

Map Unit	Age	Description
Helocene	Quaternary	Recent alluvium, colluvium, and sand dunes.
Pliocene	Quaternary	Clayey sandstone and siltstone.
Pleistocene	Quaternary	Clayey sandstone and siltstone.
Miocene(?)	Tertiary	Clayey sandstone and siltstone.
Upper Cretaceous	Cretaceous	Sandstone and siltstone.
Lower Cretaceous	Cretaceous	Sandstone and siltstone.
Jurassic	Jurassic	Sandstone and siltstone.
Permian	Permian	Sandstone and siltstone.
Upper Mississippian	Mississippian	Sandstone and siltstone.
Lower Mississippian	Mississippian	Sandstone and siltstone.
Upper Devonian	Devonian	Sandstone and siltstone.
Middle Devonian	Devonian	Sandstone and siltstone.
Upper Cambrian	Cambrian	Sandstone and siltstone.
Middle Cambrian	Cambrian	Sandstone and siltstone.
Bell Supergroup	Middle Proterozoic	Various units including the Moon Mountain and Nelson Mountain groups.

Figure 2. Tectonic map of the northern Big Belt Mountains, Montana, showing thrust sheets, tectonic units, and the distribution of Middle Proterozoic rocks, Phenacanth rocks, and Oligocene basal flows in relation to the Nelson quadrangle.

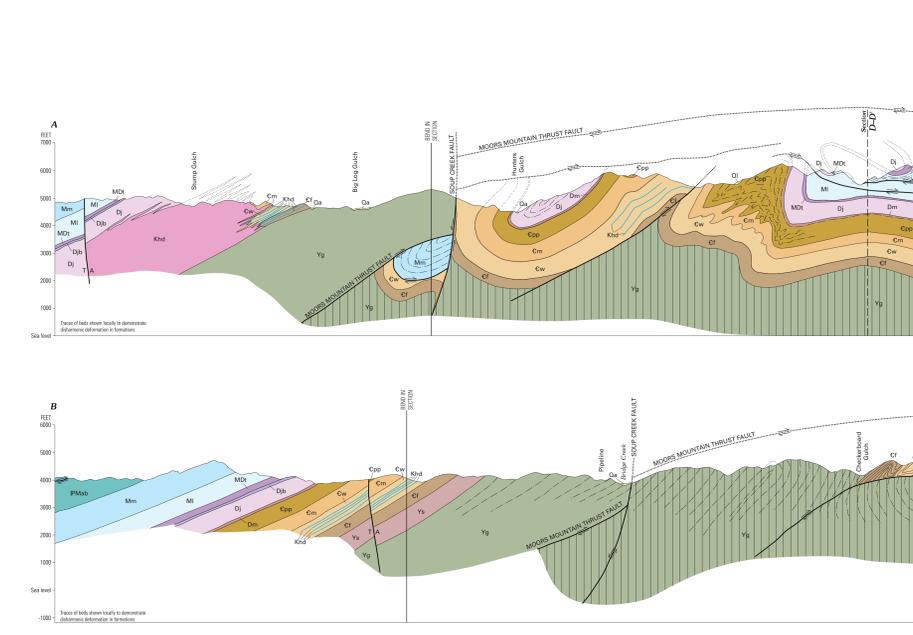


Figure 3. Tectonic map of the northern Big Belt Mountains, Montana, showing thrust sheets, tectonic units, and the distribution of Middle Proterozoic rocks, Phenacanth rocks, and Oligocene basal flows in relation to the Nelson quadrangle.

GEOLOGIC MAP OF THE NELSON QUADRANGLE, LEWIS AND CLARK MOUNTAINS, MONTANA  
By Mitchell W. Reynolds and William H. Hays  
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**CORRELATION OF MAP UNITS**

**DESCRIPTION OF MAP UNITS**

**Geologic Setting**

The Nelson quadrangle is located in the northern Big Belt Mountains in western Montana, about 30 miles north of the capital city of Helena, B. It is bounded on the east and south by the Lewis and Clark Mountains, on the west by the Nelson River, and on the north by the Lewis and Clark Mountains. The Nelson River flows through the center of the Nelson quadrangle, the canyon of the Missouri River was formed by the Nelson River, and the Lewis and Clark Mountains were formed by the Nelson River.

