

The Alaska Driller

The Newsletter of The American Association of Drilling Engineers
Anchorage, Alaska Chapter - PO Box 93538 Anchorage, AK 99509-3538

AADE AK Chapter MISSION

To provide the forum for the dissemination of practical drilling technology to those employed or interested in the drilling industry.

AN AADE Monthly Forum

When: **Wednesday – March 16, 2016**

**RSVP by EoB
Mon 3/14/16**

Time: **11:30 AM - 1:00 PM**

Where: **BPXA Atrium Conference Rooms A, B & C**

Speaker: **Welltec, Halliburton, PESI, WWT**

Topic: **Contractors Forum**

Reservations: <https://www.123signup.com/register?id=prxqf>

or www.aade.org/chapters/alaska/

From the President by Eric Dompeling, SolstenXP eric.dompeling@solstenxp.com

February's Operators forum was, for the declining activity in Alaska, an optimistic outlook from the Operators that took the time to make a presentation. At the last minute 88 Energy stepped in and gave the third presentation after Hilcorp had to cancel.

We had presentations from Randall Kanady with ConocoPhillips, Lina Serpa with BPXA and Erik Opstad with 88 Energy. Monty Myers with Hilcorp had intended to give a presentation as well, but had to decline at the last minute. However, he did provide a copy of the presentation which you can find on the AADE Alaska website along with the other presentations. www.aade.org/chapters/alaska/

On behalf of the members of AADE and SPE A big thank you to all the individuals who took the time to pull the information together and make the presentations. The 100 people in attendance certainly appreciate it.

This month we hear from the Contractors:

WWT international Engineering Group, Joey Hopper Regional Engineer for North America will provide a brief overview of how WWT's product line (Non Rotating Protectors, FlexShoe, and Coiled Tubing Tractors) can provide solutions to drilling challenges Alaska faces.

Weatherford - David Westgard the US Land Product line Manager for Multilateral Completion Systems, Intelligent Well Completion Systems, Solid Expandable Systems and Swellable Elastomeric Products. His presentation will be on the importance of centralization to well integrity.

Halliburton - Speaker to be determined

Welltec Jeremy Albright, Alaska Area Manager, will talk about new completion equipment for well completions and production.

Other News

AADE Board of Director Elections 2016-17

The Alaska Chapter of AADE will be presenting candidates for the Board of Directors at the April meeting. This will provide AADE members an opportunity to meet the individuals that will help guide the Alaska Chapter for the coming year.

The steering committee provides the direction of the chapter through active participation at board meetings, lunch meetings as well as fund raising event planning and management.

Following the April meeting, the ballots will be available on the AADE Website. Voting will be available until mid May, when the votes will be tallied and the composition of the Board will be announced at the May Meeting.

If you have an interest in serving on the Steering committee please contact Lowell Crane lowellcrane1@gmail.com or Eric Dompeling eric.dompeling@solstenxp.com

BP has donated \$1 million toward completion of the new engineering building at the University of Alaska Fairbanks

ConocoPhillips donated \$500,000 earlier in the year toward that same effort

BP donates big to UAF the university announced in a Monday news release. The donation was first announced Saturday night at the annual UAF Chancellor's Gala. The money will be used for a specific element of the new building: the fourth floor, which will house the UAF Alaska Center for Energy and Power. **The BP donation follows a January UAF announcement that ConocoPhillips had earlier last year donated \$500,000 toward the project. BP's donation reduces the amount needed to complete the fourth floor to about \$5.5 million. UAF still needs nearly \$50 million to complete the five-floor,**

120,000-square-foot building. These generous donations come at a time when the industry is struggling with low oil prices and layoffs.

John Peirce Donation to the UAF Student Section of \$1,000 and a matching grant from ConocoPhillips.

Thank you John, for your continued support of the UAF AADE Student Section, the donation of \$1000 and the matching contribution from ConocoPhillips will help to support the Student Section in Fairbanks with their ongoing mission of helping the next generation of engineering students.



Dr. Shirish Patil UAF Faculty Advisor, John Peirce; Sr Wells Engineer, CPAI Drilling & Wells and Dr. Yin Zhang, Incoming Faculty Advisor to the AADE Student Section UAF

Dr. Shirish Patil, UAF Faculty Advisor for the AADE Student Section has decided to take a sabbatical from UAF at the end of the semester in May. Citing the need to be closer to family in the coming years he will be relocating to Southeast Asia later this year. We thank him for his contribution to the not only the University, The CME petroleum Engineering section but also his involvement with the AADE. Dr. Yin Zhang is the incoming Faculty Advisor to the AADE Student Section UAF effective this month.

Those of you that know Shirish or have studied at Fairbanks can wish him well at: slpatil@alaska.edu

**Society of Petroleum Engineers (SPE) Alaska Section /
American Association of Drilling Engineers (AADE) - Alaska Section
2016 Scholarship Program**

The applications for Scholar ships from the AADE and the SPE will be a joint effort this year, with the intent to reach more participants and reduce duplication of awards.

