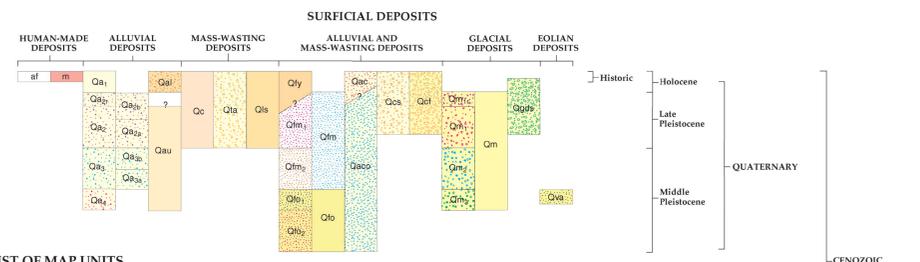
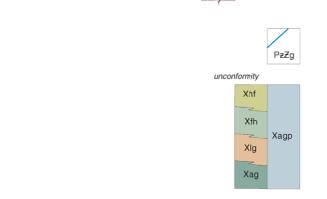
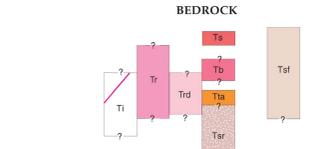


CORRELATION OF MAP UNITS



LIST OF MAP UNITS
(Refer to booklet for complete description of map units)

- SURFICIAL DEPOSITS**
- HUMAN-MADE DEPOSITS**
- af Artificial fill (historic)
 - m Mine and mill waste (historic)
- ALLUVIAL DEPOSITS**
- Qa1 Alluvial unit one (Holocene)
 - Qa2 Alluvial unit two (late Pleistocene)
 - Qa3 Alluvial unit three (late middle Pleistocene)
 - Qa4 Alluvial unit four (middle Pleistocene)
 - Qa5 Alluvium of Rito Seco (Holocene)
 - Qau Alluvium, undivided (Pleistocene)
- MASS-WASTING DEPOSITS**
- Qc Colluvium (Holocene and late Pleistocene)
 - Qta Talus (Holocene and late Pleistocene)
 - Qts Landslide deposits (Holocene and Pleistocene)
- ALLUVIAL AND MASS-WASTING DEPOSITS**
- Qly Younger fan deposits (Holocene and late Pleistocene?)
 - Qlm Middle fan deposits, unit one (late Pleistocene)
 - Qlm1 Middle fan deposits, unit two (late middle Pleistocene)
 - Qlm2 Middle fan deposits, undifferentiated (late and late middle Pleistocene)
 - Qlm3 Older fan deposits, unit one (middle Pleistocene)
 - Qlm4 Older fan deposits, unit two (middle Pleistocene)
 - Qlm5 Older fan deposits, undifferentiated (middle Pleistocene)
 - Qlm6 Alluvium and colluvium, undivided (Holocene and late Pleistocene?)
 - Qlm7 Older alluvium and colluvium, undivided (Holocene? and late Pleistocene)
 - Qlm8 Colluvium and sheetwash, undivided (Holocene and late Pleistocene)
 - Qlm9 Colluvium and younger fan deposits, undivided (Holocene and late Pleistocene)
- GLACIAL DEPOSITS**
- Qm Morainal deposit, unit one (late Pleistocene)
 - Qm1 Morainal deposit, unit two (late middle Pleistocene)
 - Qm2 Morainal deposit, unit three (middle Pleistocene)
 - Qm3 Morainal deposits, undifferentiated (late and middle Pleistocene)
 - Qm4 Glacially dammed sediments (Holocene and late Pleistocene)
- EOLIAN DEPOSITS**
- Qva Lava Creek B volcanic ash (early middle Pleistocene)
- BEDROCK**
- Tsf Santa Fe Group (late Oligocene?, Miocene, and Pliocene)
 - Ts Santa Fe Group sediments (late Oligocene?, Miocene, and Pliocene)
 - Tb Servilleta Basalt (Pliocene)
 - Td Basalt (Miocene)
 - Trd Rhyodacite (Miocene)
 - Tta Trachyandesite lava flows (Miocene)
 - Tr Rhyolite lava and andesite lahar deposits (Pliocene, Miocene, or Oligocene)

