

EXPLANATION

SEDIMENTARY ROCKS AND SURFICIAL DEPOSITS

- Qa Alluvial deposits (Holocene)**
Unconsolidated and poorly consolidated clay, silt, sand, and gravel, mainly in floodplains and lowest Holocene stream terraces. Thickness 0 to 50 feet.
- Qac Mixed alluvium and colluvium (Holocene/Pleistocene)**
Sand, silt, clay, and gravel deposited mainly along intermittent streams; includes slope wash and smaller alluvial fan deposits that coalesce with alluvium. Thickness approximately 0 to 50 feet.
- Qt Terrace deposits (Pleistocene/Tertiary?)**
Beds of coarse sand and gravel with occasional boulders and lenses of silt and clay. Includes fragments of weathered sandstone and limestone cobbles, predominance varies depending on source of feeding stream. Occur along present drainages, 80 feet to over 750 feet above modern flood plains. Highest terraces could be Late Tertiary in age. Thickness approximately 0 to 10 feet.
- Qls Landslide deposits (Holocene/Pleistocene)**
Blocks of bedrock or loose slope debris; arrows point in the inferred direction of movement. Occur in the Cambrian shales along the Middle Fork of the Powder River.

UNCONFORMITY

- Twr? White River Formation (?) (Oligocene)**
Lenticular gravel or conglomerate beds interbedded with white, gray, pink, and brown buffaceous claystone. Occurs as erosional remnants toward the summit of the southern Bighorn Mountains on the west side of the map. Thickness less than 50 feet.

UNCONFORMITY

- Tw? Wasatch Formation (?) (Eocene)**
Consolidated lenticular conglomerate beds comprised of locally derived pebbles and cobbles of sedimentary and igneous rocks. Possibly equivalent to the Kingsbury or Moncrief Conglomerate Members of the Wasatch. Deposits occur near the confluence of the Middle Fork of the Powder River and Buffalo Creek. Thickness from 10 to 30 feet.

UNCONFORMITY

- Js Sundance Formation (Upper and Middle Jurassic)**
Olive green, glauconitic, silty shale with minor sand lenses in upper portion. Locally, a thin gray coquina limestone occurs at the top of the sequence. Lower portion primarily yellowish gray, fine-grained sandstone. Middle portion can contain a thin fossiliferous limestone. Total thickness up to 350 feet.

UNCONFORMITY

- Tc Chugwater Formation (Triassic)**
Members included from top to bottom are Crow Mountain Sandstone-reddish orange fine-grained, calcareous sandstone; Alcova Limestone-prominent 5 to 10 foot thick purplish gray, fine-grained sandstone. Middle portion contains some fine-grained sandstone. Forms the prominent feature known as the Red Wall. Thickness is 750 to 850 feet.

- Tpge Goose Egg Formation (Lower Triassic and Permian)**
Dark red to reddish orange shale and siltstone with interbedded gypsum, limestone, and dolomite, mainly in the lower portion. Local thin conglomerate lenses made up of Paleozoic limestone, chert, and sandstone cobbles noted near the base of the formation on the upper portion of the South River Slope. Formation thickness 300 to 350 feet.

UNCONFORMITY

- Pt Tensleep Sandstone (Pennsylvanian)**
White to buff, medium- to fine-grained, massive sandstone; interbedded with thin limestone and dolomite beds, especially toward the base. Upper and middle sandstones are usually characterized by large-scale crossbeds. Thickness 350 to 400 feet.

- Fma Amsden Formation (Pennsylvanian and Upper Mississippian)**
Includes from top to bottom, Rancheater Limestone Member-gray to purplish limestone and dolomite, interbedded with shale, siltstone, and sandstone; Horseshoe Shale Member-reddish brown to maroon shale and siltstone with thin beds of sandstone and carbonates; and Darwin Sandstone Member (Upper Mississippian)-gray to buff, fine- to medium-grained, crossbedded sandstone. Thickness 250 to 300 feet.

