

Pacific Section • American Association of Petroleum Geologists

National Geographic Gallon of Gas





Dr. Rob Negrini, CSUB

November & December • 2009

Dr. Bob Horton, CSUB



Mike Ponek, Chevron





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EVERY ISSUE

Danie



Message from the President Scott Hector

OIL & GAS INNOVATIONS ONE OF AMERICA'S GREATEST STRENGTHS

I continue to be amazed at the tremendous improvements that are made in the oil & gas industry in the United States of America. Those of us who work in this industry should be very proud of our jobs and proud of the fact that we make this country run. With all of the talk (for decades) about "Hubbert's Curve" and concern that America is running out of hydrocarbons, our country continues to be one of the top oil producing countries in the world, and has recently found utterly amazing amounts of new natural gas reserves.

What did amaze me thoroughly as I prepared for this article was finding a paper written by the Federal Government that congratulated us on our innovations! The report, by the Office of Fossil Energy of the U.S Department of Energy was entitled "Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology." It was published in October of 1999, so it is ten years old, but many of our recent innovations are contained therein. To set the stage, this would have been published during the Clinton administration, a month before George W. Bush was elected President. So, our industry was actually getting kudos from the Department of Energy of a Democratic administration! Isn't that a hoot!

The Department of Energy report chronicled the advancements in technology is U.S. oil and gas fields and the significant environmental benefits that had resulted from them. As an announcement of the study noted on October 5, 1999: "This report documents the significant innovations in the oil and gas exploration and production", said Robert Gee, the Energy Department's Assistant Secretary for Fossil Energy. "It illustrates how advanced technology has led to fewer dry holes, smaller drilling "footprints", more productive wells, and less waste. All of these advances have contributed to a cleaner environment, and even greater benefits are possible." The report highlighted 36 specific technological innovations that were representative of a much larger set of improvements that occurred in our industry over the last 30 years.

Some of the innovations that they highlighted were:



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- 1) Coiled tubing rigs ('69)
- 2) Polycrystalline diamond bits ('71)
- 3) 3-D seismic ('74 to '78)
- 4) Measurement while Drilling ('78)
- 5) Horizontal well drilling from a vertical shaft ('83-in Kern River field!)
- 6) Steerable drilling systems ('84)
- 7) Digital image processing of 3D seismic ('94)
- 8) 4-D seismic ('96)
- 9) Magnetic resonance imaging ('97)

I can imagine what this report might have included had it been published now, 10 years later! Our industry is drilling to unimaginable depths for the oil in the sub-salt play in the Gulf of Mexico, and doing long-reach drilling from a small number of pads onshore to protect the delicate tundra of Alaska's North Slope. I would like to quote a few precious comments from the U.S Government Report on our industry:

"Our Nation has come to expect the benefits of fossil based fuels and products and a cleaner environment."

"American ingenuity, know-how and entrepreneurial spirit have created the necessary technology to maintain reliable oil and gas supplies in a volatile marketplace."

"The U.S oil and gas industry employs 1.4 million people, and generates about 4 percent of U.S. economic activity. It is larger than the domestic auto industry and larger than education and social services, the computer industry and the steel industry combined. The exploration and production sector along employed nearly 326,000 people in 1998." Our industry gives our nations mothers, fathers and children so many products – thousands. The average person has no idea that we provide so much. From food preservatives, clothing, toys, sports equipment, antiseptics, and computers, petroleum provides so much of what we have come to rely on. I am proud that we do.

So, here we are in 2009. We continue to make technological innovations. Improvements in hydraulic fracturing and horizontal drilling have allowed us to add so much natural gas to our nations' reserves that we now have a 100 year supply: approximately 2,000 trillion cubic feet of gas! The reserves now come from rocks with names like Haynesville, Barnett, and Marcellus, rocks that we did not even think of being commercial gas zones only a few years ago.

The present Democratic administration is hoping for a "green" revolution and wants to wean our country away from fossil fuels and into a future of windmills and solar panels. Some day these sources of energy might count for a lot of our needs, but today they only provide a very, very, very small percentage of what we consume. We are blessed with copious amounts of coal, natural gas and oil. You can't ignore them! The fossils fuels make America run. We will continue to need these resources for decades (if not centuries) to come. So, the oil and natural gas still needs to be produced, providing what some believe will be a bridge to the green future. Hopefully, it won't be a bridge to nowhere.

