



CORRELATION OF MAP UNITS			
Qa	Qc	Qd	Qe
Qf	Qi	Qj	Qk
Ql	Qm	Qn	Qo
Qp	Qq	Qr	Qs
Qt	Qu	Qv	Qw
Qx	Qy	Qz	Qaa
Qab	Qac	Qad	Qae
Qaf	Qag	Qah	Qai
Qaj	Qak	Qal	Qam
Qan	Qao	Qap	Qaq
Qar	Qas	Qat	Qau
Qav	Qaw	Qax	Qay
Qaz	Qba	Qbb	Qbc
Qbd	Qbe	Qbf	Qbg
Qbh	Qbi	Qbj	Qbk
Qbl	Qbm	Qbn	Qbo
Qbp	Qbq	Qbr	Qbs
Qbt	Qbu	Qbv	Qbw
Qbx	Qby	Qbz	Qca
Qcb	Qcc	Qcd	Qce
Qcf	Qcg	Qch	Qci
Qcj	Qck	Qcl	Qcm
Qcn	Qco	Qcp	Qcq
Qcr	Qcs	Qct	Qcu
Qcv	Qcw	Qcx	Qcy
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Qel	Qem	Qen	Qeo
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Qth	Qti	Qtj	Qtk
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Qtp	Qtq	Qtr	Qts
Qtu	Qtv	Qtw	Qtx
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Qze	Qzf	Qzg	Qzh
Qzi	Qzj	Qzk	Qzl
Qzm	Qzn	Qzo	Qzp
Qzq	Qzr	Qzs	Qzt
Qzu	Qzv	Qzw	Qzx
Qzy	Qzz		

DESCRIPTION OF MAP UNITS

Qa ALLUVIUM (HOLOCENE) - Valley and stream deposits of gravel with lesser amounts of sand, silt, and clay.

Qb TERRACE AND FLOOD-PLAIN DEPOSITS (HOLOCENE) - Terrace surface consists of thin discontinuous deposits of sand and silt underlain by gravel. Flood-plain deposits consist of sand, silt, clay, and minor lenses of gravel; lesser amounts of gravel at surface distinguishes these deposits from alluvium along topographically lower stream valleys.

Qc SWAMP DEPOSITS (HOLOCENE) - Clay, silt, and fine sand; abundant vegetal debris.

Qd COLLUVIUM (HOLOCENE) - Slope wash of silt- to boulder-sized fragments derived from underlying and adjacent units.

Qe ALLUVIAL FAN DEPOSITS (HOLOCENE AND PLEISTOCENE) - Crudely stratified deposits of gravel, sand, silt, and clay that spread outward from mouths of ravines and canyons.

Qf LOESS (HOLOCENE AND PLEISTOCENE) - Light-gray structurally homogeneous wind-deposited silt.

Qg LANDSLIDE DEBRIS AND SLUMP BLOCKS (HOLOCENE AND PLEISTOCENE) - Landslide debris; chaotically mixed boulders and finer rock debris replaced by mass movement. Slump blocks: massive blocks replaced by mass movement. Unit includes intermixed landslide and glacial debris.

Qh TALUS DEPOSITS (HOLOCENE AND PLEISTOCENE) - Locally derived coarse angular rock fragments that accumulated on steep slopes and at base of cliffs.

Qi GLACIAL DEBRIS (PLEISTOCENE) - Moraine debris with variety of modified surface topography depending upon age of glaciation. Debris of older glacial events tend to have subdued surface topography and tightly cemented lithologies, while younger debris have unmodified surface topography and sparse soil development.

Qj SHOOTING IRON SEQUENCE (PLEISTOCENE) - Strata consisting of alternating locally derived nonvolcanic conglomerate, very soft volcanic sandstone, and pink, gray, green, and yellow-brown claystone. Isolated exposures at the heads of Flat and Granite Creeks. Thickness varies; thickness 22 m.

Qk VOLCANIC ROCKS (QUATERNARY OR TERTIARY) - Occurrences of red basaltic scoria, gray basalt, black basaltic(?) scoria, hornblende-rich dacite, perlitic, obsidian, and rhyolite. Exposures confined to East and West Gros Ventre Buttes and Squaw Creek areas.

Ql UNNAMED CONGLOMERATE (QUATERNARY OR TERTIARY) - Partly lithified gray limestone conglomerate that accumulated in Cache Creek valley to a depth of 122 m.

Qm TEEVINGOT FORMATION (Eocene) - Upper sedimentary limestone breccia; white to pink benticlastic sandstone, tuff, and claystone; basal limestone conglomerate. 75 m thick.