The SPE Alaska Section and the AADE Alaska Section will be offering a total of \$64,000 in scholarships to eligible students for the 2016-17 school year.

New this year – applications and transcripts will only be accepted via mail. All applications must be postmarked on or before Friday, March 25, 2016.*

**Do not send applications requiring signature confirmation due to the fact that the SPE mailbox is not checked on a daily basis and there is a chance your mail will be returned. You can email us to confirm that your application has been received.*

Each student must also submit an official transcript in addition to the application. The transcript must be sealed, officially certified by the school, and include fall 2015 final grades. Transcripts can either be sent together with or separate from the application via mail. Do not submit extra documents with the application, resumes or letters of recommendation will not be considered.

Eligible applicants include:

Graduating Alaska High School Seniors who will be enrolled at an accredited university as a full time college student for the Fall 2016 semester in a curriculum leading to an undergraduate degree in engineering, including petroleum, chemical, mechanical, electrical, environmental or civil, or an earth sciences field, and intend to seek future employment in the petroleum industry.

Undergraduate College Students who will be enrolled at an accredited school as a full time student for the Fall 2016 semester in a curriculum leading to an undergraduate degree in engineering, including petroleum, chemical, mechanical, electrical, environmental or civil, or an earth sciences field, and who intend to seek future employment in the petroleum industry, and meet one of the three following requirements: (1) graduated from a high school in Alaska, or (2) are currently enrolled in a college in Alaska, or (3) are a dependent of a SPE or AADE Alaska Section member.

Scholarships are only awarded for a one year term. All students who continue to meet the requirements can re-apply, and are encouraged to re-apply, every year throughout their undergraduate college career. A new application and transcript must be submitted every year however to be considered for a scholarship.

All applicants will be notified if they were selected to receive a scholarship, or not, by May 1, 2016. Scholarships will be paid out directly to the school in the fall of 2016.

Questions regarding this application can be sent to Joe Lederhos at joe.p.lederhos@exxonmobil.com or Garret Staudinger at garret.staudinger@bp.com

Speaker Request



Call for 2016 Speakers at UAF

If you have the time to travel to Fairbanks to speak to the AADE Student Section on one of the following subjects contact James Niedermeyer at James.Niedermeyer@bp.com

Some suggested topics are included below, but not limited to the following. If you have a topic that might be of interest to Students, contact James Niedermeyer or Dr Patil and suggest a presentation.

- **Completion design**
- **Managed pressure drilling**
- **Under vs. Over balance drilling**
- **Coil Tubing drilling / Coil completions**
- **Gas lift, ESP and velocity string production**
- **Production design and engineering**
- **MWD/LWD**
- **Inflatable Bridge Plugs**
- **Extended reach drilling and completion**
- **Oilfield Service company process and Procedures**

Friday Presentation

Tips from the State

From AOGCC; by Mike Quick

Permitting Statistics (as of February, 2016)

Permits to Drill:	2016- 40	2015- 48
Sundry Notices:	2016- 157	2015- 117

Kick Tolerance Calculations - Best Practices and Basics:

Last month the best practices for conducting a Formation Integrity Test (FIT) / Leak Off Test (LOT) was discussed. Recently, we are getting permit to drill applications that include a target value for the FIT/LOT, along with a lower "minimum acceptable FIT/LOT" value. To justify the values for the FIT/LOT (target and minimum), kick tolerance calculations and assumptions need to be included to ensure that kick tolerance is adequate.

Neither the API nor IADC provide methodology for calculating kick tolerance, but it is a straightforward calculation for most well designs.

Kick tolerance calculations are done to determine the volume of an influx the well can circulate out safely at the required kick intensity, without breaking down the formation at the casing shoe (or at known weak formations within the wellbore) as the influx moves to surface as the well is shut in. The kick influx volume needs to be a realistic amount that covers the volume needed for the drilling crew to both detect the kick and to get the well shut in. Most drilling crews need at an influx volume of least 15 bbls to detect a kick and shut in the well.

Kick tolerance is essential for safely designing and drilling a well. After any FIT/LOT is conducted, or whenever mud density changes, kick tolerance should be calculated based on those actual values to ensure that the design of the well can still safely handle a gas influx.

One critical factor needed to calculate kick tolerance accurately is the kick intensity. Kick intensity can be defined as the amount of overpressure that is encountered / drilled into that caused an influx into the well. Kick intensity cannot be negative – in order to have a kick, the pressure encountered must be greater than the hydrostatic pressure of the mud column (not including lost circulation issues). If you are drilling with a mud density of 10.0 ppg, and your kick intensity is the oilfield standard of 0.5 ppg, then the equivalent pore pressure of the formation encountered is 10.5 ppg EMW – not the pore pressure that you estimate is in the formation during well planning. For this example, your estimated or "known" formation pore pressure for well planning purposes is 9.5 ppg EMW; and is used to determine your mud density of 10.0 ppg needed to drill the well. Your kick intensity of 0.5 ppg elevates your pore pressure estimate to 10.5 ppg EMW in all kick tolerance calculations; do not use the estimated or "known" 9.5 ppg EMW formation pore pressure that was used for well planning. Kick tolerance is a safety factor to cover the unknown potential risk inherent in drilling a well, to ensure the well design can safely handle an unexpected kick.

