of Washington; numbers here refer to locations of stratigraphic columns shown in figure 2 (right). Key: BB is the Bellingham Basin; C – Chumstick Basin; SJI – San Juan Islands; MR – Mount Ranier; CB – Chehalis Basin; G – Grays Harbor Basin; T – Tofino-Fuca Basin.

Figure 2 – Correlation chart showing stratigraphy in petroleum-play areas. Shaded areas show intervals of non-deposition and (or) erosion.

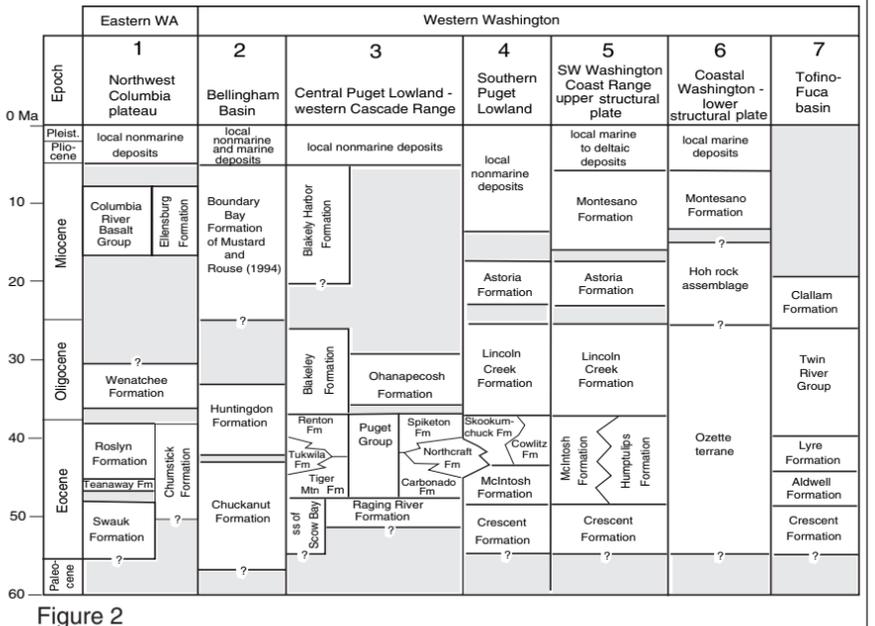
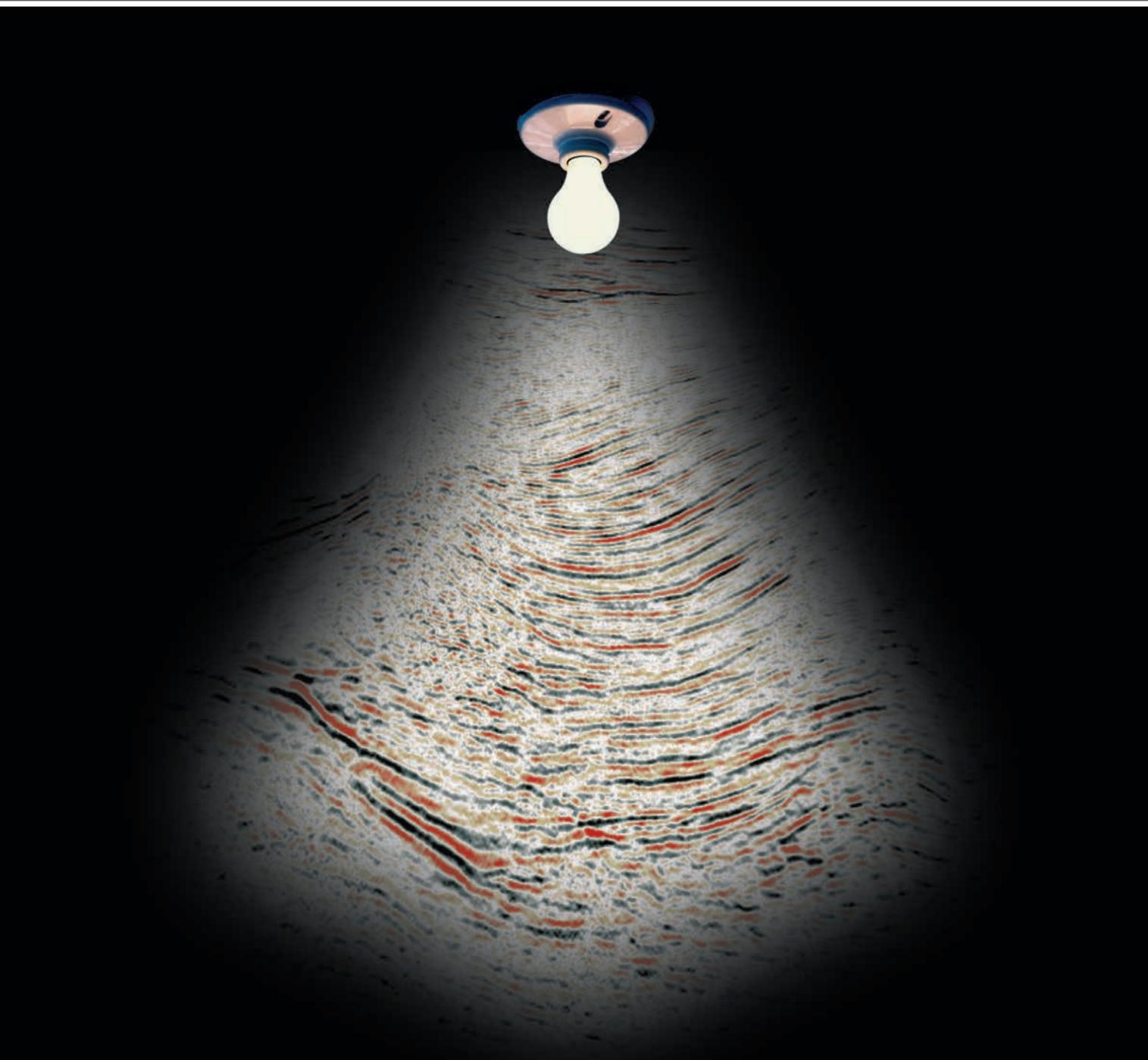


Figure 2



continued from previous page

believes it has a 1.1 Tcf resource in the basin.

Using a combination of bond and lottery money, Coos County earlier built a 60-mile, \$50 million gas pipeline to connect to the Northwest Natural Gas main system. Torrent said it can easily tie its wells into that feeder line and its laterals.

Another Torrent Energy subsidiary, Cascadia Energy Corp., has leased 365,000 acres in Lewis, Cowlitz and Skamania counties in southwestern Washington.

Cascadia will focus on developing another 100,000-acre CBM project in that area, Torrent said.

In Washington, the economics for CBM projects could be challenged by the cost of groundwater injection, according to Teissere.

"There is quite a bit of methane in these coals," he said. "The problem in western Washington, unlike the Powder River Basin, is that when you're at a depth of 2,000-2,500 feet you've got a lot of water."

Because of treatment and injection costs, the payout from a CBM project might not come fast enough for companies with large overhead burdens, Teissere explained.

Washington coals may contain arsenic and other contaminants that make groundwater treatment problematic and expensive, he noted.

"You're drilling along and everybody's happy, and the next day you've got a Superfund site," he said.

A Lot? A Little?

The USGS identified eight conventional petroleum plays in Washington, including two oil plays, in addition to the basin-centered and coalbed gas plays. None of the conventional plays showed any promise of prolific production.

According to the state DNR, about 600 wells have been drilled in Washington with no commercial oil or gas production since 1962.

"We have had activity in other places, notable in Whatcom County up near the Canadian border, but in other places as well," Teissere said.

Right now, no one knows how incredibly much gas, or how incredibly little, the Pacific Northwest will produce. That puzzle will take shape as exploration continues in the coming years.

"The amount of acres we have untested is millions of acres," Teissere observed, "so I think we'll see drilling out here for a while." □

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Figure 1 – Palentine Bridge limestone quarry, Mohawk Valley, N.Y. In the foreground the excavated dolomitized en-echelon fault zone is visible; limestones are grey and the dolomites have a brown tan. The 3-D GPR survey (figure 2, page 12) is located in the background of this view, where the fault was still buried under rubble.

Seeing Things Differently

3-D GPR Providing A New Field Tool

By LOUISE S. DURHAM
EXPLORER Correspondent

Legions of geologists have ventured forth to study the outcrop armed only with a trusty hammer and a pack full of sample bags.

But technology encroaches on everything, including that outcrop of soil and rocks in the far reaches of the countryside.

In fact, the emergence of 3-D ground penetrating radar (GPR) technology has

the potential to drastically alter the traditional approach to field work.

Where conventional outcrop observations, digital photography, laser scanning and remote sensing capture only the characteristics of the exposed geology, 3-D GPR imaging can quickly yet non-destructively extract information at sub-meter resolution from inside the rock volume.

Instead of relying on the best guesstimate of where to drill holes and take samples of the outcrop, 3-D radar data helps to accurately determine the best spot, some believe.

Today, 3-D imaging is ubiquitous within the oil industry. On an entirely



different level, it's also widely used in such diverse areas as medical imaging and airport luggage screening.

"For the scale in between these – the sub-meter-to-meter shallow subsurface – there's been nothing available which produces images of equal quality and resolution like where you can slice a volume in any direction and see features in high resolution resolved," said Mark Grasmueck, assistant professor marine geology and geophysics University of Miami, RSMAS.

"If it is available, it exists as academic prototypes, and then it takes weeks to months to process the data," Grasmueck said. "This is what's driving the effort to make this particular 3-D imaging technology simple and efficient in acquiring and processing information."

New York Case Study

Grasmueck began working on 3-D GPR in the early 1990s. For the last year or so he's been busy developing the new, next generation 3-D GPR imaging tool.

The tool was used earlier this year in a field test at the Palentine Bridge limestone quarry in New York. The effort was a collaboration between the Comparative Sedimentology Laboratory at University of Miami and the Reservoir Characterization Group at New York State Museum.

The 3-D GPR survey's objective was to delineate the rubble-covered part of the fractured and hydrothermally-altered reservoir analog. Grasmueck noted the quarry could serve as a mini-analog to develop improved understanding of structural, hydrothermal and stratigraphic relationships in difficult to find and produce hydrocarbon reservoirs, e.g., the Texas Ellenburger and Michigan Albion Scipio.

Grasmueck presented a poster on the project titled "3-D Vision GPR: Reservoir Anatomy Beyond the Outcrop

See **3-D GPR**, page 12

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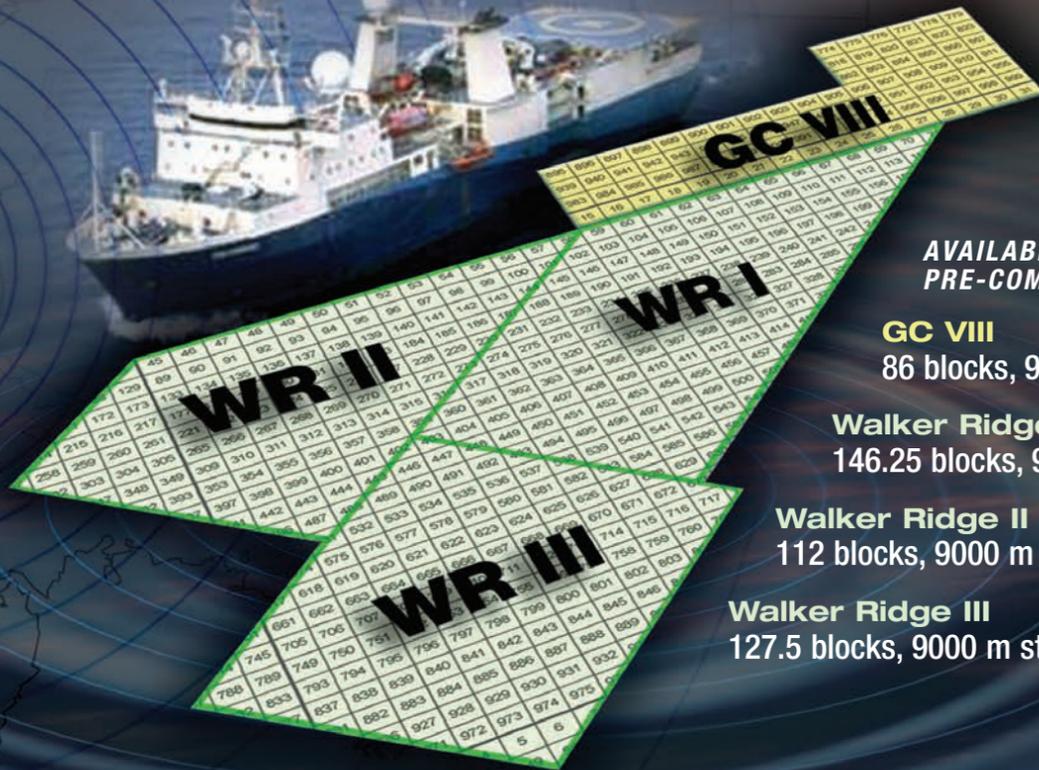
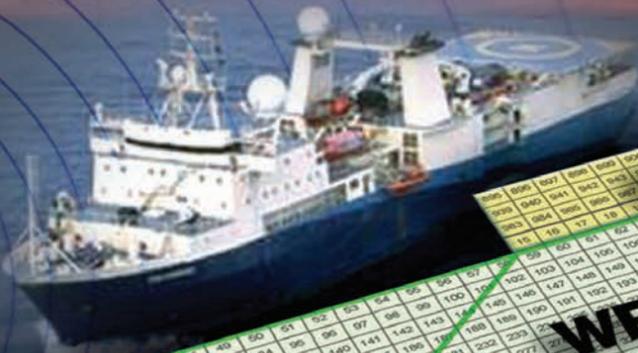
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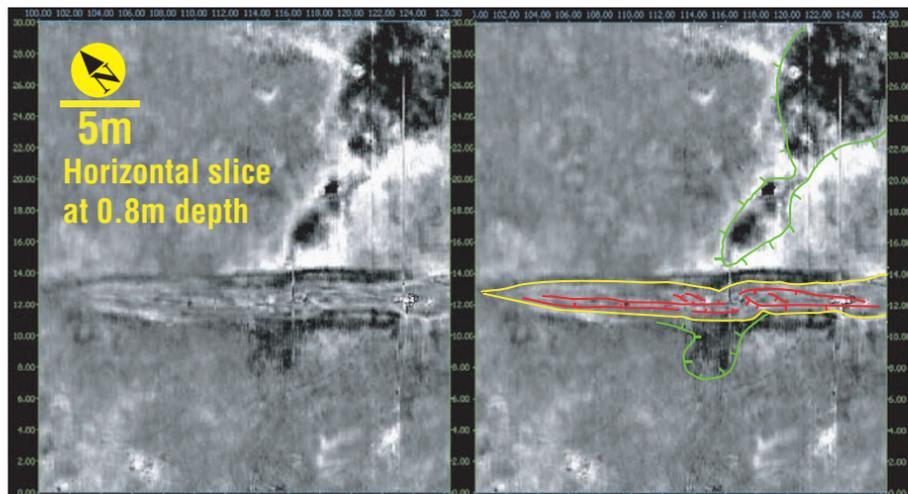


Figure 2 – Horizontal slice through 3-D GPR survey covering an area of 26.3 m x 30 m with a survey grid of 0.05 m x 0.10 m using 250 MHz GPR antennae. On the right is interpretation based on rapid animation of neighboring timeslices. Yellow = outline of buried fault segment; red = fractures; green = topography related to buckling up of elsewhere horizontal strata on the fault's east side and slight depression to the west.

3-D GPR from page 10

Surface,” during the AAPG Annual Convention in Calgary.

The poster was co-authored by Mark Grasmueck and David Viggiano of the University of Miami (Fla.); and Langhorne Smith Jr., and Richard Nyahay, both of the New York State Museum, Albany, N.Y.

A key finding of the Palentine Bridge project: Even with low penetration depth, full-resolution 3-D GPR can still provide a clear structural “floor plan” of an outcrop covered with rubble. In this particular project, the 3-D cubes precisely defined the “floor plan” of a buried en-echelon fault geometry in map view.

During the project, the group

developed a suite of software tools to fuse and process 3-D GPR and position data into interpretable cubes and animations within one-two hours after the last trace is acquired – an effort that previously required several weeks.

“This opens the opportunity to start using 3-D GPR as an onsite imaging tool for outcropping reservoir analog field studies supporting ongoing structural and stratigraphic field work and sample collection,” Grasmueck said. “The new 3-D GPR offers near-instant views inside the rock volume when outcrop exposure is limited and can be used to test geological hypotheses while still in the field.

“It used to be you went to the field and acquired a 3-D data set and months later you would get the final 3-D volume and then go back to the field,” Grasmueck noted. “There was a disconnect between field work and having the 3-D result.”

The Next Dimension

Because the technology can acquire 3-D volumes so quickly, the team is starting to do repeat volumes to perform 4-D imaging of fluid flow to determine how the fluid moves in the near-surface. This has not been possible before because fluid flow is not observable with boreholes.

“We can see what's happening with fluids around the borehole as they migrate toward the hole,” Grasmueck said. “We're bridging the scale between borehole observation and conventional 3-D seismic information.”

The impact of 3-D GPR imaging in the oil industry could be substantial.

“The use of 3-D GPR will help develop better reservoir models in less time with fewer but more critical samples,” Grasmueck said, “integrating sedimentology, stratigraphy, structure and geochemistry in an accurate 3-D spatial framework.” □

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Images courtesy of Laboratory for Atmospheres, NASA Goddard Space Flight Center and BP Center for Visualization.

Long Beach Planners Look For Suggestions

Long Beach, Calif., is the site of the 2007 AAPG Annual Convention, and the first steps of creating the meeting's technical program have begun.

The meeting will be held April 1-4, and meeting organizers are looking for your help via suggestions for oral and poster sessions, field trips and short courses.

You can suggest topics, session chairs or trip leaders – even provide contact information.

