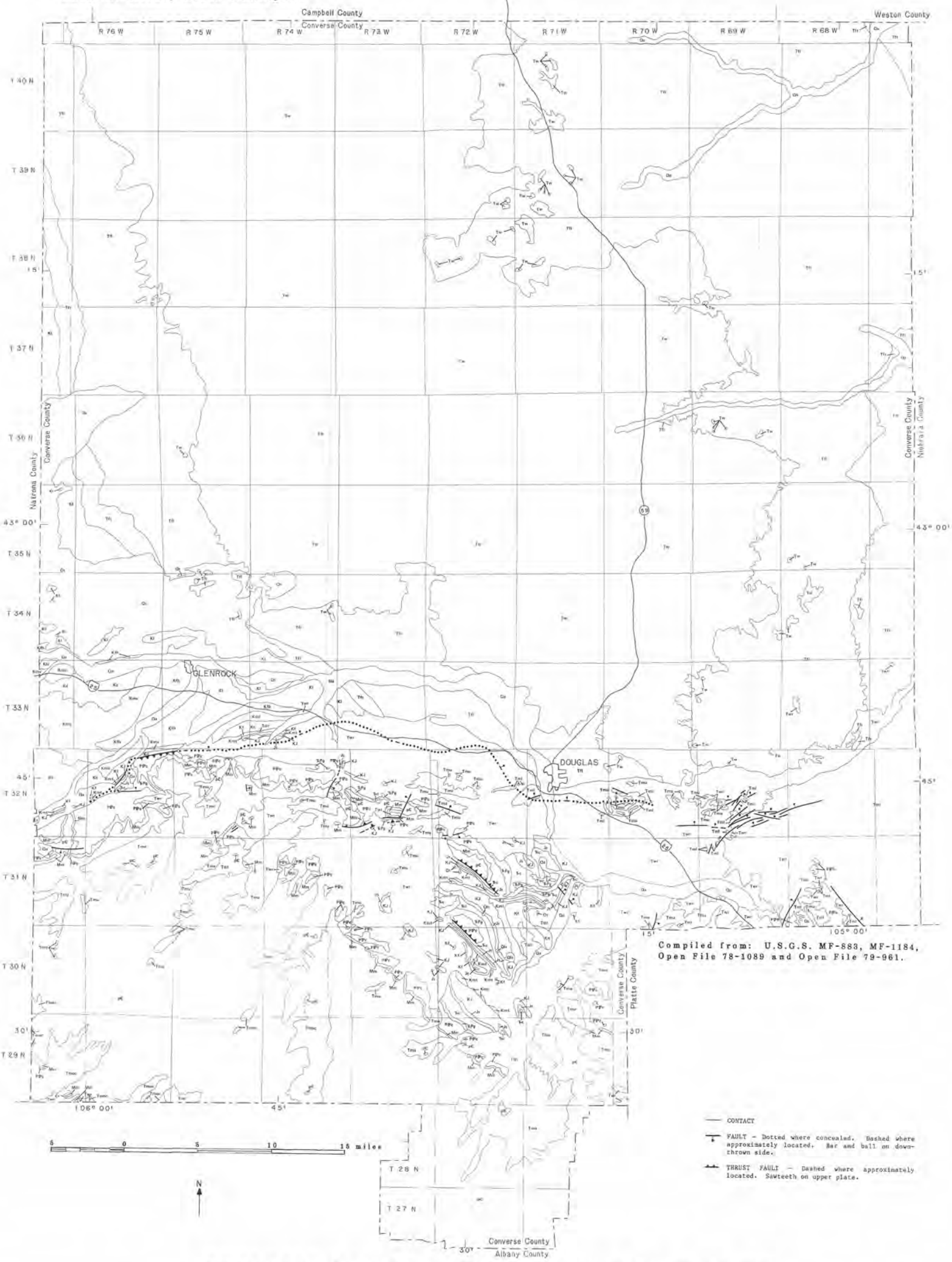
THE GEOLOGICAL SURVEY OF WYOMING
Gary B. Glass, State Geologist

OPEN FILE REPORT 85-13



GEOLOGIC MAP OF CONVERSE COUNTY, WYOMING

Compiled by Rodney H. De Bruin

1985

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS (HOLOCENE AND PLEISTOCENE)

Qa Alluvial deposits — Unconsolidated and poorly consolidated clay, silt, sand, and gravel. Deposited mainly in flood plains and low terraces.

Qt Terrace gravel — Pebble, cobble, and boulder deposits containing some clay, silt, and fine sand. Occurs on high terraces.

Qs Dune sand — Fine windblown sand.

Qls Landslide deposits — Unsized and unsorted rock debris emplaced by mass movement.

Tmu UPPER MIOCENE ROCKS — Fine- to coarse-grained, light gray to greenish-gray, yellowish-gray, and orange-gray sandstone interbedded and interfingered in upper part with conglomerate, claystone, and freshwater limestone. White to dark gray, vitric tuff beds near top. Lower part has hard, "pipy," calcareous sandstone concretions. Thickness 350 to 600 feet.

Tml LOWER MIOCENE ROCKS — light gray to buff, fine-grained, poorly bedded sandstone containing abundant magnetite grains. Some siltstone, limestone, and tuff. Lenticular conglomerate near base. Thickness 0 to 700 feet.

Tmoc MIOCENE(?) and OLIGOCENE(?) CONGLOMERATE — Light gray conglomerate with clas's of Precambrian rocks, interbedded with blocky brown and gray claystone. Thickness 0 to 500 feet.

