

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

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Digital Map DM-RM-1A, 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.

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

Cook, J.P., Shipman, T.C., Pearthree, P.A., and Haddad D.E., 2009. Geologic Map of the Hereford 7½ Quadrangle and the Northern Part of the Stark 7½ Quadrangle, Cochise County, Arizona. Arizona Geological Survey Digital Geologic Map 57 (DGM-57) version 2.0, 1 sheet, layout scale 1:24,000, with text.

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., Ferguson, C.A., Demsey, K.A., Haddad, D.E., and Cook, J.P., 2009. Geologic map of the Lewis Springs 7½ Quadrangle, Cochise County, Arizona. Arizona Geological Survey Digital Geologic Map 51 (DGM-51), v. 2.0, 1 sheet, layout scale 1:24,000, with text.

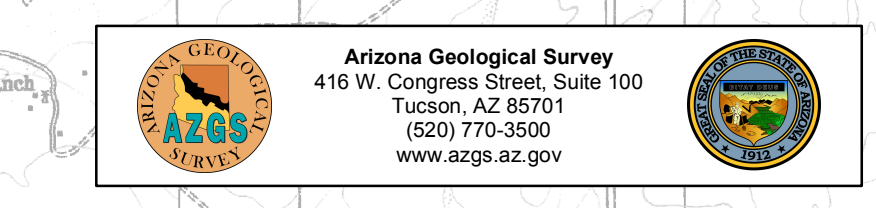
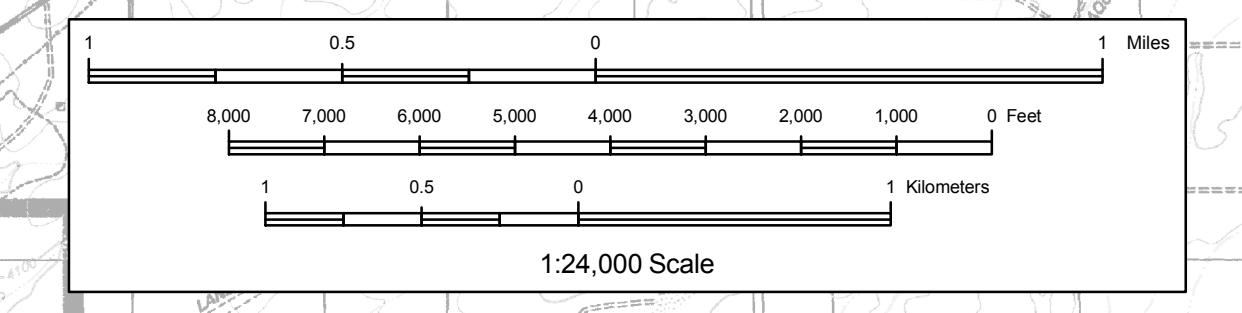


Figure 1

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/disturbed etc.).

