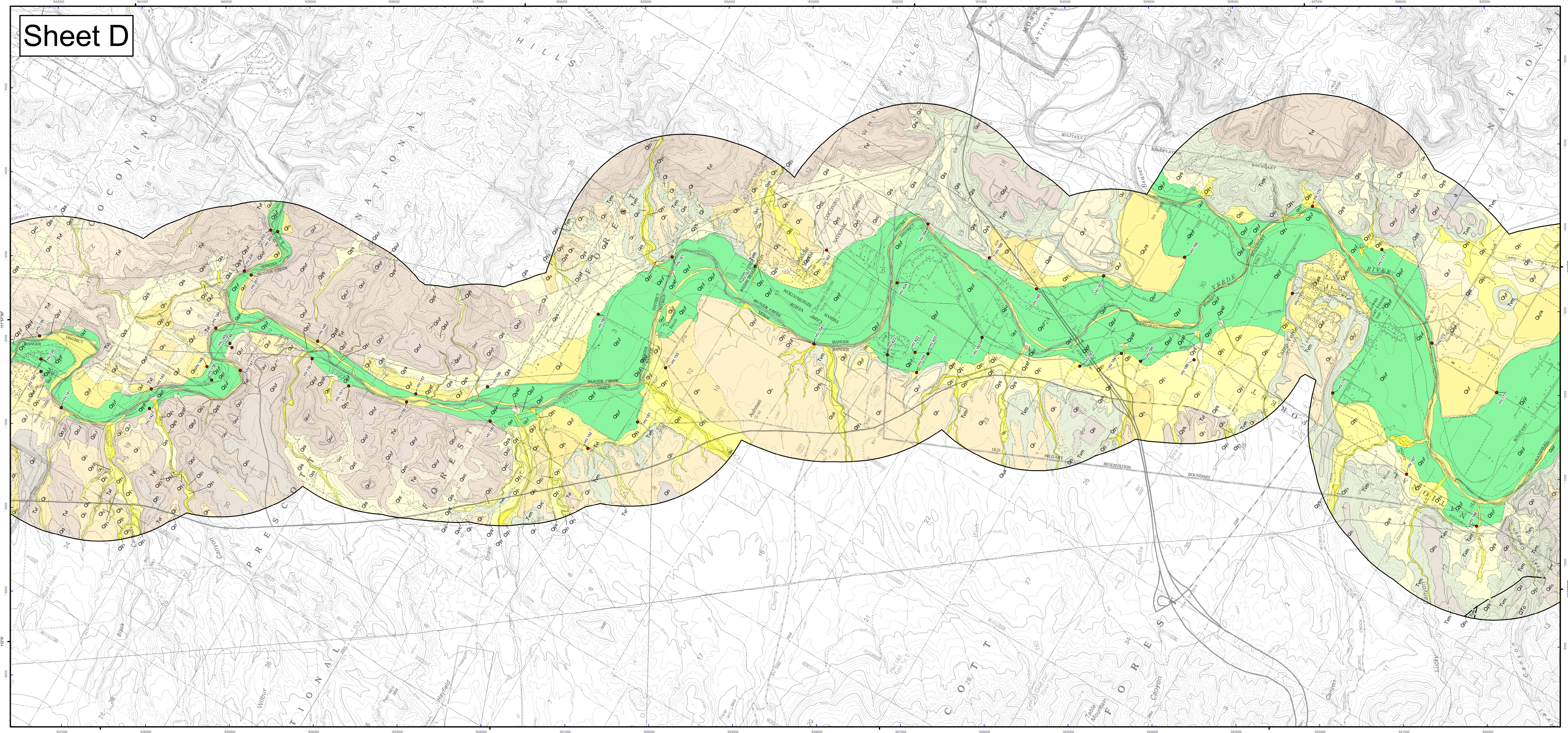

Map Unit Descriptions

Other Units

- **d** — **Disturbed ground** - heavily disturbed ground due to agriculture, extensive excavation, mining activity, or construction of earth dams
- (hatched) — **Plowed areas** - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
- **Qvc** — **Regolith and colluvium formed on deposits of the Verde Formation** - Generally fine-grained, in situ deposits mantling gentle slopes on the Verde Formation

