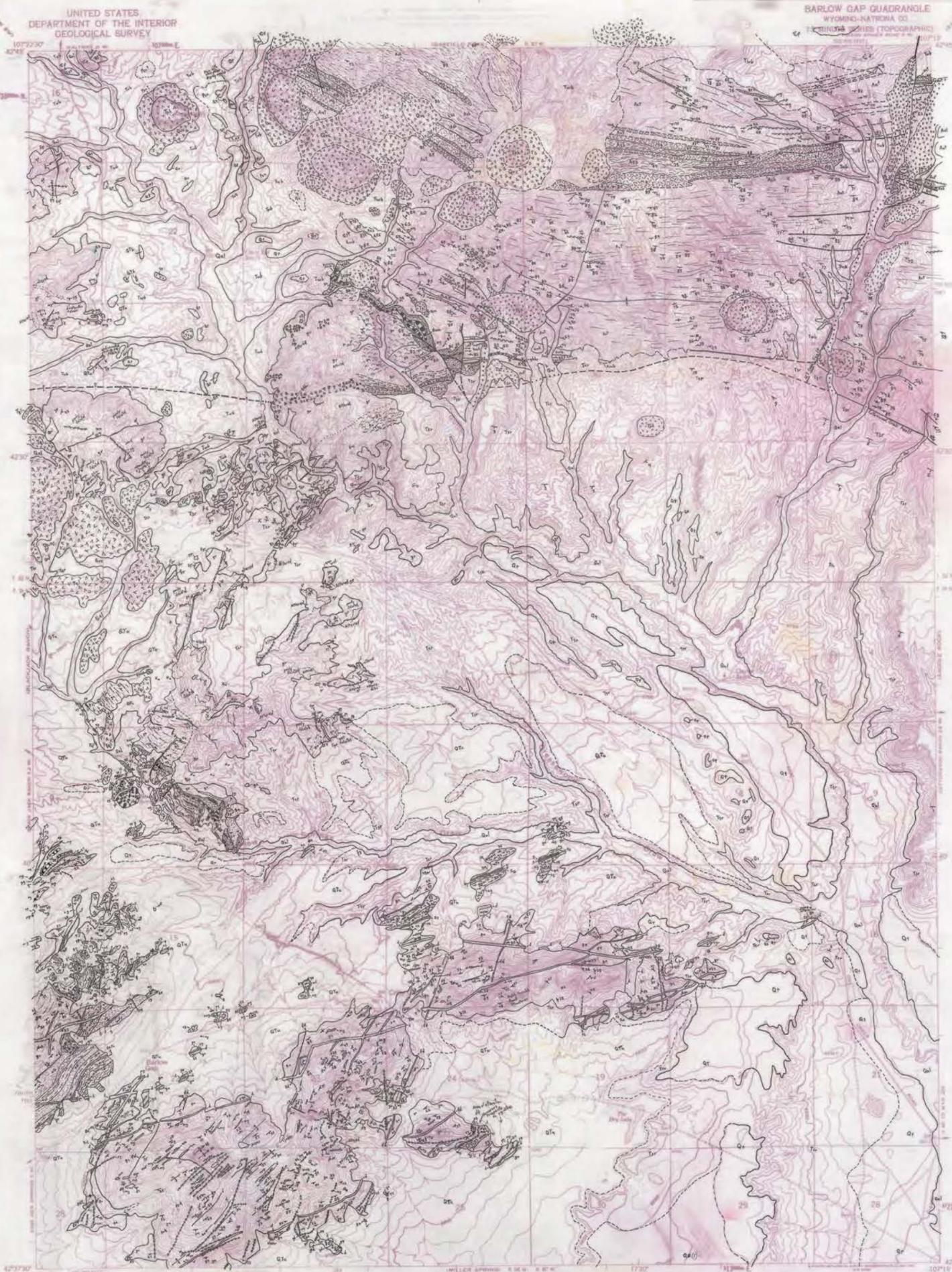




PGM 99-2

BARLOW GAP QUADRANGLE
WYOMING-NATRONA CO.
TOPOGRAPHIC SERIES (TOPOGRAPHIC)



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 volcanics (Qvc): colluvium derived from Tertiary volcanic rocks, and volcanics associated with eruptive centers.
 - Terrace deposits (Qt): gravel, cobble, sand, and all covered terraces cut across Tertiary sedimentary units.
 - Pleistocene Bug Formation (QB): pale brown, pale-green, and white claystone, sandstone, tuff, limestone, and conglomerates.
 - Ash (Aa): very fine-grained white volcanic ash located in Sec. 17 and 18, T.31 N., R. 87 W.
 - Jasper, Jasperoid (Ja): jasperoid of possible hot springs genesis in Sec. 35 & 36, T.32N., R.89W., 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 form terrace-like deposits.
 - Undifferentiated Quaternary and Tertiary deposits (Qt): 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-sorted 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 detritus, but contains some Precambrian detritus; upper part is poorly sorted, but remainder is generally composed of persistent well-sorted beds of yellowish-gray to pale olive and dark greenish-gray sandstone, siltstone, and mudstone; thick ash deposits, both locally derived and from the Yellowstone-Abasara 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 alkaline and associated breccias contain disseminated gold (Hausel, 1996).
 - Phonolite (Tph):
 - Phonolite lava (Tpi):
 - Alkali meta-trachyte (Tat):
 - Soda trachyte (Tst):
 - Trachyte (Tt):
 - Lattite (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 Laramie faults and fault zones in the northwest part of the quadrangle.
- 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 (Pzu): Paleozoic units described above with limited exposures were not separated 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.
 - Diorite dikes (d): near vertical, predominately ENE trending dikes of uniform thickness 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 diorite dikes.
 - Granodiorite dikes (gd): thin granodiorite dikes cross-cut granite gneiss in the southern part of the quadrangle (Sec. 26, T.31N., R.89W.) at shallow angles (20° to 60°).
 - 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 buffaceous metagreywackes with intercalated metacherts and metatholites.
- 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 (agg):
 - Metabasalt (Bmb):
 - Banded iron formation (if): banded, rusty-brown to black-weathered iron formation ranging from 0 to 70 feet thick.
 - Pelitic schist (e): 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 (St):
 - Garnet schist (Bgg): 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

PRELIMINARY GEOLOGIC MAP OF THE
BARLOW GAP QUADRANGLE

by
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