

## Conversational Petrophysics: Increasing Petrophysical Competencies for GeoScientists

Kelly Skuce\*, ConocoPhillips, Calgary, Alberta  
kelly.s.skuce@conocophillips.com

### Summary

This presentation is a series of candid, tongue-in-cheek discussions between a Geologist and a Petrophysicist. Their conversation starts around the geologist's need for hydrocarbon in place numbers for mapping and presentation to their subsurface manager. The geologist has been sent to see the "petrophysicist". What follows is a series of conversations following a number of themes based on comments heard in actual meetings.

Topics:

"Yes, I want to look at the core and cuttings descriptions." - It all starts with the Rocks

"It's a channel." - Depositional Environment, Lithology and Log Analysis

"But it doesn't produce water!" - Water Saturation

"This is my Net Pay map." - Appropriate or fit-for-purpose cutoffs

"Do I have to learn the software?" – Data-crunching and timing

### Introduction

In this age of largely horizontal drilling, the lowly vertical well with its suite of 'sometimes complete' open hole logs is usually the only piece of data the geologist has to build a play. The large resource play prevalent today is also dependent upon vast amounts of data, which in Canada and its wealth of publicly available data can be like drinking from a fire hose. The discussions follow along common themes the petrophysicist encounters when starting to look at a new play; depositional environment, core and cuttings information, lithology, data availability, water resistivity, porosity types, software, etc. The presentation depicts a few common sense workflows the geologist can start to do on their own before involving the petrophysicist for some more 'high tech' assistance. Hopefully, this spurs the geologist to see the need for collaboration and integration for a proper interpretation and demystify what the petrophysicist does to produce parameters for mapping.