



The carbonates are reservoirs for oil and gas. Much sulphur is recovered in processing the gas. The Mississippian, Pennsylvanian and Permian contain sandstone, limestone, chert and phosphatic sediments and in the west, basic volcanics, black shale, volcanic arenite, limestone, chert, and many ultrabasic bodies which lie close to the major faults.

During the early Mesozoic, depositional conditions comparable to those of the late Paleozoic prevailed, but later, as the effects of the various orogenies amassed, deposition ceased and mountain belts formed. The Triassic is represented by thick argillite, chert, volcanics, some red beds near local uplifts, and a widespread limestone. The Jurassic includes coarse polymictic conglomerate, turbidite, and volcanics, deposition being interrupted in the Columbia Intermontane Belt by the Inklinian and Nassian Orogenies. Porphyry copper and molybdenum deposits occur in brecciated Inklinian intrusions; other copper deposits occur in the basic volcanics, some carrying zinc and gold. The Nassian Orogeny segmented the Columbia Intermontane Belt into three basins which were gradually filled with detritus, the northern two becoming landlocked. These basins yield Jura-Cretaceous coal. Nassian Orogeny also affected the Insular Fold Belt; intrusions on Vancouver Island produced magnetite-bearing skarns in the Triassic limestones.

Most of the Cordilleran Geosyncline was deformed during the Jura-Cretaceous Columbian Orogeny. Clastics derived from the mountains were deposited on Pacific and Arctic Continental Shelves, in the intermontane basins and foredeeps, and ultimately, as the craton was regionally depressed, in Rocky Mountain Exogeosyncline. Most deformation ended with the Laramide Orogeny. In eastern Rocky Mountain Thrust Belt, the folds and thrusts trap Mississippian oil and gas and repeat Jura-Cretaceous coal seams. Fluvial and lacustrine clastics fill some linear fault-bounded intermontane valleys and trenches. Mercury deposits are associated with some of the faults. Much of the Columbia Intermontane Belt was covered by widespread flood basalts and several younger volcanoes and cinder cones but generally, conditions of erosion prevailed into glacial times. In unglaciated areas, and in deep valleys, the Klondike and Cariboo gold placers were preserved.