The AADE Houston Chapter and its financial contributions continue to make an impact at Texas Children’s Hospital. This year a portion of the proceeds from the 20th Annual Golf Tournament at Cypress Golf Course were donated to the Adolescent Bariatric Surgery Program. The increase in adolescent morbid obesity in the US has given rise to dangerous alternatives to teens and pre-teens that require special attention in comparison to adults. The TCH program provides much needed comprehensive surgical management of the needs of young patients. Dr. Mary Brandt, Director of the Bariatric Surgery Program, and a multi-disciplinary board of physicians, surgeons and medical professionals work together to provide the best individual care for patients. The team of doctors ensures that the relationship between the staff and patients is personalized and supportive. The 10 year commitment includes medical, nutritional and psychological support. Golf tournament coordinators Mike Mininni and Bob Zaunbrecher presented a $25,000 check to pediatric surgeon, Dr. Robert Bloss, Clinical Assistant Professor of Surgery at Baylor School of Medicine. Dr. Brandt, who illustrated some of her current and past cases of the program, treated Bob and Mike along with Steve Hayes and Rusty Ritz to a brief presentation.

Please be sure to visit our website at www.aade.org/houston for event information, technical papers and pictures from past events.
In my previous newsletters, I mentioned that the Houston Chapter had donated approximately $750,000 to local charities over the past 5 years from proceeds generated by our four premiere events. I continue to applaud our event chairmen along with their dedicated committees as they walk a tight rope of providing quality events in the face of reduced sponsorship and diminishing profits.

The past 12 months have proven financially challenging not only for our industry but for the AADE Houston Chapter. Several recent inquiries by members have been made to the AADE Board of Directors regarding disbursements of event profits. Our Houston Chapter Treasurer recently compiled some interesting facts that I felt should be shared with the entire membership during our economic downturn.

First, the final results of the Sporting Clay Tournament grounded our assumptions and led to a pre-end-of-year reconciliation of our finances. Net income (before any donations) was down a whopping 41% as compared to last year’s numbers. The Salt Water Fishing Tournament was down 25% with the Golf Tournament coming in just under 30% off the previous year’s numbers. While these outcomes were certainly not unexpected, we need to remind everyone how critical it becomes to support our organization during these uncertain financial times.

Second, our Chapter requires a certain amount of capital to function daily (G & A) and fund commitments. As Jeff Hughes so eloquently put it, “we need dedicated and reliable capital to just keep our heads above water and pay our bills”. So let’s take a look at what that really means in terms of dollars. Our G & A runs about $10,000 per month. That covers a wide range of things such as Administrative salaries, office supplies, phone services, mail, internet provider and 123 Signup. Our Chapter costs related to the DIG/FMG meetings including sponsor donations runs about $35,000 per year at no cost to the attendees. So if my fuzzy math is working correctly, that comes to a basic annual expense of $155,000 per year.

Third, with our membership income based on 2,400 members at $25/member ($60,000) and our expenses at $155,000, we need to generate at least $95,000 from our four events in order to break even. In fiscal year 2007/2008, we netted back $133,000 to the Chapter which included our 4 main events plus the Fluids Conference. In fiscal 2008/2009, we netted back only $105,000 from our 4 main events. The story shaping up for fiscal year 2009/2010 looks even more dismal.

As we move forward, capital conservation and good stewardship will become our organizational cornerstone. Some of our larger donations may see drastic cuts until our Chapter observes a financial rebound. With all that said, your AADE Houston Chapter stands ready to weather these challenges and looks forward to a strong recovery in 2010.

Our scheduled November Chapter luncheon was held on November 5th at the Petroleum Club. Sam Newton, principal consultant for the Newton Group was the keynote speaker and did an outstanding job addressing the characteristics of “I-2” Leadership. Closing out the 2009 season was our joint luncheon with API. Jerry Winchester, CEO for Boots and Coots, outlined the company business model change from a solely response oriented company to one that’s primary focus is centered on prevention and risk mitigation.

WOW!!! What can you say; the AADE Casino Night this year was a huge success with a really great turnout. George Schoggins and company said it would be “THE PARTY OF THE YEAR” and by all accounts, it was. A large “WELL DONE” to all involved with the planning and execution along with the continued support of our sponsors.

The AADE Fluids Technical Conference and Exhibition will be held in Houston on April 6-7 2010. Momentum has been building for months with the screening and
review of technical papers while constantly soliciting for sponsorships. Please check out the AADE web site for additional details.

Closing Remarks:
I sincerely hope everyone had a happy and safe holiday season. As always, please continue to support our chapter by attending monthly luncheons and participating in our scheduled events. Finally, I would like to thank the entire AADE Houston Chapter membership for allowing me the opportunity to continue to serve as your President.