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** — **Late 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_3rb** — **Late Pleistocene river terrace deposits, younger member** - gravelly, sandy river terrace deposits up to 25 m above the active river channel
- **Qi_3ra** — **Late Pleistocene river terrace deposits, older member** - gravelly, sandy river terrace deposits up to 25 m above the active river channel
- **Qi_3r** — **Late Pleistocene river terrace deposits** - gravelly, sandy river terrace deposits up to 25 m above the active river channel
- **Qi_2ra** — **Middle to late Pleistocene river deposits, older member** - high-standing, gravelly, sandy river terrace deposits
- **Qi_2r** — **Middle to late Pleistocene river terrace deposits** - high-standing, gravelly, sandy river terrace deposits
- **Qi_1r** — **Middle Pleistocene river terrace deposits** - higher-standing, gravelly, sandy river terrace deposits
- **Qo_3r** — **Early Pleistocene river terrace deposits, younger** - Very high, old Verde River terrace deposits, lower level
- **Qo_2r** — **Early Pleistocene river terrace deposits, middle** - Very high old Verde River terrace deposits, middle level
- **Qo_1r** — **Early Pleistocene river terrace deposits, older** - Very high, old Verde River terrace deposits, upper level

Piedmont Alluvium

- **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
- **Qys** — **Holocene fine-grained deposits** - unconsolidated alluvium derived predominantly from basin fill deposits
- **Qy** — **Holocene alluvium** - Holocene alluvium, undivided
- **Qis** — **fine-grained Pleistocene deposits** - older fine-grained deposits derived primarily from the Verde Formation
- **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
- **Qi** — **Middle to late Pleistocene alluvial deposits, undivided** - Middle to late Pleistocene alluvial deposits, undivided
- **Qo_2** — **Early Pleistocene alluvium, younger member** - high, thin, early Pleistocene alluvial fan remnants deposited on erosional surfaces cut on the Verde Formation
- **Qo_1** — **Early Pleistocene alluvium, older member** - high, thin, early Pleistocene alluvial fan remnants deposited on erosional surfaces cut on the Verde Formation
- **Qo** — **Early Pleistocene alluvial fan deposits, undivided** - High, moderately consolidated gravelly deposits with strong soil development
- **QTo** — **Latest Pliocene to early Pleistocene alluvium** - Highest standing fan remnants in Verde Valley

Cenozoic Basin Deposits

- **Tvl** — **Late Miocene to Pliocene Verde Formation, lacustrine carbonate facies** - Fine-grained, laminated playa and lacustrine deposits.
- **Tvf** — **Late Miocene to Pliocene Verde Formation, fluvial clastic facies** - Reddish sandstone, siltstone, and mudstone with interbedded limestone
- **Tvm** — **Late Miocene to Pliocene Verde Formation, lacustrine marl facies** - Olive green marl locally containing gypsum and minor halite

1 0.5 0 1 Miles

1 0.5 0 1 Kilometers

0 1000 2000 3000 4000 5000 Feet

1:24,000 Scale

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SURFICIAL GEOLOGIC MAP OF THE VERDE RIVER CORRIDOR, CENTRAL ARIZONA

by
Cook, J.P., Bigio, E.R., Youberg, A., Pearthree, P.A., and House, K.P.

July 2010

Arizona Geological Survey
Digital Map DM-RM-2D
version 1.1

Funding for this project was provided by the 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.

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.)

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

Location Map

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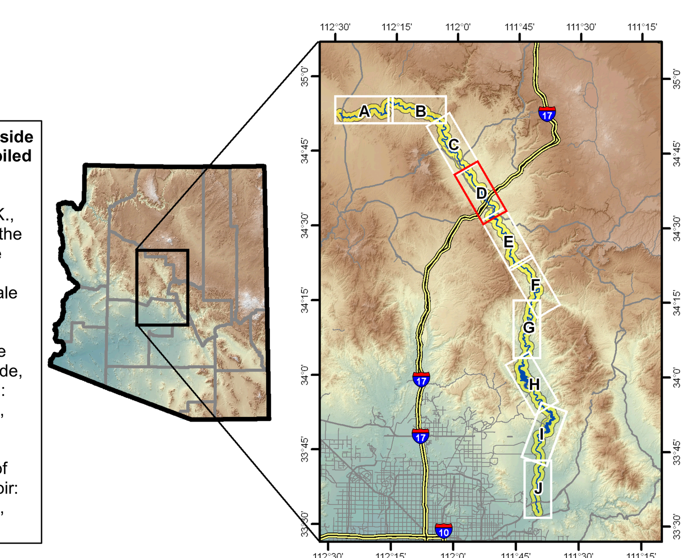