Scott Hector



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Recently Enacted Legislation to Abolish the Board for Geologists and Geophysicists

Recent legislation (Assembly Bill No. 20, 4th Extraordinary Session) will abolish the Board for Geologists and Geophysicists (Board) effective October 23, 2009, at which time all Board Member and Executive Officer positions are also abolished. The Board for Professional Engineers and Land Surveyors (BPELS) will then assume "...all the duties, powers, purposes, responsibilities, and jurisdiction previously vested in the Board…" along with "...two personnel years…for performance of the board's responsibilities…" under the Geologist and Geophysicist Act (i.e., Business and Professions Code, Chapter 12.5).

Given these unprecedented challenges and very limited time, I have directed the Executive Officer to cancel the public meeting that was previously, tentatively scheduled for Friday, September 25, 2009 and to remain focused on top priority consumer protection activities, including 1) administration of scheduled examinations and 2) preparation of existing licensed and unlicensed enforcement caseload for timely transfer to BPELS in such a manner that public protection shall be paramount. These critical activities clearly warrant no less than full-time attention and commitment of remaining staff in the days immediately ahead.

Each of the Board's six full-time civil service staff members has recently received notice from the Department of Consumer Affairs that they are "surplus" employees. Consequently, these employees, along with the Board's two seasonal clerks, must take immediate, concerted actions independently to seek, find, and apply for vacant positions with other agencies or risk joining the ever-growing ranks of California's unemployed.

Meanwhile, these so-called "surplus" employees continue preparations to administer in early October the twice-per-year consumer protection licensing examinations pursuant to Board policy established in 2007. To this end, they must also overcome significant time constraints imposed by mandatory furlough days that have made Fall 2009 examination administration substantially more difficult than prior scheduled examinations.

In addition, our employees are being called upon to gather and provide other critical administrative and logistical support data and documentation needed to facilitate successful transition under unprecedented circumstances in a very short period of time. Imminent termination of the Board has furthermore pre-empted our previously planned regulatory update that included implementing the long-overdue examination cost-recovery fee increase authorized last year by enactment of AB 1284.

While unfortunate, these unprecedented developments should not detract from the Board's consumer protection achievements. It has been my pleasure to serve as Licensed Professional Geologist Board Member for three years and Board President for the past year. During this time, thanks to hard-working, dedicated Board Members and staff, we established and enforced higher standards for licensed professionals, doubled the frequency of licensing examinations and positioned California to lead the nation with respect to licensed professional practice of earth and environmental sciences in the public interest.

Looking to the future, the groundwork has been laid for BPELS to achieve even higher levels of consumer protection after October 23 by maintaining unwavering adherence to public protection as Top Priority in its administration of the Geologist and Geophysicist Act, unfettered by other interests sought to be promoted. I wish them every success in this unprecedented opportunity and challenge.

Richard G. Blake President Dear Southern California Section Member:

As you are aware from recent communications from me and other interested parties, the BGG has been eliminated effective October 23, 2009, and its responsibilities transferred to the engineer's board, BPELS. This action was taken by legislators under pressure to reach a budget compromise. Unfortunately, the action had no impact whatsoever on the budget, and the BGG was abolished suddenly and without due process, eliminating any open, fair and transparent review of the potential consequences. Existing law that carefully and deliberately outlines the specific measures and the timetable necessary for the elimination of boards and commissions was ignored entirely.

Many of you have responded with concern wondering if anything can be done, and with offers of time and financial assistance. The good news is that there is something that can be done, which I've alluded to in earlier emails - we can seek an injunction against implementation of AB20 4X and we can send a message to legislators that their ill-considered actions will have negative impacts on public health, safety, and the environment. We can remind Governor Schwarzenegger of his commitment to public safety and the environment. The pursuit of an injunction is not intended to attack or demean BPELS, it is to ensure that informed voices are heard in the formation of a Board responsible for public safety – YOUR VOICE!

To get started, the Southern California Section along with the Sacramento and San Francisco Sections are forming the California Association of Professional Geologists, which will file the injunction. We hope that other organizations representing geoscientists, including AEG's national organization, will join in down the road. We intend to support this effort with distributions from the newly-formed AEGSC-Political Action Fund and similar funds set up by the Northern California Sections. The funds will be started with donations from each section's operating account. The Sections, however, cannot fund this effort alone. We need your help! The estimated cost for this is \$15,000 to get through filing the initial complaint and up to \$100,000 to see it through to the end. Noting the early estimate of \$15,000, one geologist pledged \$100 and challenged 149 other geoscientists to match his gift. A great way to put it! We, of course, will gratefully accept all contributions, of greater or lesser amounts, based on your ability to give. Contributions may be sent to:

AEGSC-Political Action Fund 1772-J E. Avenida De Los Arboles, PMB #304 Thousand Oaks, CA 91362

The other side to this effort is an approach to legislators. We will be asking you to write letters at the appropriate time and with the appropriate message. We are in the process of consulting with legislators to elicit their advice and support in reinstating the BGG or repurposing BPELS into an agency that is fully equipped to fulfill its mission. With your help we can reach this important goal!

