The Atchafalaya Bay Field provides an excellent example of the opportunities that exist as companies revisit old fields for new production. Located in the coastal waters of St. Mary Parish, Louisiana (figure 1), Atchafalaya Bay Field was abandoned in 2005 following Hurricane Katrina after decades of decline. With new leasing and the drilling of deeper pay section beginning in 2009, Atchafalaya Bay Field is now the top producing gas field in South Louisiana (onshore or offshore) and production continues to increase (figure 2).

The Original Field

Fives leases (totaling 19,233 acres) were initially taken for Atchafalaya Bay Field by Shell in 1948 with bonuses of $67,867 ($3.53/acre). The discovery well encountered multiple Cibicides carstensi (Cib. Carst.) pay sands at depths of 9,500 and 10,500 feet subsea (figure 3) and production commenced in 1951. An additional lease of 3,367 acres was secured in 1966 with a bonus of $185,158 ($54.99/acre). The average price per acre of all 6 leases was

(Continued on Page 10)
The following report on national energy issues was prepared by SIPES Vice President of National Energy Al Taylor. The views and opinions expressed are those of the author. Some of the information presented is in the public domain and is available from a variety of sources; other references were selected by the author, and are noted in his report.

**NATIONAL ENERGY**

Each spring and fall, like clockwork, I ritually move many of our houseplants outside for the warm season in mid- to late April and bring them back inside in mid-October. Statistically, this by-the-calendar rotation works well at our current location in Virginia. Following my seasonal ritual, I put the plants out this year without even checking the long-term weather forecast. After all, spring had finally arrived. Clearly, hard freezes do occur before October and later than April in Northern Virginia. They are not uncommon, just often unexpected. Well, I lost many plants last fall due to early freezes and again this spring to late freezes that occurred today. From my dying plants’ perspective, they are experiencing a so-called “Black Swan” event, those events that have low frequency of occurrence but have high consequence results – they died. N. N. Taleb described Black Swan Event Theory in his writings and popularized the term into the vernacular by his book *The Black Swan: The Impact of the Highly Improbable*. His criteria for a Black Swan event are: an outlier event that comes unexpectedly; it imparts a major effect; and in post event reflection, the Black Swan events were entirely predictable using available data. The moniker Black Swan comes from the idea that black swans did not exist, at least until one was observed in Australia back in 1697.

Rapid advances in technology and our overdependence upon it during the last few decades have set our industry (and others) up for experiencing Black Swan type events. Fortunately, Black Swans are not all negative. Some are very positive and sometimes it is a matter of your perspective, like my dead plants. Ted Beaumont, past president of AAPG, gave presentations on “The Unconventional Black Swan” describing unconventional resource plays. Admit it; most of us did not see the impact that unconventional oil and gas were to have on the industry, the U.S. economy and our current petroleum supply and prices. Retrospectively, how could most of us have not foreseen the unconventional play? The technological pieces were all in place. On the potential negative side of Black Swan events, we are more dependent on electronic technology and the supposed infallibility of our energy infrastructure. As both producers and consumers, we take it for granted that we will always have abundant energy when we need it. But what if the grid fails? It has and will again. Our infrastructure can fail from any number of events: terrorism, cyber-attacks, human error, deferred maintenance, war, terrestrial events (weather, earthquakes, tsunamis, etc.) or extraterrestrial events such as coronal mass ejections (CME) from the sun or space debris. What will your personal, your company’s, your community’s and government’s plan be when this or another low frequency/high consequence (LF/LHC) event ultimately occurs? LF/LHC events have the trap that most of society does not prepare adequate contingency plans due to their remote possibility of occurrence. Personally, I am un(der)prepared. While most of the potential triggering events are out of our control; how we plan and respond to the consequence is under our control.

I would like to focus my discussion mainly on the electrical grid for illustrative purposes. With no electrical power, most of our modern life comes to a dead halt. Just about everything we do personally and professionally is somehow tied to the electrical grid. Most of our data and daily work are now digital and not on paper as in the past.

**Utility Terrorism**: Looking first at electric grid vulnerability which can be triggered from a terrorist attack, either physical or cyber induced. Highly unlikely you say? Well times have changed and officials suspect both have

(Continued)
already occurred, albeit without any high consequence to date. Recently, the Wall Street Journal shed new light on an under reported event that California’s Silicon Valley area was the potential target or trial run at disrupting our power grid. A year ago, on April 16, 2013, snipers fired over 100 bullets into PG&E’s Metcalf substation for about 20 minutes, taking out 17 of the 20 plus transformers at the complex. The ~1:00 am attack was preceded a half hour earlier by the cutting of fiber optic and phone lines negating phone and Internet service. Fortunately, the transform- ers did not explode or catch fire and local operators were able to reroute power to minimize any power outages. The event cost ~$16mm and about a month of time to repair the damaged transformers.

Jon Wellinghoff, former director of the Federal Energy Regulatory Commission (FERC) noted that a FERC analysis found that a coast to coast blackout could be triggered if nine key U.S. substations were hit simultaneously. FERC plans to muzzles any public disclosure of sensitive material regarding the grid’s vulnerability. FERC acting Chairman, Cheryl LaFleur, testified at hearing this month that she “ordered a full internal review of the chain of custody of all documents.” This was in response to a grid presentation that should have been classified for national security reasons. On March 31, U.S. Senator Mary Landrieu (D-LA), recently appointed Chair of Energy and Natural Resources Committee, and Senator Lisa Murkowski (R-AK) called on the DOE’s Inspector General to examine the leak of sensitive internal Federal Energy Regulatory Commission (FERC) information on potential physical vulnerabilities of the nation’s electric grid. “Recent reports in the Wall Street Journal about grid security were shocking in their detail and appear to have been released upon highly sensitive, narrowly distributed FERC documents that may have pinpointed vulnerabilities of the electric grid….In the wrong hands, such documents potentially could provide a roadmap for those who would seek to harm the nation by intentionally causing one or more power blackouts.”

Who is that pinging your computers?: The Department of Homeland Security’s Industrial Control Systems Cyber Emergency Response Team (ICS-CERT) latest quarterly report noted 200 attempted cyber intrusions. ICS-CERT said that 111 of these incidents during the 6-month reporting period were by the energy sector. The previous 12 months had 87 reported events. Manufacturing and telecommunications networks received 17% and 10% of the incidents, respectively. The WSJ reported that “DHS received a number of reports from companies that operate gas compressor stations. Those companies reported an increase in so-called brute force attempts to access their process control networks. Brute force attacks involve exhaustive trial and error to break a security system, often using automated tools. Those attempted attacks originated from 49 IP addresses but ultimately, none were successful.”

A May 2013 Congressional survey report on Electric Grid Vulnerability of utility companies disclosed that the electric grid is under constant cyber-attack. The report stated “over a dozen utilities reported daily, constant, or frequent attempted cyber-attacks. The attacks were phishing, malware infection attempts and malicious probes. One utility reported that it was the target of approximately 10,000 attempted cyber-attacks each month.”

Not from this World: Now let’s look at electric grid vulnerability triggered from a space weather event such as the Sun’s coronal mass ejection (CME). U.S. Naval Research Laboratory scientists discovered CME’s in 1971. CME’s are simply a portion of the Sun that is ejected into space, typically at about 1% light speed, so it can take a few days for the charged particles to reach Earth. The photons, UV, and X-Ray radiation traveling at light speed arrive in a little over 8 minutes. CME’s are more frequent during solar cycle maxima’s (~ 11 year peak to peak) which we are currently in. Areas underlain with igneous bedrock are most vulnerable due to their high resistivity. The magnetically induced ground currents have to flow somewhere, so the currents avoid the more resistive bedrock and travel via the path of least resistance; that is, along our electrical, pipeline and railroad grids. There has not been a major CME event to hit Earth since our electrical and pipeline grids were built, satellites were placed in orbit, or transpolar jet travel started. The last known major events were the Carrington event in August 1859 and the great geomagnetic storm of 1921. The Carrington event caused spectacular auroral displays all the way to low latitudes (i.e., the Caribbean and Hawaii). Miners in the U.S. Rockies reportedly awoke in the bright glow of the aurora and made breakfast thinking it was morning. Telegraph lines failed, sparked, caught fire and shocked operators in Europe and North America. Cost estimates from a modern era Carrington type event to the world economy exceed $2.6 trillion.

