

MSRL Fall-2019 Short Course

Characterization of Mudrock Reservoirs

(Open to all current MSRL members)

Location: Houston Research Center (HRC), Bureau of Economic Geology

Address: 11611 West Little York Rd, Houston, Texas 77041

Date: 8am – 5pm, Wednesday, December 4th, 2019

Outline: The MSRL is hosting a mudrocks short course that is focused on data integration that will demonstrate methods and geological models used to characterize mudrock systems. We will highlight facies characterization as they relate to geological systems, and integrate core-based rock and fluid attributes from inorganic and organic geochemical, geomechanical, P&P, and fluid measurements into these facies. Short course lessons will be focused on data collected from Wolfcamp and Eagle Ford cores, and a mini-core workshop will be included during lunch and the discussion time to highlight these cores.

Who should attend: Geologists, petrophysicists, engineers, and managers will all find this course valuable.

Schedule

7:30am	Coffee and bagels provided
8:00 – 9:30am	Data analytical methods applied to chemostratigraphy (Toti Larson) <ul style="list-style-type: none">▪ Facies characterization in mudrock systems (Wolfcamp and Eagle Ford)▪ Correlating rock attributes to mudrock facies defined with XRF
9:30 – 10:30	Overview of permeability and porosity measurement (Sheng Peng and Tongwei Zhang) <ul style="list-style-type: none">▪ Methods of porosity and permeability measurement and comparison of GRI and pressure decay porosity in mudrock systems▪ Relative permeability and its implications▪ Linking pore size distribution from N₂ adsorption to fluids
10:30 – 12:00pm	Relating rock and fluid attributes to fluid flow and production (Farzam Javadpour) <ul style="list-style-type: none">▪ Integration of Langmuir sorption, porosity, XRD, and pore and grain object models from SEM to permeability modeling▪ Implications for reservoir characterization and modeling
12:00 – 1:00pm	Lunch (Sandwiches and beverages provided)
1:00 – 2:30pm	Petrographic characterization of the Eagle Ford and Wolfcamp (Lucy Ko, Rob Reed) <ul style="list-style-type: none">▪ Correlating facies and kerogen types to pore networks▪ Diagenetic controls on limestone layer formation in the Eagle Ford Shale
2:30 – 4:00pm	Hydrocarbon geochemistry – (Tongwei Zhang and Xun Sun) <ul style="list-style-type: none">▪ Biomarkers and hydrocarbon fingerprinting for organic carbon characterization▪ Defining distribution of gas and oil phases▪ Linking organic matter source type to facies (Wolfcamp and Eagle Ford)
4:00 – 5:00pm	Discussion and core workshop
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