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ENGINEERS



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**HAMILTON ENGINEERING, INC.**  
DRILLING, COMPLETIONS, PRODUCTION, RESERVOIR

**E & Technology  
& Group**

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Keith Grimes, CEO

*"...the longer outlook for the oil and gas exploration and development business remains bright."*

## Welcome

Hi Everyone,

In our last Newsletter, the BP disaster had been on the front pages for 4+ weeks but we had barely been able to assess the damage to the industry at that point. This month however, the affects of the event are starting to be felt as we see GoM rig count begin to decline significantly, projects being delayed and increased scrutiny of ongoing operations, offshore AND onshore. In view of all this, it would be easy to become negative about our future and pull back on our growth projects and initiatives.

However, we need to keep in mind that the longer term outlook for the oil and gas exploration and development business remains bright. The world must have oil and gas for energy needs for many decades to come. Alternative energy sources are needed not only for a cleaner environment but also for improved national security and they will be developed further for sure. But presently they are only supplemental to conventional energy (in the case of solar and wind power) or have a long lead time before increased energy production (in the case of nuclear power). Therefore, oil and gas production will be required for some time to come and, more importantly to a company like Hamilton, the expertise needed to find and produce these depleting commodities efficiently will be in very high demand.

For these reasons, we will continue on with our plans that we have discussed in earlier newsletters and press releases. We are anticipating a rocky short and possibly medium term business environment and will remain cautious but we will continue to invest and build for the longer term.

Take care and talk to you next month!

Regards,

A handwritten signature in black ink, appearing to be 'K. Grimes'.

Keith Grimes

## Advances in BOP Pressure Testing By C. Mark Franklin, PE

### SureTec Technology Development Thermally Compensated Leak Detection (TCLD)

"Is it a good test yet?" That is the question most often asked while pressure testing a BOP and manifold on rigs around the world. A typical deepwater rig can require up to 20 individual pressure tests; with testing done every two weeks and a single test sequence taking 1 ½ hours, pressure testing is a long and cumbersome necessity. Each test consists of lining up the test, making sure proper valves are closed or opened, conducting the low pressure test, then pressuring up for the high pressure test, holding that pressure and evaluating before then bleeding off the pressure. After it's said and done, you then repeat it 20 times.

For real serious test evaluations, some have gone to the effort of using two chart recorders and a magnifying glass accompanied by a light as shown in the photo to the right. For many companies, that is considered state-of-the-art technology.

Pressure testing in general, and particularly in

deepwater applications, is a challenging art as it is fundamentally not well understood with its mysterious pressure decay, false suspicions, and subjective nature for validating a test. It can more so challenging due to the fact that there can be persistent pressure decay when there is no apparent leak.



See SureTec Technology on page 6.

## Just Something Fun...

By Claude Thorp

Even though I'm both a father and a grandfather, Father's Day will always be about remembering my father, rather than about me. Now take Father's Day and add my 40th High School Reunion (Beaumont High School in Beaumont, TX), and my memory DVD is in overdrive. The Beaumont High School "Royal Purples" had a much better band than a football team, had a lion that was not purple as a mascot, was 45 minutes from surfing at Mecom's Pier on the east end of Bolivar, and was the site of the closest election ever until Bush v. Gore in 2000. Of lesser importance to anyone other than my siblings and me is that my dad was on the school board and actually gave each of us our high school diploma.

Dad made us feel good. That's what we remember about him. On our good days, on our bad days, he always did what he could to make us feel better about ourselves.

He was my Little League coach. Half way through the season, he told me that he knew that I would make the All-Star team based on my defensive play (I hadn't had a base hit to that point). He didn't bother to point out that we were winning the league by a bunch, making him the All-Star coach, and placing me automatically on the team.

Continued on page 5.

## The Need for Environmental Baseline Studies

The struggle to contain the spill in the Gulf by BP and thousands of its employees and fellow citizens has revealed many issues about our industry's procedures for environmental assessments. While our generation of engineers and scientists started their careers with a sincere belief that we should protect the environment when developing our natural resources, the challenge has been to balance compliance with regulations and the associated paperwork with a clear focus on important facts and issues. Many times, the lack of access to or availability of original work done by a previous operator can impede any progress during the preparation of EIAs on leases.

What can companies do to improve work practices and develop an efficient set of standards that will meet the needs of government and industry? As we will see in the coming months, there will be many competing initiatives to re-shape our industry and how we conduct our work. In the midst of this disaster, companies have an opportunity to learn and create a system that allows them to be proactive in the future; they can take the lead on how environmental assessments should be conducted and how the data should be time-stamped for future utilization and preserved. In our shared goal for continued preservation of the environment and in light of the BP spill in the Gulf, we are seeing the importance for having an environmental baseline study.