Steve Hayes
AADE Houston Chapter President

Equalizer Select Advances Completion Strategies

Baker Hughes redefines the value of inflow control devices (ICDs) with the release of their newest product, the Equalizer™ Select. This innovative reservoir drainage system couples an extended-longevity sand screen with an inflow control device to optimize production and delay water/gas coning in long, low drawdown, higher rate oil wells. With proven viscosity-insensitivity for fluids up to 300 cP and multiple user-selectable resistance ratings, the Equalizer™ Select is a versatile tool for combating reservoir heterogeneities, fines production, the effect of natural fractures, and heel-toe effects that ultimately limit the recovery and value of a well. By evening out the production profile, this ICD extends the productive life of a well and ensures that the full length of drilled horizontals are utilized, even in SAGD and heavy oil applications.

This new offering of Baker Hughes doubles as a water/pressure management tool. Its cutting-edge design passively adds additional resistance to wellbore sections that see water breakthrough, ensuring that along the horizontal oil is preferentially produced while water is choked back. This self-correcting performance guarantees the best possible production profile and that your well continues to be a valuable asset even after water breakthrough occurs, a feature unmatched by any other marketed product.

For more information on Equalizer™ Select, please contact Sudiptya Banerjee at (281) 231-3230 or Sudiptya.banerjee@bakerhughes.com. Visit the Baker Hughes website at http://www.bakerhughes.com/.

New Bit Delivers Unprecedented ROP, Footage

Baker Hughes says its newly engineered Hughes Christensen Quantec Force™ PDC bit is delivering appreciably higher penetration rates, increased footage and reduced costs in a wide range of difficult-to-drill environments.

The new bit features the latest generation of cutter and stabilization technologies, including optimized force distribution to maintain consistent stability, deliver in-gauge holes and dramatically reduce the occurrence of highly destructive bit whirl. The new bit also comprises two newly developed and highly wear-resistant cutters. One was engineered specifically for extremely abrasive formations, while its counterpart is a more general purpose cutter for severe service drilling and provides optimum balance between ROP and durability.

Developed with the objective of lowering drilling costs through improved bit performance, the new technology has delivered on this objective in applications ranging from soft shales to extremely hard and interbedded formations.
In the Barnett Shale, Travis Peak and other demanding drilling environments, the PDC bit has not only exhibited documented penetration rates as high as 40% faster than offset bits, but has shown up to 122% increases in total footage drilled.

For more information on the Hughes Christensen Quantec Force™ PDC bits, please call (713) 625-4200 or visit the Baker Hughes website at http://www.bakerhughes.com/.

New Thrust Bearings Shorten Drilling Downtime

Ceradyne Thrust Bearings are designed to excel in high temperature, abrasive, corrosive, and shock/impact environments as found in oil and gas exploration.

Patented bearing technology sets the bearings apart from conventional solutions through superior shock and load carrying capabilities. The exceptional high load capacity per bearing layer allows for reduced bit-to-bend motor designs and provides the driller with increased control during tight radius operations. The bearing performance also allows the use of one motor for drilling both curved and lateral sections of a well which drastically reduces trip time.

Each thrust bearing pad is mounted on a resilient element that equally loads the bearing and mitigates shock. Rated for 75,000 to 90,000 pounds weight on bit for 6 3/4” mud motors; recent down hole runs show insignificant wear on the toughened proprietary grade of liquid-phase sintered silicon carbide for runs ranging from 150 to 200 hours. This advanced ceramic is the deciding factor in allowing the bearing to withstand high temperatures, as well as abrasive and corrosive environments.

With its unique approach to applying high performance ceramics, Ceradyne Bearing Technologies is effectively addressing the increased demands of oil and gas exploration.

For more information on Ceradyne Thrust Bearings, please contact Russell Ide, Product Manager at ride@ceradyne.com. Visit the Ceradyne Bearing Technologies website at http://www.ceradyne.com/.

The MudCube Revolutionizes Solids Control Equipment

Effective removal of contaminants from drilling fluids is widely accepted as a key factor in achieving best-in-class drilling performance and reducing fluid cost. Current shaker technology has had minimal advances in decades.
An innovative problem-solving approach that departs from conventional methods created the MudCube® system that addresses multiple needs of a drilling operation:

- Completely sealed unit, eliminating ventilation required for oil mist and dangerous gas vapor removal
- Removes cuttings without screen blinding by utilizing a vacuum assisted conveyor screen filtration system
- Eliminates oil mist and dangerous gas vapors removing the need for HVAC or respiratory systems around the shakers
- Automated accurate kick or loss returns detection
- Automatic screen failure detection
- Records and transmits fluid properties and volumes using WITSML in Real-Time
- Offers remote control via touch screen eliminating the need for manual equipment monitoring
- Cleans and dries cuttings removed from the well along with effluent recovery
- Can potentially eliminate ancillary equipment (e.g., degasser, desilter, desander, mud cleaner, settling pits, cuttings dryers, flare line)
- Gentle solids / fluids separation that reduces ultra-fine particles in the mud

For more information on the MudCube system, please contact Charles Mowrey at (832) 454-5410 or email to cm@cubility.no. Visit the Cubility website at http://www.cubility.no.

