

QUATERNARY
TERTIARY
PROTEROZOIC
ARCHEAN

- PHANEROZOIC SEDIMENTARY ROCKS AND SURFICIAL DEPOSITS**
- QUATERNARY ALLUVIUM** — Unconsolidated stream gravel, sand, silt, and clay. Locally, includes placer accumulations of gold with other heavy minerals such as scheelite (calcium tungstate) and rare cassiterite (tin oxide).
 - SOUTH PASS FORMATION (PLIOCENE AND MIOCENE)**
 - Tsp**, tuffaceous siltstone — white to tan.
 - Tsp**, highly variable sequence of rocks composed of conglomerate with interbedded sandstone and siltstone. Conglomerate is gray with angular to rounded cobbles, pebbles, and boulders eroded from the metamorphic and plutonic rocks of the South Pass granite-greenstone terrane in a fine-grained sandy sandstone matrix. Locally, conglomerates host abundant rounded boulders, pebbles, and cobbles. Pliocene to Miocene age, although portions may be Eocene; fission-track age about 27 million years.² Locally, may contain gold.
 - WHITE RIVER FORMATION (OLIGOCENE)**
 - Twr**, chiefly calcareous conglomerate, white volcanic ash, light gray to white tuffaceous sandstone, and tan sandstone (31 to 35 million years old³). (Mapping may include overlying Miocene beds locally.)
- INTRUSIVE IGNEOUS ROCKS**
- MAFIC DIKES (PROTEROZOIC)** — Fine- to medium-grained, dark gray to black, basaltic to diabasic dikes of tholeiitic composition. Similar mafic dikes elsewhere in the Wind River Range have yielded whole-rock K-Ar ages of 1,270 to 2,010 million years old.⁴ K-Ar ages from pyroxenes are restricted to 1.6 to 1.8 billion years old.⁴
 - GRANITE PEGMATITE DIKE (ARCHEAN)**
 - TONALITE (ARCHEAN)** — Medium-grained tonalite plugs and leucodacite porphyry dikes. Tonalite plug in sec. 14 of the northwestern corner of the map hosts the Mary Ellen gold vein.
- SUPRACRUSTAL METASEDIMENTARY AND METAIGNEOUS ROCKS**
- MINERS DELIGHT FORMATION (ARCHEAN)**
- mdg**, metagreywacke — chiefly gray feldspathic and biotitic metagreywacke with minor mica schist and porphyroblastic schist. Hosts several gold deposits in the South Pass greenstone belt. Rb-Sr whole-rock isochron about 2.8 billion years.⁵
 - mdg**, metafacite — dense, black to gray, metafacite porphyry flows containing white plagioclase phenocrysts (porphyroblasts) aligned in trachytic texture.
 - mdg**, orthoamphibolite — black hornblende amphibolite with fine-, medium-, and coarse-grained texture. Represents metamorphosed basalt flows and gabbro dikes. Hosts some auriferous shear zones.
 - mdg**, graphitic schist — black, commonly iron-stained graphitic schist. Hosts some auriferous quartz lenses in shear zones.
 - mdg**, mixed member — mixed unit containing thin metabasalt flows and metagreywacke with interbeds of metaconglomerate and meta-agglomerate(?).
 - mdg**, ultramafic schist — green to light grey actinolite schist, chlorite schist, actinolite-talc-chlorite schist, and tremolite-chlorite-carbonate schist; chemically similar to komatiite.⁶
 - mdg**, marble — fine- to medium-grained metacarbonate; locally, sulfide-bearing.

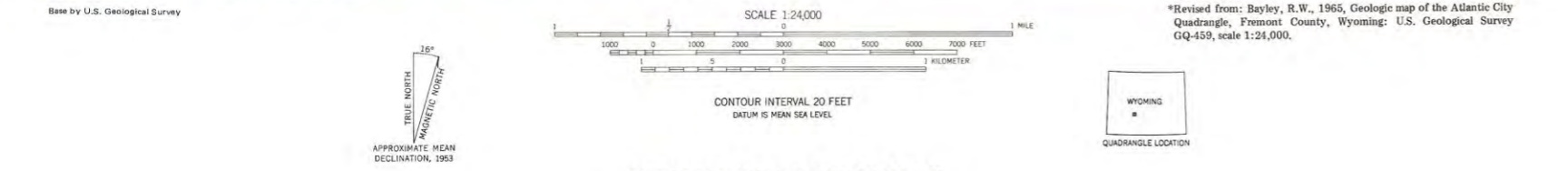
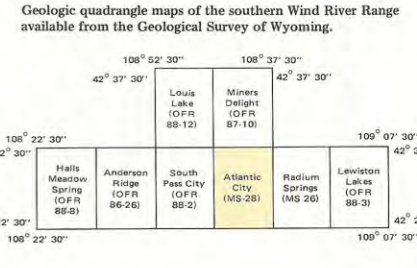
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This map is dedicated to the memory of Dave "Sharry" Haddenham.

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- EXPLANATION**
- MAP SYMBOLS**
- CONTACT**
Dashed where approximately located.
- FAULTS**
Fault, Dashed where approximately located and dotted where inferred. Arrows indicate direction of relative transverse movement; letters indicate direction of relative vertical movement (U=up; D=down).
- MAJOR FOLDS**
From R.W. Bayley (1965).⁸
- Synform
 - Antiform
 - Syncline
 - Anticline
 - Overturned syncline
 - Overturned anticline
- MINOR FOLDS**
- Plunge of axis.
 - Plunge of axis and dip of axial plane.
- STRIKE AND DIP OF BEDS**
- Inclined, showing dip.
 - Vertical
 - Graded beds(?) as mapped by R.W. Bayley (1965).⁸ Arrow indicates top. These are highly speculative and probably represent transposed layering.
- FOLIATION TRENDS**
- Vertical
 - Inclined, showing dip.
 - Generalized trend of lineation (bedding or foliation).
- JOINT TRENDS**
- Vertical
 - Inclined, showing dip.
- MINE AND VEIN-RELATED SYMBOLS**
- Placer gold mine
 - Shaft
 - Inclined shaft
 - Adit
 - Mill site
 - Dredge tailings
 - E.T. Fisher gold washing plant ruins
 - Prospect pit
 - Quartz vein — dashed where approximately located. Direction and amount of dip shown.
- MISCELLANEOUS**
- Conglomeratic beds in Precambrian
 - trench
 - Nonfoliated breccia



REVISED* GEOLOGIC MAP OF THE ATLANTIC CITY QUADRANGLE, FREMONT COUNTY, WYOMING

By
W. Dan Hausel
1989

*Revised from: Bayley, R.W., 1965, Geologic map of the Atlantic City Quadrangle, Fremont County, Wyoming: U.S. Geological Survey GQ-459, scale 1:24,000.

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