

# GEOLOGIC MAP OF THE PEPPERSAUCE WASH 7 1/2' QUADRANGLE AND PART OF THE KIELBERG CANYON 7 1/2' QUADRANGLE, PINAL AND PIMA COUNTIES, ARIZONA

by  
Pearthree, P.A., Cook, J.P., Skotnicki, S.J.,  
and Spencer, J.E.

August 2009

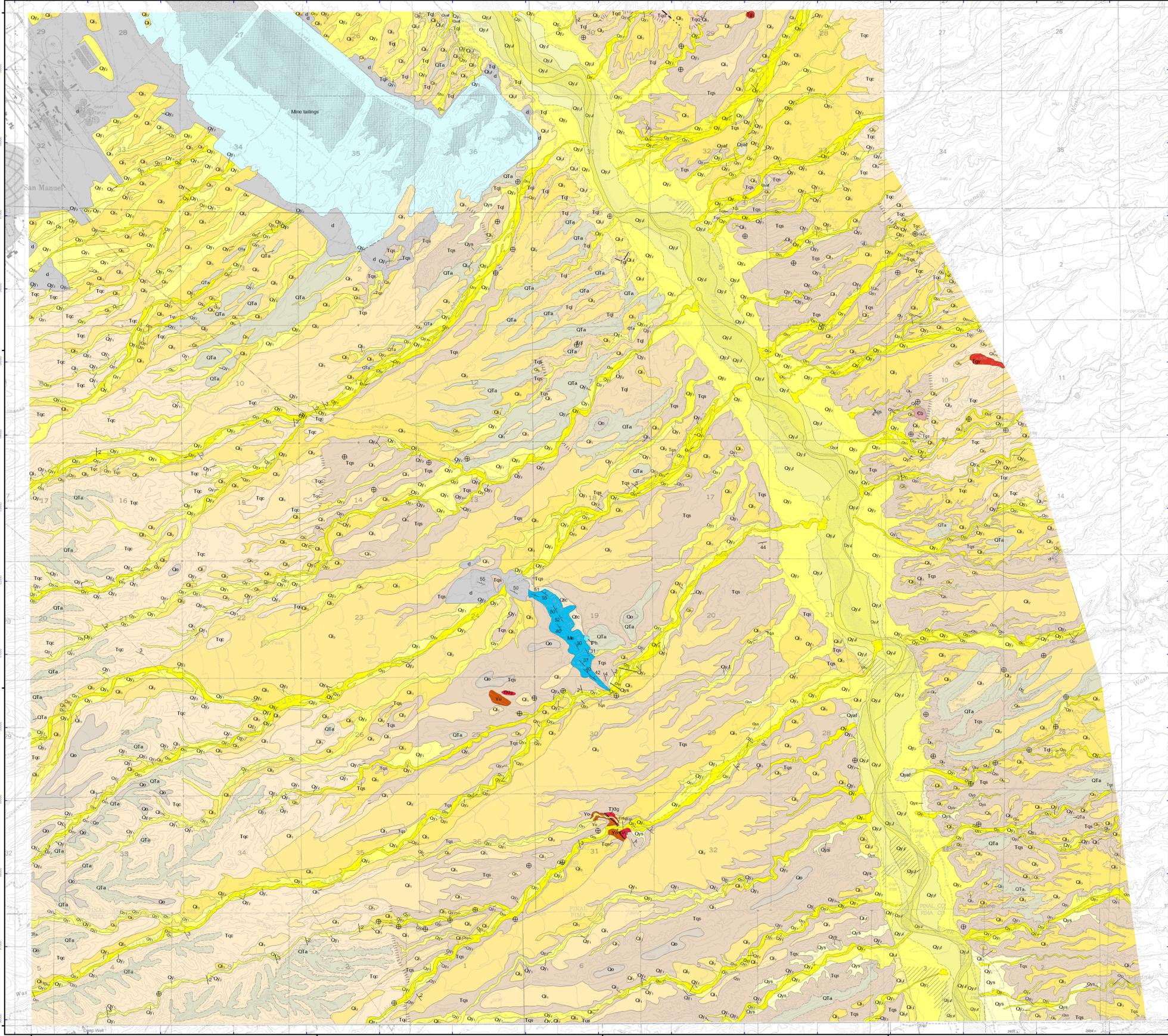
Arizona Geological Survey Digital Geologic Map 69  
(DGM-69), version 1.0