A 2008 Governmental Workshop (Severe Space Weather Events-Understanding Societal and Economic Impacts) sponsored by the National Academies does not minimize the effect of a large scale event on our electrical grid. Extra high voltage (EHV) transformer damage repair and replacement can take years. Estimates that a 1921 type event could damage over 300 of the large transformers resulting in “long-term blackouts, and lengthy restoration times, and chronic shortages for multiple years are possible…An event that could incapacitate the network for a long time could be one of the largest natural disasters that we could face. Our infrastructural interdependence does not bode well.” John Kappenman of Metatech Corp. noted “potable water distribution affected within several hours; perishable foods and medications lost in about 12-24 hours; and immediate or eventual loss of heating/air conditioning, sewage disposal, phone service, transportation, fuel resupply, and so on.” Kappenman stated that “the
effects on these interdependent infrastructures could persist for multiple years, with a potential for significant societal impacts and with economic costs that could be measurable in the several-trillion-dollars-per-year range.” Less apocalyptic viewpoints from the North American Electrical Reliability Corporation (NERC) conclude that voltage instability is the more likely result, rather than the large scale failure of EHV transformers and grid collapse predicted by the National Academies Workshop.

What about our pipelines and geomagnetic storms?: The induced current in pipelines speeds up corrosion and can cause erroneous readings from instruments such as flow meters.

What about space debris?: We are not exempt from wayward space rocks in our lifetime. Recall the impact of comet Shoemaker-Levy 9 that crashed into Jupiter in 1994 leaving a chain of Earth sized holes in the Jovian atmosphere. Jupiter’s larger mass can “Hoover up” more debris than Earth gravity can. Jupiter even got hit again in the summer of 2009. However, we are not immune. Fast forward to planet Earth on February 2013, a house sized meteoroid exploded over Chelyabinsk, Russia injuring 1000. The atmospheric burst had the equivalent of ~440 kilotons of TNT. For comparison, the Hiroshima nuclear blast yield was about 16 kilotons. Russia was struck about a century earlier (1908) by the much larger Tunguska event in Siberia. About 66 million years ago, there was a LF/HC event named the Chicxulub impact that has been linked to the Cretaceous/Tertiary mass extinction. Clearly a game changer.

Human Error: Human error can easily cause blackouts as well. The Northeast Blackout of 2003 was largely due to a software problem masking alarms of overloaded, and thus overheated transmission lines expanding and sagging into unpruned foliage due to peak loads during a hot summer day. The triggering event cascaded across the northeast U.S. into Ontario, Canada. Over 55 million people were without power, some for two days, until the system could get restored. More than 265 power plants shut down. Some affected areas without power also were without lights, telephone, sewerage, water, banking and transportation services for days.

Since the WSJ reporting on the Metcalf incident and the prior recognition of grid vulnerability from electromagnetic pulses, attacks and geomagnetic storms, the federal government and industry have pushed forward into addressing and mitigating the vulnerability in the grid. Both are a long way from securing our vital infrastructure, but are moving in the right direction. The Department of Homeland Security (DHS) is testing a prototype recovery transformer program (RecX) to quickly get the grid back up online after a catastrophic event. These modular transformers are smaller and lighter than EHV transformers, allowing utilities to transport and rapidly install the transformers where disruption occurs.

Grid Failures on the Rise: James McLinn, a certified reliability engineer with the Rel-Tech Group, documented a global rise in grid failures in recent times (see table below).

McLinn noted that for the more recent U.S. and Canada failures, the “increase appears to be real, and probably reflects two factors: increasing load on the grid, and the increased cable miles with higher interconnectedness of the grid.” Modern efficiency thus results in more vulnerability. A 2014 report by Climate Central found a tenfold increase in outages since 1984. Climate Central focuses blame on more extreme weather due to climate change.

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Major power outages in the U.S., and around the world.
Transportation by Rail – LNG Style

Fuel Switching: Nicholas Chase, an EIA economist, published a report that LNG shows potential as a future railroad fuel over diesel (http://www.eia.gov/forecasts/aeo/liq_nat_gas.cfm)

“Continued growth in domestic natural gas production, along with substantially lower natural gas spot prices compared to crude oil, is reshaping the U.S. energy economy and attracting considerable interest in the potential for fueling freight locomotives with liquefied natural gas (LNG).” Chase reported that the 7 Class 1 railroads account for 94% of total freight rail revenue and they consumed more than 3.6 billion gallons of diesel fuel, amounting to 10 million gal/day and representing 7% of all diesel fuel consumed in the United States. The cost to Class 1 railroads of consuming such large quantities of diesel fuel was more than $11 billion in 2012, representing 23% of their total operating expense.”

“Class 1 railroads are considering the use of LNG to fuel locomotives because of the potential for significant cost savings. The large differential between crude oil and natural gas commodity prices translates directly into a significant disparity between projected LNG and diesel fuel prices, even after accounting for natural gas liquefaction costs that exceed refining costs. In the Annual Energy Outlook 2014 Reference case, the long-run price difference between locomotive diesel fuel and LNG in rail applications increases from $1.48/gal of diesel equivalent in 2014 to $1.77 in 2040.”

Maybe Pipelines:

Keystone XL Pipeline Update — The proposed Keystone Pipeline to bring crude from Canada still needs approval to cross the international border. There is now more bipartisan support to get this done. Eleven Senate Democrats, led by Heidi Heitkamp (D-ND) sent a letter to the President for his administration to quickly (by May 31) approve the Keystone XL crude pipeline. Heitkamp said, “This process has been exhaustive in its time, breadth, and scope. It has already taken much longer than anyone can reasonably justify. … We cannot miss another construction season. Given the long, cold winter this year along the Keystone XL pipeline route and the time required for ground thaw, we could be looking at a very short season. We need a definitive timeline laid out for a project that should be approved because it’s in our country’s best interest.”

However, I do not expect any action while I represent SIPES’s national energy based on White House Press Secretary Jay Carney’s response: “Our position on that process hasn’t changed, which is that it needs to run its appropriate course without interference from the White House or Congress, … So that review continues at the State Department where it’s housed in accordance with past practice of previous administrations of both parties. And when there’s a decision to be announced, it will be announced.”

Gulf Coast crude oil inventories reach record level: EIA reported that “Crude oil inventories on the U.S. Gulf Coast (USGC) reached 207.2 million barrels (bbl) on April 11, a record high. The elevated inventory levels are the result of the continuing strong crude oil production growth, the opening of TransCanada’s Marketlink Pipeline, and a drop in crude oil inputs at USGC refineries as a result of seasonal maintenance.

While USGC crude oil inventories typically build during the beginning of the year, this year’s increase has been particularly notable. On January 10, USGC inventories were 161.0 million bbl, 1.4 million bbl above the five-year average. Since then, they have increased 46.2 million bbl (29%) to the current level, which is 24.2 million bbl above the previous five-year average and 22.2 million bbl above year-ago levels.”

EIA reports that the main cause for the recent Gulf Coast crude oil inventory build-up is TransCanada’s January 2014 start-up of the 700,000-bbl-per-day (bbl/d) Marketlink Pipeline. Marketlink runs from the Cushing, Oklahoma storage hub to the Houston area. Crude oil deliveries via Marketlink are expected to average 525,000 bbl/d in 2014.