Sincerely, Peter Thams, Chair AEG Southern California Section



Editor's Note:

The Pacific Section AAPG Exective Committe approved a \$2000 contribution.

Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology

In the past three decades, the petroleum business has transformed itself into a high-technology industry. Dramatic advances in technology for exploration, drilling and completion, production, and site restoration have enabled the industry to keep up with the ever-increasing demand for reliable supplies of oil and natural gas at reasonable prices. The productivity gains and cost reductions attributable to these advances have been widely described and broadly recognized. But public awareness of the significant and impressive environmental benefits from new exploration and production (E&P) technology advances remains limited.

• The U.S. Department of Energy is responsible for achieving national objectives in the fields of energy and the environment. We believe it is important to tell this remarkable story of environmental progress in E&P technology. Greater awareness of the industry's achievements in environmental protection will provide the context for effective policy, and for informed decision making by both the private and public sectors.

• Looking forward, the domestic oil and gas industry will be challenged to continue extending the frontiers of technology. Ongoing advances in E&P productivity are essential if producers are to keep pace with steadily growing demand for oil and gas, both in the United States and worldwide. Continuing innovation will also be needed to sustain the industry's leadership in the intensely competitive international arena, and to retain high-paying oil and gas industry jobs at home. Progressively cleaner, less intrusive, and more efficient technology will be instrumental in enhancing environmental protectionin the future.

• Our Nation has come to expect the benefits of fossil-based fuels and products and a clean environment. The oil and gas industry has consistently responded to provide both. The Department of Energy looks forward to increased dialogue with the oil and gas industry and other stakeholders. With commitment to a shared vision, with collaboration, and with continued private and public investments, the oil and gas industry can continue to deliver essential energy resources and protect the environment, for ourselves and for the generations to come.



Oil and Natural Gas Are Critical to the U.S. Economy

Oil and Natural Gas Account for virtually all transportation fuel in the United States and a majority of our total energy use, and provide the raw materials for countless products used in our daily lives. Americans have come to take these resources and products largely for granted and expect them to be available and affordable.

For over a century, the oil and gas industry has successfully met rising demand for these valuable resources.

Continuous innovation has characterized the oil and gas industry throughout its history. In recent decades, new technologies have been key to finding and extracting recoverable oil and gas resources—located in deeper and more remote locations, in more challenging geologic formations, in difficult terrain, in smaller pockets, under sensitive wetlands and tundra, and far out at sea. As the world's most mature oil and gas province—and home of some of the world's most rigorous environmental standards—the United States has been the site of much of the industry's innovation in exploration and production (E&P) technology.

American ingenuity, know-how, and entrepreneurial spirit have created the necessary technology to maintain reliable oil and gas supplies in a volatile marketplace.

Technology innovation has enabled the domestic industry to remain viable in an energy business where highly competitive global markets determine prices. The industry has developed more efficient E&P technology to enable continued exploration, development, and production through the boom and bust cycles that are characteristic of world oil markets.

Nowhere have the dual requirements of producing more challenging resources and protecting the environment been as pressing as in the United States.

Hand-in-hand with overcoming tough geologic and geographic conditions, the industry has also developed new technology and management techniques for enhanced protection of our environment.

While increasing productivity, technology innovation has also yielded environmental benefits.

Today's exploration technology, for example, is boosting industry success rates in pinpointing new re-

sources. The results: fewer dry holes, reduced waste volumes, and less environmental disruption. Across the E&P spectrum, new technology is delivering:

• More efficient recovery of oil and gas resources. Continuing improvements in recovery efficiency per well translate into fewer wells (and less impact from drilling operations) to achieve the same level of reserves.

• Smaller footprints. Smaller, lighter rigs and advances in directional and extended-reach drilling shrink the footprint of oil and gas operations and reduce surface disturbance.

• Cleaner, safer operations. Advanced, more energy-efficient drilling and production methods cut emissions of air pollutants and greenhouse gases, practically eliminate spills from offshore platforms, and translate into enhanced worker safety, lower risk of blowouts, and better protection of groundwater resources.

