Sedimentary facies and intertonguing in the Upper Cretaceous of the Book Cliffs, Utah-Colorado.

RESEARCH ARTICLE | FEBRUARY 01, 1955

SEDIMENTARY FACIES AND INTERTONGUING IN THE UPPER CRETACEOUS OF THE BOOK CLIFFS, UTAH-COLORADO

ROBERT G YOUNG

GSA Bulletin (1955) 66 (2): 177-202.

Previous Article Next Article

Article Contents

https://doi.org/10.1130/0016-7606(1955)66[177:SFAIIT]2.0.CO;2

Article history

Abstract

The Upper Cretaceous of the Book Cliffs in central Utah and western Colorado exhibits intricate lateral and vertical intertonguing of marine and nonmarine facies. Excellent exposures permit detailed observations and facilitate tracing of individual units. Dominantly continental deposits of the Star Point, Blackhawk, and Price River formations pass eastward into lagoonal deposits formed behind offshore bar sandstones, which interfinger eastward with the marine Mancos shale.

The Star Point sandstone consists of two littoral marine sandstone tongues. Overlying the Star Point is the Blackhawk formation consisting of six members separated by thin tongues of Mancos shale, which grade upward into the overlying littoral marine sandstones. Each marine shale tongue rests with a slight disconformity on the underlying member. Where the littoral marine sandstones are absent the rocks cannot be so subdivided. The Price River formation which rests disconformably on the Blackhawk consists of two facies—the Farrer or barren facies and the Neslen or coal-bearing facies which is divided into five cyclic members similar to those of the Blackhawk.

The intricate intertonguing of these deposits is interpreted to be the result of deposition in a shallow basin in which there were long periods of relative stability separated by sharp pulses of subsidence. Thick peat beds formed during periods of quiet coincide with the tops of offshore bars. Sharp subsidences preceded formation of the basal sandstone tongues; lesser pulses preceded formation of the offshore bars.

A generalized cycle of four units can be recognized in these deposits: (1) basal marine shale, (2) littoral marine sandstone, (3) lagoonal rocks, (4) coal.

First Page Preview

GeoRef Subject
Book Cliffs Colorado Mesozoic United States Utah Upper Cretaceous stratigraphy Cretaceous

Index Terms/Descriptors

Book Cliffs | Colorado | Cretaceous | lithofacies | Mesa County Colorado | Mesozoic | stratigraphy | United States | Upper Cretaceous | Utah | intertonguing | interfacies | Grand County (Utah)

Latitude & Longitude

N37°00'00" - N42°00'00", W114°04'60" - W109°04'60"
N38°30'00" - N39°19'60", W109°04'60" - W107°19'60"

View Full GeoRef Record

POWERED BY GeoRef

Citing articles via

Web Of Science (85)

Google Scholar

CrossRef

Related Articles

Tectonically Controlled Nearshore Deposition: Cozzette Sandstone, Book Cliffs, Colorado, U.S.A
Journal of Sedimentary Research

Carbonate Cementation in a Sequence-Stratigraphic Framework: Upper Cretaceous Sandstones, Book Cliffs, Utah-Colorado
Journal of Sedimentary Research

Sequence stratigraphic significance of sharp-based lowstand shoreface deposits, Kenilworth Member, Book Cliffs, Utah
AAPG Bulletin

Geologically constrained electrofacies classification of fluvial deposits: An example from the Cretaceous Mesaverde Group, Uinta and Piceance Basins
AAPG Bulletin

View More

Related Book Content

Tectonic influence on sedimentation in the southern Sevier foreland, Iron Springs Formation (Upper Cretaceous), southwestern Utah

Stratigraphy, depositional environments; and sedimentary tectonics of the western margin, Cretaceous Western Interior Seaway

Braided stream deposition and provenance of the Upper Cretaceous-Paleocene(?) Canaan Peak Formation, Sevier foreland basin, southwestern Utah

Stratigraphy, depositional environments; and sedimentary tectonics of the western margin, Cretaceous Western Interior Seaway

Depositional environments, palynology, and age of the Dakota Formation, south-central Utah

Stratigraphy, depositional environments; and sedimentary tectonics of the western margin, Cretaceous Western Interior Seaway

Molluscan paleoecology and sedimentation patterns of the Cenomanian-Turonian extinction interval in the southern Colorado Plateau region

Stratigraphy, depositional environments; and sedimentary tectonics of the western margin, Cretaceous Western Interior Seaway

View More

Online ISSN 1943-2674 Print ISSN 0016-7606

Get Adobe Reader

About

Contact Us

GeoScienceWorld

Journals

eBook Collections

GeoRef

Subscribe

1750 Tysons Boulevard, Suite 1500

McLean, Va 22102
Telephone: 1-800-341-1851