Also from EIA:

Tight oil production pushes U.S. crude supply to over 10% of world total — (http://www.eia.gov/todayinenergy/detail.cfm?id=15571#)

U.S. tight oil production averaged 3.22 million barrels per day in the fourth quarter of 2013, according to U.S. Energy Information Administration estimates. This level was enough to push overall crude oil production in the United States to an average of 7.84 MMbbl/d, more than 10% of total world production, up from 9% in the fourth quarter of 2012. The United States and Canada are the (Continued)
only major producers of tight oil in the world.

In February 2014, 63% of U.S. tight oil production came from two basins: the Eagle Ford in South Texas (1.21 MMbbl/d, or 36% of total U.S. tight oil production), and the Bakken Shale in North Dakota and Montana (0.94 MMbbl/d, or 28% of total U.S. tight oil production). Tight oil production in the United States represents 91% of all North American tight oil production, with the remaining 9% coming from Canada.

Current Commodity Prices:
- Oil – WTI - $104.50/bbl, up $11.53/bbl
- Gas – $4.56/MMBTU, up $0.51/MMBTU
- Coal - $60.58/ton for Central Appalachian 12.5KBTU, down $3.57/ton
- Uranium Yellowcake – U3O8 -$33.75/pound, down $0.75/pound

Uranium trivia: A single uranium pellet (3.2% uranium dioxide content) is a cylinder about half an inch long by about a quarter of an inch wide which has the energy potential of 17MCFG, ~3.55 BO, or 107 tons of coal. A single fuel rod contains well over a hundred pellets and many nuclear reactors have thousands of fuel rods.

U.S. Rig Count (data from Baker Hughes 04/11/2014) – Activity Rockets to 1831: Total U.S. rotary rig count for oil, gas, and geothermal wells stands at 1831, up 77 from the last SIPES Quarterly. Land rigs are 96+% of all activity at 1759. Texas leads the way with 884 rigs of which 756 are in the Permian (536) or Eagle Ford (220) basin areas. Exploratory activity (57) accounts for 3.4% of all rigs and the count has dropped 3 rigs since last report. Rigs drilling for gas number 310, down 51 since the last Quarterly. Drill rigs targeting gas continue to decline with an 18% drop in rigs since January 1. Oil rig count rose by 124 to 1517, over 82% of all current rig activity. Horizontal wells make up about 67% of the drilling activity, vertical wells almost 21%, and directional wells stand at ~12% of the total. The geothermal rig count held steady from last quarter at 4.

Renewable Energy News – Twelve states produced 80% of U.S. wind power in 2013: (http://www.eia.gov/todayinenergy/detail.cfm?id=15851#)

In 2013, 12 states accounted for 80% of U.S. wind-generated electricity, according to preliminary generation data released by EIA. Texas was again the top wind power state with nearly 36 million MWh of electricity. Iowa was second, with more than 15 million MWh.

Twelve states produced a combined 134 million MWh of electricity from wind. Nationwide, 167 million MWh of power came from wind in 2013, a 19% increase from 2012. Wind power increased its share of U.S. total electricity generation in 2013 from 3.5% to 4.1%. All but 13 states reported to EIA some generation from wind, and 23 states increased their wind generation more than 10% above 2012 production levels. The proportion of wind to total electricity generated varied widely by state. Leading the nation in wind generation share was Iowa with 27.4% of net electricity production coming from wind turbines. Second was South Dakota, at 26%. Interestingly, California’s wind generation exceeded geothermal generation for the first time in 2013.

Politics/Government/Regulations

Ohio Announces Tougher Permit Conditions for Drilling Activities Near Faults and Areas of Seismic Activity: Ohio Department of Natural Resources (ODNR) Director James Zehringer announced “new, stronger permit conditions for drilling near faults or areas of past seismic activity. (Continued)
The new policies are in response to recent seismic events in Poland Township (Mahoning County) that show a probable connection to hydraulic fracturing near a previously unknown microfault.

New permits issued by ODNR for horizontal drilling within 3 miles of a known fault or area of seismic activity greater than a 2.0 magnitude would require companies to install sensitive seismic monitors. If those monitors detect a seismic event in excess of 1.0 magnitude, activities would pause while the cause is investigated. If the investigation reveals a probable connection to the hydraulic fracturing process, all well completion operations will be suspended. ODNR will develop new criteria and permit conditions for new applications in light of this change in policy. The department will also review previously issued permits that have not been drilled.”

“While we can never be 100 percent sure that drilling activities are connected to a seismic event, caution dictates that we take these new steps to protect human health, safety and the environment,” said Zehringer.


USGS attributes Oklahoma earthquakes to induced seismicity: U.S. Geological Survey (USGS) sponsored a study on the relationship between a November 2011 magnitude 5.0 earthquake and successive aftershocks along the Wilzetta fault in Oklahoma, including a magnitude 5.7 earthquake, the largest ever recorded in the state. The study builds on a 2013 report published in Geology that links the magnitude 5.0 foreshock to fluid injection associated with oil and gas drilling. The recent USGS study concludes the magnitude 5.7 earthquake is the largest induced seismic event on record.

Low-magnitude earthquake frequency has increased in gas drilling states since 2010 and is considered to be linked to wastewater injection associated with oil and gas drilling.

White House Releases Climate Action Plan for Strategy to Reduce Methane Emissions: “Today, methane accounts for nearly 9 percent of domestic greenhouse gas emissions. And although U.S. methane emissions have decreased by 11 percent since 1990, they are projected to increase through 2030 if additional action is not taken.” The Obama Administration has a goal of reducing U.S. greenhouse gas emissions in the range of 17 percent below 2005 levels by 2020. They are targeting methane sources in landfills, coal mines, agriculture (cows) and, of course, oil and gas. On the oil and gas front, BLM will set new standards for venting and flaring hydrocarbons on public lands. Also targeted are downstream oil and gas operations.

EPA: Greenhouse Gas Emissions at 20 Year Low: Domestic carbon emissions dropped to the lowest level since 1994. EPA indicated that the drop was largely due to fuel switching in electrical generation from coal to natural gas and reduced energy consumption. Electrical generation is the largest emitter with 32%, followed by transportation at 28%, and industry at 20%. CO₂ is the main greenhouse gas (GHG) at 82% followed by methane (9%), NO (5%) and fluorinated gases at 3%. The reduction in GHG emissions since the 2007 peak is more than half of Obama’s proposed GHG cut in his recently released Climate Action Plan.

(Continued)
Companies can defer gains on like-kind exchanges, or exchanges of similar property, when reporting their tax status. Legislation would also repeal subsidies for nuclear and renewable power, including those that fund planned reactors in Georgia and South Carolina, and proposes a 25 percent flat corporate tax rate.

Both the Administration and Representative Camp called for the repeal of percentage depletion, domestic manufacturing, passive loss, marginal well, and recovery credit tax deductions for oil and gas companies. Both proposals, subject to congressional approval, would also include permanent tax credits for scientific research and development (R&D).

Carbon capture and storage debate heats up: On March 12, the House Science, Space, and Technology Committee’s Energy and Environment Subcommittees held a joint hearing to discuss the viability of carbon capture and storage (CCS) techniques used to reduce CO₂ emissions from power plants. Newly-built coal and gas plants will be required to integrate CCS technologies in order to adhere to the Environmental Protection Agency’s (EPA) proposed rule on emissions reduction.

Opponents of CCS implementation argued that it has not been successfully demonstrated on a commercial level. CCS projects currently in commercial use are not on the large power plant scale. Large-scale power plants that both capture and store carbon are still in the demonstration phase, although two projects, including Royal Dutch Shell PLC’s Peterhead Power Station, are under construction.

Proponents of CCS implementation argued that EPA is required under the Clean Air Act (CAA) to promote best available control technologies (BACT) such as CCS. EPA is only obligated to demonstrate technical viability, they said, and because polluters have no motivation to develop CCS, it is impossible for EPA to demonstrate commercial viability.

In January, Representative Ed Whitfield (R-KY) introduced the Electricity Security and Affordability Act, (H.R. 3826), which aims to repeal the EPA proposed rule. The bill passed the House and awaits a decision in the Senate.

