

CORRELATION OF MAP UNITS

Qc	Qa	Qf	Qg	Qr	Qs	Qq	Holocene	QUATERNARY	
Qjm	UNCONFORMITY								
Qtr	UNCONFORMITY						Pleistocene	QUATERNARY AND TERTIARY	
Qts	UNCONFORMITY								
Qta	UNCONFORMITY						Pliocene	TERTIARY	
Qtb	UNCONFORMITY								
Qtc	Kb	Kc	Kf	Knr	UNCONFORMITY			Upper Cretaceous	CRETACEOUS
Qtd	Tr	Td	Pp	UNCONFORMITY					
Qte	Pmta	Mn	UNCONFORMITY			Pennsylvanian and Mississippian	PENNSYLVANIAN	MISSISSIPPIAN	
Qtf	Dd	UNCONFORMITY							
Qtg	Or	UNCONFORMITY			Devonian	DEVONIAN			
Qth	Cp	Cdc	Cvt	UNCONFORMITY					
Qti	Wu	Wa	Ww	Wgm	UNCONFORMITY			Cambrian	CAMBRIAN
Qtj	Wu	Wa	Ww	Wgm	UNCONFORMITY				
Qtk	Wu	Wa	Ww	Wgm	UNCONFORMITY			Late Archean or Precambrian	PRECAMBRIAN
Qtl	Wu	Wa	Ww	Wgm	UNCONFORMITY				

EXPLANATION

DESCRIPTION OF MAP UNITS

Holocene surficial deposits

- Qc Coluvium** — Slope wash of silt- to boulder-sized fragments derived from underlying and adjacent formations
- Qa Swamp deposits** — Clay, silt, and fine sand, dark-gray and brown; rich in vegetal debris
- Qf Talus, rockfall, intramontane alluvial fan, and colluvial deposits** — Locally derived coarse angular rock fragments that accumulate on steep slopes and at the base of cliffs within mountains

Holocene and Pleistocene surficial deposits

- Qg Alluvial gravel** — Gravel of rounded clasts along and near present level of major streams
- Qr Alluvial-fan deposits** — Fan-shaped deposits of water-laid gravel, sand, silt, and clay spreading out from mouths of ravines and canyons; show linear sorting along distributaries; debris becomes progressively finer down fan
- Qs Landslide debris** — Chaotically mixed boulders and finer rock debris emplaced by mass movement
- Qq Landslide and glacial debris** — Landslide and glacial debris so completely intermixed that they cannot be mapped separately

Pleistocene surficial deposits

- Qjm Moraine debris of Jackson Lake glaciation** — Till that is part of the Jackson Lake moraine or that accumulated nearby at the same time; composed largely of locally derived rock fragments
- Qtr Undifferentiated glacial debris** — Moraine debris deposited by southward-moving ice from area of Yellowstone National Park or eastward-moving ice from the Teton Range; debris at higher elevations has more subdued topography than the Jackson Lake moraine; probably much is contemporaneous with Burned Ridge moraine debris

Quaternary and Tertiary

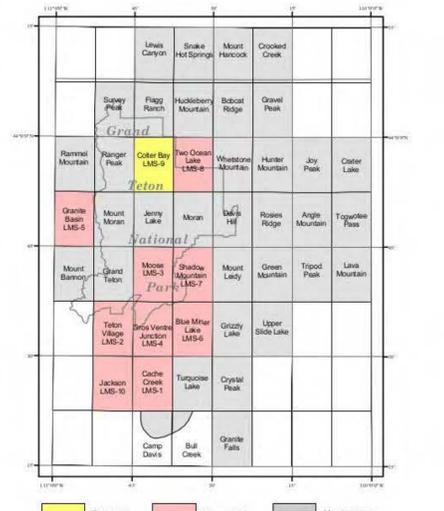
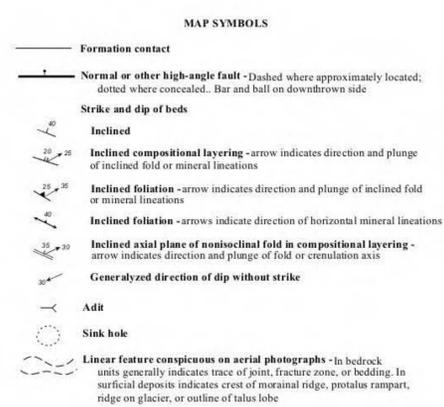
- Qts Gray silt, till, loess, and clay sequence (Quaternary and Tertiary)** — Lacustrine, fluvial, and glacial deposits of uncertain correlation, but probably early Pleistocene; in ovoid in tectonic movement along Teton fault; thickness at least 30 to 50 feet (9 to 15 m); top eroded
- Qta Red clay, silt, sand, and conglomerate sequence (Quaternary and Tertiary)** — Lacustrine and fluvial sequence similar to that near Shooting Iron Ranch in Jackson Quadrangle (Love and Albee, 1972, U.S. Geological Survey Miscellaneous Investigations Map I-769-A); conglomerate is chiefly of rhyolite and granite fragments. Sequence involved in tectonic movement along Teton fault. Thickness at least 20 feet (6 m); base not exposed

