AAPG AMERICAN ASSOCIATION PETROLEUM GEOLOGISTS, AN INTERNATIONAL ORGANIZATION

EXPLORER

FEBRUARY 2008

A Mighty Wind

Fueling North Sea Production

See page 10

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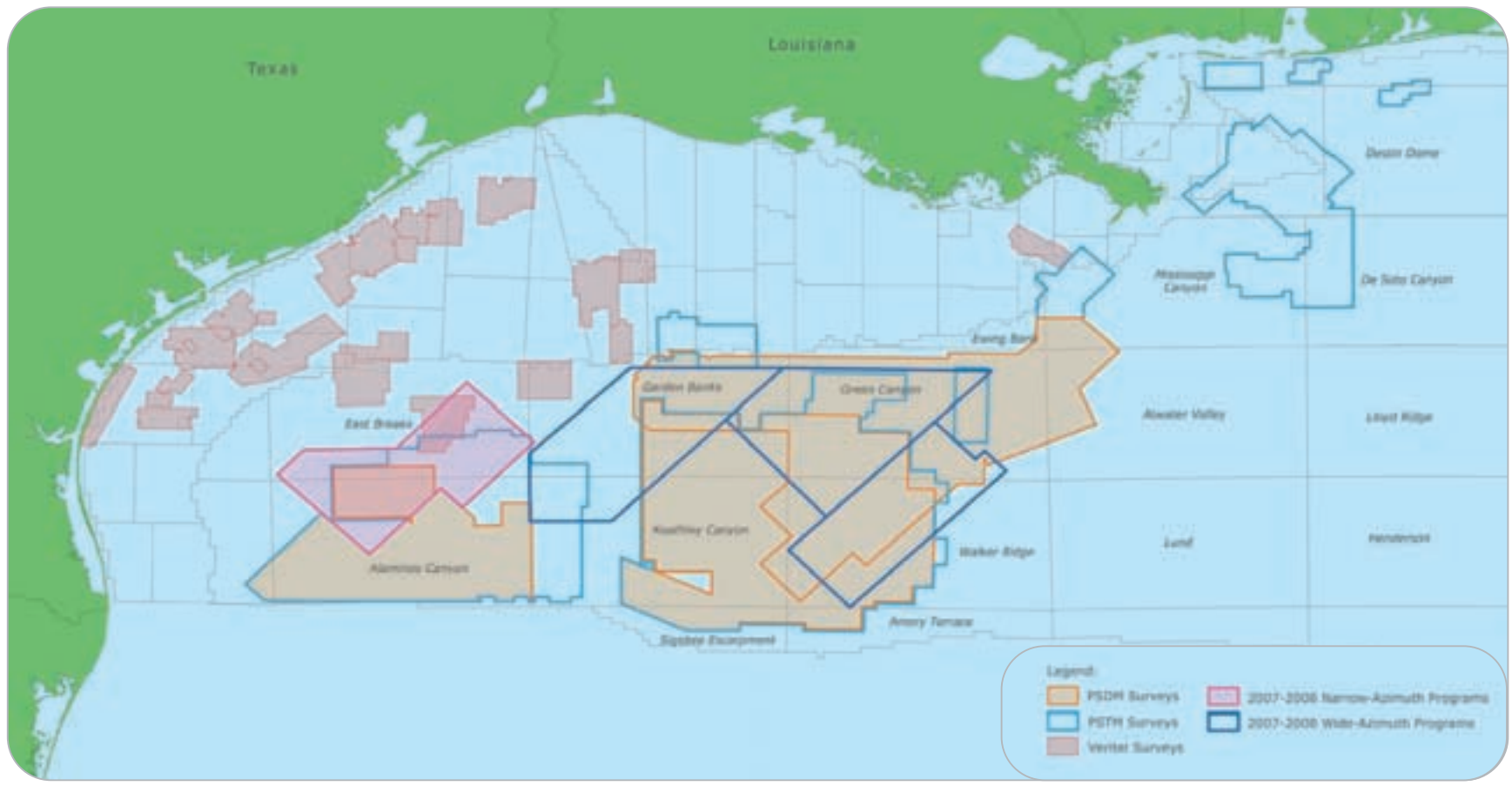
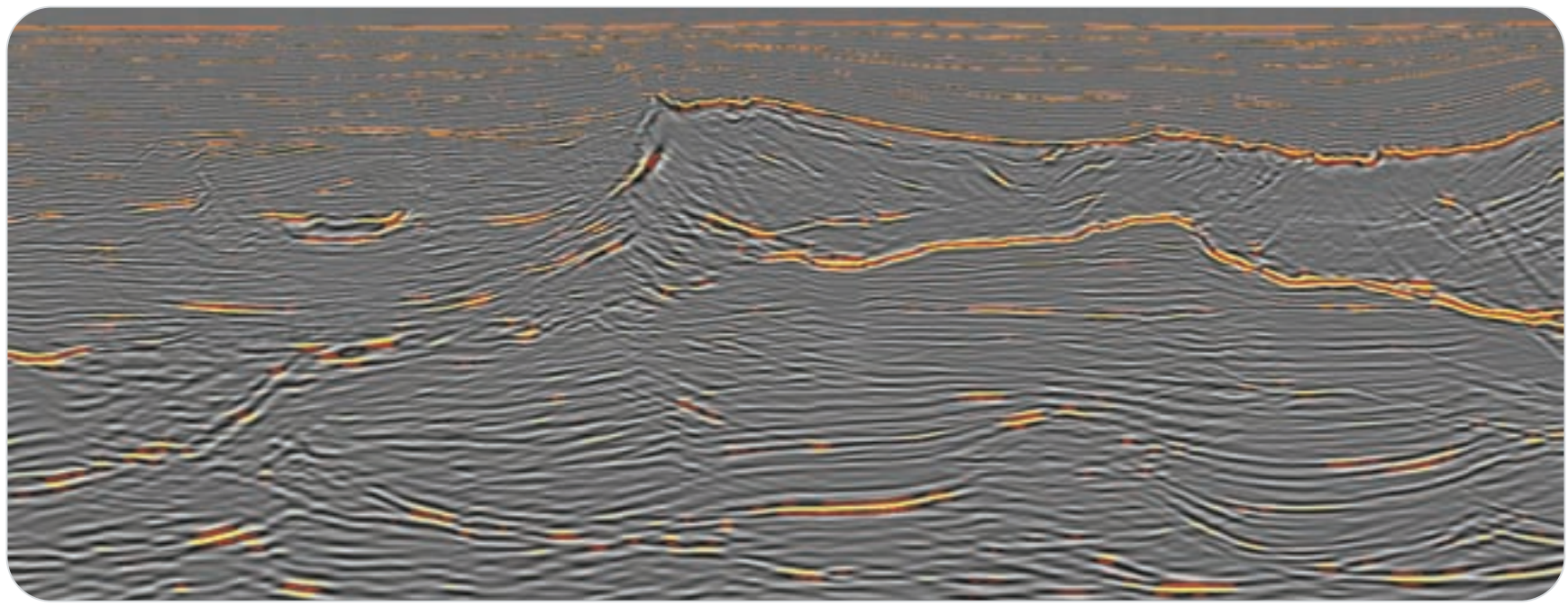
AAPG EXPLORER

Gulf of Mexico



Green Canyon - CBM PSDM



On the cover: Synergy in the energy industry is on display at the Beatrice Field in Scotland's Moray Firth, where two 87-meter tall wind turbines supply – on a really windy day – more than 80 percent of the daily power needs for oil production operations. Talisman Energy's Beatrice Wind Farm Demonstrator Project is the world's first deepwater wind farm, but it soon may have company: The next UK North Sea licensing round is for wind energy development. Story on page 10. Photo courtesy of Talisman Energy.

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AAPG President Will Green, speaking at the opening session in Athens.

PRESIDENT'Scolumn

AAPG's Diversity Noted on Visits

By WILLARD "Will" GREEN

From Nov.12 through Dec. 7, Marianne and I traveled 25,000 miles in 25 days to represent AAPG at four very different venues.

London

Our first stop was in London to attend the "Grand Celebratory Dinner" on Nov. 13 to commemorate the 200th anniversary of the oldest geological society in the world, the Geological Society of London. (It happened to be my birthday, too, but I'm a bit less antique).

Six hundred guests were squeezed into the Central Hall of the Natural History Museum where Ray Thomasson (member of GSL) and I were proud to represent AAPG (see January EXPLORER). The event was black-tie but a few, including GSL Executive Secretary Edmund Nickless, were dressed in period costume.

The principal speaker after dinner was Aubrey Manning, Emeritus Professor of Natural History at Edinburgh University. CEO Andrew Gould represented Schlumberger, the dinner sponsor.

Athens

The second stop was Athens, site of the AAPG and AAPG European Region Energy Conference and Exhibition. Registration was 1,283, which exceeded all expectations (see related story, page 42).

The mood of the meeting was upbeat and attendees – mostly from Europe, but some from around the globe – were friendly and easy to meet.

The Romanian delegation was celebrating 150 years of oil production in Romania (that's two years before Col. Drake's discovery in Pennsylvania, USA). Pandele Neculae, PETROM, brought 10 students from the University of Bucharest to the meeting. That group of students was extremely lively, engaged and interested in petroleum geology (see related story, page 43).

Other AAPG Executive Committee members attending the meeting were Regions Vice President John Hogg, President-Elect Scott Tinker, Treasurer Randi Martinsen and House of Delegates Chair Marty Hewitt.

Much of my time was allocated to committee meetings where plans were discussed for the next AAPG International Conference and Expedition in Cape Town, South Africa, which will be held Oct. 26-29, and a polar conference in Moscow in 2009.

Of course, while in Athens we visited the Acropolis and the National Archeological Museum.

We also – as well as many of the attendees – walked up the 500 or so steps to ride the cog railway to the top of Likavitos Hill for the best view of all of Athens, a city now populated by five million citizens.

Green

Very spectacular.

Ankara, Turkey

My visit to Turkey followed an invitation from Hasan Sarikaya and Ismail Bahtiyar, president of the Turkish Association of Petroleum Geologists.

Both had attended the AAPG Leadership Conference in Keystone, Colo., last August. They said I am the first AAPG president to visit Turkey and they treated me so well I hope to visit again.

I visited a full day at the offices of their employer, the Turkish Petroleum Corporation, Turkey's national oil company. Turkish Petroleum employs 5,000 people, including about 250 geoscientists. I toured their office and research lab, met their managers and officers and attended a presentation on the geology and culture of Turkey.

In the afternoon I had the opportunity to address about 100 geoscientists and 25 students from the University of Ankara and the Middle East Technical Institute on energy work force issues.

We had a few days of personal time in Turkey to learn more of the country's history, culture and geology. In Ankara, Anitkabir (Ataturk Mausoleum) and the adjacent War of Independence Museum are very impressive. Mustafa Ataturk was the founder of the Turkish Republic.

Cappadocia, a province three-to-four hours southeast of Ankara, features an eroded volcanic ash terrain that has produced many elongated, pedestal and cone-shaped remnants of tuff. Underground dwellings were carved from the tuff in past centuries. Today tourists can sleep in an underground hotel.

My visit in Turkey was very interesting, broadening for me personally and will be remembered as a highlight of my year as president.

Dubai, UAE

The final meeting on my tour was in Dubai, United Arab Emirates, for the International Petroleum Technology Conference organized and run by SPE with

See **President**, next page

Members urged to vote online

AAPG Balloting to Open March 4

Balloting for AAPG officers will open March 4.

This year members will be choosing a president-elect from three candidates (you will be asked to vote in order of your preference); a vice president-Sections from two candidates; and a treasurer from two candidates.

The election once again will be conducted with the assistance of Survey and Ballot Systems, which has provided AAPG with electronic voting capability for the past five years. Their service during this time has helped improve the voting experience as reflected in positive member feedback.

One of the goals in switching to the electronic voting method was to reduce election costs – specifically in printing and postage. This year AAPG will implement that step by mailing a paper ballot only to those members who do NOT have a valid e-mail address, or to those whose e-mail addresses are bounced back as non-deliverable.

Therefore, please be certain that your e-mail address is up-to-date in your AAPG member record.

If you don't have e-mail, please be certain your member record has your correct mailing address.

You can check your member information by logging in to the Members Only section of the AAPG Web site.

To cast your vote you will need both your AAPG member number and an assigned code, referred to as an "E-Signature." Both these numbers will be provided to you either in your e-mail notification or on the paper ballot, and can be used only one time.

Members will be able to access the e-ballot by clicking on the AAPG Officer Election icon a www.aapg.org from March 4 noon CST to May 15 noon CDT.

Biographical information on the candidates can be viewed from the ballot site and User Support will be available to you if needed.

Those who receive a paper ballot can instead choose to vote online; however, do not also return the paper ballot.

Your vote is important so please research the candidates' qualifications and cast your vote before noon CDT May 15.

To avoid a reminder e-mail or postcard, vote before April 1.

The candidate slate is:

President-Elect

❒ **John C. Lorenz**, Geoflight LLC, Edgewood, N.M.

❒ **Dwight M. "Clint" Moore**, DiamondStar Exploration & Production, Houston (petition candidate).

❒ **Ronald A. Nelson**, Broken N Consulting, Cat Spring, Texas.

Vice President-Sections

❒ **David H. Hawk**, Energy Analysis and Answers/Consultant, Boise, Idaho.

❒ **W.C. "Rusty" Riese**, BP Americas, Katy, Texas.

Treasurer

❒ **Edith C. Allison**, U.S. Department of Energy, Washington, D.C.

❒ **Kay L. Pitts**, Aera Energy LLC, Bakersfield, Calif.

Biographies for the 2008-09 slate of AAPG officer candidates are available online at the AAPG Web site, http://www.aapg.org/business/candidates/ .

Included are the responses from each candidate as to why they chose to stand for AAPG office – or, in the case of the petition candidate, why he chose to petition to seek office.

The president-elect winner will serve as AAPG president in 2009-10. The terms for both vice president-Sections and treasurer are two years. ❑

President

from previous page

AAPG, SEG and EAGE as partners. The meeting was successful with over 3,000 attendees.

The Keynote Session featured a panel of well-known authorities speaking on "Energy Issues for a Changing World." The three presidents of the sponsoring societies who were present had a role in the program.

Dubai is something one has to see, or watch on video or TV, to appreciate. It has 250 major building projects under construction. I counted 12 skyscraper office buildings under construction in one area. The glitzy Mall of the Emirates has a three-story enclosed ski "hill" at one end. The hill, covered with man-made snow, is served by a chair lift.

I didn't have time to ski but I did get the T-shirt!

* * *

Our tour was great, and I enjoyed meeting many of our international members.

Hosca kalm.

Will Green

Basically, it's still supply and demand

Many Factors Contribute to $100 Oil

By DAVID BROWN
EXPLORER Correspondent

The oil industry began 2008 watching crude oil futures climb to $100 per barrel.

The rest of the world was wondering:

How did oil prices get so high in the first place?

Just a year earlier, crude started 2007 at about $60 per barrel. Few experts even mentioned the possibility of a jump to $100 within 12 months.

And that price would have been unthinkable 10 years earlier, when a worldwide slump sent oil prices below $14 a barrel.

Public reaction to soaring oil prices has ranged from outright anger to dazed confusion.

The price at the end of 2008 is anybody's guess.

"Clearly, there's more than just the fundamentals at play – the Saudis and OPEC have been pointing the finger at speculators, and there's some truth to that," said Paul Roberts.

Roberts is a national journalist and author based in the state of Washington. He wrote the 2004 book *The End of Oil: On the Edge of a Perilous New World*.

He also composed an influential opinion article about oil prices that recently appeared in the Los Angeles Times, Christian Science Monitor and other U.S. newspapers.

Roberts' opinion piece examined several factors that have influenced the rise in crude prices, including the role of speculative futures trading.

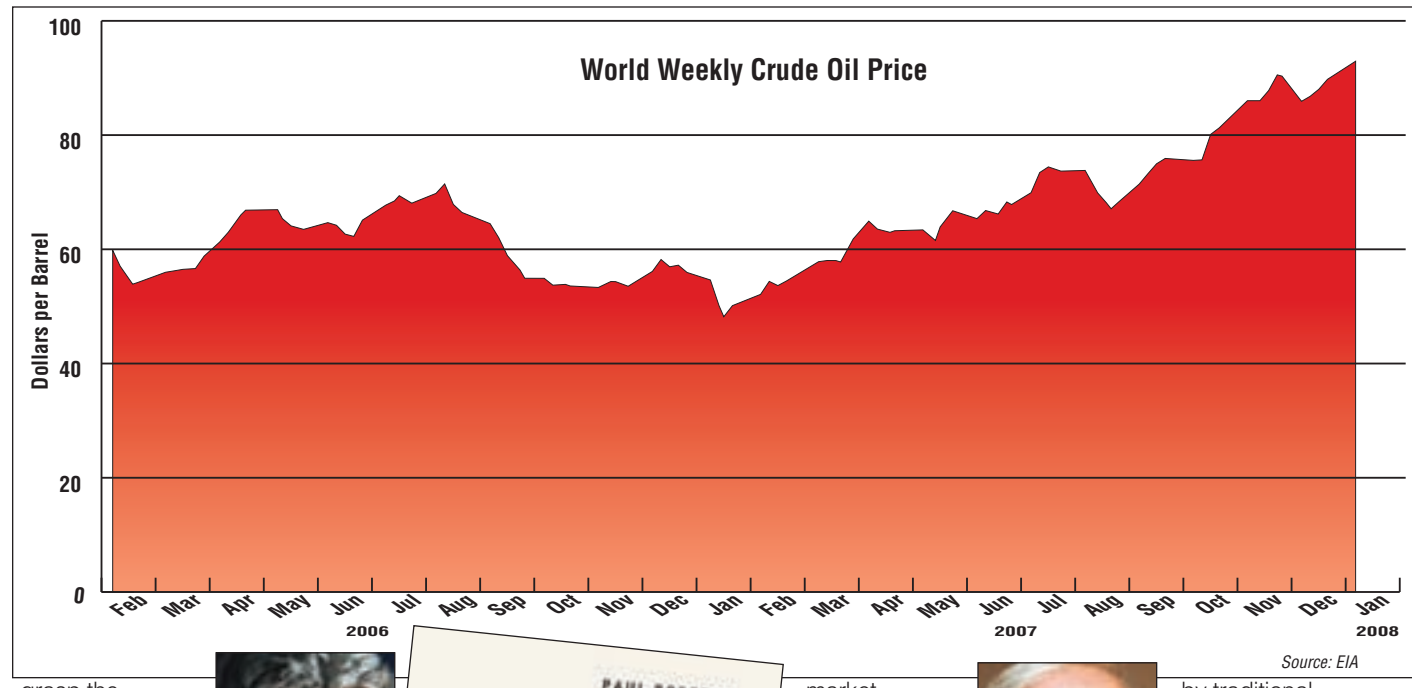
"Refiners in the U.S. have been slowly reducing the reserves they keep on the shelf," he said. "It used to be 20 days of crude supply, but as the price of crude has tripled, that's way too much inventory for them to hold.

"Oil traders have been able to point to that and say, 'Oh my gosh, reserves are falling,'" he noted.

But the continued upward climb of oil prices during 2007 – and a resistance to price declines – indicate that producers have struggled to meet demand, according to Roberts.

"If it were strictly speculator-driven, some speculators would start making money by taking a short position," essentially betting that oil prices would have to fall, Roberts said.

That hasn't happened, and "the point is, the speculators couldn't drive prices up that high if there wasn't a real, fundamental tightness" in the oil markets, he observed.



Source: EIA

Here We Go Again

Uncertainty also affects the futures market, and Roberts noted a long string of negative news on the supply side.

Production declines in many older fields, like those in the North Sea, have been quicker and steeper than expected, he said. Production rates from newly developed areas like Kazakhstan have disappointed, he added.

But "on the demand side of the equation, there's no uncertainty. It's just rising steadily," he said.

The resulting imbalance, with producers straining to meet increased global demand, has led to soaring oil prices and conniptive consumers.

"The public has been through this so many times. Anyone who's middle-aged has seen these cycles before. They might be looking at this prolonged (price) spike and saying, 'What's the deal?'" Roberts observed.

Without an understanding of supply-demand fundamentals, consumers don't grasp the realities pushing oil prices up, he noted. So when the public sees higher oil industry profits, people quickly identify a culprit.


Roberts

"I think they just assume, 'It's them oil companies,'" he said.

Beyond supply-demand and a speculative component, some other factors do influence crude prices.

"The most obvious is the sagging dollar," Roberts wrote.

"Because oil is priced in dollars, and because the dollar has fallen nearly a third against major developed-country currencies since 2002, Americans are spending more – perhaps as much as $20 more – for a barrel of oil," he noted.

In the past few years, oil prices have increased by a much smaller percentage when measured in euros, pounds or yen, because the dollar has sagged so badly against those currencies.

Roberts believes the United States could have introduced an "energy independence tax" to inflate oil prices and cut demand following the 9/11 attacks in the United States in 2001.

"The price has gone up as much as any tax would have increased it, but that money isn't going into our treasury," he said. "It's going to the Middle East or Nigeria or Russia or Venezuela."


Rubin

Going Fast, Going Slow

In recent years, many articles discussing the oil-price outlook have quoted either Jeffrey Rubin, chief economist for Canada's CIBC World Markets, or David Wyss, chief economist at Standard & Poor's.

Rubin was one of the few experts who saw a quick march to $100 a barrel.

As early as 2005, he predicted the oil-futures price could pass $100 by the end of 2007, missing reality by just a few days.

He based that projection largely on increasing global demand for oil consumption combined with falling export capacity in OPEC, Russia and Mexico.