Waypoint Location, showing station identification

Other Geologic Lines

Thin, Solid Line
Accurate contact

Thin, Dashed Line
Approximate contact

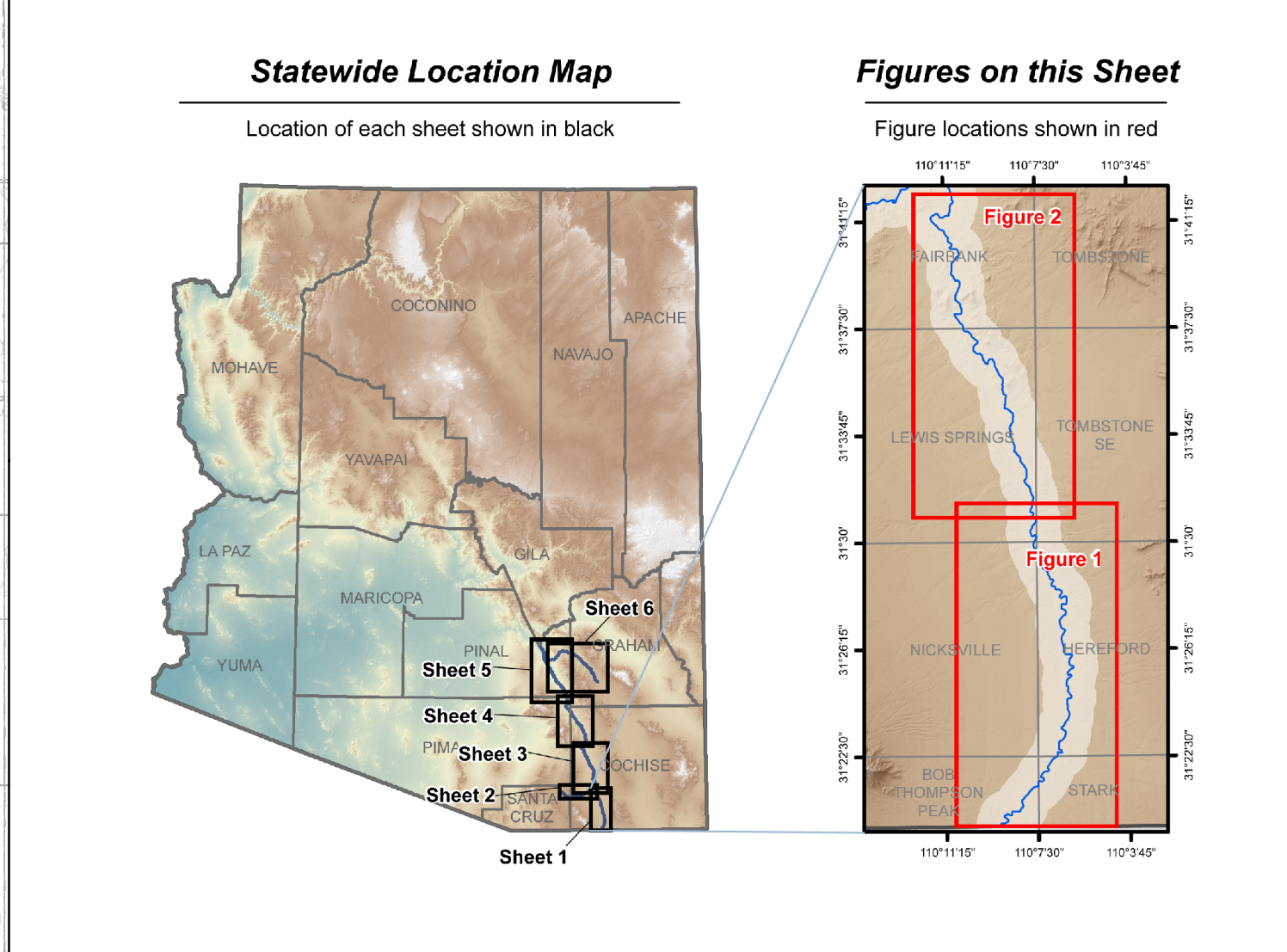
Thin, Dotted Line
Concealed contact

Hashed Line
Gradational Contact

Solid, Bold Line
Accurate Fault

Dashed, Bold Line
Approximate Fault

Dotted, Bold Line
Concealed Fault



Map Unit Descriptions

Other units

- 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
- Quaternary hillslope talus and colluvium - weakly bedded hillslope deposits mantling the middle and lower slopes of bedrock hills

River alluvium

- Active river channel deposits - unconsolidated, very poorly sorted sandy to cobbly beds in active river channels
- Flood channel and low terrace deposits - unconsolidated sand, gravel and silt deposits on bars, low terraces and flood channels
- Historical river terrace deposits - unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early Holocene floodplain
- Latest Holocene to historical river terrace deposits - silt, clay, sand and minor gravel terrace deposits signal above the early Holocene floodplain
- Late to early Holocene river terrace deposits - silt, clay, sand and minor gravel terrace deposits up to 25 m above the active river channel
- Late Pleistocene river terrace deposits - gravelly, sandy river terrace deposits up to 25 m above the active river channel
- Middle to late Pleistocene river terrace deposits - older, higher gravelly, sandy river terrace deposits
- Early to middle Pleistocene river terrace deposits - oldest, highest preserved gravelly, sandy river terrace deposits