Energy Tax Incentive Reform: Senate Finance Committee proposes new reforms to energy tax incentives — The Senate Finance Committee recently released a new proposal to overhaul some energy provisions in the U.S. tax code. The staff discussion draft, introduced by Finance Committee Chairman Senator Max Baucus (D-MT), aims to streamline regulations imposed on energy companies and discontinue a number of key tax credits available to them. The proposal is one of a series of discussion papers prepared by committee staff incorporating ideas from both Republican and Democratic members of the committee and is intended to stimulate discussions on reforming America’s tax code.

There are currently 42 energy tax incentives written into the U.S. tax code. Under the proposed regulations that number would be significantly reduced. The new regulations make four main proposals. First, the new code would consolidate almost all of the preexisting energy tax credits into two new credits. Next, it would make the timelines for the two new incentives longer, thereby instilling confidence in potential investors and businesses. And finally, the new rules would establish a new, technology-neutral tax credit for domestic production of clean energy and for domestic production of clean transportation fuel.

Sources: E&E News, Senate Committee on Finance

CRS report on energy tax credit — The production tax credit (PTC) for renewable energy, a corporate tax credit available to businesses producing renewable energy through a number of green technologies, expired at the end of 2013. The PTC provided a per-kilowatt-hour tax credit to businesses based on the amount of electricity generated through qualified energy resources, such as wind.

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Although the tax credit has expired and been reinstated multiple times over the years (most recently in 2009 by the American Recovery and Reinvestment Act), Congress is still divided on whether to reinstate it or not. Therefore, the Congressional Research Service (CRS) was asked to create a report outlining the pros and cons of the production tax credit for renewable energy sources as lawmakers consider whether to reinstate it once more. The report analyzes the spectrum of outcomes: eliminating the tax credit, making it permanent, and various phase-out options for renewal.

Swan Song: Finally, speaking of swans again, this Quarterly column is my final “Swan Song” from the helm of national energy. I welcome George Carlstrom, our next vice president of national energy, to this tremendously enriching position.

Until the SIPES Convention in New Orleans; I hope to see you all there...
Greetings fellow SIPES Members! Welcome to my last column; I hope everyone is as excited about that as I am! When I became president last summer, I was asked to write an article for each SIPES Quarterly, and was told I could write whatever I wished. My ultimate purpose became to evaluate why I enjoy being a SIPES member, and why our society has importance and credibility.

In my first column I wrote about the technological expertise of SIPES members. This is notably demonstrated by our experience and adaptability in exploiting the right play at the right time. My second column was a discussion (rant) about the lack of morals and ethics that are seen in many corporations both large and small. When you do business with other fellow SIPES Members, you do not have to worry about being treated unfairly. It seems that we, as individuals, have higher ethical standards compared to many corporations. In my third column, I discussed how networking and having personal relationships positively impacts our business life. I actually took my own networking advice at the last Winter NAPE event; it resulted in the acquisition of a prospect from a fellow SIPES Member prior to the prospect even hitting the market!

My previous articles emphasized some of the reasons to be a SIPES member and to do business with other SIPES members. Because our members are technically excellent, are ethical and trustworthy, and we have some very good ideas and prospects to be drilled! For me, this is the true benefit that comes from my membership in SIPES.

I want to encourage each of you to attend the SIPES 2014 Convention and 51st Annual Meeting in New Orleans from June 9 to 12. This is the one SIPES event that brings together members in all disciplines from all over the country. It’s your best networking opportunity in the SIPES Organization! Registration will be available online until June 4 and onsite registration will be available at the Omni Royal Orleans Hotel beginning at 8:30 am on June 9. If you haven’t attended a SIPES Convention before, you’ll be glad that you did. Don’t miss it!

I would like to thank this year’s National Board of Directors for their service to our society. Also, I need to thank the SIPES Headquarters Office staff: Diane Finstrom, Katie Ruvalcaba, and Nicole Christofilis, for the work that they do for all of us. And finally, if you have not ever served on your local chapter board, or on the SIPES National Board, I really do encourage you to volunteer in some capacity. Trust me, you will get more out of it than you give. Thank you for the privilege of being your president this past year.

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**WELCOME NEW MEMBERS**

In accordance with the SIPES Constitution, By-Laws & Code of Ethics, the following announcement of new members unanimously approved by the SIPES Membership Committee during the last quarter is printed below.

Any member in possession of information which might possibly disqualify an applicant is asked to submit this information to the secretary of the society (George M. Carlstrom) within thirty days of this publication. To be considered, this information should be in writing and bear the writer’s name. If this information is received within thirty days after the publication of the applicant’s name, the SIPES Board of Directors must reconsider its previous approval of the applicant. The board’s action, after consideration of such new information, shall be final.

**Ralph J. Daigle, National Membership Committee**

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<td>Midland</td>
<td>Reciprocal SPEE</td>
</tr>
</tbody>
</table>
Figure 2. Gas Production 1977-2013.

Figure 3. Atchafalaya Bay Field type Log.

(Continued)
($11.20). Operatorship of the field changed hands several times during the life of the field.

The field structure is a faulted anticline, with the initial field pays deposited in a shelf environment. Deeper drilling established additional production in the upper Cibicides opima (Cib. op.) section in 1967 (Amerada SL 4884 No 1), by which time the field was in significant decline. The sands in the lower Cib. op. section were found wet in the Quintana SL 1595 No 1 (1979) and by the Unocal SL 8395 No 1 (1981). Production was maintained at modest levels during the 1970s, 1980s, and 1990s through workovers and recompletions. When Hurricane Katrina devastated the production facilities in 2005, the field was abandoned, with cumulative production of 88 BCF and 2.39 MMBO. Through the life of the field, 43 wells were drilled with 19 producing from multiple sands ranging in age from Textularia L (Tex L) to Cib. op.

“Rising from the Ashes”

Based on an amplitude-supported prospect in the lower Cib. op. section identified on a 3D off-the-shelf seismic survey, Phoenix Exploration acquired a 675 acre lease in Atchafalaya Bay in March 2009 for a bonus of $296,680 ($439/acre). Leasing in the area is complicated by its location within a wildlife management area that was established in 1984. The acreage is not delineated by township and range. In addition, the location is burdened with a minimum bonus of $350/acre and a 25% royalty as of December 2002.

The first well on the new lease (SL 20035) was drilled six months after leasing, and while the amplitude was found to be associated with a wet sand, the well encountered a 70-foot gas pay in deeper sands in the lower Cib. op. interval (figure 4). The well was completed in May 2010 through perforations at 18,256-18,328 feet, flowing 10.5 MMcf of gas per day and 108 barrels of condensate per day. The well is located at the structural crest of the original field.

In December 2009, prior to the completion of the new discovery well, six additional leases were taken ($610,243 for 1,374 acres), with drilling on one of the leases beginning in August 2010. This is a reflection of a pattern of leasing and drilling in which leases were taken to extend the field as drilling is proceeding (figure 4, table 1). Three leases were taken in June 2010; thirteen in January 2011; five in September 2011; and four in October 2012. To date, 32 leases have been acquired totaling 11,528 acres for a bonus of $3,653,179 ($316.90/acre). The field has been unitized.

The field was extended two miles to the south with the drilling of the SL 20221 which encountered four pays zones. An exploration stepout drilled 3 miles to the southwest of the SL

(Continued)
2021 has been completed in what appears to be a shallower Cib op. section. Seven wells have been drilled so far in the field, and all are productive. While few of the logs are available at this time, it appears that the production is from sands deposited in an outer shelf environment during a low stand. Production rates from the new leases have been remarkable and in the first 52 months of production the field has produced 74.6 BCF and 328,000 barrels of condensate (as compared to the 88 BCF and 2.39 MMBO produced by the original field over a span of 55 years). Gross revenues for the field passed $125 million by the middle of 2012. The seventh well having just been completed in August of 2013 for 36,600 MCFPD and 213 BCPD did not contribute to these remarkable numbers.