By contrast, Wyss had looked for a slower and more moderated oil price increase, with crude in the $60-$70 per barrel range in 2007. Even now, he thinks market fundamentals point to a reduced price for oil.

Wyss said most analysts believe "geopolitical conflicts are causing the current run-up and that the balance of supply and demand suggests a lower price.

"However, we have been saying that for a while, and prices keep going up," he acknowledged.

Roberts said oil companies tend to blame high prices on exploration constraints, hoping in part to overturn drilling bans.

"They will insist that the bottlenecks are all above-ground, that it's all financing or politics," he said. "But in terms of effect on near-term results or oil prices, the effect is exactly the same."

The weekly publication The Economist carried several articles reacting to increased crude prices. It noted that oil companies today face higher exploration and production costs, in addition to shortages of necessary equipment and professional personnel.

"They have also been excluded from the most promising terrain for exploration by nationalist regimes, which are increasingly reluctant to share their wealth with outsiders," The Economist said.

"Those same regimes seem in no hurry to increase their output," it added, "partly because they realize that their sluggishness is helping to keep prices high."

International Factors

While many consumers still blame Big Oil for prices at the pump, the general public may now see growing international demand as a primary force.

That demand growth isn't limited to China and India. Writing for the New York Times in December, Clifford Krauss reported that demand within big oil-producing countries is limiting exports.

"The global oil market is still dominated by traditional consumers, particularly the United States, which uses nearly a quarter of the world's oil.


Wyss

"Perhaps surprisingly, though, some producing countries have surpassed the United States in oil consumption per person. They include Bahrain, Kuwait, Qatar and the United Arab Emirates," Krauss wrote.

"Particularly in oil-producing countries with large populations, like Indonesia, Russia and Mexico, a rapid rise in car ownership is a big factor driving consumption increases," he noted.

Forecasts for 2008 predict continued high crude prices, given the steady increase in worldwide oil demand and the ongoing challenges to production. Only a significant recession can cut the world's thirst for oil, many experts believe.


Krauss

"Barring a recession, I don't see anything that's going to change the supply-demand picture," Roberts said.

Writing for the Financial Times in January, Ed Crooks outlined several pressures behind the oil-price rise: the OPEC production cuts introduced in 2006, disappointing non-OPEC production levels, the rapid decline of established fields and growing demand in Asia.


Crooks

Crooks projects a likely softening of crude prices, however, as an economic slowdown in the United States begins to impact the rest of the world.

"China attracts the attention in terms of the oil market, because it is the biggest source of demand growth, but the consumption of China and India together is less than half that of North America," Crooks wrote.

And it will be difficult for China to "avoid the turbulence created by the economic problems of the U.S."

"Recession in the world's biggest oil consumer plus a slowdown in the world's strongest-growing oil market do not sound like a prescription for high oil price," he observed.

See **Prices**, page 8

Varied interests involved

GOM Initiative Aims To Boost Influence

By LOUISE S. DURHAM
EXPLORER Correspondent

Perhaps the United States' energy-gorging populace should offer a word of thanks each day for the Gulf of Mexico.

While other promising domestic offshore areas remain off limits to the petroleum industry, the myriad wells producing from reservoirs beneath the Gulf's waters – both shallow and deep – kick out 30 percent of the nation's oil supply and more than 20 percent of the natural gas.

The numbers no doubt would be even higher were the GOM's promising yet still-off-limits eastern region freed up for development.

Four Gulf Coast states – Texas, Louisiana, Mississippi and Alabama – shoulder the load for supporting this working coast. In fact, 25 percent of the nation's energy supply reportedly flows through Louisiana alone.

It's a precarious situation.

For instance, there's dramatic ongoing wetlands erosion – aggravated still further by hurricanes Katrina and Rita – which poses a major threat to energy, maritime, recreational and cultural assets.

In fact, the two Category 5 hurricanes spotlighted the critical link between the Gulf Coast and the nation's energy supply. The resulting unmistakable message is that Gulf Coast sustainability is crucial to maintaining the GOM's significant energy production.

Officials have decided it's time for a plan to deal with protection and security of the vital region.

America's WETLAND Foundation (AWF) recently launched the America's Energy Coast (AEC) Initiative, which is designed to provide a stronger voice for the region via dialogue among representatives of government, industry and non-governmental organizations (NGO) from the four key states.

Target issues for consideration include the significant wetlands loss in the region and the need for national recognition of the links between coastal sustainability and domestic energy security.

Finding a Voice

The AEC Initiative kicked off in late November in Baton Rouge, where Louisiana State University hosted the inaugural meeting in partnership with AWF, the Louisiana Coastal Protection and Restoration Authority (CPRA) and the Louisiana Department of Natural Resources.

Former Louisiana U.S. Sen. John Breaux chaired the meeting, which will be followed by a second confab in Houston this summer.

"We have over 150 local, state and national elected officials on board," said Val Marmillion, managing director of AWF. "There's an industry council that Shell Pipeline is chairing, and we invited a large number of groups to be represented from environmental conservation communities, including Environmental Defense, Ducks Unlimited and the National Wildlife Federation.

"With the Initiative, we want to bring the four producing states in the Gulf to a cooperative venture where we can establish a bigger, more prominent voice regarding our coastal impact issues and energy policy in the nation," he said.

"Often, especially in Congress, measures are considered that are somewhat piecemeal to the broad scope of energy needs in the country," he added, "and the needs of the producing states."

In seeking an accord on sustainability for the Gulf Coast, the Initiative is focused on three themes: climate, energy and the coast. The impetus for this focus stems from the fact that these issues all are interrelated.

Officials believe there is potential for significant opportunities to be gained via the states acting together as a region – a little bit of cooperation can go a long way.

"When you have these leaders from different sectors both within and without the government coming together, it's a first," Marmillion said. "We think it will do a lot to bring the issue of sustainability to the forefront, which is critical if we're going to have domestic energy security.

"If we can show the relationship of sustainability in this region to energy development and security, I think the nation will get a different view and a lens to what truly goes on," Marmillion added. "We have not had that substantial voice in Washington or elsewhere.

"The consumer states have been driving the train on energy development in the country," he noted. "Having a voice for energy producing states is an idea whose time is long overdue.

"Trying to have a balanced voice is not easy; people love to take sides on these issues," Marmilion said. "We're in the center of the track and gaining momentum as we're moving.

"I think people are liking that, for a change." ❑

Prices

from page 6

Oh, Grow Up

Roberts chastised Americans for a heedless and needless over-consumption of energy resources.

U.S. consumers grumble about energy prices "as they get into their very large cars and drive very large distances to work every day. They don't see the demand side," he said.

Business has reacted to high prices by cutting energy use as much as possible, Roberts noted. Private consumers, on the other hand, have shown a surprising lack of response.

"The hard thing to do is to convince consumers, because consumers don't operate like businesses," he said. "We think we do, but we don't. We operate more like small kids, basically."

Should government intervene to hold down oil prices?

Probably not, Roberts thinks.

He said the world is "not even close" to an economic or energy crisis at this point.

"Some people want to flood the market with Strategic Petroleum Reserve crude oil. I think that's stupid. We need to do things differently," Roberts commented.

"Maybe having oil stay up around $100 a barrel over the next couple of years is the best thing to happen. We really need a strong dose of market medicine," he said, "because that's the only thing that induces meaningful change." ❑

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Innovative idea could expand

North Sea Winds Fuel Production

By SUSAN R. EATON
EXPLORER Correspondent

From his office in Aberdeen, Scotland, Allan MacAskill can monitor the weather in the Moray Firth from Web cams perched atop Talisman Energy's two 87-meter tall wind turbines at the Beatrice Field.

MacAskill, a petroleum engineer by education and experience, is project director of Talisman's Beatrice Wind Farm Demonstrator Project – the world's first deepwater wind farm, located on the North Sea's continental shelf some 25 kilometers off Scotland's east coast.

Talisman will monitor the performance of its wind farm project during the next three to five years to determine whether to ramp up to a commercial-scale operation with as many as 200 turbines capable of producing 20 percent of Scotland's energy needs.

Talisman purchased the Beatrice Field from BP in 1996, and immediately started cutting operating costs in this mature oilfield serviced by three offshore platforms: Alpha, Bravo and Charlie.

As oil production continued to decline – and as electricity costs increased per barrel – Talisman sought new and innovative cost savings.

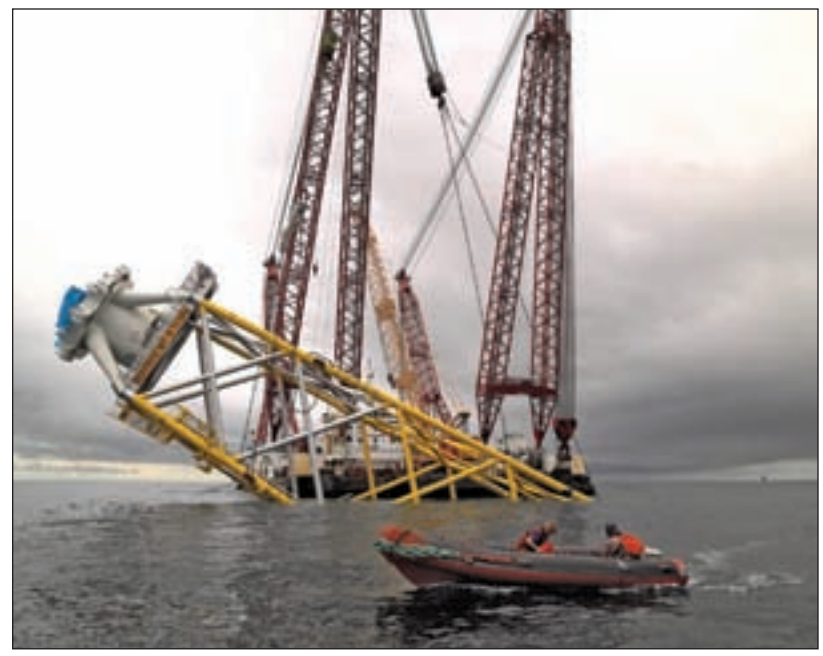
In 2001, with oil prices trending upwards, Talisman decided against decommissioning the Beatrice Alpha platform; rather, it decided to redevelop the field and reuse the platform – as a hub for the wind farm.

Talisman's intent? Breathe new economic life into the field and extract more reserves.

Their plan worked; the innovative use of wind energy is keeping Beatrice pumping around 1,800 barrels per day – and the sight of the twin turbines' 61-meter long blades turning with the Alpha production platform in the background is for many an elegant juxtaposition of renewable energy enhancing the economics of a non-renewable and aging oilfield.

"We were able to think outside of the box, and extend the life of the Alpha platform," MacAskill said.

"What we have is a unique set of infrastructure located just outside of territorial waters," he added. "The platform infrastructure is the hub for a large-scale wind farm."



Photos courtesy of Talisman Energy; EXPLORER graphic

Talisman Energy and partner Scottish and Southern Energy pioneered new technologies – specialized cranes and vertical slings – for the onshore assembly of the world's largest offshore wind turbines and blades. Once fully assembled, the turbines and blades were picked up, transported to the Beatrice Field by specialized vessels and landed – all within a 24-hour timeframe.

Money Spent, Money Saved

The Beatrice Field is unique because it's located very close to shore and it's connected, via buried submarine cables, to the Scottish mainland and the national power grid. The same set of ideal circumstances doesn't necessarily apply to other production platforms in the North Sea, according to MacAskill.

Discovered in 1976 by Mesa Petroleum Corp. – and named after AAPG member T. Boone Pickens' wife – production from the field peaked at around 6,000 barrels per day in the mid-1980s. To date, Beatrice has produced more than 165 million barrels of 38 degree API oil out of an estimated 495 million barrels originally in place, from Middle and Lower Jurassic sandstone reservoirs.

Talisman installed the first five-megawatt (MW) turbine in August 2006, followed by the second 5MW turbine in July 2007. These machines, manufactured by REpower Systems AG of Germany, are the world's largest offshore wind turbines.

This "21st century technology" is not cheap, MacAskill said – the project represents a capital expenditure of £45 million. While the price tag may seem high – about US $90 million invested to date in research, engineering, environmental evaluation, fabrication and installation – on a really windy day these two turbines can supply more than 80 percent of Beatrice's daily power needs.

Averaged over the course of the year, these twin turbines generate about one-third of Beatrice's daily electricity needs.

Talisman estimated Beatrice's electrical power needs for 2006 at £7.5 million – the turbines, engineered with a 20-year production life, therefore represent an excellent return on investment.

A new-comer to the wind energy business, Talisman entered a 50/50 joint venture with Scottish and Southern Energy (SSE), a large utility company with expertise in renewable energy. To offset capital expenditures and to minimize project risks at Beatrice, Talisman and SSE obtained grants from several strategic partners dedicated to increasing wind energy capacity in the North Sea:

✓ The European Union (EU) contributed six million euros.

✓ BERR, the Department for Business Enterprise and Regulatory Reform (formerly DTI, the Department of Trade and Industry) contributed £three million.

✓ The Scottish Executive (or the government of Scotland) contributed £three million.

First Time for Everything?

Talisman and SSE pioneered new engineering technologies – specialized cranes and vertical slings – for the onshore assembly of the world's largest offshore wind turbines and blades.

Once fully assembled, the turbines and blades were picked up, transported to the site by specialized floating vessels and landed – all within a 24-hour timeframe.

Talisman was the first wind farm operator to use a jacket substructure for

See **Turbines**, page 12

For the Record: North Sea Turbines, Blades Have a Sizable Presence

The size of the turbines' and blades' key components:

✓ Subsea jacket height – 70 meters.

✓ Piles – 44 meters below seabed level.

✓ Tower height – 59 meters, giving an overall hub-height of 87 meters above sea level.

✓ Rotor blade length – 61.5 meters, giving an overall height from subsea to rotor blade tip of 234.5 meters.

The total weight of the system:

✓ Rotor blades and hub – 125 tonnes (blades are 17.5 tonnes each).

✓ Turbine – 305 tonnes.

✓ Tower – 225 tonnes.

✓ Subsea jacket and associated equipment – 760 tonnes.

✓ Piles (4) – 120 tonnes each.

Turbines

from page 10

offshore wind turbines and the first to install a tower turbine and blades – in a single lift – from a floating vessel. Talisman dubbed this new technology, assembly and installation process "BOWTIS," for the Beatrice Offshore Wind Technology Installation System.

For routine maintenance and in the event of catastrophic failure, the entire BOWTIS process is reversible.

"Three years ago, people would have laughed at putting wind turbines in 50 meters of water, and assembling them onshore," MacAskill said. "People mocked us for the distance of the project from shore."

Water depths of 45 meters are deemed shallow for the oil industry, but such water depths are challenging for pioneering wind turbine technologies. Prior to the Beatrice project, the majority of offshore wind farms in the Europe were located in waters five to 15 meters deep.

MacAskill said there's a 25- to 50-kilometer wide area on the continental shelf that's now accessible for wind energy.

"By demonstrating that wind turbines can be installed in deep water," he explained, "we've suddenly opened up vast areas of coastline offshore Europe."

The Beatrice demonstrator project sprang out of DOWNVInD (Distant Offshore Windfarms with No Visual Impact in Deepwater), a pan-European initiative managed by Talisman and SSE for the commercialization of deepwater wind farms.

"Fundamentally, the closer you come to shore, the more pressure there is on the environment," MacAskill said of near shore wind farm developments.

He described various and key stakeholders in the near shore area – fishing, leisure craft, tourism and shipping lanes all are occurring closer to the shore.

"At Beatrice, we're operating way outside of peoples' interests."

Same Field, Different Views

By SUSAN R. EATON
EXPLORER Correspondent

Deepwater wind turbines are not the only innovations breathing new economic life into the Beatrice Field.

On January 1 Ithaca Energy Ltd. paid US $21 million for Talisman's 100 percent interest in the 1,800 barrel/day Beatrice Field, plus the surrounding 114,500-acre license.

Ithaca, a Calgary-based junior oil company, has identified two exploration prospects on the Beatrice acreage, including a new exploration play concept. The jack-up rig, Galaxy II, is expected to arrive at Beatrice in late January to spud Ithaca's first exploration well.

Ithaca assumed operations of:

✓ The three Beatrice platforms.

✓ The 1.5-million-barrel storage and transshipment terminal at Nigg on Scotland's east coast.

✓ The 60,000 barrel/day, 16-inch export pipeline from the Beatrice Alpha platform to Nigg.

Under the terms of the sale, Talisman retained the obligation for decommissioning the field's facilities, as well as the ownership and operation of the two wind turbines.

Nick Muir, a geophysicist, is Ithaca's chief exploration officer. Based in Aberdeen, Muir described Beatrice as "an aging field taking up Talisman's resources."

> Small companies like Ithaca are targeting the remaining marginal opportunities in the North Sea.

Beatrice, however, represented a strategic acquisition for Ithaca and constituted the company's first North Sea production. Ithaca has immediate plans to tie in Jacky, its nearby oil discovery made in May 2007.

Located five kilometers from the Alpha platform, Jacky has a pay column of 47 feet in the Beatrice A Sand, and is expected to deliver an initial production of 10,000 barrels a day by year's end.

When Ithaca ties in Jacky to the Alpha platform, it also will restore the 800 barrels a day of shut-in production at the Bravo platform.

"At Beatrice, we have exploration opportunities, a development pipeline and storage facilities; we've got the whole chain with the upstream," Muir said. "It's a great boost to the company – we've been looking for an opportunity like this for a while."

Muir explained that while larger oil companies are looking for huge discoveries in the North Sea or elsewhere, small companies like Ithaca are targeting the remaining marginal opportunities in the North Sea.

He described "marginal" opportunities as 10- to 15-million barrel discoveries.

According to Muir, the Polly prospect is analogous to Beatrice – it consists of a step-down fault block from the Beatrice Field and targets the same Middle and Lower Jurassic sandstone reservoirs.

The Manuel prospect, however, has never been tested – it consists of a stratigraphic trap plus four-way structural closure, and targets multiple Jurassic sands. ❑

Providing the Power

During the past decade many oil and gas companies have evolved into integrated energy companies, entering into the renewable energy fields of solar, wind, tidal and landfill gas. Other companies, including Alberta's oil sands producers, are employing co-generation technology and the gasification of coke, bitumen and biomass to produce electricity, which commands a premium price in remote regions of Canada.

See **North Sea**, page 14

Photo courtesy of Ithaca Energy

Hold on to Your Hats! UK Eyes the North Sea Wind

Most E&P operators are familiar with the UK Government's licensing rounds in the North Sea – but the excitement about the next wave of licensing rounds doesn't revolve around oil and gas.

It's all about offshore wind energy projects.

The first round of offshore wind farms occurred in 2001, and consisted of a number of small demonstrator projects. The second round followed in 2003, involving the awarding of leases for larger scale projects.

The UK Government is preparing for the third licensing round of wind energy development. UK Energy Secretary John Hutton in December announced proposals to harness the country's island status – with some of the strongest winds in the North Sea – by opening the continental shelf to up to 33 gigawatts of offshore wind energy.

"Our trajectory on renewable is beyond question," Hutton said. "They (wind turbines) are as central to our future low carbon economy as chimneys were to the industrial revolution and road building following the invention of the mass produced car." ❑

North Sea

from page 12

For the E&P sector, the electricity generation usually represents the single largest operating cost in remote locales, including the North Sea.

MacAskill described the offshore wind industry as "new, with no defined skill sets required to work in this energy sector." Petroleum engineering skills, he said, formed an excellent basis for the wind farm project – project management, offshore experience, working with technology and the sanctioning of projects.

"However, this is a different industry," he said. "It has wires and not pipes – and there are many new aspects we need to learn."

MacAskill's team has worked closely with project engineers from SSE, who provided Talisman with expertise in the power generation business.

"Part of the interest in undertaking this work is not only using and applying our own skills in new ways," he said, "but learning new skills and working in an emerging area which crosses the boundaries between oil and gas technology and electricity generation."

During the next three to five years, Talisman will monitor performance, economics and environmental issues associated with the Beatrice Wind Farm Demonstrator Project. And, while he's checking the weather in the Moray Firth, MacAskill also can monitor the structural integrity of the machines.

The turbines are equipped with SCADA control systems, fiber optic cables and strain gauges that measure – from the tips of the blades to the length of the tower, down the jackets and all the way to the seabed – the machine's structural performance. The turbines are operated from the Alpha platform, but with the platform's consent, the manufacturer REpower can operate them from its headquarters in Germany.

If it makes economic sense, Talisman and SSE may construct a 1-gigawatt (GW) deepwater wind farm at Beatrice – that's equivalent in size to 200 of the 5MW turbines.

Turbine technology, however, is rapidly evolving to "bigger is better," and manufacturers already are designing 7MW turbines for the deepwater offshore environment. Beatrice's 1GW offshore wind farm would provide enough "green" energy for 20 percent of Scotland's needs.

In its efforts to diversify energy sources, the Scottish government has set aggressive targets for renewable energy – it aims to generate at least 50 percent of Scotland's electricity from renewable sources by 2020.

"Scotland is rich in renewable energy resources as it is rich in fossil fuels," a government spokesperson said. "Like oil and gas, renewable energy is going to make a huge impact on Scotland's economy, and pioneering projects like this (Beatrice) are tremendously encouraging. Thanks to the trail blazed by this project, it is clear that offshore wind can go a long way to helping us realize our vision of becoming a renewable energy powerhouse of Europe."

However, the economic viability of large-scale deepwater wind farms is questionable.

"Show me the money," MacAskill said. "We need a commercial environment that enables us to scale up. We need to increase incentives for green energy, and we need to improve the technology, to reduce costs." ❑

MAKINGadifference

‘Retired’ Geologist an Angolan Angel

(Editor’s note: “Making a Difference” is a regular EXPLORER feature about members and companies whose efforts to help others go beyond the call of duty.)