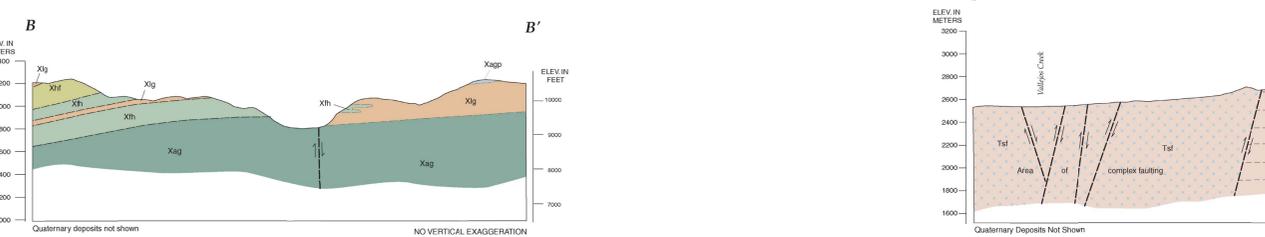
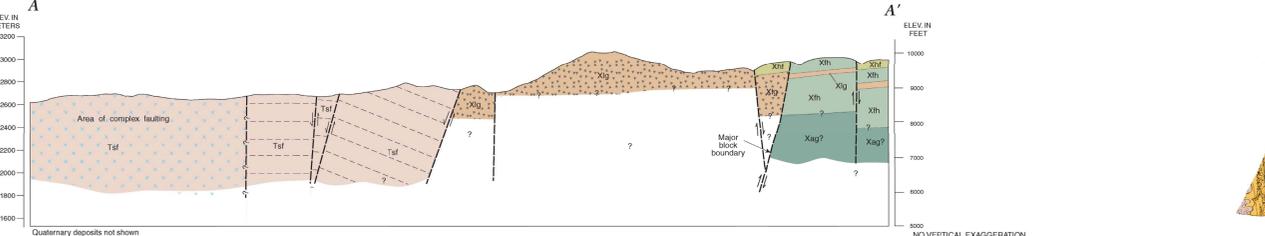
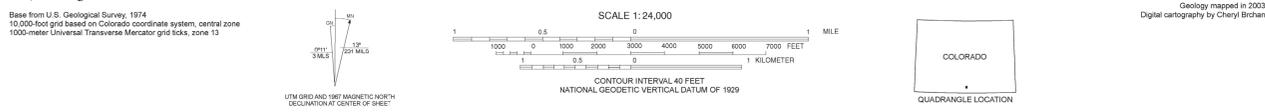
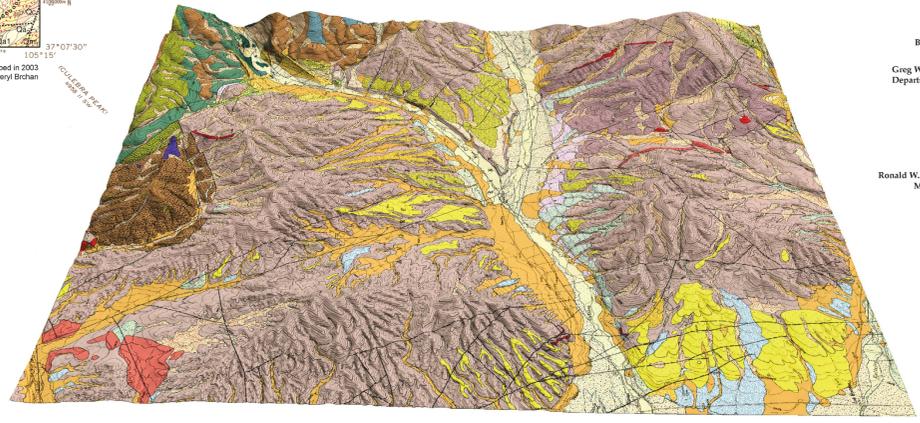