Environmental baseline studies conducted at the beginning of a lease period provides the operator with information on the condition of the property whether it is onshore or offshore. It can accurately describe the condition of flora and fauna and identify potential problems that may require mitigation. It can also time-stamp the lease for future review if an incident should occur or if a claim is made that could jeopardize an operation. There have been a few current examples where environmental baseline studies have made large impacts on international projects by providing a defense against non-factual damage claims. In the Gulf of Mexico, we are all aware of inaccurate claims of environmental damage in media reports such as the tar balls of unknown origin washing up on a Florida coast. The media portrayed the tar balls as being from the Horizon explosion, but testing revealed they were not related to the Horizon tragedy. In another example, oil was found in a habitat area that later testing again proved the contamination was not from the spill. In the future, companies will begin facing many challenges to track and mitigate the impacts from the spill or to verify the lack of impacts to an area. The best way to accomplish this endeavor is through careful analysis of data collection/sampling on our leases, and in some cases, sharing this data with adjacent operations in order to build a comprehensive picture.

Referring to lack of access and availability to historical information, preservation of data and reports is important so that a legacy of information and an accurate profile can be maintained on an area over decades for future assessments. This is where the industry has an opportunity to create efficiency in the process by building an accessible data base for cross referencing and the creation of meaningful compliance documentation. The information can be kept in a GIS web-based system for easy access by operators and government compliance agencies. This approach enables transparency on technical efforts and helps to remove doubt on how the work is conducted. In the near future, new guidelines and regulations will be issued. Some of them will be logical, and others will stem from political motives. As a growing industry that impacts the lives of everyone in the world, we have an opportunity today to help shape the debate on regulations and lead it in a way that we can distinguish our industry and demonstrate our integrity and technologies.

## Just Something Fun... Continued from page 3.

So when I told him in the spring of '69 that I wanted to run for BHS Royal Purple Student Council President against Bill Urquhart, Dad immediately expected that I would win. Bill was personable, spoke multiple languages, played multiple instruments in the band and orchestra, seemed to know lots about a lot of things and was our class valedictorian. Since he didn't participate in our protest at Rogers Park to insist that seniors should be able to leave campus for lunch, I was sure that I would get the protest vote, votes from the middle and bottom of the class, and maybe steal a vote or two from the National Honor Society.

Sadly, I lost and my political career was over before it really got started. When I arrived home that night, my father took me into his study and made me promise never tell anyone what he was about to share with me. As a school board member, he had access to the vote totals but was supposed to keep them confidential.

He told me that it was the closest election ever at any school in the Beaumont Independent School District and that I lost by just TWO votes, even after a couple of recounts. Anyone recognize the All-Star story here?

Today, Bill is a highly recognized consultant to petrochemical companies, often working from his home in Colorado which is 70 yards from a trout stream. His reunion emails are thoughtful and witty and emails from others in our class mention all the great things he had done for his friends, some even before kindergarten.

I know that I lost by a landslide; but what I remember is how good my Dad made us feel.



*"He told me that it was the closest election ever at any school in the Beaumont Independent School District and that I lost by just TWO votes."*

## Events of Interest

**Deep Sea Sub-Salt Reserves Potential and Associated Risks**  
June 27 – 30, 2010  
Grand Rotana Resort  
Sharm El Sheikh, Egypt  
[www.spe.org](http://www.spe.org)

**Petrophysics Meets Well Testing**  
June 27 – July 2, 2010  
Colorado Springs, CO  
[www.spe.org](http://www.spe.org)

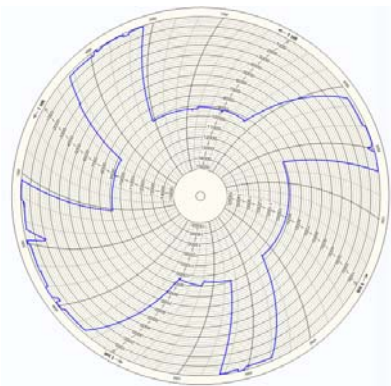
**Roughneck Camp**  
July 8, 2010  
Chevron Towers  
Houston, Texas  
[www.spegcs.org](http://www.spegcs.org)

**Houston Geological Society Technofest**  
July 22, 2010  
Westin Galleria Hotel  
Houston, Texas  
[www.hgs.org](http://www.hgs.org)

## SureTec Technology Development Continued from page 3.

In addition, while inking the “5 minute flat line” – what is considered a “good test” in most parts of the world - on a circular chart recorder (CCR), the digital pressure read-out can be concurrently steadily dropping.