Tertiary

- Qtb Huckberry Ridge Tuff (Pliocene)** — Welded rhyolitic ash flows
- Qtc Member B** — Light-brown to gray welded rhyolitic ash flows with abundant large quartz phenocrysts; near top are two layers of crystallized pumice; at base is gray and pink pumice and perlitic. Thickness about 100 feet (30 m)
- Qtd Member A** — Brown welded rhyolitic ash flows; black vitrophyric welded tuff at base; above this the rock has 40 to 50 percent phenocrysts which decrease in abundance upward; widespread less densely welded zone at top. Major unconformity at base. Thickness about 150 feet (46 m)
- Qte Bacon Ridge Sandstone (Upper Cretaceous)** — Tan to gray, thick bedded, fine grained except for quartzite roundstone zone near base; interbedded with gray and black shale; several coal and bentonite beds in lower part; abundant marine fossils. Thickness about 1000 feet (305 m)
- Qtf Cody Shale (Upper Cretaceous)** — Dull gray, interbedded with lesser amounts of gray siltstone and gray fine-grained shaly sandstone; marine. Thickness about 1400 feet (427 m)
- Qtg Frontier Formation (Upper Cretaceous)** — Sandstone, gray, fine- to coarse-grained, pebbly and highly glauconitic near top; interbedded with gray and black shale; bentonite beds in lower part; largely marine. Thickness about 1000 feet (305 m)
- Qth Mowry Shale (Upper Cretaceous)** — Dark-gray to black, weathering silvery gray, very hard, brittle, silicified, thin bedded; several cream-colored bentonite beds; silicified fine-grained laminated sandstone common. Thickness about 650 feet (198 m)
- Qti Red Peak Member of Gros Ventre Formation (Triassic)** — Siltstone and shale, brick-red, interbedded with fine-grained red sandstone. Thickness about 800 feet (244 m)
- Qtj Dinwoody Formation (Lower Triassic)** — Siltstone and shale, brown, hard, thin-bedded, dolomitic, marine. Thickness about 200 feet (61 m)
- Qtk Phosphoria Formation (Permian)** — Dolomite, gray, cherty, sandy; some black shale and phosphate beds; petrolierous; marine. Thickness about 200 feet (61 m)
- Qtl Tensleep Sandstone (Pennsylvanian) and Amends Formation (Pennsylvanian and Mississippian)** — Tensleep Sandstone is light gray, fine-grained, hard, brittle, cherty, marine; thickness about 380 feet (116 m). Amends Formation is white to tan dolomite, red and green shale, chert, and sandstone; marine; thickness about 230 feet (70 m)
- Qtm Madison Limestone (Mississippian)** — Blue-gray, hard, porous, cavernous in part, marine; zone of red shale, sandstone, and limestone 50 to 100 feet (15 to 30 m) thick at top. Thickness about 1100 feet (335 m)
- Qtn Darby Formation (Devonian)** — Dolomite, dark-gray to brown, field, hard, and yellow, brown, and black shale; thin sandstone interbeds; marine. Thickness about 250 feet (76 m)
- Qto Bighorn Dolomite (Ordovician)** — Light gray, siliceous, very hard; white brinite Leigh Dolomite Member at top. Composite thickness about 400 feet (122 m)
- Qtp Gallatin Limestone and Park Shale Member of Gros Ventre Formation (Cambrian)** — Gallatin Limestone is blue-gray mottled with yellow patches; hard; forms cliffs; thickness 200 to 250 feet (61 to 76 m). Park Shale is green soft fissile shale interbedded with thin blue-gray limestone; thickness about 240 feet (73 m)
- Qtd Death Canyon Limestone Member of Gros Ventre Formation (Cambrian)** — Limestone, dark-blue-gray, very hard; forms two cliffs separated by a soft green shale 25 feet (8 m) thick. Upper limestone is about 225 feet (69 m) thick and lower limestone about 65 feet (20 m) thick. Total thickness about 315 feet (96 m)
- Qtw Wolsley Shale Member of Gros Ventre Formation and Flathead Sandstone (Cambrian)** — Wolsley Shale is greenish gray, soft, containing interbeds of purple and green sandstone near base; thickness about 75 feet (23 m), with basal beds grading into Flathead Sandstone. Flathead Sandstone is brown, maroon, and white, and contains thin green shale beds in upper part; thickness about 150 feet (46 m). Regional unconformity at base

MAP SYMBOLS

- Formation contact
- Normal or other high-angle fault - Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side
- Strike and dip of beds
- Inclined
- Inclined compositional layering - arrow indicates direction and plunge of inclined fold or mineral lineations
- Inclined foliation - arrow indicates direction and plunge of inclined fold or mineral lineations
- Inclined foliation - arrows indicate direction of horizontal mineral lineations
- Inclined axial plane of nonvertical fold in compositional layering - arrow indicates direction and plunge of fold or creunation axis
- Generalized direction of dip without strike
- Adit
- Sink hole
- Linear feature conspicuous on aerial photographs - In bedrock units generally indicates trace of joint, fracture zone, or bedding. In surficial deposits indicates crest of moraine ridge, protalus rampart, ridge on glacier, or outline of talus lobe



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North American Datum (NAD27). Projection 10,000-foot grid ticks; Wyoming coordinate system, west zone (Lambert conformal conic). Blue 1000-meter Universal Transverse Mercator ticks, zone 12.

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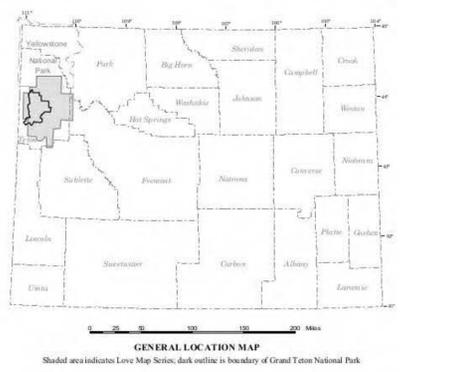
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GEOLOGIC MAP OF THE COLTER BAY QUADRANGLE, TETON COUNTY, WYOMING
by
J. David Love
2003



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