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Dear ,

I hope you are enjoying the great fall weather.

If you are interested in signing up to be an online reading partner for a 3rd grader, sign up ASAP.

Have a great October!

Kelly Wilson



Newsletter Editor

**September 30, 2014**

## GENERAL MEETING

### The State of the Bakken: One Operator's View

*Mary Van Domelen, Engineering Advisor, Continental Resources*

 Oct 15, 2014, 11:30-1pm  Denver Athletic Club

Continental Resources is one of the most active companies in both the Montana and North Dakota Bakken. Starting in 2013 and throughout 2014, Continental has undertaken numerous multi-discipline initiatives toward optimizing drilling parameters, well density spacing and completion techniques. As many companies move from HBP (hold by production) drilling toward full field development, all are focused on determining the most efficient, economical and effective way to produce the vast Bakken resource. This talk will present Continental's advances in reservoir and geological understanding and review the current status of well density and completion testing.



Mary Van Domelen is an Engineering Advisor with Continental Resources. She holds a BS degree in Chemical Engineering from the University of Oklahoma and is a licensed engineer. She has 30 years of experience in research and practical application of well completions. Mary started her career with Halliburton and has worked in the USA, Europe and Africa. Prior to Continental, she worked for Maersk Oil and Chesapeake in horizontal drilling and completion operations. She has co-authored more than 30 papers and holds several patents. Mary plays an active role in the SPE by participating in organizing committees for conferences, applied technology workshops, and forums.



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## Completions Study Group

### Improvements in Downhole Chemical Delivery: Development of Multifunctional Proppants

*Robert Duenckel, Director Technical Development, CARBO Ceramics*

 Oct 16, 2014, 11:30-1pm  [Halliburton Office](#)

Ceramic proppants can provide the highest fracture conductivity under most conditions relative to natural frac sand and resin coated sands. However, regardless of proppant type or the fracture conductivity at the time of the hydraulic fracturing treatment, fracture conductivity and well performance can be impaired and jeopardized by production related events including inorganic scaling (i.e. barium sulfate, calcium carbonate, etc.) or hydrocarbon depositions (i.e. paraffin, asphaltenes). Current solutions to these post-hydraulic fracture related production problems include liquid inhibitor additions to the frac fluid, solid inhibitor additives to the proppant slurry, post frac chemical squeezes, downhole chemical injection and periodic clean-outs, among others.

An improved chemical delivery method has been introduced which utilizes porous ceramic proppants to function both as a proppant and chemical delivery system. Standard ceramic proppants are manufactured to eliminate internal pellet porosity to the greatest degree possible as the presence of porosity can reduce pellet strength and thus negatively impact conductivity – the primary purpose for choosing a ceramic proppant in the first place. Previous uses of porous ceramic proppants for chemical delivery have in many cases sacrificed conductivity. However by tailoring the type of substrate and degree of porosity present in the proppant grain, an addition of porous proppant to standard proppant can be achieved that does not negatively impact conductivity. This porous component of the proppant pack can then be infused with a chemical – such as a scale inhibitor – to provide a multi-function proppant that provides both designed conductivity and efficient chemical delivery.

This paper will describe how pellet porosity and substrate type can be tailored to avoid negatively impacting conductivity along with the benefits of using a chemically infused ceramic proppant as a vehicle for downhole chemical delivery relative to other established chemical treatment methods. Types of chemicals that may be considered for use in this fashion include scale, paraffin and asphaltene inhibitors as well as others. The chemically infused proppants are designed to facilitate a slow release of the desired chemical in order to provide long term effective application. This type of delivery system has distinct advantages over other approaches to chemical treatment.



**Robert Duenckel** is Director Technical Development for [CARBO Ceramics](#). Before joining CARBO Ceramics he held numerous engineering, supervisory and management positions with Marathon Oil Company. He holds a BS in Petroleum Engineering from Missouri University of Science and Technology. He has published a number of technical papers, holds several US patents, and is a member of SPE.



## YOUNG PROFESSIONALS

### LUNCH & LEARN: Overview of Frac Water Treatment and Re-use

*Lisa Denke, PE EUCI*

 Oct 8, 2014 11:30-1pm  [Sanjel Corporate Office](#)



- Presenting the history of and advancements in technology
- Basic facilities process flow
- Case studies: Pavillion, WY and Bainbridge Township, OH – wellbore integrity prior to fracturing
- Water treatment and re-use in the news / in Colorado

**Speaker Bio:** Lisa Denke graduated from University of Wyoming in 1993 in electrical engineering. She took a job cementing, acidizing and fracturing wells with Dowell Schlumberger in Worland, Wyoming, and transferred to Bakersfield, California with Schlumberger in cementing. She worked for Texaco in production and facilities, including high temperature steam fracturing in Cymric field, with the attendant wellbore challenges. Working for Aera as a drilling/completions engineer gave her the opportunity to work on a variety of wells, from high volume programs with hundreds of wells per year, to horizontals with foamed cement, and quad completions with mud-to-cement conversion. At Berry, she had the opportunity to manage projects from the perms to the LACT, including the install of fiber optic capillary strings in horizontal wells, as well as successfully shepherding new water disposal project permits through the regulatory process in old oilfields, with the attendant plugging of legacy wells, including wells dating from the 1800's. At TJ Cross, Process Unlimited (now Stantec), and Ken Small Engineering, she designed surface facilities including oil/water separation, compression, sulfur removal, water reclaim for re-use, injection, or discharge to the environment, as well as skidded and modular construction. In 2012, she decided to pursue a PE license, but having been out of school for a long time, found it necessary to return to school for two years. She passed the PE in mechanical engineering in April, 2014 and is now a licensed engineer.

**Company Focus / Brief Synopsis:** EUCI is a leader in providing up-to-date training for oil and gas professionals in the upstream, midstream, and downstream sectors.



## HAPPY HOUR

 Oct 8, 2014, 4:30-6:30pm  [Rock Bottom Brewery](#)

***Come join us for networking – the first round is on us!***

## Continuing Education

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### November 2014

#### Coaching for Performance November 11-12

This 2 day, highly experiential course will provide course participants in a supervisory or leadership role with a methodology to improve the performance and retention of their direct reports through coaching. Register by Oct 17.

### January 2015

#### Microseismic Imaging of Hydraulic Fracturing Jan 27-28

The goal of the course is to give attendees understanding and realistic expectations of microseismic imaging as a diagnostic tool for hydraulic fracturing. Register Jan 9.

### February 2015

#### Performance Analysis in Resource Plays Feb 24-25

Methods to assess and compare the performance of resource play multi-stage vertical and horizontal oil and gas wells will be the focus of this course. Register by Feb 6.

### March 2015

#### Austere Medicine 101 - A Primer on Best-Practice Decision Making for Managers Working in Remote Locations Mar 17-18

We will educate on best practice medical decision-making in remote conditions and our expert faculty will present unpublished data on expatriate emergencies from rescue medicine and government records. Register by Feb 27.

### April 2015

#### Land Basics for the Engineer Apr 21-22

Land Basics for Engineers or “How to understand that babbling Landman!” Plus a special bonus class, “Defense against the dark arts of the salesman.” Register by Apr 3.

## Society of Petroleum Engineers - Denver Section

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