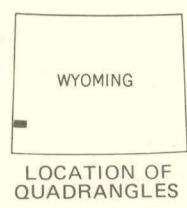
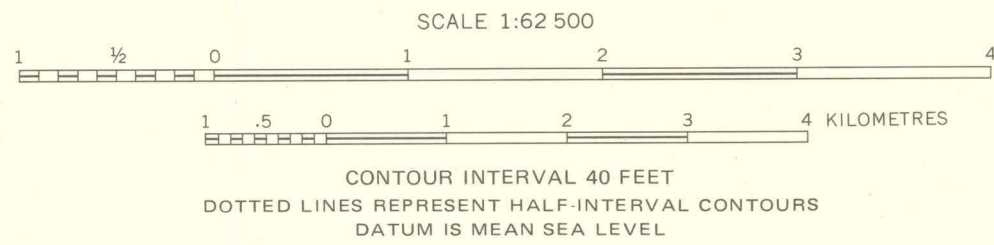
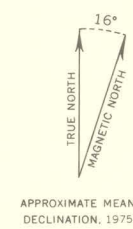
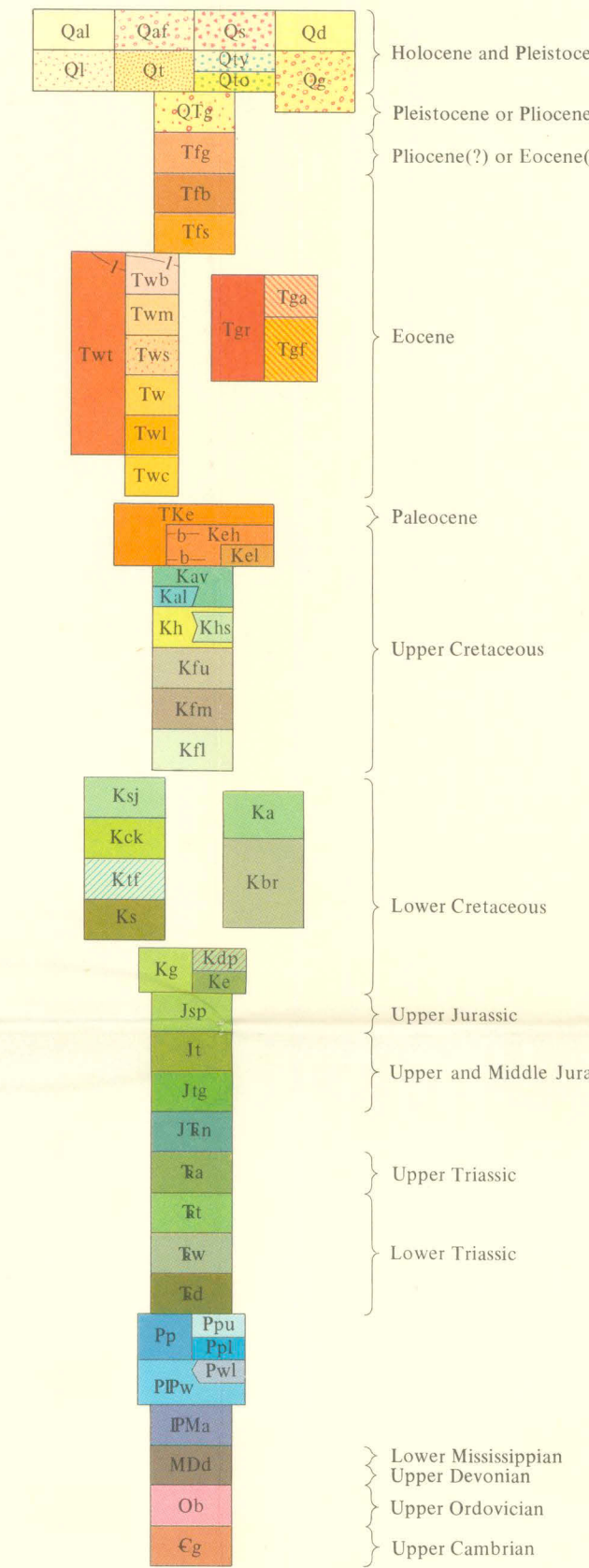


Base from U.S. Geological Survey, 1954
10,000-foot grid based on Wyoming coordinate system, west zone
Interstate 80 N as of 1973



Geology by W. W. Rubey, S. S. Oriel, and J. I. Tracy, Jr., 1947, 1954-1955;
in 1956, assisted by L. B. Pratt and W. E. Le Masurier; in 1958, assisted by
J. L. Rau and S. B. Montgomery; in 1959, assisted by R. L. Armstrong and
D. C. Noble; in 1961, assisted by J. H. Bowie; and in 1964, assisted by
J. P. Kern

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- STREAM DEPOSITS (HOLOCENE AND PLEISTOCENE)** – Gravel, sand, silt, and clay, poorly sorted, unconsolidated
Channel and flood-plain deposits along streams
- ALLUVIUM AND COLLUVIUM IN TRIBUTARY VALLEYS AND ALLUVIAL FANS**
- LANDSLIDE DEPOSITS (HOLOCENE AND PLEISTOCENE)** – Large hummocky masses of downfold rock, principally Wasatch Formation; includes slump blocks and rockslides
- TALUS AND RUBBLY SLOPE DEPOSITS (HOLOCENE AND PLEISTOCENE)** – Rock debris, angular, unconsolidated
- LOESS (HOLOCENE AND PLEISTOCENE)** – Silt and fine sand, poorly consolidated
- TERRACE DEPOSITS (HOLOCENE AND PLEISTOCENE)** – Gravel, sand, and silt beneath terraces along larger streams
Younger terrace deposits – Topographically lower than Qto
Older terrace deposits – Topographically higher than Qto
- GRAVEL (HOLOCENE AND PLEISTOCENE)** – Gravel, rubble, sand, and silt on dissected terraces and pediments; lag concentrates from Tertiary conglomerates and debris transported from Mesozoic units. May be partly older than Quaternary
- HIGH TERRACE DEPOSITS (PLEISTOCENE OR PLEISTOCENE)** – Gravel, sand, and clay on straths 250 to 350 feet above Hams Fork
- FOSSILS FORMATION** – Light-colored tuffaceous sandstone and siltstone, locally conglomeratic
- GOOSEBERRY MEMBER (PLEISTOCENE OR EOCENE?)** – Indurated conglomerate; pebbles and cobbles of quartzite, limestone, and volcanic rocks in a white silty limestone matrix
- BUILDING HOLLOW MEMBER (EOCENE)** – Green and gray to white tuff, moderately tuffaceous sandstone, siltstone, and claystone. Fossil fish quarries are near top of this unit
- SILLEN MEMBER (EOCENE)** – Gray and pale-pinkish-gray siltstone, sandstone, and mudstone; partly tuffaceous; conglomerate interbeds contain cobbles of black conglomeratic quartzite
- GREEN RIVER FORMATION (EOCENE)**
- Angelo Member** – Bluish-white-weathering calcareous shale, siltstone, and siliceous limestone, laminated tan limestone, and brown algal limestone
- Fossil Butte Member** – Buff laminated limestone and marlstone, brown oil-shale, and gray siltstone and claystone. Fossil fish quarries are near top of this unit
- WASATCH FORMATION (EOCENE)**
- Tump Member** – Diamictic; boulders and blocks in a red mudstone matrix; unsorted; grades into and intergrades with other members of the Wasatch Formation
- 1 – Limestone bed**