Environmental Protection is Good Business

The U.S. Oil and Gas Industry has integrated an environmental ethic into its business culture and operations. The industry has come to recognize that high environmental standards and responsible development are good business, and it is demonstrating its commitment to protecting the environment in research and technology investments, policies and practices, and participation in a host of voluntary environmental protection programs. Industry's use of smarter, more efficient technology complements these trends.

Advanced E&P technology provides environmental benefits beyond the oil and gas industry.

Innovations pioneered by the oil and gas industry are now being used in a wide range of applications. Geologic and geophysical technology are providing information on the fundamental characteristics of the earth's crust, enabling better prediction and evaluation of earthquakes and other geologic hazards. Reservoir simulation and performancemonitoring technology are being used to predict groundwater flow patterns. And the same principles used to increase the recovery of oil - such as thermal and microbial processes - are now applied to clean up chemical spills.

Continued technology progress will be essential in meeting the challenges of the 21st century.

Further increases in productivity will be essential to

sustain the viability of the U.S. petroleum industry in the face of a sometimes volatile world oil market. Industry and government leadership and American ingenuity will be necessary to preserve our Nation's oil and gas production capacity and energy security. In the longer term, technology innovation will be critical to ensure optimal recovery of America's oil and gas resources, while respecting the environment and other public values. Technology innovation will be key to overcoming the constraints of an increasingly challenging resource base, domestically and around the world.

Industry and government both have roles in advancing E&P technology progress and environmental performance.

Environmental quality will be a continuing issue for the oil and gas industry. America's oil and gas industry must find the means, including new technology, to address future environmental challenges, such as global climate change. Industry must continue to demonstrate its commitment to responsible development. Government must provide a rational regulatory framework and reasonable access to resources. Open communication is also critical to meeting these objectives. Continued investment, both private and public, will be required to advance E&P science and technology.

America'slegacyoftechnologyprogressandimproved environmental management in E&P provides a solid foundation for meeting the challenges of the future.

Innovation in Oil and Gas E&P Technology:

Making a Difference to the Environment Right Where We Live & Around the Globe

From coast to coast, innovative E&P approaches are making a difference to the environment. With advanced technologies, the oil and gas industry can pinpoint resources more accurately, extract them more efficiently and with less surface disturbance, minimize associated wastes, and, ultimately, restore sites to original or better condition. Most of these advances have been pioneered in the United States, but many are now also providing benefits around the globe.

Increasingly, in our own backyards and in all corners of the earth, innovation is the key to producing oil and gas while protecting neighborhoods and natural habitats. Here are just a few examples of the contributions being made by new technology.

WEST COAST California

• ARCO Long Beach, Inc.'s production operations in Long Beach Harbor represent a model approach to operating in sensitive urban environments. To shield the harbor's operations from the public, drilling rigs are disguised as high-rise buildings, and other above-ground facilities have been masked with palm trees, concrete sculptures, waterfalls, and colorful night-lighting. Advanced horizontal drilling and hydraulic fracturing technology, combined with the largest waterflood in California's history, have increased production by approximately 30 percent in recent years.

• In the southern California town of La Habra, the area's rolling hills, once the site of oil production from the West Coyote field, are now covered with premium homes, thanks to painstaking site restoration upon the field's closure.

• Thermal enhanced oil recovery technology is increasing production rates and ultimate recovery from the mature, "heavy" oil fields of Kern County, California, and surrounding areas. For example, decadesold steam floods are facilitating production at some of the Nation's largest, most mature fields, including Midway-Sunset, South Belridge, and Kern River.

NORTHERN PLAINS

Montana, North Dakota, South Dakota

• Advanced horizontal drilling and measurementwhile-drilling technology are enabling recovery of previously untapped resources in the Williston Basin's Red River B Formation, spread across Montana and the Dakotas. In 1994, horizontal drilling technology facilitated the discovery of the Cedar Hills play, the Nation's largest onshore discovery in the last 25 years.

GULF OF MEXICO AND GULF COAST

Texas, Louisiana, Mississippi, Alabama, Florida • New subsalt imaging technologies, aided by today's super-powered computers and advanced mathematical modeling concepts, are enabling operators to get a clearer picture of the Gulf's hydrocarbonrich subsalt play, facilitating exploration success and greater resource recovery.

• Advanced offshore platforms—tension leg platforms; mini-TLPs; spars; and floating production, storage, and offloading systems—and subsea completions are equipping offshore operators to explore and produce in deeper, more remote, and harsher environments. These advances enable increased access to deepwater resources, while minimizing disruptions to ocean ecosystems.