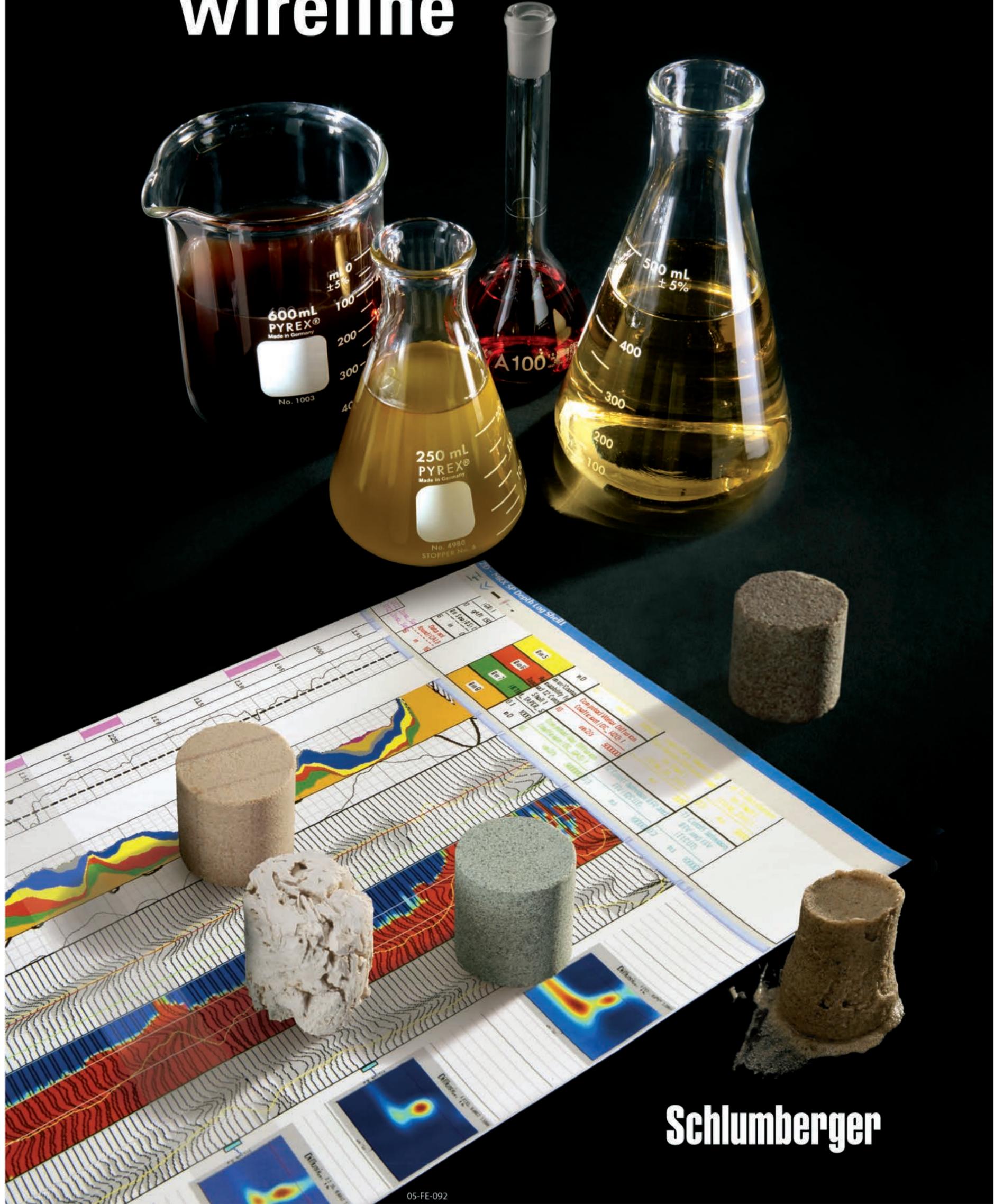
The planning committee is very interested in receiving suggestions “of a global nature that will appeal to the vast majority of attendees.”

California's prolific hydrocarbon systems span a broad spectrum, from deepwater clastic giants to complexly deformed structures in active tectonic settings. Many established fields successfully operate under stringent regulatory guidelines. Committee members hope to link many of the sessions to field examples, taking advantage of California's world-class outcrops and accessible field operations to provide analogs and examples with global applicability.

Send suggestions via e-mail to Jon Schwalbach, general technical program chair, at jon_schwalbach@oxy.com. Submittal of a suggestion does not guarantee inclusion in the program.

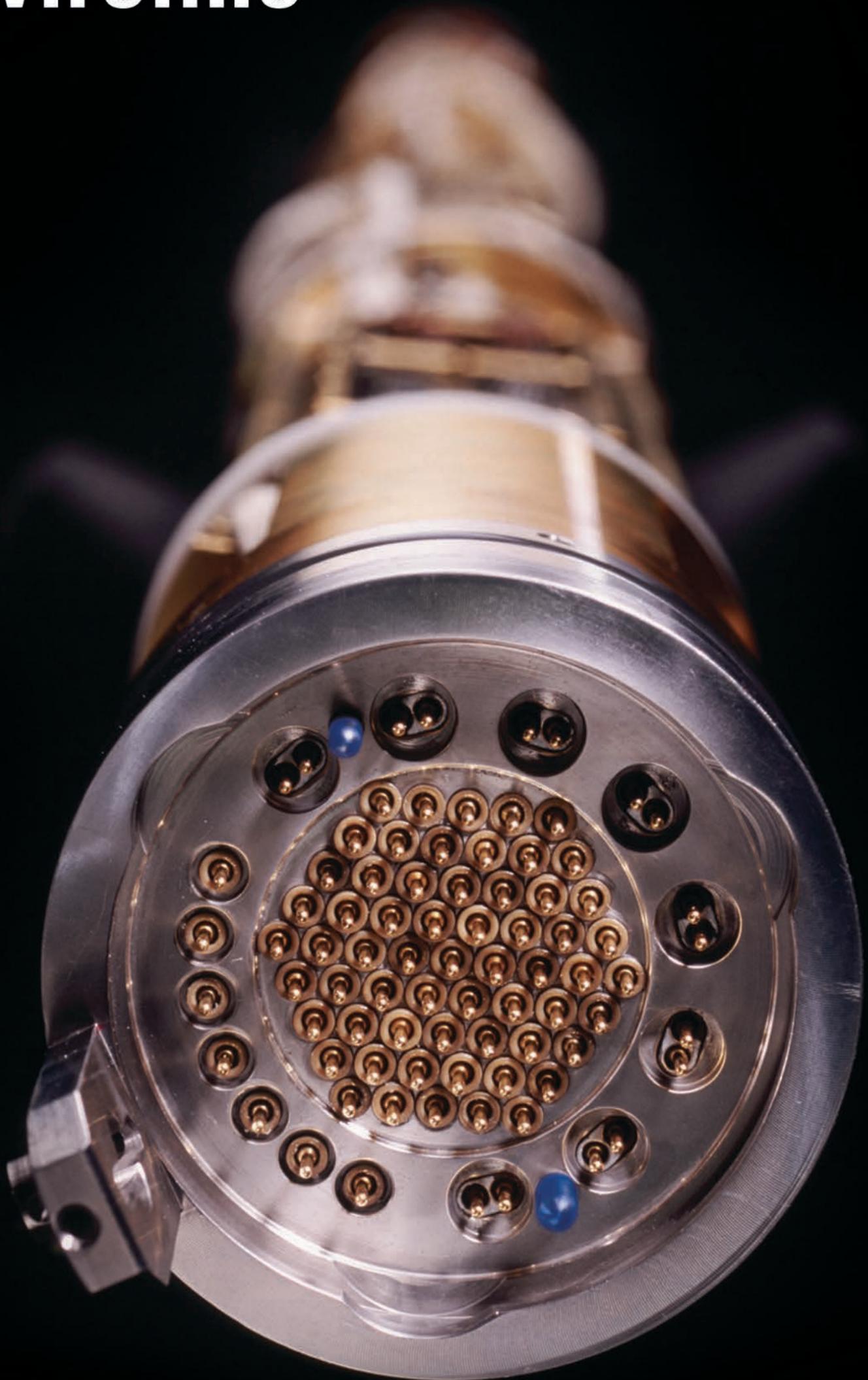
The deadline for submitting suggestions is Dec. 12. □

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Rigs, Crews Being Imported to Rockies

International Flavor Spices U.S. West

By DIANE FREEMAN
EXPLORER Correspondent

Drilling activity in the Rocky Mountain region has taken on an international look this year, thanks to the demanding conditions that come with today's current exploration environment.

How international? The first oil well ever drilled in the United States with a Chinese-manufactured rig began operations in early August in Colorado's Piceance Basin.

Faced with a continuing shortage of drilling rigs in the Rocky Mountain region, Presco Inc., a small oil company based in Houston, imported the well from HongHua Ltd. in China.

Kim Bennetts, Presco's vice president of exploration and production, said the AC electrical-driven 1,300 horsepower conventional rig is similar to those in use in Texas oil fields.

Chinese engineers set up the rig near Parachute, Colo. It is scheduled to drill up to four wells this year.

"We had been searching for rigs since last fall and had trouble lining them up," Bennetts said. "The big companies had them all tied up."

GTS Drilling of Houston, a company run by Pakistani immigrants, "asked us if we'd consider China," he said. "We were surprised, but decided to leave no stone unturned."

In January Bennetts traveled to Guangham City, China, to meet and talk with drilling rig supplier HongHua officials and view drilling rigs under construction.

Presco then signed a deal with GTS



Chinese manufactured GTS rig #605, shown drilling the Battlement Mesa #26-42 well in the Piceance Basin, Garfield County, Colo.

that acquired the rig and shipped it from China through the Panama Canal to Houston. In July it was trucked to Colorado.

Three Chinese engineers, supervised the setup of the rig; U.S. crews operate the well, Bennetts said.

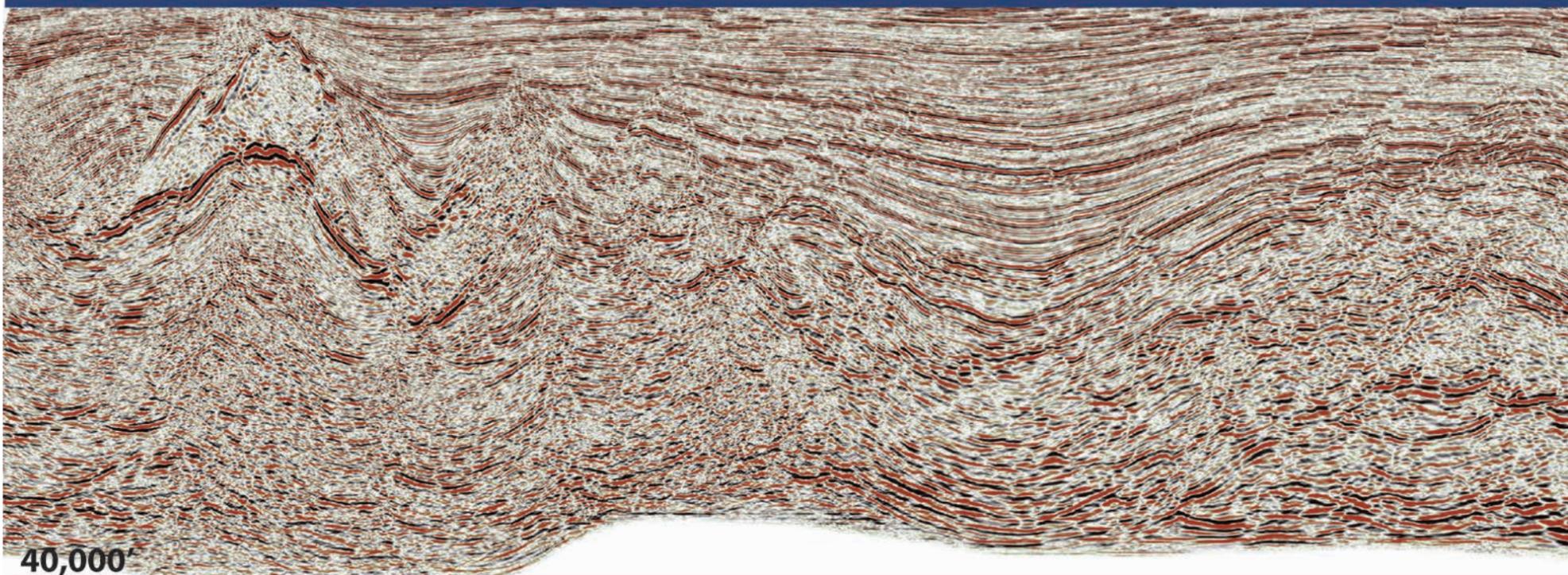
Presco may bring in two or three more

rigs from China during the course of its two-year contract, he said.

continued on next page

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More On the Way

Meanwhile, two other Chinese-manufactured drilling rigs are due in eastern Colorado this fall. The first rig arrived in September and a second one will arrive in November, said Bill Croyle, managing director of Western Energy Advisors, a Denver-based company that is the sales agent for rigs made by the China National Petroleum Corp. A shortage of rigs has hindered oil and gas drilling across the country. "We think that in the next 18 months through our efforts, we'll see up to 10 rigs shipped to the region," he said. "These will be mostly equipment, not crews." Croyle noted the shortage of trained people and equipment for drilling sites in the Rockies. "Any prudent company will look at all the options," Croyle said. "There's still a shortage of drilling rigs. We skipped a generation-and-a-half of rigs in the United States." Daily rig rates in the area range from \$12,000 to \$16,000 a day, he said. A year ago the rate started at \$8,500 a day. "A lot will be flowing into the Colorado and Wyoming region. We've used up whatever slack there is and refurbished equipment, but trained folks are really hard to come by," he said. Croyle noted some trade schools are gearing up to train drilling rig workers, and Canadian rigs and crews have already arrived to work in the area. "When we started working with companies looking at China, most of the interest we got was in their people," he said. "All the Chinese crews are highly educated and trained and have at least a

Nominations Deadline Looms for TOTY

By SUSIE MOORE
EXPLORER Staff Writer

Nominations are open for the 2006 AAPG Teacher of the Year award – but the nominating deadline is rapidly approaching. Nominations must be made by each AAPG Section by Nov. 15. The award, presented annually by the AAPG Foundation, honors excellence in the teaching of natural resources in earth sciences for grades K-12. The prize is \$5,000, presented at the 2006 AAPG Annual Convention, which will be held April 9-12 in Houston. As in past years, the award is split: \$2,500 goes to the school for educational

use under the teacher's supervision, and \$2,500 goes to the teacher for personal use. Also included is an expense paid trip to the Houston meeting to receive the award during the All-Convention Luncheon. Requirements for the award include:
✓ A minimum of three years full-time teaching at any K-12 level.
✓ Teaching at least one unit per year on natural resources.
✓ A scientific study of these resources – origin, discovery, extraction and historic and present use – and a look at the preservation of the environment, reclamation, conservation and the use of

earth science knowledge in decision making.
✓ The teacher's teaching philosophy and methods. The selection process begins at the local level, as each society submits its winning teacher to their AAPG Section. Each Section then nominates a candidate for the national competition. A judging committee then selects the winner from the six nominees. For more information visit the Web site at www.aapg.org (use the shortcut pull-down menu to K-12 Teacher of the Year Award), or contact Rebecca Griffin at 1-888-945-2274, ext. 644; or by e-mail rgriffin@aapg.org. □

two-year college degree. The leader on the rig usually has a bachelor's or master's degree in engineering. Our clients were very impressed with the quality of the crews."

However, Chinese drilling rig crews also are in high demand in China. "What's likely is we'll get the equipment and a few folks, but mostly Chinese tech representatives," he said.

An Active Year

Currently, there are 80 rigs operating in Colorado, but there is a shortage of 200 rigs in the region. Brian Macke, director of the Colorado Oil and Gas Conservation Commission that regulates oil and gas drilling and production in the state, said activity has increased dramatically in Colorado in the last year. So far this year his office has approved 2,300 drilling permits – which equates to an estimated yearly total of 3,900.

Last year the state hit a record high of 2,917 drilling permits. The projected number for this year would represent a 7 percent increase, he said.

The 2004 number was up 30 percent from the previous year of 2,245 drilling permits, Macke said.

The state's all-time record high occurred in 1981 with 2,378 permits, he noted.

"The Piceance Basin is the most rapidly developing area in the state right now," he said. "Garfield County has 32 percent of the total permits year-to-date."

Meanwhile, Weld County, home of the Wattenberg Field, has 24 percent of the permits.

"That's a total shift from prior years. Historically, Weld County had a third and Garfield County had a fourth. But there's still a lot of interest in Wattenberg Field. It's just the sheer amount of interest in the Piceance Basin that had created the shift," he said.

Macke also noted that there has been

a sharp increase and interest in the shallow Niobrara formation in northeast Colorado's Yuma County.

"There have been 350 permits for that already year-to-date," he said. "Last year, the whole total was 237. It's a very sharp increase."

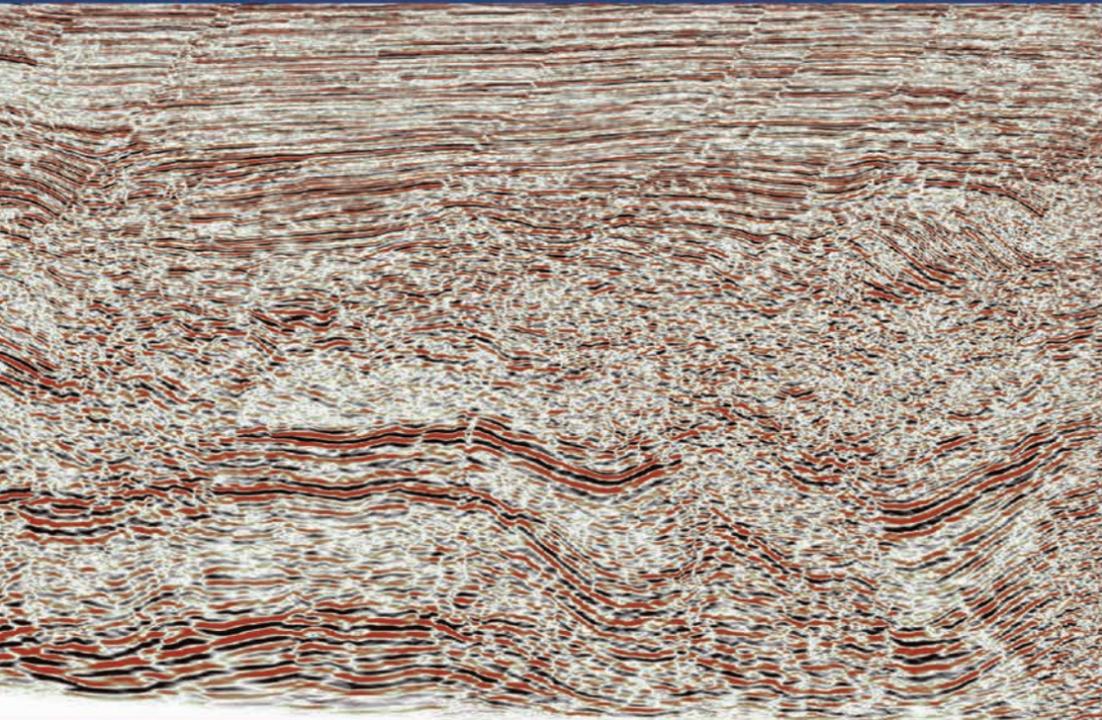
Most of the new interest in drilling in Colorado is in gas reserves. "The production of gas has been about 83 percent of the total production value of oil and gas in the state," he said.

"But we're also seeing more interest in exploring for and developing oil because of high oil prices," he said.

Macke noted that Colorado's neighbor to the north, Wyoming, also is quite active lately. According to a Baker Hughes 2005 rig count through late June, Wyoming's average number of drilling rigs was 72.

New Mexico came in at 76.3; Colorado, 68.5; Utah, 28, and Montana, 24.

In the same period a year ago, Colorado's average rig count was 49. □



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Photo courtesy of Tony Kolodziej

Panhandle core samples and other valuable data, shown here at the airbase in Amarillo, Texas, now have a new home at the Oklahoma Geological Petroleum Center.

Valuable Data Saved

Historic Panhandle Cores Find a Home

By KEN MILAM
EXPLORER Correspondent

Some valuable data from Panhandle oil booms and busts past – real data you can touch, test and even taste if you are so inclined – will soon be available to future generations of explorationists.

The Oklahoma Geological Society Petroleum Center in Norman, Okla., is ready to begin cataloging a sizeable donation of core samples and related materials that had been warehoused for years.

Five years ago the cores, logs and other documents were saved from destruction and given to the Panhandle Geological Library, according to Tony Kolodziej, then-secretary and now vice president of AAPG's Mid-continent Section.

The library sample facility had been closed since 1993, so the cores were stored at an old airbase in Amarillo, Texas, Kolodziej said. They remained there, inaccessible, until OGS director and former AAPG vice president Charles Mankin expressed interest in obtaining the collection for the Norman center.

Kolodziej and Mankin wrote letters to companies, seeking help in paying for shipping the 36,000-pound gift. Four companies – Apache, Cabot, Devon and XTO – came through and the materials arrived recently in Norman.

Gene Coleman of the Norman core facility supervised the move.

'Significant Opportunity'

The data are from wells in the Texas and Oklahoma Panhandle and southwestern Kansas areas and span decades of drilling.