**Disconnect Analysis for Workover Systems**

The need for open water workover (WO) systems is expected to increase with the increasing depth and pressures of our future subsea developments. Since the high pressure WO riser extends through the drill floor, it must be kept in tension by the top motion compensator. For safety and operability reasons, the riser tension system may be used in parallel. For a planned disconnect, it is imperative that the connector is lifted clear of the subsea structure in order to avoid damage to the equipment. The operating window for planned disconnects of WO risers is severely limited by the available stroke of the top motion compensator. One of the purposes of the disconnect analysis is to establish the maximum wave height at which there is still sufficient clearance between the connector and the subsea structure after a riser disconnect sequence. Previous experience has shown that this may be the governing limitation for WO operations.

DNV has developed a new methodology where the analysis is based on an irregular wave approach and the Monte Carlo technique. This approach indicates a considerable increase in the operating window, and the resulting operability compared to a regular wave analysis.

For more information contact Per Christian Bunaes, Det Norske Veritas at our Houston office (281) 396-1000 or by e-mail at per.christian.bunaes@dnv.com. Visit the DNV website at http://www.dnv.com/.
Recovering More Oil from Subsea Wells

FMC Technologies has introduced a new system that provides a much simpler and cost effective method to increase production from subsea wells compared to drilling and completing a new well. The development of Through Tubing Rotary Drilling (TTRD) enables production from new drainage points from subsea wells by sidetracking through existing completions into new reservoirs.

The system makes it possible to enter a well and drill a sidetrack without having to pull the tubing. This saves considerable time compared to conventional sidetracking. The unique system configuration allows both drilling and well testing/completion to be performed through one system, compared to traditional methods, which require the installation of two individual systems.

Advantages of the technology include:

- The ability to recover more oil from mature fields
- Possible development of marginal fields
- Lower costs than conventional drilling operations
- Longer well life and revenue stream
- Reduced fatigue exposure to well head
- More efficient operations with less handling of heavy equipment
- Environmentally friendly requiring smaller drilling fluid volumes and safe infill of drainage points

FMC Technologies TTRD system is in use by Statoil and has successfully completed the first sidetrack on a well at the Asgard field in the North Sea. The added production exceeded expectations by the operator. It is estimated the drilling operation produced oil not otherwise recoverable with a value of $246 million dollars. The system is currently on its second well for Statoil at the Norne field.

For more information on Through Tubing Rotary Drilling (TTRD), please contact Bjarne Neumann at (713) 534-1159. Visit the FMC Technologies website at www.fmctechnologies.com/.

24in to 28in PDC Bit Drilling in Deepwater Sediment and Salt

NOV Downhole has raised the ROP benchmark drilling sediment and salt with its ReedHycalog® 24in and 26in fixed cutter bits in the deepwater GOM.

Roller cone mill tooth bits have drilled sediment at acceptable rates of penetration, but have slowed down in salt formations. Recent revolutionary PDC bit designs have changed the game causing operators to rethink their drilling program in these hole sizes. Large >20in rotary steerable tools have contributed to this success along with evolving BHA design. String/Bit vibrations and stick slip has been significantly reduced with recent PDC bit and BHA design.

Achievements include:

- Capability of 300+fph in sediment and 100+fph in salt
- Improved directional control for maintaining verticality
Focus on New Technology

- Millions of dollars in mud cost savings in “pump and dump” operations
- Significant reduction in Torsional/Lateral vibrations

Both 28in through 24in designs are available.

For more information on NOV’s ReedHycalog® 24in and 26in fixed cutter bits, and our other deepwater solutions, please email us at deepwater@nov.com. Visit the NOV website at http://www.nov.com/.

MaxCO3 Acid for Carbonate Reservoirs

Stimulation of high permeability contrast and/or naturally fractured carbonate reservoirs is a constant challenge. Effective diversion is required to ensure that the largest possible surface area of the reservoir is contacted and exposed to stimulation fluids. The diversion must be temporary and non-damaging to the reservoir or the natural fracture network. To answer these challenges, Schlumberger has introduced the MaxCO3 Acid* degradable diversion acid system.

