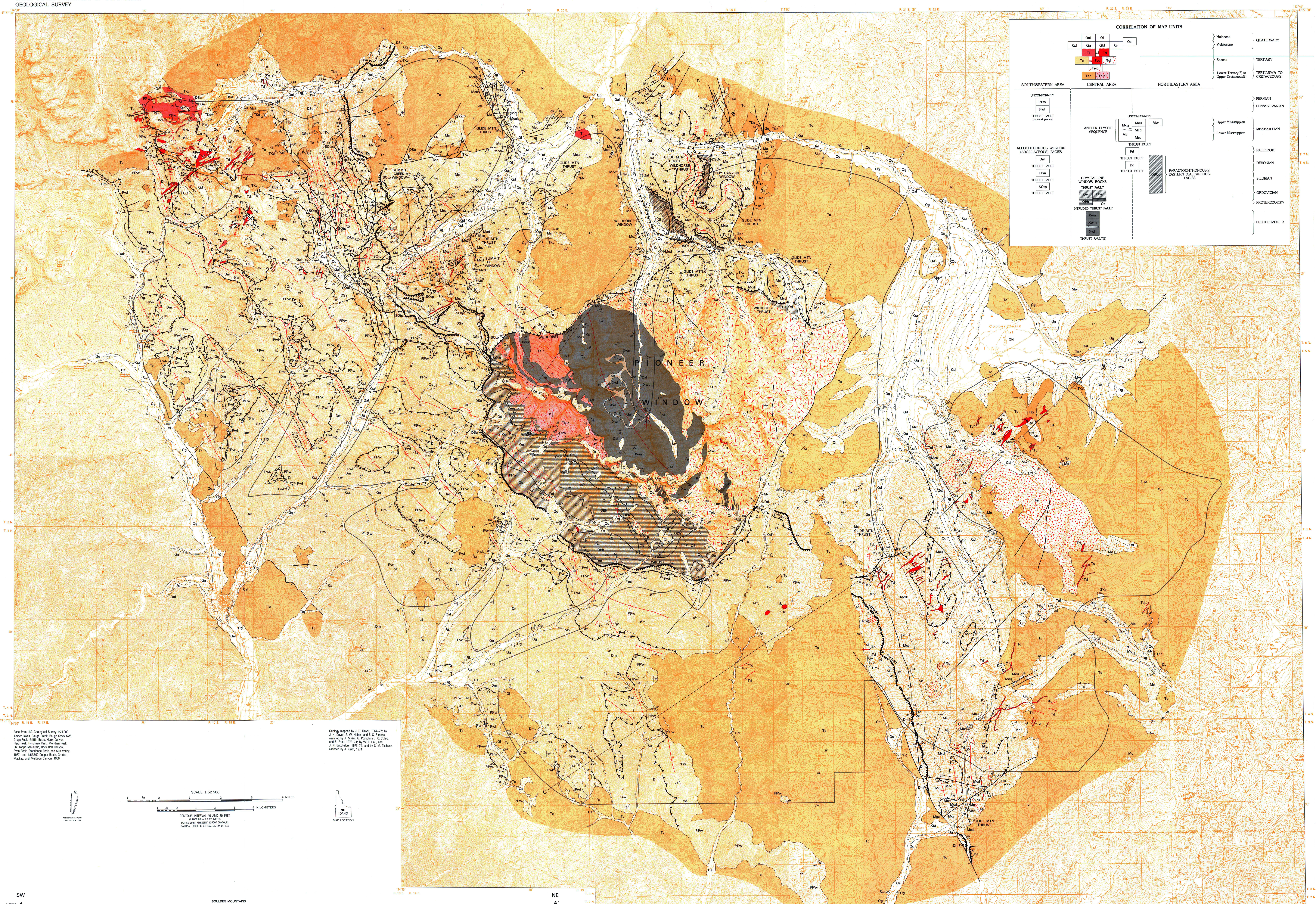


Base from U.S. Geological Survey 1:24,000 Amber Lakes, Baugh Creek, Baugh Creek SW, Grays Peak, Griffin Butte, Harry Canyon, Herd Peak, Hyndman Peak, Meridian Peak, Phi Kappa Mountain, Rock Roll Canyon, Ryan Peak, Standhope Peak, and Sun Valley, 1967; and 1:62,500 Copper Basin, Grouse, Mackay, and Muldoon Canyon, 1960

