TABLE II.4. Stratigraphic Column, North and East Borders of the Beartooth Mountains, Montana. From Foose, Wise and Barbarini, 1961.

GENERALIZED STRATIGRAPHIC COLUMN NEAR RED LODGE, MONTANA

Era	Period	Formation	Regional Thickness	Description
CENOZOIC	[illegible]	YELLOWSTONE PARK VOLCANICS	8000'	MAINLY ANDESITIC, BASALTIC, AND DACITIC VOLCANICLASTICS (INCLUDING BRECCIAS, CONGLOMERATES, SANDSTONES, SILTSTONES, AND TUFFS) INTERBEDDED WITH LAVA FLOWS AND VENT BRECCIAS; PETRIFIED TREES AND LEAF FOSSILS COMMON.
CENOZOIC	EOCENE	WILLWOOD FM	2000'	VARIEGATED, ALTERNATING UNITS OF GRAY, RED AND PURPLISH SHALES AND MUDSTONES, AND SANDY SHALES, ESPECIALLY IN UPPER PART. SOME MAMMALIAN BONES AND PLANT REMAINS.
CENOZOIC	PALEOCENE	FORT UNION FM	3000'	ALTERNATIONS OF YELLOWISH, LENTICULAR SANDSTONES, AND YELLOWISH-GRAY SHALES, THE LATTER CONTAINING LARGE (2-4') CONCRETIONS; FEW CONGLOMERATES; NUMEROUS COAL BEDS IN UPPER 100 FEET; FOSSIL LEAVES COMMON, BONES RARE.
MESOZOIC	CRETACEOUS	LANCE FM	750-1200'	DRAB, GRAY SHALES, OFTEN CARBONACEOUS, INTERBEDDED WITH GRAY SANDSTONES AND THIN LIGNITIC SEAMS. FEW DINOSAUR BONES AND PLANT REMAINS.
MESOZOIC	CRETACEOUS	FOX HILLS SS	130-300'	BROWNISH, THINLY-BEDDED, FAIRLY RESISTANT SANDSTONES; SOME DARK GRAY SHALES.
MESOZOIC	CRETACEOUS	BEARPAW SH	115-700'	DARK GRAY, SOFT SHALES WITH SEVERAL THIN BEDS OF HARD, CONCRETIONARY ANDESITIC, TUFFACEOUS SANDSTONES; NUMEROUS PELECYPODS AND AMMONITES IN SOFT SHALES.
MESOZOIC	CRETACEOUS	JUDITH RIVER FM	500-900'	LIGHT-COLORED YELLOWISH SANDSTONES INTERBEDDED WITH YELLOWISH-GRAY SANDY SHALES AND SILTSTONES; FEW BEDS OF DARK GRAY CARBONACEOUS SHALES; OCCASIONAL THIN COAL BEDS; PLANT FOSSILS COMMON.
MESOZOIC	CRETACEOUS	CLAGGETT FM	120-500'	BROWN TO GRAY SHALE WITH STRINGER SANDS NEAR TOP, GRADING UPWARD INTO MASSIVE RUSTY SANDSTONE, COMMONLY DARK NEAR BOTTOM AND LIGHTER NEAR TOP - PARKMAN MEMBER; THICK BENTONITE BELOW SHALE, NEAR BASE OF FORMATION.
MESOZOIC	CRETACEOUS	EAGLE FM	200-550'	INTERBEDDED RIDGE-FORMING SANDSTONES WITH INTERBEDDED SHALES; COAL BETWEEN LOWER SANDS; SANDSTONES NOT CONTINUOUS; MASSIVE, RUSTY, PITTED SANDSTONE AT BASE - VIRGELLE MEMBER.
MESOZOIC	CRETACEOUS	TELEGRAPH CREEK FM	150-400'	GREENISH-GRAY SHALE, SOME GYPSUM; SALT AND PEPPER SANDSTONE FORMS SHOULDER-LIKE MOUND IN UPPER PART; TWO PROMINENT RUSTY SANDSTONE RIDGE-FORMERS AT BASE, VERY FOSSILIFEROUS - ELK BASIN SANDSTONE MEMBER.
MESOZOIC	CRETACEOUS	CARLILE - NIOBRARA SH / CODY SH	1000-1600'	VERY THICK SHALE, GRAY ON FRESH SURFACE, WEATHERS ALMOST WHITE; VERY LARGE CONCRETIONS NEAR TOP AS WELL AS LOWER IN FORMATION; LARGE AMMONITES FOUND IN CERTAIN LOCALITIES - EQUAL TO PART OR ALL OF CODY SHALE.