The diversion acid system degrades completely, eliminating the risk of cleanout interventions. It effectively controls leak-off, and also targets permeability contrasts, allowing for superior zonal coverage. It also requires lower treatment volumes and less well cleanup time.

The system works in applications such as reservoirs with high permeability contrasts and/or natural fractures, carbonate oil and gas wells, open hole or cased hole intervals.

The system features the ability to divert, effectively, at low treatment rates and can also continue to stimulate as it diverts. It uses Schlumberger proprietary software application for treatment design, execution and evaluation for matrix applications. MaxCO3 Acid can be bullheaded or pumped through coiled tubing, pumped with most common acid stimulation systems and can also be batch mixed for small volume jobs or mixed on the fly for larger treatments.

For more information on Schlumberger’s MaxCO3 Acid* degradable diversion acid system, please visit the Schlumberger’s website at http://www.slb.com/carbostim/.

*Mark of Schlumberger

New Slimhole Formation Pressure-while-Drilling System

Schlumberger introduces the new StethoScope 475* slimhole formation pressure-while-drilling (FPWD) system that makes accurate measurements with smaller hole sizes. The FPWD tool provides direct pore pressure and mobility data for fluid typing, reservoir pressure management, and mud-weight control and optimization.

The new system represents a breakthrough in reliable, miniaturization technology. Packaging the field proven technology in a 4 3/4 -inches diameter collar while maintaining all system features required considerable engineering and materials science.

Efficiency is designed in the new system to take pressure measurements with pumps on to reduce sticking risk, and the automatic testing sequence establishes optimum drawdown rates to minimize time-on-station while ensuring a high-quality measurement.
Unlike other FPWD systems, the StethoScope tools do not require orientation in the borehole, saving considerable time on each test.

Accuracy is ensured by two pressure gauges: an ACQG* Advanced Crystal Quartz Gauge and a microsapphire gauge. Both gauges measure formation pressure and store it in memory. The ACQG sends its pressure data in real-time to the surface. Another microsapphire gauge continuously transmits annulus mud pressure uphole.

For more information on Schlumberger’s StethoScope 475* slimhole FPWD system, please visit the Schlumberger website at http://www.slb.com/stethoscope/.

*Mark of Schlumberger

**Smith Bits: New ONYX PDC Cutters**

The challenge was to develop new PDC cutter technology to efficiently drill the world’s hardest, most abrasive formations. Engineers studied the functional properties that dictate cutter life including thermal stability, wear resistance and impact strength. The analysis revealed different applications require specific cutter properties. Generally, wear resistance and thermal stability are required to efficiently drill abrasive formations, while an impact resistant cutter is best suited for formations with higher rock strength.

**Solution**

The new information was the basis for an R&D effort that focused on raw material selection and processing. Engineers created a high pressure/high temperature manufacturing method and a unique finishing procedure that ensures superior cutter quality and performance. These two processes have significantly improved the cutter’s thermal properties giving them greater wear resistance and fatigue life than standard or premium PDC cutters.

**ONXY Cutter Technology**

The result is ONXY cutter technology, the first PDC shearing element to successfully address all three critical longevity properties including thermal stability and wear/impact resistance. The new cutters are capable of maintaining a sharp, efficient cutting edge in abrasive sands and hard carbonates (Figure 1). The improved endurance translates into greater total footage drilled at maximum penetration rates. Field trials have established new performance benchmarks in the world’s toughest drilling applications including fields in West Africa, East Texas and the North Sea.

For more information on Smith Tool’s New ONYX PDC Cutters, please visit the Smith website at http://www.smith.com/.

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![Figure 1 – New Smith Bits ONYX PDC cutters are more wear resistant than conventional premium cutters.](image-url)
**The Strongest Stop Collar Ever?**

In a recent test at Davis-Lynch’s facility in Pearland a WearSox spray metal StopSock withstood an end load of 155,000 lbs at which point the test apparatus reached its maximum capacity and the novel stop collar showed no signs of failing. This level of holding capacity is likely to exceed the nominal strength of many of the potential centralizers, which this stop collar is designed to locate.

The intention of this new WearSox spray metal application is to provide a stop collar for slip-on centralizers, bowspring or solid body, particularly on flush-joint or near-flush casing/liner/tubing where the operator can be assured that the centralizers will be in the position on the pipe where they were intended to be when they get to depth.

Further tests involving cyclical internal pressurization are currently under way with a major operator and the first full-scale field deployment is expected imminently.

For more information on the new WearSox spray metal application, see “Hot Topics” on the Wearsox website or contact Davis-Lynch. Visit the Wearsox website at [http://www.wearsox.com/](http://www.wearsox.com/).