Piedmont alluvium and surficial deposits

- 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
- Latest Holocene alluvium - unconsolidated, very poorly sorted silt to cobbly low terrace and overflow channel deposits
- Late Holocene alluvium, active fan deposits - active portions of young fan deposits exhibiting distributary drainage patterns
- 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
- Older Holocene alluvium - broad, low relief, undulating fan deposits exhibiting widespread, shallow braided drainage patterns
- Holocene fine-grained deposits - unconsolidated fine grained alluvium derived from basin fill deposits
- Holocene alluvial deposits, undifferentiated
- Holocene and Pleistocene alluvium - mixed fine-grained Holocene (Qy) and Pleistocene (Qz or Q3) alluvium
- Late Pleistocene alluvial fan and terrace deposits - weakly consolidated sandy gravel deposits with moderate soil development
- Middle to late Pleistocene alluvial fan and terrace deposits - weakly consolidated sandy gravel deposits with strong soil development
- Early to middle Pleistocene alluvial fan and terrace deposits - high, moderately consolidated gravelly deposits with strong soil development
- Pleistocene alluvial deposits, undifferentiated
- 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

- Pliocene to early Pleistocene Saint David Formation - fine-grained, highly eroded basin-fill deposits

Bedrock

- Conglomerate (Cenozoic) - Tan, thin- to medium-bedded, pebble-cobble, sandy matrix conglomerate and pebbly sandstone
- Fine-grained andesite dikes (Cretaceous) - Andesite dikes containing <math>< 10\% </math> fine-grained andesite phenocrysts in very fine-grained matrix
- Quartz monzonite of Bronco Hill (Upper Cretaceous) - Medium-grained, slightly plagioclase porphyritic, 10% biotite-hornblende, quartz monzonite to quartz monzodiorite
- Porphyry of Fairbank (Upper Cretaceous) - Phenocryst-rich porphyry
- Quartz monzonite of Government Draw (Upper Cretaceous) - Medium-grained, slightly plagioclase porphyritic, 10% biotite-hornblende, quartz monzonite
- Uncle Sam Tuff (Upper Cretaceous) - Phenocryst-rich ash-flow tuff
- Coarse-grained andesite (Cretaceous) - volcanic complex dominated by coarse-grained, phenocryst-rich andesitic lava and probable hyaloclast bodies containing 15-30% 1-4 mm plagioclase phenocrysts
- Rhyolite (Cretaceous) - Rhyolite containing 5-10% 1-2.5 mm quartz and feldspar phenocrysts
- Nonwelded ash-flow tuff (Cretaceous) - Felsic, nonwelded, thin- to thick-bedded tuffic lapilli-rich ash-flow tuff and ash-fall tuff
- Medium-grained andesite dikes (Cretaceous) - North to northwest striking, generally steeply dipping andesite dikes
- Tuff of Charleston (Cretaceous) - Rhyolite ash-flow tuff
- Tuff of Charleston megabreccia (Cretaceous) - Zones of the tuff of Charleston containing greater than 20% thin blocks ranging in size from 10 cm to greater than 50 m
- Aphyric rhyolite (Cretaceous) - Aphyric to very phenocryst-poor rhyolite lava with probable zones of hyaloclast rock, and tuff breccia
- Andesite porphyry (Cretaceous) - distinctive, hyaloclast andesite porphyry containing 10-20%, 1-3mm, euhedral plagioclase phenocrysts in a fine-grained crystalline matrix
- Andesite (Cretaceous) - Amalgamated, andesite lava flows intruded by a myriad of dikes
- Bisbee Group (Lower Cretaceous) - Complexly intertonguing sequences of thin- to thick-bedded, cross-stratified and plane-bedded, quartz sandstone, feldspathic quartz sandstone, and siltic-felspathic quartz sandstone, gray-green to red siltstone, mudstone, silt mudstone and shale