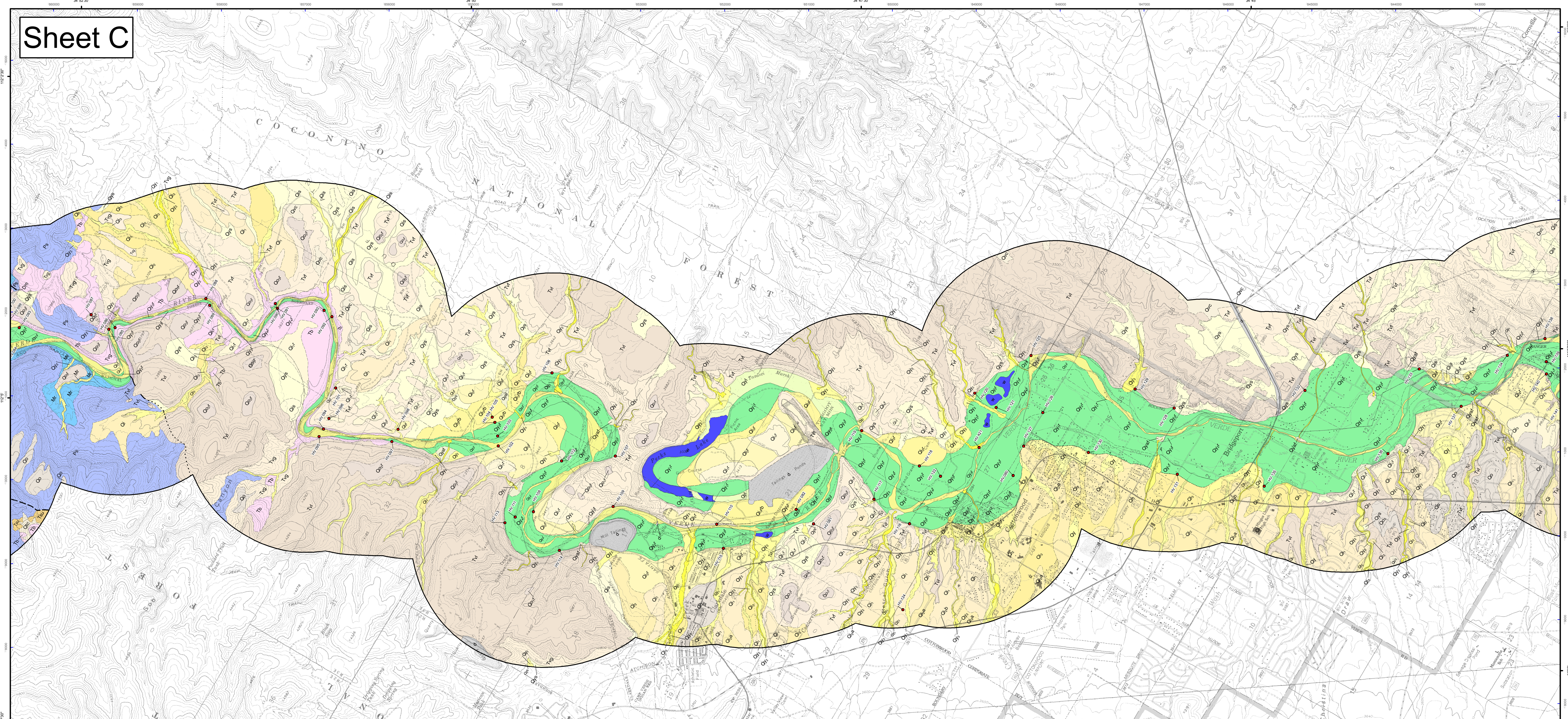

Map Unit Descriptions

Other Units

- **w** — **Water** - Underlying geology obscured by standing water (Pecks Lake, Horseshoe and Bartlett Reservoirs)
- **Qyl** — **Modern lake sediments** - Underlying geology obscured by lake sediments (Pecks Lake, Horseshoe and Bartlett Reservoirs)
- **d** — **Disturbed ground** - heavily disturbed ground due to agriculture, extensive excavation, mining activity, or construction of earth dams
- (hatched) — **Plowed areas** - historically or actively plowed fields, irrigated pastures, and other lightly disturbed ground
- **Qvc** — **Regolith and colluvium formed on deposits of the Verde Formation** - Generally fine-grained, in situ deposits mantling gentle slopes on the Verde Formation