By BARRY FRIEDMAN
EXPLORER Correspondent

Canadian geologist Tako Koning doesn’t like the questions – and who can blame him? – about challenging conditions and the seeming impossibility of making a difference in places where many have tried … and failed.

He has been working in Angola for more than a decade, so knows full well the cost of 30 years of civil war, not to mention the general perception – he’ll tell you it’s a misconception – that all of Africa suffers from insurmountable problems.

But he’d rather talk about oil and water and something as simple as nets.

And about making a difference.

Koning, an AAPG member who was born in the Netherlands but emigrated to Canada where he received degrees in both geology and economics, could have been forgiven if, after retirement, he decided to play tennis or golf or relax on his 240-acres of wilderness land in the foothills of Alberta.

Instead he decided to stay in Angola where he spent some of his career

continued on next page

Photos courtesy of Tako Koning

AAPG member Tako Koning (above left), who in “retirement” finds time to lead geological field trips and help provide water in Angola.

continued from previous page

with ChevronTexaco.

"Certainly there's a lot of problems in this continent," he said, preferring to focus more on the solutions that science and technology can cure the politics of how it got so bad.

He knows that as a consequence of the civil wars, the basic infrastructure of the country, including schools and medical facilities, the country needs rebuilding.

And then this man who could live anywhere in the world, says:

"In my own small way, I'd like to be involved in the reconstruction of Angola."

The Protecting Veil

One of the ways he's been involved in that reconstruction, on a business front, is in the arena of oil production, having worked globally in the petroleum industry for 36 years – 29 of them for Texaco in both managerial and technical positions.

"I must say that professionally, this has been an exciting place to work as a petroleum geologist, seeing oil production go up from 70,000 BOPD to about two million BOPD today."

Today, Angola is the second largest oil producer in sub-Sahara Africa next to Nigeria and is now one of the premier countries in the world for deepwater petroleum exploration.

Ask Koning, though, about what that increase in production has meant for the Angolan people, and he'll admit it's not an easy thing to measure in Angola or, for that matter, anywhere else. He does report, however, that conditions there are

See **Difference**, next page

Koning's Concern Started Early

By BARRY FRIEDMAN
EXPLORER Correspondent

AAPG member Tako Koning spends about half of his time as an adviser for Tullow Oil Angola. The other half is devoted to helping the people of Angola in their struggle against malaria and the need for clean drinking water.

It's not an easy battle. Despite the success that Angola has had as a major oil producer, many parts of the country still face destructive conditions brought on by malaria-carrying mosquitos and a lack of clean drinkable water.

Tako Koning, third from right, with others who help organize the delivery of life-saving mosquito nets.

But Koning is no stranger to helping others. Being involved with people on a humanitarian level beyond his duties as a geologist has long been a part of his life.

Earlier efforts to help centered on satisfying people's thirst for knowledge. As residential development manager for ChevronTexaco in Luanda, Angola, Koning organized an effort in 1997 to collect geology and petroleum-related books and journals to donate to African universities.

That effort stemmed from his experience lecturing on petroleum geology and economics at nearby universities, where he quickly noticed that libraries were severely lacking in books.

Acting on his own, Koning decided to collect a few used books and journals from local Canadian geologists in Calgary (his base at the time) to take with him back to Africa.

"A few books" unexpectedly became a garage-full of books, and then a warehouse full of books, and finally a huge operation that provided tons of information for the African universities.

His efforts also led to the creation of the AAPG Publication Pipeline effort, which continued his mission of providing used books and journals to international areas.

Today, his concern for others tackles more basic human needs: water and survival.

That has led to his involvement with two groups that are trying to make a difference in Angola – a role that Koning plays well.

Yme

Yme, a non-profit organization (www.yme.no), is a collection of geologists, civil engineers, architects, health workers and social anthropologists who want to help the poor through what the organization calls "the responsible use of science and technology."

To do that, Yme is involved in the drilling of water wells in remote and parched areas of Angola. Specifically, Yme's focus has been on its water and sanitation projects in the provinces of Cabinda and Uige.

All of the Yme workers are Angolan except Koning.

The company, which has a small office in the capital city of Luanda, says that it hopes to continue in Angola as a small but active humanitarian organization helping the Angolan people improve their lives after 30 years of civil war.

Mosquito Net Project

As writer Michael Specter wrote in the New Yorker Magazine, "If you put plain old bed nets around, and do it properly and spray them with insecticide, you can get rid of half the malaria deaths in Africa – and that's at least a million a year."

Angola's Mosquito Net Project was founded by a Norwegian social worker, Toril Ostvedt, after discovering a lack of mosquito nets in people's home. Since 2001, the volunteer project has raised almost $100,000, which is the equivalent of 12,000 nets (protection for almost 40,000 people).

Money is raised both inside Angola and through international and corporate fundraising. All nets are locally made and donated, with the cost of a net per family being $8. ❑

Difference

from previous page

"significantly improving" in terms of road building, improved infrastructure and increased jobs for young people.

But Koning knows that the country's resources aren't just below the ground; he cares about the people, and as such he's the chairman of a group called The Mosquito Net Project, which provides insecticide-covered mosquito nets – most made3 in Angola – to families that can't afford them to protect against malaria.

It is a special source of pride for him. The Mosquito Net Project, all things considered, is an easy thing to both achieve and explain – quite an accomplishment in a place where simple solutions rarely present themselves.

"If I had more time to work on it, I would love to expand it more," he said. "It really sells itself.

"Most of the contributions have come from Luanda-based oil companies and oil services companies," he added.

And that's because the solution to malaria, which is still the number one killer of children in Africa, is largely preventable by these nets. Since the organization started raising funds in 2001, it has raised almost $100,000 and bought more than 12,000 nets – most made in Angola.

Koning volunteers for Yme, a non-profit group whose humanitarian efforts led to the drilling of much-needed water wells in Cabinda, Angola, this past September.

Quenching Their Thirst

One of the reasons he may be pressed for time is Koning also works as a residential representative for Yme, a Norwegian humanitarian, non-governmental organization that focuses on water and sanitation issues in the country, working with Angolan officials building sanitation facilities, latrines and areas for garbage disposal.

It's a volunteer position, allowing him to use his expertise to coordinate funding and other support for the drilling of water wells in rural areas.

Add Yme to the Mosquito Net effort and to his work as an adviser for Tullow Oil and Koning may be the busiest retired geologist in the country.

"I should point out that I am involved in both oil and aid work here," he said. "It is indeed an unusual situation, but that's what I have been doing now for five years since retiring from Texaco (ChevronTexaco)."

As for Yme, a politically and religiously neutral organization, Koning is the only non-Angolan working for the group, which he says is often a benefit.

"I fit in well, especially since I can do things for them where I can take advantage of my being an expatriate," he said, adding that this allows him to use his contacts with oil and oil service companies, embassies, etc., for fundraising purposes.

Because It Matters

Koning, who has worked in Newfoundland, Indonesia and Nigeria, arrived in Angola in 1996, as Texaco's assets development manager. He has led expeditions, co-authored guide books and papers, presented papers at international conferences, and been given awards from both Canadian and international geologic conferences.

But he says these days he is doing the most good by working both sides of the Angolan fence, if you will – oil for Tullow, water for Yme.

"I am in a classic situation," he said of this charitable, commercial tract, "proving that one can professionally mix up oil and water and make progress with both."

He says there is nothing more rewarding than providing water for those that don't have it and mosquito nets where malaria is rampant.

"Both potentially save lives," he said. "That is one of the main reasons why I stay here."

But there are other reasons.

"The Angolans are super-friendly, hospitable people," he continued. "Also it's been fascinating to live here and see the changes occurring as Angola goes through the transition of so many years of civil war to a time now of stability, reconstruction and revitalization.

"Also, we have traveled extensively through the country, and even though there remains in parts of the countryside major landmine problems, the interior is magnificient." ❑

$60 per mcf tells the story

Helium a New Target in New Mexico

By DAVID BROWN
EXPLORER Correspondent

It could shape up as an important gas play in New Mexico.

But if you're thinking "natural gas," think again.

This time the gas is helium, which can be found in high concentrations with the state's natural gas production.

Several areas of New Mexico appear prospective for high-concentration helium, according to AAPG member Ron Broadhead, principal senior petroleum geologist for the state Bureau of Geology and Mineral Resources in Soccoro, N.M.

And there couldn't be a better time for helium development: The United States Strategic Helium Reserve, near Amarillo, Texas, will be depleted in the not-too-distant future.

Other countries with helium-production capacity have stumbled in attempts to increase the world supply. That's produced a shortage of and much higher price for helium, to the consternation of research labs and university physics programs.

And, as the media almost always points out, it's getting expensive to fill those party balloons.

Recently, crude helium has sold for more than $60/Mcf.

"Helium is one of the unsung heroes of the natural gas industry," Broadhead noted.

"It's one of those things if you don't have it, you go back 50 years in time."

Discovered on Earth in 1895, helium was a laboratory curiosity. The detection of helium in natural gas at Dexter, Kan., in 1905 was followed in the next three decades by many discoveries of small to giant gas fields in Kansas and the Panhandle regions of Oklahoma and Texas that held helium concentrations between 0.5 percent and 2 percent. Some contained upwards of 7 percent helium.

The Chupadera region near Socorro, N.M.; it may not look like much now, but its potential for helium production could make this site a lot more attractive.

Later, helium-rich oil and gas fields were discovered in Colorado, New Mexico, Arizona and Wyoming, with some holding as much as 10 percent helium.

Helium has been produced in commercial quantities at few other sites around the world. Although Canada, Russia, Poland and Algeria have produced helium in commercial quantities, none have discovered reserves or helium concentrations comparable to those found in the United States.

Consequently, the United States has

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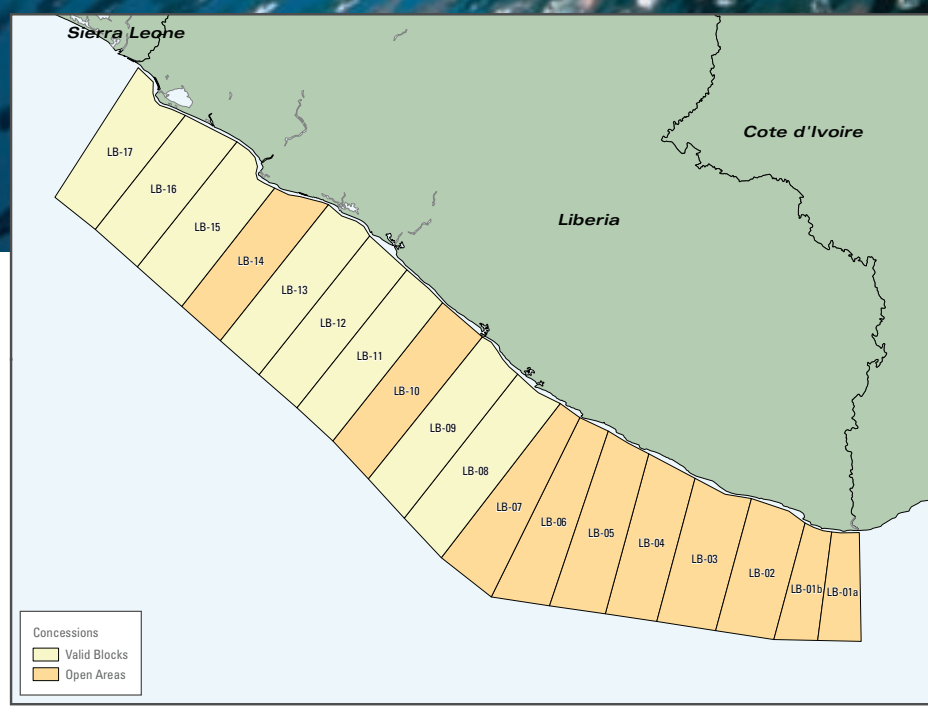
Second Liberia Offshore Petroleum Licensing Round



TGS and the government of Liberia, through the Ministry of Lands, Mines and Energy (MLME) announce the opening of the second Liberia Offshore Petroleum Licensing Round. Ten offshore blocks, each covering an area of approximately 3,000 square kilometers from the coastline to about 3,000 meters water depth, are being offered.

The license round is open now and closes on June 2, 2008. Contact your TGS sales representative today for more details.

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Versatile Helium Proves Value

What makes helium a strategic element isn't the lighter-than-air quality.

It's helium's inertness as a gas and use for cooling to very low temperatures.

Helium does not solidify under normal pressure as it cools to approach absolute zero: 0 degrees Kelvin or -459.67 Fahrenheit. The reason is fascinating, if you're fascinated by quantum mechanics.

Liquid helium's ground-state energy decreases as its interatomic distance increases. Its zero-point energy, or lowest energy level, is too high to allow freezing.

You have to put liquid helium under a lot of pressure, squeezing those atoms closer together, to get it to solidify.

Today, liquid helium has critical uses in supercooling, especially in medicine where it cools electromagnets for magnetic resonance imaging.

"Without helium, no MRIs," noted Ron Broadhead, principal senior petroleum geologist for the state Bureau of Geology and Mineral Resources in Soccoro, N.M.

Helium also serves:

✓ In the production of materials for computer chips.

✓ In making fiber optics.

✓ As a shielding gas in arc welding.

✓ As a filler or tracer gas and as coolant for both commercial and research applications.

✓ In float balloons.

✓ To alter your voice when inhaled.

– DAVID BROWN

Helium

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been the world's principal source of helium for over 80 years.

Going, Going …

Wheeler Sears is president of Inter-American Corp. in Dallas. He puts together New Mexico exploration projects, watches industry activity in the state and avidly follows developments in the helium markets.

And Sears believes the New Mexico region will become a major helium-producing resource.

"It is going to be the helium resource for the world, because the uranium component in the formations out there is so high, and helium is a direct result of radioactive decay," he said.

Helium can be found in two isotopic forms, helium-4 and helium-3. Helium-4 comes from radiogenic decay of heavier elements. The rarer helium-3 is mainly primordial and from Earth's mantle.

The element can appear almost anywhere. It's often a component of natural gas, but typically in a minute percentage. That makes New Mexico's most promising production especially attractive.

"The Department of the Interior says anything over three-tenths of 1 percent is high. We've done soil gas tests out there and think we are probably going to get up to the neighborhood of 3.5 to 4 percent, and high-Btu (natural) gas," Sears said.

According to Broadhead, Devonian through Permian strata already have yielded almost a billion cubic feet of helium in the Four Corners area of New Mexico, but those fields are largely depleted.

Helium production also has declined from established fields in Kansas, Texas and Oklahoma, with the resulting shortfall made up by withdrawing helium from storage.

In the 1920s, the United States established its strategic helium reserve to provide gas for airships, primarily for military purposes.

Armed-blimp warfare turned out to be a little less important than expected for national defense, but rockets proved vital. Helium was used to produce liquid hydrogen-oxygen rocket fuel, so the federal government arranged for separation plants to generate helium for storage at the Cliffside gas field in the Texas Panhandle.

Critics of the reserve called it expensive and unnecessary, and said it forced the government to pay higher-than-market prices for helium.

In 1996, Congress voted to start selling off its stored helium on the open market, pending a study by the National Academy of Sciences. The government ultimately decided to deplete the reserve for commercial purposes by 2015.

"At the present rate of withdrawal, it's going to be gone much sooner than that," Sears said.

The Challenge

Although helium can be present to some measurable degree in natural gas, especially in the western United States, it usually goes unnoticed, according to Sears.

"It's generally not tested for," he said. "Most of the folks who have chromatographs purge them of helium to clean them up and don't have the ability to test for helium."

"A lot of helium is going down the pipe right now because people are not aware of the economic value of it," he added.

If helium can be found and produced in economically attractive quantity, a separation plant probably will be built near production. Sears said helium can be extracted by cryogenic separation or pressure-swing adsorption.

Production could be the biggest challenge, even if good reserves of helium and natural gas are identified.

Some of the bad news about New Mexico exploration is summed up in two words:

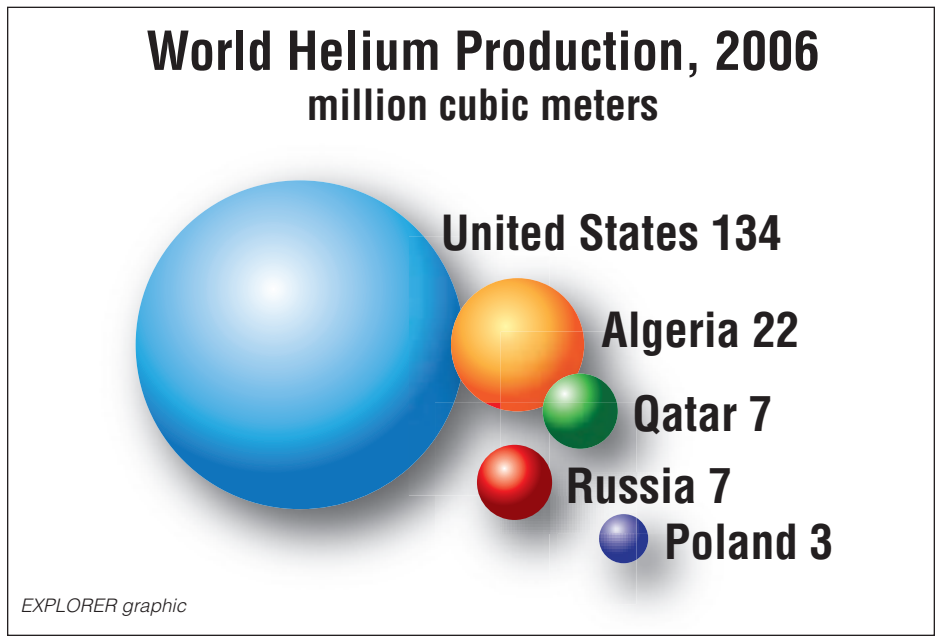
Petroleum geology.

The state presents a combination of balky producing zones and a tectonic mish-mash of faulted formations that can set petroleum geologists off screaming.

"You get it all out here, there's no question about it," said AAPG member Roy Johnson, a geologist and industry consultant in Santa Fe.

"A lot of the frontier work, I won't say

See **New Mexico**, page 24



EXPLORER graphic

New Mexico

from page 22

it's been misunderstood, but people haven't been able to put all the pieces together," he observed.

Johnson said he spent many years with the state's oil conservation division, where he saw the results of wells being completed and treated.

"Basically, what I've sat there and looked at over the years was the results of completion tests," Johnson said.

"People bring in the technology they've used in the Permian Basin. They say, 'If it works there it should work over here.' I've seen more wells screwed up," he added.

The biggest problem, according to Johnson, comes from operators attempting to acidize their wells.

Another issue, he said, has been "petrology issues in the reservoir rock – being able to obtain sidewall cores or anything like that to let the producers know how to complete these wells."

'Promising' Geology

Interest in the state's helium-producing possibilities centers on the Chupadera Mesa area near Socorro.

New Mexico geologist Ben Donegan, another AAPG member, is credited with developing that play.

He drills with operator partners, currently Chaparral Energy Inc. in Oklahoma City.

"It's public knowledge that we had significant shows of helium," Donegan said.

The biggest player now active in New Mexico by far would be Shell, through its Shell Western E&P subsidiary. The company has conducted extensive testing of an 11,500-foot well in Guadalupe County, New Mexico, in the Tucumcari Basin.

Rumors have circulated in New Mexico that Shell's AFE for perforating and testing exceeded $3 million, and that the well has good Lower Pennsylvanian pay.

Johnson assisted on a statewide petroleum source-rock project that evaluated Paleozoic-Mesozoic source units.

"Source rock is not a problem in New Mexico. The only basin more promising than the Tucumcari Basin, believe it or not, was the southern San Juan Basin," Johnson said.

"The southern San Juan has a unique characteristic which is a line in the sand, apparently, where if you use acid you just gum up your well," he observed.

Analysis by Broadhead of the Tucumcari and other basins in New Mexico indicates the presence of elevator sub-basins – long, narrow and structurally deep troughs bounded by high-angle faults.

Early Pennsylvanian to Early Permian bounding faults have vertical offsets that can exceed 5,000 feet, Broadhead found.

"It is really interesting and very promising," Sears noted.

"The tectonics out there are just absolutely fascinating," he said. "They have these strike-slip faults that have bends or turns in them that create these pull-apart basins."

Thickness of the Pennsylvanian – about 1,000-2,000 feet on-shelf – can increase dramatically in the deepest areas. Sears speculated it could approach 8,000-9000 feet.

"No one has drilled the total depths of the deepest part of these grabens," Sears said.

"They are strike-slip based," he observed. "They are grabens, but they are not what you'd consider to be the classic type of graben."

Operators looking for typical traps and closure in New Mexico haven't done as well as explorers attuned to the regional tectonics, according to Sears.