**Weatherford Develops First Sub Sea Drilling-With-Casing (DwC”) System**

The new Weatherford SeaLance™ DwC system is being developed to mitigate the challenges of deepwater environments such as shallow hazards and narrow margin drilling windows, leveraging the capabilities of other hazard mitigation technologies deeper in the hole. The 20” version of this system is scheduled for deployment in 2010. The initial design of the SeaLance system enables a 20-inch casing string along with the high pressure housing to be drilled to depth and cemented in one trip.

The three basic components of this system include the drillable casing drill bit, retractable shoe joint (RSJ) and the drive mechanism. The drillable casing bit is proven technology in both land and offshore environments. The RSJ provides telescoping capability enabling a subsea housing assembly and/or seal assembly to be drilled in and landed in existing wellhead housing.

It also enables activation of a circulating valve to enable cementing above the drillable casing bit, mitigating any flow restrictions at the bottom of the hole. The drive mechanism includes a running tool that locks into a setting sleeve below the wellhead, providing a means through which casing tension is held while providing a torque path from the drill pipe through the casing to the bit.

For more information on SeaLance™ and other DwC™ technologies contact Steve Rosenberg, Weatherford at his email address, steve.rosenberg@weatherford.com. Visit the Weatherford website at [http://www.weatherford.com/](http://www.weatherford.com/).
Drilling Technology Committees

October 1, 2009
Fluids Management Group

TOPIC: “Advances in Solids Separation”

SPEAKERS:

1. Leon Robinson (Retired)
   Presented – “API RP13C”

Dr. Leon Robinson joined Humble Production Research in 1953 and remained in research for 39 years. Since retiring in 1992, he has been teaching Drilling Courses for PetroSkills. He currently is chairman of the IADC Technical Publications Committee (writing the Encyclopedia of Drilling); volunteer docent at the Ocean Star Museum; member of the AADE 2010 Drilling Fluids Conference Planning Committee; Chairman of the API Solids Control Task Group; and member of the API Drilling Fluids Task Group. Recognitions include: 1984 IADC Special Recognition Award; 1985 SPE Drilling Engineering award; 1999 AADE Special Service Award; 2004 SPE Legion of Honor; 2006 API Citation for Service; 2006 AADE Hall of Fame; and 2008 SPE Drilling Legend.

2. Mark Crabbe (NOV Brandt) – Bill Dufilho substituted for Mark Crabbe
   Presented – “VSM Multisizer”

Mark Crabbe earned a Bachelor of Science degree in Business Technology from the University of Houston, and has been in the solids control equipment business for over twenty-five years. He is currently NOV-Brandt’s US Director of US Sales. Previously Mark was a key member of NOV’s Global Marketing group, and served as Product Line Manager for Shakers and Screens. During his career he has served in a variety of positions beginning with rentals and equipment sales with Derrick Equipment in Houston in the early 80’s. He later gained valuable experience in operations as he served as Regional Manager in Louisiana where he was responsible for operations and sales. In 1993 Mark returned to Houston as the Screen Market Product Manager. In 2000 Mark joined Brandt and has served in Technical Sales, Senior Project Manager and Global Product Line Manager for Shakers and Screens. Mark serves as the Secretary on the API 13C Task Group 5 committee. He also serves as the Chair for the API 13C Work Group 2 – “Education Marketing”.

3. George Fisher (Axiom)
   Presented – “Solids Control Systems – Breaking with Convention”

George Fisher has been working in the Solids Control industry for over 21 years. In that time he has worked in both equipment and systems design. His specific focus has been the development of technology not only that improves performance, but is focused on specific client deliverables and/or industry trends.

4. Albert Walvern (M-I SWACO)

The main topic in the presentation was to show the system performance and solution of high performance shakers and centrifuges in today’s drilling application. Albert Walvern has worked in solids control for Oiltools and Varco before joining M-I SWACO in 2005. During his employment Albert has held various positions in Management and Technical Services. He is currently the Business Line Manager for the Solids Control Division based in Dubai, UNITED ARAB EMIRATES. He graduated in 1990 from Noordervaaks Holland in Petroleum and Gas.
TOPIC: "Deepwater Completions"

Discussions included:
- Challenges Operators have faced in specific (and non-confidential) Deepwater Completion projects.
- Deepwater Completion Complexity in basis of design, operational feasibility, and necessary redesign prior to issuing the program.
- Deepwater Completion Technologies that are emerging or need industry development to increase efficiencies and decrease costs.
- Intervention Considerations of initial Deepwater Completion designs.

SPEAKERS:

1. George King (Apache)

This presentation looked at the results of a 2000 well study of the reliability of sand control completions and offers information on the causes of failures. George King has 38 years in the industry, specializing in completions, stimulations and production operations. He has a MS in Petroleum Engineering from the University of Tulsa, and has written 60 technical presentations.

