DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PLATE 3

OPEN-FILE REPORT 84-372

EXPLANATION FOR GENERALIZED GEOLOGIC MAP

Principal sources are Scott, Taylor, Epis, and Wobus (1976, 1978), Tweto, Steven, Hail, and Moench (1976), and Tweto (1979)

CONTACT

FAULT--Dotted where concealed. Bar and ball on downthrown side.

THRUST FAULT--Dotted where concealed. Sawteeth on upper plate.

AXIS OF ANTICLINE

AXIS OF SYNCLINE

APPROXIMATE OUTLINE OF MINING DISTRICT

Geologic Units

QT — QUATERNARY ALLUVIUM, GRAVEL, GLACIAL DEPOSITS, AND LANDSLIDE DEPOSITS and TERTIARY SEDIMENTARY ROCKS--Siltstone, sandstone, and conglomerate (Dry Union, Wagontongue, and Santa Fe Formations, in part of Miocene age; limestone, tuff, tuffaceous sandstone, and conglomerate (Antero Formation of Oligocene age).

Tv — TERTIARY VOLCANIC AND ASSOCIATED SEDIMENTARY ROCKS--Volcanic rocks and associated volcanogenic sedimentary rocks of diverse composition, principally rhyolite, andesite, basalt, and latite. Includes pre-ash-flow andesitic flows, breccias, tuffs, and conglomerates (general age 30-35 m.y.); early ash-flow tuff of Sawatch Range province; intra-ash-flow andesitic flows; ash-flow tuff of main volcanic sequence (age in South Park 29-32 m.y.).

TKi — TERTIARY AND CRETACEOUS INTRUSIVE ROCKS--Includes granodioritic, quartz monzonitic, and granitic rocks in batholiths, stocks, dikes, sills, laccoliths, and irregular bodies (Miocene and Oligocene age, 20-40 m.y.). and WHITEHORN GRANODIORITE (UPPER CRETACEOUS)--Compositionally variable fine- to medium-grained granodiorite exposed northeast of Salida (age 69-70 m.y.).

Mz — MESOZOIC SEDIMENTARY ROCKS--Mancos Shale (Upper Cretaceous); Dakota Sandstone (Upper Cretaceous); Morrison Formation, mudstone, shale, and sandstone (Upper Jurassic); Dakota Sandstone and Morrison Formation, undivided.

uPz — SANGRE DE CHRISTO FORMATION (PERMIAN AND PENNSYLVANIAN)--Red and green sandstone, conglomerate, and siltstone.
MINTURN AND BELDEN FORMATIONS (PENNSYLVANIAN)--Red, green, and gray shale, siltstone, and sandstone. Contains gypsum beds and marine limestone (Minturn Formation); dark-gray shale, siltstone, and sandstone (Belden Formation); gypsum, siltstone, and shale, an evaporitic facies of the Minturn and Belden Formations, occurs in South Park and southward.

lPz — MISSISSIPPIAN, DEVONIAN, ORDOVICIAN, AND CAMBRIAN ROCKS--Includes in descending order: Leadville Limestone (Mississippian), Chaffee Group (Mississippian? and Devonian), Fremont Limestone or Dolomite (Ordovician), Harding Sandstone (Ordovician), Manitou Limestone or Dolomite (Ordovician), Peerless Dolomite (Upper Cambrian), and Sawatch Quartzite or Sandstone (Cambrian).

Yqm — QUARTZ MONZONITE (PRECAMBRIAN Y)--Fine- to medium-grained biotite-muscovite quartz monzonite (age 1,350-1,480 m.y.) Includes Silver Plume and St. Kevin types.

YXg — PRECAMBRIAN Y AND PRECAMBRIAN X GRANITIC ROCKS, UNDIVIDED--Includes areas of mixed 1,400- and 1,700-m.y.-old granitic rocks; rocks of Boulder Creek, Denny Creek Granodiorite Gneiss, Kroenke Granodiorite types and rocks mapped previously as Pikes Peak and Silver Plume Granites in Garfield quadrangle (Dings and Robinson, 1957); pinkish-gray, massive to foliated, medium- to coarse-grained hornblende or biotite granodiorite; locally an augen gneiss; and granodiorite of Methodist Mountain in Pueblo quadrangle.

Xm — MAFIC INTRUSIVE ROCKS AND METAGABBRO (PRECAMBRIAN X)--Gabbro and mafic diorites and monzonites in small plutons; dark greenish-gray massive to foliated gabbro and ultramafic rocks; includes metagabbro.

Xvf — INTERLAYERED FELSIC AND HORNBLENDIC GNEISSES (PRECAMBRIAN X)--Includes metarhyolites, metabasalts, and interbedded metagraywackes as well as more highly metamorphosed gneisses; and includes rocks that are chiefly micaceous feldspathic gneiss, metarhyodacite tuff, metabasalt, and metamorphosed sedimentary breccia and tuff. Original rock texture well preserved; metamorphic facies ranges from higher to lowermost amphibolite.

Xbg — BIOTITIC GNEISSES AND MIGMATITE (PRECAMBRIAN X)--Contains minor interlayered hornblende gneiss and calc-silicate rocks and, in places, much pegmatite; and includes layered gneiss, chiefly micaceous, feldspathic garnetiferous, hornblendic, and sillimanitic varieties. Formed from sedimentary and volcanic rocks metamorphosed to amphibolite facies.

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.