- Bulpen Member** – Red, gray, and green mudstone, tan to brown and gray sandstone, and brown laminated limestone like that in the Green River Formation
- 1 – Limestone bed**
- Mudstone tongue** – Red and green mudstone, brown sandstone, and thin beds of limestone
- Sandstone tongue** – Brown-weathering gray crossbedded sandstone and subordinate amounts of mudstone; tongues into the Fossil Butte Member of the Green River Formation
- Main body** – Red, maroon, yellow, and gray variegated mudstone; fine- to coarse-grained brown, yellow, and gray sandstone; lenses and beds of conglomerate containing pebbles and boulders of quartzite, chert, and limestone
- Lower member** – Gray, brown, and red mudstone; carbonaceous gray claystone; brown- and yellow-weathering gray sandstone; red conglomerate; brown indurated limestone; and psilolite limestone. Unconformable in places with overlying main body; mapped with the main body in a few places
- Basal conglomerate member** – Pebbles, cobbles, and boulders chiefly of Nugget Sandstone in a sandstone matrix derived from the Nugget. Fractured and re-emended in places. May include strata of Paleocene age
- EVANSTON FORMATION:**
- Main body** in eastern part of mapped area and Evanston Formation undivided in the western part (Paleocene and Upper Cretaceous) – Gray siltstone and sparse red mudstone, carbonaceous claystone, lignite, and sparse coal beds; light-gray quartzitic siltstone, gray carbonaceous sandstone, and dark-brown concretionary ironstone
- Hams Fork Conglomerate Member (Upper Cretaceous)** – Boulder-conglomerate beds containing pebbles, cobbles, and boulders of well-rounded quartzite, chert, and limestone; gray to brown crossbedded sandstone; and gray mudstone
- b – Mapped trace of boulder-conglomerate bed**

- Kel** Lower member (Upper Cretaceous) – Gray to dark-gray mudstone, siltstone, and gray carbonaceous sandstone; only in northeastern part of Kemmerer quadrangle
- Kav** ADAMVILLE FORMATION (UPPER CRETACEOUS) – Yellow to brown-weathering gray sandstone, siltstone, and carbonaceous clay. Thin beds of conglomerate in upper part. Numerous workable coal beds in middle and lower parts
- Kal** Lazear Sandstone Member – Light-gray to white sandstone and grit; basal part of formation
- Kh** HILLIARD SHALE (UPPER CRETACEOUS) – Dark-gray to tan marine claystone, siltstone, and sandy shale; thin beds of light-gray sandstone, grit and bentonite
- Khs** Shurtliff Sandstone Member – Near middle of formation; divides bulk of formation (described above) into two parts. Sandstone ledges in upper and lower parts, shale in middle; abundant large oyster shells. Member not recognized south of railroad; thickens northward
- FRONTIER FORMATION (UPPER CRETACEOUS):**
- Kfu** Upper unit – Hogbacks of tan sandstone; lignitic shale and Kemmerer (No. 1) coal bed. Abundant oyster shells
- Kfm** Middle unit – Prominent hogbacks of white to light-gray sandstone in upper half (Oyster Ridge Sandstone Member); tan sandstone, dark shale, and Willow Creek (No. 5) coal bed in lower half
