

ABSTRACT

A PETROGRAPHIC ANALYSIS OF THE HOME CREEK LIMESTONE (UPPER PENNSYLVANIAN), NORTH CENTRAL TEXAS

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The Home Creek Limestone may be divided into eight distinct facies. Facies are: algal-bryozoan wackestone; bryozoan wackestone; foraminifer-detrital quartz wackestone-packstone; coated-grain grainstone; calcareous shale-marl; detrital quartz-coated grain packstone; fusulinid packstone-wackestone; and spiculitic wackestone. The various facies represent inner subtidal, outer subtidal, and intertidal-supratidal depositional environments.

Lateral gradations in the lower beds of the Home Creek are common. Abandoned delta lobes, representing topographic highs, were the site of accumulation of grain-support texture carbonates while mud-supported carbonates accumulated below wave base in quiet, adjacent waters. Upper Home Creek Limestone beds were deposited under near uniform conditions.

Terrigenous influx partially eliminated carbonate environments during Home Creek deposition. A shift in delta positions brought terrigenous materials into the area. Home Creek deposition was finally terminated by encroachment of terrigenous sediments of the Cisco Group.

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