MESOZOIC	CRETACEOUS	FRONTIER FM	300-600'	MASSIVE GRAY, RESISTANT SANDSTONES INTERCALATED WITH THINLY-BEDDED BROWN SANDY SHALE AND BLACK SHALE; LARGE THREE-FOOT CONCRETIONS NEAR TOP; FEW BEDS OF CHERT-PEBBLE CONGLOMERATE.
MESOZOIC	CRETACEOUS	MOWRY SH	350-500'	BROWNISH-GRAY, HARD, RESISTANT SANDSTONE AND SOME BLACK SHALE; NUMEROUS FISH SCALES UP TO ONE AND ONE-HALF INCHES IN LOWER 250 FEET; SIDERITE CONCRETIONS COMMON 150 TO 300 FEET FROM TOP IN BLACK SHALES.
MESOZOIC	CRETACEOUS	THERMOPOLIS SH	500-600'	DARK GRAY TO BLACK, THINLY-BEDDED, SOFT SHALES, NON-RESISTANT, INTERBEDDED WITH SEVERAL BENTONITE BEDS; SANDSTONE UNIT BETWEEN TWO AND THREE HUNDRED FEET ABOVE BASE.
MESOZOIC	CRETACEOUS	CLOVERLY FM	150-350'	BASAL BLACK CHERT CONGLOMERATES OF PEBBLY, YELLOWISH SANDSTONES; REDDISH SHALES INTERCALATED WITH ANDESITIC AGGLOMERATES AND YELLOW SANDSTONE IN MIDDLE PORTION; GRAY-BROWN SANDSTONE AND SANDY SHALES TOWARD TOP.
MESOZOIC	JURASSIC	MORRISON FM	200-350'	VARIEGATED REDDISH, GREENISH, PURPLISH, AND GRAY CLAYS AND SHALES INTERBEDDED WITH LIGHT YELLOWISH-GRAY SANDSTONES; RARE OCCURRENCES OF DINOSAUR BONES AND GASTROLITHS.
MESOZOIC	JURASSIC	SUNDANCE FM	350-600'	BASAL GREEN-BROWN & RED CLAY, SHALES; THIN BEDS OF GYPSUM AND LS; MIDDLE GRAY CLAYS & SANDSTONES WEATHERING GREEN-BROWN; UPPER RESISTANT SS, GLAUCONITIC; MANY MOLLUSCS, ESPECIALLY PELECYPODS AND BELEMNITES.
MESOZOIC	JURASSIC	GYPSUM SPRINGS FM	40-200'	THIN-BEDDED GRAY LIMESTONES AND REDDISH SHALES; THINLY TO MASSIVELY BEDDED GYPSUM TOWARD TOP.
MESOZOIC	TRIASS.	CHUGWATER FM	180-600'	BRIGHT TO DARK RED SHALES, SILTSTONES, AND SANDSTONES; MUCH GYPSUM SCATTERED IN BASAL TWENTY FEET.
PALEOZOIC	PERM	PARK CITY FM	33-70'	POROUS, THIN-BEDDED, GRAY LIMESTONES; FEW DOLOMITE BEDS AND THIN CALCAREOUS SANDSTONES (=PHOSPHORIA FM)
PALEOZOIC	PENN.	TENSLEEP SS	40-280'	GRAY TO TAN, MASSIVE, CROSS-BEDDED, MEDIUM TO COARSE SANDSTONES; RESISTANT TO EROSION; UNFOSSILIFEROUS.
PALEOZOIC	PENN.	AMSDEN FM	10-140'	RED SHALES AND SILTSTONES WITH INTERCALATED GRAY LIMESTONE AND DOLOMITE; LOCALLY GRAY, CHERTY SANDSTONE.
PALEOZOIC	MISSISSIPPIAN	MADISON LS	700-900'	CHIEFLY MASSIVE, LIGHT GRAY TO TAN LIMESTONES, COARSELY CRYSTALLINE TO FINE-GRAINED; SOME DOLOMITE AND LOCAL CHERTY ZONES; A FEW THINLY-BEDDED LIMESTONES; A VARIETY OF MARINE INVERTEBRATE FOSSILS FAIRLY COMMON.
PALEOZOIC	DEVONIAN	THREE FORKS FM	70-140'	PLATY, LIGHT GRAY AND YELLOW TO BROWN AND REDDISH LIMESTONE AND DOLOMITE; THICKER CALCAREOUS SANDSTONE AT BASE.