UNCONFORMITY

- Mm Madison Limestone (Upper and Lower Mississippian)**
Limestone and dolomite. Upper portion bluish gray limestone with karst surface at top. Lower portion mainly dolomite and dolomitic limestone. Fossiliferous in most intervals. Thickness from 300 to 350 feet.

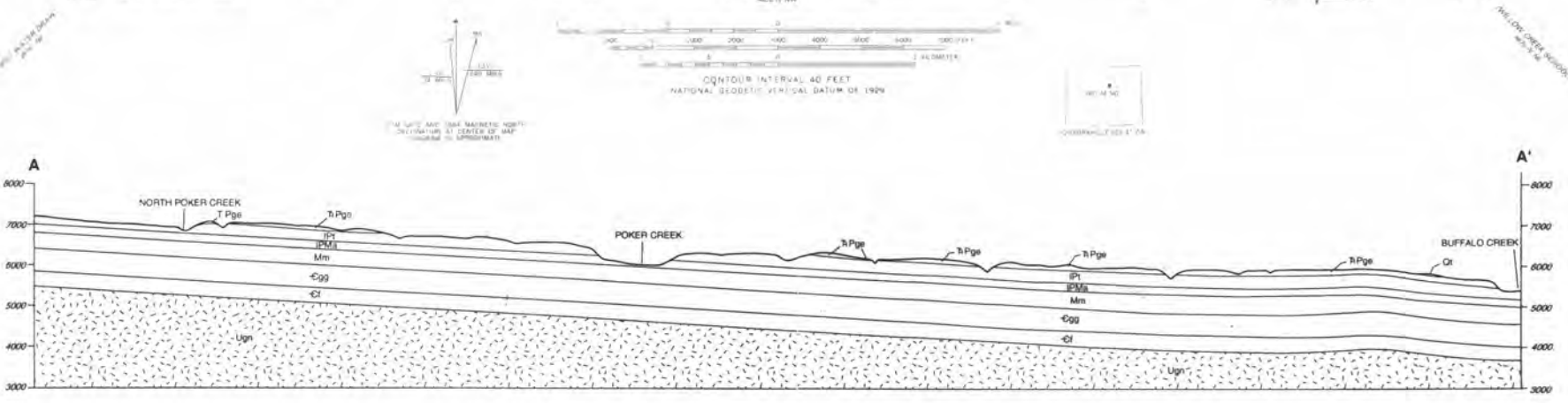
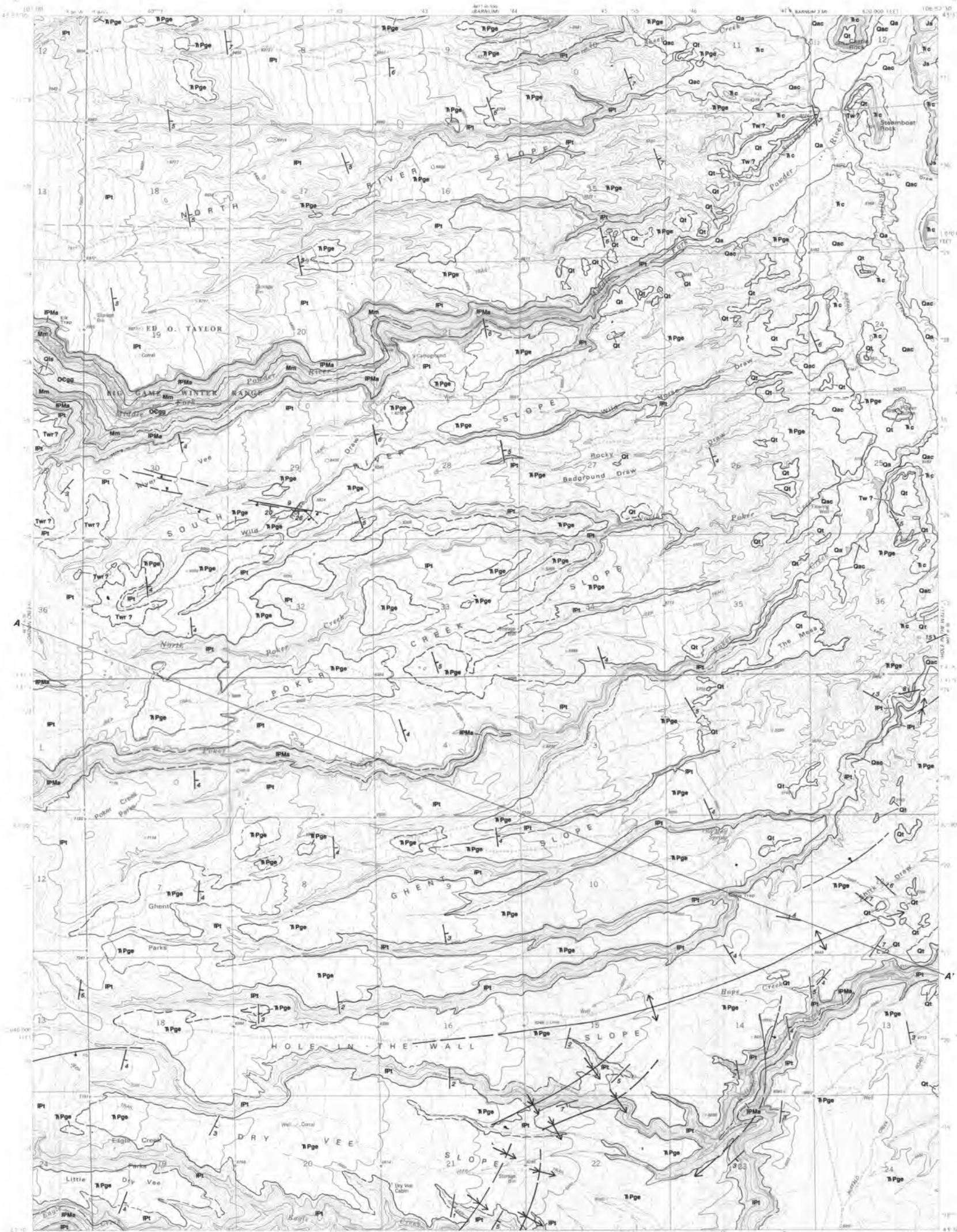
UNCONFORMITY