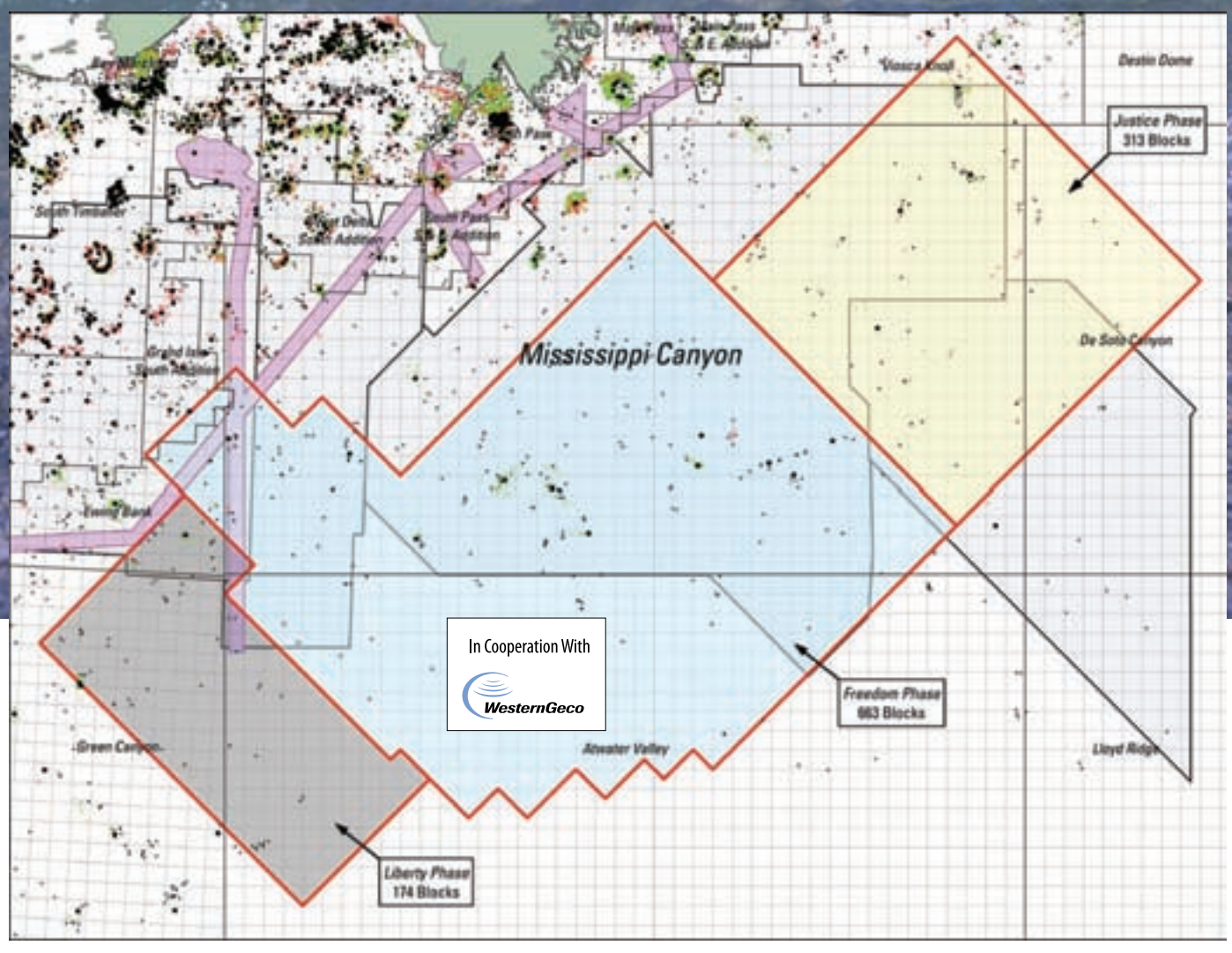
"The good production out there so far appears to be associated with these tectonic events," he said.

"The footwall side of these faults is very steep," he continued. "The hanging wall side has buckles in it. That's what you look for as a trap – they call them 'flowers.' They're not horst blocks, but they're the equivalent of a horst block."

Despite the challenges, natural gas already has renewed the exploration industry's interest in New Mexico.

Helium might just give it another lift. ❑

January Started a New Year



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February Begins a New Era

TGS and its cooperative agreement partner WesternGeco will commence an industry-first wide-azimuth multi-client 3D survey in the Mississippi Canyon and Atwater Valley areas of offshore Louisiana. The first phase of the mcWAZ 3D covers approximately 650 OCS blocks (15,000 square kilometers). The data will be recorded with a 4,200 meter crossline offset with multiple PSDM output volumes being generated.

For more information on this exciting new era, contact your TGS sales representative today at 713-860-2100.

Production stats leave a good impression

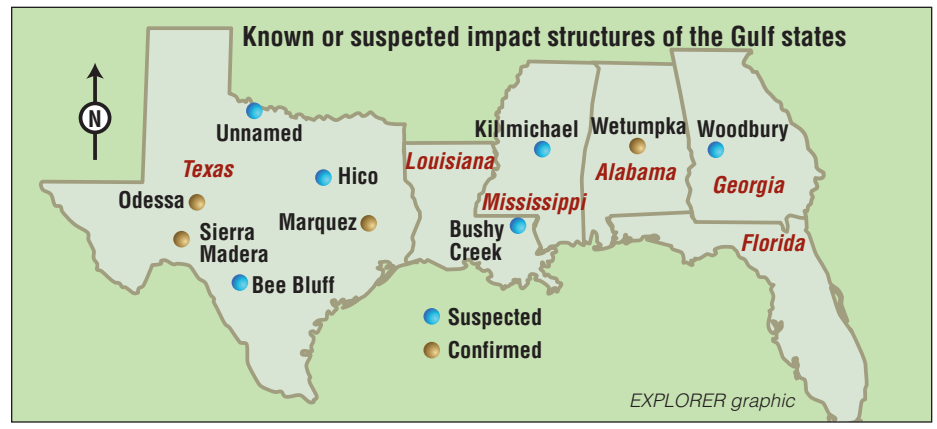
Craters Have Impact on Exploration

By BARRY FRIEDMAN
EXPLORER Correspondent

Calling impact cratering the "most violent geological process we know," a leading expert in the field says the process has the broadest "implications for Earth history."

Not to mention what it means for the oil and gas industry and the implications for finding hydrocarbons.

AAPG member David T. King Jr., professor of geology at Auburn University, has been studying such craters since the late 1990s – and he says the future regarding hydrocarbon exploration could be very bright.




King

"Impact structures have the potential to be, and in some instances are, important reservoirs for oil and gas," he said, "and are probably much more common than we expect them to be, so they may be encountered in exploration activities and thus should be explored for their potential."

To further amplify, King cites a 1998 article in the *Oil and Gas Journal* by A. D'Onofrio that concluded there were 11 impact structures in North America that had proved reserves totaling over 30,000 Mbbl of oil and over 15,000 bcf of natural gas.

King's own latest research ("Impact Structures and Craters of the Gulf Coastal") was presented in a paper and poster at last year's annual meeting of the Gulf Coast Association of Geological Societies. His co-author was Lucille W. Petruny.

Needed: Proof

The debate over impact structures is not if they exist or if there are more yet to be found, or even if there's a potential for petroleum exploration and development – but whether they can explain, as some theorize, the Gulf of Mexico itself.

First, though, some definition:

For an impact structure or crater to be confirmed, King said, there must be evidence in four categories.

✓ The structure or crater must be (or have been) circular to oval shaped and have concentric faults and overturned beds on their rims.

✓ They must show geophysical signature consistent with impact (e.g., gravity profile, seismic cross section, magnetic contour, etc.).

✓ There must be hypervelocity-shocked materials, such as microscopic shocked quartz or megascopic shatter cones.

✓ There should be physical traces of the impactor, such as meteoritic fragments or geochemical traces of the meteorite in the bedrock.

Structures lacking such high levels of proof generally are "suspected" sites until the proof comes out (or not).

"For petroleum or other resource exploration," King said, "there are features associated with impacts that are very important. Production of deep fractured zones (impact-induced porosity and permeability) can occur in regions below the impact structure's rim, central peak or ring faults. Larger impacts infuse thermal energy in the crust that persists for some time.

"This can cause maturation of hydrocarbons," he added, "and/or induce fluid flow that accentuates economic mineralization."

Evidence in the Gulf

One of the places where drilling in an impact structure has occurred in the Gulf Coast is at the Marquez Dome in Texas, where, according to King, the success rate as of 1998 was 60 percent. King points to the successful drilling at

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Sierra Madera and Bee Bluff (Lyles Ranch).

As for where the structures and craters are in the Gulf region, Texas has the most confirmed (Marquez, Odessa and Sierra Madera) and suspected impact features (Bee Bluff, Hico and one unnamed).

Among the other Gulf coastal states, the list is as follows:

✓ Louisiana (Brushy Creek; suspected).

✓ Mississippi (Kilmichael; suspected).

✓ Alabama (Wetumka; confirmed).

✓ Georgia (Woodbury; suspected).

Collectively – including the drilling at Marquez – King said the three structures in Texas have primary reserves estimated to be about 280 bcf of natural gas.

What surprised King were the number of wells already drilled at Texas impact structure sites (89) and the number across the nation (1,161).

Personally, for King, during the mid-1990s he shifted his research from facies analysis and sequence stratigraphy to impact geology.

"I started working on the Cretaceous-Tertiary boundary in Belize in 1996 and Wetumpka impact structure in Alabama in 1997," he said.

Over the past 10 years he has visited impact structures and outcrops of impact ejecta in many parts of the world.

As to those larger claims – particularly those that the entire GOM, in fact, was formed from a cosmic impact from above rather than traditional mechanisms from below, and that the impact crater theory of the Gulf would explain many of the "perplexing problems in the Gulf" – King says, "I am reminded of what Carl Sagan often said: 'Extraordinary claims require extraordinary proof.'"

Start Looking

King believes theories about the origins of GOM are an "interesting idea," but believes there are other valid ideas on the origin of the Gulf as well.

He challenges those who make these spectacular claims to send in their geophysical data, have the samples examined petrographically for shocked minerals and perform age-dating work.

"Let's get this question answered."

King says he knows no specific plans to exploit further impact structures or craters for exploration beyond what has been done already with the 11 structures.

He cites 180-kilometer diameter Chicxulub impact structure in Mexico as the most drilled and most productive structure, but says that's just the tip of the geologic iceberg.

"Smaller craters have potential reservoir rocks as well," he said. "There are probably dozens, if not hundreds, of impact structures and craters out there that we do not know about, or are known but are proprietary."

Clearly King believes these structures are an untapped potential, but one not yet seized upon by the industry.

"I am not sure that impact structures are on the radar screen for most exploration groups," he said.

And here King issues something of a challenge.

"Over the Mesozoic-Cenozoic history of the Gulf region, there must have been dozens of significant impacts in the Gulf region. Where are all these craters? Do petroleum companies have data and samples that can help us answer this question?

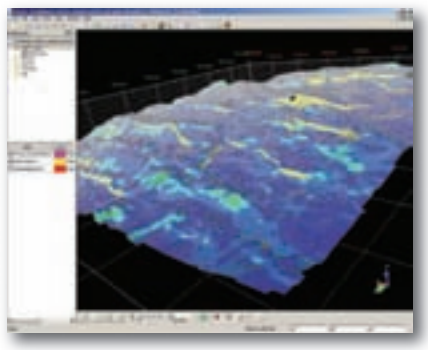
"There should be many, many more impact structures out there in the Gulf area than we know today," he said. "I think many are not identified because geologists do not consider looking for them." ❑

Midland Valley

Structure World

In Structure World this month there is some more detail about 4DRestore. We've been restoring volumes in 3DMove for ten years and we're really excited about the new possibilities. In Interpreter Tips we look at depth to detachment estimates. Plus there's an introduction to our work with universities to help train the next generation.

***4DMove* – the new dimension is here now.**
4DRestore is a new module of 4DMove providing rapid geomechanical restoration of 3D volumes and surfaces. Using a mass-spring solver, which is significantly faster than finite element solutions (8 to 10 times faster), users can build and test multiple scenarios in a very short space of time. 4DRestore can be used in conjunction with the traditional geometrical restoration algorithms in 2DMove and 3DMove or as a standalone modelling workflow.



The workflow based approach in 4DMove ensures that 4DRestore will be usable by a wide range of industry professionals, not just expert structural geologists. The user is guided through a step by step workflow and scenarios can be routinely saved and edited.

The mass-spring solver allows:

- heterogeneous 3D transport (non-plane strain);
- dynamic restoration of displacement on faults (fault gaps are closed as the restoration is taking place);
- passive surfaces and volumes to be handled at the same time;
- restoration runs in a reasonable amount of time!

The new implementation provides for automated fault gap closure for both hard and soft-linked systems. This eliminates extensive model conditioning and rebuilding between time-steps and represents a major breakthrough in the workflows to create time-stepped palinspastic models for basin modeling and hydrocarbon systems analysis. The same technique also gives fault damage zone information allowing new insights into fault seal evolution.

Outputs from 4DRestore such as strain and stress, uncertainty, misfit analysis and movement vectors can be delivered in a variety of formats, including directly to a geocellular model.
Want more info? Contact geo@mve.com

Interpreter Tips:
How to calculate depth to detachment.

A common problem in both normal and thrust faulting is how do we estimate depth to detachment where we have picked a horizon and a small segment of the fault. To do this we draw a "regional" which is the starting level of the faulted horizon. If we can't identify the un-faulted "footwall" we can still use the technique but it will only give us a locally valid answer.

The next stage is to measure and add up the offsets "e" (extension or contraction) on the faults and the area A below or above the regional.

Depth to detachment "d" below the regional is then given by dividing "A" by the sum of "e". We can use this to guide our fault picking at depth and we should check that the value we get for "d" is geologically sensible. For example that it coincides with a know weak layer (salt, shale) or is within the mid crust where we might expect a brittle-ductile transition. Very large fault systems may detach at base crust but if we get a large answer for "d" this is often a clue that have a strike slip system or a problem correlating the horizon or picking the faults.
More info? E-mail Louise at help@mve.com

First university field mapping workshop held in Glasgow

The first workshop to support our Field Mapping Training Initative for students through the use of structural software to directly integrate their field observations, utilise validation and modelling tools to create a digital framework model took place in Glasgow in January. Representatives attended from Geology departments in the UK, Netherlands, Italy and the US.
It is expected that the first students will be working with the software on their lap tops in this seasons mapping projects.
Interested? Contact Alan at info@mve.com

Silver Anniversary Events
To help celebrate our anniversary this year we'll be attending the following events:

- GEO08 Bahrain, March
- AAPG San Antonio, 20-23 April
- Public Training, Glasgow - 1-2 April
- South American Roadshow - Q1
- ODIN Workshop - Q1
- Silver Anniversary User Conference - Oct 08,

More info? E-mail Sarah events@mve.com

For more info on anything in this column call +44 (0)141 332 2681 or email help@mve.com

The structrual geology experts
www.mve.com

Photo courtesy of Cynthia Dinwiddie

The Small-Drillhole Minipermeameter offers a different way to determine permeability in the field. Users, knowing the injection pressure, can determine the rate at which the gas flows through the rock and apply standard formulae to determine permeability.

Minipermeameter gives field data

Downhole Device Idea Applauded

By KEN MILAM
EXPLORER Correspondent

Two engineering societies recently presented major awards to AAPG member Cynthia L. Dinwiddie.

For her paper, "The Small-Drillhole Minipermeameter Probe for In-Situ Permeability Measurement," Dinwiddie received the 2007 Rossiter W. Raymond Memorial Award from the American Institute of Mining, Metallurgical and Petroleum Engineers and the 2007 Alfred Noble Prize from the American Society of Civil Engineers.

Both awards recognize the best papers authored by society members under age 35.

Dinwiddie's paper documents her work on:

✓ Understanding the effect of the measurement instrument on the natural system.

✓ Size and shape of and weighting within its averaging volume.

✓ General guidelines for its use.

It was published in December 2005 in Reservoir Evaluation & Engineering, a Society of Petroleum Engineers' journal, although Dinwiddie presented an earlier version at the 2001 AAPG Annual Convention in Denver.

"It was unexpected, but it's really nice," she said of the honors.

Dinwiddie was sole author of the paper, which evolved from her doctoral work in Clemson University's Environmental Engineering program.

She and colleagues at Clemson University have a statutory invention registration for the device.

Problem-Solving in Utah

The Small-Drillhole Minipermeameter, according to Dinwiddie, offers a different way to determine permeability in the field.

Previous techniques involve extracting a small cylindrical sample from a drill core, placing it inside a sleeve and injecting nitrogen at one end.

Knowing the injection pressure, the user can determine the rate at which the gas flows through the rock and apply standard formulae to determine permeability.

The idea for the minipermeameter came while studying Utah sandstone formations, Dinwiddie said, where the friable rock was not suited to extracting samples.

"We had an outcrop analog for a

continued on next page

A Multidisciplinary Mind

Cynthia Dinwiddie is a hydrogeologist with broad expertise in mechanical engineering, environmental engineering and science, and the mathematical sciences – including application of numerical analysis and applied mathematics to model hydraulic and pneumatic flow behavior near measurement instruments.

She earned a doctorate in environmental engineering and science and a master's degree in environmental systems engineering from Clemson University. She holds a bachelor of science in engineering degree from Walla Walla College, where she studied mechanical engineering.

She is the author or co-author of 12 peer-reviewed publications; served as a panel reviewer for the National Science Foundation; is a technical reviewer for NASA grant proposals; and is a peer reviewer for several technical journals including Transport in Porous Media, Journal of Hydrology, Journal of Hydrologic Engineering, and Environmental Science and Technology and for the Proceedings on the Scientific Basis for Nuclear Waste Management.

Dinwiddie is past president of the Alamo Chapter of Sigma Xi. Among several professional memberships, she is a member of the Houston Geological Society. She joined AAPG in 2001.

– KEN MILAM

PROFESSIONALnewsbriefs

Dirk Bodnar has retired from BP Azerbaijan after 23 years of work in the United States, Venezuela, Kuwait, Trinidad & Tobago and Azerbaijan. He will reside in Cumana, Venezuela.

Herman Darman, to regional exploration geologist-Caspian region, Shell International E&P, Rijswijk, Netherlands. He also is president for the AAPG Asia Pacific Region. Previously regional geologist, Brunei Shell Petroleum, Brunei, Darrusalam.

Nathan Davis, to associate geologist, Chesapeake Energy, Oklahoma City. Previously log analyst, Schlumberger, Bakersfield, Calif.

Bill Francis, to vice president-southern operations, Encore Acquisition, Fort Worth. Previously manager-Permian region, Encore Acquisition, Fort Worth.

Scott Hadley, to vice president-exploration, Fairborne Energy, Calgary, Canada. Previously manager-exploration, Fairborne Energy Trust, Calgary, Canada.

Ron Jones, to geologic manager, Continental Resources, Enid, Okla. Previously senior geologist, Ascent Energy, Plano, Texas.

Melanie McQuinn, regional geologist, BHP Billiton, Houston. Previously senior international data adviser, IHS, Houston.

Andrew Miall has started a two-year term as president of the Academy of Science of the Royal Society of Canada. He holds the Gordon Stollery Chair in Basin Analysis and Petroleum Geology at the University of Toronto, Canada, and is the co-author of *Canada Rocks: The Geologic Journey* (November EXPLORER).

Emily M. Oatney, to exploration adviser, Chevron, London, England. Previously subsurface development team leader, Chevron, Ho Chi Minh City, Vietnam.

Peter O'Conor, to vice president-global sales, GeoMechanics International, Houston. Previously director of sales, GeoMechanics International, Houston.

Ragnar Rasmussen, to senior geophysicist-Southern Africa business unit, Chevron International E&P, Houston. Previously geophysicist, GOM deepwater exploration, Chevron North America E&P, Houston.

Thomas A. Ryer, to stratigrapher, The Aries Group, Katy, Texas. Previously geological consultant, Oxy, Houston.

Chris Whitten, to geologic manager, Indigo Minerals, Houston. Previously district geologist, Pogo Producing, Houston. ❑

(Editor's note: "Professional News Briefs" includes items about members' career moves and the honors they receive. To be included, please send information in the above format to Professional News Briefs, c/o AAPG EXPLORER, P.O. Box 979, Tulsa, Okla. 74101; or fax, 918-560-2636; or e-mail, smoore@aapg.org; or submit directly from the AAPG Web site, www.aapg.org/explorer/pnb_forms.cfm.)

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reservoir system but couldn't extract the sample cylinders," she said.

The crew noted the many holes drilled in the rock to secure ladders and began thinking in a new direction. The idea arose to use the holes, placing a rubber seal against a piece of rock.

"Instead of flowing in a one-dimensional way (as through a rock sample), the gas flows in many directions," she said.

"We could use many small injection sites in the field instead of taking a cylindrical sample back to the lab."

A torque wheel at the back of the probe seals it tightly into the hole. Nitrogen is injected through the center of the probe.

The rate of energy being put into the system, the rate of dissipation and the geometry of the injection site are calculated using accepted formulae.

The resulting numerical simulation gives "a good idea of the size and shape of the averaging volume," Dinwiddie said.

"It was an interesting problem to work on," she said, adding that potential applications include petroleum, fluids, thermal and electrical flow fields.

Dinwiddie

Out of This World

Dinwiddie, a senior research engineer in the geosciences and engineering division at Southwest Research Institute (SwRI) in San Antonio, is vice chairman for the AAPG Division of Environmental Geology program at this year's AAPG Annual Convention in San Antonio.

Her duties are not limited to this planet.

Her work at SwRI includes:

✓ In situ field measurement and analysis of heterogeneities within volcanic rocks.

✓ Geomorphologic and hydrologic studies of Martian outflow channels.

✓ Geophysical characterization of terrestrial analogs to Mars using multiple near-surface techniques.

She received a NASA grant to look for natural analogs to Mars geophysics using ground penetrating and synthetic application radar.

The research has produced interesting information on the Mars polar caps, she said. Her work also includes paleo surface geology, using channels on the Martian surface to reconstruct information on ancient floods.

She plans to continue working with the Small-Drillhole Permeameter in volcanic deposits caused by faulting. ❑

GEOPHYSICALcorner

Going Super-Deep With P-P, P-SV Data

(The Geophysical Corner is a regular column in the EXPLORER, edited by Bob A. Hardage, senior research scientist at the Bureau of Economic Geology, the University of Texas at Austin. This month's column deals with imaging super-deep targets with P-P and P-SV seismic data.)

