

System	Series	Group, formation, and member	Thickness (feet)	Character	
QUATERNARY			0-50	Unconsolidated silt, sand, and gravel comprising deposits of alluvium, and terrace and pediment gravels	
TERTIARY	Oligocene	White River formation(?) Unconformity	0-150	Conglomerate, coarse-grained arkosic sandstone, and brown sandy clay	
	Eocene	Wasatch formation Moncrief member Unconformity Kingsbury conglomerate member	0-1400 ± 200-800 ±	1000-2000 ± Light-gray and light yellowish-gray sandstone, gray shale, gray and brown carbonaceous shale, and coal, grading and interfingering westward into conglomerate. Moncrief member contains cobbles and boulders of Precambrian igneous and metamorphic rocks; Kingsbury conglomerate member contains pebbles and cobbles of Paleozoic limestone and dolomite	
	Paleocene	Fort Union formation Unconformity Upper conglomeratic member	1200 ±-3900	Light-colored sandstone and drab-colored shale. Upper conglomeratic member contains beds composed of pebbles and cobbles of Paleozoic limestone and dolomite and overlies a local unconformity	
CRETACEOUS	Upper Cretaceous	Lance formation	1960	Massive light-gray channel sandstone and dark-gray shale	
		Bearpaw shale	200	Dark greenish-gray marine shale, in part sandy	
		Parkman sandstone	720	Lower half is massive light yellowish-gray sandstone; upper half is light-gray sandstone and gray shale	
		Montana Group	Upper shale member	980	3570 Dark-gray noncalcareous shale with a few partings of fine-grained light-gray sandstone
			Shannon sandstone member	215	
			Sandstone and shale member	1070	
		Cody shale	Niobrara shale member	985	3570 Light gray fine-grained sandstone and sandy shale, locally glauconitic. Contains an Eagle sandstone fauna
			Carlile shale member	155	
			Greenhorn calcareous member	140	
			Lower shale member	65-80	
	Colorado group	Frontier formation	495-515	Dark-gray shale and light-gray sandstone, interbedded and interlaminated. Conglomeratic chert-pebble sandstone as much as 40 feet thick at top	
		Mowry shale	Light gray siliceous shale member	325	525 Siliceous shale and siltstone weathering light silvery-gray; numerous thin beds of bentonite
			Black shale member	200	
		Newcastle sandstone	40	Light-gray fine-grained sandstone	
Skull Creek shale	175	Grayish-black shale with some thin beds of brown siltstone in the lower part			
Lower Cretaceous	Cloverly formation	155	Interbedded grayish-black shale and brown siltstone. A bed of light-gray medium- to coarse-grained crossbedded sandstone 30 feet thick at base. Numerous globular dahlite concretions near top		
	Unconformity(?) Morrison formation	185	Variiegated shale and claystone, and light-gray fine-grained sandstone		
JURASSIC	Upper Jurassic	Sundance formation	280	Green calcareous shale and light-gray calcareous glauconitic sandstone	
	Middle Jurassic	Gypsum Spring formation Unconformity(?)	145-185	Upper part is interbedded light-gray limestone and red shale; lower part is red shale	
TRIASSIC		Chugwater formation	790	Red sandstone, siltstone, and shale. Prominent ledge-forming bed of light-gray limestone 6-13 feet thick about 70 feet below top	
PERMIAN		Gypsum and red shale sequence Unconformity(?) Tensleep sandstone	180 275	Red shale and siltstone with thick beds of gypsum in the upper part Massive light-gray crossbedded sandstone	
CARBONIFEROUS	PENNSYLVANIAN	Amsden formation Unconformity	250	Red and purple shale, and light-gray cherty dolomite	
	MISSISSIPPIAN	Madison limestone	665	Light-gray limestone, dolomitic limestone, and dolomite, sandy at base	
ORDOVICIAN		Unconformity(?) Bighorn dolomite	310-340	370-395 Massive cliff-forming yellowish-gray dolomite becoming thin-bedded in upper part	
		Unconformity(?) Sandstone member	57-65		
CAMBRIAN	Upper Cambrian and Middle Cambrian, undifferentiated	Gros Ventre and Gallatin formations, undifferentiated	645	Upper part is thin-bedded light-gray limestone and glauconitic flat-pebble limestone conglomerate; middle part is green micaceous shale with some interbedded light gray limestone, flat-pebble limestone conglomerate, and brown glauconitic sandstone; lower part is brown glauconitic sandstone with some interbedded green shale	
	Middle Cambrian	Flathead sandstone Unconformity	345	Light yellowish-gray sandstone with some interbedded green shale and siltstone. Bottom few feet are red and conglomeratic	
PRECAMBRIAN			(?)	Mostly red and gray granite	