Citation for this map:  
Pearthree P.A., Cook, J.P., Skotnicki, S.J., and Spencer, J.E., 2009, Geologic map of the Peppersauce Wash 7 1/2' Quadrangle and part of the Kielberg Canyon 7 1/2' Quadrangle, Pinal and Pima Counties, Arizona: Arizona Geological Survey Digital Geologic Map DGM-69, scale 1:24,000.

Research supported by the U.S. Geological Survey, National Cooperative Geologic Mapping Program, under assistance award number 07HACG0110. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.  
Mapping was also supported by the Arizona Department of Water Resources.

## Map Unit Descriptions

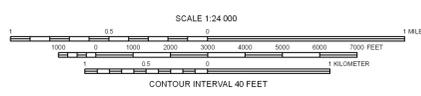
- River Deposits**
- Qy,r** Active river channel deposits - Unconsolidated, very poorly sorted sandy to cobbly beds in active river channels
  - Qy,f** Flood channel and bar deposits - Unconsolidated sand, gravel and silt deposits on bars, low terraces and flood channels
  - Qy,i** Historical inset river terrace deposits - Unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early historical floodplain
  - Qy,r** Latest Holocene to historical river deposits - Silt, clay, sand and minor gravel deposits underlying the early historical floodplain
  - Qy,i** Late to early Holocene terrace deposits - Silt, clay, sand and minor gravel terrace deposits, 0.5 to several meters above active channels
  - Qa,i** Late Pleistocene river terrace deposits - Gravel-dominated river terrace deposits several meters or more above active channels
  - Qa,i** Middle to late Pleistocene river terrace deposits - Older, higher gravelly, sandy river terrace deposits with variable soil development
  - Qa,i** Early to middle Pleistocene river terrace deposits - Oldest, highest preserved gravelly, sandy river terrace deposits
- Piedmont Deposits**
- Qy** Active tributary channel alluvium - Unconsolidated, very poorly sorted sandy to cobbly piedmont channel sediments
  - Qy,i** Latest Holocene alluvium - Unconsolidated, very poorly sorted silty to cobbly low terrace and overflow channel deposits
  - Qyaf** Late Holocene alluvium, active fan deposits - active portions of young fan deposits exhibiting distributary drainage patterns
  - Qy,i** Late Holocene alluvium - Unconsolidated, very poorly sorted silty to cobbly flood channel, low terrace and fan deposits
  - Qy,i** Early to late Holocene alluvium - Weakly consolidated sand, gravel and silt terrace and alluvial-fan deposits
  - Qys** Holocene fine-grained deposits - Unconsolidated fine grained alluvium derived from basin fill deposits
  - Qa** Late Pleistocene alluvial fan and terrace deposits - Weakly consolidated sandy gravel deposits with moderate soil development
  - Qa** Middle to late Pleistocene alluvial fan and terrace deposits - Weakly consolidated sandy gravel deposits with strong soil development
  - Qa** Early to middle Pleistocene alluvial fan deposits - High, moderately consolidated gravelly deposits with strong soil development
  - Qa** Early Pleistocene alluvial fan deposits - High, moderately consolidated gravelly deposits with strong soil development
  - QTa** Late Pliocene to early Pleistocene fan gravel - Coarse, moderately to well-consolidated gravelly deposits capping high rounded ridges
- Basin-Fill Deposits**
- Tq** Late Miocene to Pliocene Quiburis deposits, alluvial fan facies - Sandy to gravelly, moderately to strongly indurated alluvial fan deposits
  - Tq** Late Miocene to Pliocene Quiburis deposits, fan toe and axial valley facies - Sandy to clayey, moderately indurated axial valley and playa margin deposits
  - Tqj** Pliocene Quiburis deposits, playa-lacustrine facies - Fine-grained, laminated playa and lacustrine deposits
  - Tqd** Late Miocene to Pliocene Quiburis deposits, diatomaceous facies - Interbedded diatomite, mudstone, limestone, and green chert.
- Other Deposits**
- d** Plowed areas - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
  - d** Disturbed ground - Mines, tailings or ponds, urban areas, and paved roads
  - Mt** Mine tailings - Tailings derived from processing ore from the San Manuel mine.
  - Qc** Quaternary hillslope talus and colluvium - Very poorly sorted, angular, weakly bedded, hillslope deposits associated with bedrock hills
- Bedrock Units**
- Tp** Galuro volcanics - Tertiary volcanic rocks
  - Ph** Horquilla Limestone - Light to medium gray limestone and interbedded silty limestone, in beds 30-50 cm thick (from Creasey, 1967).
  - M** Escabrosa Limestone (Mississippian) - Pale gray limestone, thick bedded to massive, commonly with sparse to abundant siliceous stringers and chert nodules. Limestone is generally a granitose, composed of small fossil fragments, including locally abundant conoid columns and sparse columns composed of multiple columns.
  - Cb** Bolsa Quartzite - Cambrian Bolsa Quartzite
  - Tdx** Fine-grained granite (Proterozoic or Laramide [upper Cretaceous or lower Tertiary]) - Granitoid containing 40%, 1-3 mm white plagioclase and 4-8%, <1 mm biotite, and 1-2%, <1 mm quartz.
  - Yo** Middle Proterozoic Oracle-Ruin Granite - Middle Proterozoic Oracle-Ruin Granite



