

Sunburst area; the Pekisko and Shunda plus Elkton member of the Turner Valley with Mbr (Mission Canyon); and the upper part of the Turner Valley with the Ma unit.

The typical lithological units of the Bakken formation of Montana and the Dakotas are present in the southeastern part of the map area. The formation thins to near zero toward the west as a depositional edge due to epeirogenic movements prior to Mississippian deposition. To the north, the lower black shale only is present as a distinguishable rock unit and the name Exshaw is applicable. The upper part of the formation changes to gray shale that is not readily distinguished from the overlying Banff shale.

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Mississippian of Peace River Area, Alberta

A north-south stratigraphic cross section illustrates lithologies, facies, general thickness changes, and rock units of the Mississippian strata which are known only in the subsurface of the Peace River area.

Mississippian sediments were first truncated to the northeast and east by a post-Mississippian pre-Permo-Pennsylvanian unconformity with three further periods of erosion in the more easterly and northerly parts of the area in pre-Triassic, pre-Jurassic, and pre-Cretaceous time. Over 3,000 feet of sediments remain in the thickest known section and represent all the Mississippian units known from mountain areas. Over 1,000 feet of strata present in the British Columbia subsurface have been eroded in the Peace River area of Alberta.

Several of the formations of the Central Plains and Foothills are recognizable. The Exshaw of the Sturgeon Lake area is a bituminous shale-siltstone-limestone sequence which grades northward to shale. The Banff formation, which to the south is a carbonate unit overlain by a clastic zone, thickens northward to a shale facies. Similarly the Pekisko of the northern part of the Peace River area is a dark shale in contrast to the bioclastic limestone facies throughout the rest of Alberta. The Shunda is composed of a series of bioclastic limestones and gray shales over the entire area.

A new formation name, the Debolt is here proposed for a sequence of rocks divided by a thin clastic zone into a 300-foot lower unit of fragmental limestones probably correlative with the Turner Valley of Southern Alberta and a 500-foot unit of dolostones with evaporites possibly equivalent to the Mount Head. Amerada Crown "G" F 23-11 has been chosen as the type well section of the Debolt.

Above the Debolt is a series of clastics, with some carbonates and evaporites considered to be correlative with the Tunnel Mountain. These beds are assigned to the Stoddart, a new formation being proposed by A. T. C. Rutgers at this meeting.

The units Pekisko to lower Debolt inclusive comprise Laudon's Dessa Dawn of the Wapiti Lake surface sections.

The Permo-Pennsylvanian beds, indefinite as to age, are composed of light cherts and dense dolostones overlain by quartz-chert sandstones. Considerable erosion of the Stoddart and Debolt indicates a major unconformity and time lapse before deposition of the Permo-Pennsylvanian over the Mississippian.

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Stoddart, New Formation in Fort St. John Gas Field, British Columbia

The name Stoddart formation is here proposed for a succession of late-Paleozoic strata lying above the Rundle limestone in Pacific Fort St. John No. 23 gas well. This well from which the lithological description was made is located in Lsd. 3, Section 29, Township 83, Range 16, W 6th, British Columbia.

The lithological character of the formation is very diversified but it can be divided into two units. The lower one is predominantly clastic, 1,250 feet thick and consists of waxy shales, siltstones, and sandstones, together with some limestone and dolomite. Glauconite occurs sporadically throughout and one sandstone unit contains some anhydrite. The upper unit, 915 feet thick, consists mainly of gray limestone and dolomite with chert and some intercalated clastic beds. Some beds are glauconitic and one dolomite bed contains anhydrite nodules.

The Stoddart formation appears to rest conformably on the Mississippian Rundle and underlies the so-called Permo-Pennsylvanian whose age is not yet precisely known. No direct evidence of age could be deduced from the few poorly preserved fossil fragments obtained from cores.

The upper part of the Stoddart appears to be only partly present in other wells of the Peace River area and the upper contact is believed to be unconformable, and some truncation may even have taken place at the top of the section in the Fort St. John No. 23 well. The extreme variability of the lithology makes it difficult to place the unconformity accurately and increases the difficulty of correlation from one well to another.

Following the deposition of the Rundle, this part of the Peace River area appears to have experienced a long period of negative tectonic movements; marine sedimentation took place in unstable, shallow, shelf conditions which were finally terminated by uplift and consequent widespread erosion.