Qn CAMP DAVIS FORMATION (Eocene) - Upper unit: red conglomerate that contains Paleozoic clasts in upper part and Triassic clasts in lower part. Middle unit: poorly consolidated red conglomerate interbedded with soft red claystone, siltstone, and sandstone, overlying white limestone, pumice, diatomite, and soft gray claystone. Lower unit: gray cliff-forming conglomerate composed of Paleozoic rock fragments. Total thickness 1,265 m.

Qo PASS PEAK FORMATION (Eocene) - Conglomerate of well-rounded pebbles, cobbles, and boulders of quartzite in a rust-colored coarse-grained sandstone matrix. About 915 m thick.

Qp WASATCH FORMATION AND EQUIVALENT ROCKS (Eocene or Paleocene) - Includes Chapo Member and Lookout Mountain Conglomerate Member. Chapo Member (Eocene or Paleocene): tan, gray, red, pink, and brown shale; gray and yellow-tan sandstone; gray, tan, and red conglomerate; gray fine-grained limestone. Lookout Mountain Conglomerate Member of Dorr, Spearing, and Steidtmann, 1977 (Eocene): red and gray conglomerate with interbeds of sandstone, 1,260 m thick.

TH HOBACK FORMATION (PALEOCENE) - Includes Skyline Trail Conglomerate Member of Dorr, Spearing, and Steidtmann (1977). Skyline Trail Conglomerate Member: red conglomerate interbedded with red, gray, and green claystone and siltstone. Middle unit: gray sandstone, siltstone, and claystone becoming more conglomeratic upward. Lower unit: red conglomerate with poor exposures. Thickness 300 m for incomplete section to 4,083 m.

Ku SEDIMENTARY ROCKS UNDIVIDED (UPPER CRETACEOUS) - Unit includes Harebell Formation, Mesaverde Formation, and Sohar sequence. Unit used to accommodate geology of Dorr, Spearing, and Steidtmann (1977) and Schroeder (1976). Thickness varies.

Kh HAREBELL FORMATION (UPPER CRETACEOUS) - Coarse-grained sandstone and pea-gravel conglomerate with some gray and tan fine-grained massive cross-bedded sandstone, gray to black thin claystone and shale between the conglomerate. Decrease in conglomeratic content toward the Hoback Basin. At least 274 m thick.

Kmv MESAS VERDE FORMATION (UPPER CRETACEOUS) - Light-gray to white fine- to medium-grained well-sorted porous sandstone with occurrences of brightly colored grains. Some gray, dull-green, pink shale, claystone, and siltstone. Thin coal beds are present. Thickness varies from at least 152 to 305 m.

Ks SOHAR SEQUENCE (UPPER CRETACEOUS) - Formerly unnamed lenticular sandstone and shale sequence and coaly sequence. Gray and tan lenticular fine-grained sandstone, gray shale, shaly sandstone, carbonaceous shale, marlstone, and some beds of minable coal in middle of unit. At least 1,225 m thick.

Kb BACON RIDGE SANDSTONE (UPPER CRETACEOUS) - Light-gray to tan fine- to medium-grained massive to thick-bedded fossiliferous sandstone with abundant black grains; contains coal beds of minable thickness. Bentonite and plastic gray shale, in part, are sizes of large landslides. About 230 m thick.

Kc CODY SHALE (UPPER CRETACEOUS) - Gray to dark-gray shale with a few thin hard fine-grained glauconitic sandstones; sparse marine fossils. Thickness altered in Cache Creek valley owing to tectonic compression. From 300 m to as much as 600 m thick.

Kf FRONTIER FORMATION (UPPER CRETACEOUS) - Gray to tan fine- to medium-grained sandstone, gray to black shale, thin partings of coal, thin bentonites and porcellanites. About 300 m thick in normal section.

Kmt MORRY AND THERMOPOLIS SHALES UNDIVIDED (LOWER CRETACEOUS) - Morry shale: dark gray to black siliceous shale, dense hard silicified speckled sandstone, and thin bentonites; abundant fish scales in shale. Thermopolis Shale: black very fine grained highly fissile soft shale with thin beds of bentonite and rusty fine-grained sandstone. Muddy Sandstone Member occurs at top of formation and is a gray medium-grained soft cross-bedded sandstone. Total thickness 253 to 303 m.

Ka ASPEN SHALE (LOWER CRETACEOUS) - Gray to greenish-gray siliceous shale and brittle siltstone, hard fine-grained siliceous sandstone, and thin beds of porcellanite and bentonite. About 1,185 m thick.

