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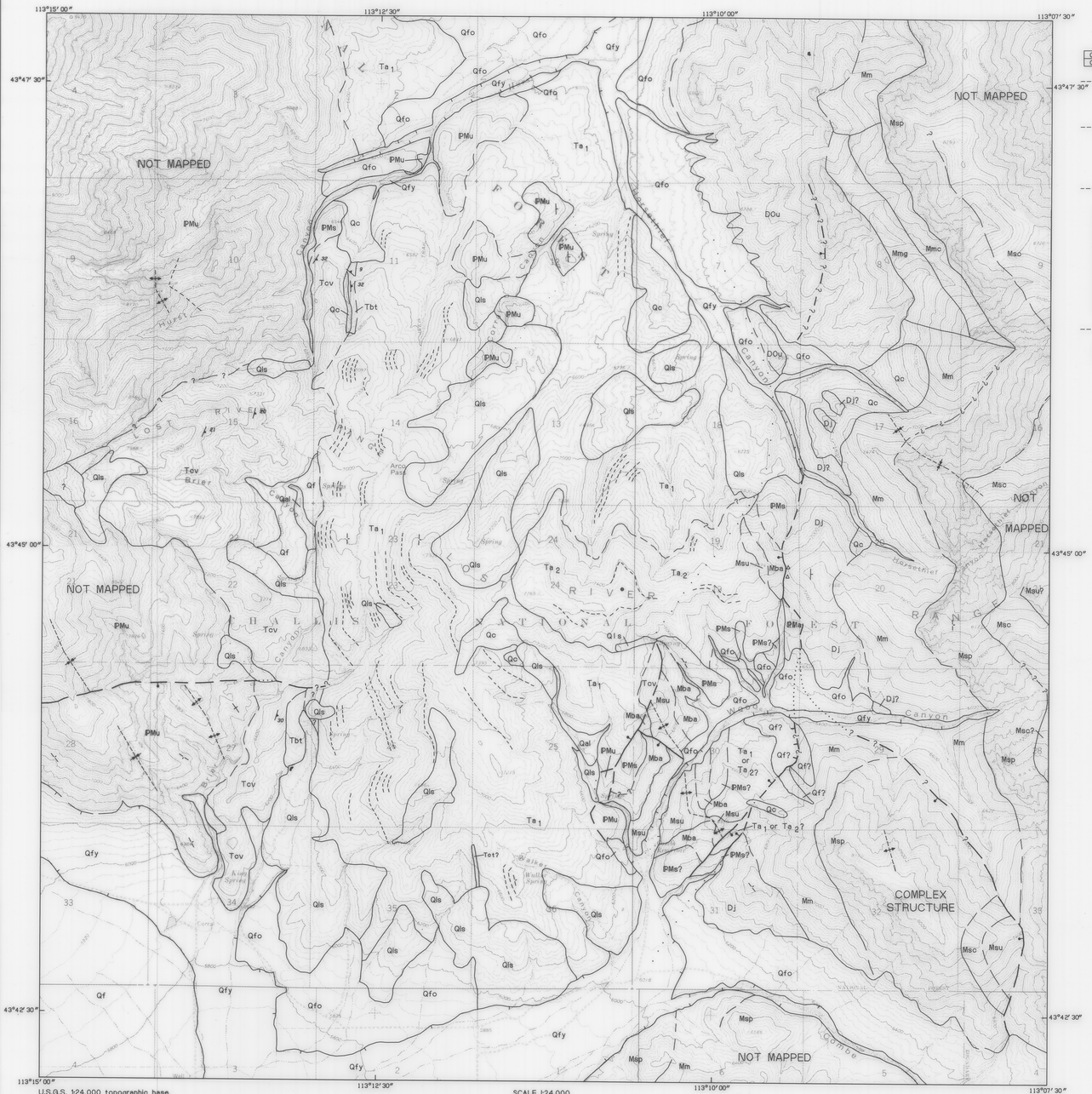
GEOLOGIC MAP OF THE NORTHERN PART OF THE ARCO HILLS AND SOUTHERN PART OF THE ARCO PASS 7.5-MINUTE QUADRANGLES, BUTTE COUNTY, IDAHO

SUSANNE U. JANECKE

1992



U.S.G.S. 1:24,000 topographic base.

Topography by photogrammetric methods from aerial photographs.

Polyconic projection. 1927 North American Datum
10,000-foot grid based on Idaho coordinate system, central zone.

