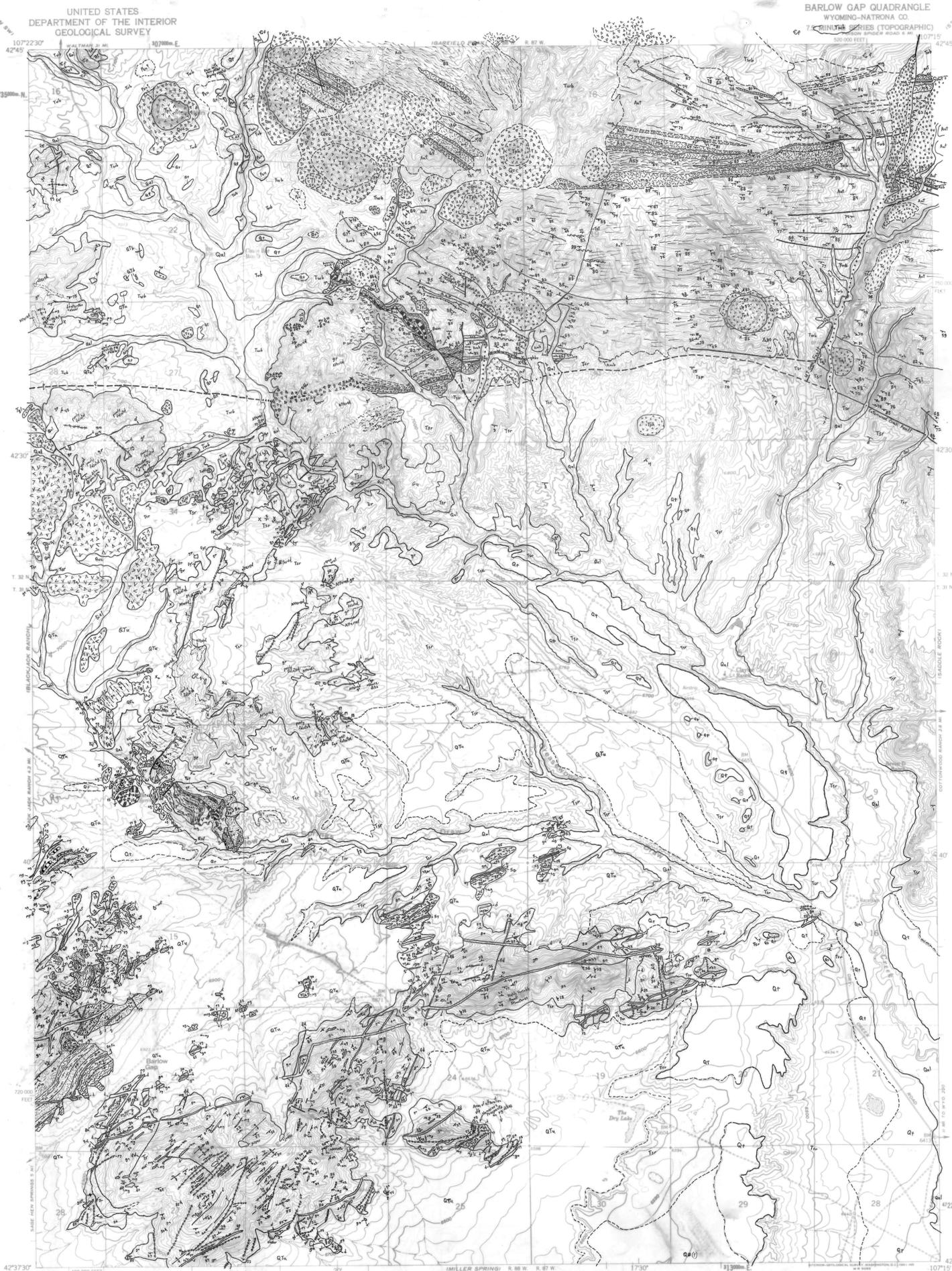




PGM 99-2

BARLOW GAP QUADRANGLE
WYOMING-NATRONA CO.

