

PRE- MEETING SHORT COURSE

SEQUENCE STRATIGRAPHY OF UNCONVENTIONAL RESOURCE PLAYS

DATE: September 12th-13th (2 days)

INSTRUCTOR: Ali Jaffri, Applied Stratigraphix
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DESCRIPTION: This course introduces participants to the sedimentology of unconventional reservoirs and then covers sequence stratigraphic applications. This is not a Seismic Stratigraphy course and the bulk of our time will be spent investigating these reservoirs using well logs (including borehole image logs), core and thin- sections. Each day of the course will be devoted to one play type with case-studies from some of the top unconventional resource plays in the US. The instructor will provide a small collection of well logs and core photos, but we strongly urge participants to bring paper copies of their own data to work on. These data will not be shared with anyone and the instructor will only review the work done by participants.

OUTLINE:

1: INTRODUCTION

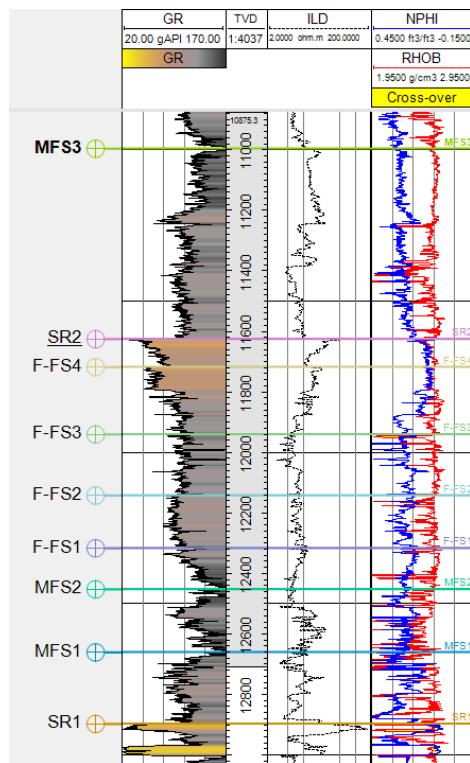
- 1.1. Will it add value to your business?
- 1.2. Difference between sequence stratigraphy in conventional vs unconventional reservoirs
- 1.3. Fractures and Mechanical Stratigraphy

2: TIGHT OIL SANDSTONES

- 2.1. Recognition of Key-Sequence Stratigraphic Surfaces in core and well-logs
- 2.2. Concept of the “halo play” – why it works
- 2.3. Examples from the Frontier/Turner, Shannon, Sussex, Codell, and Parkman

4: MUDROCKS 101

- 4.1 Classification of fine-grained rocks
- 4.2 Sedimentary processes and the importance of event-beds
- 4.3 Differentiating truly pelagic strata from sediment gravity flows
- 4.4 Importance of ash beds



Cretaceous Frontier Formation

5: DELTAIC MUDROCKS

5.1 Hyperpycnal Flows

5.2 Recognition of flooding surfaces and parasequences

5.3 Rules for log correlation

5.4. Examples from the Skull Creek, Mancos and Mowry

6: PLATFORM CARBONATE MUDROCKS

6.1 Hardgrounds and the identification of cyclicity in core and logs

6.2 Best practices for correlation

6.3. Examples from the Bakken, Three Forks, Niobrara and Eagle Ford

7: BASINAL CARBONATE MUDROCKS

7.1 Platform margin classification

7.2 Reciprocal Sedimentation

7.3 Platform drowning scenario

7.4 Identification of key surfaces in core and logs

7.5 Examples from the Wolfcamp, Avalon, and Bone Spring



The course cover most of the top resource plays in the US

Learner Outcomes

1. Identify reservoir vs non-reservoir facies
2. Create actualistic well log correlations
3. Explain production differences in your oil or gas field
4. Map the fine-line that separates what will produce and what will not
5. Predict sweet spots

PARTICIPANT LIMIT: 30 maximum

FEE: TBD