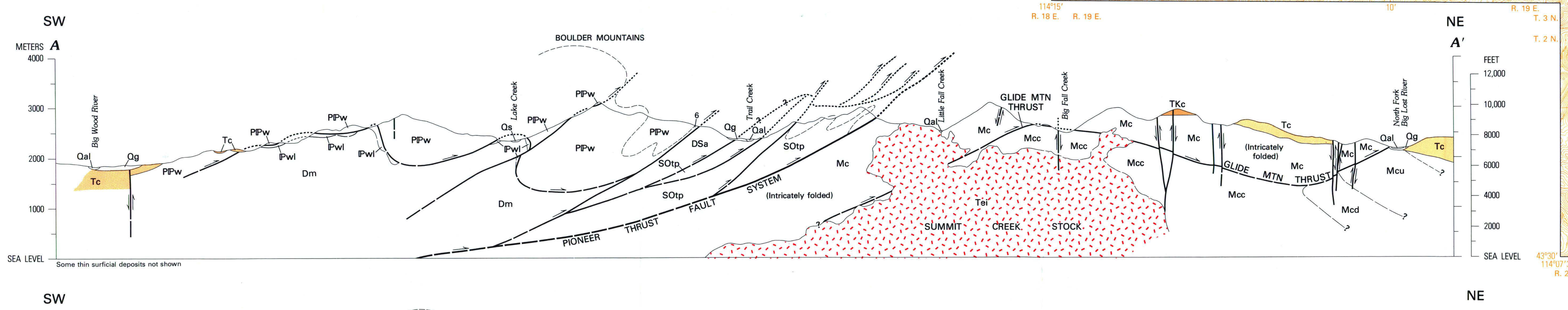
Geology mapped by J. H. Dover, 1964–72; by J. H. Dover, S. W. Hobbs, and F. S. Simons, assisted by J. Myers, G. Podsobinski, C. Stiles, and S. Frost, 1973–74; by W. E. Hall, and J. N. Batchelder, 1973–74; and by C. M. Tschanz, assisted by J. Keith, 1974