By BOB HARDAGE
MICHAEL DeANGELO
and RANDY REMINGTON

The April 2006 Geophysical Corner described the value of 4-component ocean-bottom-cable (4-C OBC) seismic technology for acquiring long-offset seismic data across congested production areas.

Since that story was told, however, there has been increasing interest in acquiring long-offset data along the northern shelf of the Gulf of Mexico (GOM), because operators want to locate super-deep gas prospects beneath the numerous production facilities that are already in place across this offshore trend.

We use the term "super deep" here to describe drilling targets that are at depths of nine to 10 kilometers (30,000-33,000 feet). To create optimal images of geology at these depths, seismic data need to be acquired with source-to-receiver offsets that extend to nine to 10 kilometers.

Such long-offset data are difficult (impossible?) to record with towed-cable technology, where there are closely spaced production facilities that limit the movement and use of long cables.

In contrast, long-offset data are relatively easy to record across congested areas when receivers are stationary on the seafloor, as they are in a 4-C OBC deployment.

* * *

We now extend the story that was started in April 2006 to show the maximum depths to which P-P and P-SV modes can image when 4-C OBC data are acquired with 10-kilometer offsets.

In this investigation, interpreters examined 5,900 kilometers (about 3,700 miles) of long-offset OBC profiles across the West Cameron South, East Cameron South and Vermilion South areas of the Gulf of Mexico (figure 1). These interpreters looked at each profile as a team, and after some debate, agreed where to position a horizon on the P-P image and a companion horizon on the P-SV image that defined the deepest interpretable data on each seismic line.

These interpreted horizons should not be confused with structural horizons because each horizon crosses geologic time lines. The only objective was to define a horizon that marked the depth at which there was a loss of usable reflection signal for the P-P and P-SV modes, without any regard as to where that horizon was positioned in the stratigraphic column.

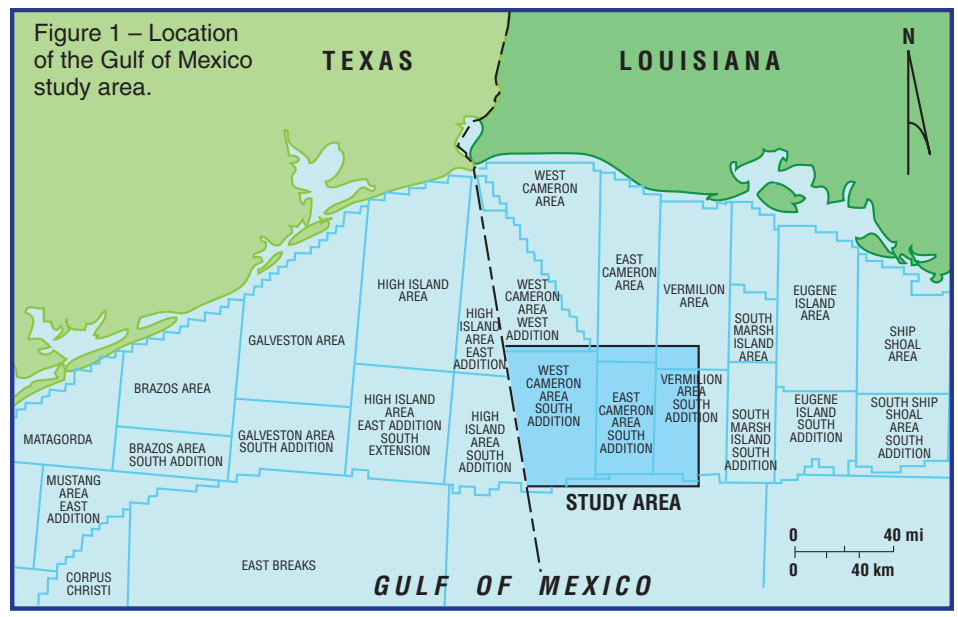


Figure 1 – Location of the Gulf of Mexico study area.

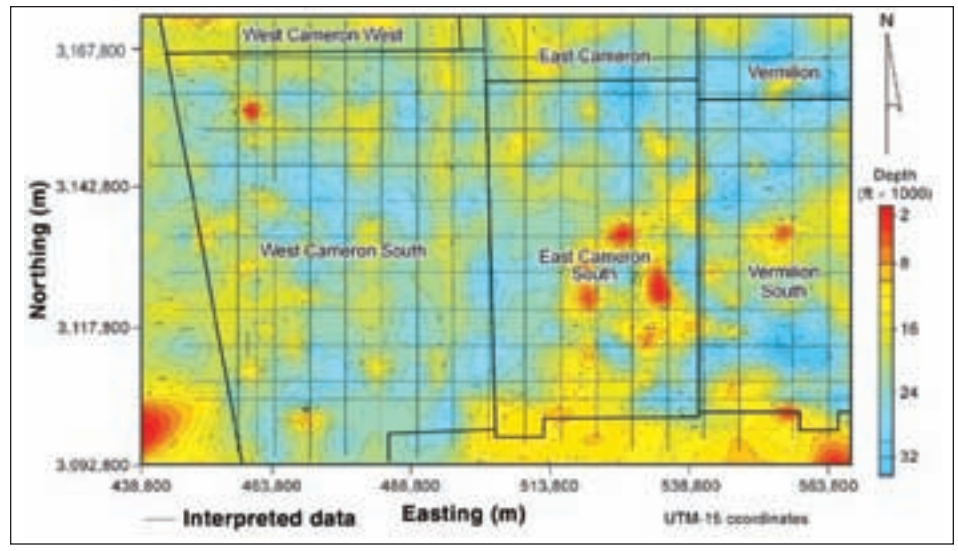


Figure 2 – Base of continuous P-P reflections across the study area. This depth-based map is not a structure map. The mapped surface crosses numerous geologic time boundaries. The map indicates only maximum depths to which continuous, good-quality P-P reflections exist when 4-C OBC data are acquired with 10-kilometer offsets.

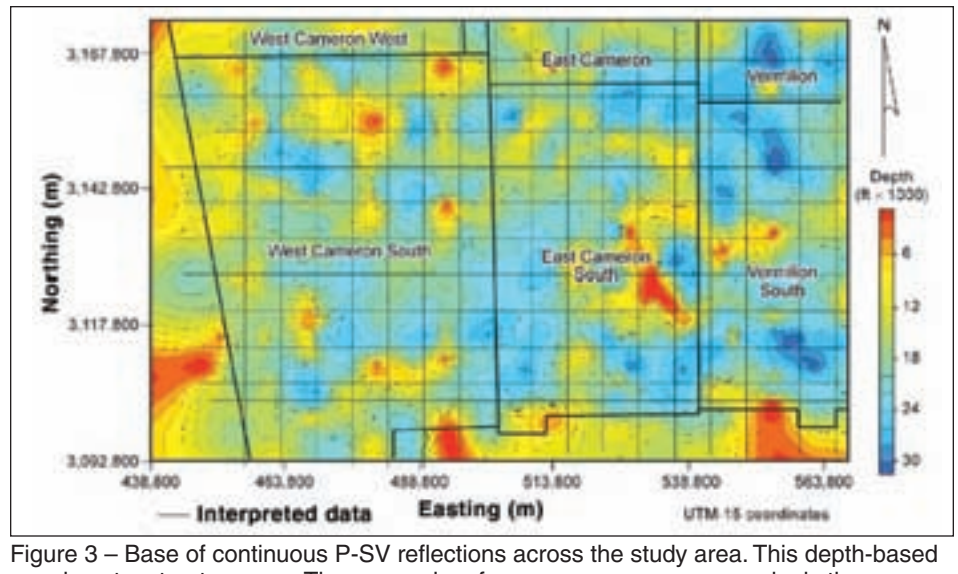


Figure 3 – Base of continuous P-SV reflections across the study area. This depth-based map is not a structure map. The mapped surface crosses numerous geologic time boundaries. The map indicates only maximum depths to which continuous, good-quality P-SV reflections exist when 4-C OBC data are acquired with 10-kilometer offsets.

Comparing the maps of figures 2 and 3 confirms that, in a general sense, P-P and P-SV data image GOM geology to equivalent depths, at least across this particular area.

This statement is only a big-picture view of the maps. Locally there are places where there are differences in the depths to which each mode produces continuous reflection events.

The basic message provided by these depth maps is critical information for explorationists operating in the GOM – namely, long-offset 4-C OBC data can provide good-quality P-P and P-SV reflection images of geology to depths of nine kilometers (30,000 feet).

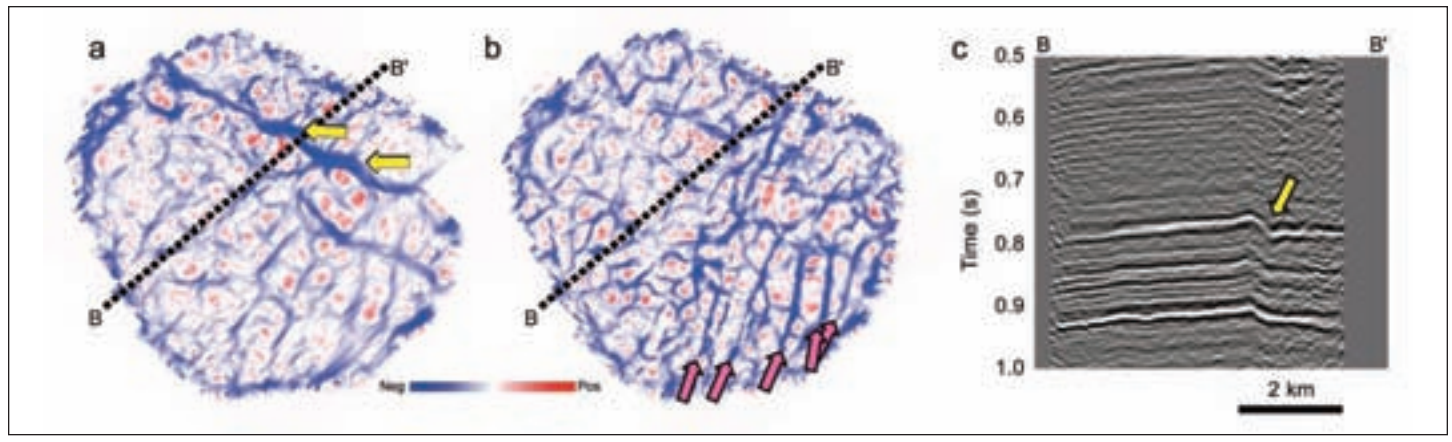
The fact that good-quality P-P reflections extend down to nine kilometers when 10-kilometer offset data are acquired is not surprising; the fact that equivalent-quality P-SV reflections are obtained for these same target depths is new and important information that should be factored into super-deep prospect plays. ❑

* * *

This research was funded by the U.S. Department of Energy; the seismic data that were interpreted were multiclient data owned by WesternGeco.

(Editor's note: Bob Hardage, Michael DeAngelo and Randy Remington are with the Bureau of Economic Geology, Austin, Texas.)

(Editor's note: If you thought figure 3 in the December Geophysical Corner ("Curvature Can Be a Map to Clarity") was confusing, you are correct. Blame it on the PowerPoint program, which inexplicably rotated and flopped the time slices in figures a and b and flopped the seismic data in figure c – but not the line B-B' or the arrows! The correct figure 3 is at the right. The figure on the AAPG Web site archive also has been amended to render the images properly.)



REGIONS& 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.

Contact: Carol McGowen, AAPG's Regions and Sections manager, at 1-918-560-9403; or e-mail to cmcgowen@aapg.org.)

By CAROL McGOWEN
Regions and Sections Manager

The excitement is building for teams of geoscience students from 38 universities who will participate in this year's Imperial Barrel Award competition.

Teams from all six AAPG Sections (17 states) and five of six Regions (12 countries) are now in the data analysis and presentation preparation phase of the competition, having received their IBA competition packets in January.

Competition for the right to represent a Section or Region will begin in mid-March, with the winning teams competing in the global finals in San Antonio April 18-19, just prior to AAPG's annual meeting.

Teams have the task of making a detailed assessment of the petroleum potential within one of three basins worldwide. Competition packets comprise a regional to sub-regional 2-D or 3-D seismic dataset and, where available, well logs, along with competition instructions and judging criteria.

Teams are expected to "think outside the box" and look at new exploration models based on the most recent published research and their academic course work.

Each team must prepare a 25-minute PowerPoint presentation along with a one-page handout that summarizes the prospect analysis' essential facts, while providing an overview of the structural and stratigraphic setting of the studied basin and the play types identified.

Presentations will be followed by 15 minutes of questions and answers between the three-person judging panel and each student team.

Judges assess both the presentation's technical content and the manner in which it is made. The quality of each team's presentation (including technical quality, thoroughness, imagination, convincing arguments, enthusiasm, etc.) will be significant.

Throughout the entire process analogies are made to a real corporate exploration environment – teams are referred to as the "exploration team" and their faculty adviser is the "exploration manager" who gives advice but does not do the actual work.

Corporate sponsorships are essential to offering a global competition like the IBA, helping to underwrite transportation costs, housing, food for the teams and prize money.

For information on IBA sponsorships, contact Steve Sonnenberg by e-mail at sasonnenbg@aol.com or by telephone at +1 (303) 895-7663.

Companies, listed in alphabetical order, who already have pledged sponsorship are:

- ✓ Aera
- ✓ BEG
- ✓ Devon
- ✓ Encana
- ✓ ExxonMobil
- ✓ Hess
- ✓ Maersk
- ✓ Schlumberger
- ✓ Shell
- ✓ Waggoner & Brown ❑

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

Save $$$ – Register Now for San Antonio

Looking for a way to put $200 in your pocket?

Register before Feb. 12 for the AAPG Annual Convention in San Antonio and you'll save up to $200 off the regular registration fee.

Registering is as easy as going to the AAPG Web site, where you can register online in a matter of minutes. Once you complete your registration link you can go directly to the housing site to make a hotel registration.

Not sure if you're attending the meeting, you say?

Cancellations and refunds are available through March 20. In other words – you have little to lose by registering now.

This year's convention will be held April 20-23 at the Henry B. Gonzalez Convention Center.

The meeting's theme is "Deliver the Conventional; Pursue the Unconventional," which will be covered by 100-plus technical sessions, nine special forums, 25-plus field trips and short courses, a variety of luncheons and career-building opportunities.

This year's Michel T. Halbouty Lecture will be "Distinguishing Successful Wildcatters: How Your Company Can Be Among the Best," presented by legendary oilman Ray L. Hunt.

Complementing the technical program will be an exhibition hall filled with more than 200 companies who will have on display the latest in technology and information.

And adding to the excitement of this year's meeting will be San Antonio's famous "Fiesta" celebration, which will be going on during the AAPG meeting and promises to turn the entire city into a colorful celebration.

Complete information can be found in the official announcement that was mailed with the January EXPLORER, and is available online at www.aapg.org.

So even if April seems far off (it's really not!), don't put off registering until the last minute. Sign up by Feb. 12 and save up to $200. ❑

WASHINGTONwatch

GEO-DC Presence Being Felt in D.C.

By DAVID CURTISS
GEO-DC

It has been just over two years since GEO-DC opened its doors – and as a result AAPG is now widely recognized in Washington, D.C., as a provider of non-partisan, scientifically sound information on petroleum, energy minerals and the environment.

As we transition leadership at GEO-DC it's important to reflect on the accomplishments of the first two years.

✓ In spring 2006 the U.S. Minerals Management Service published its draft **Five-Year Plan for Outer Continental Shelf** leasing activity (2007 to 2012) and invited public comments. The process was repeated in fall 2006 for the final Plan.

AAPG supports access to the outer continental shelf for exploration and production activities. So the DPA Governmental Affairs Committee activated the Action Alert system, encouraging members to respond. Other organizations did likewise, and the results were remarkable: The total number of comments exceeded 90,000.

Typically, negative comments outweigh the positive. But over both periods 73 percent of comments supported OCS development, and in the final period it reached 75 percent.

✓ GEO-DC hosted AAPG delegates at **Congressional Visits Day** (CVD) 2006 and 2007. With the leadership of Deborah Sacrey and the Washington Advocacy Group, we are planning for a productive CVD 2008 March 4-5.


Curtiss

We are planning for a productive CVD this March.

Elected officials and their staff need expert advice, and welcome it from qualified constituents. CVD provides opportunity to meet these people, and possibly become a valuable resource to your elected officials.

✓ The **National Petroleum Council** (NPC) study provided the opportunity for direct AAPG member contributions at the national level.

The NPC is an oil and natural gas advisory committee reporting to the secretary of energy.

Don Juckett, who had been involved in previous NPC studies while working for the U.S. Department of Energy, worked to ensure AAPG involvement. Former AAPG president Pete Rose formally represented the Association, and a host of AAPG members from industry, government and academia contributed their knowledge and perspective to the final report.

We are using the study extensively in our discussions with policy-makers.

✓ Over the past two years GEO-DC has taken a leadership role highlighting the **work force** challenge. To paraphrase Mark Twain's comments on the weather, everybody talks about work force but no one seems to do anything about it – but that is changing.

The National Academy of Sciences is launching a study of work force issues in the petroleum and mineral sectors. Simultaneously, GEO-DC is working with other stakeholders on a legislative program to rebuild the nation's petroleum and minerals geology, geophysics and engineering schools.

This effort is ongoing, and something we will be discussing with policy-makers at CVD 2008.

✓ An important event last June was the **AAPG/SPE Multidisciplinary Reserves Conference**, jointly sponsored by the World Petroleum Council, the Society of Petroleum Evaluation Engineers and the United Nations Economic Commission for Europe. This event brought together the professionals who generate oil and gas reserves and resources values and the professionals who use these values.

Conference participants came from the United States and abroad, and included a large government contingent – including the U.S. Securities and Exchange Commission (SEC).

The event raised awareness of the importance and challenge of establishing and maintaining up-to-date oil and gas reserves disclosure rules. And the effort is paying dividends. On Dec. 18 the SEC invited public comments and input on a variety of issues about a possible revision of SEC oil and gas disclosure rules. (See related story, page 45.)

* * *

Reflecting on his tenure at GEO-DC, Don Juckett noted, "What is particularly poignant for me is to recognize that the events of the past two years are really about AAPG members becoming more involved in the public policy issues that impact them.

"It has been a distinct privilege working with a large number of you," he continued. "I want to express my appreciation to AAPG as a great professional organization and to those members and staff who provided me with support and encouragement. I look forward to thanking you individually in the coming year.

"My parting request is that you continue to support GEO-DC with David Curtiss as director as enthusiastically as you have supported me."

Thanks to Don's leadership, GEO-DC rests on a firm foundation upon which we are building for the future. ❑

(Editor's note: David Curtiss, head of AAPG's Geoscience and Energy Office in Washington, D.C., can be contacted at dcurtiss@aapg.org; or by telephone at 1-202-684-8225.)

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SHORT COURSES

Practical Salt Tectonics
Date: May 5-6, 2008
Location: London, England
Instructor: Mark G. Rowan, Consultant, Boulder, CO
http://www.aapg.org/education/shortcourse/details.cfm?ID=67

Basic Well Log Analysis
Date: May 13-16, 2008
Locations: Austin, TX
Instructors: George B. Asquith, Texas Tech University, Lubbock, TX; Daniel A. Krygowski, The Discovery Group, Denver, CO
http://www.aapg.org/education/shortcourse/details.cfm?ID=109

Essentials of Subsurface Mapping
Date: May 19-20, 2008
Location: Dallas, TX
Instructor: Richard Banks, Scientific Computing Applications, Inc., Tulsa, OK
http://www.aapg.org/education/shortcourse/details.cfm?ID=29

Deep-Water Sands - Integrated Stratigraphic Analysis: A Workshop Using Multiple Data Sets
Date: May 26-28, 2008
Location: London, England
Instructor: John M. Armentrout, Cascade Stratigraphics, Damascus, OR
http://www.aapg.org/education/shortcourse/details.cfm?ID=52

Reservoir Engineering for Petroleum Geologists
Date: May 28-29, 2008
Location: Houston, TX
Instructor: Richard G. Green, Saxon Oil, Dallas, TX
http://www.aapg.org/education/shortcourse/details.cfm?ID=71

FIELD SEMINARS

Modern Terrigenous Clastic Depositional Systems
Dates: May 1 – 8; June 14 – 21; September 25 – October 2, 2008
Location: Begins in Columbia and ends in Charleston, South Carolina
Leader: Walter J. Sexton, Athena Technologies, Inc., Columbia, SC
http://www.aapg.org/education/fieldseminars/details.cfm?ID=6

Submarine Canyons, Channels, Fans and Deep-water Sequence Stratigraphy
Date: May 4-7, 2008 (beginning at noon on the 4th, ending late afternoon on the 7th)
Location: La Jolla, San Deigo County, California
Leader: John E. Warme, Colorado School of Mines, Golden, CO
http://www.aapg.org/education/fieldseminars/details.cfm?ID=63

Controls On Porosity Types and Distribution in Carbonate Reservoirs
Date: May 18-23, 2008
Location: Almeria Region, SE Spain, begins and ends in Las Negras, Spain. Fly from London/Barcelona/Madrid
Leaders: Evan K. Franseen, Kansas Geological Survey, Lawrence, KS; Robert H. Goldstein, University of Kansas, Lawrence, KS; Mateu Esteban, REPSOL-YPF, Mallorca, Spain
http://www.aapg.org/education/fieldseminars/details.cfm?ID=2

Complex Carbonate Reservoirs: The Role of Fracturing, Facies and Tectonics
Date: May 24-30, 2008 (begins the afternoon of May 24 and finishes the afternoon of May 30)
Location: Begins in Naples and ends at Rome International Airport (Italy)
Leaders: Raffaele Di Cuia, G.E.Plan Consulting, Ferrara, Italy; Davide Casabianca, BP plc, Aberdeen, UK
http://www.aapg.org/education/fieldseminars/details.cfm?ID=79

Geological Tour Through Alaska:
A Trans-Alaskan Transect – Gulf of Alaska to Prudhoe Bay on the Arctic Ocean
Date: May 31 – June 10, 2008
Location: Trip begins in Homer and ends in Fairbanks, Alaska
Leaders: Tom Plawman, BP, Anchorage, AK, and David Hite, Consultant, Anchorage, AK, for south-central Alaskan segment; Gil Mull, Santa Fe, N.M., Tom Plawman and David Hite for Brooks Range and northern Alaska segment

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More science than you can shake a pick at.