2. Jack Sanford (Noble Energy)
   substituted for Mark Crabbe
   Presented – “Lower Completion Type Comparisons – LongHorn Deepwater Case Histories”

Selecting a lower completion method is often difficult to evaluate because the true time/cost savings is unknown. This is usually due to the lack of an “apples to apples” comparison. Four (4) different lower completion types were performed in the LongHorn development (All were performed in the same pressure/temperature regime, similar depths and utilized the same rig).

The completion types were as follows:
- RST Lite (1 Trip System)
- Conventional Single (2 Trip System)
- MST (Multi-zone Single Trip System)
- Conventional Stacked Pack (2 zones)

This presentation reviewed and compared these techniques.

The following time savings were realized from this work:
- RST Lite time savings was 1 1/2 days compared to a Conventional Single.
- MST time savings was 4 days compared to a Conventional Stacked Pack.

Jack Sanford is a deepwater completions consultant currently working for Noble Energy and ENI Petroleum in Houston Texas. Jack has worked with several operators over the last 19 years (internationally and domestically), including ENI, Exxon (Nigeria), Unocal, Amoco and Kerr-McGee. Jack is a member of SPE and is a Registered Professional Engineer in the State of Louisiana. He graduated from Texas A&M University with a BS in both Geology and Petroleum Engineering, and a ME in Petroleum Engineering, Marketing”.

3. James Pappas (RPSEA – Research Partnership to Secure Energy for America)
   Presented – “Potential and Emerging Deepwater Completion Technologies”

This presentation examined emerging technologies from the view of RPSEA’s deepwater member projects. It included:
- The purpose and general issues of RPSEA
- A partial listing of RPSEA completion-related projects
- Information on RPSEA members

James Pappas is Vice President of Technical Marketing".

October 29, 2009
Deepwater and Emerging Technologies Group
Programs for RPSEA in Sugar Land, TX. He has held numerous and varied engineering positions in the past with Devon Energy, Santa Fe Snyder, Fina, UPRC, and Amoco. Engineering duties have included completion, stimulation, and production duties, as well as reservoir, drilling, and A&D. He has held several leadership positions with the SPE, Offshore Technology Conference, the American Petroleum Institute, and the Texas Society of Professional Engineers and is also active in AADE. He currently chairs the University of Texas Petroleum Engineering Advisory Council. He has authored over 40 papers or spoken at various conferences and interviews on several technical and professional topics. He earned a BS in Chemical Engineering, as well as a BA in Chemistry with Math and Spanish minors, from the University of Texas at Austin in 1979. He graduated with a Master of Business Administration with highest honors from the University of Texas at Tyler in 1993. He has earned numerous accolades and has been a Registered Professional Engineer in Texas since 1985.

4. Karen Olson (BP, GOM Deepwater)
   substituted for Mark Crabbe
   Presented – “Future Deepwater Completion Challenges”

This presentation included BP’s view of Deepwater Completion Challenges, including what gaps the Industry must fill and emerging technologies that must be developed to advance the future of Deepwater.

Karen Olson is Completion Team Leader – GOM Deepwater – New Developments for BP America Inc. in Houston.

November 18, 2009
Fluids Management Group

TOPIC: “Advances in Deepwater Fluids”

SPEAKERS:

1. Bob Clyde (Schlumberger)
   Presented – “Deepwater Drilling Advances and Continuing Challenges”

This presentation discussed some of the specific drilling technology and well construction process related solutions that have been adopted in recent years. It also focused on some of the ongoing deepwater well construction challenges, describing solutions that have yet to be proved or are under developed.

Robert Clyde is the Drilling Engineering Manager, North and Latin America for Schlumberger Drilling and Measurements. He has more than 19 years oil industry drilling experience, mostly from the North Sea, Venezuela and Gulf of Mexico before his current position.

2. Jeff Chaapel (Baker Hughes)

Since the mid-1990’s, operators have been exploring and developing fields in ever increasing water depths. As a result, the industry has identified techniques and developed new technology allowing them to safely and successfully drill wells in water depths greater than 10,000 ft. It is widely recognized that synthetic-base mud (SBM) will provide excellent hole stability and high ROP’s.

Conversely, ECD management, pump initiation pressures, and surge pressures are inherently more difficult to control when using a SBM due to the range of temperatures and narrow operating windows (pore pressure vs. fracture gradient) associated with deep water. These events can be very costly to the operator not just in non-productive time (NPT).
The presentation included a comprehensive view of preplanning on a series of deepwater wells that pushed the technical envelope. Successful well delivery was achieved on each of these wells through a process approach to include exhaustive pre-well planning, the incorporation of best practices and knowledge sharing between the operator and service companies involved.

