
POST- MEETING FIELD TRIP #5

MARGINAL MARINE RESERVOIR ARCHITECTURE & SEQUENCE STRATIGRAPHY - AN OVERVIEW OF A PORTION OF THE BOOK CLIFFS, EASTERN UTAH

DATE: September 16th-20th (4 days).

LEADERS: *Keith Shanley*
Keith_Shanley@oxy.com
Mike Boyles
jmichaelboyles@gmail.com

DESCRIPTION: The Book Cliffs of eastern Utah are among the most spectacular outcrops of marginal marine strata anywhere in the world. Gentle structural dips and desert-like environments allow for the correlation of stratal units across miles of superb exposure. The Book Cliffs have served as a field analog and laboratory for siliciclastic alluvial and marginal marine systems as well as sequence stratigraphic concepts. These superb exposures of the Upper Cretaceous Blackhawk Formation and associated units are used to demonstrate regional-scale, field-scale, and reservoir-scale stratigraphic relationships and their application to subsurface studies. Detailed facies analysis is used to introduce concepts of parasequences, parasequence stacking patterns, and sequence boundaries that can be used to help predict reservoir occurrence and geometry. These predictions can be tested by observing larger-scale outcrop exposures. During the field trip we will make use of subsurface correlation exercises and core photographs to link outcrop observations to practical subsurface application.



Trip leaders Keith Shanley and Mike Boyles have run numerous field trips to the Book Cliffs over the course of their career for their employers (Shell Oil, Amoco/BP) as well as for the Nautilus Training organization and the AAPG Continuing Education Program.

ITINERARY:

- Wednesday Sept 16:
 - Meet and drive to Price, Utah with a couple of road-side geologic overview stops along the way. Approximate departure time: 1500 hrs.
 - Hotel: Holiday Inn Express, Price, UT.
- Thursday Sept 17:
 - Stop 1: Helper Water Tower – overview.
 - Stop 2: Overview of common sedimentary facies found in shallow marine parasequences – Spring Canyon Mbr., Gilson Gulch.
 - Stop 3: Parasequence stacking patterns – Spring Canyon Mbr. Gentile Wash.
 - Stop 4: Landward pinchout of a shallow marine parasequence – Spring Canyon Mbr., Hardscrabble Canyon.
 - Stop 5: Alluvial facies marginal to marine strata – Aberdeen Mbr., Power Plant Roadcut.
 - Hotel: Holiday Inn Express, Price, UT.
- Friday Sept 18:
 - Stop 6: Fluvial-dominated parasequence overview - Panther Sandstone, Gentile Wash.

- Stop 7: Detailed facies – lower Panther Sandstone, Gentile Wash.
- Stop 8: Detailed facies – upper Panther Sandstone, Hardscrabble Canyon.
- Stop 9: Facies relationships – Panther Sandstone, Spring Canyon.
- Stop 10: Overview of stratigraphic relationships – Panther Sandstone, Helper Water Tower.
- Drive to Green River, UT.
- Hotel: First Choice Inn, Green River, UT.
- Saturday Sept 19:
 - Stop 11: Lateral facies changes – distal marine parasequence – Kenilworth Mbr., Blue Castle Overview.
 - Stop 12: Progradation under limited accommodation and incision – Desert Mbr., Hatch Mesa.
 - Stops 13 & 14: Detailed facies – Desert Mbr., Tusher Canyon.
 - Hotel: First Choice Inn, Green River, UT.
- Sunday Sept 20:
 - Stop 15: Detailed facies – Desert Mbr., Castlegate Sst., – Thompson Canyon.
 - Stop 16: Detailed facies – Desert Mbr., Castlegate Sst., - East of Blaze Canyon.
 - Stop 17: Dondip facies relationship – Desert Mbr., Castlegate Sst., - Nash Wash.
 - Drive to Grand Junction, Trip ends in Grand Junction mid-afternoon Sunday Sept. 20.

PARTICIPANT LIMIT: 20 maximum, 8 minimum

FEE: TBD includes transportation (SUV vehicles), lodging, field lunches and snacks, bottle water, and fieldtrip guidebook.