Castex and Apache bought the assets of Phoenix Exploration in October 2011, after the drilling of the first four wells. Information available through Louisiana’s SONRIS database shows that Apache has operated two of the wells and Castex has operated the remaining five wells. The Apache working interest in the field is 50% and that of Castex is 37.5%.

These seven completions have elevated the field to a number one ranking in gas production in South Louisiana for 2012 and 2013. As production is extending to the southwest it is being included by the State of Louisiana as part of the Eugene Island Block 18 Field.

All seven of the producing wells are upthrown to a southwest-northeast trending down-to-southeast fault. Apache has stepped across this fault and drilled the SL 20255 No 1 well for the same lower Cib op objective as the upthrown wells. Their completion on November of 2012 tested 20,000 MCFPD and 208 BCPD from perforations at 20625 to 20683. This well is situated just 3200 feet south of the Amerada well that produced from the upper Cib op sand in 1967.

**Implications**

It would be easy to write off an old field like Atchafalaya Bay that had production for 55 years and was eventually abandoned, especially after

(Continued)
deeper drilling found only wet sands. Yet the recent history of Atchafalaya Bay Field demonstrates the potential that can exist under depleted acreage (Table 2). With a history of over 100 years of production, there are many depleted fields in South Louisiana where the deep oil and gas potential has not been adequately tested. With Atchafalaya Bay Field, the deeper production is far better than from the original shallow pays.

An additional lesson from Atchafalaya Bay Field is with the need to extend deeper drilling entirely through an objective section. The deep 3D amplitude that was the initial target of the Phoenix Exploration drilling was non-productive, and the prolific pay zone was only discovered as drilling continued through the lower Cib. op. section.

**Acknowledgments**

The author gratefully acknowledges the assistance of Art Johnson, #3153, and Kevin J. Trosclair.

Carlo C. Christina, #1191, is an independent consulting petroleum geologist in Metairie, Louisiana, and can be reached at carlocc398@aol.com.

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**Table 2. Old Field, New Production.**

<table>
<thead>
<tr>
<th></th>
<th>LEASES</th>
<th>ACRES</th>
<th>TOTAL COST</th>
<th>AVERAGE $/ACRE</th>
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<tr>
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<td>6</td>
<td>22,600</td>
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<tr>
<td>NEW FIELD</td>
<td>32</td>
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<table>
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<tr>
<th>WELL DRILLED</th>
<th>PRODUCTIVE WELLS</th>
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</thead>
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<tr>
<td>OLD FIELD</td>
<td>43</td>
</tr>
<tr>
<td>NEW FIELD</td>
<td>7</td>
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</table>

<table>
<thead>
<tr>
<th>PRODUCTION</th>
<th>TOTAL PRODUCTION</th>
<th>TIME</th>
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<tbody>
<tr>
<td>OLD FIELD</td>
<td>88 BCF</td>
<td>55 years</td>
</tr>
<tr>
<td>NEW FIELD</td>
<td>70 BCF (to date)</td>
<td>51 MONTHS</td>
</tr>
</tbody>
</table>
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for their continuing support of our society

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(Continued)
SIPES 2014 Convention Tours
June 9-12, 2014

You Still Have Time to Register for these New Orleans Tours!

City Bike Tour

Bayou St. John Kayak Trip

French Quarter Literary Tour

Historic New Orleans Collection Tour & Lunch at Mr. B’s

Demonstration and Hands-on Cooking Classes (Tuesday & Wednesday)

National WWII Museum Tour and Movie

Steamboat Natchez Jazz Cruise

Old New Orleans Rum Distillery Tour

Tour of M.S. Rau Antiques
The SIPES Newsletters from this time include reviews of national board meetings, editorials by members and guests, chapter news stories, book reviews, detailed information on new members, tips and words of wisdom, and an industry calendar of meetings.

Notable during this decade was the formal cooperating agreement between SIPES and AAPG that established membership reciprocity between SIPES and the DPA of AAPG which is still in effect today.

In 1971, C.W. Smith, #90, of Oklahoma City was elected president of SIPES. He accepted employment later that year and resigned his office in December. Lee Mills, #208, of Lafayette completed C.W.’s term of office and was followed by John E. Brewer, #232, of Wichita.

The 1970s were a time of energetic political response on a variety of topics including state registration of geologists, The Oil and Gas Investment Act of 1972, explanations and solutions for the Energy Crisis, which was listed as the most popular topic of discussion within the petroleum industry during this period. The SIPES Board and SIPES Members wrote numerous letters to public officials, lawmakers, and to publications expressing opinions on these and other topics listed below. In December 1973 the SIPES Board developed the following resolution:

“We, the board of directors for the Society of Independent Professional Earth Scientists, meeting in Dallas, Texas in regular session, strongly urge that the prices for all petroleum products be established by a free market, that all price controls now in effect be removed, and that the additional taxation not be considered as a means of controlling the usage of petroleum and petroleum products”...

Patrick J.F. Gratton, #412, became editor of the SIPES Newsletter in 1973. Under his leadership the content was expanded. A survey of consulting fees was conducted in 1974; it indicated that the majority of members charged $150 a day for consulting work in their offices. Forty-nine percent charged the same rate for out of town work, and one member actually charged $50 a day less to work out of town! Sixty-five percent of those responding were involved in exploration and/or production of oil and gas (geological) and 54% were involved in the appraisal of oil and gas properties.

In July 1974, SIPES Members Lucius C. Geer, #408, C.W. Smith, #90, Putnam K. Reiter, #294, and Willis G. Meyer, #79 met in Washington DC to present the position of SIPES regarding proposed amendments to OCS regulations to the U.S. Department of the Interior. The amendments sought to require that a copy of all geological and geophysical information acquired since 1953 be furnished to the USGS in return for the right to bid on future OCS lease sales. There would be no compensation to taking the property, and it would be made public at the discretion of the USGS supervisor!

In 1975 A.H. Wadsworth, #6, Putnam K. Reiter, #294, and James Gould, #377, met in Washington DC to present SIPES’ recommendations to the administration on methods of achieving domestic energy self-sufficiency by 1988. Energy staff at the White House were shown a slide presentation stressing the need to encourage domestic oil and gas exploration and production, and recommending coal production as a key element in a long-term energy self-sufficiency program. Later that year, Wadsworth, Geer and several other members traveled to Washington again to meet with key leaders of the AFL/CIO.

Pat Gratton wrote in the April 1976 newsletter that he had just returned from Washington where he testified before the FEA regarding crude oil price adjustments. SIPES was the only earth science/engineering organization that appeared during two days of hearings. There were only 575 members of SIPES at that time. Gratton assumed the presidency of SIPES in 1977 and a National Energy Committee was created by the board to provide information to the AFL/CIO and other interested parties.

By the end of the decade, newsletters indicate that the political activities of SIPES had begun to decrease. There were still political responses to legislation, but there was also an emphasis on building the SIPES membership and expanding annual meetings and chapter activities.

John E. Scherer, #358, of Midland, Texas assumed the presidency of SIPES in 1979 and the headquarters of the organization was eventually moved to his office. 1979 was also the year that the first History of SIPES 1963-1978, written by George R. Gibson, #112 and Willis G. Meyer, #79, was published. It is still available today on DVD, and sent to all new members of SIPES.
CORPUS CHRISTI

Todd Hunter, one of the most senior members in the Texas House of Representatives, was the first speaker of 2014 for the Corpus Christi Chapter of SIPES. Todd discussed the changes that are coming to Texas and the Coastal Bend. Texas is projected to be the largest state in the Union, both in population and business.

Water will be a big issue. It is being addressed on many fronts, needs of users – citizens, farmers, business, exploration; and solutions - including desalination.