- Ocg Gallatin Limestone (Lower Ordovician and Upper Cambrian) and Gros Ventre Formation (Middle Cambrian) undivided**
Uppermost unit (Gallatin Limestone) contains resistant grayish red limestone and thin beds of flat-pebble conglomerate underlain by olive green to yellowish brown, glauconitic shale and siltstone. The middle unit (Gros Ventre Formation) includes light gray limestone, and silty and glauconitic, interbedded with soft gray shale and beds of flat-pebble conglomerate. The basal unit (Gros Ventre Formation) consists of yellowish brown to reddish brown medium- to coarse-grained glauconitic sandstone. The two formations are not distinguishable for mapping purposes in this area, occurring only at the upper reaches of the Middle Fork of the Powder River, on the west side of the map. Thickness up to 580 feet.

MAP SYMBOLS

- Formation contact
Dashed where approximately located.
- Fault
Dashed where approximately located, dotted where concealed. Bar and ball on downthrown block.
- Anticline
Trace of axial plane and direction of plunge determined by field dip measurements and by photo interpretation. Dashed where approximately located, dotted where concealed.
- Monocline
Trace of axial plane as determined by field measurements and by photo interpretation. Dashed where approximately located. Short arrow denotes steeper dipping limb.
- Strike and dip of beds, showing angle of dip.
- Cross section location
Line of section. Precambrian granite gneiss (Archean-3,000+ Ma in age)-Ugn is shown on the cross section only as it does not crop out in map area. In addition, the sedimentary unit Flathead Sandstone (Middle Cambrian)-Cf is shown on the cross section but does not crop out in the map area.

This map has not been edited for conformity with the editorial standards of the Wyoming State Geological Survey.



PRELIMINARY GEOLOGIC MAP OF THE
POKER BUTTE QUADRANGLE,
JOHNSON COUNTY, WYOMING

by
Alan J. Ver Ploeg
1998