- Kfl** Lower unit – Beds of white and brown sandstone, thinner and less resistant than those above; tan siltstone and dark-gray shale; a few thin beds of lignite and of pink, gray, and white porcelaine (sluffed volcanic ash)
- Ksj** SAGE JUNCTION FORMATION (LOWER CRETACEOUS) – Light-gray and tan sandy siltstone and shale; tan sandstone and quartzite, fossiliferous; thin beds of grit and red beds in upper part; numerous thin beds of white, gray, green, and pink porcelaine; few beds of brown to gray fossiliferous limestone. Several coal beds in lower part
- Kck** COKKVILLE FORMATION (LOWER CRETACEOUS) – Light-gray and tan fossiliferous sandstone, sandy siltstone, and porcelaine; light- to dark-gray shale; highly fossiliferous tan limestone; calcareous concretions. A few coal beds in upper part
- Ktf** THOMAS FORK FORMATION (LOWER CRETACEOUS) – Red and variegated mudstone and sandstone in part shades; brown to gray calcareous nodules
- Kv** SMITHS FORMATION (LOWER CRETACEOUS) – Tan quartzitic sandstone predominant in upper part and ferruginous black shale in lower part, but both interbedded throughout the formation
- Ka** ASPEN SHALE (LOWER CRETACEOUS) – Light- to dark-gray siltstone and claystone, quartzitic sandstone, and porcelaine. Lower part forms prominent silver-gray hogbacks
- Kbr** BEAR RIVER FORMATION (LOWER CRETACEOUS) – Black fissile claystone, resistant fine-grained tan to olive-brown sandstone, and highly fossiliferous limestone. Some layers bentonitic to porcelaine; others heavily iron stained
- GANNETT GROUP (LOWER CRETACEOUS)**
- Upper part** – Red sandy mudstone containing discontinuous beds of aphanitic gray or reddish- to purplish-gray limestone (Draney or Peterson Limestone equivalents)
- Ephraim Conglomerate** – Brick-red sandy mudstone, coarse- to fine-grained red to tan crossbedded sandstone, and massive red conglomerate containing gray to black chert pebbles
- Jsp** STUMP SANDSTONE AND PREUSS RED BEDS (UPPER JURASSIC) – Discontinuous thin greenish-gray sandstone and limestone (Stump Sandstone) at top. Dull-reddish- to purplish-gray sandy siltstone and silty claystone; thin beds of red, gray, and tan sandstone (Preuss Red Beds)
- Jt** TWIN CREEK LIMESTONE (UPPER AND MIDDLE JURASSIC):
- Upper six members** – Thin-bedded sandy argillaceous limestone and calcareous siltstone that weather light gray and yellowish gray and form conspicuous bare slopes, and layers of massive oolitic limestone. A few beds of red calcareous siltstone in lower part, a conspicuous one 40 feet thick about 500 feet above base
- Gypsum Spring Member** – Red calcareous mudstone and light-gray limestone breccia
- NUGGET SANDSTONE (JURASSIC? AND TRIASSIC?)** – Buff to pinkish-tan quartzite and slightly calcareous sandstone; locally crossbedded; massive, fine to medium grained. Forms prominent ridges
- Ka** ANKAREH RED BEDS (UPPER TRIASSIC) – Red sandy calcareous mudstone and red, purple, and tan fine-grained quartzite, sandstone, and siltstone. Discontinuous bed of dense red to greenish-gray limestone near middle
