

Society of Petrophysicists and Well Log Analysts Qatar Chapter

Qatar Section

c/o North Oil Company P.O. Box 21264, Doha, Oatar; Phone +974 4401 3759

Virtual Technical Talk

The SPWLA – Qatar Chapter cordially invites you to a technical talk

Date: 21st February 2022

12:00 – 13:00 Qatar Time (Virtual Doors open at 11:45 AM) Time:

Venue: **Zoom Virtual Meeting**

Details **Zoom Meeting ID: 854 5032 4412**

Meeting Passcode: 859 992

Presenter: Allen Britton – International Business Development, Digital Innovation at Core Labs Topic: An Artificial Intelligence Approach to Finding Core-Based Petrophysical Analogs

The need for petrophysical data used in reservoir characterization studies continues to grow despite virtually every oil and gas operator currently stressing the need for cost reductions. Geologic and engineering teams are being told that they must do without when it comes to recovering conventional core, long the gold standard for petrophysical data, and in some cases even the recovery of sidewall core samples is being severely constrained. Making do with less has become the new normal.

To address this new reality, Core Laboratories has developed a solution called Advanced Rock Typing (ART). Relying on formation representative highresolution thin section images of >2mm cuttings, micro core samples and/or sidewall core samples as an input, ART utilizes an artificial intelligence (AI) model to find physically measured analog petrophysical data in Core Lab's petrophysical database, RAPIDTM. We find, rank, and return analog data sets that include physically measured porosity, permeability, capillary pressure, electrical properties, geomechanical properties, NMR data as well as mineralogy and petrographic parameters. The rigorously validated ART model evaluates the heterogeneity inherent in each submitted thin section and returns probabilitybased analog matches that represent the range of that heterogeneity. Results are presented in an interactive web-based application which allows the user to explore the results and export data to third party analytical applications used in their existing workflows. The ART model includes clastic and carbonate rock types from throughout the world and is continuously being expanded with additional rock types.

Biography:

Allen Britton is responsible for International Business Development of Core Laboratories' Digital Innovation Group. He has over 40 years of experience at Core Laboratories in a wide variety of positions. His current responsibilities include development of AI technologies (Advanced Rock Typing), marketing of Joint Industry Projects as well as Data Management services (RAPID database, Relative Permeability Toolkit and RAPID Analytics). For over 25 years he has been a guest lecturer at Stanford University on petrophysical applications to log analysis in reservoir evaluation. He is a member of AAPG (Past-President and Honorary Lifetime Member of the Pacific Section AAPG).

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