"Some cores were from the Marlin Oil Co., so they're probably from the late 1930s," Kolodziej said.

Their value is more than merely historical, even in an age of high-tech visualization technology, Mankin and Kolodziej said.

The samples represent a "significant opportunity for old fields developed when production practices were not well understood," Mankin said.

Without pipelines for natural gas – which had little value then, anyway – early producers burned it off, losing reservoir pressure and leaving behind oil beyond the reach of their technology.

"There is a real opportunity for enhanced recovery, Mankin said.

"The logs are making assumptions," Kolodziej said.

"We'll be able to time what we see on the log data to the actual rock," he said.

"You can get porosity and permeability ... we have a scanner to provide a look at fractures," Mankin said. "Then we can calibrate this with the geophysical logs."

The Petroleum Information Center's goal "is to preserve these and other data," he said.

In addition to materials like those donated by the Panhandle group, the center also preserves scout tickets, complete reports when available, maps from companies and individuals – "tens of thousands of records," Mankin said.

Kolodziej estimated it will take about two years to fully incorporate the Panhandle data into the system.

Paper items are scanned and digitized; cores are cataloged and bar-coded, and that information is loaded into a database so users can find a log's location and condition, Mankin said.

"We want to provide a one-stop shopping operation for exploration and redevelopment," Mankin said.

"It takes time to create a database of this scope," he added. "It's a lifetime project." □

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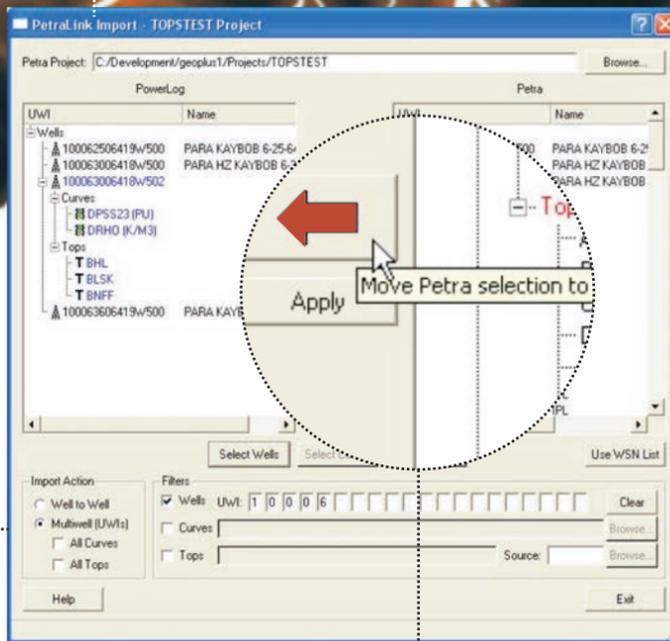
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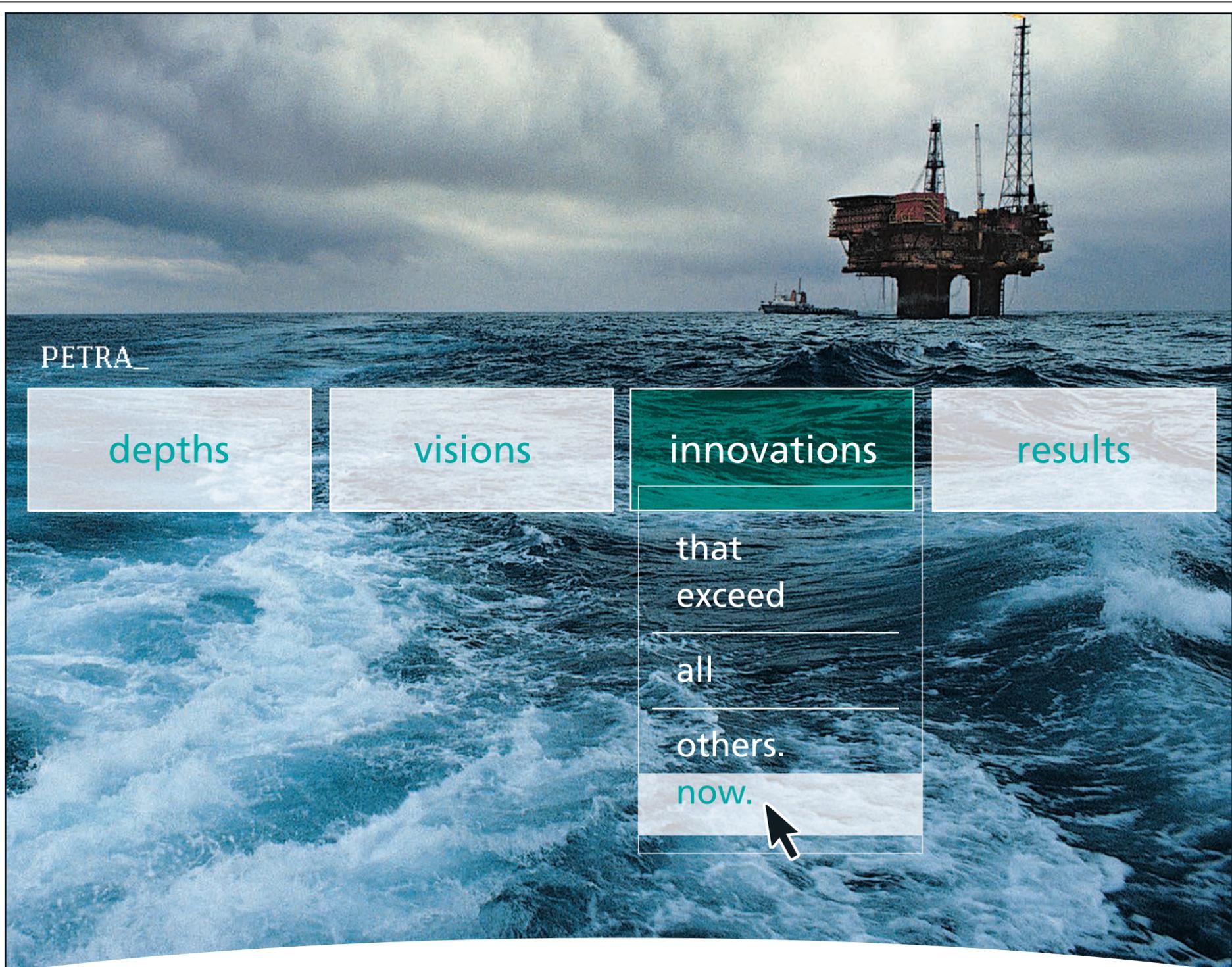
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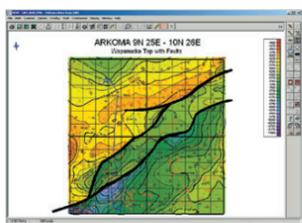
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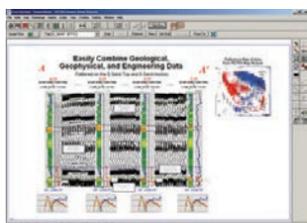
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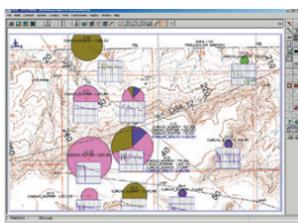
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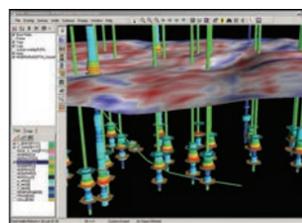
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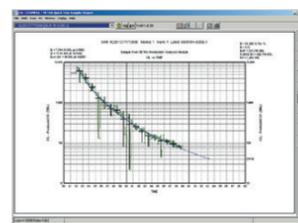
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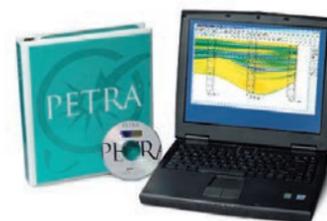


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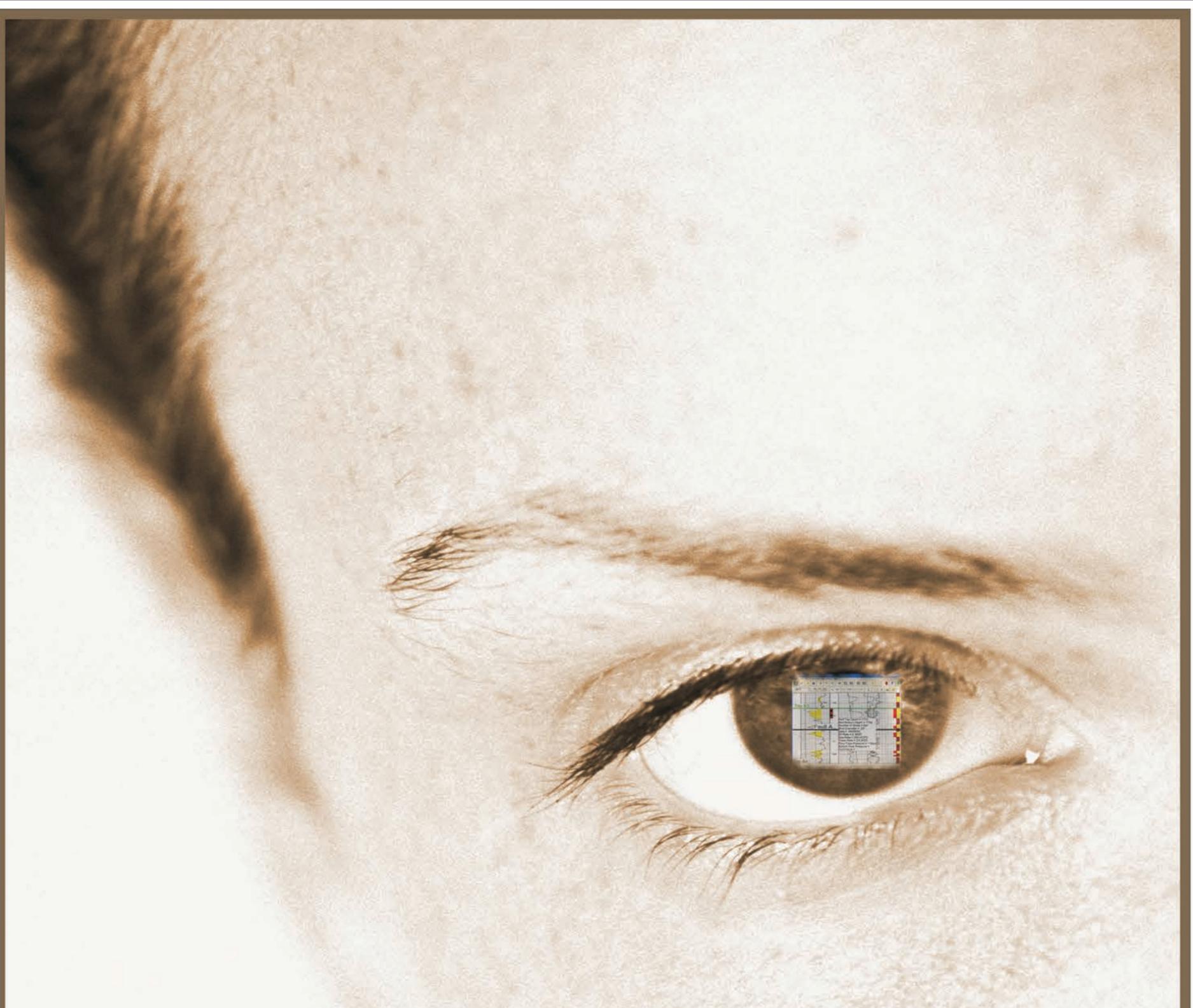
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*Movies and Wildcats: Something in Common?***'Reeling' to Find the Right Answer**

By VERN STEFANIC

EXPLORER Managing Editor

And now for something completely different.

Everyone who thinks the best approach to prospect evaluation is to get a collection of your smartest people to come up with the best group prediction, stand to the right.

While there, start thinking about a recent hit movie. Like "Star Wars 3: Revenge of the Sith." Or "Wedding Crashers," or even "The Alamo."

Why? Because you might learn something about prospect evaluation – and about the perils of group mentality.

That's the theory of at least one geoscientist who loves his work and loves movies – and who has concluded that when it comes to predictions of success, there's definitely a correlation between the two.

Comparing movies to the oil industry might sound trivial – but when was the last time your reputation depended on a prediction that would be absolutely either a hit or a miss?

"Both are based on knowledge and intuition. I realize the limits of the analogy, but ... the similarities are enough to make the study valid. Or at least interesting."

The geoscientist who loves the reel thing is Pierre Delfiner, E&P scientific adviser for Total in Paris who first focused on the connection several years ago thanks to two sources of inspiration.

One was Ed Capen, an expert well-known throughout the industry for his studies of prospect evaluations and, most famously, for his theory of "the winner's curse" (see December 2004 EXPLORER).

The other was his son-in-law, a French film distributor named Boris Pagnet.

Delfiner's interest specifically started about seven years ago, when he heard Capen give a paper in Paris about the winner's curse. He then read a Capen paper on the theory of competitive bidding and was "really impressed" with the insight.

The winner's curse theory says: In competitive bidding, the winner tends to be the player who most overestimates the true tract value.

"The proof of the winner's curse is based on the assumption that the mean of all estimates is equal, or close, to the true value," Delfiner said.

"This notion is very intuitive and very common," he continued. "It is the idea that the errors of the different estimates cancel out by averaging, and the larger the group of people that make an estimate, the more accurate the average."

But Delfiner wondered: Is this an established fact?

Should we tap into the collective wisdom of all our geologists? Should we trust our best experts?

Is the winner's curse inevitable?

"The problem with prospect evaluation is that we never really know the answer," he said. "We could work with simulations, but they lack the flavor of reality."

"I was intrigued by that, but I was trying to find a data set to check it."

That's when his son-in-law came into the picture by referring him to a game played by a group of French film experts who comprise "the Bet Club."

It was an offer he couldn't refuse.

Pierre Delfiner presented the talk "What We Can Learn From the Film Industry About Group Wisdom and the Winner's Curse" at the recent AAPG International Conference and Exhibition in Paris.

A PowerPoint presentation of his talk can be accessed online at the EXPLORER's home page, www.aapg.org/explorer/.

The Crying Game

The Bet Club refers to a weekly public competition involving Parisian film experts.

It works like this: In France new movies are released every week on Wednesday.

On Tuesdays, the film experts log on to a Web site and record their forecast of the number of first-day tickets that will be sold in Paris for the new films.

When the actual box office totals are known, the "experts" receive a public ranking of their expertise. No financial

stakes are involved. This game is all about reputation and ego.

Delfiner began to study the group, the predictions, the results and the trends – and quickly found analogs that translated to the oil industry.

For example, like the oil industry:

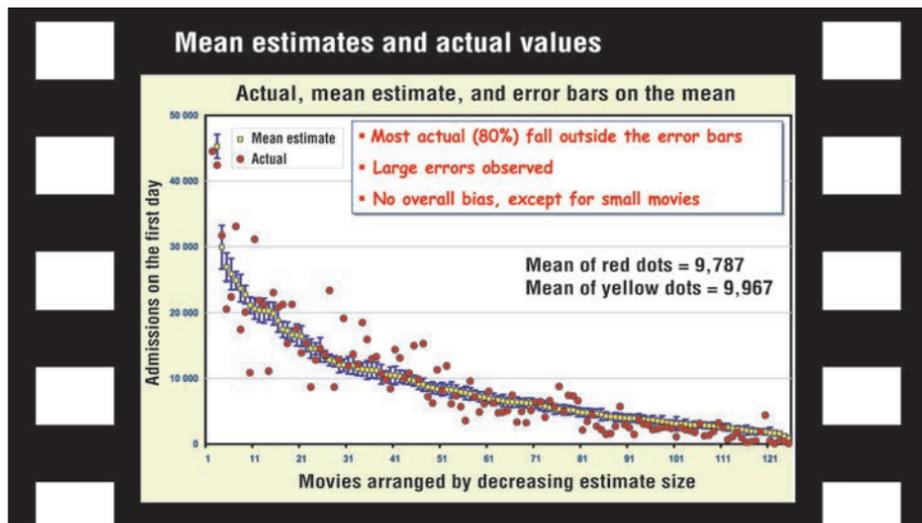
- ✓ The film industry is extremely risky. (Just ask Sylvester Stallone.)
- ✓ Each film is different. ("Jaws" was a hit. "Jaws 2"? You get the idea.)
- ✓ There is a large dispersion of

continued on next page

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Delfiner tracked movie attendance figures estimates of the "Bet Club" in Paris, and discovered that for each movie there is a random bias found in the predictions; and that over a portfolio of prospects, if we promise to deliver the mean, we will deliver the mean.

continued from previous page

estimates. (Remember how many studios passed on "My Big Fat Greek Wedding"?)

✓ There are some solid "nuggets." (You have "Star Wars" and "Spiderman," and you have Kashagan, the Caspian Sea discovery touted as the largest in 40 years.)

✓ Levels of information varies among players. (Indeed, some did their research and properly concluded that Brad Pitt and Angelina Jolie in "Mr. and Mrs. Smith" would be hot.)

✓ Estimation process is both analytic and intuitive. ("March of the Penguins": Who knew?)

For his data set, Delfiner tracked the Bet Club for six months (November 2004 to May 2005), and

his sample included 42 players offering their predictions for the first day attendance figures of 125 movies in Paris.

He charted the mean estimates and the actual values, and to his surprise discovered that most of the time they didn't match, even when allowing for statistical fluctuations. On a case-by-case basis the experts as a group seemed to generate a bias.

On a global basis, however, the bias disappeared. The mean of all mean estimates came within 2 percent of the mean of all actual values.

And that's good, right? (Careful. It might be a trick question.)

The Group

Delfiner concluded that the experts all had a similar bias in their estimates that "can be explained by the lack of diversity among players who use the same reference."

They were all from the same age group. They all had similar socio-economic backgrounds. They all had watched the same movies all of their lives.

"If they all use the same reference, that reference will pull all the estimates in the same directions and create a bias," Delfiner said.

"Even though they were picking as individuals, their estimates were all based on the same information," he said. "That means their estimates are not independent."

"The same phenomenon may well be at work with geologists," he added, tying the study back to oil. "If they share the same cultural background, (and) the same exploration experience, they may all be driven by the same analog."

And that creates the misleading if not financially dangerous risk for a company of bias in prospect evaluation.

Over a large enough portfolio of prospects, however, there is much less danger of bias: "If we promise the mean," he said, "we will deliver the mean."

Delfiner also said he learned several lessons from his study that could be interesting if not beneficial to those involved in prospect evaluation – including a few new insights into the winner's curse ("you can predict it," he said) – but the universal lesson may lie in the cautionary look at group think.

"When recommendations are made by committees there is a risk of group behavior," he said. "For example, members may align with the most senior person."

And that may mean missing several good and valid ideas and estimates for the sake of unity.