WWWupdate

Convention Site Has a New Look

By JANET BRISTER
Web Site Editor

"New and improved!"

In the ongoing (and never ending) quest to improve the members' experience on the Web site, some new features are available in the AAPG convention area – and other functions have been improved.

First of all, the technical sessions are searchable online via a new source to AAPG, and the result is a more efficient and user-friendly process for you.

You'll find the search tool is far more robust and it will allow you to begin building, picking and choosing your itinerary for the meeting – today. Previously you could only do this 14 to 21 days before the meeting.

But, before you leap into this new system please take …

A Closer Look

When you visit the meeting's Web area for the technical program look for the "Itinerary Planner." This is the online technical program.

There you'll find five options in the navigation bar:

✓ Open/Create Itinerary.
✓ Browse.
✓ Search.
✓ Itinerary.
✓ Log Out (ignore this).

Creating an itinerary is not required to browse or search. In fact, in preparing this article I discovered that you will want to delay building your itinerary until you've familiarized yourself with your options.

TIP: When you give your itinerary a name you'll want to write it down. This is your key to the site enabling you to review your itinerary — not your usual log-in / password scenario. You'll enter this label or name into the required field and then continue.

It does not matter as to when you give your itinerary a name. It is simply important to remember that name for future edits.

Browse or Search?

Choosing the Browse option from the navigation bar results in listing the sessions and abstracts either chronologically or by type (oral or poster). This way you'll glance through every abstract submitted.

Using the Search option you'll be given a set of search fields that will help you find abstracts more specific to your interest. Also, if there is a presenter you find particularly informative you may find when they are speaking or what they are talking about.

Remember while searching that the less criteria you submit, the better results you'll be fed. Entering too much criteria means you are guessing at the exact content in the database and you have now narrowed your results to possibly zero.

When you find a paper you are interested in, select the "View Presentation" link and read the abstract. If it appeals to you, print it or save it to a PDF.

These will become your list from which to build your itinerary.

(While writing this article I discovered that removing an item from your itinerary resulted in a rebuild of that information each time. The removal became laborious and time consuming, so making this suggested PDF or printouts is advisable.)

Now that your papers are collected, use the appropriate tool to find the papers you want to be sure to save to your itinerary.

While browsing earlier you should have noticed at the top and bottom of the displayed abstracts are four buttons: back, save, select all and unselect all. These are self-explanatory.

These buttons apply to the check box displayed next to each abstract. Those boxes you mark are only saved to your itinerary when you click on the "save" button.

There may be times you are interested in most of the papers to be presented in a session. The "select all" button will serve you best because it will mark all the boxes then scroll through the page unchecking the appropriate ones.

Likewise, if you find you have selected too many you can always "unselect all" and start over.

Either way, once you make your selection you must save it. No selection is added to your itinerary until you click that save button.

Once you've made your itinerary selections you may review it through the "Itinerary" navigation button. On this page you are given the options of removing items and printing your itinerary to a PDF or a printer.

Also, note the "conflicts" option in the navigation bar. You may ignore your conflicts and make that decision at the meeting or just before you depart.

One of the new features that improves the planner (previously known as "scheduler") is the fact that should any changes come up with any abstract you have selected you will automatically be notified via e-mail of that change.

For example, maybe the presenter has changed, or the paper has been withdrawn. The system will alert you.

Should you not want these alerts you may opt out of this on your itinerary page that displays your schedule's conflicts.

Final Note

While writing this article I had to leave the Itinerary Planner long enough (45 minutes) for it to time out. The system tried to alert me that I was timing out and even gave me 10 minutes to respond but I saw the alert too late to prevent the system from logging off.

I discovered that trying to log back in took me to the abstract submission area. This is very different from the Itinerary Planner area.

My only recourse was to return to AAPG's technical program page and use the Itinerary Planner link; enter my itinerary's name and continue from there.

Good browsing! ❑

For visual aids on this subject, visit the AAPG Web site.

FOUNDATIONupdate

Foundation Gifts Support Programs

The AAPG Foundation, which enjoyed a record year of member support in 2007, continues to receive generous gifts from donors.

Gifts to the Foundation – including cash, stocks and other securities, real estate, retirement plan assets and bequests – help fund the Foundation's mission of supporting educational, charitable and scientific objectives that benefit the geologic profession and general public.

Recent gifts of $50,000 or more to the Foundation by Trustee Associates include:


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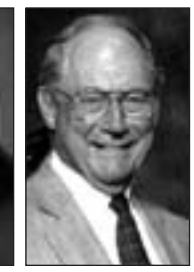
Baile


Rose


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Namy

✓ **Larry Funkhouser**, an AAPG past president, Sidney Powers medalist and Honorary Member, has provided additional funding to the Lawrence W. Funkhouser Named Grant – which provides an annual $2,000 grant to support a graduate student at Stanford University – and to a yet-to-be designated fund.

✓ **Marge Reid**, an honorary Trustee Associate, has made a generous memorial gift to the General Fund honoring her husband, the late Eugene F. "Bud" Reid. Gifts to the General Fund support any activity that the Trustees deem worthy and in accord with the Foundation's mission.

✓ **Eddie David**, another AAPG past president, recently contributed a generous memorial gift to the Bernold M. "Bruno" Hanson Memorial Environmental Grant-in-Aid that will provide an annual $2,000 grant toward the study of specific environmental issues related to exploration and production of petroleum and energy minerals, or application of technologies developed/employed in petroleum or energy minerals industries to environmental problems.

✓ Additional Trustee Associates' contributions of $10,000 or more have been received from **Richard Baile** (General Fund); **Pete Rose** (Visiting Geoscientist Program); **Lewis Burleson** (General Fund); **Richard Stallings** (General Fund); and **Jerry Namy** (K-12 Education Fund).

The Foundation Trustees recently implemented new grant procedure guidelines, which emphasize the Foundation's funding process, areas of priority support, restrictions, Letter of Inquiry guidelines and grant application format guidelines. Organizations requesting funding will be asked to follow these procedures.

The next deadline to submit a Letter of Inquiry is March 10. Details are included on the Foundation Web site at http://foundation.aapg.org.

For information regarding grant application procedures, naming opportunities or gifting procedures for stock or other securities contact Rebecca Griffin at rgriffin@aapg.org, or (918) 560-2644.

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continued on next page

Colorado Teacher Wins TOTY, Will Be Honored in San Antonio

By SUSIE MOORE
EXPLORER Staff Writer

Mary Fitts, an eighth grade earth sciences teacher at Sierra Middle School in Parker, Colo., has been named 2008 AAPG Earth Science Teacher of the Year.

Fitts is being honored for her teaching philosophy, which encourages students to engage in inquiry-based scientific studies in the classroom and then apply the solutions to real world events.


Fitts

She was nominated by the Rocky Mountain Section.

The national award of $5,000, funded annually by the AAPG Foundation, will be split with $2,500 designated for educational use at Sierra Middle School under Fitts' supervision and the other half for her personal use.

She also will receive an all-expense paid trip to the AAPG Annual Convention in San Antonio April 20-23, where she will be presented with her award at the All-Convention Luncheon.

Fitts received her bachelor's degree in geology from Rice University and worked as a soils geologist before choosing a teaching career. She believes that being an Earth sciences teacher is rewarding because "kids are naturally curious about their world, and love to learn about 'their Earth' in a variety of ways."

An interview with Fitts will be featured in the April convention issue of the EXPLORER. ❑

Sections Announce Technical Winners

A.I. Levorsen Award winners have been announced by two AAPG Sections, in addition to the winner of the best poster award at a third Section.

GCAGS

❒ **Angela McDonnell**, with the Bureau of Economic Geology, Austin, Texas, won the Levorsen Award for "Importance of Allochthonous Salt in Texas State Waters: Paleo-Canopy Presence and New Exploration Paradigms."

Her co-authors are Mike Hudec and Martin P.A. Jackson, both also with the BEG in Austin.

Rocky Mountain Section

❒ **Vincent Rigatti**, with Questar Exploration and Production, Denver, won the Levorsen Award for "The Vermillion Basin of Southwest Wyoming/Northwest Colorado: Structural Styles and Seismic Pore Pressure Prediction Through Over-Pressure."

His co-authors are Tony LeFevre, Richard Newhart, Kimberly Kaiser and Scott Goodwin, all with Questar, and Robert Parney of Tricon Geophysics, Denver.

Mid-Continent Section

❒ **Brian W. Wilhite**, **S.J. Mazzullo**, **I. Wayne Woolsey**, **Dean Pattison**, **Marc Summervill** and **Kimberly Dimmick-Wells**, all of Wichita, Kan., won the Planalp Award for the poster "Paleo-Oceanography and Depositional Framework of the Cowley Facies in South-Central Kansas: Solution to the 'Cowley Problem.'"

continued from previous page

In memory of Francis X. Bland
Frederick Lee Stead
Hugh Leighton Steward
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Stops include U.S., Europe, Asia

Distinguished Lecturers Hit the Road

February proves itself the busiest month of the year for AAPG's Distinguished Lecture program, with seven speakers – five domestic and two international – set to be on speaking tours.

The tours involve stops at 40 cities in North America and at least 12 stops throughout Europe and Asia. Some tours continue into early March.

For information on any of the tours contact Karen Dotts in the AAPG education department at kdotts@aapg.org.

The February DL schedule includes:


Peacock


Olson


Johnson


Giles


Blum


Lawton

Domestic Tours

❒ **Mike Peacock**, exploration/development geoscience manager, Imperial Oil, Calgary, Canada, will offer his lecture on "Athabasca Oil Sands: Understanding the Oil Sands from the Regional Scale to the Project Scale – A Case History."

His speaking dates are:

Feb. 4 – Auburn University, Auburn, Ala.

Feb. 5 – University of Arkansas, Fayetteville, Ark.

Feb. 6 – University of Missouri, Columbia, Mo.

Feb. 7 – Indiana University, Bloomington, Ind.

Feb. 11 – Duke University, Durham, N.C.

Feb. 12 – Virginia Poly Tech, Blacksburg, Va.

Feb. 13 – Penn State University, University Park, Pa.

Feb. 14 – University of Ottawa, Ottawa, Canada.

Peacock is this year's Haas-Pratt Distinguished Lecturer.

❒ **Jon Olson**, associate professor, department of petroleum and geosystems engineering, the University of Texas at Austin, will offer two talks: "Fractured Reservoir Characterization: From Diagenesis and Fracture Mechanics to Reservoir Permeability" and "A Geologist's Guide to Explaining Natural Fracture Phenomena with Fracture Mechanics."

His speaking dates are:

Feb. 11 – University of Windsor, Windsor, Canada.

Feb. 12 – SUNY at Buffalo, Buffalo, N.Y.

Feb. 14 – West Virginia University, Morgantown, W.Va.

Feb. 15 – University of Akron, Akron, Ohio.

Feb. 18 – Illinois Geological Survey, Mount Vernon, Ill.

Feb. 19 – Shreveport Geological Society, Shreveport, La.

Feb. 20 – Lafayette Geological Society, Lafayette, La.

Feb. 21 – Fort Smith Geological Society, Fort Smith, Ark.

❒ **Kirk Johnson**, vice president of research and collections, Denver Museum of Nature and Science, Denver, will offer his talk on "Crocodiles in Greenland and Hippos in London: A Fossil-Fueled Tour of Past and Future Climates."

His speaking dates are:

Feb. 18 – University of Minnesota, Duluth, Minn.

Feb. 19 – University of Wisconsin, Milwaukee.

Feb. 20 – Michigan State University, East Lansing, Mich.

Feb. 21 – SUNY at Albany, Albany, N.Y.

Feb. 25 – Amherst College, Amherst, Mass.

Feb. 26 – University of Tennessee, Knoxville, Tenn.

Feb. 27 – University of Georgia, Athens, Ga.

Feb. 28 – University of Arkansas, Fayetteville, Ark.

Feb. 29 – Tulane University, New Orleans.

❒ **Katherine Giles**, a professor at New Mexico State University, Las Cruces, N.M., will offer two talks: "Tracking the Migration of Salt Diapirs Using Halokinetic Sequence Stratigraphy" and "Complex Feed Back Loops Controlling Heterozoan Reef Development on Salt Diapirs, La Popa Basin, Mexico."

Her speaking dates are:

Feb. 18 – University of Texas-Bureau of Economic Geology, Austin, Texas.

Feb. 19 – Oklahoma State University, Stillwater, Okla.

Feb. 20 – Colorado State University, Fort Collins, Colo.

Feb. 21 – Brigham Young University, Provo, Utah.

Feb. 22 – Utah State University, Logan, Utah.

Feb. 26 – Montana Geological Society, Billings, Mont.

Feb. 27 – University of Idaho, Pullman, Wash.

Feb. 29 – University of Alaska, Fairbanks, Alaska.

❒ **Mike Blum**, a professor in the department of geology and geophysics at Louisiana State University, Baton Rouge, will offer two talks: "Subsidence

continued on next page

SW Section to Turn 50

The golden anniversary convention for AAPG's Southwest Section will be held Feb. 23-27 in Abilene, Texas.

The theme is "Survivors," in honor of the geologists who are still active in the legendary region.

The convention will be held at the Abilene Civic Center and will offer a two-day technical program. Evening events and spouse tours also are scheduled.

The opening session will feature a historical look at the societies within the Southwest Section, plus a keynote address from AAPG President Will Green.

Other highlights will include:

✓ A "Rocks in Your Head" program to instruct teachers about the science of geology will be held on Saturday, Feb. 23.

✓ A field trip of the cyclic deposition of the Pennsylvanian and Permian sediments of the Eastern Shelf, led by Earl Harrison, on Sunday, Feb. 24.

✓ A free short course on "Seismic Technologies for Exploiting Strat Traps and Unconventional Reservoirs" will be offered Monday, Feb. 25, taught by the editor of the EXPLORER's popular Geophysical Corner, Bob Hardage.

✓ Scheduled luncheon speakers are AAPG President-elect Scott Tinker, director of the Bureau of Economic Geology, and Patricia Wood Dickerson, a geological consultant to NASA.

For more information go to www.aapg.org. ❑

continued from previous page

and Sea-Level Changes Along the Northern Gulf of Mexico: Response of Mississippi River to the Last Glacial Cycle, and the Flexural Ups and Downs of Mississippi Delta" and "Signatures of Climate and Sea-Level Change in the Gulf of Mexico River Systems Over the Last Glacial-Interglacial Cycle: A Source-to-Sink View Ups and Downs of Mississippi Delta."

His speaking dates are:

Feb. 25 – University of South Dakota, Vermillion, S.D.

Feb. 26 – CSPG, Calgary, Canada.

Feb. 27 – Utah State University, Logan, Utah.

Feb. 28 – University of Wyoming, Laramie, Wyo.

March 3 – University of Kansas, Lawrence, Kan.

March 4 – Oklahoma State University, Stillwater, Okla.

March 5 – University of Oklahoma, Norman, Okla.

March 6 – West Texas Geological Society, Midland, Texas.

International Tours

❒ AAPG member **Don Lawton**, holder of the chair in exploration geophysics at the University of Calgary, Canada, will present this year's AAPG/SEG Intersociety Lecture. His topic is "Anisotropic Depth Imaging and Interpretation in Thrust-Belt Exploration."

His speaking dates include:

Feb. 25-26 – China University of Petroleum Geosciences, Beijing, People's Republic of China.

Feb. 27-28 – SEAPEX, Singapore.

Feb. 29-March 3 – India Petroleum Association, Dehradun, India.

March 5-8 – Indonesian Petroleum Association, Jakarta, Indonesia.

March 8-11 – Geological Society of Malaysia and University of Malaya, Kuala Lumpur, Malaysia.

❒ **John J. Walsh**, lecturer and associate professor, Fault Analysis Group school of geological sciences, University College, Dublin, Ireland, will offer two talks: "The Growth of Fault Systems on Different Time Scales: Reconciling the Long-Term Growth and Earthquake Behavior of Normal Faults" and "The Structure, Content and Growth of Fault Zones Within Sedimentary Sequences."

His speaking dates are:

Feb. 12 – Petroleum Exploration Society of Great Britain, London

Feb. 13 – Imperial College, London

Feb. 18 – University of Aberdeen, Aberdeen, Scotland.

Feb. 19 – University of Manchester, Manchester, England.

Feb. 21-22 – IFP, Rueil Malmaison; Society of Geologists in France, Paris. ❑

Smiles Remain For Athens

AAPG European Region officials had a lot of reasons to still be smiling several weeks after the close of their largest meeting in their history.

Final numbers showed that 1,283 people attended the historic AAPG-AAPG European Region Energy Conference and Exhibition in Athens, Greece – a gathering that was several times larger than any other meeting the Region has offered.

"We had much more attendance than expected, which was a nice surprise," said meeting general chair Geir Lunde, but he had a long list of other reasons why the meeting was a success, including "high quality talks with wide appeal" that lived up to the conference theme, "Challenge Our Myths."

"The theme really affected the attitude of many participants in approaching new and untraditional ideas," he said.

"It was a good idea to extend the scope of the conference both geographically and thematically," added István Bérczi, ER president, because that showed "the importance to open from the classical exploration geology to the gray areas between geology and engineering, (and) to the issues of the contribution of geology to the economy."

In keeping with the conference theme, the paper and poster that best "challenged our myths" were honored at the closing session. Those winners were:

✓ Paper – Henk J. Droste, Shell Technology Oman, Muscat, Oman, for "The Myth of the Flat and Monotonous Mesozoic Epeiric Carbonate Platforms in the Middle East."

✓ Poster – Sebastian Rohais, Institute Francais du Petrole, Rueil Malmaison Cedex, France, for "Modeling the Stratigraphic Architecture of the Southern Margin of the Corinth Rift (Greece)."

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

www.aapg.org

Plans Finalized for Cape Town

The technical program is now being finalized for this year's AAPG International Conference and Exhibition in Cape Town, South Africa – AAPG's first major event in the southern part of the continent.

This year's international conference will be held Oct. 26-29, built on the theme "African Energy – Global Impact."

The technical program goal is to have more than 70 sessions and forums, 16 short courses and nine field trips.

Abstracts are being grouped into five areas that are themselves built around the "big five" symbols of Africa's animal kingdom – specific themes that reflect the geology, history, culture and potential of Africa. They are:

✓ The Elephant – A Steady Advance: "Deepwater: Ancient Analogues, Current Technologies, Future Opportunities."

✓ The Leopard – Unraveling Secrets: "Advances in Geoscience and Allied Disciplines."

✓ The Black Rhino – Turned Around From Near Extinction: "Next Generation Tools and Technologies."

✓ The Lion King – Roar of the Future: "The New Business of Energy."

✓ Cape Buffalo – Beauty and the Beast: "Gondwana and Pangean Petroleum Systems: Exploration, Development and Production – Emerging Plays, Lessons and Analogs."

Registration and exhibition reservations are both expected to soon be available online at www.aapg.org/capetown/ – so keep watching the Web site for up-to-the-minute updates and information. ❑

AAPG President Will Green (center) in Athens with students from Bucharest.

SPOTLIGHTon...

(Editor's note: As Will Green mentioned in this month's President's Column, one of the highlights of the recent AAPG–AAPG European Region conference in Athens was the participation of members of the AAPG Student Chapter at the University of Bucharest in Romania.

For these students, getting to Athens was almost as exciting as attending the meeting itself.

Because of their persistence – and because their Student Chapter for years has been one AAPG's most active university groups – they're in this month's spotlight.)

By FLORENTINA ENEA
and CEZAR IACOB

Attending the AAPG and AAPG European Region conference in Athens became our goal from the moment we read about it in the EXPLORER. Since our chapter's teamwork had been recognized, sustained and appreciated by the AAPG staff we thought it was time to meet the people who made our chapter's success possible.

After that it was a matter of hard work, perseverance and will to make our dream come true.

This AAPG meeting challenged not only Greece's myths, but it challenged us and our cars as well.

For financial and adventuring reasons, we chose to travel to Athens by driving. We had two available cars, so only 10 of our members could come.

It wasn't very comfortable to huddle 10 people in two cars.

The real problem, though, was the luggage (try to imagine luggage for 10 people all piled up into two small car trunks).

During our trip to Athens we experienced many unavoidable "incidents," such as:

✓ Bad weather (very dense rain and blinding fog in the middle of the night).

✓ The windshield wiper from one car just flew away.

✓ The two cars were temporarily separated from each another in Bulgaria.

✓ Our identity cards got stuck in one of the car glove compartments at the customs office from Greece (we had to break it open with a geologic hammer).

In all, we had to travel about 1,600 miles to Greece and back home in Romania for about 40 hours of meeting.

Still, our participation at the AAPG's Energy Conference and Exhibition had a great impact on our perception of the geosciences world. Attending oral and poster presentations and meeting important people from the oil industry – especially the AAPG staff – was quite an "eye opening" session for us.