• State-operated artificial reef programs turn decommissioned offshore platforms into permanent reef structures, creating complex and vibrant subsea "living communities" and also enhancing commercial and recreational fishing opportunities.

• Synthetic drilling fluids are fast becoming thedrilling fluid of choice for many complex deepwater drilling operations. Combining the advanced operational properties of oil-based muds with the environmental benefits of waterbased drilling fluids, synthetic fluids enable operators to drill faster and cheaper, with less overall environmental impacts.

MID-CONTINENT

Nebraska, Kansas, Oklahoma

• Visitors to Oklahoma City's Will Rogers World Airport are greeted with the sight of pumpjacks and other production equipment and facilities—the airport is located in the heart of an active oil field.

• Funded exclusively through voluntary contributions by Oklahoma's oil and gas producers and royalty owners, the Oklahoma Energy Resources Board (OERB) restores orphaned and abandoned well sites around the State. By removing abandoned oilfield tanks and other equipment and remediating saltwater erosion and oil-stained soil, OERB is returning land to productive use, at no cost to landowners.

ROCKY MOUNTAINS

Wyoming, Colorado, New Mexico

• In the gas-rich San Juan Basin, advanced coalbed methane production and completion technologies—such as nitrogen injection and CO2 flooding—are unlocking clean-burning methane from coal seams, substantially increasing our domestic gas supply.

• Smarter operations in the Rockies enable successful exploration and production while protecting an environment marked by rugged mountains, sensitive Federal lands, and fragile habitats. For example, in Wyoming's Bridger-Teton National Forest, drilling operations were conducted using a helicopter to transport the drilling rig and other heavy equipment, minimizing environmental impacts.

TEXAS

• Advances in horizontal and multilateral drilling have been critical to increasing production in the mature, highly fractured Austin Chalk play in southeast Texas. In the Clay NE field, for example, horizontal drilling has increased gas production fourfold since 1991. The Chalk has been the site of 90 percent of U.S. horizontal land rigs since the late 1980s.

• Since the early 1970s, the Permian Basin region of west Texas and southeast New Mexico has been home to innovative miscible CO2-injection enhanced oil recovery projects. The largest and oldest of these projects, the SACROC Unit in Scurry, Texas, is a fieldwide project over nearly 50,000 acres that began over 25 years ago.

APPALACHIA

Pennsylvania and Kentucky

• Field trials in central Pennsylvania and the Devonian Shales of Kentucky indicate that innovative CO2-sand fracturing technology can significantly increase gas production in certain types of wells and reservoirs, while reducing waste volumes and formation damage.

• In Pennsylvania, "roadspreading" brine produced from oil and gas wells has proven to be an effective dust suppressor and road stabilizer on unpaved secondary roads. This beneficial use of an oilfield waste reduces the volume of wastes that would otherwise need to be disposed of by oil and gas operators.

ALASKA

• Ice roads and ice pads have significantly reduced the impacts of exploratory drilling operations on the North Slope, protecting the area's fragile tundra and ecosystem.

• Extended-reach, horizontal, multilateral, and "designer" directional drilling technology has enabled North Slope operators to tap more resources, while minimizing drilling footprints and avoiding sensitive habitats.

• In the past 30 years, production footprints have shrunk dramatically. Production pads have been reduced by up to 80 percent, and wellhead surface spacing has been reduced by over 75 percent. If built today, the Prudhoe Bay oilfield's footprint would be 64 percent smaller.





the ENERGY lab

Where energy challenges converge and energy solutions emerge

This portal provides four options for searching the variety of documents and data that NETL-managed oil and gas research has produced. The database of material includes R&D carried out under both historical and ongoing DOE oil and gas R&D programs funded through Congressional appropriations, as well as work that is currently underway as part of the Energy Policy Act of 2005, Title IX, Subtitle J, Section 999 R&D program.

Document Database: This search function allows the user to search all documents (e.g., final reports) from past and current R&D projects. This database includes oil and gas documents from the CD/DVD library, the NETL Internet site, the NETL Project Management Information System (ProMIS), the Tulsa Project Office, and links to hardcopy documents currently available from the NETL library. Links to relevant offsite documents from the Office of Science and Technical Information (OSTI) are also included. The search is conducted by author or key-word search of titles and document abstracts.