Kbr BEAR RIVER FORMATION (LOWER CRETACEOUS) - Black to dark-gray hard splintery siliceous shale in upper and lower parts. Middle part: gray massive tan-weathering cross-bedded sandstone that forms prominent ridges and cliffs; some interbeds of carbonaceous shale. About 163 m thick.

Kg GANNETT GROUP UNDIFFERENTIATED (LOWER CRETACEOUS) - Predominantly hematitic red shale and siltstone, contains some quartzitic sandstone. Base is a massive coarse-grained sandstone and upper part contains light-gray and reddish-purple to brownish-red fine-grained silty sandstone. 152 m thick.

Kjm CLOVERLY AND MORRISON(?) FORMATIONS UNDIVIDED (LOWER CRETACEOUS AND UPPER JURASSIC) - Uppermost unit (commonly known as the "rusty beds member" of Cloverly): olive-green, gray, and buff thin-bedded sandstone that weathers to a conspicuous rusty color. Middle units: variegated red, gray, lilac, and pink claystone with thin beds of cream-colored hard dense nodular limestone. Lower units: buff and gray clastic sandstone interbedded with red, green, and gray siltstone and claystone. Total thickness 132 to 201 m.

Js SUNDANCE FORMATION (UPPER AND MIDDLE JURASSIC) - Upper unit: gray, buff, and green glauconitic very limy sandstone and a few thin beds of shale and limestone. Lower unit: gray limy plastic to splintery shale, clayey limestone, hard oolitic limestone, and one or more zones of red soft silty shale. About 168 m thick.

Jp STUMP FORMATION AND PRELUSS SANDSTONE UNDIVIDED (UPPER AND MIDDLE JURASSIC) - Stump Formation (Upper and Middle Jurassic): greenish- to brownish-gray cross-bedded fine- to medium-grained calcareous glauconitic sandstone. Preluss Sandstone (Middle Jurassic): red shaly sandstone and siltstone. 58 to 121 m thick.

Jtc TWIN CREEK LIMESTONE (MIDDLE JURASSIC) - Light-gray fine-grained limestone and shaly limestone that weathers into splinters. Lowermost part: brownish-red to yellow soft siltstone and silty claystone with interbeds of brecciated limestone and chert-bearing limestone. 228 to 244 m thick.

Jps GYPSUM SPRING FORMATION (MIDDLE JURASSIC) - Red shale, silty gray dolomite, and white gypsum. In most outcrops the gypsum has been leached out, leaving a lithified carbonate breccia that forms rounded cliffs. 13 to 46 m thick, depending on degree of leaching.

Jrn NUGGET SANDSTONE (JURASSIC AND TRIASSIC) - Light-tan to salmon-pink fine-grained cross-bedded hard brittle cliff-forming sandstone characterized by large frosted quartz grains in a finer matrix. About 115 m thick.

Jrc CHUGWATER FORMATION (TRIASSIC) - Includes Popo Agie, Crow Mountain Sandstone, Alcona Limestone, and Red Peak Members. Popo Agie Member: ochre and purple claystone, red shale, purple lenticular limestone pellet conglomerates, and red limestone. Crow Mountain Sandstone Member: red to salmon-pink soft porous sandstone containing large rounded frosted quartz grains in a finer matrix. Alcona Limestone Member: gray and purple hard thin-bedded limestone and dolomite with interbeds of white gypsum. Red Peak Member: red crystalliferous siltstone and very fine grained sandstone with some red shale partings; thickest unit in formation. Total thickness 339 to 529 m.

Ank ANKAREH FORMATION (TRIASSIC) - Grayish to dusty-red siltstone and very fine grained sandstone. 3 m of light-gray thin-bedded limestone near base. 106 to 160 m thick.

Rt THAYNES FORMATION (TRIASSIC) - Light- to olive-gray interbedded limestone and siltstone; 23 m of pale-red very fine grained calcareous sandstone near middle of unit. 236 to 335 m thick.

Rw WOODSIDE FORMATION (LOWER TRIASSIC) - Pale reddish-brown very fine grained well-cemented thin-bedded calcareous sandstone; light olive-green calcareous siltstone and thin-bedded limestone in upper third of unit; thin beds of siltstone near base. 98 to 215 m thick.

Rd DINWOODY FORMATION (LOWER TRIASSIC) - Brownish-gray to olive-drab hard silty thin-bedded dolomitic siltstone; contains thin partings of fine-grained dolomitic sandstone and silty limestone. 61 to 140 m thick.

Pp PHOSPHORIA FORMATION AND RELATED ROCKS (PERMIAN) - Dolomite, chert, phosphorite, and black shale. Dolomite and chert are dark gray to brown, sandy, mainly in upper part; phosphorite and black shale at top and at middle of lower part. 55 to 72 m thick.