Transportation is another big issue facing the state. If Texas is to stay ahead of transportation issues, it must start planning for growth instead of simply responding after-the-fact.

Todd briefly discussed politics. He made the point that Texas is pro-business, pro-energy, pro-solar, pro-oil and gas. The Texas legislature only meets every other year. Any state legislation has to be passed within 90 days – of that year. By contrast, the federal government, which is often anti-business, anti-energy – especially oil and gas; meets almost every day of every year.

The Corpus Christi Chapter welcomed the SIPES National Board of Directors. It was nice to have them in attendance for our February luncheon. Sadly, due to a very rare occurrence of fog during most of their stay, we were not able to show off our Sparkling City by the Sea. So here’s the view we usually have.

Our own Tony Hauglum, #2807, was the February speaker. Tony shared with us his adventure into the Eagle Ford play in Live Oak County, Texas. Persistence and leasing ingenuity led to a great project. The property will have thirty-two wells when fully developed, along with a lesser interest in five House unit wells. Recoverable reserves the current wellbores are estimated at 15-20MMBO + 50-60 BCFG.

Deborah Sacrey, #1271, with Geophysical Insights was our March speaker. She gave a brief history of Paradise, a new analytical geoscience software, and discussed attribute analysis using unsupervised neural networks.

Neural network analysis works with seismic attributes to identify and ascribe geological meaning to observable patterns in seismic data. The isolation and mapping of such patterns and understanding how these patterns indicate hydrocarbon presence can reduce risk in prospecting.

One output of neural network analysis is Self-Organizing Maps (SOM). A Self-Organizing Map is a powerful cluster analysis and pattern recognition approach that helps interpreters identify patterns in their data that can relate to geological characteristics such as lithology, porosity, fluid content, facies, depositional environment, etc. A SOM classifies data samples into categories based on their properties, which may be geological or geophysical.

Neural network analysis and Self-Organizing Mapping have been used and proven effective in both conventional and unconventional plays.

Dawn Bissell
Secretary
NEW ORLEANS

The January 21 luncheon was held at Andrea’s Restaurant in Metairie and featured Andy Clifford of Saratoga Resources speaking on “Grand Bay Field – The First Quarter Billion Barrels.” Grand Bay Field was discovered by Gulf Oil in 1937 and has produced from 65 stacked Miocene reservoir sands between 1,500 feet to 13,500 feet. The 400 wells in the field include 379 producers. Cumulative production is now over 250 million oil equivalent barrels (over 80% liquids). The field changed ownership several times since the 1980s, and Saratoga Resources currently has a 100% working interest. Recent development has taken advantage of a 3D survey that covers 90 square miles.

After describing the field’s 70-year history, Clifford presented an analysis of the top 10 producing sands, including log, petro-physical and seismic definition. The shallower, normally pressured blanket sands are mainly oil-bearing, while the deeper, geopressed channel sands are more gas prone. With the better reservoir definition, many drilling and recompletion opportunities have been identified. Saratoga has made many new pool discoveries in the shallow sands. Clifford noted that the wells being completed have better decline rates than those of shale wells. Low-resistive pays have produced well, although many were overlooked in the past. Deeper opportunities for the future extend to 17,000 feet.

The February 18 luncheon featured Paul Lawless of Helis Oil and Gas who spoke on “Resource Play – Playing the Migration Route.” Lawless noted that resource plays have grown from being perceived as “Shale Plays” to “Source Rock - Migration Route Plays” of a petroleum system. The best resource plays target tight rock with enough permeability that a mechanically fractured well will flow in economic rates with enough reservoir support to make a relatively quick pay-out, large enough estimated ultimate recovery and positive return on the investment. While many source rock shales have been studied for their source potential and generative capacity, it is only recently that source shales and the surrounding rocks have been studied for their sedimentologic differences. The section was never thought of as reservoir rock in the conventional sense as limestones, dolomites, and sandstones had been. In addition, because the resource play reservoir is composed of fine grained sediments lain down in thin-beds, most of the wireline logs run across the section do not see reservoir. As a result, many full cores have been cut through the section trying to understand what the reservoir is.

The ideal resource play reservoir rock is geopressed due to current and geologically recent hydrocarbon generation. As the permeability in the reservoir is very low, often micro- and nano-darcy, the geopressure becomes the main drive mechanism giving higher initial rates and better sweeps in these tight reservoirs. As hydrocarbons sweat out of the source beds, they move into expulsion fractures along lamination bedding planes and juxtaposed laminations and beds of slightly larger grain sizes and permeability. Then seeking the lower pressure route away from the higher pressure generative rock, the hydrocarbons migrate up or down into vertical natural fracture and faulting systems and often into more traditional reservoir rock on its migration from the generative area. Many times, these high permeability natural fracture systems are found to have enough storage capacity to make excellent reservoirs in combination with feed-in from the generative source and migration route beds. Examples of this are the Denver-Julesburg’s Niobrara trend in the Silo, Hereford, and Wattenberg High field areas and the Gulf of Mexico’s Austin Chalk trend. The more traditional reservoir rock portion of the migration route in the North American interior basins such as the Williston (Middle Bakken and Three Forks), Powder River (Sussex, Shan-non, and Frontier/Turner), and Appalachian (Point Pleasant) also have very low permeability and have been excellent re-source play targets. In the Gulf Coast, these rocks, such as the Upper and Lower Tuscaloosa and Woodbine section around the Eagle Ford and Tuscaloosa Marine Shale, have relatively high permeability, and the hydrocarbons leak off into traditional traps with water legs. Lawless will be one of the presenters at the SIPES 2014 Convention in June.


The subsurface geology must be taken into account if we are to understand and affect the future landscape of south Louisiana. The coastal landscape is the product of spatial and temporal variations in vertical movements, results of diverse processes which have interacted in an ordered structural framework throughout the geologic history of the Gulf Coast. Depth-migrated offshore 3D seismic surveys are revealing unprecedented views to depths below 40,000 feet and providing analogs for understanding this subsurface framework.

Stephens will be one of the presenters at the SIPES Convention in New Orleans – one more great reason to attend!

Art Johnson
Secretary
John Asma — GeoCenter LP
"3D Data Processing with Pre Stack Depth Migration; RTM (Reverse Time Migration) Not Just for Sub Salt Anymore"

Carlo Christina, #1191 — Independent
"Exploration, Drilling, and Production Highlights in South Louisiana in Recent Years"

Tom Ewing, #1610 — Frontera Exploration Consultants
Ethics Course — "Success, Sustainability and Social License; Professional Ethics in the 21st Century"

Jason French — Cheniere Energy, Inc.
"LNG Exports — A Story of American Innovation and Opportunity"

Jim Gibbs, #314 — Five States Energy
"Mezzanine Financing for Independents: How to Keep Your Project Moving"

Bill Goff, #2068 — Cholla Production, LLC (co-author Emily Hundley-Goff)
"Reviewing the Mississippian Lime Play of Kansas — Does Unconventional Exploitation Thinking Have a Place in Oz?"

Paul Lawless — Helis Oil & Gas LLC
"Resource Plays — Prospecting Along the Migration Route"

Chris McLindon — Independent
"Applying the Principles of Earth Science to Coastal Restoration in South Louisiana"

James Moffett — Freeport-McMoRan Oil & Gas
"Inboard Lower Tertiary/Upper Cretaceous Play — Gulf of Mexico Shelf & Onshore Louisiana"

Jeffrey Nunn — Louisiana State University
"Bubble, Bubble, Tremors and Trouble: The Bayou Corne Sinkhole"

Jeanne Phelps, #2509 — Phelps Geoscience
"Chemical EOR (cEOR) for the Independent (There is Still Lots of Oil Left in the Ground"

Bill Pramik — Geokinetics
"Marine Vibroseis: Why Do We Want It, What Does It Get Us, and How Can We Do It?"

