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

Map Series 17

MS-17

EXPLANATION

Terrace Levels

Qtrc$_1$ Qthc$_1$ Qtbc$_1$ Qt$_1$
Qttc$_1$ Qtrc$_2$ Qthc$_2$ Qtbc$_2$ Qt$_2$
Qthc$_3$ Qtbc$_3$ Qt$_3$
Qtbc$_4$ Qt$_4$
Qtbc$_5$ Qt$_5$
Qt$_6$
Qt$_7$

Qt Terraces along Shell Creek. Qt$_1$ is lowest surface, Qt$_7$ is highest.
Qtbc Terraces along Beaver Creek
Qthc Terraces along Horse Creek. [Qtahc is Ancestral Horse Creek Terrace].
Qtrc Terraces along Red Canyon Creek
Qttc Terraces along Trapper Creek

Qp$_1$ Qp$_2$ Qp$_3$ — Pediment
Dipping erosion surface developed on bedrock. Qp$_1$ is closest to mountain front.

Qes — Erosion Surface
Nearly level erosion surface of unknown origin.

Qtc — Talus Cone
Rockfall deposits.

Qls — Landslide Material
Blocks of bedrock or loose slope debris.

Qal — Alluvium
Unconsolidated deposits of alluvium along stream valleys at or near present stream levels.

Qaf — Alluvial Fan
Unconsolidated fan-shaped deposits of alluvium.

Kf — Frontier Formation
Only the basal Peay Sandstone is present. Fine-grained, light gray sandstone. Thickness 70 feet.

Kmr — Mowry Shale
Upper part is dark to light gray shale, in part siliceous; gray siltstone and bentonite beds at top. Thickness 370 feet. Lower part is dark gray shale with thin bentonites and ferruginous shales. This unit was mapped as the Shell Creek Shale by the author, but has been included with the Mowry to reflect the most recent accepted nomenclature. Thickness 215 feet.

Kmd Kt — Thermopolis Shale
Dark gray, nonresistant shale. Upper 34 feet is Muddy Sandstone Member (Kmd) which is light gray sandstone with thin shale beds. Thickness 335 feet.

Ksm Kcl — Cloverly Formation
Variegated mudstone, shale, sandstone, and lenticular cross-bedded sandstone. Upper 160 feet is mapped as Sykes Mountain Member (Ksm) which is interbedded yellow or brown siltstone and sandstone and medium gray shale. Thickness 330 feet.

Jm — Morrison Formation
Calcareous variegated siltstone and mudstone with thin sandstone and limestone beds. Thickness 320 feet.

Js — Sundance Formation
Upper part is interbedded, fossiliferous, glauconitic shale, and sandstone. Lower part is green, fossiliferous shale with medial oomicrite and upper calcarenite units. Thickness 330 feet.

Jgs — Gypsum Spring Formation
Interbedded siltstone and carbonate with basal massive gypsum or carbonate collapse breccia. Thickness 200 feet.

Rc — Chugwater Formation
Thin carbonate member overlying reddish-brown calcareous siltstone. Thickness 600 feet.

PPge — Goose Egg Formation
Upper part is interbedded sandstone, carbonate, and evaporite; Lower part is red shale and siltstone. Thickness 225 feet.

Pt — Tensleep Sandstone
Thick, cross-bedded sandstone underlain by interbedded sandstone and siltstone. Thickness 100 feet.

PMa — Amsden Formation
Siltstone and dolomite with a basal sandstone. Thickness 160 feet.

Mm — Madison Limestone
Light gray, massive, well-indurated carbonate with upper *Condonophycus austini* layer. Thickness 750 feet.

Dd — Darby Formation
Interbedded silty shale and carbonate. Thickness 100 feet.

Obh — Bighorn Dolomite
Light gray to white, well-indurated dolomite. Thickness 380 feet.

Cg — Gallatin Limestone
Interbedded green intramicrite and glauconitic shale. Thickness 500 feet.

Formation Contact
Dashed where approximately located; dotted where concealed.

Fault
Dotted where inferred. [D denotes downthrown side, U denotes upthrown side].

Monocline
Trace of axial plane and direction of plunge. Small arrow on more inclined limb.

Syncline
Trace of axial plane and direction of plunge. Dashed where approximately located.

Strike and dip of beds.

Quaternary | Upper Cretaceous | Lower Cretaceous | Jurassic | Triassic | Permian | Pennsylvanian | Mississippian | Devonian | Ordovician | Cambrian

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Cartography by Fred H. Porter

SCALE 1:24 000
1 MILE
7000 FEET
1 KILOMETER
CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Medium-duty — Light-duty
Unimproved dirt
U.S. Route

WYOMING
QUADRANGLE LOCATION

GEOLOGIC MAP OF SHELL QUADRANGLE, WYOMING

by

Kenneth A. Manahl

1985