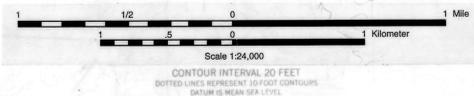
7.5 MINUTE SERIES (TOPOGRAPHIC)
30' (300 FEET)



EXPLANATION

- Quaternary**
- Alluvium (Qal): unconsolidated sand, silt, clay, coarse gravels and cobbles; may include alluvial deposits, slope wash, and small alluvial and colluvial fans.
 - Volcanic colluvium and volcaniclastics (Qvc): colluvium derived from Tertiary volcanic rocks, and volcaniclastics associated with eruptive centers.
 - Terrace deposits (Qt): gravel, cobble, sand, and silt covered terraces cut across Tertiary sedimentary units.
 - Pleistocene Bug Formation (Q8B): pale brown, pale-green, and white claystone, sandstone, tuff, limestone, and conglomerate.
 - Ash (Ash): very fine-grained white volcanic ash located in Sec. 17 and 18, T.31 N., R. 87 W.
 - Jasper, Jasperoid (Jaep): jasperoid of possible hot springs genesis in Sec. 35 & 26, T.32N., R.88W., with very minor outcrops also noted in Sections 34 and 28. Central jasper occurs in other parts of the quadrangle.
 - Boulder Deposits (Qb): volcanic and granitic cobbles and boulders up to 15 feet in diameter from terrace-like deposits.
 - Undifferentiated Quaternary and Tertiary deposits (QTu): Detailed mapping of the interrelationships between these units was not undertaken in several areas.
- Tertiary Sedimentary Rocks**
- Miocene Split Rock Formation (Tsr): massive, well sorted yellowish-gray to grayish-orange volcanic sandstone with persistent beds of coarse conglomerate; sandstones contain conspicuous well-rounded and frosted grains; chert nodules and siliceous aggregates can be found throughout the formation.
 - Oligocene boulder conglomerate (To): unsorted, poorly bedded boulder channel deposits along UT Creek.
 - Eocene Wagon Bed Formation (Twb): dominated by locally derived volcanic debris, but contains some Precambrian debris; upper part is poorly sorted, but remainder is generally composed of persistent well sorted beds of yellowish-green to pale olive and dark greenish-gray sandstone, siltstone, and mudstone; thick ash deposits, both locally derived and from the Yellowstone-Abasroka area exhibit no bedding or sorting in the middle of the formation (Van Houten, 1964).
- Tertiary Volcanic and Subvolcanic Rocks**
- Tertiary peraluminous alkaline and calc-alkaline volcanic and intrusive rocks (classifications from Pekarek, 1977); some alkalies and associated breccias contain disseminated gold (Hausel, 1996).
 - Phonolite (Tph):
 - Phonolite lava (Tpi):
 - Alkali meta-trachyte (Tat):
 - Soda trachyte (Tst):
 - Trachyte (Tt):
 - Latite (Tl):
 - Quartz latite (Tql):
 - Quartz latite breccia flow (qtbf):
 - Undifferentiated Tertiary volcanics (Tv):
- Paleozoic**
- Paleozoic units within the Barlow Gap quadrangle are restricted to isolated exposures and fragments along Laramide faults and fault zones in the northwest part of the
- Mississippian Madison Limestone (Mm): massive, resistant, medium to dark gray limestone containing chert nodules and concretions.
 - Cambrian Gros Ventre Formation (Cgv): reddish-orange to red non-resistant interbedded very fine grained sandstone, siltstone, and shale.
 - Cambrian Flathead Formation (Cf): arkosic and conglomeratic, resistant buff to red sandstone.
 - Undifferentiated Paleozoic units (Pau): Paleozoic units described above with limited exposures were not ascertained in the field.
- Precambrian Intrusive Metagneous Rocks**
- Ultramafic (um): small intrusions of coarse grained ultramafic material.
 - Metagabbro (mg): layers and pods of metagabbro within both the granite gneiss complex and the metasedimentary-metagneous rocks.
 - Diabase dikes (d): near vertical, predominately ENE trending dikes of uniform thicknesses which cross-cut all other Precambrian units and structures.
 - Pegmatite veins and dikes (pg): pegmatite veins and dikes varying in width up to more than 20 feet. The only Precambrian units not cut by these are the diabase dikes.
 - Granodiorite dikes (gd): thin granodiorite dikes cross-cut granite gneiss in the southern part of the quadrangle (Sec. 26, T.31N., R.88W.) at shallow angles (20° to 50°).
 - Felsic dikes: thin linear NNE trending (striking 18° to 21°) resistant felsic dikes within the granite gneiss.