CORRELATION OF MAP UNITS

Qfy, Qfo, Qls, Qf, Qc, Qal	HOLOCENE AND PLEISTOCENE	QUATERNARY
Angular Unconformity		
Ta2	PLIOCENE AND EOCENE	TERTIARY
Angular Unconformity(?)		
Tat, Tcv, Tbt	EOCENE AND OLIGOCENE MIDDLE EOCENE	TERTIARY
Angular Unconformity		
PMs, Mba, Msu, Mso, Msp, Mmc, Mmg, PMu, Mm	PENNSYLVANIAN; UPPER MISSISSIPPIAN; LOWER MISSISSIPPIAN	PALEOZOIC
Unconformity		
Dj, DOu	UPPER DEVONIAN; SILURIAN AND ORDOVICIAN	PALEOZOIC

CENOZOIC

MAP UNITS

CENOZOIC ROCKS

Qf ALLUVIAL FAN DEPOSITS—Mostly Pinedale in age (Scott, 1982) but include some older and younger deposits. Alluvium in mountain valleys grading into fan deposits was included

Qfy YOUNGER ALLUVIAL FAN DEPOSITS

Qfo OLDER ALLUVIAL FAN DEPOSITS

Qc COLLUVIAL DEPOSITS

Qls LANDSLIDE DEPOSITS—Include numerous coherent slump blocks of Tertiary gravels and conglomerates in the southern part of map

Qal ALLUVIAL DEPOSITS

Ta2 GRAVEL AND CONGLOMERATE OF ARCO PASS, UPPER UNIT—Clasts dominantly derived from upper Paleozoic carbonates. Similar deposits are Eocene to Oligocene(?) age (Janecke and Snee, 1990) but nearly flat dip indicates that this unit may be younger

Tot VITRIC TUFF AND TUFFACEOUS VOLCANICLASTIC ROCKS—Biotite-bearing; white to off-white weathering

Ta1 GRAVEL AND CONGLOMERATE OF ARCO PASS, LOWER UNIT—Composed exclusively of pebble- to boulder-sized clasts of dacite lava near the base and carbonate clasts near the top. Vitric and biotite-bearing air-fall tuffs are locally interstratified in this unit near the base. Similar deposits in the region are Eocene to Oligocene(?) age (Janecke and Snee, 1990)

CHALLIS VOLCANIC GROUP

Tbt PLAGIOCLASE-BIOTITE ASH-FLOW TUFF—Densely welded, contains flattened pumice and lithic fragments. Dacitic in composition. Typically altered

Tcv DACITE LAVA FLOWS—Plagioclase, hornblende, pyroxene, and biotite are the most conspicuous phenocrysts

PALEOZOIC ROCKS

PMu PENNSYLVANIAN AND UPPER MISSISSIPPIAN ROCKS, UNDIVIDED

PMs SNAKY CANYON FORMATION

Mba BLUEBIRD MOUNTAIN AND ARCO HILLS FORMATIONS, UNDIVIDED

Msu SURRETT CANYON FORMATION

Mso SOUTH CREEK FORMATION

Msp SCOTT PEAK FORMATION

Mmc MIDDLE CANYON FORMATION

Mmg MCGOWAN CREEK FORMATION

Mm MIDDLE CANYON AND MCGOWAN CREEK FORMATIONS, UNDIVIDED

Dj JEFFERSON AND THREE FORKS FORMATIONS

DOu THREE FORKS, JEFFERSON, LAKETOWN AND FISHHAVEN, AND POSSIBLY KINNIKINIC FORMATIONS, UNDIVIDED

Assisted by R. Griffin and D. Holmes.

Cartography by Daryle R. Faircloth on a computer-aided cartographic system at the Idaho Geological Survey

Reviewed by Susan A. Wyman

MAP SYMBOLS

- Normal fault: ball or D on downthrown side. Dashed where inferred, dotted where concealed, queried where uncertain
- Fault scarp
- Contact: dashed where inferred, dotted where concealed, queried where uncertain
- Contact between inset alluvial fan deposits: bar on younger inset unit
- Trace of bedding, shown in poorly exposed Tertiary units to indicate general strike and dip of the deposits
- Anticline
- Synocline
- Horizontal bedding
- Strike and dip of bedding
- Approximate strike and dip of bedding
- Strike and dip of flow banding
- Breccia zone

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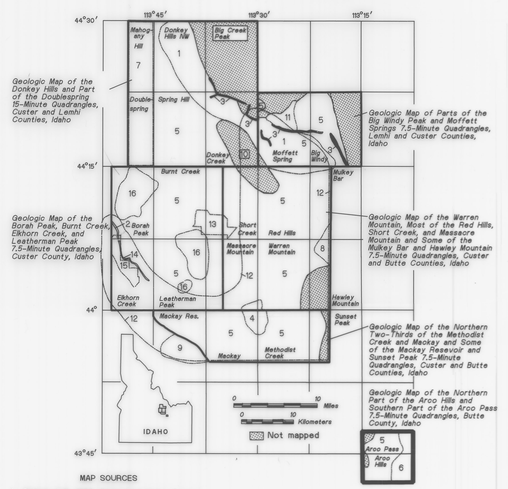

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Published and sold by the Idaho Geological Survey
University of Idaho, Moscow, Idaho 83843