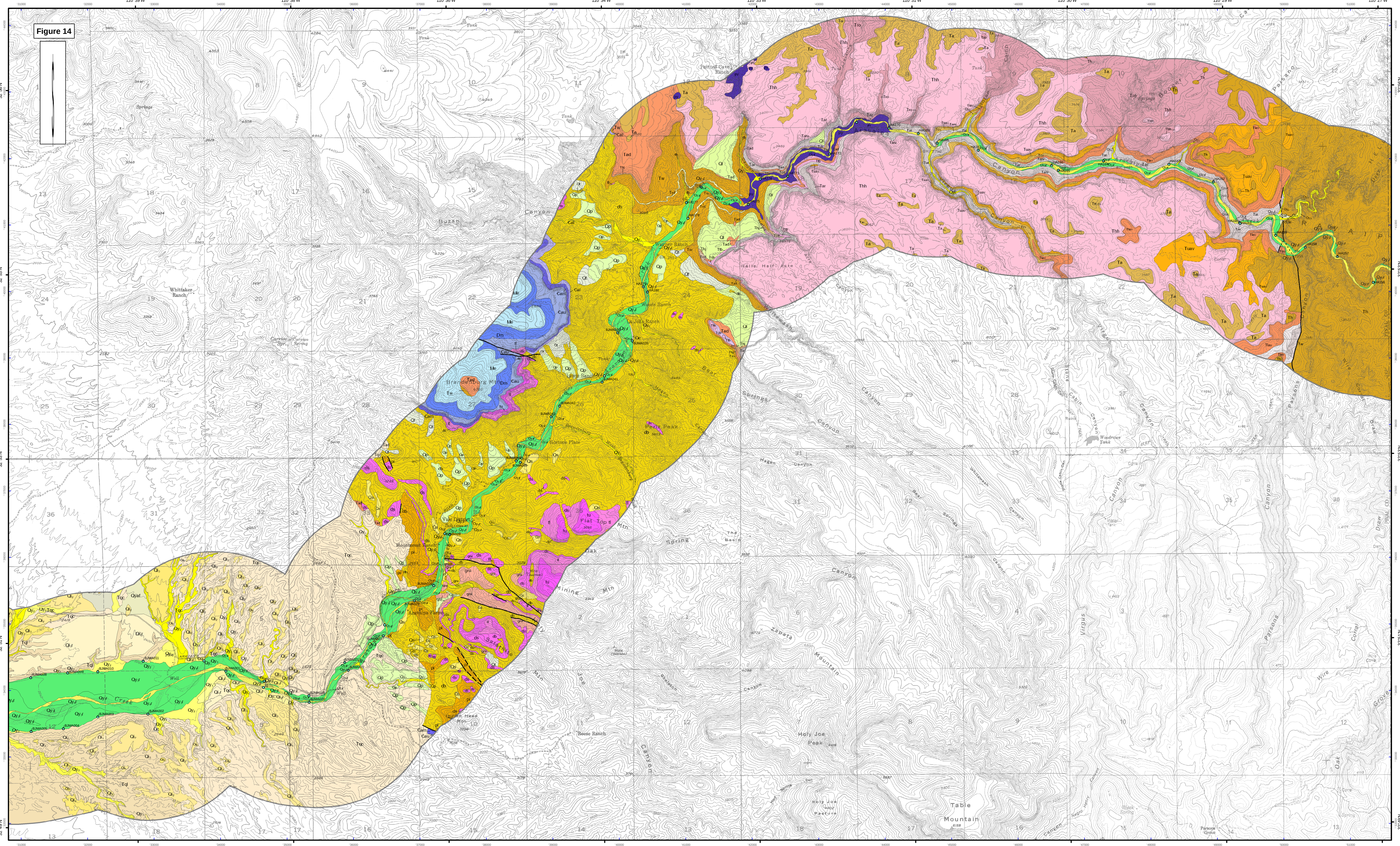

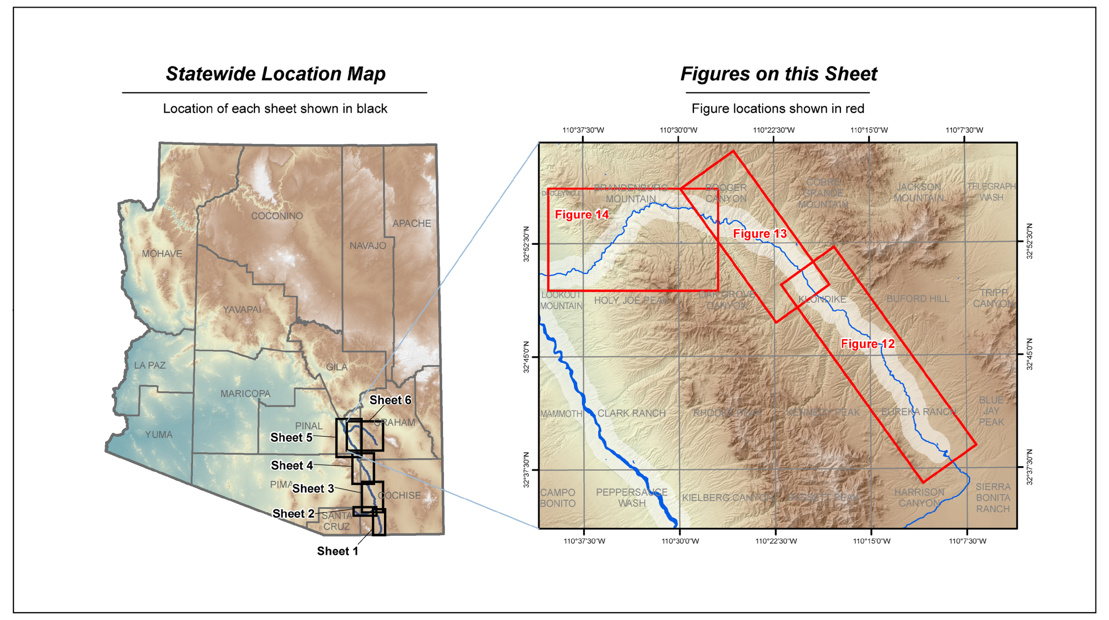

Geologic Map of the San Pedro River, Babocomari River and Aravaipa Creek Corridors, Southeastern Arizona