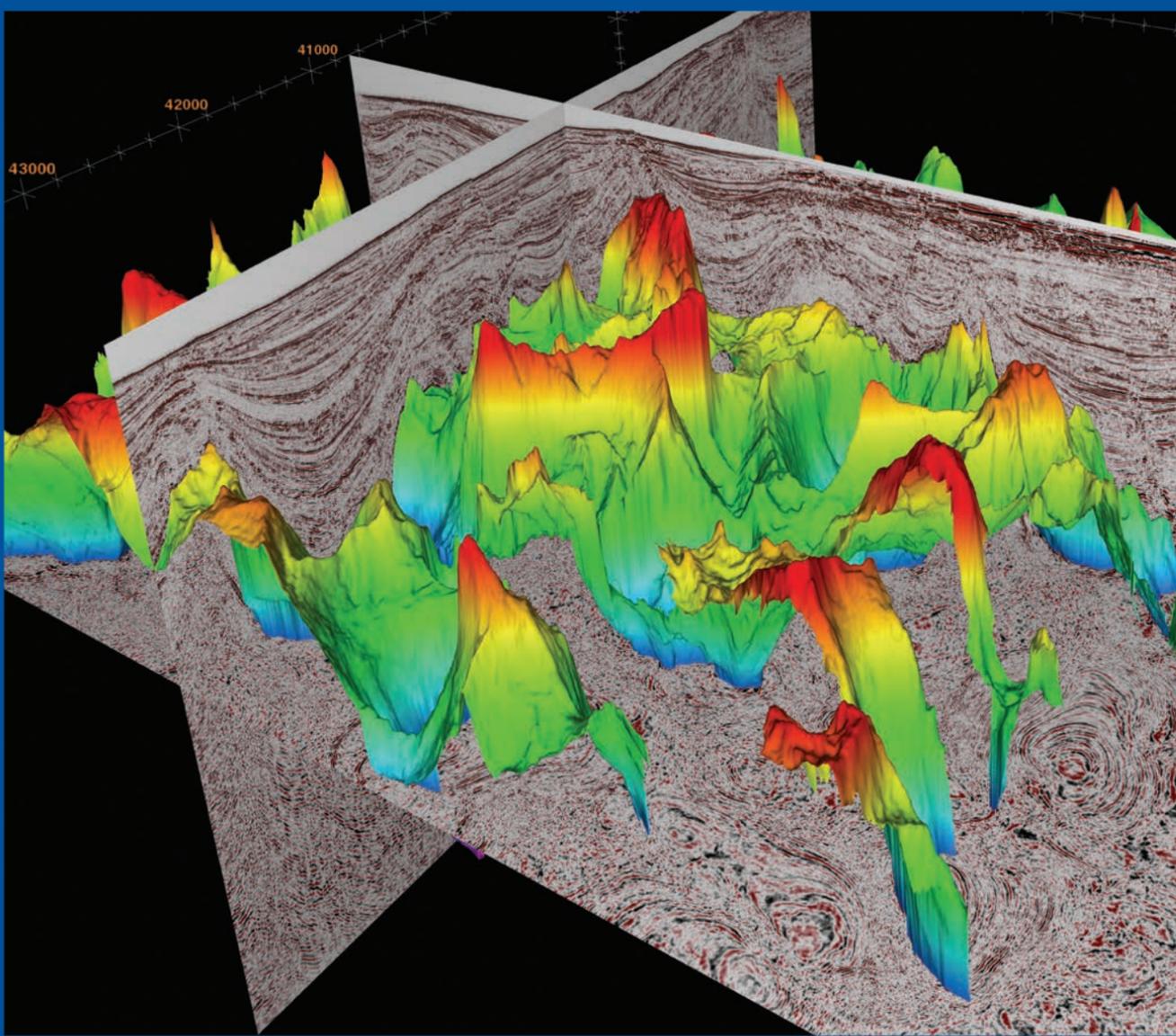
"How to implement a decision process within a company needs further consideration," he said.

One idea he suggests: Ask committee members to make their assessments independently before they meet. After all, consider the success of joint ventures.

"Besides mitigating risk, joint ventures generally improve the quality of the work by providing a diversity of viewpoints," he said.

In other words, in evaluating prospects as well as movies, perspectives matter. Here's looking at you, kid. □

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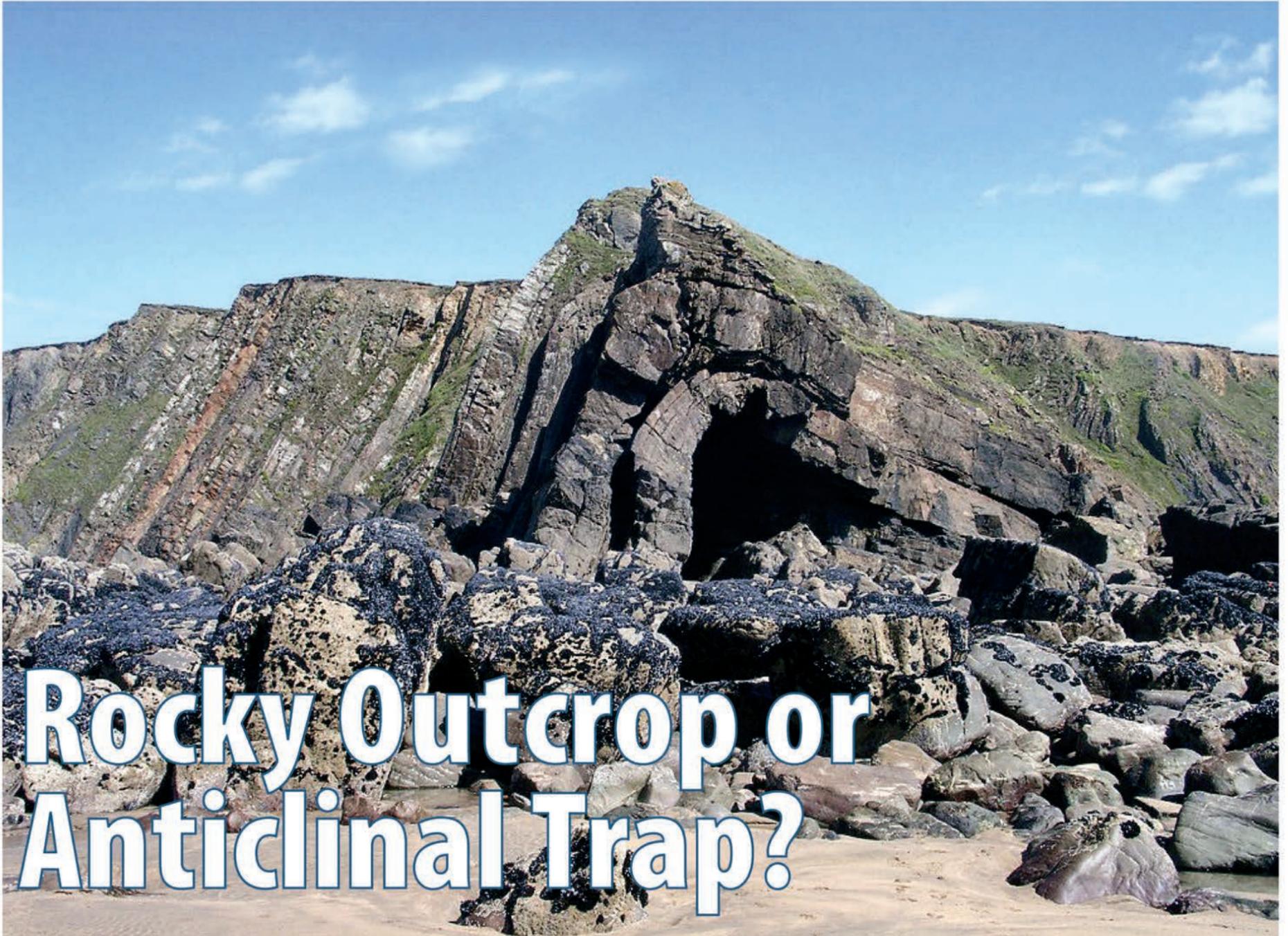
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GEOPHYSICAL CORNER

Often Wrong, But Never in Doubt

(The Geophysical Corner is a regular column in the EXPLORER, edited by Dallas consulting reservoir geophysicist Alistair R. Brown.)

By WILLIAM L. ABRIEL

Geophysics in the oil and gas business is a predicting science, but geophysicists and geologists are not generally advanced in the art of describing geophysical uncertainty.

Every client really wants to know: What do you predict? How certain are you? But what clients actually ask for are results via simple and low uncertainty communication – the “silver bullet” syndrome.

As a result, geophysicists have historically focused strongly on the quality and tools of the profession, and less on their uncertainty.

So let's look at some examples of communicating geophysical uncertainty.

* * *

Estimating uncertainty is important for key economic decisions. An example of this is a calculation of Value of Information (VOI) for seismic data, estimating the price/value prior to acquisition.

The problem to be illustrated is a risky up-dip extension of a discovery well based on 2-D seismic. The decision to be made is whether to drill and test a delineation well for \$20MM or shoot a \$5MM 3-D seismic first.

If the 3-D seismic data is acquired, there is an option to review the data and then consider proceeding on to a

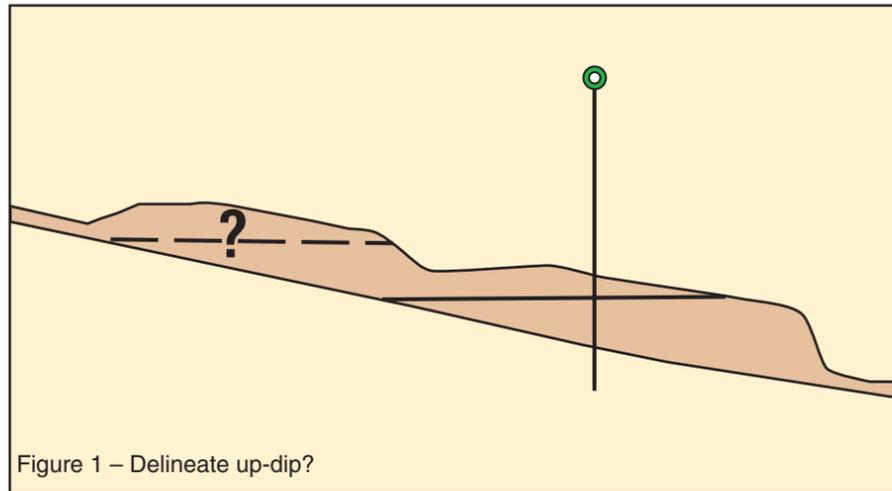


Figure 1 – Delineate up-dip?

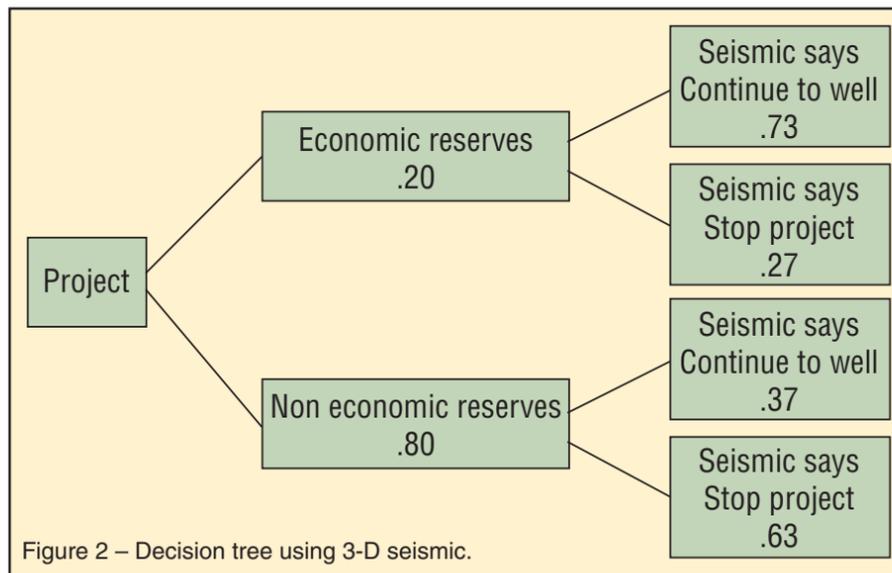


Figure 2 – Decision tree using 3-D seismic.

delineation well or not.

The VOI process will take several steps.

We will start with a probability tree based on an estimate that there is a 20 percent chance of an up-dip accumulation (figure 1). Will seismic data clearly confirm or deny this?

The seismic experts say that if the project is economic, seismic and a well will confirm it's a good project only 73 percent of the time, and incorrectly state it's a bad project the other 27 percent. However, if the project is not good, seismic data will confirm this 63 percent of the time, and incorrectly suggest a good project the other 37 percent (figure 2). This is based on factors of seeing compartmentalization, direct hydrocarbon indicators, or reservoir of a sufficient size.

The decision tree for drilling the well only (figure 3) shows different results.

The biggest risk considered in drilling without 3-D seismic was locating the well in the wrong place (wrong compartment, too far down dip, poor stratigraphic spot). As the probabilities of the decision tree suggest, well data alone is not considered as definitive of success or failure as having the seismic data.

* * *

In the next step, Bayes' rule allows for a reversal of the decision tree. Figure 4 shows the seismic tree reversed.

I will ask you to refer to a text on

See **Geophysical Corner**, page 28

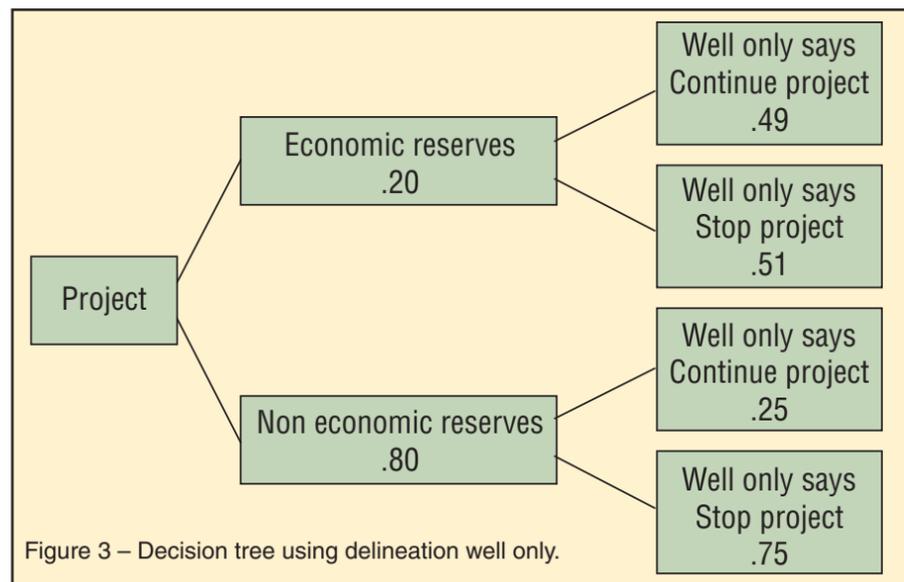


Figure 3 – Decision tree using delineation well only.

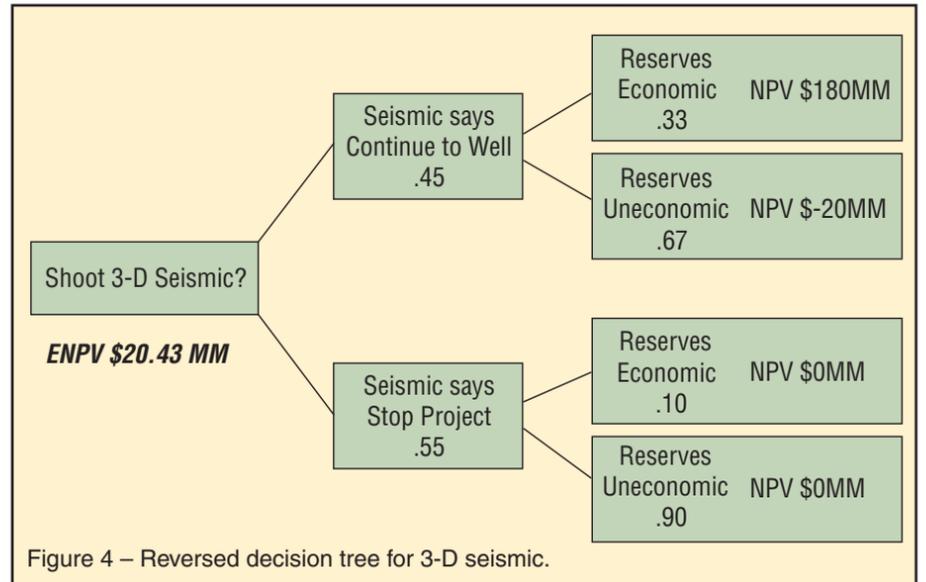
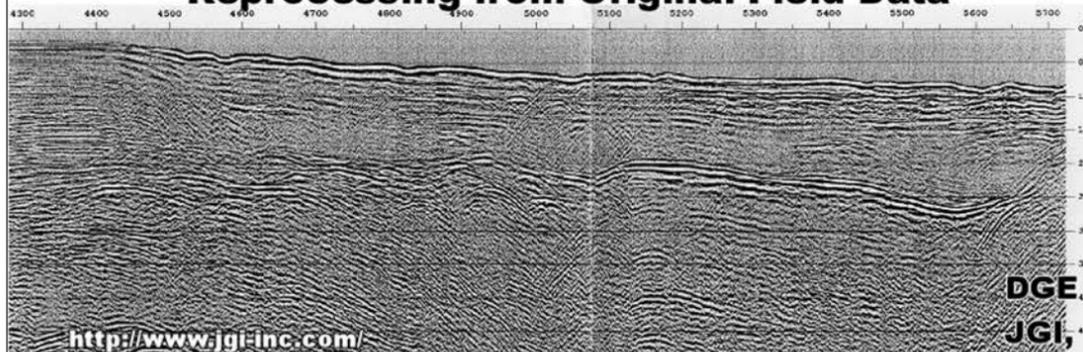


Figure 4 – Reversed decision tree for 3-D seismic.



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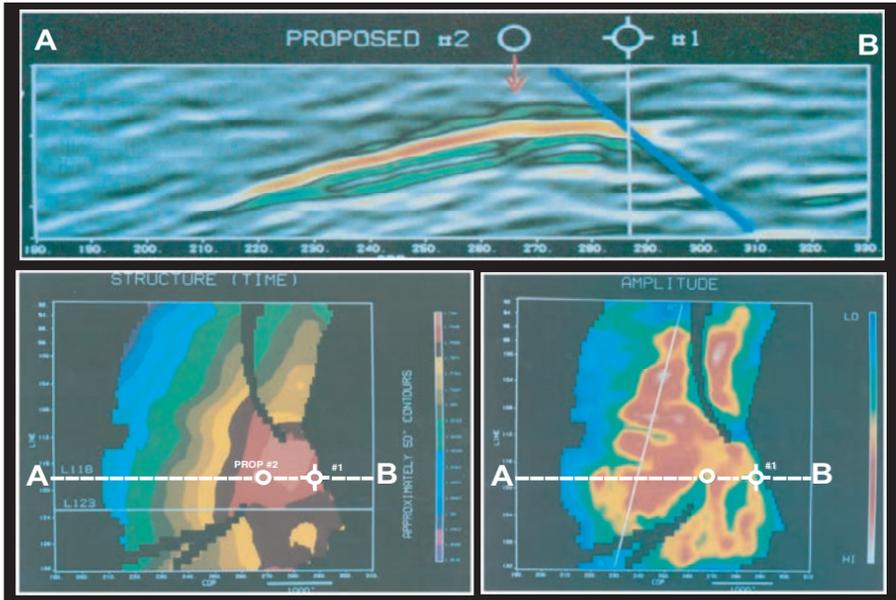


Figure 5 – Seismic attributes: Direct hydrocarbon detection?

Geophysical Corner

from page 26

decision analysis or ask someone who knows how to reverse the tree – but, really, the math is quite simple. For instance, the probability that the seismic survey will say to continue the project and drill a delineation well is calculated from the original probability tree, $.45 = (.20 \cdot .73 + .80 \cdot .38)$.