The Big Belt Mountains strike across two prominent north-trending tectonic zones: the north end of the Lewis and Clark Mountains and the south end of the Dry Range and Little Belt Mountains on the east (Fig. 1). The north end of Helena valley marks a strand of a north-trending zone, a zone of recent major strike-slip and vertical fault movement through the Lewis and Clark Mountains (Reynolds, 1979; Reynolds and Knaflitz, 1979; Reynolds, 1979; Reynolds and Knaflitz, 1979). Similarly, the south flank of the Little Belt Mountains is a zone of recent faulting that extends from Middle Proterozoic to late middle Miocene time. The zone is likely contiguous with the basement of the Lewis and Clark Mountains. The Nelson quadrangle occupies a geologically significant position at the junction between the Big Belt Mountains and major north-trending tectonic elements.

Rocks of the Nelson quadrangle are predominantly Paleozoic strata that range in age from the Cambrian to the Quaternary. The Paleozoic strata are divided into the Upper Cambrian, Middle Cambrian, Devonian, Mississippian, and Permian. The Upper Cambrian and Middle Cambrian strata are deposited on a basement of Middle Proterozoic rocks, and the Devonian, Mississippian, and Permian strata are deposited on a basement of Middle Proterozoic rocks. The Nelson quadrangle is bounded on the east by the Lewis and Clark Mountains and on the west by the Nelson River. The Nelson quadrangle is bounded on the north by the Lewis and Clark Mountains and on the south by the Nelson River.

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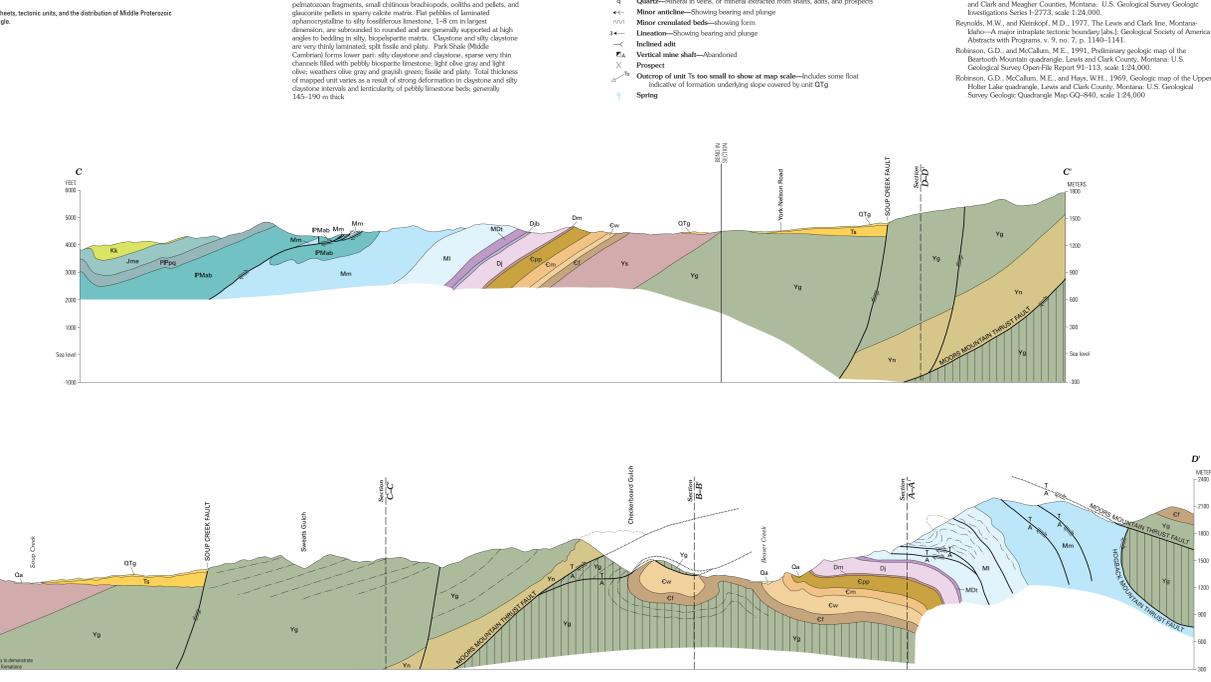


Figure 3. Tectonic map of the northern Big Belt Mountains, Montana, showing thrust sheets, tectonic units, and the distribution of Middle Proterozoic rocks, Phenacanth rocks, and Oligocene basal flows in relation to the Nelson quadrangle.