Twr WHITE RIVER FORMATION (OLIGOCENE) — White to pale pink and pale green tuffaceous, bentonitic claystone which breaks with a characteristic concholdal fracture. Lenses of gray sandstone and arkosic conglomerate. Thickness 0 to 1,500 feet.

Tw WASATCH FORMATION (EOCENE) — Buff, arkosic sandstone, lenticular conglomerate, drab siltstone, carbonaceous shale, and many coal beds. Some varicolored mudstone. Thickness 0 to 2,000 feet.

FORT UNION FORMATION (PALEOCENE)

Tfl Lebo Member — Fine- to coarse-grained, drab to gray sandstone, finely conglomeratic in part, interbedded with drab siltstone, claystone, shale, and thin coal beds. Thickness 0 to 2,500 feet.

Tft Tullock Member — Drab to gray. Contains massive, light-gray sandstones. Lighter colored than Lebo Member. Thickness 0 to 1,500 feet.

Kl LANCE FORMATION (UPPER CRETACEOUS) — Somber shale and drab, massive, lenticular, concretionary sandstone; many thin coal beds in lower half. Thickness 2,000 to 2,500 feet.

Kfh FOX HILLS SANDSTONE (UPPER CRETACEOUS) — White to light gray sandstone and gray sandy shale containing marine fossils. Thickness 150 to 200 feet.

Kle LEWIS SHALE (UPPER CRETACEOUS) — Gray marine shale containing many gray and brown, lenticular, concretion-rich sandstone beds. Thickness 1,000 feet.

Kmv MESAVERDE FORMATION (UPPER CRETACEOUS) — Teapot Sandstone Member at top; gray sandstone, shale, and coal in middle; nonmarine, gray Parkman Sandstone Member at base. Thickness 600 to 1,200 feet.

Kc CODY SHALE (UPPER CRETACEOUS) — Gray to black, soft, limy marine shale and thin bentonite beds. Lenticular sandstone common in upper part. Thickness 3,000 to 4,500 feet.

Kn NIOBRARA FORMATION (UPPER CRETACEOUS) — Dark gray to black, concretionary shale and light gray to yellow, chalky limestone. Upper limestone is very seleniferous. Thickness 560 to 590 feet.

Kf FRONTIER FORMATION (UPPER CRETACEOUS) — Dark gray and black shales with thin concretionary sandstone. Wall Creek Sandstone Member at top. Thickness 600 to 700 feet.

Kmt MOWRY AND THERMOPOLIS SHALES (LOWER CRETACEOUS)

Mowry Shale — Dark gray to black, siliceous, hard shale; weathers silvery gray. Contains abundant fish scales. Thickness 80 to 150 feet.

Thermopolis Shale — Black, fissile shale with thin, cream-colored bentonite partings. Includes Muddy Sandstone Member at top. Thickness 150 to 250 feet.

KJ CLOVERLY AND MORRISON FORMATIONS

Cloverly Formation (Lower Cretaceous) — Upper shaly, gray, ferruginous sandstone, underlain by gray to variegated claystone. Buff-weathering gray sandstone with chert-pebble conglomerate lenses at base. Thickness 150 to 310 feet.

Morrison Formation (Upper Jurassic) — Dull, variegated, silty claystone; freshwater limestone; and lenticular, yellow to gray sandstone. Thickness 100 to 300 feet.

Js SUNDANCE FORMATION (UPPER AND MIDDLE JURASSIC) — Green to greenish-gray, glauconitic sandstone and shale underlain by gray, green, and red, nonglauconitic sandstone and shale. Canyon Springs Sandstone Member at base. Thickness 260 to 475 feet.

Ŧc CHUGWATER FORMATION (UPPER(?) TO LOWER TRIASSIC) — Red siltstone, shale, and silty sandstone, with thin gypsum partings. Thickness 650 to 850 feet.

ŦPg GOOSE EGG FORMATION (LOWER TRIASSIC TO LOWER PERMIAN) — Interbedded red to ocher shale and siltstone, thin limestone, limestone, breccia, and gypsum beds. Thickness 200 to 350 feet.

PIPc CASPER FORMATION (LOWER PERMIAN AND UPPER AND MIDDLE PENNSYLVANIAN) — Red, buff, and gray, feldspathic to quartzose sandstone with conspicuous festoon cross lamination, interbedded with light-colored, fossiliferous limestone and red shale. Thickness 550 to 800 feet.

PIPh HARTVILLE FORMATION (LOWER PERMIAN AND PENNSYLVANIAN) — Light gray, massive limestone and dolomite, cherty in part, with some red and light gray, calcareous sandstone and siltstone. Locally cavernous and brecciated in upper part. Quartzitic sandstone at base. Thickness 850 to 1,230 feet.

Mm MADISON LIMESTONE (LOWER MISSISSIPPIAN) AND CAMBRIAN(?) — Thickness 0 to 350 feet.

Madison Limestone — Blue-gray, massive, cavernous, cherty limestone and dolomite.

Cambrian Rocks — Arkosic sandstone, present locally, may be of Cambrian age.

Єr CAMBRIAN ROCKS — Includes Gallatin Formation (Upper and Middle Cambrian), and Flathead Sandstone (Middle Cambrian). Thickness 0-500 feet.

pЄ PRECAMBRIAN ROCKS — Mainly granite and amphibolite with minor granitic gneiss and schist, migmatite, and inclusions of metasedimentary rocks.

This map has not been reviewed for it's conformity with the editorial standards of the Geological Survey of Wyoming

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