Geologic Map of the San Pedro River, Babocomari River and Aravaipa Creek Corridors, Southeastern Arizona

by

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Digital Map DM-RM-1B, version 1.1

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USGS 24k quadrangle series topographic base maps.
North American Datum of 1983. Projection and 1000-meter
grid ticks (blue): Universal Transverse Mercator, zone 12.

Statewide Location Map

Location of each sheet shown in black

Figures on this Sheet

Figure locations shown in red

Map Unit Descriptions

Other units

d	**Disturbed ground** - heavily disturbed ground due to agriculture, extensive excavation, or construction of earth dams
▨	**Plowed areas** - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
Qtc	**Quaternary hillslope talus and colluvium** - weakly bedded hillslope deposits mantling the middle and lower slopes of bedrock hills

River alluvium

Qy$_c$r	**Active river channel deposits** - unconsolidated, very poorly sorted sandy to cobbly beds in active river channels
Qy$_4$r	**Flood channel and low terrace deposits** - unconsolidated sand, gravel and silt deposits on bars, low terraces and flood channels
Qy$_3$r	**Historical river terrace deposits** - unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early historical floodplain
Qy$_2$r	**Latest Holocene to historical river terrace deposits** - silt, clay, sand and minor gravel deposits underlying the early historical floodplain
Qy$_1$r	**Late to early Holocene river terrace deposits** - silt, clay, sand and minor gravel terrace deposits slightly above the early historical floodplain
Qi$_3$r	**Late Pleistocene river terrace deposits** - gravelly, sandy river terrace deposits up to 25 m above the active river channel
Qi$_2$r	**Middle to late Pleistocene river terrace deposits** - older, higher gravelly, sandy river terrace deposits
Qi$_1$r	**Early to middle Pleistocene river terrace deposits** - oldest, highest preserved gravelly, sandy river terrace deposits
Qor	**Early Pleistocene river terrace deposits** - very high remnant river terrace deposits located 30 to 40 m above the active channel emanating from Babocomari Wash

Piedmont alluvium and surficial deposits

Qy$_c$	**Modern stream channel deposits** - active channel deposits composed of very poorly-sorted sand, pebbles, and cobbles with some boulders to moderately-sorted sand and pebbles
Qy$_3$	**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$_2$	**Late Holocene alluvium** - planar terrace deposits located along incised drainages, broad low-relief distal fan deposits onlapping onto Holocene river alluvium, and infrequently active tributary drainage deposits
Qy$_1$	**Older Holocene alluvium** - broad, low-relief, undulating fan deposits ehxibiting widespread, shallow braided drainage patterns
Qy	**Holocene alluvial deposits, undifferentiated**
Qys	**Holocene fine-grained deposits** - unconsolidated alluvium derived predominantly from basin fill deposits
Qyi	**Holocene and Pleistocene alluvium** - mixed fine-grained Holocene (Qy) and Pleistocene (Qi2 or Qi3) alluvium
Qi$_3$	**Late Pleistocene alluvial fan and terrace deposits** - weakly consolidated sandy gravel deposits with moderate soil development
Qi$_2$	**Middle to late Pleistocene alluvial fan and terrace deposits** - weakly consolidated sandy gravel deposits with strong soil development
Qi$_1$	**Early to middle Pleistocene alluvial fan and terrace deposits** - high, moderately consolidated gravelly deposits with strong soil development
Qo	**Early Pleistocene alluvial fan deposits** - highest standing Pleistocene alluvial surface in the landscape composed of moderately consolidated gravelly deposits with variable soil development

Tertiary basin fill alluvium

QTa	**Late Pliocene to early Pleistocene fan gravel** - coarse, moderately to well-consolidated gravelly deposits capping high rounded ridges
QTbf	**Early Pleistocene fine-grained basin-floor alluvium** - very old relict basin floor deposits forming a minimally dissected surface
QTsd	**Pliocene to early Pleistocene Saint David Formation** - fine-grained, highly eroded basin-fill deposits
Tsy	**Pliocene to middle Miocene deposits** - moderately to strongly indurated conglomerate and sandstone basin fill deposits