This made us all agree to challenge ourselves to become better geologists and geophysicists in order to help us in the "hunt for energy" world.

After returning to Romania, we had a meeting with all our chapter's members and made a presentation about our experiences in Athens. They responded with a big curiosity about how they could also get to participate at an AAPG international meeting.

As a result, some of us are already preparing for the next AAPG international meeting in Cape Town – a few of us presenting our own papers. ❑

(Editor's note: Florentina Enea and CeZar Iacob are immediate past presidents of the Bucharest Student Chapter.)

MEMBERSHIP&certification

The following **candidates** have submitted applications for membership in the Association. This does not constitute election nor certification, 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, 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

California
Greenfield, Donald Sedgwick, Keystone Diversified Energy, Bakersfield (reinstate)

Colorado
Hannah, Judith L., Colorado State University, Fort Collins (F.G. Ethridge, W.S. Houston, S.O. Egenhoff); **Rankin, James Scott**, self-employed, Littleton (reinstate)

Kansas
Davis, Douglas Vincent Jr., self-employed, Wichita (R.D. Cowdery, E.R. Morrison, A.L. De Good)

Oklahoma
Kepley, Robert King III, Chesapeake Energy, Oklahoma City (L.W. Holman, S.D. Lane, R.W. Pope); **Lese, Kristen**, Samson, Tulsa (W.K. Vanderyt, K.A. Brown, N. Geier); **Schatzinger, Richard Allen**, self-employed, Copan (T.L. De Keyser, L.F. Baie, E.A. Beaumont)

Texas
Lin, Fang, Chevron/Texaco, Houston (B.J. Katz, S.K. Muhuri, G.P. Muscio); **Murphy, H. Jerome**, ExxonMobil, Houston (F. Pontigo, J.O. Olaifa, A. Abba-Kaka); **Mutis-Duplat, Emilio**, University of Texas-Permian Basin, Odessa (M.A. Raines, M.E. Thompson, T.J. Hunt); **Ortega, Aaron Thomas**, Fairway Resources, Dallas (R.M. Borkowski, A.H. Borkowski, J. Small); **Robertson, Renee M.**, independent, Midland (M.A. Raines, F.H. Behnken, S.C. Boger); **Roelofs, Austin James**, North Coast Energy, Houston (R.E. Whitehead, J. Koenig, D.L. Cox); **Shoemaker, Michael L.**, BP America, Houston (P.N. Trumbly, L.L. Sarle, C.D. Walker)

Australia
Ross, Lindsay Allan, Santos Limited, Caloundra (D. Beckett, M.R. Densley, B. Ovenden); **Walding, Daniel L.**, ExxonMobil, South Perth (A.L. Brill, J. Reeve, J.R. Ezell)

England
Bertouche, Meriem, Badley Ashton & Associates, Horncastle (D.F. Payne, M. Ashton, D.M. Bliefnick); **Fraser, Alexander Charles**, 3Legs Management Services, London (S. Aytuna, M.P. Lewis, M. Zywicki)

India
Chowdhury, Manabesh, Cairn Energy India, Thane (West) (S. Sarkar, N.K. Senapati, J. Rath); **Kulkarni, Prasad P.**, Oil and Natural Gas Corp., Baroda (S. Prasad, P. Paul, D.D. Gaikwad); **Prakash, S. Aruit**, Oil and Natural Gas Corp., Chennai (V. Venkatesh, A. Chaudhuri, K.R. Nambiar)

Indonesia
Hartantyo, Tjatur Sunu, Pacific Oil and Gas, Jakarta Pusat (S.S. Smith, H. Semimbar, N. Guritno)

Japan
Shimano, Hirobumi, Eni International, Tokyo (D. Chantipna, K. Takayama, T. Sato)

Kuwait
Skander, Lillian, Chevron, Kuwait City (reinstate)

Netherlands
Waite, Shaun Robert, Geomodelling Services, Den Haag (D. Jeffrey, P.A. Jackson, J.F. Allen Jr.)

Russia
Grinchenko, Vasily A., TNK BP, Tyumen (J. Dolson, E. Kazier, A. Carter)

Trinidad & Tobago
Meighu, Derek A., Petroleum Company of Trinidad & Tobago, Marabella (C.L. Archie, S.R. Wharton, V. Young-On) ❑

Graduated Dues Are Now In Effect

AAPG's graduated dues program is now in effect – and that means there are *major* changes to the next dues statement you will receive.

The graduated dues program affords three levels of dues, all based on individual members' annual personal gross income (PGI). Dues will **no longer** be based upon type of membership (excluding Students).

Details of the graduated dues program include:

✓ Level 1 dues – $80 for North America, $90 if outside North America (annual income greater than $50,000). Members can receive the BULLETIN either online with a CD, or in print, and the EXPLORER in print.

✓ Level 2 dues – $40 for North America, $50 if outside North America (annual income greater than $25,000, but less than $50,000). Members receive the BULLETIN online only, plus the EXPLORER in print.

✓ Level 3 dues – $20 (annual income less than $25,000). Members have access to the online versions of the BULLETIN and EXPLORER.

All annual income amounts are based on and equivalent to U.S. dollars.

All members (applicants) with addresses outside North American who select Levels 1 or 2 must pay the additional $10 mail surcharge to receive the print editions of the BULLETIN and EXPLORER.

Levels 2 and 3 may purchase PRINT copies of BULLETIN and EXPLORER for additional annual added fee(s).

Members wishing to contribute to the Foundation via their dues statement also will have greater choice and flexibility regarding distribution of their gifts (select funds will be listed on the back of the statement).

Complete details are available at the AAPG Web site at www.aapg.org. ❑

Welcome Back to Bakersfield

Once again the Western Region North American Society of Engineers and the Pacific Section American Association of Petroleum Geologists are uniting our annual conventions into one fully packed event in Bakersfield, California.

Yes, technology continues to evolve in our region and this year's conference is prepared to address current and future developments. Our technical and continuing education chairs, have compiled an attractive technical program. We will roll out an excellent collection of short courses and field trips, and we have completed plans for enjoyable and rewarding student programs and activities. Add the depth of technology ready for display from the prominent list of exhibitors that will be there and you will be ensured every opportunity to expand your professional knowledge and experience.

Plan to attend the "Next Generation EOR Technology for the Western Region US" panel sessions and hear experts in and outside the region share their ideas about innovative EOR technologies such as advanced thermal applications, CO2, other miscible/immiscible gas, WAG, in-situ combustion, chemical flooding, or MIOR, that just may have application in the region to harvest the reserves from our unconventional heavy oil, shale and diatomite resources, as well as the numerous mature conventional reservoirs.

In addition to a robust educational program including oral and poster sessions, timely short courses and field trips, we are fortunate to have William M. Cobb, (2008 SPE President) and Scott W. Tinker, (2008-2009 AAPG President) accept invitations to be keynote speakers for the SPE and AAPG luncheons respectively. And in case you missed it, Bakersfield has grown into a vibrant community offering a diverse array of fine and unique restaurant choices and entertainment options to further fulfill your experience.

For information please contact Roy Burlingame, General Co-chairperson for the PSAAPG, at rburlingame@bak.rr.com or look on the webpages at www.psaapg.org or www.spe.org.

House to Consider Change to Bylaws

A proposed bylaws amendment giving the Executive Committee the authority to expel a member who is found to have falsified stated qualifications in a membership application will be considered at the House of Delegates meeting at the AAPG Annual Convention in San Antonio.

Marty Hewitt, chairman of the HoD, said the proposed bylaws amendment inserts language specifically noting the falsification of qualifications on the application as a cause for expulsion. It also notes that the Executive Committee will make the determination of the falsely stated qualifications.

Constitution and Bylaws Committee chair Paul Hoffman said that Article VI, Section 8 Alternative Procedure of the bylaws presently allows for the expulsion of "any member who pleads guilty to a misdemeanor involving moral turpitude or to any felony, or who admits to the violation of any government statute, regulation, rule or code of ethics relating to the practice of geology."

The proposed amendment would allow the discovery of false statements of qualifications in a membership application to be dealt with under this same provision of the bylaws.

This provision also ensures due process to the member, including the opportunity to present evidence that would prove the accuracy of the original application.

The proposed amendment will require a two-thirds vote of the House and would be effective immediately.

In accordance with AAPG Bylaws requirements, the proposed amendment is currently published on the AAPG Web site and the AAPG membership has been notified of its publication by postal service.

SEC Starts Review Of Reserves Disclosure Rules

By DAVID CURTISS
GEO-DC Office

The U.S. Securities and Exchange Commission (SEC) announced on Dec. 11 that it is reviewing its oil and gas reserves disclosure rules first issued in 1978.

In a public statement, SEC Commissioner Christopher Cox acknowledged that "the world is a much different place than it was when the Commission adopted our now well-worn reserve disclosure requirements nearly three decades ago."

There is concern that the current disclosure requirements do not reflect the technological and investment realities of today's market place. Consequently, the SEC is inviting comments about the public's interest in revising these disclosure requirements.

The SEC action adds to a growing emphasis on the need to address how oil and gas reserves and resources are defined and represented. This need was obvious during last June's International Multidisciplinary Conference on Oil and Gas Reserves and Resources held in Washington, D.C., sponsored by AAPG and the Society of Petroleum Engineers with support of the World Petroleum Council, the Society of Petroleum Evaluation Engineers and the United Nations Economic Commission for Europe.

Cox attended an evening reception of the conference, where he spoke informally with attendees.

"One of our goals with this conference was to bring together the professionals who generate reserves and resources numbers with those professionals – such as regulators, accountants, bankers and investors – who use this information," said Pete Rose, conference co-chair and past-president of AAPG.

"The SEC public comment period provides us with a unique opportunity to continue that engagement by contributing our collective scientific and technical expertise to the rulemaking process," he added.

The SEC rulemaking process has several phases:

✓ The current phase is called a "Concept Release," where SEC solicits public feedback to 15 questions, outlined in the release, that cover a wide array of topics and concerns.

Responses are critically important to framing the scope and content of any new rule.

✓ Based on these responses the SEC is then expected to issue a "Rule Proposal," which is a detailed, formal, proposed rule that will be open for public comment for 60 days.

✓ This leads to issuance of a final rule, which is again open for 60 days of public comment, and then subject to vote by the Commission.

The initial public comment period closes Feb. 19 and AAPG members are invited to participate.

AAPG members can find additional information on the GEO-DC Web page. ❑

EDUCATIONupdate

There's still time to register for an education conference that has proven itself valuable for all geosciences, no matter their age or experience.

The AAPG Winter Education Conference, set Feb. 11-15 in Houston at the Norris Conference Center, offers a smorgasbord of a curriculum where registration is for the entire week and the badge is transferable.

Courses also are priced individually and include refreshments and a buffet lunch each day, in addition to course notes. Member discounts are available.

The conference has four different tracks – Business, Unconventional Reservoirs, Seismic and Petrophysical – with multiple courses successively available in each track. Also, attendees can mix and match the courses as desired.

Transferable badges allow for multiple individuals from a company to receive training.

This year's slate features six new courses – including three with a personal/business slant. Those are:

✓ Thinking on Your Feet.
✓ Creativity in Exploration.
✓ Principles of Career Success as a Professional Geologist.

Other new WEC courses are:

✓ Geologic Interpretation of Seismic Data.
✓ Formation Evaluation of Thinly-Bedded Reservoirs.
✓ Assessment of Unconventional Shale Resources Using Geochemistry.

Popular courses that are returning to the conference slate are:

✓ Risk, Uncertainty and Decision-Making in Unconventional Resource Plays.
✓ Seismic Amplitude Interpretation.
✓ Seismic Geomorphology and Seismic Stratigraphy.
✓ Basic Openhole Log Interpretation.
✓ Quick Guide to Carbonate Well Log Analysis.

To register, or for further information, see the AAPG Web site at www.aapg.org, or contact Debbi Boonstra with the AAPG education department. ❑

INmemory


Edwards

John D. "Jack" Edwards, international geologist, educator, secretary-treasurer of the AAPG Foundation Trustee Associates and a 2008 recipient of the AAPG Distinguished Service Award, died Dec. 24 in Boulder, Colo. He was 82.

Edwards will be honored posthumously during the awards ceremony at the AAPG Annual Convention in San Antonio.

He was with Shell Oil for much of his career (1949-87), serving as chief geologist and being credited with the discovery of Brazil's largest oil field. After retirement he served as adjunct professor at the University of Colorado in Boulder and at Fort Lewis College in Durango, Colo.

He was considered an expert on future energy needs and concerns, and in 2002 testified before the U.S. Senate about strategies for future energy concerns.

Edwards was active in AAPG activities in a variety of areas in addition to his role with the Trustee Associates, including chairmanship of the Committee on the Future of Earth Scientists, several terms in the House of Delegates and, in 1989-90, as an AAPG Distinguished Lecturer.

* * *

John L. Allen, 87
Dallas, July 7, 2007
Arthur Neal Budge, 77
Dallas, Nov. 27, 2007
John David Edwards, 82
Boulder, Colo., Dec. 24, 2007
Richard Medziuch, 52
Houston, June 27, 2007
Kinji Magara, 71
Victoria, Canada, Feb. 20, 2007
James Savage, 78
Dallas, Aug. 3, 2007
Dick Teel, 88
Houston, May 17, 2007

(Editor's note: "In Memory" listings are based on information received from the AAPG membership department.)

APPEX London Set for March 5-7

Preparations continue for the seventh annual APPEX London Prospect and Property Expo, set March 5-7 at the London Business Design Centre, the event's new home.

Registration is running at a steady rate, officials said, and the exhibitions hall has only a few booths available.

The exhibition also will include an expanded International Pavilion, with representation from many of the world's key national oil companies and hydrocarbon producing countries.

The APPEX format – including a daily prospect forum – allows upstream E&P decision-makers and their teams to meet their equivalents from around the world, discuss opportunities and deal-make.

The event is not designed to be a technical conference but more of a business forum.

This year's schedule includes:

March 5
✓ Farmout Management and Presentation Seminar.
✓ Finance Forum.

March 6
✓ Conference keynote address: "Future Global Hotspots."
✓ Europe and Arctic regions sessions.
✓ South America, Central America and the Caribbean sessions.

March 7
✓ Russia, Asia and Australasia sessions.
✓ Africa and the Middle East sessions.

For registration and more information go online to http://appex.aapg.org.

CLASSIFIEDads

POSITION AVAILABLE

Three Positions in Integrated Petroleum Geoscience University of Alberta

The Departments of Earth and Atmospheric Sciences and Physics propose to launch a new course-based MSc program in Integrated Petroleum Geosciences (IPG). This will be a rigorous one-year accelerated program intended to prepare students with appropriate undergraduate backgrounds for work in the modern petroleum industry. Information about the proposed program can be found at http://www.ualberta.ca/EAS. Three new faculty positions are available to support this program. These will be joint appointments between the Departments of Earth & Atmospheric Sciences and Physics.

One position will be an appointment at the Associate or Full Professor level, while the other two will be at the Assistant or Associate Professor level. Applicants must hold a PhD degree at the time of appointment and have a proven research record and demonstrate excellence in teaching. The successful candidate for the senior position will be the first Director of the proposed program with primary responsibility for guiding development of the IPG program. This individual will have extensive experience with workplace practices in the modern petroleum industry. Previous experience with a similar program would also be an asset. Applicants for all three positions should have interests and experience in Petroleum Geoscience, preferably with demonstrated expertise in fields such as geophysical data processing or interpretation, petrophysics, basin modeling, or reservoir simulation. The successful applicants will be actively involved with teaching of the IPG program, mentoring of appropriate student projects, and liaising with industry partners. They will also be expected to develop their own research programs with supervision of graduate students being an integral part.

Applications for these positions should be addressed to Dr. Martin Sharp, Chair, Department of Earth and Atmospheric Sciences, University of Alberta, Edmonton, Alberta, Canada, T6G 2E3. Applications should include a current curriculum vita, a statement of research interests and relevant experience, and a statement of teaching philosophy. Applicants for the Director position should include a clear outline of their previous administrative experience. Applicants should arrange for three confidential letters of reference to be sent to Dr. Sharp as soon as possible. Although the initial closing date for applications will be **March 1 2008**, the competition will remain open until suitable candidates are found. The start date for these positions is July 1, 2008, or as soon as possible thereafter.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.

The University of Alberta hires on the basis of merit. We are committed to the principle of equity in employment. We welcome diversity and encourage applications from all qualified women and men, including persons with disabilities, members of visible minorities, and Aboriginal persons.

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Research Associate (Post-doctoral researcher) Geologic/Reservoir Modeling University of Colorado at Boulder

The Energy and Minerals Applied Research Center at the University of Colorado at Boulder is seeking candidates to fill a Research Associate (Post-doctoral researcher) position in petroleum geologic/reservoir modeling. The position will be for 1 year, beginning in spring/summer 2008, depending on available funding. The individual will conduct research that involves multi-scale data analyses and geologic/reservoir modeling. The project involves analysis and modeling of the Red Wing Creek field in North Dakota. This field produces from a meteorite impact, and is highly fractured reservoir. Therefore, a background in structural geology and fracture modeling is desirable. The individual will work in a team-oriented research program. Candidates must have a background in modern concepts of petroleum geologic/reservoir modeling. Specific experience with Petrel modeling software is required. General computer programming skills are desirable. Salary will be commensurate with experience. Interested candidates should send a complete curriculum vitae, and the names, addresses, telephone numbers, and email addresses of at least three references to: Professor Paul Weimer, Department of Geological Sciences, University of Colorado at Boulder, 399 UCB, Boulder, CO 80309-0399, or paul.weimer@colorado.edu. The University of Colorado is committed to diversity and equality in education and employment. The University of Colorado at Boulder conducts background checks for all final applications.

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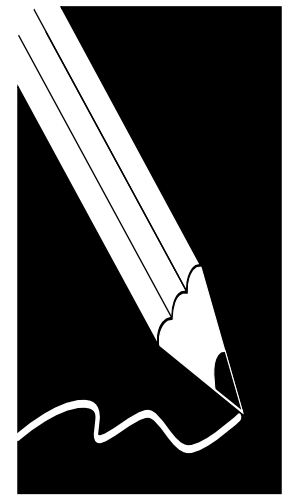

CLASSIFIED ADS

You can reach about 30,000 petroleum geologists at the lowest per-reader cost in the world with a classified ad in the EXPLORER.

Ads are at the rate of $2.10 per word, minimum charge of $42. And, for an additional $50, your ad can appear on the **classified section on the AAPG Web site**. Your ad can reach more people than ever before.

Just write out your ad and send it to us. We will call you with the word count and cost. You can then arrange prepayment. Ads received by the first of the month will appear in the subsequent edition.

"We need a world-class team to manage one of Western Australia's greatest assets."

Professor Alan Robson – Vice-Chancellor

A teaching and research centre for petroleum geoscience is being established within the School of Earth and Geographical Sciences at The University of Western Australia (UWA). Funding related to this initiative is being provided by Woodside Energy Ltd, Chevron Pty Ltd, the Western Australia Energy Research Alliance (WA:ERA) and UWA. The Centre is expected to begin operation early in 2008. The School of Earth and Geographical Sciences at UWA is one of the leading geoscience groups in the world with established strengths in resource industry teaching and research. The successful applicants will be joining a group with extensive experience in teaching and research designed for the needs of the local and international resource industry.

WOODSIDE-CHEVRON CHAIR IN PETROLEUM GEOSCIENCE (REF: 2107)

This position is funded by Woodside Energy, Chevron and UWA. The Chair's role calls for an outstanding geoscientist with a demonstrated record of achievement in petroleum geoscience. Applications are also encouraged from individuals early in their career who can demonstrate outstanding potential. The appointee will have primary responsibility for building and leading a unique and sustainable research and education enterprise and will also provide technical advice to the sponsoring companies. Experience of working in, or closely with, the petroleum industry is essential.

The appointment is initially for 5 years with extension of this term and the opportunity of a permanent appointment dependent on the success of the Centre and satisfactory performance reviews.

RESEARCH FELLOW/SENIOR RESEARCH FELLOW (REF: 2108)

This three year appointment is funded by the Western Australian Energy Research Alliance (WA:ERA). The appointee will play an active role within the petroleum geoscience discipline in the University and industry and will work closely with WA:ERA partners in particular the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Applications are sought from candidates with expertise in any field of petroleum geoscience but with preference given to geologically oriented interpretation of seismic reflection data. The successful applicant's expertise will complement the geophysical, petrophysical and reservoir-scale expertise available in UWA, CSIRO and Curtin University. Experience of working in, or closely with, the petroleum industry is highly desirable.

Closing date: Friday, 28 March 2008.

The University of Western Australia offers an attractive remuneration package including generous superannuation and leave provisions, fares to Perth (if applicable) for appointee and dependants along with a removals allowance.

For further information regarding the positions please contact Professor Mike Dentith, on 61 8 6488 2676 or email mdentith@cyllene.uwa.edu.au, School of Earth and Geographical Sciences

The Information for Candidates brochure which includes details to assist with your application may be found at https://www.his.admin.uwa.edu.au/Advertising/2107-2108CandidateInformation.pdf or via a link at http://jobs.uwa.edu.au/ or contact Ms Toni Pilgrim, Human Resources on +61 8 6488 3533, email toni.pilgrim@uwa.edu.au. Written applications should be sent to Ms Toni Pilgrim, Human Resources, M350, The University of Western Australia, 35 Stirling Highway, Crawley, WA 6009 or to lodge an application electronically please refer to the Information for Candidates brochure for details.