A swabbed kick scenario is viewed differently than drilling kick tolerance. It is acceptable to use a zero kick intensity (where formation pressure equals mud density) for a swabbed kick scenario, but not in the drilling kick tolerance calculations.

Kick tolerance calculations that are done with a formation pressure less than your planned mud weight will not be accepted by the commission. A negative kick intensity (when the formation pressure used in kick tolerance calculations is less than the mud weight) will give overly optimistic kick tolerance values, as shown in the example below.

Example of kick tolerance variance:

Mud Density = 10 ppg

LOT/FIT = 13.5 ppg at 2500 ft TVD

Kick Intensity of 0.5 ppg = 10.5 ppg EMW formation pressure at 7000 ft TVD

Gas gradient of 0.1 psi/ft to surface (worst case scenario)

Hole Size 8.5"; 4" DP; 6.25" BHA of 400 ft

The above parameters yield a kick tolerance of +/-**16 bbls**.

If the parameters above are used, only with a formation pressure estimate of 9.5 ppg EMW used in place of the kick intensity over actual mud density (this is a negative kick intensity of -0.5 ppg), an **erroneous kick tolerance of +/-42 bbls is calculated, which is nearly three times the influx volume that the shoe can actually hold without breaking down the formation while shut in**. This error in kick tolerance calculations could allow for a lower LOT/FIT value of less than 12 ppg EMW while incorrectly still seeming to give adequate kick tolerance.

A minimum LOT/FIT value of less than 13.5 ppg EMW would not be approved in a permit to drill for the example above without further discussion with the operator.

Please share this information with all appropriate members of your organizations.

Call for Cooking Team
13th Annual Fin, Feather or Fur Food Festival
Friday, June 3, 2:30-7 p.m.
Unique Machine

Get Your Team together and **Let's get Cooking!**

This unique cook-off competition gives cooking teams a chance to show off their culinary skills, favorite recipes and showmanship. Help our local chapter raise funds to support scholarships and our local food charities.

For more information;

Mike Yore: Michael.Yore@weatherford.com

Samir Patil: samir.patil1985@gmail.com

The Food Festival has raised money for the benefit of:

- **Scholarships** to ALASKAN college age young people
- **Lectures series at UAF** The AADE program supports presented by AK Oil and Gas industry people to educate and inform students of the types of work/jobs available.
- The **Knowledge Box Program** AADE provides educational materials and lesson plans for teachers in K-12 across the state of AK.
- **Charitable Contributions** Jim Crocket/**Beans Cafe** announced (in 2011) that the donation from AADE was 60% of their cash operating budget for that year! Astounding fact. **Kid's kitchen** and **Downtown Soup Kitchen** are two more of the charities that see huge benefit from our event.

While we are on the Subject of Cooking . . .

Shell has an Incredible Barbeque for Sale!

Contact : Carol Smyth
Carol.Smyth@shell.com

Or (907) 770-3700



AADE COMING EVENTS – Save the date

3/16/16

March Meeting - Contractors Forum
Welltec, Western Well Tools / AES,
Weatherford / PESI, Halliburton

4/18/16

April Meeting - SPE Joint Meeting with AADE – MONDAY!
SPE Distinguished Lecturer Mary Van Domelen, Continental Resources, [Bridging the Gap between Drilling & Completions: Challenges & Solutions in Horizontal Wells](#)

5/25/16

May Meeting



Society of Petroleum Engineers

Meeting Schedule

Monday, March 21st Elizabeth Spiteri – Blue Crest Energy, **The Cosmopolitan Project** the presentation will cover the history and appraisal of the field and its geology, which has formed the basis for the Development plan.

Monday, April 18th – Distinguished Lecturer Mary Van Domelen, Continental Resources, [Bridging the Gap between Drilling & Completions: Challenges & Solutions in Horizontal Wells](#)

[2016 SPE Western Region Meeting](#)

24 – 26th May 2016

08:00 AM - 05:00 PM

Anchorage

Wednesday, May 25th – Distinguished Lecturer Robert Shelley, StrataGen, [Optimization of Multi-Fractured Horizontal Completions: A New Industry Challenge](#)

AADE Meeting News (Please post in Coffee Rooms)

Date:	Wednesday, March 16, 2016
Speaker:	Wetherford / PESI – Dave Westgard WELLTEC – Jeremy Albright Halliburton – TBD Western Well Tools / AES – Joey Hopper
Topic:	<i>Contractors Forum</i>
Time:	11:30 A.M. – 1:00 pm
Place:	BPXA, Conference Room A, B & C
Cost:	\$30 for all members before 2/14 \$35 after 2/14
Reservations:	http://www.aade.org/chapters/alaska/ or, https://www.123signup.com/register?id=prxqf

To register for any other event, click on **calendar** in 123 signup and you will see a list of active events.

2015-2016 Alaska BOARD OF DIRECTORS

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