- Tsr Redbed sedimentary rocks (Miocene? to Eocene?)
- Ti Intermediate-composition dike (Miocene or Oligocene)
- PzZg Gabbro dike (early Paleozoic or late Proterozoic)
- Xhf Interlayered hornblende and felsic gneiss (Early Proterozoic)
- Xth Interlayered felsic and hornblende gneiss (Early Proterozoic)
- Xlg Leucocratic gneiss (Early Proterozoic)
- Xag Leucocratic augen gneiss (Early Proterozoic)
- Xagg Pegmatitic leucocratic augen gneiss (Early Proterozoic)

MAP SYMBOLS

- Contact—Dashed where approximately located; queried where uncertain
- Qos/Qa3 Multiple unit symbol—indicates a thin veneer of one deposit (upper symbol) overlies another deposit (lower symbol)
- Qa3? Queried unit symbol—indicates unit identification is uncertain
- Thin bed of Lava Creek B volcanic ash—See unit Qva for description
- Location where animal burrows have dug up clasts of volcanic ash—Probably from Neogene ash bed within the Santa Fe Group
- Fault—Dashed where approximately located; dotted where concealed; queried where uncertain; bar and ball on downthrown side; "N" indicates the surficial deposit on that side of the fault is not displaced by the fault; some approximately located faults that offset sediments of the Santa Fe Group are inferred on the basis of dip changes in the sediments—these faults are very approximately located; crosscutting relations of concealed faults beneath valleys are inferred
- Lineament of possible tectonic origin
- Strike and dip of sedimentary beds or volcanic flow—Angle of dip shown in degrees; arrow indicates paleocurrent direction, which is based upon orientation of unbedded gravel clasts and/or halftones of channels in Santa Fe Group sediments
- Estimated strike and dip of sedimentary bed
- Strike and dip of foliation in metamorphic rocks or flow foliation in volcanic rocks
 - Inclined
 - Vertical
 - Strike and dip of cataclastic foliation in metamorphic rocks
- Strike and dip of joints
 - Inclined
 - Vertical
- Bearing and plunge of mineral-streaking lineation
- Bearing and plunge of crenulation lineation
- Bearing and plunge of hinge line in Proterozoic rocks
 - Inclined
 - Horizontal
- Igneous dike—Showing direction and amount of dip; approximately located
- Zone of complex late Cenozoic deformation—Inferred on the basis of abrupt dip changes in sedimentary beds and on presence of small faults in many of the limited exposures in the zone; only selected faults are shown in this zone
- Clay zone—Very fine-grained, light-gray to greenish-gray clay locally present within the breccia zone; may be similar to tectonic clay gouge at the San Luis gold mine described by Benson and Jones (1996) or a result of hydrothermal alteration
- Breccia zone—Variably brecciated and sheared Proterozoic rocks; lithology of brecciated rocks indicated by color or formation symbol; locally contains inliers or horizons of relatively unbrecciated hornblende gneiss
- Breccia zones—Intensely brecciated and sheared undifferentiated Proterozoic rocks and Tertiary basaltic rocks; very poorly exposed except in road cut
- Bedding—Shown in cross section only
- Location and identification number of geochemical rock sample (see Table 1 in booklet for analysis)
- Location and identification number of geochemical rock sample from unmapped, small, rubby outcrop of rhyolite or felsite dike with subtle flow layering
- Location and identification number of geochemical rock sample with ⁴⁰Ar/³⁹Ar age date (see Table 1 in booklet for analysis)
- Small adit with mine dump
- Moraine crest
- Linear ridge in materials interpreted as morainal deposits—Origin of landform uncertain; may be related to slope failure or of morainal deposits or a remnant of a moraine crest
- Thin veneer of glacial till—Partially conceals underlying bedrock

SHADED-RELIEF MAP OF THE TAYLOR RANCH QUADRANGLE WITH GEOLOGY AND TOPOGRAPHY OVERLAY, OBLIQUE VIEW LOOKING EAST



GEOLOGIC MAP OF THE TAYLOR RANCH QUADRANGLE, COSTILLA COUNTY, COLORADO
By Robert M. Kirkham, Kenneth C. Shaver, Neil R. Lindsay, and Alan R. Wallace
2003

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