In the next step, the decision tree is back calculated for expected net present value (ENPV). The \$200MM valued project with a delineation well cost of \$20MM would have an ENPV of \$20.7MM. This is calculated by a sum of the probabilities on the “go ahead” branches of the project [$(\$200MM -$

$$\$20M) \cdot .33 + (-\$20MM) \cdot .67] \cdot .45 = \$20.7MM.$$

This compares favorably with only drilling the well and using no 3-D seismic data. A separate reversed decision tree for drilling a well alone (not shown) has ENPV of only \$14.8MM. The difference in ENPV is more than the \$5MM cost of the seismic data, so the price of 3-D seismic is in range. However, spending \$10MM on 3-D seismic would be considered to be a questionable decision – the data would be too expensive for the information provided.

The previous example does quantify VOI, but it doesn't make for a very simple communication with the client, which is also important. As a rule, decision makers prefer not to work with complexity when possible. Some even react to discussions of uncertainty quite negatively, even undermining faith in geophysical technology.

So “keep it simple” is a pretty important rule.

* * *

Are there examples where we simultaneously quantify and simplify? Taking a cue from the academic world – yes. Grading! This is an example of using many different factors (tests, class participation, essays, etc.), weighting them in a non-linear fashion, comparing to other students and calibrating with long-term standards or benchmarks. An oil and gas geophysical extension of this concept is evaluating direct hydrocarbon indicators (DHIs) through scorecards (figure 5).

Are the characteristics shown really a good DHI? How certain are we?

The 3-D seismic line shows high amplitude with a potential flat spot. The value of amplitude-above-background is consistent with a low impedance gas as modeled from an adjacent well, and the amplitude map shows an up-dip fault termination with down-dip conformance to structure.

How are these characteristics then evaluated?

The scorecard for this example shows high marks, but not a perfect DHI. Like our example of grading students, oil and gas workers may disagree on the quality of the seismic attributes or exactly how to sum their weights. But the advantages of a detailed scorecard for grading are several:

- ✓ First, it employs a standardized checklist of attributes, which means a consistent set of expected products are reviewed and an unbiased evaluation is more likely.

- ✓ More importantly, the grades are compared to a history of similar examples. By checking results against the scorecard predictions, the guidelines are set for DHIs as a calibrated tool and the grade can be used in quantitative risk prediction.

The use of VOI and a scorecard for DHI are only two measures of uncertainty in oil and gas projects. Users of reservoir geophysics, especially, are employing increasingly more sophisticated decision tools and integrating uncertainty with more demands on uncertainty description and accuracy.

Professionals who use seismic data results have a desire to understand what the data are able to predict, but also want to know how certain a geophysicist can be in their prediction.

Geophysical uncertainty is not a threat, but a valued deliverable.

(Bill Abriel is an internal consultant with Chevron in San Ramon, Calif.)

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AAPG's Second Largest International Meeting

Paris Provides Successful Setting

No one could put a finger on one specific reason – rising energy prices, a strong and diverse technical program and an exciting locale were all valid suggestions – but Paris 2005 proved to be among the most successful meetings in AAPG history.

The AAPG International Conference and Exhibition at Paris' modern CNIT Conference Center attracted 1,879 attendees, making it AAPG's second largest international meeting ever (behind only the 2,214 at Rio de Janeiro in 1998).

Although it was the third time AAPG has traveled to France for an international conference, the September meeting marked the first time such an event was held in Paris.

While the mood of the meeting was largely optimistic the meeting also sounded some notes of caution and concern.

"We must also be sobered by the realization that the world is now entering an energy transition in which our skills must contribute even more effectively than in the past," AAPG President Peter Rose said during his speech in the opening session. "Regardless of whether we encounter 'peak oil' next year or 20 years hence, growing demand is impinging inexorably upon more slowly-growing supply.

"As geoscientists, we know we must guide the way toward new provinces and new technologies as they apply to lower-grade energy resources," he said.



You are there: Some of the flavor and images of the recent 2005 International Conference and Exhibition in Paris are captured here. More photos and coverage are available online at www.aapg.org.

See **Paris 2005**, page 38

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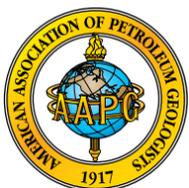
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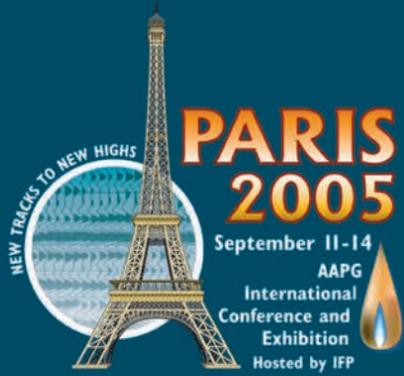


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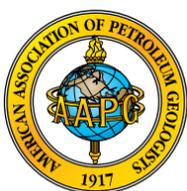


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Al-Hashimi Remembered, Honored at Paris Meeting

Attendees at the AAPG International Conference in Paris were saddened to learn of the murder of prominent Iraqi geologist Wissam Al-Hashimi, who was kidnapped Aug. 24 on the way to work in Baghdad. He was 63.

Al-Hashimi's daughter said at the time of his kidnapping he was working on his paper "Porosities of Carbonate Reservoirs of the Mesopotamian Basin: An Insight Into Their Origin," which was to have been presented at the Paris conference. She said a ransom was paid, but the family located his body weeks later in a Baghdad hospital.

A small memorial was held at the Paris session where his paper was to be presented to commemorate him and his lifetime achievements.

Al-Hashimi, born in Baghdad, studied geology-physics at the University of Baghdad and joined the department of geology in Mosul University, North Iraq, in 1967. He left Iraq in 1968 with an Iraqi postgraduate research scholarship to the

University of Newcastle, England.

He returned to Iraq in 1972 to head the mineralogy division at the DG of Geological Survey of Iraq, then he moved to Iraq National Oil Co. in 1981 to head the underground storage team.

Following the 1991 Gulf War he led the unconventional petroleum storage project, and in 1994 he returned to INOC, renamed then as the Oil Exploration Co., to head the sedimentology division. He then became a consulting geologist to the DG of Oil Exploration, and a board member of the Iraqi Drilling Co.

"He persevered in serving Iraq throughout his career and helped improve the co-operation between geologists in Iraq, the Middle East and the entire globe," said London geologist Muhammad W. Ibrahim. "He organized several AGA conferences under difficult conditions in Baghdad, Ankara, Amman, Cairo and Beirut, and he was planning another (conference) in Abu Dhabi in early 2006." □

REGIONS AND SECTIONS

(Editor's note: *Regions and Sections* is a regular column in the *EXPLORER* offering news for and about AAPG's six international Regions and six domestic Sections.

News items, press releases and other information should be submitted to the *EXPLORER/Regions and Sections*, P.O. Box 979, Tulsa, Okla. 74101.

Contacts: For Regions, Dana Patterson Free, at 1-918-560-2616, or e-mail to dfree@aapg.org; for Sections, Donna Riggs, at 1-918-560-2612, or e-mail to driggs@aapg.org.

This month's column, a look at the current state of affairs for the Latin America Region, was prepared by Carlos Jorge Abreu, professor of reservoir geology at the Federal University of Rio de Janeiro and the AAPG Region's president.)

This short article reports the good moment Latin America enjoys concerning oil exploration and the consequences on the activities involving professional associations.

There are three main reasons why times have improved throughout the Region in recent years:

- ✓ Important discoveries, such as a large gas field in the Santos Basin, Southeast Brazil, a giant gas field in a frontier area in Bolivia and oil fields in Peru.

- ✓ Increasing oil prices.

- ✓ Reduced investment risk, because companies are merging to form consortia.

In Brazil, the perspective of self-sufficiency in oil supply to be attained in a few months is justified. Petrobras works to incorporate at least 1,000 million barrels to its reserves every year.

Another good point, Colombia has simplified the rules on block licensing for exploration.

PDVSA in Venezuela also is expanding its participation in exploration with Caribbean countries, and also is joining Petrobras to build a refinery in northeastern Brazil.

Argentina, Mexico, Bolivia and Ecuador are also promoting their increasing participation in the market.

* * *

These good times for Latin America's petroleum industry naturally encourage the participation of the professional geoscience associations in a region that is well known for its need of experts and detailed geological studies.

The anticipated increases in investment in research projects and in the training of local people (universities and institutes) can be a sustainable way of maintaining qualified local staffs while increasing geological knowledge.

Efforts already have been made by professional associations, such as the recent Forum on Paleozoic Basins, organized by the Brazilian Association of Petroleum Geologists. This event, supported by AAPG and held in Rio de Janeiro last August, attracted more than 200 geologists and geophysicists with proven expertise in Paleozoic terrains.

Another important meeting, the Ninth International Congress of the Brazilian Geophysical Society, was held last September in Salvador, Brazil, a locale that last October also was host to the third Brazilian Congress of Research and Development in Oil and Gas, an interdisciplinary event sponsored by the Brazilian Association of Oil and Gas and the Brazilian Institute of Petroleum.

Besides industry participation, this congress strongly emphasizes the participation of academic researchers and students. The National Petroleum Agency has supported this event from the beginning.

During the next year several events involving international geoscientists and related professionals are going to be held in Colombia, Mexico and Argentina, and the support of the AAPG will be crucial.

* * *

There are 757 AAPG members in Latin America – not an unusually large number, but that's perhaps due to at least two reasons:

- ✓ There is a general reasoning that the oil companies – basically state oil companies – already have subscriptions and access to AAPG magazines, memoirs and other publications, which can be used by their employees.

- ✓ There is still a fear to pay the annual dues with a credit card, because some believe it is not a fully safe way of payment.

On the other hand, the growing participation of private companies in the region's oil industry is opening a good opportunity for the AAPG to attract new members.

And, perhaps best of all, the Student Chapters are booming, thanks to AAPG's support. □



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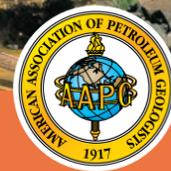
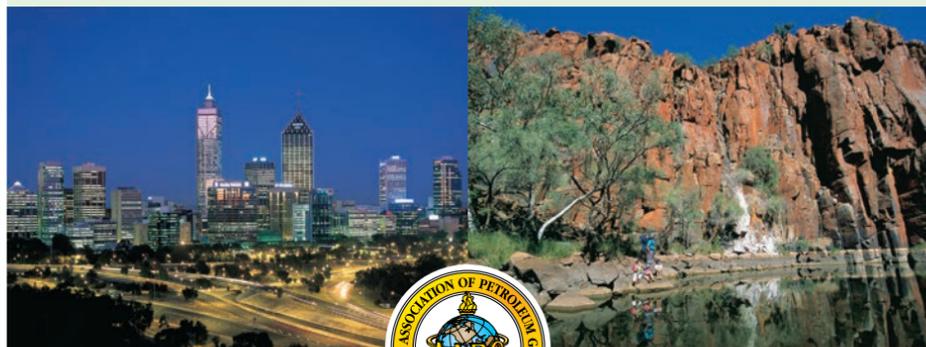
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An oil platform ripped from its mooring in the Gulf of Mexico rests by the shore in Dauphin Island, Ala., after Hurricane Katrina passed through the area.



Photo by Peter Cosgrove Associated Press

WWW.UPDATE

AAPG Web Site, Internet Offer a Network of Relief

By JANET BRISTER
AAPG Web Site Editor

"What can we do to help?"

This was a question many asked as we sat soberly in front of our televisions, helplessly watching the mayhem in the wake of Hurricane Katrina on Aug. 28 – and less than 30 days later with Hurricane Rita.

AAPG took steps in several areas:

✓ Both AAPG and the AAPG

Foundation made donations to a charitable fund on the members' behalf.

✓ Additionally, the OTC, of which AAPG is a sponsoring society and board member, donated \$100,000 to the American Red Cross to assist in relief efforts in the Gulf Coast communities affected by Hurricane Katrina. The OTC is operated by 14 professional societies and trade associations representing all aspects of the offshore industry and sponsors an annual technology conference in Houston.

Fees also were waived for storm-affected students requesting assistance to attend the AAPG/SEG Student Expo held in early October.

We also turned to the Internet. It seems ironic, doesn't it? There's no power to so many. Offices are shutdown and computer access is pretty much nonexistent and we turned to the World Wide Web.

Yet, why not be ready? Power eventually will be restored and people will have relocated either temporarily or permanently to different homes and offices.

AAPG established an Emergency Relief Message Board on the AAPG Web site to assist in locating alternative temporary housing, office space and to assist in communicating those arrangements. Members are encouraged to use the message board to coordinate efforts to assist others in rebuilding their libraries, their businesses, their lives.

It also has been used to give reports on what's happening with their lives – be it professional or personal – and in attempts to locate someone.

It was a bit of a thrill that within four hours of having been made available – and before the board was publicized – someone logged in to offer office space they could share in the Houston area.

Then within a few more days about 15 or so had responded on their whereabouts and how people could contact them. The site remains available for those members of AAPG who have relocated and need to publicize their current location.

For instance, former AAPG Treasurer Edward B. Picou checked in on the site two weeks after Katrina hit to let the membership know he had evacuated to a hotel in Birmingham, Ala., to wait out the storm – and heard his home near the front of Lake Ponchartrain had escaped the flood waters but had some roof damage. He said it would be perhaps a month before he could return to his home.

Other members also checked in to give the contact information of their temporary homes and offices – and with other news.

The site remains available for those affected by the other natural disasters that have rattled the world, including the Pakistan earthquake and Guatemala mudslides.

Also, a list of reputable relief organizations as listed by the U.S. Federal Emergency Management Agency remains available on the AAPG Web site.

* * *

To view or use this area, click on the Emergency Relief Message Board from the home page. Take a moment to log in, too, so you can respond to or post a message bringing us up-to-date on where you are, what's happening and what your needs are. Messages can be viewed without login.

The message board has been made available to the public so that those who are not AAPG members but may have information to share or assistance to provide may do so as well.

Good browsing! ☐

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LOOKINGBACK

We Have Many Reasons to Be Thankful

By MARLAN DOWNEY

In late November in the United States the holiday of Thanksgiving is celebrated. It is, I think, a peculiarly American custom that deserves a wider export. It is rooted in a day of thanksgiving first celebrated by our Pilgrim ancestors.

Few of our holidays have better credentials. For 365 days a year, our society seems to be beleaguered with complaints, protests, whimpering, cries of doom and despond. We formally reserve a day to remembering our good fortune, health, our friends and our

wonderful families.

For a more perfect world, perhaps we could remember our blessings even more often?

And we, we earth scientists, have more to be thankful for this year than anyone; challenging problems, abundant investment opportunities and businesses that are awakening to the importance of a trained cadre of energy problem-solvers.

May your Thanksgiving dinner be Cajun Turducken; and may your friends and families be your guests!

* * *

I returned from an international trip to find news of the death of Robert Megill. I do not usually deliver eulogies and will not here. But I wanted to mention the powerful effect Bob Megill has had on me and many other petroleum geologists.

Bob brought a strong background in mathematics to his career at Exxon, but his greatest strength was his analysis of statistics that provided insights into the peculiarities of geology and the oil business.

I was honored to continue in Bob's footsteps in writing a series of articles continuing his interest in the subject of the business of petroleum geology for the EXPLORER. Bob was always available for assistance and provided copies of his books and unpublished papers to the University of Oklahoma library.

He was a quiet, modest man who was the inspiration for a phrase I often have used, "Geology is a science, geophysics is a science; exploration is a business ..."

New Ideas from the South

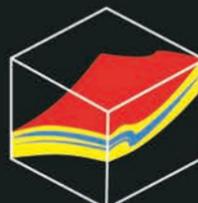
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FOUNDATION UPDATE

A new member has joined the AAPG Foundation Trustee Associates. He is:

- ☐ Herbert P. Mosca, Dallas.

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Audrey W. Adams
Michael M. Adams
Enrique Aguilera-Hernandez
Alexis S. Anastas
Roger Andrade
John Myers Armentrout
In memory of Clem Bruce
David Mobley Bacchus
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John David Edwards
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**Katrina Emergency Relief
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**Getting The AAPG News You Want
Is Now a 'Really Simple' Step**

By GERALD BUCKLEY
AAPG Production Manager

Have you ever wanted a way to keep up with AAPG's headlines about meetings, abstract deadlines, news or science without having to wade through two dozen Web pages and at least as many e-mails?

Enter a new AAPG offering: RSS (Really Simple Syndication). Think of RSS as newsfeeds, but without the hassle and zero expense; it is a headline and text excerpt of an online document with a hyperlink to the full content.

Subscribing to RSS feeds is free, and once you have a bunch of these

feeds you'll find it is easier and quicker to keep up with the sites you like. And unlike unsubscribing to those pesky e-mails, RSS allows you to simply delete what you no longer like. It is completely yours to control at all times.

Testing out RSS is a simple matter of downloading an RSS reader (if you have a recent version of the Firefox browser you are good to go). Then visit the AAPG's RSS Web site at <http://rss.aapg.org/> (notice there is no "www").

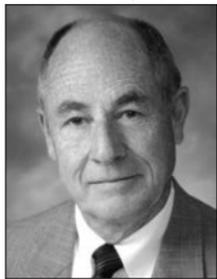
We currently have RSS feeds for the AAPG BULLETIN and *Search and Discovery*, and we'll be adding more soon. ☐

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INMEMORY

Eugene F. "Bud" Reid, a past AAPG president and treasurer of the AAPG Foundation, died suddenly Oct. 2 at his home in Carpenteria, Calif. He was 79.



Reid

A native of Long Beach, Calif., he served in the U.S. Navy in the Philippines from 1944-46. Returning home, he worked summers for a drilling company founded by his father while attending Stanford University, where he

received bachelor's and master's degrees. He began working with an independent, then worked for Shell and resigned to become vice president of his father's Gene Reid Drilling Co. in 1956.

When the company merged with Occidental Petroleum in 1959, Reid became exploration manager for Oxy, exploring the Sacramento Valley and the urban area of the Los Angeles Basin, and advanced to executive vice president in charge of worldwide oil exploration and production as Oxy successfully explored Libya.

In 1971 he became an independent in Bakersfield, Calif., and formed Sunburst Exploration in Bakersfield and Santa Barbara, and later formed Vortex Petroleum.

Reid joined AAPG in 1952 and was awarded the Public Needs Award in 1986 and Honorary Membership in 1991. He was general chairman of the 1987 AAPG Annual Meeting in Los Angeles.

He served as AAPG vice president in 1980-81 and AAPG president from 1994-95.

Two AAPG Foundation funds were established by and in Reid's honor in 2004:

✓ **The E.F. Reid Scouting Fund** supports programs that teach geology to young people in the Boy Scouts, Girl Scouts and other youth organizations as determined by the Trustees of the Foundation.

The fund was named in recognition of Reid's long-time dedication to and financial support of the Boy Scouts, including serving as president of the American Boy Scouts and as a member of its executive Board.

✓ **The E.F. Reid Dibblee Fund** supports the work of the Thomas W. Dibblee Jr. Center for Geology, which was created through the merger of the Thomas W. Dibblee Jr. Geological Foundation and the Santa Barbara Museum of Natural History.

* * *

Robert E. Megill, a geologist who became internationally known for his expertise in exploration economics, died Sept. 28 in Houston after a long illness. He was 82.

Megill graduated from the University of Tulsa with a degree in engineering geology and went to work with Carter Oil Company (nee Humble, later Exxon) estimating reserves. His focus on the economics grew and his planning group at Humble designed a ground-breaking series of seminars titled "Dealing in Dollars"



Megill

to introduce exploration economics and risk to the company.

In 1970, he wrote *An Introduction to Exploration Economics* and in 1977 wrote *An Introduction to Risk Analysis*, which became the authoritative standards in the

field. He also was the author of *How to be a Productive Employee* and a number of articles in industry publications, including the AAPG BULLETIN.