River Alluvium

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- **Qy_2r** — **Late Holocene to historical river terrace deposits** - silt, clay, sand and minor gravel deposits underlying the early historical floodplain
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Piedmont Alluvium

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Piedmont Alluvium (continued)

- **Qy** — **Holocene alluvium** - Holocene alluvium, undivided
- **Qis** — **fine-grained Pleistocene deposits** - older fine-grained deposits derived primarily from the Verde Formation
- **Qi_3** — **Late Pleistocene alluvial fan and terrace deposits** - weakly consolidated sandy gravel deposits with moderate soil development
- **Qi_2b** — **Middle to late Pleistocene alluvial fan and terrace deposits, younger member** - broad planar fan terraces found capping basin fill deposits, typically inset into slightly older Qi2 and Qi2a deposits
- **Qi_2a** — **Middle to late Pleistocene alluvial fan and terrace deposits, older member** - Middle to late Pleistocene alluvium, older member
- **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
- **Qi** — **Middle to late Pleistocene alluvial deposits, undivided** - Middle to late Pleistocene alluvial deposits, undivided
- **Qo_2** — **Early Pleistocene alluvium, younger member** - high, thin, early Pleistocene alluvial fan remnants deposited on erosional surfaces cut on the Verde Formation
- **Qo** — **Early Pleistocene alluvial fan deposits, undivided** - High, moderately consolidated gravelly deposits with strong soil development

Cenozoic Basin Deposits

- **Tvg** — **Late Miocene to Pliocene Verde Formation, conglomeratic facies** - Gravelly to sandy, moderately to strongly indurated alluvial fan deposits.
- **Tvl** — **Late Miocene to Pliocene Verde Formation, lacustrine carbonate facies** - Fine-grained, laminated playa and lacustrine deposits.
- **Tvf** — **Late Miocene to Pliocene Verde Formation, fluvial clastic facies** - Reddish sandstone, siltstone, and mudstone with interbedded limestone

Bedrock Units

- **Tb** — **Tertiary basalt, undivided** - Tertiary basalt flows, associated cinder cones and pyroclastic rocks, intrusive basalts, and mafic rocks
- **Ps** — **Supai Formation** - Supai formation (Permian and Upper Pennsylvanian). Mudstone, siltstone, sandstone, limestone and dolomite.
- **Mr** — **Redwall Limestone** - Mississippian Redwall Limestone

1 0.5 0 1 Miles

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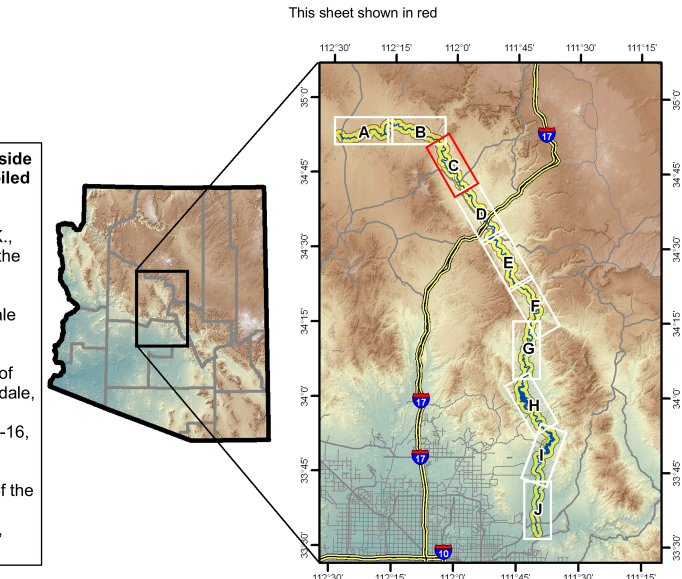
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