PALEOZOIC	DEVONIAN	JEFFERSON LS	220-375'	ALTERNATING THINLY-TO-THICKLY BEDDED LIGHT GRAY TO BROWN LIMESTONES AND DOLOMITES WITH FETID ODOR; FEW FINE BRECCIA BEDS; CALCAREOUS SANDSTONE AT BASE; BRACHIOPODS (ATRYPAS, ETC.) FAIRLY COMMON.
PALEOZOIC	DEVONIAN	BEARTOOTH BUTTE FM	0-150'	LOCAL LENSES OF THINLY-BEDDED RED AND BUFF CALCAREOUS SHALES AND THICKER BEDS OF YELLOWISH-WEATHERING, GRAY LIMESTONE AND INTRAFORMATIONAL LIMESTONE CONGLOMERATE; VERY COARSE BASAL CONGLOMERATE; FOSSIL FISHES AND PLANTS.
PALEOZOIC	ORD.	BIGHORN DOLOMITE	150-400'	YELLOWISH-GRAY SANDY DOLOMITE, TEN FEET, OVERLAIN BY MASSIVE, CLIFF-FORMING BUFF, ROUGH WEATHERING DOLOMITE MOTTLED WITH GRAY (170'); THEN LESS RESISTANT, THIN-BEDDED, FINE-GRAINED LIMESTONE WITH RESISTANT DOLOMITE IN MIDDLE, SIXTY FEET THIS UNIT; TOP EIGHTY FEET SAME MASSIVE, MOTTLED DOLOMITE NEAR BOTTOM; FOSSILS RARE.
PALEOZOIC	CAMBRIAN	SNOWY RANGE FM	250-300'	INTERCALATED GREENISH-GRAY SHALES AND INTRAFORMATIONAL CONGLOMERATE; LATTER CONTAINS DISTINCT SUB-ANGULAR, FLAT, GRAY PEBBLES; UPPER FORTY TO FIFTY FEET YELLOW TO GREENISH SHALE, GRAY TO BUFF DOLOMITE AND INTRAFORMATIONAL CONGLOMERATE (= GROVE CREEK MEMBER); PEBBLES WELL-ROUNDED, GRAY WITH GREEN COATING; STAR-SHAPED FOSSILS IN MATRIX.
PALEOZOIC	CAMBRIAN	MAURICE FM	90-150'	CLIFF-FORMING, THICKLY BEDDED, CRYSTALLINE LIMESTONE, LIGHT GRAY TO BUFF WITH SOME MOTTLING; OCCASIONALLY OOLITIC; TRILOBITE REMAINS COMMON IN COQUINA ABOUT THIRTY FEET ABOVE BASE AND IN TOPMOST BED.
PALEOZOIC	CAMBRIAN	PARK SH	350-475'	GREENISH TO PURPLE SHALE INTERBEDDED WITH ONE INCH BEDS AND LENSES OF GRAY LIMESTONE; TOP FIFTY FEET CONTAINS DISTINCTIVE EDGEWISE CONGLOMERATES WITH CLASTS AT ALL ANGLES TO BEDDING.
PALEOZOIC	CAMBRIAN	MEAGHER LS	40-100'	THIN-BEDDED GRAY LIMESTONE, USUALLY IRREGULARLY WAVY-BEDDED; MIDDLE MEMBER, IF PRESENT, MAINLY SOFT, GREEN SHALES.
PALEOZOIC	CAMBRIAN	WOLSEY SH	50-200'	GREEN, GRAY, PURPLE, PAPERY SHALES GRADING UP TO GREEN, BROWN, SANDY SHALES & SILTSTONES; TRILOBITES FAIRLY COMMON.
PALEOZOIC	CAMBRIAN	FLATHEAD SS	0-40'	LIGHT TAN TO REDDISH TO WHITE, MEDIUM SANDSTONE, QUARTZITE, LOCALLY CGL; SANDSTONE COARSE & ARKOSIC TOWARD BASE.
	PRE-C	"BASEMENT"		COMPLEX OF GRANITIC GNEISSES AND DARK SCHISTS, INTRUDED BY MAFIC DIKES, ETC.

COMPILED BY [illegible] AND [illegible]

NOTE: RELATIVE THICKNESSES PROPORTIONAL (APPROXIMATELY TO SCALE) WITHIN EACH ERA BUT NOT BETWEEN ERAS.
TOTAL PALEOZOIC ABOUT 3000'; TOTAL MESOZOIC ABOUT 8500'; TOTAL CENOZOIC ABOUT 13,000' FEET.