Upon his retirement from Exxon in 1983 he was the inaugural columnist for the monthly "Business Side of Geology" column in the EXPLORER and continued until 1993. He also joined AAPG President Pete Rose and Ed Capen to create and teach the "Evaluating and Managing Petroleum Risk" continuing education course for AAPG.

He was a founding and charter trustee associate of the AAPG Foundation and also served on the Publications Committee; was a Visiting Geologist; an associate editor for the BULLETIN; and was a delegate to the AAPG House.

Megill received AAPG Honorary

Membership in 1993 and the AAPG Special Award in 1997.

* * *

Marcus Kelden Bateman (AC '67)
Englewood, Colo.

Alexander C. Boardman (EM '52)
Denver

Robert P. Bryson, 94
Salisbury, Md., Aug. 31, 2005

Edward C. Bush, 64
Kingwood, Texas, July 29, 2005

Thomas Franklin Head, 90
Hebron, Neb., May 18, 2004

James R. Jackson Jr., 88
Houston, Sept. 10, 2005

Robert E. Megill, 81
Kingwood, Texas, Sept. 28, 2005

James A. Pitkin, 74

Lakewood, Colo., Sept. 3, 2004
George Edwards Prichard, 88

Denver, July 22, 2005
Eugene F. "Bud" Reid, 79

Carpenteria, Calif., Oct. 2, 2005
Benjamin F. Rummerfield, 88

Houston, Aug. 31, 2005
Frank Chambers Sims (EM '49)

Denver
Clifford L. Willis, 92

Alexandria, Va., April 30, 2005

(Editor's note: "In Memory" listings are based on information received from the AAPG membership department. Age at time of death, when known, is listed. When the member's date of death is unavailable, the person's membership classification and anniversary date are listed.)

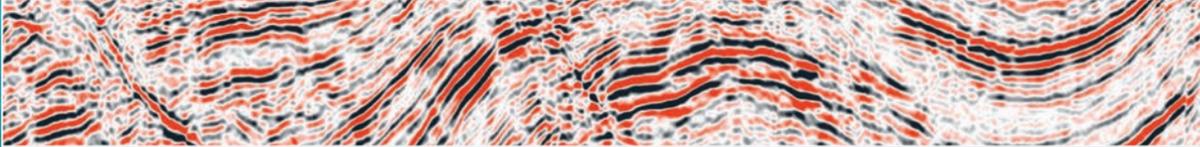
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from page 30

"However, the single most important element in making this work energy transition successful is ... the continued function of vibrant international free markets," he continued, "for the magic of free pricing to influence and allocate among buyers and sellers, consumers and producers."

Rose praised European states for having been "able to be much more energy-wise and efficient, building a more effective interface between government and industry."

"We Americans can learn a lot from our European colleagues," he said, "especially about constructive interactions between government and the private sector, with respect to

energy policy."

Rose specifically challenged American geoscientists to contribute to the development of "sound U.S. energy policy."

"Our future contributions must now be two-fold," he said. "(We must) find and develop the energy resources necessary to cross the bridge to the coming hydrogen economy, and effectively convey our special geological knowledge and counsel to our governments to build sound energy policies as well as on other geologically-influenced issues."

"American geoscientists will need to consult with our European colleagues," he said, "who seem to have been doing a much better job of this important work." □

For more information on this subject, visit the AAPG Web site.

www.aapg.org

**SPOTLIGHT ON EDUCATION**

The third annual AAPG Winter Education Conference returns Feb. 6-10, featuring several encore courses plus some exciting new additions.

The conference offers 12 courses over five days, creating an opportunity for intensive training all in one place. That includes four concurrent sessions each day, with staggered start/stop times throughout the week, allowing attendees to attend up to four courses, depending on their interest and training needs.

Courses range from one to three days in length, and are built around a "practical application" focus, offering tools and skills participants can begin using immediately in their jobs.

Courses also are grouped in similar "tracks," making it easier to follow a

particular theme throughout the week.

As in the past, there will be one tuition for the entire week and badges are transferable – for one full-week paid registration, one person can attend a course early in the week, then pass the badge to a co-worker to attend a course later in the week.

A full-week registration fee is \$1,195 for AAPG members (\$1,295 for non-members), but courses also are priced individually for those that prefer the "ala carte" option.

The 2006 list of courses includes:

- ✓ Reservoir Engineering for Geologists.
- ✓ Rock Properties of Tight Gas Sandstones.
- ✓ Evaluation and Development of Unconventional Resource Plays.
- ✓ Well Completions and Interventions.
- ✓ Introduction to DSTs for Geologists.
- ✓ Practical Wireline Tester Interpretation Workshop.
- ✓ Basic Openhole Log Interpretation.
- ✓ Log Analysis of Shaly Sands.
- ✓ Integrated Exploration and Evaluation of Fractured Reservoirs.
- ✓ Essentials of Subsurface Mapping.
- ✓ Introduction to Computer Mapping.
- ✓ Practical Mapping of Surfaces, Properties and Volumes for Reservoir Characterization.

For complete conference details and registration information contact the AAPG education department by telephone at 1-888-338-3387 (USA only), or by e-mail to educate@aapg.org. Complete course descriptions are online at www.aapg.org/education. □

Big Numbers Help Ensure Success For Student Expo

The aftermath of hurricanes Katrina and Rita did not dampen the 2005 AAPG-SEG Student Expo in Houston, as 132 students from 45 colleges and universities in 26 states met face-to-face with companies looking for new hires and summer interns.

AAPG student coordinator Mike Mlynek said that industry representatives from 22 companies rubbed shoulders with and interviewed students over the two-day meeting.

Officials agreed that this year's event, the eighth annual, was a tremendous success and continued to connect bright and enthusiastic students with companies looking for the talent they need to fuel the demands of tomorrow.

AAPG, recognizing the impact of hurricanes, offered to waive fees for students in the affected areas who requested assistance.

The Expo also provided a venue for students to display and present a poster, and this year's top poster prize went to Erika Jossen from Baylor University, who received a \$750 check, thanks to the generous support of Chevron.

Student Expo sponsors were:

- ✓ Platinum level – Anadarko, BHP Billiton Petroleum (Americas), BP, Chevron, Devon, Dominion Exploration & Production, ExxonMobil, Fairfield Industries, Kerr McGee, Nexen, Occidental, Pioneer Natural Resources, Samson Resources and Shell.

- ✓ Sponsor level – Baker Atlas, Burlington Resources, ConocoPhillips, Geoservices, Hilcorp, Marathon, Microseismic, and Noble Energy. □

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MEMBERSHIP AND CERTIFICATION

The following candidates have submitted applications for membership in the Association and, below, certification by the Division of Professional Affairs. This does not constitute election, but places the names before the membership at large. Any information bearing on the qualifications of these candidates should be sent promptly to the Executive Committee, P.O. Box 979, Tulsa, Okla. 74101. (Names of sponsors are placed in parentheses. Reinstatements indicated do not require sponsors.)

Membership applications are available at www.aapg.org, or by contacting headquarters in Tulsa.

For Active Membership

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Lyles, John O., independent, Metairie (J.F. Greene, H.L. Stewart, P.J. Post)

Ohio

Gierlowski-Kordesch, E.H., Ohio University, Athens (W.M. Last, R.H. Gaupp, G.C. Nadon)

Texas

Anderson, Kevin Brent, ExxonMobil, Houston (T.R. Bultman, J.P. Dulaney, G.D. Zimbrick); Leibrock, Robert C., Amerind Oil, Midland (W.R. Green, M.S. Shearn, M.D. Maddox); Obiozo, Rita Chiemenam, Geoscience Data Management, Houston (A.K. Ghosh, R.S. De Ruiter, O. Ilabya); Timmons, Kathy S., Selman & Associates, Midland (W.C. Stephens, T.L. Boyd, L.R. Griffin)

Canada

Grobe, Matthias, Alberta Energy & Utilities, Edmonton (R.J.H. Richardson, H.G. Machel, F.J. Hein)

India

Nambiar, Kanak R., Oil & Natural Gas Corp., Karaikal (P. Kumar, S. Mahanti, S. Venkataramaiah)

Indonesia

Haris, Abd, Adi Basukriadi, Depok (H.

Darman, D.H. Samsu, C.A. Caughey); Samsu, Dharmawan H., BP Indonesia Arkadia, Jakarta (C.A. Caughey, E.A. Berendson, R.A. Noble)

Malaysia

De Silva, Sriyane, Amerada Hess Malaysia, Kuala Lumpur (P. Tognini, R.D. Herries, B.K. Boslaugh)

Saudi Arabia

Al-Ghamdi, Jumaan A., Saudi Aramco, Dhahran (A.Q. Hamed, M.O. Al-Amoudi, I.A. Al-Ghamdi); Miller, Randy Wayne, Saudi Aramco, Dhahran (A.Q. Hamed, M.O. Al-Amoudi, R.J. Geier); Rice, James Louis, Saudi Aramco, Dhahran (A.K. Norton, N.M. Robinson Jr, A.M. Knowlton)

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Certification

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Oklahoma

Vader, Debra Elaine, Chesapeake Energy, Oklahoma City (L.C. Bridges, R.W. Von Rhee, C.C. Rose)

Texas

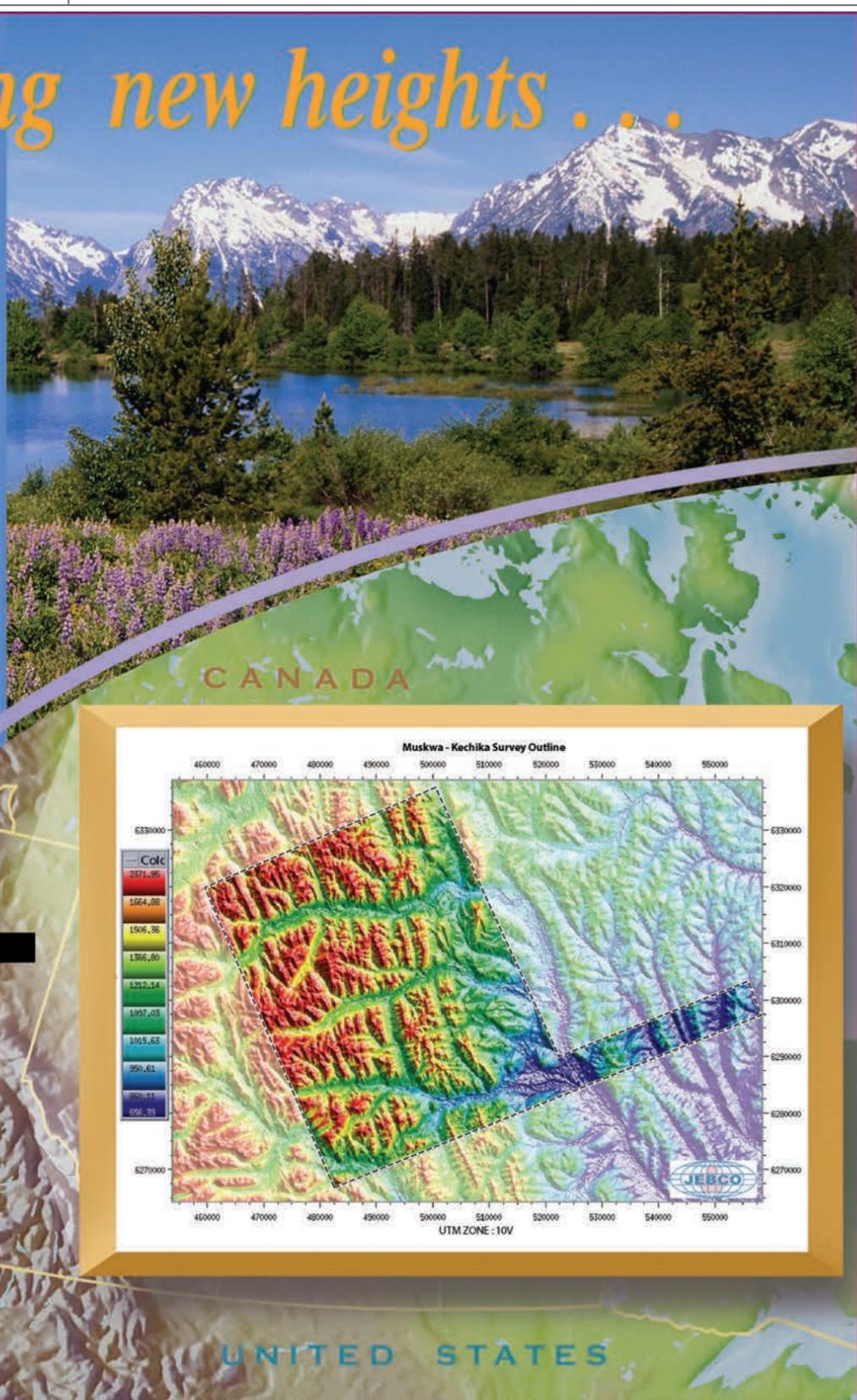
Anderson, Craig Floyd, Anderson Oil, Houston (Society of Independent Professional Earth Scientists)

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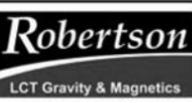


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READERS' FORUM

Top Ten Reasons

Regarding the commentary "10 Reasons Petrol Prices Will Be High" (October EXPLORER): This is great. In fact, I plan on sharing it with my non-industry friends and family as it is concise and complete in its explanation.

I hope you send a copy to the politician of your choice as it really hits the mark.

Don Eustes
Shreveport, La.

Regarding "10 Reasons Petrol Prices Will Be High": Point 4 ("No new giant oil fields have been found in 20 years ...") is off the mark. Numerous giant fields (>100 MMBOE) have been discovered, such as Buzzard (2001) in the North Sea, numerous deepwater oil fields off West Africa, in the Caspian Sea, etc.

I would add (to the list) a lack to conserve on the part of the American public (transportation and utilities) ... our cars are too big and homes too cold or hot. This is a direct result of no effective energy leadership in all areas from the federal government for over 20 years.

Too bad we didn't have \$3 a gallon gasoline 20 years ago, since the American public only responds when it hits them in the pocket book!

Jim Mulligan
Plano, Texas

Who Was Lazy?

Considering Peter Rose's field of expertise, I am surprised at his comments in the October President's Column ("Prices a Stimulus, So Better Watch It!"). His comments are so wrong for so many reasons that a short answer is impossible.

✓ We went from new field wildcats in 1980 to 100 percent development drilling

Editor's note: Letters to the editor should include your name and address and should be mailed to Readers' Forum, c/o AAPG EXPLORER, P.O. Box 979, Tulsa, Okla. 74101, or fax (918) 560-2636; or e-mail to forum@aapg.org. Letters may be edited or held due to space restrictions.

in 1986. Not from doggy prospects to good prospects.

✓ Drilling and completion costs came down dramatically with the crash of '86. Of course the costs of finding came down as well.

✓ We were doing the best we could in 1980 with limited subsurface control and without 3-D seismic. Working with the technology of the period doesn't make the

prospects doggy 20 years later.

✓ Barrels (or mcf) found per foot of drilling is in direct proportion to the ratio of wildcats to development and infield drilling.

✓ The very reason we had 15 years of development and infield drilling available was because of the wildcat drilling of the boom years.

I, for one, am tired of hearing about

how inept, lazy and unprofessional we were in the last boom. It ain't so.

Jim Evans,
Enid, Okla.

An American Problem?

David Brown's thought-provoking article on science vs. creationism (September EXPLORER) failed to emphasize one point: As an American, as well as a geoscientist, it dismayed me that the problem of which he writes is, like obesity, an exclusively American problem.

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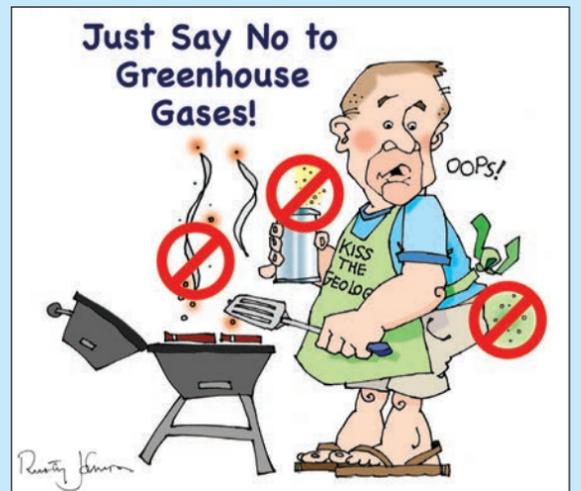
A Whimsical Top 10

If you believe that carbon dioxide is a problem: Top Ten ways to reduce CO₂ and other important greenhouse gases:

10. Ban beans in the human diet. Ban vegetative respiration.
9. Ban food animals, eat no meat. Animal flatulence includes both CO₂ and methane.
8. Ban forest fires.
7. Stop making electricity by burning natural gas. Dam more rivers.
6. Stop heating homes, stores, public buildings, universities and offices with any fossil or biomass fuels. Use sweaters.
5. Stop driving any fossil fueled vehicles. Learn to walk.
4. Stop making electricity by burning coal. Find another way.
3. Ban the use of all charcoal broilers and barbeques.
2. Ban the use of all wood stoves and fireplaces for burning high carbon biomass fuels.

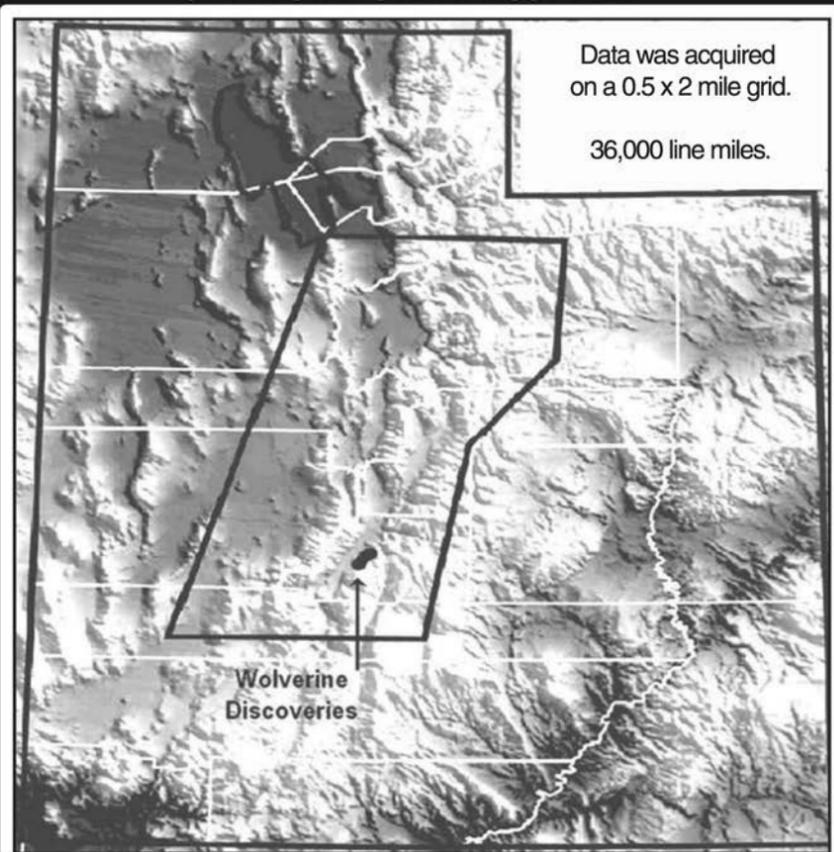
And the number one way to reduce carbon dioxide in the atmosphere:

1. Stop making ethanol – it produces 100 percent pure carbon dioxide through fermentation. In fact, stop making all alcoholic beverages!



Lee Gerhard, Lawrence, Kan.

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continued from previous page

Delegates to the AAPG in Paris will notice an absence of overweight people (except American visitors). If more of us spoke French we would realize, too, that there is a remarkable absence of religious bigots there, too.