On the example CCR below, the pressure bled off hundreds of psi before inking the “5 minute flat line”. To achieve a 5 minute flat line test time of 45 minutes or more are not uncommon. Adding to this, subjective evaluation often causes tests to be held longer than necessary and can occasionally results in a re-test due to a post test evaluation that where “5 minute flat line” was not achieved.



1910 Technology

Innovative Pressure Testing, LLC (IPT), in conjunction with industry, has developed a proprietary leak detection software program that is expected to become the industry standard first in deepwater, and then moving to jack up and land operations. Ultimately, wherever there is a CCR, a better mouse trap now exists.

Upon completing the pilot program on five deepwater rigs, the results exceeded original expectations. The software is intuitive, simple, and now proven to be rig friendly. Once the template is filled out, with a click of the “Start” button, the software is completely automated up to the time of printing the report.

A slow leak can now be objectively identified in

less than three minutes and on a test validated in the regulatory agencies minimum holding time requirements, can typically be identified in five minutes. IPT has many small leak case histories. In addition, a leak simulator has been built for use with the software.

The software provides greater assurance, transparency, and reliability when compared to the CCR. The CCR is easily manipulated in multiple ways, and this is now eliminated.

The industry now has a tool for objective, efficient test validation. In addition, the reports are simple, clear, and contain more information as compared to those that are currently available.

These tests are archived in a secure format and can be opened back up in the software for any required scrutiny. The reports are printed in a PDF format and archived.

In deepwater where the BOP and manifold are tested every two weeks, the annual critical rig path time savings is conservatively estimated to be five to eight days per rig with the TCLD technology.



2010 Technology

The vision is to take the industry into the 21<sup>st</sup> Century with respect to pressure testing/leak detection technology, training and procedures. For a presentation or to request information, contact:

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## Day Rate Consulting

Whether you are running workover operations in South Texas or South Louisiana or starting a deepwater drilling program in a remote corner of the world, Hamilton Engineering Inc., a Hamilton Group company, matches the right experience to fit your needs. Our consultants have an average of 20+ years of diversified experience ranging from planning and operations to wellsite drilling, completions and workovers. With people located in the United States and over 20 foreign countries, Hamilton Engineering Inc. delivers the right experience when you need it.

## Drilling and Completions Staff

When you need your drilling or workover projects planned, engineered, staffed and supervised from start to finish, our staff at Petroleum Engineers Inc., another Hamilton Group company, provides an individual supervisor to be part of your team, but only when there is work to be done.

Our staff is experienced in well planning; AFE development; permitting and regulatory requirements; location development; drilling, completion and workover operations, and implementation of surface facilities.

## Exploration and Production Technology Group

When today's technology environment requires access to leading experts in exploration and production optimization, Hamilton's E&P Technology Group provides technical and technology advice on a cost-effective retainer basis plus can manage highly technical projects when you don't have all the necessary skills and tools immediately available within your organization.

### Exploration Optimization

Our exploration optimization team focuses on basin evaluations and play-based exploration (PBE) workflows while providing solutions to your problems in seismic acquisition and processing, geochemistry, petrophysics, stratigraphy, rock properties and GIS analysis.

### Production Optimization

Our production optimization team focuses on integrated field modeling and real time optimization utilizing the Petroleum Expert toolkit while providing solutions to your problems in reservoir management, completions optimization (tight gas/unconventional and sand control), artificial lift, data historians, surface facilities analysis as well as decommissioning.



*"Hamilton's E&P Technology Group provides technical and technology advice on a cost-effective retainer basis..."*

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Please visit us at:  
[www.HamiltonGroup.org](http://www.HamiltonGroup.org)

## About Us

Hamilton's wide range of service offerings comes from the combination of three companies:

**Hamilton Engineering Inc.** (Houston, TX), founded in 1976 by Lacy Hamilton, specializes in providing consultants for the planning and supervision of petroleum related drilling, completion, and well workovers in nearly every oil producing state in the United States and over twenty foreign countries.

**Petroleum Engineers Inc.** (Lafayette, LA & Houston, TX), founded in 1970 by Don E. Claxton, Alvin Bellaire, Jr. and C. F. "Skip" Kimball III, specializes in providing the upstream industry with drilling and completion project management services as well as professional engineers, well site supervisors and technical services at a moments notice, worldwide.

**Atlantis E&P Services Inc.** (Houston, TX), founded in 2001 by Terry Clark, specializes in providing experienced reservoir and geoscience consultants with backgrounds in conventional and unconventional reservoirs in both domestic and international settings.

In addition to the services provided by these three companies, our companies have recently added drilling fluids management, IT, real-time data and full-time placement services.

## Contact Us

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