Harry Roberts — Louisiana State University
"Mississippi Delta Plain Land Loss: The Important Role of River Diversion"

Tim Rynott — Ridge Resources LLC
"Wilcox Rebirth: South Louisiana"

Bryan Stephens — BOEM
"Basement Controls on Subsurface Structural Patterns, Hydrocarbon Systems and Coastal Geomorphology across the Northern Gulf of Mexico"

Charley Whipp, #1289 — Xplorer Petroleum, LLC (co-author Barry Gidman)

Lei Zhang — Schlumberger
"Inversion Workflows for Conventional and Unconventional Reservoir Development and Production"
MIDLAND

The speaker for our January meeting was Glenn Winters, chief geophysicist for Fasken Oil and Ranch. The title of his talk was “Obstacles and Pitfalls of the Everyday Interpreter and The Role of Geophysics in Resource Plays.” Following is the abstract submitted for his talk:

The objective of this presentation is to share some of the decision making processes that routinely go into seismic interpretation that can enhance and provide critical insight into resource plays. As the oil industry moved mainly from conventional structural and stratigraphic plays into shale and resource plays, we have once again encountered the age-old historical reservations of the necessity and value in the acquisition of new 3-D seismic data. He shared some of the techniques, tools, and pitfalls he had encountered on data sets in the Permian Basin Wolfberry Play and in the Eagle Ford Play of South Texas. Fasken Oil and Ranch has a strong acreage position in both of these plays and is not acquiring any additional acreage, and therefore they have allowed Mr. Winters to show data sets that are being used right now in their drilling program.

Glenn was born in Chicago and attended Purdue University, graduating in 1981 with a B.S. in engineering geology. He began his career working as a staff geophysicist for Texaco in Midland. In 1985 he transferred to Texaco's Denver office, working in special projects and seismic data processing. Glenn returned to the Midland office in 1989, where he interpreted seismic data throughout the Permian Basin. He joined Fasken Oil and Ranch in 2002 as staff geophysicist. Winters continues to focus on acquiring, processing, and interpreting seismic data in the Permian Basin in addition to the Eagle Ford of South Texas and the mountains of Nevada. He has served in several positions with the Permian Basin Geophysical Society including president. He has also chaired several geophysical symposiums for the PBGS, contributed to several technical magazine articles and has given presentations on a range of geophysical topics. Winters has worked on several projects with Bob Hardage and the BEG at the University of Texas, including collecting mode-converted seismic data on the Fasken-owned and operated properties. He has been instrumental in helping companies test new technologies in a known test area on the Fasken Ranch. Special thanks go to Cholla Petroleum for sponsoring the January meeting.

Our annual February spouse and guest party was held in the ballroom at the Midland Country Club on the 15th at 6:00 p.m. Chapter awards were presented to outgoing 2013 board members. The following new board members were introduced and officially assumed their positions: Chairman Randy Anderson; Vice Chairman Billy Harris; Secretary Roger Freidline; and Treasurer Fred Behnken. Entertainment was provided by Bob Hardage and the BEG.

The speaker for our March meeting was James A. Gibbs, #314, who presented his talk on “Mezzanine Financing.” Mr. Gibbs is a founder and serves as chairman of the board of Five States Energy Company, LLC. He has been both a partner and officer of Five States since 1985.

"Mezzanine" is the term used to describe the type of financing that spans the risk spectrum between equity financing at one end and bank loans at the other. It is particularly suitable for providing developmental funds to independents who may earn a working interest by originating an exploration play, but have limited resources to participate in the field development. Mezzanine financing allows the independent to capture a large part of the value of a successful venture without the need to borrow cash, dip into savings or investments, sell out prematurely, or convert the working interest to an override at a discounted potential value. The talk discussed the types of projects for which mezzanine financing could be considered. It will be presented at the 2014 SIPES Convention in New Orleans.

Jim has been active in the oil and gas industry since 1961. He worked for the California Company (Chevron) in Louisiana until 1964 when he returned to Dallas and opened an office as a consulting geologist and an independent oil and gas producer. He soon founded Petroleum Resources, Inc., later selling his interest to his partner. During intervals he served as the exploration manager of the private companies of Petrus Operating Company, Cornell Oil Company, and Lyco Energy Company.

He is a past president and honorary member of the Dallas Geological Society and AAPG, for which he serves as a Foundation Trustee. He is a member of the board of directors of Dedman College at SMU; Trustee of (Continued)
the Institute for the Study of Earth and Man at SMU; and serves on the board of the Dallas Museum of Nature and Science. He is a member of the National Petroleum Council, the Explorers Club and IPAA. He has received the Michel T. Halbouty Outstanding Leadership Award from AAPG, and the William B. Heroy Distinguished Service Award from the American Geosciences Institute.

Jim received his B.S. and M.S. degrees in geology from the University of Oklahoma. He is a past chairman of the Alumni Advisory Council of the School of Geology and Geophysics and currently serves on the Board of Visitors of the Mewbourne College of Earth and Energy. Jim was awarded OU’s Regents Award in 1996. We thank Simon Energy Associates for sponsoring our March luncheon.

**Randy Anderson**
Chairman
HOUSTON

On January 15, the SIPES Houston Chapter kicked off the new year with a well-attended, timely presentation entitled “Eagle Ford East.” The presentation was delivered by Phil Martin, #2390, CEO of New Century Exploration offering a salient look at the play history of the Eagle Ford West Play and the burgeoning growth of the new Eagle Ford East Play.

Mr. Martin presented a retrospective of Eagle Ford Shale production and comparisons to the Bakken Shale as production which is currently outpacing voluminous Bakken Oil production. Currently producing at a rate of 2.7 MMBOPD, the strength of Eagle Ford production has elevated Texas to the enviable position to that “equivalent to the world’s 10th largest producing country” and currently providing 32% of the total U.S. production. First focusing on the western extension of the play, Mr. Martin unraveled recent history pronouncing that 2012 marked the time when the Eagle Ford “really got off the ground” resulting in its top position as a producing reservoir. Collaboration between geoscientists and engineers has driven the play and in recent years drilling, completion and fracking costs have fallen, as have number of rigs drilling, but IP’s and EUR’s continue to increase, as are well counts. Although current industry activity is hot and heavy in the “Eagle Ford East” and gaining momentum, early entry opportunities remain for the taking. Hospitality was graciously provided by Corbut and Associates.

In January, the SIPES Houston Chapter Board outlined ambitious goals for 2014 including an initiative for growing the membership base, website improvements and an increased focus on community public relations.

On January 30, another very successful Independents Day Social 2014 Independents Day Celebration “Super Bowl Tailgate” was held at Houston’s famous Cadillac Bar and Grill. The event was well attended by 150 folks and provided opportunities to have fun, network and to grow membership!

Our February 20th luncheon at the Petroleum Club was highlighted by a talk presented by Pete Rose entitled “M. King Hubbert, Peak Oil, and U.S. Energy Policy.” Dr. Pete Rose (Ph.D., Geology, University of Texas, Austin) has been a professional geologist for fifty-four years, specializing in petroleum geology, E&P risk analysis, and mineral economics. Before going on his own in 1980 as an independent prospector and consultant, he worked for Shell Oil Company, the United States Geological Survey, and Energy Reserves Group, Inc., a small-cap independent.

After ten years as an internationally-recognized authority on economic risking of exploration drilling ventures, he founded Rose & Associates, LLP, in 1998. Pete retired in 2005; the firm continues as the global standard among consulting companies in that field. Dr. Rose examined the public controversy between Hubbert and Vincent E. McKelvey of the U.S. Geological Survey. In 1956 and again in 1962, Hubbert had predicted that U.S. oil production would peak in the late ‘60s or early ‘70s, and decline thereafter. This meant growing dependence on foreign oil, with dramatic implications for U.S. foreign policy. In contrast, McKelvey predicted domestic oil reserves were three times larger than Hubbert’s estimate. Dr. Rose laid out Hubbert’s and McKelvey’s predic-

(Continued)
At the end of his presentation, Dr. Rose spoke about how important energy and energy efficiency is to national prosperity, but seemed pessimistic about the possibility of having a fact-based national dialog on U.S. energy policy due to the discouraging example of the acrimonious Peak Oil Debate.