by
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Digital Map DM-RM-1F

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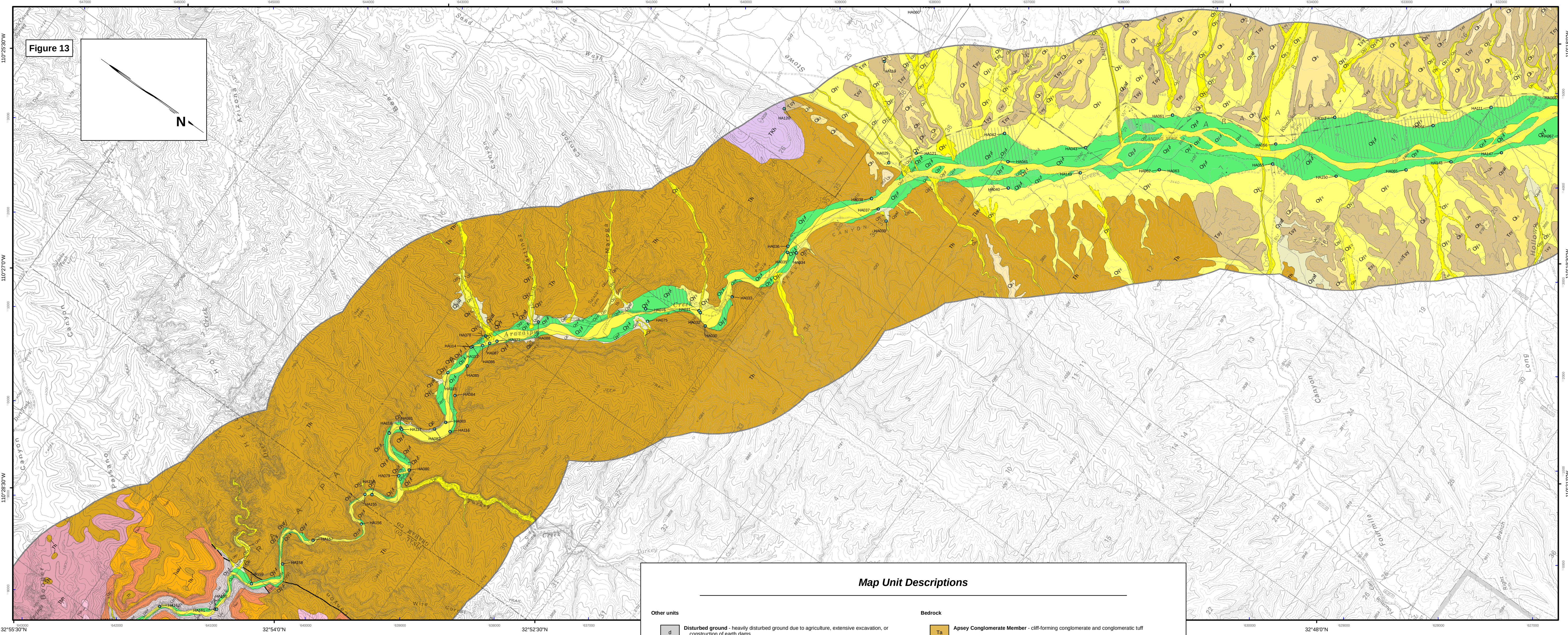
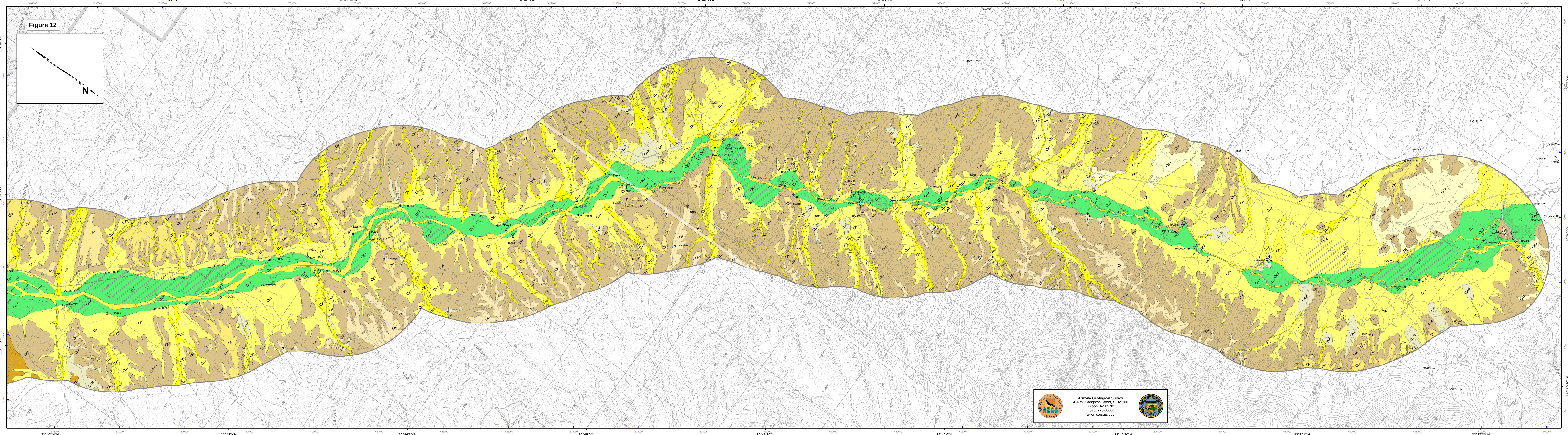
Arizona Department of Water Resources

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





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Map Unit Descriptions

Other units

- d — **Disturbed ground** - heavily disturbed ground due to agriculture, extensive excavation, or construction of earth dams
- d — **Plowed areas** - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
- Qtc — **Quaternary hillslope talus and colluvium** - unconsolidated to weakly consolidated, very poorly sorted angular rock debris deposited at the base of bedrock slopes

River alluvium

- Qy_{cr} — **Active river channel deposits** - unconsolidated, very poorly sorted sandy to cobbly beds in active river channels
- Qy_{4r} — **Flood channel and low terrace deposits** - unconsolidated sand, gravel and silt deposits on bars, low terraces and flood channels
- Qy_{3r} — **Historical river terrace deposits** - unconsolidated sand, gravel and silt deposits on low terraces inset below the abandoned early historical floodplain
- Qy_{2r} — **Latest Holocene to historical river terrace deposits** - silt, clay, sand and minor gravel deposits underlying the early historical floodplain
- Qy_{1r} — **Late to early Holocene river terrace deposits** - silt, clay, sand and minor gravel terrace deposits slightly above the early historical floodplain
- Qi_{3r} — **Late Pleistocene river terrace deposits** - gravelly, sandy river terrace deposits up to 25 m above the active river channel
- Qi_{2r} — **Middle to late Pleistocene river terrace deposits** - older, higher gravelly, sandy river terrace deposits
- Qi_{1r} — **Early to middle Pleistocene river terrace deposits** - oldest, highest preserved gravelly, sandy river terrace deposits

