

Quick Look Petrophysics

This 3 day Basic Petrophysics Course sets out the essential data types used to identify and evaluate reservoirs, explains their operating principles and arrives at a set of 'quick look' results. All geoscientists require this basic level of understanding to communicate with team members and manage assets effectively. This course presents all commonly used formation data with an explanation of how it is acquired and where it fits in the overall scheme. The formation evaluation essentials of determining reservoir rock, porosity, saturation, permeability, contacts and fluid type are explained within the context of formation evaluation's broader role. Micro-practicals accompany the introduction of tools to familiarize participants with the essential nature of that data, it's strengths and weaknesses. Data covered includes: mudlogs; LWD logs, cores; SP logs, Caliper, GR, Shallow, Medium & Deep Resistivity, Density, Neutron, Sonic, NMR, Wireline formation testers and Well tests (DSTs).

The theory behind qualitative quick look log analysis is explained then performed with the class. The theory behind quantitative quick look porosity, saturation and netpay is then explained and performed, providing students with two levels of involvement with formation data: **visual and numerical**. Common geological features are flagged on logs. Wireline formation data is explained and used to determine Free Water Levels and the mobile phase. Facies, SCAL, Cap.Pressure, Geo.Modeling and Seismic integration are introduced to show their place in the in the broader formation evaluation context and how they can underpin quick look petrophysics. A PPL Quick Look Evaluation xls is a valuable product. No prior knowledge of logs or formation evaluation is required.

On-The-Job-Training

Up to 4 staff engage in a daily critique of PPL's technical consulting and perform a cut-down version of the same tasks. Progress is documented and signed off, building competency towards integrated petrophysical field studies.

Testimonials

'Excellent lecturer, enthusiastic and knowledgeable. Very good course content .. covers all aspects of carbonate petrophysics.. Best petrophysics course I have attended'

'My attention was held for the entire time '

' ..it has proven an extremely thorough and useful week of lessons! It is on a daily basis that I'm peering into the course manual'

'a passionate and enthusiastic teacher'

'..an extremely thorough and useful week of lessons!'

'..a Master Degree in just one week!'

'An excellent course. One of the best courses I have ever been on'

More? See petrophysics.net/testimonials.htm

CV

Dr Mark Deakin is a consultant and tutor in Petrophysical Data Integration. He holds a Ph.D. in 'Integrated Petrophysics' from Imperial College and has 25 years experience including 12 as Director of his own consulting company. He has performed over 45 detailed reservoir studies in clastics, carbonates and fractured basement. Deakin authored the first public Integrated Petrophysics course.

Carbonate and S.E. Asia Shaly Sands Expert

PPL is a pioneer in Petrophysical Data Integration from PhD in 1984 to present. If you seek a secure footing for the development of complex or marginal fields consider PPL's experience in field appraisal.

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Petrophysical Training Options

The Complete Solution

Dr. Mark Deakin
Petrophysics Pty Ltd
Perth

www.petrophysics.net

Integrated Petrophysics for Reservoir Characterization

This course will teach you how to evaluate reservoirs! ..and how to quickly identify flawed results. Robust, minimum error reserves are achieved by a logical, systematic integration of all relevant data. Interpretation is inexpensive compared with data acquisition or development mistakes, so making full use of data is always cost-effective and essential for complex reservoirs or the marginal fields being re-evaluated today. Proper integration often replaces the need for further data acquisition and explains apparent data conflicts. Systematic integration provides the right answer faster, minimizes uncertainty and precludes criticism. By contrast stand-alone log analysis results in bad economic decisions and bad personal reputations. This course demonstrates through an experienced consultant how robust answers are achieved by integrating diverse data. Basic economic questions are addressed head-on by a disciplined, logical process which optimizes the interpretation of Porosity, Permeability, Saturation, Netpay, and Fluid Contacts - the basis of Reserves. Low Contrast Low Resistivity Pay (LCLRP) clastics and carbonates are evaluated by simple, powerful integration techniques which surpass stand-alone log analysis. LWD and conventional logs, NMR, image logs, routine and special core, and MDTs are brought innovatively together to interpret difficult exploration wells, improve reservoir simulation and (typically) increase reserves. The Seismic-Petrophysical work flow which projects these results into inter-well regions is reviewed. This course is a condensed packet of powerful, sequential integration techniques. It continues to evolve through natural selection over 16years of continual presentation and mainstream consulting. It's comprehensive manual is a lasting benefit to the novice and experienced student alike. Integrated Petrophysics..was the first public petrophysical integration course and remains THE benchmark, mainstream petrophysics course today. Do not be fooled by imitations.

