GEOLOGIC MAP OF THE SAMANIEGO HILLS, PINAL AND PIMA COUNTIES, SOUTHERN ARIZONA

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EXPLANATION

QUATERNARY

Qycr River channels and low terraces (< 0.1 ka)

Qy2r Late Holocene river terraces (< 3 ka)

Qy2 Late Holocene alluvial fans, stream channels, and low terraces (estimated age < 4 ka)

Qy1 Middle to early Holocene alluvial fans (estimated age 4 to 10 ka)

Qy1p Late to early Holocene pediment fans (estimated age 0 to 10 ka)

Qy Undifferentiated Holocene piedmont alluvial surfaces (estimated age 0 to 10 ka)

Qlr Late Pleistocene river terraces (estimated age 10 to 150 ka)

Ql Late Pleistocene alluvial fans and terraces (estimated age 10 to 150 ka)

Qm Middle to early Pleistocene alluvial fans (estimated age 150 to 1,000 ka)

Qo Early Pleistocene alluvial fans (estimated age > 1,000 ka)

Qu Undifferentiated (cross-section only)

TERTIARY

Tsu Upper flow unit of the trachyte of Sasco

Ts Trachyte of Sasco

Tcu Upper conglomerate

Tsab Brecciated aphanitic trachyte of Sasco

Tsa Aphanitic trachyte of Sasco

Tb Basalt of Cerro Prieto

Tc Conglomerate

Ta Pyroxene andesite

Ttb Biotite trachyte

Tbu Basalt undifferentiated

Tlh Hornblende latite

Tst Sandstone and tuff

Tpt Pyroxene trachyandesite

Tr Rhyolite of Ragged Top

Tso Older sedimentary rocks

Tv Undifferentiated volcanic rocks (cross-section only)

UPPER CRETACEOUS

Ksa Andesite/dacite lava

Kgp Granodiorite porphyry

Kcr Caflin Ranch Formation

MIDDLE PROTEROZOIC

Yd Diabase

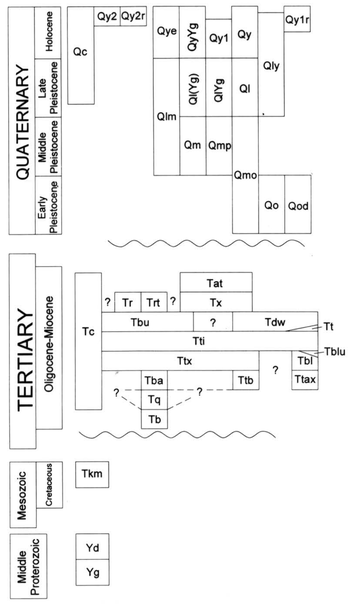
Ya Apache Group undifferentiated

Yg Granite

MIDDLE OR EARLY PROTEROZOIC

XYu Undifferentiated Proterozoic rocks (cross-section only)

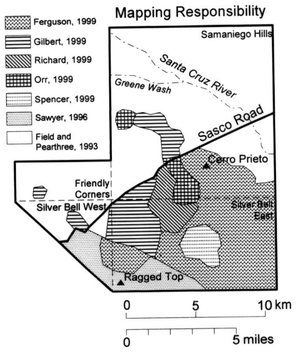
Stratigraphic Correlations, Sawtooth Mountains



MAP SYMBOLS

- contact, dashed where approximate, queried where connections are made between contacts of adjacent mappers
- fault, dashed where approximate, dotted where concealed, ball on downthrown side, arrow indicates direction of strike-slip motion
- strike and dip of bedding or contact(s) between lava flows
- flat-lying bedding or contact(s) between lava flows
- flow-banding in lava
- flow-lineation in lava, showing value of plunge
- sample location
- approximate sample location
- approximate well location (# corresponds to record in Hardt and others, 1964)
- approximate location of fault on cross-section, dotted if intruded by younger rocks
- cross-section end points

Mapping Responsibility



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CONTROL BY ..... USGS, NOS/NOAA
COMPILED FROM AERIAL PHOTOGRAPHS TAKEN 1958
FIELD CHECKED 1959
LIMITED REVISION FROM AERIAL PHOTOGRAPHS TAKEN 1963
FIELD CHECKED ..... 1965 MAP EDITED 1989
PROJECTION ..... TRANSVERSE MERCATOR
GRID 1000-METER UNIVERSAL TRANSVERSE MERCATOR ..... ZONE 12
10,000-FOOT STATE GRID TICKS ..... ARIZONA, CENTRAL ZONE
UTM GRID DECLINATION ..... 0°34' WEST
1989 MAGNETIC NORTH DECLINATION ..... 12° EAST
VERTICAL DATUM ..... NATIONAL GEODETIC VERTICAL DATUM OF 1929
HORIZONTAL DATUM ..... 1927 NORTH AMERICAN DATUM
To place on the predicted North American Datum of 1983, move the projection lines as shown by dashed corner ticks (5 meters south and 63 meters east)
There may be private inholdings within the boundaries of any Federal and State Reservations shown on this map
Public Land Survey System is shown as published in 1959 and verified or supplemented in 1985

PROVISIONAL MAP
Produced from original manuscript drawings. Information shown as of date of field check.

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
To convert feet to meters multiply by .3048
To convert meters to feet multiply by 3.2808

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225
OR RESTON, VIRGINIA 22092

ARIZONA
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1. Friendly Corners
2. Samaniego Hills
3. Red Rock
4. Silver Bell West
5. West of Marana
6. Kohl Hill
7. Wasserman Peak
8. West of Avra

ADJOINING 7.5' QUADRANGLE NAMES

ROAD LEGEND
Improved Road
Unimproved Road
Trail
Interstate Route U.S. Route State Route

SILVER BELL EAST, ARIZONA
PROVISIONAL EDITION 1989

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Arizona Geological Survey
Open-File Report 99-17, sheet 1 of 1 with text