Geophysical Society of Pittsburgh

Proudly Presents Tuesday, December 2, 2014
At
The Penn Brewery, Pittsburgh, PA

Unconventional Reservoirs: Integrating surface seismic, microseismic, mineralogy and rock properties in the Haynesville Shale

Mr. Neal Peake

Abstract: Development of an accurate, robust, and reproducible predictive model has proved elusive in unconventional plays. Lacking this model, drilling and completion decisions are often made on non-geologic criteria. As these plays mature, it is becoming clear that many wells will not reach their production targets. Shale zones originally thought to be homogeneous are proving to be quite variable. This is leading to renewed interest in the utilization of seismic data to create productivity models ahead of the drill bit.

Improvements in pre-stack simultaneous inversion over the past several years have led to the success and wide spread adoption of integrated seismic reservoir characterization studies for prediction of reservoir properties. These studies predict with an acceptable degree of certainty, reservoir and fluid properties in conventional plays. The application of these techniques to unconventional resources has at times been viewed suspiciously by the industry. Estimations of reservoir properties such as TOC, rock strength and stress require careful analysis and a high degree of seismic fidelity. No single attribute appears to accurately predict production. A combination of attributes related to reservoir quality, rock strength, and stress is needed to understand the quality of the reservoir in terms of hydrocarbon potential and optimization of well orientation and completion strategy.

Validation of seismically derived reservoir properties is an important and sometimes missing component of the shale seismic reservoir characterization workflow. Comprehensive log suites are rarely acquired in lateral sections of the well. Microseismic, when acquired, is often used as a qualitative measure of the effectiveness of the frac, but left un-calibrated to surface seismic measurements and estimates of rock properties such as brittleness. Important reservoir estimates of TOC, porosity, and mineralogy are too often not calibrated to cuttings or cores in the lateral section. Our goal is to ultimately use these volumes in a predictive mode for proper well placement and completion practices.

Biography: *Neil Peake is the US Business Development Manager for CGG GeoConsulting with more than 20 years of experience in the oil and gas industry. He holds a Master's Degree in Geophysics (University of Birmingham, UK) and a Bachelor's Degree in Geology from the University of Glasgow. His experience includes many years of borehole seismic and microseismic with Baker Atlas and VSFusion. Neil has worked extensively internationally in the Middle East, Europe, Africa, Australia, Asia and North America.*

Please RSVP using the PayPal link on the Geophysical Society of Pittsburgh website at: www.thegsp.org
Cost: $35 Members, $40 Non-members ($20 for Students). Meeting Location: Penn Brewery, 800 Vinial St., Pittsburgh, PA 412.237.9400

Tuesday, December 2, 2014 Meeting Menu

5:00 pm Social Hour

This month's social hour is proudly sponsored by
CGG

Beer on Tap:
Penn Dark Lager Beer
Penn Gold Lager
Penn Pilsner
Also Available: Red & White wine

Hors D'oeuvres:
Side of Smoked Salmon with Pumpernickel, Cream Cheese, Chopped Eggs and Red Onions, and Capers

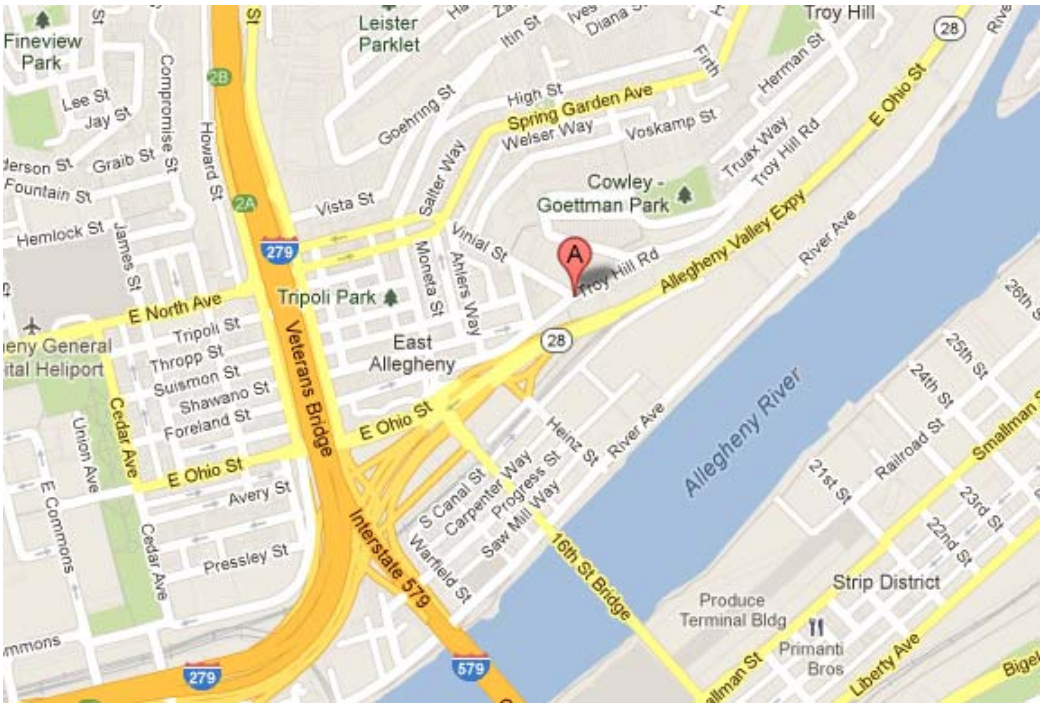
6:00 pm Dinner

Dinner Buffet
Weiner schnitzel
Black Forest Chicken
Baked Penne with Meatballs
Mashed Potatoes
Green Beans with Peppers
Tossed Green Salad with Ranch, Italian and Balsamic Dressing.
Dessert: *Apple and Cherry Pie*
Coffee & Cream

7:00 pm Lecture

This month's lecture will be held at :

Penn Brewery
800 Vinial Street
Pittsburgh, PA 15212 USA
412.237.9400



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