*Public courses in Perth, Vienna, KL, Dubai
and In-House*

www.petrophysics.net/IPRC_course.htm

Carbonate and Fracture Petrophysics

This intermediate course details the primary causes and problems of carbonate and fracture evaluations and how to optimize data acquisition and data integration for useful output. A wide variety of examples from high porosity, low permeability carbonates, detrital carbonates, low porosity fractured carbonates and basement fractured reservoirs are employed to demonstrate the often severe shortcomings of conventional approaches. The physical differences between clastics, carbonates and fractures are explained in the context of attempting to achieve answers from a conventional data set. The failings which result are highlighted and juxtaposed with a purpose designed, core-log-test integrated process which has proven successful in these difficult reservoirs. First, the physical features which characterize carbonates and fractures are translated into petrophysical uncertainties. Then the core-log-test data acquisition program and a petrophysical integration specifically designed to address these uncertainties is explained and detailed. This process is demonstrated via worked examples, with all theory closely interleaved with micro-practicals and work sessions which clarify and consolidate the principles under discussion. The last day includes a key petrophysical theory/workshop which derives capillary pressure Sw's and then integrates these with routine core analysis and logged resistivities from an actual carbonate reservoir data set. All core analysis, from routine to diverse special core analysis, logs from conventional to NMR and image logs and well tests are put to full use in this course, within the real-world context of reserves and geo-modeling. This course includes numerous 'real world' useful tips and provides a new found familiarity, understanding and confidence for geoscientists faced with the daunting prospect of managing these confusing reservoirs. A calculator and post 1994 chart book are useful.

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**Follow these courses with an Actual Well/Field
Evaluation**

www.petrophysics.net/CFP_course.htm

Actual Well/Field Evaluation

PPL and students perform an actual evaluation on a cored well, purpose designed data set, or client supplied data set. Data is loaded to PPL and client software. ALL major stages necessary for a full petrophysical integration are discussed and then actually performed by BOTH Instructor and students. A twice daily open critique and proposal session of the ongoing evaluation keeps the class tightly focused and highly motivated. All evaluation parameters are documented together with a short report and key figures as in a real study.

Stages include: Log, Core, SCAL, MDT, and DST data collation and loading, zonation, vclay, total and effective porosities, water zones, Rw, Pickett plots, Rwa, m, Ro prediction, n, Swrt, Fluid Zones, Bound fluid volumes, Coates permeability, Capillary pressure Sw, Base case Sw and Swrt optimisation, Netpay, Zone sums and averages, short Report and Figures.

All data is properly integrated according to PPL standards.

Certificates detailing each major stage are checked and issued according to competency. These 5 days offer a powerful, dynamic training session in which participants feel the practical issues at stake and make the key choices which impact reserves themselves. No previous petrophysical knowledge is required, however, attendance to IPRC or, if a client supplied carbonate data set is used, to CFP, is strongly recommended.

In House Training

PPL organizes In-House customized training seminars to meet company specific needs, at competitive prices. Smaller companies may raise their technical profile and profit directly as local organizers by advertising these seminars to their business partners.

Please send an email introducing your particular training objectives to mark@petrophysics.net

Fees from 7,975 EUR plus Economy travel
10% discount for two or more consecutive courses

See www.petrophysics.net/inhouse.htm