SIPES Houston thanks the Conquest Drilling Fluids for hosting the luncheon.

The March luncheon talk, “Practical Seismic Petrophysics: The Effective Use of Log Data for Seismic Analysis,” was presented by Tad Smith, Apache Corporation’s Manager of Petrophysics. Smith began by posing an essential question that geoscientists should ask in advance of initiating seismic petrophysical analysis: “What do we want from our seismic? The proper integration of petrophysical data with seismic data (“seismic petrophysics”) is a powerful tool “to extract very subtle seismic responses to lithology and fluid content.” However, as powerful as seismic petrophysics is, the potential for significant error exists without proper conditioning of log data.

Smith outlined various methods for the conditioning of log data including correction of invasion profiles, shear wave velocity estimation, and inputs to fluid substitution modelling.

Ignoring proper conditioning of the log data can result in unclear or wholly incorrect results as related to shear-wave velocity estimation, fluid substitution calculations, and AVO modeling. The integration of other data sources such as pressure, core and fluids data was discussed as adding to the generation of a more rigorous seismic petrophysical interpretation.

Deepest thanks go to Seismic Exchange Incorporated (SEI) for acting as the luncheon hosts.

Bonnie Milne-Andrews
Secretary

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FORT WORTH

The January meeting of the Fort Worth SIPES Chapter was held at the Petroleum Club of Fort Worth with 36 members and guests attending.

Wayne Hoskins called the meeting to order, guests were introduced, and members were made aware of upcoming vacancies on the executive committee.

Peter M. Duncan, CEO, MicroSeismic, Inc., gave the presentation titled “Practical Microseismic Frac Monitoring: past, present and future.” Dr. Duncan gave an entertaining and informative talk outlining the use of microseismic for monitoring frac jobs and passive seismic recording. His company has developed some innovative analytical procedures and interesting display methods. Several case histories were shown in Kansas, the Bakken play, and other locations.

No meeting was held in February due to the date coinciding with the NAPE event in Houston attended by most of the membership.

The March meeting of the Fort Worth SIPES Chapter was held at the Petroleum Club of Fort Worth with 23 members and guests attending.

The members were made aware of the schedule change of speakers due to cancellation of the February meeting. We’ll have an extra meeting in June for the member’s “free-for-all.” Those who wish to make a short presentation of their current work need to notify Dan Earl to develop an agenda.

David T. Martineau, #3049, Chairman, Texas Independent Producers & Royalty Owners Association, gave the presentation aptly titled “The TIPRO Perspective: Impact Issues for 2014.” Mr. Martineau first pushed all SIPES members to become active in political issues by joining the Texas Independent Producers and Royalty Owners Association. Mr. Martineau detailed the benefits of membership in TIPRO for individuals not aligned with a larger organization to advance their economic causes. Mr. Martineau spent a good deal of time on potential tax law changes being considered by the Obama Administration. Most important of these were changes to the treatment of intangible drilling cost write-offs and amortization of wellsite equipment.

John Titl
Secretary

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SIPES 2013-2014 Membership Directory DVD

See SIPES Referral System for Consultants on Page 2 - Click on each professional specialty to see the current list of consulting members
Biographical List of Members
Index of Professional Specialties
Index of Geographic Areas of Practice
SIPES Constitution
SAN ANTONIO

As the new local chairman for the San Antonio Chapter, I started the New Year by asking those same questions that plague every chapter, “How do we increase and diversify membership? Which speakers can we get that will excite and expand the interest of our chapter? What does our chapter have or want to have, to make itself unique to its members?” These questions sum up what we are going to do this year.

We started off the year at the Petroleum Club with Phil Rosenfeld, senior vice president of Frost Bank. Frost Bank is one of the largest banks in Texas; an active energy lender with over $20 billion in assets (2013). Phil gave an excellent presentation of Frost internal economist’s review and of the factors affecting the U.S. economy. The presentation was a macro look at the stability of our economy and trends in investing. Too many in attendance recognized that a decline is a decline, be it oil and gas or disposable income or GDP. Of special interest and confusion to the audience, was the realization of the changing definitions by our government for key indicators like Consumer Price Index (CPI). It seemed a little like “If one wants a BETTER outcome, change the rules in mid game.” The general conclusion was that the energy sector was one of the safer sectors in a somewhat dim economic future.

February in San Antonio is reserved for the Annual Valentine’s Party at the Little Italy Restaurant. All members and their significant others, enjoyed the festive Italian dinner with wine, flowers and chocolate. I’m sure many of these wives got to enjoy yet another “exciting” geologic discussion. I can happily say that all the couples that came together to the meeting, left together in a much better mood.

The March meeting was at the Petroleum Club. A representative from San Antonio’s city-owned electric and gas utility, CPS, gave a review of their diverse energy resource portfolio. CPS provides San Antonio’s some 742,000 customers (2013) with 28.7 terawatt-hours of power, while keeping San Antonio’s residential electric and gas cost bills some of the lowest in the United States for a large city. Our guest speaker, Joe Joseph, did a great job of representing a public utility, and its’ mission of providing safe, reliable energy at a reasonable cost. In an environment of changing political, regulatory and public agendas, CPS seems to manage the forecasting of multiple resource streams, along with the production and delivery of electricity and gas, while only maintaining 3,500 employees. Currently CPS has a combined generation mix composed of 25.2% nuclear, 43.8% coal, 19.3% gas, 9% wind, and 0.2% solar. Their 2020 portfolio plan is to increase gas use to 24.4%, reduce nuclear to 24.5% reduce coal to 36% and to increase renewable sources of wind to 10.5% and solar to 2.9%. A heated question and answer period followed.

In other news, San Antonio’s own national director Donna Balin, Ph.D., #2606, was elected to the executive committee of the South Central Texas Regional Water Planning Group at the February quarterly meeting. The state-mandated board recommends water planning strategies to meet both short and long-term water supply needs over a twenty-and-a-half county area. The board’s recommendations are included in the Texas State Water Plan published by the Texas Water Development Board every five years.

Jerry Witte
Chairman

At the March meeting are (L to R) Donna Balin, Bill Bennett, and guest speaker Joe Joseph of CPS.
SIPES National Director, Donna F. Balin, #2606, of San Antonio, Texas was elected to the executive committee of the South Central Texas Regional Water Planning Group at their February quarterly meeting.

San Antonio Member Douglas A. McGookey, #3338, of San Antonio, Texas is also serving on this executive committee. The group’s website is www.regionltexas.org.

The state-mandated board recommends water planning strategies to meet both short and long-term water supply needs over a twenty and a half county area in Texas. The board’s recommendations are included in the Texas State Water Plan published by the Texas Water Development Board every five years. See their website at www.twdb.texas.gov.

Patrick H. McKinney, #2689, of Houston, Texas will receive the 2014 SIPES Outstanding Service Award in recognition of his many contributions to SIPES at the local and national levels. He will be honored at the SIPES Awards Banquet being held on Tuesday, June 10, 2014 at the Omni Royal Orleans Hotel in New Orleans during the SIPES 51st Annual Meeting.
$2,000 - $2,999
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  in memory of M. Donald McGregor & Mark Eidelbach
- H. W. Peace II
  (Continued on Page 27)
The SIPES Foundation gratefully accepts all donations and acknowledges these contributions with a letter.

Due to limited space in the newsletter, we are unable to list gifts under $50.
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SIPES Vision Statement

To be the pre-eminent organization for furthering the professional and business interests of independent practitioners of the earth sciences. In achieving this vision, emphasis will be placed on
(1) professional competence,
(2) professional business ethics, and
(3) presenting a favorable, credible and effective image of the Society.

Adopted by the SIPES Board of Directors
September 21, 1990