I can't say that I go to bed at night worrying about what French people think about my country, but it does concern me that the whole world, except America, accepts the basic principles of science and we don't. I am not exaggerating: To my knowledge, public schools in India, Israel, Nepal and Saudi Arabia all teach evolution without any concern by powerful lobbies that this will cause the collapse of Hinduism, Judaism, Buddhism or Islam.

How come only American parents believe that religious beliefs will wither away unless they are presented in the classroom as scientific truths?

One reason, perhaps, is that in the countries I mentioned teaching is still considered an honorable profession and teachers are respected. In America, for years we have paid our teachers little more than supermarket clerks, and then as scientists wonder why so many of our fellow citizens have little or no understanding of basic science.

It's sad. And it isn't going to change any time soon with the increasing percentage of our shrinking tax dollars going to military spending rather than education.

Paul Ware
Bellaire, Texas

Now Hear This

Thank you for Peter Rose's column on "Reserve Estimate Training Endorsed" (September EXPLORER). I have been pushing this for some time, (and) have tried to get articles published on reserve

estimation and the need for improvement in calculating the reserves. No one was interested. What did I know? Just an old time geologist.

At least now someone else has spoken out loud. Congratulations. Maybe now someone will pay attention.

Fred Haeberle
Delaware, Ohio

Pete Rose's September EXPLORER column resonated with me.

I started in the industry in 1983 in an exploration group with a major oil company. After a short assignment where I was introduced to the barest basics of mapping and prospecting, I was assigned to a well site geology group as part of my training. Our boss was a cross between a drill sergeant and an uncle, and his mission was to train us while providing outstanding support for the prospecting teams and the drilling group.

We were not only trained in well site work but we learned a lot about prospecting as well – and that is my point: We were taught to generate meaningful maps and prospects by example. The experienced geologists who were generating drillable exploratory wells would explain why they thought their prospect would work and what the risks were. We then got to see what happened in great detail as we "sat" the wells.

In 10 months I traveled everywhere between Carlsbad, N.M., to Fort Smith, Ark., doing all manner of well site work for 13 wildcat wells. At the end of that time I had done a lot of contouring to pick casing depths or DST intervals; I had gained extensive experience in log analysis; and I learned what was wrong or right with 13 different prospects. All of this practical knowledge was supervised by my "uncle" (drill sergeant) boss. He only

See **Forum**, next page



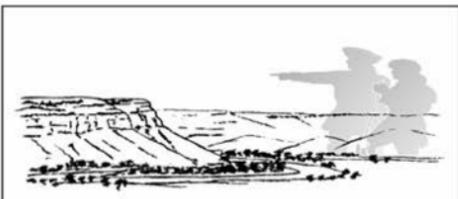
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| Impact of Natural Disasters | Environmental and Coastal Studies |

HOW AND WHEN TO SUBMIT:

Abstracts of proposed presentations must be submitted in standard format (250 words or less; no figures or references) by **January 16, 2006**. Please visit the GCAGS 2006 website, www.gcags2006.com, for further instructions and downloadable template for submission. **Oral, poster, visualization, or core presentations** will be accepted, with notification of acceptance on or before February 20, 2006. Authors with accepted abstracts must submit a paper of <11 pages, or an extended abstract with key figures of 2-4 page length by April 11, 2006 to be published in the *Transactions* volume.

ABSTRACT DEADLINE: JANUARY 16, 2006!
Questions should be directed to James Willis at gcagstech@msn.com or 337-394-3979.

Forum

from previous page

had three or four people in his group so he had the time to devote to our education.

This mentorship is the main reason why I have been able to remain employed for the last 20 years. I was fortunate because most hiring stopped right after I finished that assignment and the group was disbanded because there was no need for training.

I think the industry has forgotten the value of formal mentoring in the basics of fundamental geologic interpretation. I think Pete is correct to link the lack of contouring skills to the rise of workstations, and I am guessing that he

would agree that computers are not the problem. Geoscience computing has been a wonderful thing, because it allows the geologist to handle data so quickly that multiple working hypotheses can be tested.

However, one must know how to generate multiple hypotheses to create an interpretation that can be used to generate prospects. That is not something that is taught widely in universities, so it must be taught on the job.

I know of several bright young geologists who either left the industry in frustration or were laid off because they could not compete with older, better-trained geologists.

Now that we have a critical need for new people, it's time for the industry to get refocused on mentoring.

Keith Winfree
Midland, Texas

Read the Book

By demeaning Bjorn Lomborg of *The Skeptical Environmentalist* for "...having no scientific training or expertise comparable to those he contradicts ...," Radu Girbacea is misleading the reader (Readers' Forum, September EXPLORER).

Lomborg's training and expertise is in statistics (where his training and expertise is superior to those he criticizes). As a statistician (and a believer in human-caused global warming and Greenpeace member), Lomborg began examining the literature to prove that Julian Simon was wrong in saying that some environmentalists were using statistics improperly. (Julian Simon is the one who bet Paul Ehrlich that all his doomsday predictions in commodities would be proven wrong, and won the bet.) What Lomborg found instead was that Simon was mostly right.

Throughout his book Lomborg accepts

the facts presented by other researchers, but exposes erroneous conclusions based on improper use of statistics. Check chapter 1, figure 6, which demonstrates who is "misusing and misrepresenting facts." In that case it is not Lomborg, but the researcher whose paper he quotes. In chapter 24 Lomborg lays out the case for human-induced global warming, but also analyzes the cost and benefits of implementing the Kyoto treaty.

The reactions to his book have been wildly out of proportion to his critiques, revealing a religious-like zealotry amongst some environmentalists. For that reason alone I strongly recommend the book.

Read the book yourself and see what the fuss is about. Then make up your own mind.

James L. (Jim) Allen
Houston

The Value of Research

Eugene Shinn's commentary (August EXPLORER) on "Pioneering Research: What a Concept" was "spot-on," especially the point that teams are formed to make decisions on how to make management decisions with no hands-on geologic field experience or knowledge of what is known or unknown.

Today the computer has enhanced data usage so that the results have all the same interpretation (while using the same data), without either creativity or practical geologic input by looking at the rocks. Many geologists work data on the computer (nothing wrong with that) but do not apply models or petrological and petrophysical data, nor do they understand electric log responses, especially calibration analysis and rock analysis, and generally trust the logging company's colorful optimistic interpretations.

Shinn's fieldwork in Qatar is, in my opinion, "classic" and has been generally ignored by the industry. There are two AAPG films ("Stratigraphic Traps: The Tidal Flat Model" and "Arid Carbonate Coastlines," also now available on DVD) made by Shinn and others that are most interesting and should be required viewing by geologists in the industry. I have used both in teaching in-house and to both undergrads and grads to the delight of all, including biologists, and have received repeated requests for additional showings. These movies, when shown together, can open the career minds of both geologists and biologists to getting back-to-basics – that is, looking at the environment and applying models, for profitable creativity in both exploration and production.

Thank you, Eugene, for reminding us of the value of applied research.

Hugh J. Mitchell-Tapping
Fort Myers, Fla.

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U.S. Geological Survey Mendenhall Postdoctoral Research Fellowship Program

The U.S. Geological Survey (USGS) invites applications for the Mendenhall Postdoctoral Research Fellowship Program for Fiscal Year 2007. The Mendenhall Program provides opportunities to conduct research in association with selected members of the USGS professional staff. Through this Program the USGS will acquire current expertise in science to assist in implementation of the science strategy of its programs. Fiscal Year 2007 begins in October 2006.

Opportunities for research are available in a wide range of topics. The postdoctoral fellowships are 2-year appointments. The closing date for applications is December 1, 2005. Appointments will start October 2006 or later, depending on availability of funds. A description of the program, research opportunities, and the application process are available at <http://geology.usgs.gov/postdoc>. The U.S. Geological Survey is an equal opportunity employer.

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Applicants should send a letter of application, curriculum vita, statement of teaching and research interests and educational philosophy, copies of official transcripts, article reprints and contact information for three references to Dr. R. LaRell Nielson, Chair, Department of Geology, P.O. Box 13011, Stephen F. Austin State University, Nacogdoches, TX 75962. Review of applications will begin by Jan. 15, 2006; the position will start in Fall 2006. EOE; security-sensitive position; criminal history of successful candidate will be checked.

The University of Texas at Austin Jackson School of Geosciences

The University of Texas at Austin's Jackson School of Geosciences is seeking to fill two positions for 3D Seismic Applications Specialists—one in the Dept of Geological Sciences and one in the UT Institute for Geophysics. These positions are part of a school-wide initiative to increase research and educational support for 3D seismic data applications in all units of the Jackson School of Geosciences.

Responsibilities for the position at the Institute for Geophysics, an organized research unit in the Jackson School of Geosciences, include managing and maintaining 3D seismic data sets, building processing flows, data editing and QC, building velocity models, running processing jobs on Sun servers and Linux clusters, and writing progress reports. The objective of this position is to support applications of 3D seismic reflection data to research projects addressing broader problems in understanding geologic and tectonic settings. In addition to supporting research efforts, candidates will be expected to develop their knowledge and skills of processing, and visualization software and provide instruction for other users. The ideal candidate will have a strong background in 3D seismic data processing, especially 3D depth imaging and use of Paradigm's Focus and Geodepth software. Contact: Dr. Nathan Bangs, nathan@ig.utexas.edu For information on the UT Institute for Geophysics, visit our web page: www.ig.utexas.edu

Responsibilities for the position in the Dept of Geological Sciences, the academic unit of the Jackson School of Geosciences, include management and support of seismic data sets for use by graduate student, staff and faculty researchers, management and support of 3D seismic interpretation applications software (including Landmark and GeoQuest), management and support of seismic processing systems (including ProMax and Omega) and support for parallel computing for imaging and inversion applications on very large clusters. The ideal candidate will have programming capabilities in Fortran, C/C++, MPI and open software applications. Contact: Prof. Robert Tatham, tatham@mail.utexas.edu For information on the UT Dept of Geological Sciences, visit our web page at: www.geo.utexas.edu

Both positions require a Bachelors degree in an appropriate area of study and five years of relevant industry or academic experience. A MS degree is strongly preferred. The appointments will be 12 month salaried positions in the University of Texas at Austin Classified Staff category. Salary level is negotiable, and depends upon qualifications and experience. Funding is subject to renewal Sept. 1,

2007. Please send a complete resume, written statement of interest in the positions and three reference to: Mr. George Mercado, The John A. and Katherine G. Jackson School of Geosciences, The University of Texas at Austin, P.O. Box B, University Station, Austin, TX 78713-8902. Applications may be submitted by email to: gmercado@mail.utexas.edu or on-line at <http://www.utexas.edu/hr/empl/> Review of applications will begin in December, 2005 and continue until the positions are filled. For information on the school, visit www.geosci.utexas.edu

Background check will be conducted on applicants selected. The University of Texas at Austin is an Affirmative Actions / Equal Opportunity Employer.

UNIVERSITY OF WYOMING: GEOHYDROLOGIST

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Applications should include a statement of research and teaching interests and accomplishments, curriculum vitae, graduate transcripts, and the names and contact information of three references. Review of completed applications will begin January 3, 2006. Send an electronic copy of your application to: Ms. Carol Pribyl at cpribyl@uwyo.edu; if you have additional application materials to send, please direct them to the Geohydrology Search Committee, Prof. Carol Frost, Chair, Department of Geology and Geophysics, University of Wyoming, 1000 E. University Ave., Dept. 3006, Laramie, WY 82071.

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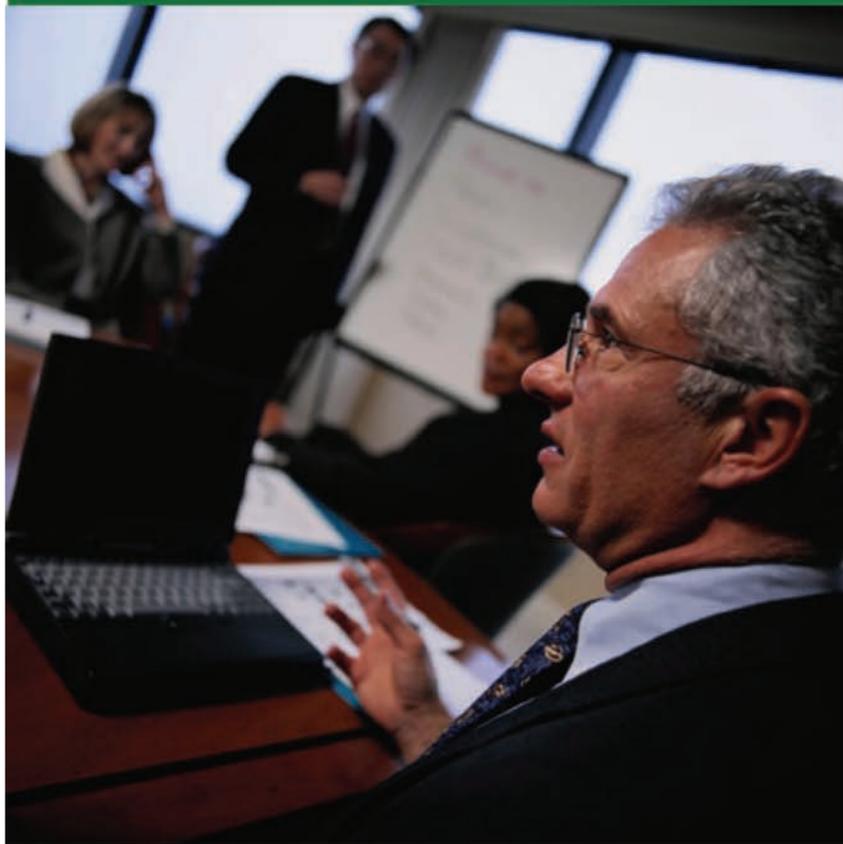
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Lester A. Day Family Chair and Director of the Sarkeys Energy Center
The University of Oklahoma

The University of Oklahoma invites nominations and applications for the joint positions of inaugural Dean of the College of Earth and Energy and the Lester A. Day Family Chair and Director of the Sarkeys Energy Center. This new College, which will begin operation in January 2006, brings together the University's world-renowned academic programs in Petroleum and Geological Engineering, and Geology and Geophysics, with the Oklahoma Geological Survey and the Sarkeys Energy Center. The Dean and Director will be a visionary, dynamic and energetic leader who will chart a bold course for the future to engage multiple disciplines and industries in the study of the Earth and energy.

The New College: The College of Earth and Energy is being formed as a response to new challenges in energy and Earth sciences that require a coordinated, multi-disciplinary approach involving academic programs, research centers and institutes, and policy- and service-related organizations. The new College emphasizes science and engineering in all forms of energy; Earth science; and energy management and policy to address the human, business and societal dimensions that are essential to the future. The College also recognizes the importance of linkages with industry and the development of innovative programs that link academia with practice. The units composing the College currently enroll 235 undergraduate and 187 graduate students and employ 50 faculty and 79 administrative and technical staff. The combined research expenditures of these units in 2004-05 (FY05) were \$4,440,424.

Responsibilities: The Dean and Director provides overall academic, intellectual and administrative leadership for the College of Earth and Energy and reports to the Senior Vice President and Provost. The successful candidate will be awarded the endowed Lester A. Day Family Chair as Director of the Sarkeys Energy Center. The Dean and Director is responsible for the quality and effectiveness of instructional, research and service programs and serves as the chief spokesperson with external constituencies including advisory boards, donors and the private sector. Further, the Dean and Director has overall responsibility for decision-making in the areas of faculty and staff recruitment, development and retention; resource allocation; and facilities and equipment management, and also actively promotes diversity.

Qualifications: Candidates must have an earned doctorate or equivalent experience and be eligible for appointment as a faculty member in a school of the College at the rank of Professor with tenure. Preference will be given to candidates with a strong commitment to education as demonstrated by success as an instructor in higher education, in industry or government training or outreach programs, etc.; a distinguished record of scholarly research nationally and internationally; outstanding administrative leadership and management skills, fund-raising capabilities, and a working knowledge of higher education. The candidate also must possess effective communication and interpersonal relation skills for establishing wide contacts within the University and beyond, including those with leaders in business, industry and government, and for working effectively with the diverse disciplines within the College. Candidates with executive experience in business, industry and government are encouraged to apply.

The University: Established in 1890, the University of Oklahoma is a public research university that enrolls over 23,000 students at its main campus in Norman and an additional 7,000 students at the Health Sciences Center in Oklahoma City, the Schusterman Center in Tulsa and in continuing education programs. The University ranks first nationally among public institutions in the number of National Merit Scholars per capita and is developing a new Research Campus, contiguous to its main campus, that collocates University, government and private sector components to promote synergy for mutual benefit. Located 20 miles south of Oklahoma City, Norman is rich in culture and the arts with outstanding public schools and a variety of recreational resources.

Applications and Nominations: The search committee will begin screening applications on 1 October 2005 and the search will continue until the position is filled. The preferred start date is 1 January 2006. Applications should include a letter of interest demonstrating how the candidate fulfills the qualifications for this position, a complete curriculum vitae or resume, and the names and addresses of at least six references. Nominations and applications should be directed to:

Paul B. Bell, Jr., Search Committee Chair • Dean, College of Arts and Sciences,
Vice Provost for Instruction, Ellison Hall, Room 323, Norman, OK 73019
pbell@ou.edu
Phone: (405) 325-2077 FAX: (405) 325-7709
For more information: <http://www.ou.edu/cee>

The University of Oklahoma is an Equal Opportunity/Affirmative Action employer and has a policy of being responsive to the needs of dual career couples. Applications from women and minorities are specifically encouraged.

Latimer Continues DL Tour This Month

Rebecca Latimer, this year's AAPG-SEG Intersociety Distinguished Lecturer, will continue her speaking tour in late November and early December with four scheduled talks.

Latimer, who is a geoscientist and team leader for stratigraphy and geostatistics services for Chevron Energy Technology Co., Houston, is speaking on "Uses, Abuses and Examples of Seismic-Derived Acoustic Impedance Data: What Does the Interpreter Need to Know?"

Her schedule is:

☐ Nov. 29 – San Antonio Geophysical Society and San Antonio Geological Society.

☐ Nov. 30 – Montana Geological

Society, Billings, Mont.

☐ Alaska Geophysical Society and Alaska Geological Society, Anchorage, Alaska.

☐ University of Alaska, Fairbanks, Alaska.

In October Latimer spoke to groups in El Paso, Texas; Tulsa; Midland, Texas; and Denver. She'll also do a two-week speaking tour in March, visiting groups in the eastern United States.

Latimer, an AAPG member, is the fourth AAPG-SEG intersociety lecturer. For more information on the DL program contact Barbara Davis at AAPG headquarters in Tulsa, or go to the Web site at www.aapg.org. ☐

EMD

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legacy data. This process, when implemented by the Executive Committee and the Elected Editor, will significantly expand the AAPG geospatial data library and provide a significant service to members and the industry.

AAPG is uniquely positioned to build such a library with its wealth of geologic data. To get an idea of AAPG's current spatial data projects, search for UDRIL (Upstream Digital Reference Information) on the AAPG Web site.

* * *

If you are new to GIS, what is the best way to learn more?

✓ A one-day, case-study based short

course on the application of GIS and remote sensing to energy is planned by EMD for the 2006 AAPG convention in Houston.

✓ Hands-on (with PCs) GIS training with an emphasis on oil and gas applications is offered by companies such as TeachMeGIS.com.

✓ An excellent reference to read is the 2000 AAPG Computer Applications in Geology No. 4, *Geographic Information Systems in Petroleum Exploration and Development*, by Timothy C. Coburn and Jeffrey M. Yarus.

✓ A good conference to attend is the annual ESRI-sponsored GIS Petroleum User Group meeting in Houston.

