

The Discovery Group

Petrophysical Courses



The goal of the courses taught by The Discovery Group is to increase the petrophysical awareness and understanding of geoscientists and engineers, including technical support staff, so that the knowledge can be used in their regular activities, and can enhance their work. A better understanding of basic petrophysical principles may also lead a more detailed and directed evaluation of newly- and previously-acquired data that will improve the success of exploration and development programs.

In addition to, and in conjunction with, each of the courses, Discovery Group can share their experiences, and provide advice and counsel in applying the concepts learned in the courses to active projects in which the participants are engaged, so that the participants get immediate and direct experience in the application of those concepts.

	Length
The "Hole" Story This is geared to incoming geoscience and engineering techs who often have no oil patch or energy background. It covers data gathering and quality assurance in preparation for use in exploration and development projects. There are no prerequisites for the course.	1 day
Data Cleanse Diet; Your guide to a healthier log database Well log data is messy. Inconsistencies in well log measurements derive from differences between vendors, logging tools, tool vintages, borehole conditions, corrections applied (or not), etc. Bad data lurks on well logs, ready to throw off your analysis and lead to spurious answers. Sorting through it all and emerging at the other end with a dataset that is useful and meaningful can be a daunting and difficult task. In this course, we teach tried and true methods for improving your log database for better log analysis and interpretations. You'll gain a strong and coherent understanding of issues surrounding well log data validity and consistency, how to assess its quality, and how to fix it when necessary. There are no prerequisites for the course, although a familiarity with common openhole logs will be very helpful.	1 day +
Basic Openhole Log Interpretation (BOLI) This course assumes no knowledge of petrophysical measurements and interpretation and considers the common openhole logs that are used to determine porosity, lithology, and fluid saturation. Both equation-based and pattern recognition (graphical) interpretation techniques are considered as parts of quantitative and qualitative results. New specialty measurements and their current interpretations are also introduced. The course has been taught over 40 times in the last 10 years, with enhancements based on participant feedback. There are no prerequisites for the course.	3 days
Speed Dating with Cores; A petrophysical approach to core description This course is focused on quickly and accurately producing a fit-for-purpose petrophysical core description, particularly if your time or access to the core is limited. Learn how to assess a core, determine its condition, and depth shift it into alignment with logs, and how to best sample the core if you are only allowed a limited number of samples; e.g., sampling a partner or public core. Cores used in the course are those that are available to your company. Prerequisites for the course are BOLI, above, or a working knowledge of common openhole measurements.	1 day +

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Beyond Porosity; Determining lithology from a combination of porosity logs

1 day

This course is focused on getting lithology from the four “porosity” measurements; bulk density, photoelectric effect, sonic slowness, and neutron porosity. **Prerequisites** for the course are BOLI, above, or a working knowledge of common openhole measurements.

Beyond Resistivity; Determining calculation parameters from graphical displays

1 day

This course is focused on Archie’s saturation equation, and especially on pattern recognition (graphical) techniques which provide both quick qualitative interpretation of the data, and prediction of calculation parameters for detailed evaluation. **Prerequisites** for the course are BOLI, above, or a working knowledge of common openhole measurements.

Petrophysics of Unconventional Reservoirs

2 days with client choice of topics

This course considers the interpretation of common and some specialty openhole logging measurements in environments for which the common measurements were not originally designed. The course can be focused on the reservoirs which have been targeted by the client, and for which best practices have been or are being developed. Topics include characterization of the amount and thermal maturity of organic matter, and determination of mineral constituents, porosity, and fluid saturation. The course explores methane storage capacity, and methods to assess oil viscosity and mobility. **Prerequisites** for the course are BOLI, above, or a working knowledge of common openhole measurements.

Petrophysics Elements

*Varies with client needs and planning;
usually two days per week over several months.*

This is a long-term, low intensity course that goes into more depth, but covers the same topics as BOLI. Client play and well information is used in conjunction with Discovery Group material, to focus application of the methods learned to the specific needs of the client. The course is designed to be taken as part of participants’ normal job duties at their work location. There are **no prerequisites** for the course.

Discovery Group would be happy to work with clients to create training sessions or modify existing courses to meet specific needs that the client has identified.

More information about individual courses can be found at http://www.discovery-group.com/resources_petrophysics.htm under the title, **Training Courses**

For course pricing, and to schedule a course, contact Dan Krygowski at

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