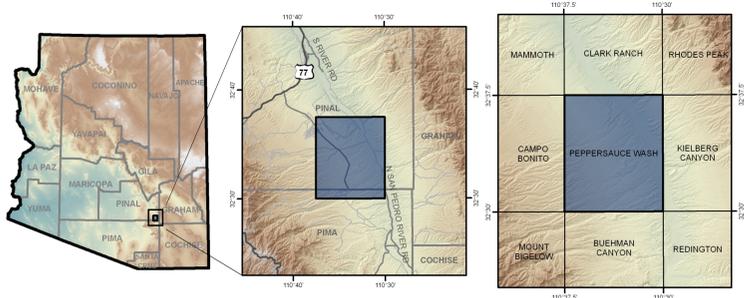
Topographic base from USGS 1:24,000 Quadrangle Series.  
Seamless basemap generated using iGage All Topo Pro software.

Projection Information:  
North American Datum of 1983.  
1000-meter Universal Transverse Mercator grid tics, zone 12, shown in blue.

Cartography and layout by Ryan J. Clark and Helen Ireland



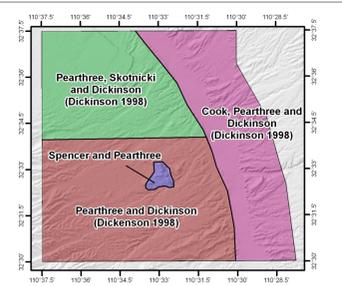
### Location Map



### Map Symbol Descriptions

- H** Horizontal bedding
- 10** Bedding, showing strike and dip
- Accurately located contact
- - - - - Approximately located contact
- ||||| Gradational contact
- ===== Accurately located fault
- ..... Fault concealed beneath surficial units

### Mapping Responsibility



**References Cited:**  
Dickinson, W.R., 1998, Facies map of post-mid-Miocene Quiburis Formation, San Pedro trough, Pinal, Pima, Gila, Graham, and Cochise Counties, Arizona: Arizona Geological Survey Contributed Map CM-98-A, Ten sheets, scale 1:24,000, with 6 p. text.

### Correlation of Units