IPMa TENSLEEP SANDSTONE AND AMSDEN FORMATION UNDIVIDED (PENNSYLVANIAN AND UPPER MISSISSIPPIAN) - Total thickness 282 to 394 m. Tensleep Sandstone: light-gray weathering yellowish-brown fine-grained hard brittle sandstone; quartzite in parts middle and lower parts contain many beds of gray fine-grained limestone and dolomite. Amsden Formation: green brick-red to brownish-red white dolomite and limestone interbedded with white dolomite and limestone; several zones contain ochre and carmelian-red chert nodules.

Mad Darwin Sandstone Member of Amsden Formation (Upper Mississippian) - Gray- to brownish-pink fine- to medium-grained sandstone with some large rounded frosted quartz grains cross-bedded; moderately soft and porous; red shale parting at top. 23 to 30 m thick. Unit mapped separately south of Jackson thrust fault but included with Amsden Formation north of Jackson thrust fault.

IPMw WELLS FORMATION AND ASSOCIATED ROCKS (PERMIAN, PENNSYLVANIAN, AND UPPER MISSISSIPPIAN) - Upper unit: light-gray fine-grained hard sandstone; contains gray limestone beds which are more abundant in lower part. Lower unit: bluish-gray hard limestone interbedded with red and green shale and white to tan fine-grained sandstone; carmelian-red and mustard-yellow chert nodules and thin lenses conspicuous. Total thickness 277 to 292 m. Thrust belt nomenclature used south of Jackson thrust fault.

Mm MADISON LIMESTONE AND EQUIVALENT ROCKS (UPPER AND LOWER MISSISSIPPIAN) - Includes Bull Ridge Member of Madison Limestone. Bull Ridge Member: red shale and siltstone interbedded with orange-red to tan sandstone; tan to pink limestone breccia; and blue-gray ledge-forming limestone containing very distinctive red and "zebra-striped" gray and black chert nodules. Main part: light- to dark-gray limestone that is thick bedded to massive in upper part and becomes thin bedded and dolomitic in lower part; abundant layers and lenses of black chert; brown waxy dolomite near base. 350 to 490 m thick. Unit equivalent to Mission Canyon Limestone, Lodgepole Limestone, and Madison Group in mapped area south of Jackson thrust fault.

Do DARBY FORMATION (UPPER AND MIDDLE DEVONIAN) - Upper part: dull-yellow thin-bedded dolomitic siltstone and shale. Lower part: brown feld waxy siliceous brittle dolomite containing sparse thin limestone beds. 91 to 150 m thick.

Ob BIGHORN DOLOMITE (UPPER ORDOVICIAN) - Siliceous cliff-forming dolomite with light- and dark-gray mottling. Thickness ranges from 61 m north of Jackson thrust fault to 130 m south of Jackson thrust fault.

Cg GALLATIN LIMESTONE (UPPER CAMBRIAN) - Mottled bluish-gray irregular-bedded hard limestone with irregular yellow patches; forms ragged cliffs. 53 to 73 m thick.

Egv GROS VENTRE FORMATION (MIDDLE CAMBRIAN) - Includes Park Shale Members, Death Canyon, and Wolsey Shale Members. Park Shale Members: green to gray highly fissile micaceous shale containing algal heads at base. Death Canyon Member: blue-gray to dark-gray fine-grained thin-bedded hard limestone, mottled with brown and tan irregular limestone blotches. Wolsey Shale Member: green to gray-green highly fissile micaceous shale. Total thickness 163 to 290 m.

Cf FLATHEAD SANDSTONE (MIDDLE CAMBRIAN) - White, tan, brown, and maroon cross-bedded sandstone which is locally quartzitic; locally conglomeratic near base. 40 to 90 m thick.

pE PRECAMBRIAN ROCKS UNDIVIDED (PRECAMBRIAN) - Gray medium-grained equigranular to porphyritic biotite-muscovite granite; biotite-hornblende gneiss; biotite gneiss.

CONTACT - Approximately located; dashed where inferred.

FAULT - Dashed where approximately located; dotted where concealed; ball and bar on downthrown side. Arrows show relative movement.

THRUST FAULT - Dashed where approximately located; dotted where concealed. Sawtooth on upper plate. Includes gravity faults in Camp Davis quadrangle (Schroeder, 1974).

THRUST FAULT with younger normal fault along same trace - Dashed where approximately located; dotted where concealed.

FOLDS - Showing troughlines, crests, and direction of plunge. Dashed where approximately located; dotted where concealed.

SYNCLINE

ANTICLINE