Jeff Chaapel is Emulsions Product Line Manager for Baker Hughes. He has 12 years in oil service industry, the bulk of that servicing and advising customers on deepwater drilling fluids applications. He received his MBA from University of Houston.

3. Kris Ravi (Halliburton)

Presented – “Solutions to Deepwater Cementing Challenges Successfully Designed and Deployed”

The challenges in the deepwater are unique due to the environment in which the wells are constructed and produced. As the water depth increases the temperature decreases and there is an increased risk of hydrates being present. The hydrates could be destabilized during well construction from the heat released during cement slurry hydration. In addition, the fracture gradient of the shallow zones are very low and thus there is a risk of losses during drilling and cementing and also there is a risk of shallow water flow.

Cement slurries have been designed to lower the heat of hydration to prevent destabilization of the hydrates. The temperature increase during cement slurry hydration is calculated as a function of heat of hydration and other well parameters. The heat of hydration is measured along with other properties such as static gel strength and compressive strength to prevent shallow water flow.

The densities of the slurries need to be low due to low fracture gradient. As the density of the slurry decreases the real time measurement of the density is a challenge. The conventional method of measuring density and delivering the cement job is not appropriate. In addition, the drilling fluid should be effectively removed from the large annulus and cement slurry placed in the entire annulus. The slurry is designed to resist losses to the formation and reach the designed depth, in both the wide and narrow annulus.

Laboratory test methods, calculation procedures, delivery methods and field results to successfully meet the challenges in deepwater environment are presented. The methods discussed should help the industry overcome the challenges as the operation shifts to deeper waters with increased risks and larger outlay of human and capital resources. The solutions presented should help the industry construct and produce such high-risk wells safely and economically.

Kris Ravi is Chief Technical Professional in the cementing product service line of completions and production division of Halliburton in Houston, TX. He has MBA and PhD in chemical engineering. Kris has been with Halliburton for 20 years, starting at the Duncan Technology Center in Duncan, Oklahoma. He was in the Netherlands for three years working on solutions to the challenges in the Eastern Hemisphere. Kris has authored several papers and holds patents in the area of fluid-fluid displacement, fluid rheology, cement sheath mechanical properties, and real-time hole cleaning. Kris served as SPE distinguished lecturer in 2005-2006.

4. John Vian (M-I SWACO)

Presented – “Deepwater Completion Fluids – Are we really up to the Challenge?”

Deepwater completions present technical and logistical challenges not realized in shallow water or land operations. The complex well construction, large fluid volumes and high spread rates associated with deepwater completions demand efficient and effective plans for every operational phase. The completion phase includes a large volume displacement from mud-to-completion fluid in a wellbore that is usually highly deviated, with complicated flow paths and flow rates that are limited in the riser. The sand control completions, typical of deepwater formations and annular control devices offer compatibility challenges to the various fluid types in the well at any one time. Corrosion resistant alloys and flow assurance issues present unique challenges for the packer fluid. This presentation provided an overview of the technical challenges facing deepwater applications of Completion Fluids and identifies where we stand in meeting these challenges.
John Vian manages the M-I SWACO Completion Technology Reservoir Fluids Technical Service Lab in Houston, TX. After graduating from St. Thomas University with a B.S. in Chemistry, John joined the M-I SWACO completion fluid laboratory as a Chemist. John now has 9 years of completion and reservoir drilling fluid experience, both in a laboratory setting and field experience. He is a member of SPE and co-author of several oil and gas industry technical papers.

About the Speakers,

In case you missed some of our luncheons, here are pictures of some of our distinguished guests who graciously gave their time.

Mayor Bill White spoke at the joint meeting with the Society of Professional Women in Petroleum (SPWP) in August. The mayor touched on several energy related issues based on personal experience through oil industry work. Among the issues were that of CO2 sequestration and the viability of cap and trade legislation. Mayor White’s intimate understanding of the oil and gas industry provides him a unique perspective in the evaluation of these matters. At the time, the Mayor White was considering running for a US Senate seat but has recently announced plans to run for governor of Texas.

In our November meeting, Mr. Sam Newton from The Newton Group presented “I2 Leadership…Innovative Influence: Building Committed Leaders for a Culture of Safety, Quality and Productivity”. Mr. Newton stresses that leadership is about being able to influence those around you in a positive manner. He is a native of Corpus Christi, Texas, graduated with a Bachelor of Science Degree in Engineering in 1980 from Texas A&M Kingsville. As a professional public speaker, Sam draws on his many years of business experience, family life and martial arts training and studies to provide a blend of humorous and serious anecdotes to educate and motivate listeners.