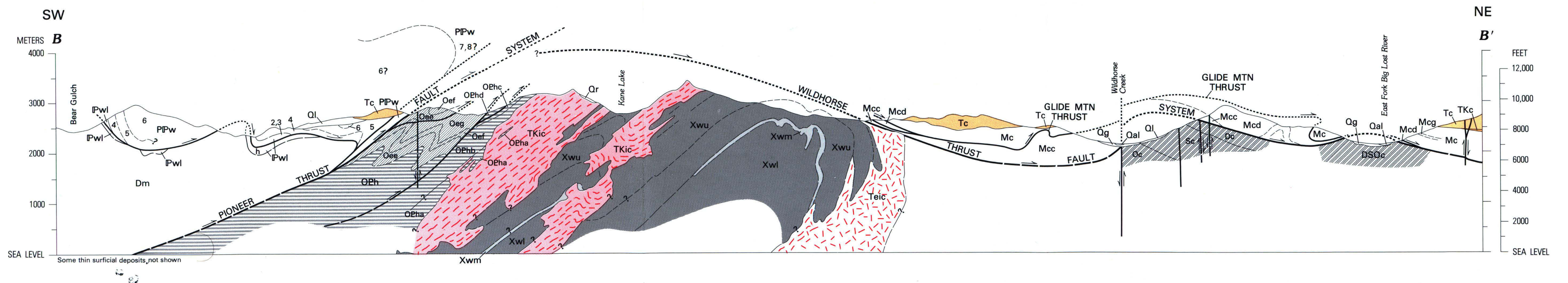
APPROXIMATE MEAN DECLINATION, 1962

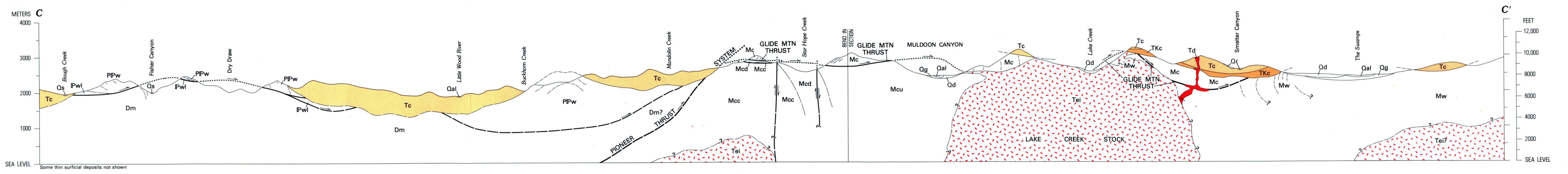
SCALE 1:62 500

CONTOUR INTERVAL 40 AND 80 FEET
(1 FOOT EQUALS 0.305 METER)
DOTTED LINES REPRESENT 20-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAP LOCATION







DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

- Qal — Alluvium (Holocene)
- Ql — Landslide deposits (Holocene)
- Qs — Stream deposits, undivided (Holocene and Pleistocene)—Alluvium and older terrace gravels, some colluvium included
- Qd — Nonstratified deposits of glacial drift (Pleistocene)—Includes moraine and kame deposits; dotted lines show form of most prominent moraines
- Qg — Terrace gravel (Pleistocene)
- Qld — Lacustrine deposits (Pleistocene)
- Qr — Rock glaciers (Pleistocene)
- Ti — QUARTZ PORPHYRY DIKE COMPLEX OF NORTH FORK LAKE (EOCENE)
- Td — Hypabyssal intrusive rocks (Eocene)
- Tc — CHALLIS VOLCANICS (EOCENE)
- Tcd — Challis(?) feeder dikes
- Tei — QUARTZ MONZONITE STOCKS OF SUMMIT AND LAKE CREEKS, AND ASSOCIATED HYPABYSSAL ROCKS (EOCENE)
- TKc — CLASTIC ROCKS (LOWER TERTIARY? TO UPPER CRETACEOUS?)

INTRUSIVE COMPLEX OF THE PIONEER WINDOW

- Teic — Quartz monzonitic phase (Eocene)
- TKic — Granodioritic phase (lower Tertiary? to Upper Cretaceous?)

WOOD RIVER FORMATION

- PIPw — Upper part (Lower Permian to Upper Pennsylvanian)—Includes unit 4 and younger units of Hall and others (1974); individual units locally distinguished on cross sections by numbers 4 (oldest) to 6 (youngest)
- IPwl — Lower part (Middle Pennsylvanian)—Includes units 2 and 3 of Hall and others (1974), and the Hailey Conglomerate Member at the base; individual units locally distinguished on cross sections by letter h (oldest) or numbers 2 and 3 (youngest)
- Mw — WHITE KNOB LIMESTONE (UPPER MISSISSIPPIAN)

COPPER BASIN FORMATION (MISSISSIPPIAN)

Glide Mountain plate

- Mc
- Mcg — Green Lake Limestone Member (Lower Mississippian)

Copper Basin plate

- Mcu — Upper clastic unit (Mississippian)
- Mcd — Drummond Mine Limestone Member (Lower Mississippian)
- Mcc — Little Copper Member (Lower Mississippian)
- PzI — LIMESTONE OF BUCK CANYON (PALEOZOIC)
- Dc — CAREY DOLOMITE (MIDDLE AND LOWER DEVONIAN)
- Dm — MILLIGEN FORMATION (DEVONIAN)
- DSa — ARGILLACEOUS ROCKS (DEVONIAN AND SILURIAN)
- DSOc — CALCAREOUS ROCKS OF WILDHORSE AND DRY CANYON WINDOWS (DEVONIAN TO ORDOVICIAN)—Individual units distinguished on cross sections by symbols Dc, Sc, and Oc
- SOtp — TRAIL CREEK AND PHI KAPPA FORMATIONS (SILURIAN AND ORDOVICIAN)
- Oe — METASEDIMENTARY ROCKS OF EAST FORK FORMATION (UPPER? AND (OR) MIDDLE ORDOVICIAN)—Informal units e (oldest) to g (youngest) shown in section B–B′ by symbols Oee, Oef, and Oeg
- OPh — METASEDIMENTARY ROCKS OF HYNDMAN FORMATION (ORDOVICIAN AND PROTEROZOIC?)—Informal units a (oldest) to d (youngest) shown in section B–B′ by symbols OPha, OPhb, OPhc, and OPhd
- Om — MARBLE INCLUSIONS (MIDDLE ORDOVICIAN AND (OR) OLDER)
- Os — SCHIST INCLUSIONS (MIDDLE ORDOVICIAN AND (OR) OLDER)