Bedrock

Tg	**Conglomerate** - tan, thin- to medium-bedded, pebble-cobble, sandy matrix conglomerate and pebbly sandstone
Tsc	**Sandstones and conglomerates** - reddish mudstones and sandstones to tan sandstones and conglomerates
Tgm	**Mafic dikes** - mafic dikes within or adjacent to older deformed gravels, Tg
Krd	**Porphyry of Fairbank** - phenocryst-rich porphyry
Ku	**Uncle Sam Tuff** - phenocryst-rich ash-flow tuff
Kux	**Uncle Sam Tuff megabreccia** - zones of megabreccia within the Uncle Sam Tuff
Kuxa	**Uncle Sam Tuff andesite megabreccia** - zones of monolithic, andesite lava megabreccia within the Uncle Sam Tuff
Kdx	**Coarse-grained andesite** - volcanic complex dominated by coarse-grained, phenocryst-rich andesitic lava and probable hypabyssal bodies
Kt	**Tuff of Charleston** - rhyolite ash-flow tuff
Kra	**Aphyric rhyolite** - aphyric to very phenocryst-poor rhyolite lava with probable zones of hypabyssal rock, and tuff breccia
Ka	**Andesite** - amalgamated, andesite lava flows intruded by a myriad of dikes
Ks	**Bisbee Group** - complexly intertonguing sequences of sandstone, mudstone, shale, and conglomerate
Jtrm	**Volcanic and sedimentary rocks of Mustang Mountain** - siliceous flows and minor welded tuff
Jtrms	**Volcanic and sedimentary rocks of Mustang Mountain** - conglomerate, sandstone, siltstone, mudstone, and volcanic rocks
Pcn	**Concha limestone** - light-gray relatively thick-bedded limestone with abundant distinctive chert nodules
Ps	**Scherrer Formation** - quartzose sandstone and dolomite
Pe	**Epitaph dolomite** - dolomite and limestone, marl, siltstone, and gypsum
Pc	**Colina limestone** - medium-to dark-gray limestone

Bedrock and surficial geologic mapping for areas outside the lateral limits of Holocene river alluvium was compiled from the following sources

Ferguson, C.A., Shipman, T.C., Pearthree, P.A., Moore, E.M., Richard, S.M., Spencer, J.E., Youberg, A., Cook, J.P., and Haddad, D.E., 2009, Geologic map of the Fairbank 7½' Quadrangle, Cochise County, Arizona: Arizona Geological Survey Digital Geologic Map 50 (DGM-50), v. 2.0, 1 sheet, layout scale 1:24,000, with text.

Pearthree, P.A., and Youberg, A., 2009, Geologic Map of the Huachuca City 7½' Quadrangle, Cochise County, Arizona: Arizona Geological Survey Digital Geologic Map 36 (DGM-36) version 2.0, 1 sheet, layout scale 1:24,000, with text.

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Boundaries of Holocene River Alluvium

Thin, Solid Line
Clearly defined, accurately located contacts between Holocene river alluvium and bounding geologic units such as bedrock hillslopes, abruptly incised channels or alluvial terraces, and distinct edges of small, steep alluvial fans and talus slopes. Line location accurate to within 50 feet.

Thin, Dashed Line
Subtle or gradational contacts between Holocene river alluvium and bounding geologic units. These boundaries are often associated with very low relief distal alluvial fan onlap onto Holocene river alluvium and are often located in historically plowed fields. Line location accurate to within 100 feet.

Thin, Dotted Line
Approximately located boundary between Holocene river alluvium and bounding geologic units. Dotted line boundaries are reserved for areas which are significantly disturbed by anthropogenic activity. Placement of dotted line boundaries is based on a combination of field verification and historical aerial photo and topographic data interpretation. Line location accurate to within 500 feet depending on level of disturbance (plowed vs. paved, original topography maintained/obliterated etc.)

H1105 Waypoint Location, showing station identification

Other Geologic Lines

Thin, Solid Line
Accurate contact

Thin, Dashed Line
Approximate contact

Thin, Dotted Line
Concealed contact

Hashed Line
Gradational Contact

Solid, Bold Line
Accurate Fault

Dashed, Bold Line
Approximate Fault

Dotted, Bold Line
Concealed Fault