UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

BULLETIN 1261-E
PLATE 1

109°20′ 15′ 10′ 5′ 109°00′ 108°55′

33°40′ 35′ 30′ 25′ 33°20′

EXPLANATION

Qal / Qls — Surficial deposits
Qal, *alluvium*
Qls, *landslide* — QUATERNARY

QTg / QTgb — Gila Conglomerate — Pliocene and Pleistocene
QTg, *Gila Conglomerate; may include basaltic lava flows and colluvium or pediment deposits*
QTgb, *basaltic lava flows predominant; may include fluviatile deposits*
bd, *basaltic dike*

TERTIARY AND QUATERNARY

EROSIONAL UNCONFORMITY

Tbt / Tba / bad — Basaltic andesite
Tba, *flows and flow breccia ranging in composition from trachyandesite with olivine to quartz latite; subordinate fluviatile layers*
Tbt, *peralkaline rhyolite ash-flow tuff and associated pyroclastic and fluviatile deposits*
bad, *basaltic andesite dike*

(P) Tlr / ld — Quartz latite and rhyolite
Tlr, *extrusive-intrusive complex*
ld, *quartz latite or rhyolite dike*
(P), *perlite locality*

Tad — Andesite to dacite lava flows
Porphyritic flows; commonly mapped with basaltic andesite unit in Bear Mountain–Whiterocks Mountain area

Trf / Trt / rd — Rhyolite of Red Mountain
Trf, *rhyolite lava flows and intrusive rhyolite*
Trt, *rhyolite ash-flow tuff*
rd, *rhyolite dike*

Trb / Tra — Rhyolite tuff
Trb, *volcanic and fluviatile breccia, crossbedded sandstone, and conglomerate. Contact with bounding volcanic rocks commonly indefinite or gradational*
Tra, *rhyolite ash-flow sheet; quartz and alkali feldspar (commonly moonstone) phenocrysts common; locally includes other pyroclastic flows, lava flows, and fluviatile deposits*

Miocene — TERTIARY

EROSIONAL UNCONFORMITY

Ta / ad — Pyroxene-hornblende andesite
Ta, *lava flows, flow breccia, and subordinate pyroclastic breccia, all cut by numerous andesitic dikes*
ad, *andesitic dikes; some may be related to younger andesitic-dacitic flows*

Ts / Taf — Epiclastic volcanic rocks
Ts, *south and east parts, lahar and mudflow—type breccias grade into andesitic flow breccia and lava flows; northwest part, fluviatile breccia, conglomerate, sandstone, and siltstone prevalent, but includes conglomerate bed with clasts of fossiliferous Paleozoic limestone and Precambrian granite as much as 100 feet thick*
Taf, *andesitic lava flows; mapped only locally*

Oligocene and Oligocene(?) — TERTIARY

Contact, showing dip
Dashed where approximately located; short dashed where inferred, indefinite, or gradational

Fault, showing dip
Dashed where approximately located; short dashed where inferred; dotted where concealed. Bar and ball on downthrown side

Vein in fault zone
East of Blue River opposite mouth of Strayhorse Creek

Dike along fault

Strike and dip of bedding
Inclined Vertical

Strike and dip of flow layers or compaction foliation

Magnetic contours
Showing total intensity of earth's magnetic field in gammas, relative to arbitrary datum; hachured to indicate closed areas of lower magnetic intensity. Contour interval 20 gammas

Location of measured maximum or minimum intensity within closed high or closed low

Flight path
Showing location and spacing of data

BR-109B Rapid-rock chemical analysis
BR-89B K-Ar isotope age determination
BR-89A Where combined
Locality of rock samples

Area of hydrothermally altered rocks
Density of pattern approximates intensity of alteration

Approximate boundary of the Blue Range Primitive Area
From U.S. Forest Service, August 1966

Approximate boundary of primitive area
From U.S. Forest Service, August 1966

Base from U.S. Geological Survey:
Hannagan Meadow, Arizona, 1:62,500, 1958
Blue, Arizona-New Mexico, 1:62,500, 1961
Morenci, Arizona-New Mexico, 1:125,000, 1913
Alma, New Mexico, 1:24,000, 1963; Saliz Pass, New Mexico, 1:24,000, 1963

APPROXIMATE MEAN DECLINATION, 1969

SCALE 1:62 500
1 ½ 0 1 2 3 4 MILES
1 .5 0 1 2 3 4 KILOMETERS
CONTOUR INTERVAL 40, 80, AND 100 FEET
DATUM IS MEAN SEA LEVEL

Geology by J. C. Ratté, E. R. Landis and D. L. Gaskill, 1967–1968; modified from Weber and Willard (1959) in New Mexico Aeromagnetic survey flown at 10,500 feet barometric elevation; flight–line spacing one mile.

GEOLOGIC MAP OF THE BLUE RANGE PRIMITIVE AREA, ARIZONA-NEW MEXICO

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