(Editor's note: Limerick, the EMD Geospatial Information Committee chair, is a geologist/GIS analyst with Z Inc., working on contract for the Energy Information Administration's Dallas-based Reserves & Production Division.)

Classifieds

from previous page

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For further information or assistance, call Brenda Merideth at (918) 560-2647 or (800) 288-7636 (Canada and USA).

DIRECTOR'S CORNER

Plan Aims to Meet Areas of Need

By RICK FRITZ

Sigmund Freud once mused that "thought is action in rehearsal."

For the past few years we have been "rehearsing" about "needs" in geoscience, and the result is the *action* of developing a comprehensive fund raising plan for both the AAPG Foundation and the Association. The plan's purpose is to meet the Foundation's mission of serving the general public – especially in the areas of geosciences and energy – and to meet the Association's mission of advancing the science of geology.

Each year the Foundation receives income from its growing endowments plus an average of \$695,000 annually from AAPG members and non-members. The Foundation Trustees designate approximately \$800,000 annually to programs that benefit both members and the general public worldwide.

The new Fund Raising Program is designed to meet three areas of need:

Increased funding for current projects, such as Grants-in-Aid for students and the Distinguished Lecturer Program.

There is a great need for increased student Grants-in-Aid, especially in relationship to manpower issues in the energy industry. Both the AAPG Association and Foundation are dedicated to assisting students and helping in the development of their careers.

Each year there also is great demand globally for AAPG Distinguished Lecturers (annual cost is \$150,000-\$180,000). We want to double the number of AAPG DLs

The AAPG Foundation is designed to develop endowments in order to meet its mission. The Foundation's goal is to provide perpetual support for all deserving programs. Each year the Foundation gives approximately 4.5 percent of the corpus of its established endowments.

in the next few years.

Also, the Foundation, through gifts from the Association, pays for the increasingly popular Visiting Geologists Program.

Develop additional and/or original funding for "naming" opportunities of current and new projects.

Examples of "naming" opportunities include sponsorship of the BULLETIN. We also are planning the development of an "exploration workshop" – similar to the Hedberg Research Conference – that is looking for a name.

There also are "naming opportunities" for "bricks and mortar" projects like the AAPG Foundation Library, which we want to upgrade.

Increased discretionary funding to meet unsolicited requests for funding new and innovative ideas.

Each year the Foundation receives many worthwhile unsolicited requests for funding. For example, the Foundation has provided partial funding for an "Interactive Geology Project" developed by Paul Weimer and others through the University of Colorado. The project is designed to develop a series of animations and Web deliverables for select museum and national parks' visitor centers.

More discretionary funding means

more good ideas for advancing the science – and appreciation – for geology coming to fruition.

* * *

The AAPG Foundation Trustees met on Aug. 21-23 in Dallas to review and implement the fund-raising plan developed by the fund-raising steering committee and staff with recommendations from our fund-raising consultant, Kent Strohmman.

They approved the budget for the Foundation Fund Raising Program, which includes the hiring of a full-time campaign manager and part-time fundraising consultant. This is a key milestone in the development of the program and will set the fund-raising plan into full gear.

The first step is to develop a survey to test the fund-raising plan, which will be executed by the fund-raising consultant as a third party. The survey is important because it will let us know if there is interest and if we are taking the best approach.

The next step is to compose the Campaign Committee. Of course, this committee will comprise people committed to the process. They will be responsible primarily for establishing the final goals and making key contacts to

advance the program.

A parallel corporate fund-raising campaign also is under way. The Association is providing oversight for this program.

Each year the AAPG Foundation quietly fulfills its goals and provides important geoscience information and services around the world. We ask all AAPG members to help in this process with your ideas and generosity.

Thanks.

* * *

As I was writing this column the sad news came that AAPG Trustee and past AAPG President Bud Reid passed away unexpectedly on Oct. 2 at his home in Carpinteria, Calif. (see page 37).

Bud was one of those true givers in life. He had a passion for funding and serving AAPG, the Boy Scouts, the Dibblee "mapping" program and anything to do with our national parks.

Many times, when the Foundation did not have enough discretionary funds to meet a need, Bud would say, "Don't worry guys, I think we should do this and I will pay for it out of my own pocket."

He will be missed for his leadership, his kindness and his generosity.



Training Available

GIS Provides Information Edge

By SAM LIMERICK

Most of the larger oil companies have adopted geographic information systems (GIS), or geospatial technology, and it has revolutionized the way they do business.

With GIS software it is possible to integrate diverse data layers into one map, all georeferenced so they overlay correctly. This allows users:

- ✓ To visualize relationships between layers heretofore unseen.
- ✓ To perform sophisticated data queries and analysis.
- ✓ To better visualize complex datasets in 2-D or 3-D.

The power to integrate and synthesize wide varieties of data is particularly useful for regional geologic studies and petroleum resource assessments.

A major advantage of GIS over conventional methods is the direct link between mapped features and the data tables associated with the features. That linked data is available for visual display, analysis or to be combined with other GIS data sets for further analysis (Hood et al, 2000, in AAPG Computer Applications in Geology No. 4, referenced below).

* * *

What is a "GIS"?

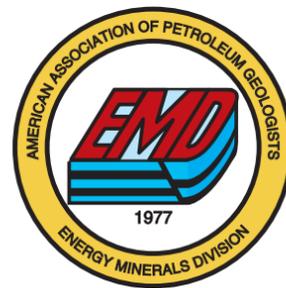
I like the U.S. Geological Survey's definition: "A computer system capable of capturing, storing, analyzing and displaying geographically referenced information; that is, data identified according to location."

"Practitioners also define a GIS as

including the procedures, operating personnel, and spatial data that go into the system."

The amount of petroleum-related GIS data has expanded tremendously in the past few years, much of it available via Internet data portals. My discussion will focus on U.S. data: You don't need to pay a vendor to get basic well data for a lot of areas. Free or inexpensive well data tables with location coordinates are available from many of the petroleum-producing states. These tables can be easily converted into well points on a map using GIS software.

The tables typically have data fields such as depth, well status, well type or production data for map symbolization or analysis. Oil and gas field boundaries



(polygons) for some producing states also are available from the same sources.

Much of the data needed to build a base map for an area of interest is available for free from Web sites such as geodata.gov or nationalatlas.gov. Political boundaries, cities, cadastral data, water bodies, roads, park and federal lands can

be downloaded gratis.

Detailed land parcel data, when available online, is often for query only or for purchase.

Remote sensing data (including aerial photos and satellite images), ground elevation data (DEM) and global positioning system data also can be integrated, displayed and analyzed within a GIS. A lot of free imagery and DEMs are available on the Web at sites such as gisdata.usgs.net.

In order to enable the viewing of spatial data, interactive Web mapping sites have been constructed to let users browse or query oil and gas data.

(Excellent examples of these are the USGS National Oil and Gas Assessment and the Louisiana Department of Natural Resources SONRIS system.)

Some allow users to click on and view related data such as scout card or lease information. An index of Web mapping sites can be found at mapdex.org. One of the most amazing Web applications is Google Earth, a 3-D Web GIS visualization tool that you can download for free.

* * *

AAPG is taking the revolution of GIS in the petroleum industry very seriously. An ad-hoc committee chaired by Dick Bishop and co-chair Bret Fossum has recommended a process to capture spatial data in digital format from incoming articles and publications as well as from

See **EMD**, page 44

EMD Candidates Announced

AAPG's Energy Minerals Division has announced its officer candidates for 2006-07.

The candidates are:

President-Elect

- Creties Jenkins**, Degolyer & McNaughton, Dallas.
- Doug Patchen**, West Virginia Geological and Economic Survey, Morgantown, W.Va.

Vice President

- Charles E. Barker**, U.S.

Geological Survey, Denver.

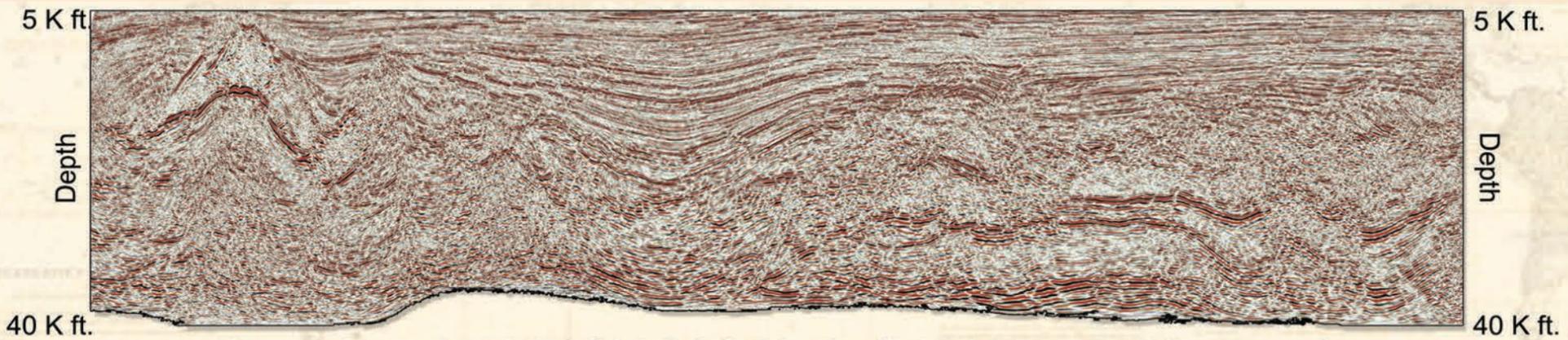
- Jack Pashin**, Geological Survey of Alabama, Tuscaloosa, Ala.

Secretary

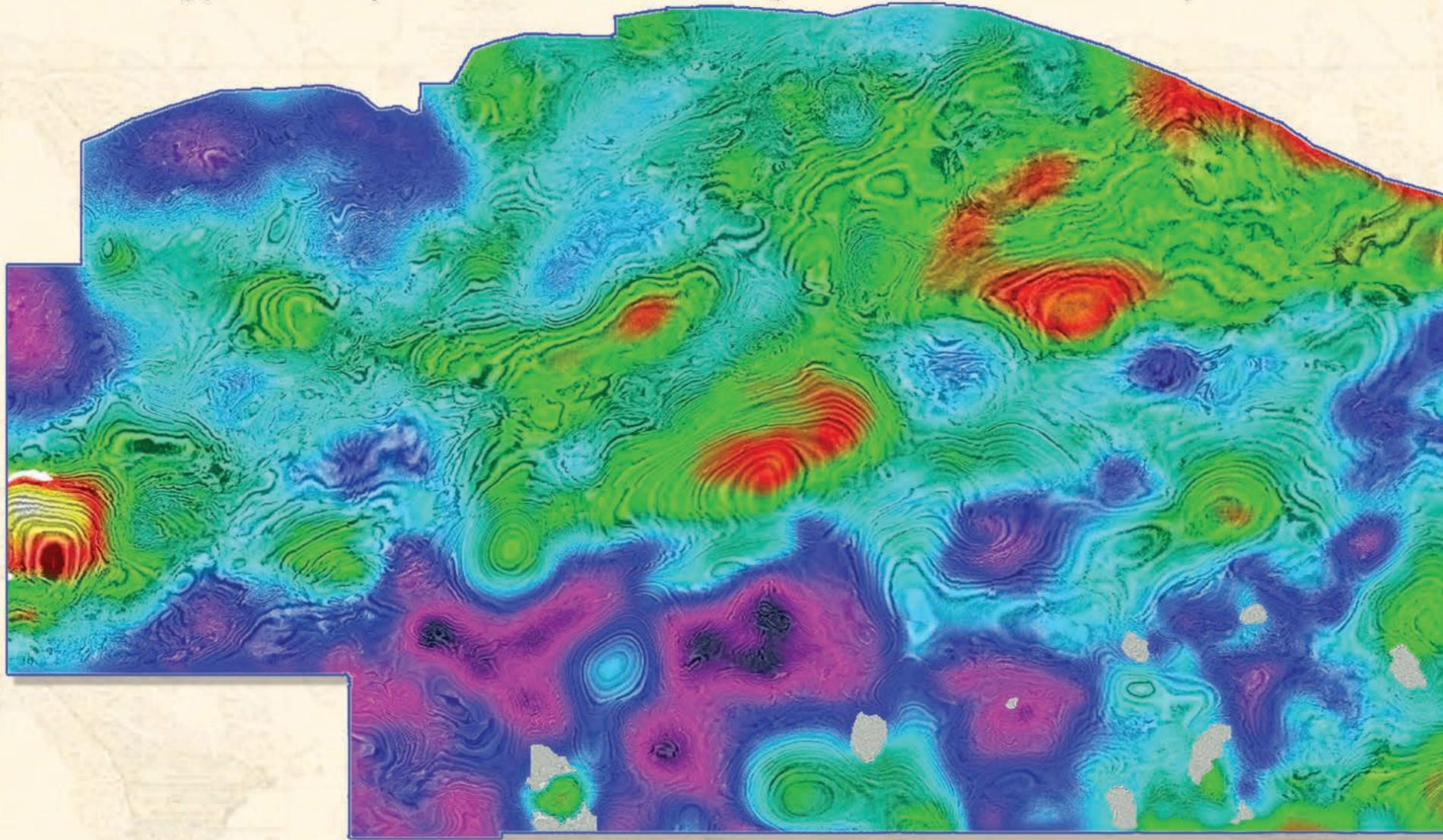
- Elizabeth B. "Betsy" Campen**, consultant, Billings, Mont.
- Kay L. Pitts**, Aera Energy LLC, Bakersfield, Calif.

Ballots will be mailed in the spring of 2006 and winning candidates will assume office on July 1.

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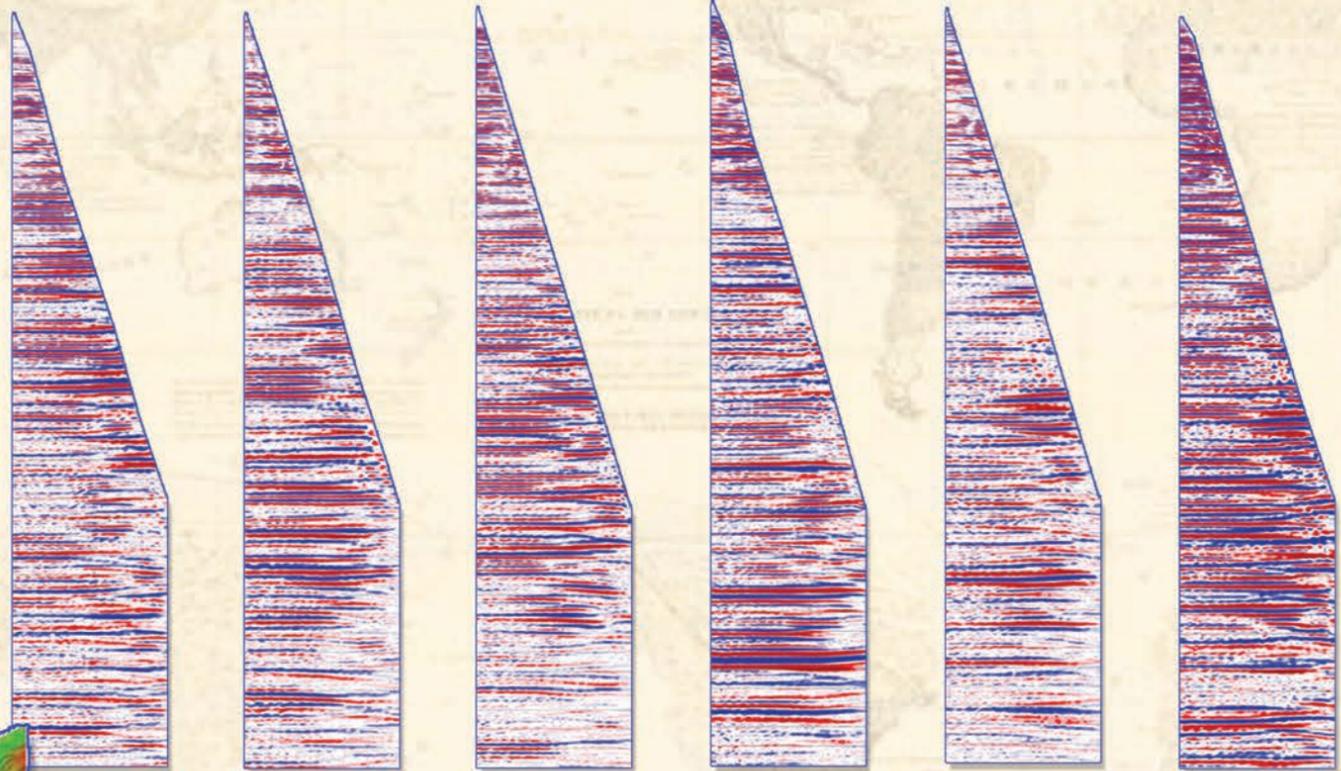
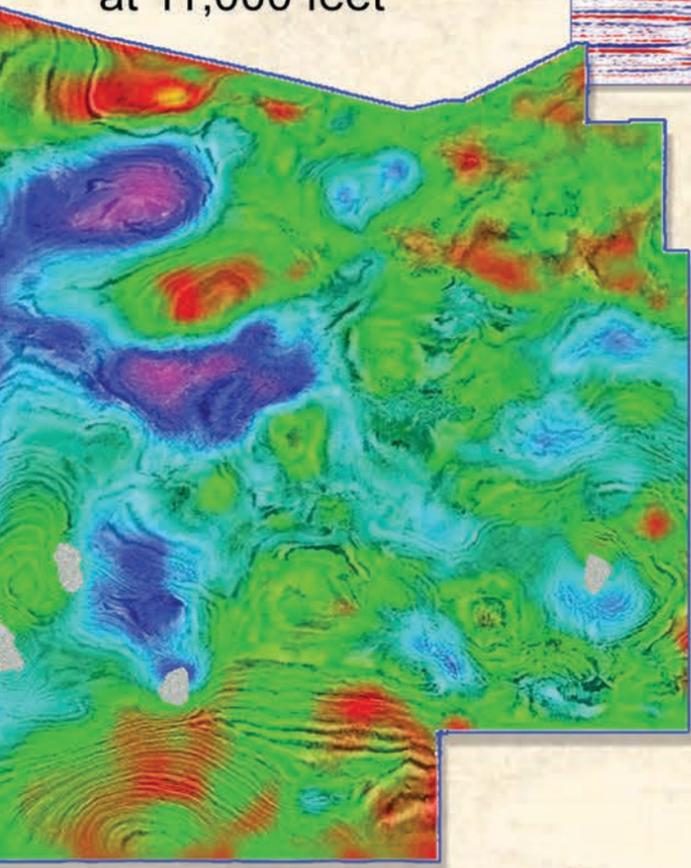
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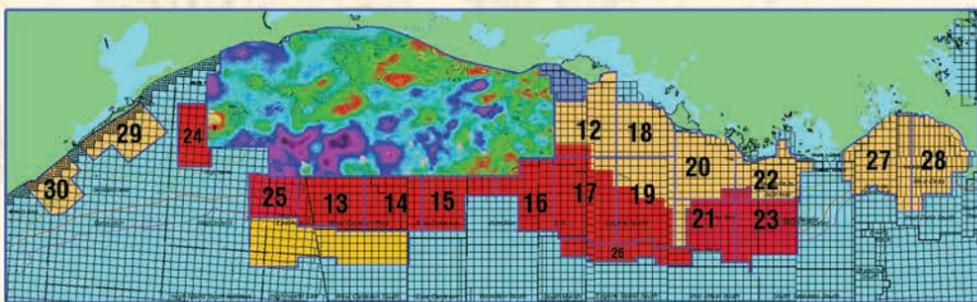
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