



CORRELATION OF MAP UNITS									
Qs	Qor	Qf	Qls	Qlsy	Qc	Qsb	Qlg	Holocene	QUATERNARY
	Qg	Qbrm		Qlso				Pleistocene	
UNCONFORMITY									
Tc								Miocene	TERTIARY
Teb								Eocene	
UNCONFORMITY									
TKp								Paleocene	CRETACEOUS
UNCONFORMITY									
Kh								Upper Cretaceous	
UNCONFORMITY									
Kme									
UNCONFORMITY									
Kmv									

DESCRIPTION OF MAP UNITS

Qs SWAMP DEPOSITS (HOLOCENE)--Clay, silt, and fine sand, dark-gray and brown; rich in vegetal debris

Qg OUTWASH GRAVEL (HOLOCENE AND PLEISTOCENE)--Gravel deposited along flood plains of major streams; composed chiefly of quartzite rock fragments; contains some concentrations of placer gold

Qf ALLUVIAL FAN DEPOSITS (HOLOCENE AND PLEISTOCENE)--Rudely stratified gravel, sand, silt, and clay spread out from mouths of ravines; shows linear sorting along distributaries; finer grained debris is progressively more abundant toward downstream margins of fans

Qls LANDSLIDE DEBRIS (HOLOCENE AND PLEISTOCENE)--Chaotically mixed boulders and finer grained rock debris replaced by mass movement

Qlsy Younger slide debris (Holocene)--In places still actively moving

Qlso Older slide debris (Holocene and Pleistocene)--Generally stabilized and overgrown with vegetation

Qc COLLUVIUM (HOLOCENE AND PLEISTOCENE)--Slope wash of silt- to boulder-sized fragments derived from underlying and adjacent formations

Qsb SLUMP BLOCKS (HOLOCENE AND PLEISTOCENE)--Coherent masses of bedrock that have moved downslope

Qlg LANDSLIDE AND GLACIAL DEBRIS (HOLOCENE AND PLEISTOCENE)--Landslide and glacial debris so completely intermixed that they cannot be mapped separately

Qbrm MORAINAL DEBRIS OF BURNED RIDGE GLACIATION (PLEISTOCENE)--Till believed to be contemporaneous with the Burned Ridge moraine that was deposited across the floor of Jackson Hole 10 miles (16 km) to the southwest

Qg2 GLACIAL DEBRIS OF SECOND MAJOR GLACIATION (PLEISTOCENE)--Very old formless glacial deposits; preserved only at higher elevations or under younger glacial debris

Qr UNDIFFERENTIATED GLACIAL DEBRIS (PLEISTOCENE)--Morainal debris deposited by ice that moved from the west, north, and northeast

Tc COLTER FORMATION (MIOCENE)--Sandstone, light-gray, tuffaceous, soft, poorly cemented; massive to irregularly bedded. Only the lower 1,000 feet (305 m) present in quadrangle

Teb BASALT, MAFIC ANDESITE, AND ASSOCIATED VOLCANICLASTIC ROCKS (EOCENE)--Red and green mafic intrusive and extrusive igneous rocks, grading laterally in places to crudely stratified volcaniclastic rocks. Thickness uncertain. Has a K-Ar age of 48.5 m.y. A green tuff overlying the basalt 2 miles (3 km) west of the quadrangle boundary has a K-Ar age of 45.9 m.y. Some of it may be present within the quadrangle

TKp PINYON CONGLOMERATE (PALEOCENE AND UPPER CRETACEOUS)--Boulder conglomerate, rusty-brown, composed of highly rounded fragments of quartzite in rusty coarse-grained sandstone matrix; sporadic boulders as much as 18 inches (46 cm) in diameter. Tiny gold flakes common in conglomerates. Basal contact along east margin of quadrangle difficult to pick. Thickness at least 1,000 feet (305 m)

Kh HAREBELL FORMATION (UPPER CRETACEOUS)--Conglomerate, sandstone, siltstone, and claystone. Lower part is chiefly sandstone, siltstone, and claystone. Quartzite pebble and cobble conglomerates are progressively more abundant higher in section. Sandstone is brown, gray, and dull green, silty, hard, thin bedded, tuffaceous in part, rich in magnetite. Claystone is gray, dark green, mustard yellow, and black, silty, tuffaceous, marine or brackish water in part

Kbh Bobcat Member--Comprises upper part of formation. Consists of 2,000 feet (610 m) or more of gold-bearing quartzite conglomerate with a few sandstone and claystone beds. Total thickness of formation is more than 5,000 feet (1,524 m)

Kme MEETEETSE FORMATION (UPPER CRETACEOUS)--Sandstone, chalky-white to rusty-brown, interbedded with white and yellow tuff and bentonite, plastic carbonaceous black shale, and thin quartzite pebble conglomerates containing small sparse gold flakes; largely or entirely nonmarine. Thickness 500 feet (152 m) or more

Kmv MESAVERDE FORMATION (UPPER CRETACEOUS)--Sandstone, gray to rusty-brown, massive to thin-bedded, and dark-gray carbonaceous shale and siltstone; sparse thin coal beds; largely nonmarine. Thickness 800 feet (245 m) or more

Contact

Member contact

Mappable bed of quartzite roundstone conglomerate-- Generally less than 100 feet (30 m) thick; zones of conglomerate several hundred feet thick are shown (In selected places only) as clusters of circles. In other places, as, for example, most of the Bobcat Member of the Harebell Formation, the thickness and extent of conglomerate makes any such portrayal cartographically confusing

Normal fault--Dotted where concealed or inferred. Bar and ball on downthrown side

Anticline

Syncline

Strike and dip of beds

Inclined

Vertical

Overtured

Horizontal

Generalized dip without strike

Location of measured and sampled section--Dotted where offset, covered, or not detailed

Outer margin of terrace in outwash gravel. T-1 is oldest and is at approximate level of major streams. T-2 is about 10 feet (3 m) above T-1; T-3 is 15-50 feet (4.6-15.2 m) above T-1; T-4 is 20-50 feet (6.1-15.2 m) above T-3; T-5 is about 190 feet (58 m) above T-3 (T-4 not distinguishable along this part of Pilgrim Creek)

Field station where attitudes were taken, samples collected for chemical analysis or fossils collected--L66-42 *Mytilus* is site of *Mytilus*, fossil collection described by Kauffman (1973)¹

Gold placer ditch dug in the 1880's and 1890's

Active gold placer operation

Seep of flammable gas

¹Kauffman, E. G., 1973, A brackish water biota from the Upper Cretaceous Harebell Formation of northwestern Wyoming: Jour. Paleont., v. 47, no. 3, p. 436-446.

Base from U.S. Geological Survey, 1965

SCALE 1:24,000

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20 FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

U.S. Geological Survey
OPEN FILE REPORT
This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature.

WYOMING
QUADRANGLE LOCATION

GEOLOGIC MAP OF WHETSTONE MOUNTAIN QUADRANGLE, TETON COUNTY, WYOMING
By
J. D. Love
1975