GNEISS COMPLEX OF WILDHORSE CREEK (PROTEROZOIC X)

- Xwu — Upper gneiss unit
- Xwm — Marble marker bed
- Xwl — Lower gneiss unit

- STUDY AREA BOUNDARY
- PROJECTION OF BEDDING ABOVE GROUND, OR TRACE OF BEDDING IN SUBSURFACE, ON CROSS SECTION
- CONTACT—Dashed where approximately located, queried where uncertain
- HIGH-ANGLE FAULT—Dashed where approximately located, dotted where concealed. Arrow on map shows direction of dip; half arrows in cross section show vertical component of relative movement; bar and ball on downthrown side
- THRUST FAULT—Dashed where approximately located; dotted on map where concealed and on cross sections where position inferred above ground level; sawteeth on upper plate; arrows on cross section show direction of relative movement of upper plate
  - Major postmetamorphic thrust fault
  - Major pre- or synmetamorphic thrust fault
  - Pioneer thrust fault system—Sole thrust of allochthonous sequences of lower Paleozoic argillaceous rocks (western facies) of western Pioneer Mountains; also marks abrupt metamorphic break along Pioneer window contact. Sawteeth on upper plate
  - Wildhorse thrust fault system—Sole thrust separating allochthonous Mississippian Copper Basin Formation sequences from pre-Mississippian sequences in tectonic windows; along Pioneer window contact, marks abrupt metamorphic break with metasedimentary rocks and coincides with sheared contact of intrusive complex. Sawteeth on upper plate
  - Minor thrust fault
- MAJOR FOLD AXES—Arrow shows trace of axial surface and points down plunge
  - Anticline
  - Overturned anticline
  - Syncline
  - Overturned syncline
- MINOR FOLD AXES—Arrow shows trace of axial surface and points down plunge
  - Anticline
  - Overturned anticline
  - Syncline
  - Overturned syncline
- CRENULATIONS OR GROUPS OF MINOR FOLD AXES—Shows average bearing and plunge
- STRIKE AND DIP OF BEDS
  - Inclined
  - Horizontal
  - Vertical
  - Overturned
- STRIKE AND DIP OF METAMORPHIC FOLIATION
  - Inclined
  - Vertical
- STRIKE AND DIP OF FOLIATION IN IGNEOUS OR METAIGNEOUS ROCKS
  - Inclined
  - Vertical

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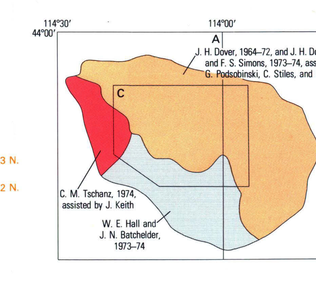

INDEX SHOWING MAPPING CREDIT

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A Umpleby, J. B., Westgate, L. G., and Ross, C. P., 1930, Geology and ore deposits of the Wood River region, Idaho: U.S. Geol. Survey Bull. 814, pl. 1.

B Nelson, W. H., and Ross, C. P., 1969, Geologic map of the Mackay quadrangle, south-central Idaho: U.S. Geol. Survey Misc. Geol. Inv. Map I–580 [1970].

C Dover, J. H., 1969, Bedrock geology of the Pioneer Mountains, Blaine and Custer Counties, central Idaho: Idaho Bur. Mines and Geology Pamph. 142, pl. 1.

GEOLOGIC MAP OF THE BOULDER–PIONEER WILDERNESS STUDY AREA AND VICINITY, BLAINE AND CUSTER COUNTIES, IDAHO

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