TABLE 7. — INTERPRETATIONS OF LATE CRETACEOUS TO RECENT GEOLOGIC HISTORY

	Alden (1932) Eastern Montana	Alden (1953) Western Montana	Atwood (1916) Western Montana	Pardee (1950) Western Montana	Freeman, Ruppel and Klepper (1957) Townsend Valley, Montana	Klepper, Weeks and Ruppel (1957) Elkhorn Mountains, Montana	This Report Basin quadrangle Montana
Pleistocene and Recent	See Table 6	See Table 6	Early glaciation	Present cycle of renewed uplift and valley cutting	Deposition of gravels — ? —	See Table 6	See Table 6
Pliocene	Uplift and dissection on Flaxville plain ? Development of Flaxville plain or No 1 Bench and deposition of Flaxville gravel.	Erosion of deep canyons Erosion, cutting of piedmont benches and upland erosion surface.	Drainage changes and dissection of valley fills.	Recurrent uplift and local block faulting and warping; Old valley cycle coincides with a halt in the uplift.	Slight tilting or warping Period of relative stability, pediment formed. Slight tilting or warping. Deposition of Miocene–Pliocene sedimentary tuff	Deposition of late Miocene–early Pliocene tuffaceous sediments and gravel.	Erosion Cutting of strath terraces; superposition of Boulder River. Volcanism, eruption of rhyolite uplift, erosion of sharp valleys.
Miocene	? Uplift and erosion of deep valleys.	Deposition of Bozeman "lake-beds." Western Montana a region of considerable relief with hills and mountains in much the same position as now although not as high above adjacent valley floors.	Renewal of mountain growth; tilting of Bozeman beds. Intermediate erosion surface in mountain valleys.	General re-elevation of region; accelerated local crustal movements. Drainage becomes sluggish or ponded because of slow crustal movements that outlined present basins and ranges. Erosion of highlands and development of Late Tertiary peneplain. Deposition of lake beds in basins.	Erosion	Erosion	Erosion to surface of low relief.
Oligocene	Development of Cypress Plain and deposition of gravel.		Deposition of Bozeman beds. Closing the drainage by Snake River lavas. Development of intermontane troughs and a mature topography in mountains.		Recurrent block faulting, resulting in uplift of mountains adjacent to the Townsend Valley. Deposition of Oligocene sedimentary tuff	Recurrent block faulting Recurrent uplift. Deposition of Oligocene tuffaceous sediments and gravel.	Volcanism, eruption of quartz latite.
Eocene	Uplift, increasing westward	Paleocene and Eocene Erosion; uplands reduced to areas of moderate relief; possibly local Eocene glaciation.	Uplift and deformation of peneplain. Development of Summit peneplain.	Crustal stability and long period of erosion to give surface of moderate to slight relief.	Paleocene and Eocene Long period of erosion to form mature mountainous area with broad intermont one basins, probably in part outlined by faults.	? Erosion to produce mature landscape.	Paleocene and Eocene Erosion to surface of moderate relief; erosion ancestral stream channels. ?
Late Cretaceous	Folding and faulting		Mountain growth	Elevation	Intrusion of monzonite stocks. Strong folding culminating in thrust faulting in Hossfeldt Hills. Volcanism and intrusion of diorite porphyry. Local warping and uplift. Uplift	Emplacement of Boulder batholith and associated bodies. Strong folding and faulting. Volcanism and associated intrusion of dioritic–andesitic rocks; local folding and broad arching.	Emplacement of Boulder batholith Volcanism, accompanied and followed by folding and faulting.