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 exhibiting widespread, shallow braided drainage patterns
- Qys — **Holocene fine-grained deposits** - unconsolidated alluvium derived predominantly from basin fill deposits
- Qt — **Talus** - rock debris consisting of large angular blocks to silt-sized particles, locally cemented with caliche
- Qs — **Surficial deposits, undivided** - includes fine-grained colluvium and alluvium, talus, and some pediment and terrace gravels
- Ql — **Landslide deposits** - consist largely of Galiuro Volcanics, locally cemented with caliche
- Qp — **Pediment gravel veneer** - subangular pebbles and cobbles, includes some pediments and terraces stripped of gravels
- 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

Tertiary basin fill alluvium

- Tqc — **Late Miocene to Pliocene Quiburis deposits, alluvial fan facies** - sandy to gravelly, moderately to strongly indurated alluvial fan deposits
- Tsy — **Late Miocene to Pliocene deposits** - moderately to strongly indurated conglomerate and sandstone basin fill deposits

Bedrock

- Ta — **Apsey Conglomerate Member** - cliff-forming conglomerate and conglomeratic tuff
- Th — **Hell Hole Conglomerate** - well-indurated buff conglomerate composed mainly of volcanic debris; includes few beds of tuff and ash
- Thh — **Hells Half Acre Tuff member** - air fall, vitric, nonwelded to slightly welded ash flow, and well-bedded rhyolite tuffs
- Tro — **Hells Half Acre Rhyolite-obsidian** - flow banded obsidian to rhyolite flow breccias
- Tuav — **Virgus Canyon upper Andesite** - fine-grained, amygdaloidal andesite with small phenocrysts of plagioclase
- Tcv — **Virgus Canyon Conglomerate** - pebbles and cobbles derived from lower andesite of Virgus Canyon
- Tlav — **Virgus Canyon lower Andesite** - coarsely porphyritic (Turkey Track) andesite
- Taru — **Aravaipa Member, nonwelded zone** - slope-forming white tuff
- Tar — **Aravaipa Member, welded zones** - partly welded, welded, and lower nonwelded tuff
- Tcb — **Bear Springs Canyon Conglomerate** - sourced from older members of the Galiuro Volcanics, andesite, and diabase
- Ttb — **Bear Springs Canyon Tuff** - rhyolitic ash-flow tuff
- Tcd — **Conglomerate of Depression Canyon** - composed of older rocks, including older members of the Galiuro Volcanics
- Tad — **Depression Canyon Andesite** - massive, flow-banded, to agglomeratic, gray, brown, and olive andesite
- Thj — **Holy Joe Member** - quartz-latite ash-flow tuff
- Tw — **Whitetail(?) Conglomerate** - composed of pebbles and cobbles of Precambrian and Paleozoic rocks
- Twt — **Rhyolite tuff bed within Whitetail Conglomerate** - white rhyolite tuff bed (0-25 ft thick) in Aravaipa Canyon
- TKh — **Horse Mountain Volcanics** - silicic lava, tuff, welded tuff, obsidian, and vitrophyre
- Me — **Escabrosa Limestone** - massive, cliff-forming, thick-bedded, mostly coarsegrained limestone
- Dm — **Martin Formation** - slope-forming shale unit with interbedded limestone beds
- _au — **Abrigo Formation, upper member** - cliff-forming, mostly poorly sorted, cross-bedded, dolomitic and glauconitic sandstone
- _am — **Abrigo Formation, middle member** - cliff-forming mostly poorly sorted sandstone and argillaceous sandstone
- _al — **Abrigo Formation, lower member** - thin-bedded, slope-forming mudstone, siltstone, and sandy mudstone
- db — **Diabase** - diabase
- tu — **Troy Quartzite, upper unit** - sandstone, quartzite, and granule to small-pebble conglomerate
- tl — **Troy Quartzite, lower unit** - conglomerate and sandstone
- ds — **Dripping Springs Quartzite** - feldspathic to arkosic quartzite and siltstone
- py — **Porphyry** - massive to slightly foliated, fine-grained porphyritic rock
- gru — **Granitic rocks, undivided** - granodiorite or nonporphyritic quartz monzonite
- pi — **Pinal schist** - flows, tuffs, and flow breccias of andesitic composition

1:24,000 SCALE

1 0.5 0 1 Miles
1 0.5 0 1 Kilometers
0 1000 2000 3000 4000 5000 Feet

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North American Datum of 1983. Projection and 1000-meter grid ticks (blue): Universal Transverse Mercator, zone 12.

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