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Abu Dhabi National Oil Company (ADNOC)

ADNOC, one of the World's leading Oil Companies wishes to recruit qualified and experienced candidates in its Exploration & Production Directorate, for the following positions:

1. Advisor, Reservoir Engineering

Provides hands-on support for reservoir modeling and simulation and for special reservoir studies and packages. Directs the utilization, testing and evaluation of commercial reservoir simulators/related reservoir softwares and their associated pre-and post-processors to the effect of identifying and recommending reservoir simulators/reservoir related softwares that best meet ADNOC requirements. Examines and reviews various reservoir study reports, and recommends actions/techniques to improve the field development plans and data gathering programs and to ensure proper implementation of ADNOC's established objectives and reservoir guidelines. Attends regular meetings, task forces and presentations with OPCO's, interest holders, consultants and service companies as company representative to discuss and advise on reservoir modeling and simulation, software matters, R&D, reservoir technology and ADNOC hydrocarbon reserves. Maintains an external perspective on reservoir technology and lead peer reviews of ADNOC processes and studies to ensure best practice implementation, knowledge transfer and learning. Advise on the current and future R&D activities, including the identification and recommendation of programmes and projects where research can be initiated/applied to Abu Dhabi reservoirs. Responsible for developing, coaching and mentoring of young reservoir engineers.

The Candidate should have Masters Degree (or higher) in Petroleum Engineering or in a related academic discipline with minimum 20 years of academic and work experience.

2. Senior Reservoir Engineer

Compiles, reviews and analyzes the input data of studied reservoirs using data processing and mapping/plotting packages. Constructs detailed, full-field and single-well models for reservoirs, and verifies the credibility of such models by matching the historical performance of reservoirs using simulators. Predicts, using established simulation models, the reservoir field development plans or programs. Defines, based on simulation results, the recommended development schemes, production/injection targets and drilling/workover programs that optimize the full field development plans or programs. Monitors, evaluates the actual performance against predicted performance, and recommends updating the simulation models in light of recently acquired field performance data. Recommends new software and hardware, develops and recommends work procedures aimed at improving work efficiency. Maintains the integrity and proper documentation of simulation input data and results, together with the results of associated simulation studies. Produces reservoir simulation study reports, and reports on associated simulation studies, and submits to Management for approval. Attends regular meetings, task forces and presentations with OPCOs, Consultants and Service Companies to discuss problems associated with fields/reservoirs. Carry out special studies/tasks/assignments as required by Management. Provide technical training/support for junior engineers. Prepare and submit a variety of reservoir engineering related reports/presentations.

The Candidate should have Bachelor Degree (or higher) in Petroleum Engineering or in a related academic discipline with minimum 15 years of academic and work experience.

3. Advisor, Reservoir Engineering (Special Core Analysis)

Identifies the need to acquire fit-for-purpose routine and special core analysis data. Designs and analyzes petrophysical and geomechanical Special Core Analysis programs for carbonate reservoirs; including resistivity index, cementation factors, Hg/Air Capillary Pressure, Relative Permeability, NMR, stress dependency, … etc. Designs SCAL programs for different recovery mechanisms: water flooding, gas injection, WAG and other EOR options. QA/QC SCAL laboratory data. Manages the party laboratories. Performs SCAL data analysis; using both analytical and numerical simulation techniques. Incorporates SCAL data (relative permeability, capillary pressure, Sor, resistivity index, etc.) in reservoir modeling and simulation. Designs and executes research projects aimed at innovative

solutions to field problems. Actively contributes to the identification and maturation of opportunities for technology application and field development optimization (with special reference to EOR), including the pragmatic introduction of innovative technologies and methods wherever clear benefits can be demonstrated. Provides support to new technology development in Special Core Analysis. Utilizes latest relevant technology, knowledge, experience and expertise to ensure technical excellence in the ADNOC group SCAL work, including peer reviews and implementation of industry best practices. Actively participates in designing and follow up of necessary research programs that need to be carried out to test the different recovery mechanisms including EOR options. Maintains close interaction with other team members to ensure that a fully integrated, multi-disciplinary approach is followed in all reservoir engineering studies performed in ADNOC and its OPCO's. Develops lessons learned/participate in audits and reviews of SCAL and other reservoir special studies. Assists in coaching and mentoring local staff in SCAL data acquisition, analysis, interpretation and applications. Establishes and maintain dialogue on all SCAL related professional issues with other teams in ADNOC and OPCO's through active networking. Establishes and maintain dialogue on relevant professional and technology issues with third parties (SCAL laboratories, Universities, research center) through active networking.

The Candidate should have Masters Degree (or higher) in Petroleum Engineering or in a related academic discipline with minimum 20 years of academic and work experience.

4. Advisor, Reservoir Engineering (PVT)

Designs and analyzes PVT and phase-behavior data acquisition programs for carbonate reservoir fluids. QA/QC PVT laboratory data. Manages the execution of PVT programs with third party laboratories. Designs and executes special studies and research projects aimed at innovative solutions to field problems. Actively contributes to the identification and maturation of opportunities for technology application and field development optimization (with special reference to EOR), including the pragmatic introduction of innovative technologies and methodologies, wherever and whenever clear benefits can be demonstrated. Provides input/support to new technology development in PVT and fluid sampling techniques. Utilizes latest relevant technology, knowledge, experience and expertise to ensure technical excellence in the ADNOC group PVT work, including peer reviews and implementation of industry best practices. Maintains close interaction with other team members to ensure that a fully integrated, multi-disciplinary approach is followed in all reservoir engineering studies performed in ADNOC and its OPCO's. Develops lessons learned/participates in audits and reviews of PVT/SCAL and other reservoir special studies. Assists in coaching and mentoring local staff in PVT data acquisition, analysis, interpretation and applications. Establishes and maintain dialogue on all PVT/SCAL related professional issues with other teams in ADNOC and OPCO's through active networking. Establishes and maintain dialogue on relevant professional and technology issues with third parties (PVT/SCAL laboratories, Universities, research center) through active networking. Identifies the need to acquire fit-for-purpose routine and special PVT data. Designs PVT data acquisition programs for and other EOR options. Reviews, analyzes and interprets PVT and phase behavior data; using both analytical and numerical simulation techniques. Incorporates PVT data in numerical reservoir modeling and simulation (Black oil & Compositional). Supports/assists in the design and execution of PVT programs including:

1. Reservoir fluid sampling.
2. Reservoir fluid standard characterization.
3. Enhanced oil recovery fluid characterization for mixtures of reservoir oil and injected fluids.
4. Hydrocarbon solids characterization (Asphaltene/Sulfuer/WAX PVT).

Actively participates in designing and follow up of necessary research programs that need to be carried out to test the different recovery mechanisms including EOR options. Provides technical support for managing, contracting, tendering and budgeting of PVT programs:

1. Monitors PVT programs through implementation of quality management systems
2. Develop Equation-of-State fluid description using measured PVT data.
3. Implement derived EOS fluid description to initialize compositional simulation models.
4. Develop local PVT expertise through coaching/mentoring

Coaching and mentoring junior engineers:

1. Forming a PVT community (made up of engineers and PVT experts) and coordinating regular meetings to discuss PVT related issues.
2. Conducting PVT related internal seminars and short courses.

Manage multiple PVT projects across the organization (QMS implementation).

The Candidate should have Masters Degree (or higher) in Petroleum Engineering or in a related academic discipline with minimum 20 years of academic and work experience.

ADNOC's attractive benefits include tax-free remuneration, family accommodation, furniture purchase allowance, medical insurance, 42 working days annual leave, passage for employee free car purchase loan, insurance coverage, subsidised recreation club membership and end of service benefit.

Qualified candidates should forward their detailed CV, within two weeks from the date hereof, to:

The Employee Relations Division Manager
ABU DHABI NATIONAL OIL COMPANY (ADNOC)
P.O. Box 898, Abu Dhabi, United Arab Emirates
E-mail: Recruitment@adnoc.com

DIRECTOR'S corner

Communication Vital on Many Levels

By RICK FRITZ

Communication is always the most critical function of any organization – or perhaps another way to say it is, most misunderstandings are caused by a lack of communication.

The importance of communication recently was brought to mind by my 15-year-old son, Ian. We were working on the yard just 30 minutes before dark and Ian was cutting the grass (his least favorite chore). I was trimming the shrubs.

We were trying to finish before sundown and supper but Ian was getting hungry. He asked me if we could "stop to eat."

I told him "no, let's finish the job before sundown."

He went in to get a drink of water before we finished but came right back and said that "supper was ready."

I don't like to keep Mary waiting so I stopped and went inside. When I arrived in the kitchen it was clear that supper was not ready. Ian was upstairs playing his guitar.

When I asked what was going on, Mary said that Ian asked her when supper would be ready.

She replied, "As soon as you stop mowing the lawn."


Fritz

* * *

Good communication is clear and direct – and that's why we are building a new communication network with our committees, Divisions, Sections and Regions.

✓ Each committee, Division, Section and Region has been asked to set and communicate their goals in a general business plan, which will make it easier to measure progress and work together.

Each committee also is asked this year to develop a broad-based membership, and to talk regularly with their committee managers and staff liaisons. Recently, the Executive Committee asked certain committees to make sure they have Region representatives from each Region in order to improve communications and develop new ideas on the committees.

✓ Good communication also is structured, which is why Carol McGowen, AAPG's Sections and Regions manager, is working to establish a good communication network with the Sections and Regions. For example, we now have regular teleconferences with Sections and Region presidents.

We also are working with the Sections and Regions on the development of regular newsletters.

✓ The new AAPG offices also are key to exchange of ideas with members and the general public. The GEO-DC office has built a good reputation for providing scientific information and expertise to the government in Washington, D.C. The new AAPG London office and Bahrain office will help develop contacts and develop two-way information flow with AAPG members in those regions.

✓ Good communication should be frequent and followed up. We have a 48/7 policy at AAPG headquarters. Staff is asked to reply to any communication within 48 hours and follow-up within seven days – even if the first response is just "I'll get back to you."

I realize there are times when we cannot respond that fast, but that is our goal – and the staff knows it is important.

✓ Good communication should also use the best available technology. AAPG's IT department is investigating new methods of communication via the Internet and video conferencing.

✓ Finally, improving a society from good to great involves building relationships. Communication is key to these relationships and cannot be done via e-mail and phone alone. It also requires meeting members face-to-face. That is why AAPG leadership and staff are spending more time traveling to meet members and visit their companies to understand needs.

The best business is still developed on a personal level.

* * *

Clearly, my son and I are in the process of developing our communication skills. Good communication also takes time and patience to develop.

I am sure my teenager will help me develop these skills.

'Unprecedented' number of sessions

EMD Set for San Antonio Meeting

By DONNA F. BALIN
EMD Vice Chair

The Energy Minerals Division (EMD) will be sponsoring an unprecedented number of sessions, forums and short courses at the upcoming 2008 AAPG Annual Convention, which will be held April 20-23 in San Antonio.

With EMD sponsorship of 16 oral and poster sessions, three forums, four short courses/workshops and one field trip, the 2008 convention promises attendees an unusual opportunity to discover more about unconventional hydrocarbons, energy minerals, geothermal energy and geospatial information – the primary focus areas of EMD.

The convention theme will be "Deliver the Conventional: Pursue the Unconventional," which in itself reflects the growing interest in unconventional energy resources.

The 16 oral and poster sessions will be included under four themes, as noted below in the list of EMD convention activities.

EMD Oral and Poster Sessions

Hydrocarbons from Shale and Coal

✓ Recent Advances in Coalbed Methane Exploration and Development.

✓ Overview of Shale Gas Resources.

✓ Geology of Shale/Mudrock Reservoir Systems.

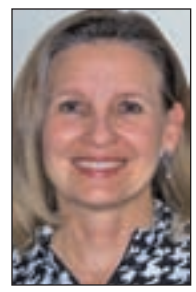
✓ Genesis of Unconventional Gases: Coalbed Methane, Shale Gas and Gas Hydrates.

✓ Improvements in Shale Gas Drilling and Completion.

✓ Recent Advances in Oil Shale Exploration and Technology.

New and Expanded Plays in Domestic and Global Basins

✓ Exploration in Ouachita Foreland Basins.


Balin

Geospatial Technology and Astrogeology

✓ Advances and Applications of GIS and Remote Sensing to Petroleum Exploration and Production.

✓ Geospatial Technology – A Map Gallery.

✓ GIS and Remote Sensing for Hurricane Monitoring and Environmental Assessment.

✓ Return to the Moon: Research, Resources and Rewards.

✓ Astrogeology: A Far-Sighted Look at Unconventional Resources.

Alternative Energy

✓ Uranium Geology and Associated Ground Water Issues.

✓ Geology of Gas Hydrate Deposits.

✓ Geothermal Resources.

✓ CO_2 Sequestration: Geologic Challenges and Successes.

EMD Forums

✓ Future of Unconventional Resource Plays.

✓ Interactive Forum on Global Climate Change.

✓ Economics of Natural Gas and Alternative Energy.

EMD Short Courses

✓ Coalbed Methane and Shale Gas Exploration Strategies: Workshop for Sorbed Gas Reservoir Systems (instructors – A.R. Scott, W.A. Ambrose, M. Grigg, M.A. Ilhan, R. Olson, T.J. Pratt, M. Mavor, S.C. Ruppel, A. Marsh and D. Westacott).

✓ Fundamentals of Gas Hydrate Resource Evaluation (instructors – A. Johnson and T. Collett).

✓ Principles of Geologic Carbon Sequestration (instructors – H.E. Leetaru, J. Kaldi, M. Holtz, J. Pashin, T. Meckel, I. Krapac, S. Greenberg, D. Curtiss and M.L. Coueslan).

✓ Fundamentals of ArcGIS for the Petroleum Industry (instructor – J. Harrison).

EMD Field Trip

✓ Basin-Margin Bitumen Deposits in the Uvalde Area of Southwest Texas (leader – T. E. Ewing).

EMD Luncheon

The EMD Luncheon will be held on Wednesday, April 23, and will feature **Robert Finkelman**, an expert in the emerging field of medical geology, with a talk titled "Will Coal Burn Brightly in the Future?"

With the public focus on the environmental and health effects of coal – especially coal-generated power plants – this talk promises to be both timely and startling in its conclusions.

He also will touch on other relevant topics, including an update on the future of coal based on a National Research Council (NRC) report due out this fall, which examines the coal industry from "cradle to grave" (mining to energy transmission) to answer the question of whether our country will be prepared to meet the demands of energy from coal in the year 2030.

* * *

Special thanks are due to Mike Wiley, EMD technical program chair, and to Amy Sullivan, EMD short course and field trip chair, for their diligence in organizing the extensive list of convention offerings. We hope that the stimulating program will encourage AAPG members to "get unconventional" by learning more about the focus of EMD and joining its growing membership.

Note also that the 2008 AAPG convention will be held during the city's week-long party – Fiesta – so there will be many activities for participants and spouses throughout the week.

We hope to see you in San Antonio. ❑

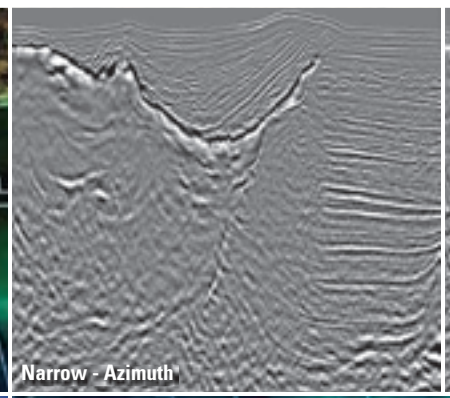
Judges Needed for San Antonio

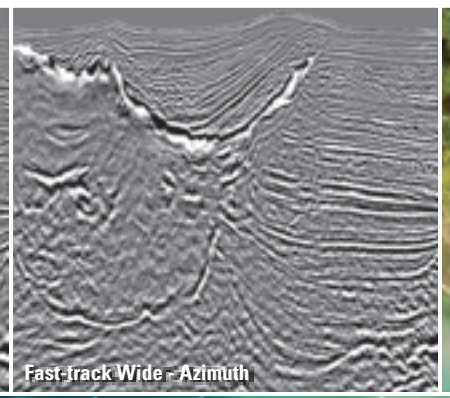
With such a formidable number of EMD-sponsored sessions set for San Antonio, there clearly is a critical need for securing qualified judges to help assess our technical program.

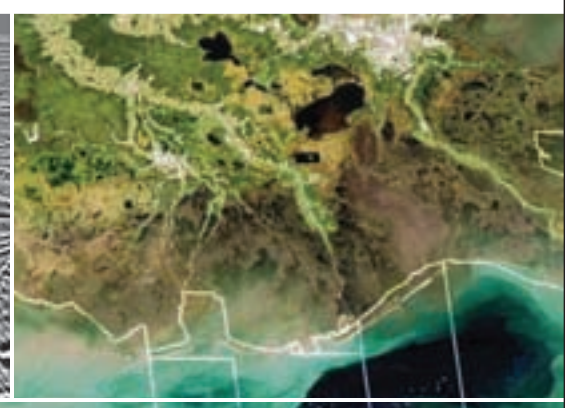
Creties Jenkins, who is serving as EMD judging chair, would no doubt be grateful for early volunteers.

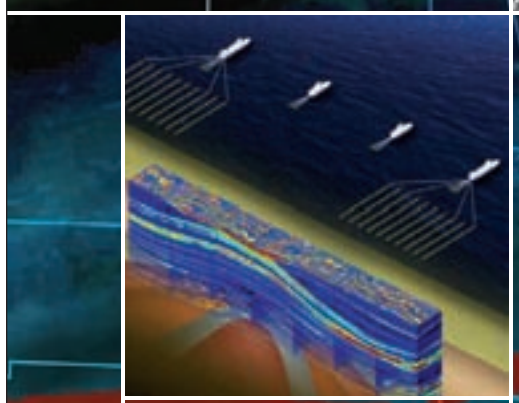
To volunteer, or for more information, contact Jenkins at jenkins@demac.com. ❑

*E*xpand your **opportunities** . . .

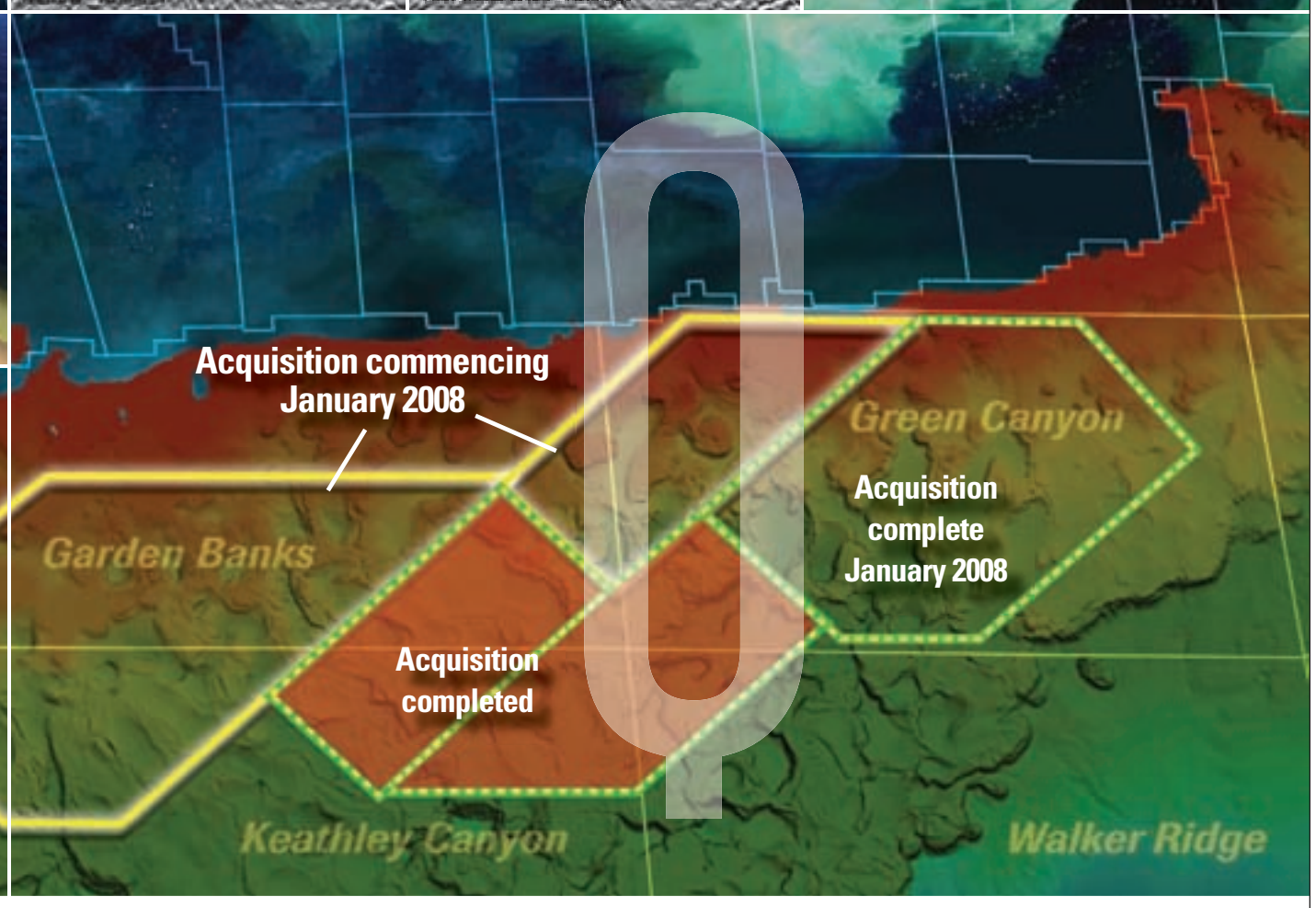








E-Octopus – Wide-Azimuth Q



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