- Metasedimentary-Metagneous Rocks**
- UT Creek Formation: dominated by metagreywackes and tuffaceous metagreywackes with intercalated metacherts and metachertites.
- Metabasalt (Asb):
 - Metagreywacke (Aut):
 - McDougal Gulch Metavolcanics: amygdaloidal metabasalts, porphyritic metabasalts, amphibolite schists, pillow metabasalts, metauffs, and a thin talc-chlorite schist.
 - Metabasalt (Amb):
 - Ultramafic schist (Aus):
 - Barlow Springs Formation: quartzite, metapelite, banded iron formation, metafelsite, and amphibolite gneiss.
 - Amphibolite gneiss (ag):
 - Metabasalt (Bmb):
 - Banded Iron Formation (If): banded, rusty-brown to black-weathered iron formation ranging from 0 to 70 feet thick.
 - Pelitic schist (s): non-resistant rusty- to greenish-brown, micaceous, contorted quartzose schist, with discontinuous thin quartzites.
 - Quartzite (q): thin white to tan, occasionally light to medium green and fuchsite, or rusty quartzite varying from layered to massive; vitreous and coarsely crystalline in some areas.
 - Metafelsite (mf): pods and layers of metafelsite are most abundant near the upper part of the formation.
 - Tremolite-chlorite schist (Bum):
 - Talc schist (Bt):
 - Garnet schist (Bg): linear to oval outcrops within the amphibolite gneiss; outcrops stand out in relief above adjacent amphibolite gneiss, are fluted and grooved, and exhibit a brown to rusty color on weathered surfaces, fresh surfaces are bluish-gray with dense radiating fibrous crystals, and scattered red garnets up to 3/4 inch across.
- Granite Gneiss Complex**
- Granite (gr): pink to tan and orange (and occasionally or gray, or leucocratic) medium to coarse-grained and porphyritic granite.
 - Fine grained granite (fgr): hard, pink, unaltered, fine grained granite dikes cross-cut the coarser grained and granite gneiss at a variety of angles from subhorizontal to vertical, widening out and branching in the northern part of the quadrangle to form more extensive bodies of granite; more resistant to weathering than the surrounding coarser grained granite.
 - Granite gneiss (gn): dominantly pink, varying to tan, coarsely foliated and coarse grained granite gneiss; also includes quartzofeldspathic gneiss, felsic gneiss, minor amphibolite gneiss, and occasional lenses of quartzite, fuchsite quartzite, and metapelite.
 - Talc schist (Gst): occurs in limited areas adjacent to ultramafic outcrops within the granite gneiss.
 - Undifferentiated granitoids (Gu): denotes areas in the north central part of the quadrangle where granite, granite gneiss, and related rocks are projected to occur, but were not examined in detail.
- MAP SYMBOLS**
- Antiform
 - Synform
 - Contact
 - Fault
 - Shear
 - Strike & dip of foliation
 - Strike & dip of beds
 - Strike & dip of joints
 - Top of pillows
 - Top of graded bedding
 - Isoclinal fold showing plunge (F1)
 - Open fold showing plunge (F2)
 - Chevron fold showing plunge (F3)
 - Altered (Altered): refers to areas of granite, granite gneiss, and parts of the Barlow Springs Formation which were noted in field observations to have undergone alteration of some type; boundaries of altered zones are mostly gradational, poorly defined and marked with a fine dotted line. Alteration may include oxidation, silicification, epidotization, chloritization, and changes in grain structure.
 - Breccia
 - Mine adit
 - Prospect pit
 - Probable uranium prospect
 - Trench
 - Mineralized vein
 - Quartz-hematite breccia vein
 - Trend of foliation

Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography from aerial photographs by photogrammetric methods
aerial photographs taken 1954. Field check 1959
Polyconic projection, 1927 North American datum
10,000 foot grid based on Wyoming coordinate system,
east central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 13, shown in blue
Dashed lines indicate selected fence and field lines
generally visible on aerial photographs
Information is unchecked



ROAD CLASSIFICATION
Light-duty ——— Unimproved dirt - - - - -

BARLOW GAP, WYO.
142375-910715/75
1959

PRELIMINARY GEOLOGIC MAP OF THE
BARLOW GAP QUADRANGLE

by
Wayne M. Sutherland and W. Dan Hausel

1999