

DEPOSITIONAL ENVIRONMENT OF OSTRACODE BEDS IN SOUTHERN ALBERTA

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Detailed examination of the Ostracode beds was undertaken to understand the complicated stratigraphy of the Mannville Group in southern Alberta. Numerous logs, cores, thin sections and acetone peels have been examined. These beds extend over a wide area in southern Alberta and consist of both clastic and non-clastic sediments. They grade upward from fine-grained bentonitic shale at the base into medium-grained fluvial deposits at the top. This coarsening-upward sequence represents the infilling of a lake in this area.

Lateral continuity of beds, fresh water limestone, fauna, assemblage of primary structures and coarsening-upward sequence form a basis for recognizing the lacustrine environment of this formation. The identification of a fluvio-lacustrine environment is also based on palynological studies. An attempt has been made to subdivide these beds into four members on a lithological basis.

These Ostracode beds are comparable, lithologically, with ancient lacustrine sediments of other ages and localities, e.g. Green River Formation (Eocene), Newark Canyon Formation (Cretaceous) and Locketong Formation (Triassic).