- THAYNES LIMESTONE (LOWER TRIASSIC)** – Gray sandy and silty limestone and greenish-gray calcareous siltstone. Some calcareous and silty claystone. A few beds of red calcareous mudstone, a persistent one near middle of formation. Upper part contains more limestone and weathers pale yellowish gray; lower part weathers dark brown and has numerous manganese stains
- Tw** WOODSIDE RED BEDS (LOWER TRIASSIC) – Nonresistant red siltstone and claystone; a few thin beds of red sandstone and gray limestone
- Kd** DINWOODY FORMATION (LOWER TRIASSIC) – Thin layers of dull-greenish-gray calcareous siltstone, claystone, and argillaceous sandy limestone; weathers tan or gray
- Pp** PHOSPHORIA FORMATION AND EQUIVALENT STRATA (PERMIAN)
- Ppu** Upper part – Dark-gray siltstone, thin-bedded black chert and limestone, and a few thin beds of phosphatic limestone and sandstone with units of dolomite and limestone
- Ppl** Lower part – Nonresistant dark phosphatic siltstone, gray dolomite, and dark cherty siltstone; several beds of phosphate rock and vanadiferous carbonaceous siltstone
- PPw** WELLS FORMATION (PERMIAN AND PENNSYLVANIAN) – Pale-buff to light-gray fine-grained quartzite and sandstone with units of dolomite and limestone
- Pwl** Gray limestone (Permian) – Discontinuous; at top of formation. Probably equivalent to Grandeur Member of Park City Formation
- Pma** AMSDEN FORMATION (PENNSYLVANIAN AND MISSISSIPPIAN) – Red, gray, and black cherty limestone and limestone breccia; interbeds of red to yellow quartzite and sandstone and red, yellow, and green siltstone and claystone
- Md** DARBY FORMATION (LOWER MISSISSIPPIAN AND UPPER DEVONIAN) – Dark-gray, buff- to dark-brown-weathering massive to medium-bedded ferrid dolomite; interbeds of black, yellow, and red sandy calcareous siltstone in upper unit of gray dolomite
- Ob** BIGHORN DOLOMITE (UPPER ORDOVICIAN) – Dense massive light- to dark-gray dolomite
- Cg** GALLATIN LIMESTONE (UPPER CAMBRIAN) – Yellow- and tan-mottled gray limestone; thin bedded to massive, partly dolomitic

- CONTACT** – Dashed where approximately located; dotted where concealed
- HIGH-ANGLE FAULT** – Dashed where approximately located; dotted where concealed. U, upthrown side; D, downthrown side
- FAULT SCARP** – Showing dip. Dashed where approximately located. Hashures on downthrown side
- TRANSVERSE FAULT** – Dashed where approximately located. Arrows show relative horizontal movement
- THRUST FAULT** – Dashed where approximately located; dotted where concealed. T on upper plate
- FOLDS** – Showing crestline or troughline. Dashed where approximately located; dotted where concealed
- Anticline**
- Overturned anticline**
- Syncline**
- Overturned syncline**
- STRIKE AND DIP OF BEDS**
- Horizontal**
- Inclined**
- Vertical**
- Overturned**
- COAL OR PHOSPHATE MINE, ABANDONED**
- PHOSPHATE TRENCH**
- PROSPECT PIT**
- DRY HOLE** – Drilled for oil or gas
- COAL STRIP MINE**