CD/DVD Database: This search function allows the user to search all of the CDs and DVDs of oil and gas research reports compiled from past R&D programs as well as currently available documents from the NETL Internet site (i.e. SCNGO and Section 999, etc.). The user can download individual reports or order an entire CD or DVD.

Section 999 Database: This search function allows the user to search only project summaries related to the Energy Policy Act of 2005, Title IX, Subtitle J, Section 999 R&D program. Each of these project summaries, which are updated regularly, contains links to all of the research products related to that specific project.

Section 999 Tech Transfer Index: A variety of technology transfer products (reports, publications, presentations, etc.) will be produced for each of the individual research projects during and after the research performance period. This index allows the user to quickly see what tech transfer is planned (or has already occurred), and then links to the product of interest. The data is updated regularly.

GIS and Data Visualization: This search function allows the user to access a variety of spatial data related to the research projects found in the databases listed above. These GIS datasets include information gleaned from USGS, MMS, EIA and EPCA data sets, as well as data produced by individual project performers.

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DIBBLEE GEOLOGIC MAP COLLECTION AVAILABLE FOR PURCHASE

The Dibblee Geologic Map Collection is the most complete compilation of geologic mapping of over one quarter of the State of California by one person. This collection is now available through several venues. 359 of Tom's maps are available in digital format. 60 of the original 76 are only available as scanned PDF files.

Dibblee Geologic Map Collection as CS4 .ai files

On a temporary basis as part of our fundraising efforts we are offering the complete Adobe Illustrator Dataset as CS4 .ai files. Data in this set is in a layered format. This will allow the user to examine and manipulate the data to incorporate it into their dataset. A presentation of the data set can be arranged.

At this time we are offering the 419 map set at a per-set price of \$54,470 + Tax. Appropriate prices can be negotiated for partial bulk sets such as the San Joaquin Valley or Ventura Basin.

We are asking for help in contacting the appropriate person within your company that might be able to determine your company's interest in acquiring this dataset. One major oil company has already acquired the dataset. This offer has never been made before this and may change as our funding goal is reached.

Dibblee Geologic Map Collection as Layered GeoPDFs on Datapages

The AAPG is featuring 359 of Tom's maps in digital format in the Datapages section on their web site for downloading as layered GeoPDF files. Maps will be added as they are digitized.

Dibblee Geologic Map Collection as printed map sheets

All Dibblee maps will continue to be available as printed map sheets. 60 of the initial map sheets are only available as printed maps.

Inquiries about the purchase of the map sets should be addressed to:

Dr. John Minch, Editor, Thomas Dibblee Jr. Geology Center Santa Barbara Museum of Natural History, 2559 Puesta del Sol, Santa Barbara, CA 93105 805-569-1800 - jmainc@earthlink.net

Contributions are also appreciated and can be made to the Dibblee Map Digitizing Fund, Dibblee Geology Center, Santa Barbara Museum of Natural History Attn: John Minch



I do not brag much about myself and the oil and gas that I have found over the years, though perhaps I should. But, I have met a number of geologists and geophysicists, especially oil and gas exploration types, that do let you know, unabashedly, that they are good. Damn good. Really damn good. And that started me thinking about the question: who is the greatest oil and gas explorationist on the West Coast?

I recently received two prospects from Ernie Rennie. They are natural gas prospects in the Sacramento Basin. They look pretty good!

Ernie has been around for quite a few years, and is a good explorationist. This point was made known to me when, a few weeks ago, I was in the offices of Henry Walrond and Frank Cressy. Frank said that he had received some good news. I asked him what it was and he said "I'm number 2". I asked him to elaborate and he said, "Ernie Rennie told me I was the second best geologist in California, and that he was the best geologist in the State".

I might have believed that, but I remembered what Guy Burge had recently told me. "I have found more gas in California (in the past several decades) than anybody else, except maybe Doug Imperato". OK, so there are two more candidates for the greatest West Coast oil & gas finder! Guy was not mentioning the 300 Bcf gas field called Union Island that he is given some credit for while working for Union Oil, but just what he has found for Stream Energy at Todhunters Lake and River Island gas fields. Doug Imperato has found quite a lot of natural

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gas for Towne Exploration, a lot of it also in the River Island gas field.

When I first went to work for McCulloch Oil in Los Angeles, I was able to work next door to Mark Nahabedian. Mark is a very good geologist, and is responsible for quite a few significant discoveries. While at McCulloch Oil and MCOR, he found around 100 Bcf at the Hastings Island and Willow Springs areas of Lindsay

Slough gas field. Mark worked there as a consulting geologist, and the royalties that he received in the early 1980's allowed him to strike out on his own. He formed Channel Exploration, Black Mountain Oil & Gas and several other companies. He found the Panama Lane field and Landslide oil fields in Kern County, Knights Landing field in the Sacramento Basin, and many others. So, there is another good candidate for top dog explorationist.