During our December Joint luncheon meeting with the SPE Drilling Study Group, Jerry Winchester CEO of Boots and Coots spoke about risk management and Mitigation for well control. Mr. Winchester has served CEO since July 2002. Prior to joining Boots & Coots in 1998, Mr. Winchester was employed by Halliburton Energy Services since 1981 in positions of increasing responsibility, most recently as Global Manager – Well Control, Coil Tubing and Special Services. He received his B.S. in Engineering Technology from Oklahoma State University in 1982 and is an active member of the Society of Petroleum Engineers and the International Association of Drilling Contractors.
Visit the AADE website for DTC meeting presentations we have been authorized to release. These can be found at http://www.aade.org/houston/study.htm.

<table>
<thead>
<tr>
<th>Study Group</th>
<th>Date</th>
<th>Location</th>
<th>Program Topic</th>
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<tbody>
<tr>
<td>DETG</td>
<td>January 27, 2010</td>
<td>Westlake Club</td>
<td>Shallow Hazards</td>
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<tr>
<td>FMG</td>
<td>February 24, 2010</td>
<td>Westlake Club</td>
<td>Zonal Isolation for Maximizing Wellbore value</td>
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<td>March 24, 2010</td>
<td>Westlake Club</td>
<td>TBD</td>
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<tr>
<td>DETG</td>
<td>April 21, 2010</td>
<td>Westlake Club</td>
<td>TBD</td>
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All meetings will be held at The West Lake Club. Registration begins at 1:00 pm meeting starts at 1:30 pm. Reservations are required for all DTC meetings.

The AADE would like give special recognition to our 2010 Drilling Fluids Hall of Fame Inductees for their contribution to our industry. Please join us honoring these special guests during the Houston Chapter 2010 Fluids Conference and Exhibition on April 6&7 2010 at the Hilton Houston North.

Max Annis
Leroy L. Carney
Jack C. Estes
Preston L. Moore
George Ormsby
William A. Rehm
J. George Savins
The Fluids Conference Steering Committee has begun preparations for the 2010 AADE Houston Chapter Fluids Conference which will be held April 6-7, 2010 at the Hilton Houston North (formerly the Wyndham Greenspoint Hotel). The Co-Chairs for the conference will be Jason Maxey, Principal Scientist with Baroid/Halliburton and Neil Trotter, Fluids Specialist with Chevron. Please contact Jason or Neil if you are interested in participating on the committee. Ivan Bermudez (M-I SWACO) will serve as the Exhibits Chair for the Conference. Please encourage your friends and co-workers to participate in this fantastic exposition of the latest advances and hot topics in the fluids world.
2010 AADE Fluids Conference and Exhibition Reminders

**What:** 2010 AADE Houston Chapter Fluids Conference and Exhibition
The Premier Fluids Conference

**When:** April 6-7, 2010

**Where:** Hilton Houston North

**Costs:**
- $300 (Pre-register 2-day)
- $350 (Late/Walk Up 2-day)
- $200 (Pre-register 1-day)
- $225 (Late/Walk Up 1-day)
- $200 (Seniors – Proof of age required)

**Keynote Speaker:** John Yearwood, CEO, Smith International

**Panel Discussion:** “The Current and Future State of Fluids Technology”
Cheryl Stark (Moderator), BP Exploration (Retired); Lee Dillenbeck, Cementing Senior Advisor, Chevron; Eric van Oort, Planning and Business Improvement Manager, Shell; Paul Scott, Principal Fluids Engineer, ConocoPhillips; Gary Young, Drilling Fluids Specialist, Oxy Oil & Gas

**2010 Hall of Fame**
**Inductees:** Max Annis, Leroy L. Carney, Jack C. Estes, Preston Moore, George Ormsby, William A Rehm, J. George Savins

**Exhibit Booths Information**

**Cost per Booth:** $1,700 (Spaces Still Available)

**Contact:** Ivan Bermudez Exhibits Chair (ibermudez@miswaco.com)

Be sure to save the date to attend the Houston Chapter 2010 Fluids Conference and Exhibition. A distinguished group of industry peers will present 44 fluids related papers and will be joined by university student posters from around the country. You are reminded that additional parking is located on the back of the Hilton Houston North. Register early and save on admission. Please visit our website for additional information.
<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Type / Host</th>
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<td>Chapter Luncheon - Jt. Mtg w/ API</td>
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<td>API HOST</td>
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<tr>
<td>Jan 23</td>
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<td>Mar-2010</td>
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<td>Mar 4</td>
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<td>Apr-2010</td>
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<td>Chapter Luncheon - Jt. Mtg. w/ SPE</td>
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<td><strong>SPE HOST</strong></td>
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***Aug - Dec 2010 Dates All Tentative***
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