I could go back in time and talk about the geologist for Amerada Petroleum that got the company to find the 4 trillion cubic foot monster field called Rio Vista. But, from the stories I heard, the 1936 discovery was initially considered a failure because the company wanted to find oil. I wonder if the guy (his name was Downs Mc-Closkey) got to keep his job after the first well found no oil?

I remember when I worked at Texaco that they had a system of keeping prospect recommendations in chronological order. The first letter recommending a play (located at the bottom



of the file for that prospect) usually came from a Staff Geologist, who was recommending a prospect idea to the District Geologist. If the district geologist liked it, he would then submit the play higher up, I believe to the Division Geologist. They probably had the authority to start to develop the play, but I don't remember (come on, I'm trying to think back 35 years here!). Anyway, we have had a few successes in California, including Yowlumne oil field and San Ardo oil field.

A lot of the recommendations for successful prospects were made by my friend and mentor Ivan Scherb. Ivan was a shy man and hated to give a presentation to a group. That would be a stumbling block to someone wanting to climb the corporate ladder. But I think Ivan was happy as the exploration geologist and had no desire for corporate politics. But he may have had as profound a role in Texaco's success as others that climbed much higher in the organization. (By the way, he did help a find a billion barrel field in Saudi Arabia.)

That brings me to my choice. There is a man who worked for Union Oil who started out as a paleontologist and then asked to be an exploration geologist. Union Oil allowed him to make the change and he was assigned to the Sacramento Basin.

I was at his house recently and he showed me some materials that a friend from Union had sent him. There, in front of me, was the original paper work that showed two recommendations for leasing, one over what would become the 300 Bcf Union Island gas field, and the other over what would become the 200 Bcf Dutch Slough gas field. There was also a map defining the probable anticline at Dutch Slough, and the trap on the DOWNTHROWN side of the Stockton Arch Fault that proved to house the Union Island gas field.

This is a man who, like Ivan, had thought up the prospect idea, recommended it to manage-

ment, and management had liked the idea and proceeded with it. This man is now almost 90 years old, and has never been given any credit for these successes. By the time all the leases were taken, the seismic shot and processed, the discoveries made, the papers written, and the beating of the breasts took place in the corporate halls, this mans name was forgotten, and others above him on the "corporate ladder" had taken the glory for ideas that they might never have had if it not been for this mans I imagination and intellect.

Well, let this man get the credit he deserves now! He is my good friend Al Almgren, and I am adding him as a nominee for the West Coast's Greatest Explorationist.

However, I'm not sure when the voting will take place and I haven't even printed the ballots yet. I might not get around to it, because if I do, a lot of good people would lose their bragging rights!

What consumers are paying at the gasoline pump?



5.0% earnings*

*Earnings differ by company. Figure represents adjusted average for the second quarter of 2009 claculatd from data reported by Oil Daily. Source: Average of gasoline components from April through June 2009 as reported by EIA.

CALL FOR PAPERS

2010 Annual Meeting of the

Pacific Section of the American Association of Petroleum Geologists

with

The Cordilleran Section of the Geological Society of America

When: May 27-29, 2010 (Thursday – Saturday) Where: Anaheim Marriott in Anaheim, California

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Please join us for 2010 joint annual meeting of the Pacific Section of the American Association of Petroleum Geologists and the Cordilleran Section of the Geological Society of America at the Marriott Hotel in Anaheim, California. Anaheim lies amid Orange County in Southern California, which is a "Geologic Disneyland" of high mountains and deserts, wide beaches and scenic rocky coasts, oil fields and rich aquifers, active faults, and landslide-prone hills. The combination of suburban comforts, easy transportation, diverse geology, and sunny skies makes "The OC" a perfect meeting venue.

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PS - The Society of Petroleum Engineers may be joining us at this convention – details to follow.







Alaska Geological Society

www.alaskageology.org

P. O. Box 101288 Anchorage, AK 99510 Contact: Tom Homza 907.770.3701



Luncheon meetings are held monthly September through May, usually on the third Thursday of the month, at the BP Energy Center (1014 Energy Court) from 11:30 a.m. to 1:00 p.m. The hot lunch cost is ^{\$}20 for members with reservations; ^{\$}22 for non-members with reservations; and ^{\$}25 without reservations. The box lunch cost is ^{\$}13 for members with reservations; ^{\$}15 for non-members with reservations; and ^{\$}18 without reservations.For reservations, call the AGS reservation voice mail at 907-258-9059 or contact David Hite at hiteconsult@acsalaska.net by noon on Monday before the meeting.

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Coast Geological Society	P. O. Box 3055	Contact: Muriel Norton
www.coastgeologicalsociety.org	Ventura, CA 93006	muriel@subsea-usa.com

J

Dinner meetings are held monthly September through June, usually on the third Tuesday of the month, at the Poinsettia Pavilion, 3451 Foothill Road in Ventura. Social hour starts at 6:00 p.m., dinner is served at 7:00 p.m., and the talk starts at 8:00 p.m. The cost of dinner is ^{\$}18 (with reservations), ^{\$}25 (without reservations), or ^{\$}10 (students and K-12 teachers); the talk is free. For reservations, please email Christine White at cwhite@dcorllc.com or make reservations online at www. coastgeologicalsociety.org. Reservations should be made by 4:00 p.m. on Friday before the meeting.

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Los Angeles Basin Geological Society www.labgs.org

515 So. Flower Street, Ste 4800 Los Angeles, CA 90071

Contact: Bill Long 213.225.5900 x 205



Luncheon meetings are held monthly September and October; and January through June, usually on the fourth Thursday of the month, in the Monarch Room at The Grand at Willow Street Conference Centre (4101 E. Willow Street) in Long Beach. Lunch is served at 11:30 a.m., and the talk starts at 12:15 p.m. The cost is \$20 (with reservations), \$25 (without reservations), or \$0 (students are covered by Halliburton and Schlumberger). Reservations can be made online at www. labgs.org or by contacting Marieke Gaudet at 562.624.3364 or marieke_gaudet@oxy.com. Reservations must be made prior to Tuesday before the meeting.

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Northern California Geological Socie	ty	9 Bramblewood Court	Contact: Barb Matz

www.ncgeolsoc.org

9 Bramblewood Court Danville, CA 94506-1130 Contact: Barb Matz Barbara.Matz@shawgrp.com



Evening meetings are held monthly September through May, usually on the last Wednesday of the month, at the Masonic Center (9 Altarinda Road) in Orinda. Social hour starts at 6:30 p.m., and the talk starts at 7:00 p.m. (no dinner). For reservations, leave your name and phone number at (925) 424-3669, or at danday94@ pacbell.net before the meeting. Cost is \$5 per regular member; \$1 per student member; and \$1 per K-12 teachers (new!).

Northwest Energy Association

www.nwenergyassociation.org

P. O. Box 6679 Portland, OR 97228-6679 Contact: Tim Blackwood 503.656.0156



Breakfast meetings are held monthly September through May, usually on the second Friday of the month, at the Multnomah Athletic Club (1849 SW. Salmon Street) in Portland. Meeting time is at 7:30 - 9:00 am. The cost is ^{\$}18. For information or reservations, contact Treck Cardwell at 503-226-4211 ext. 4681.

President Secretary Tim Blackwood Treck Cardwell tblackwood@pacificgeotechnicalllc.com t2c@nwnatural.com

Sacramento Petroleum Association

P. O. Box 571 Sacramento, CA 95812-0571

Contact: Rick Blake 925.422.9910



Luncheon meetings held monthly January through November, on the third Wednesday of the month. Location: Club Pheasant Restaurant in West Sacramento. The meetings starts at noon. The cost is \$16 - \$20. For information or reservations, contact Pam Ceccarelli at 916-322-1097x2 or Pam.Ceccarelli@conservation.ca.gov.

President: Vice-President: Secretary/Editor/Treasurer Rick Blake Marc Brennen Pam Ceccarelli blake2@llnl.gov M.brennen@Termasource.com Pam.Ceccarelli@conservation.ca.gov

San Joaquin	Geological	Society
www.sjgs.com		

P. O. Box 1056 Bakersfield, CA 93302 Contact: Kurt Johnson kurt_johnson@oxy.com



We have dinner meetings on the second Tuesday of the month at the American Legion Hall at 2020 "H Street" in Bakersfield. There is an icebreaker at 6:00 pm, dinner at 7:00 pm, and a talk at 8:00 pm. Dinner is \$20.00 for members with reservations and \$25.00 for nonmembers, \$25.00 for members without reservations and \$30.00 for nonmembers without, and the talks are free.

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