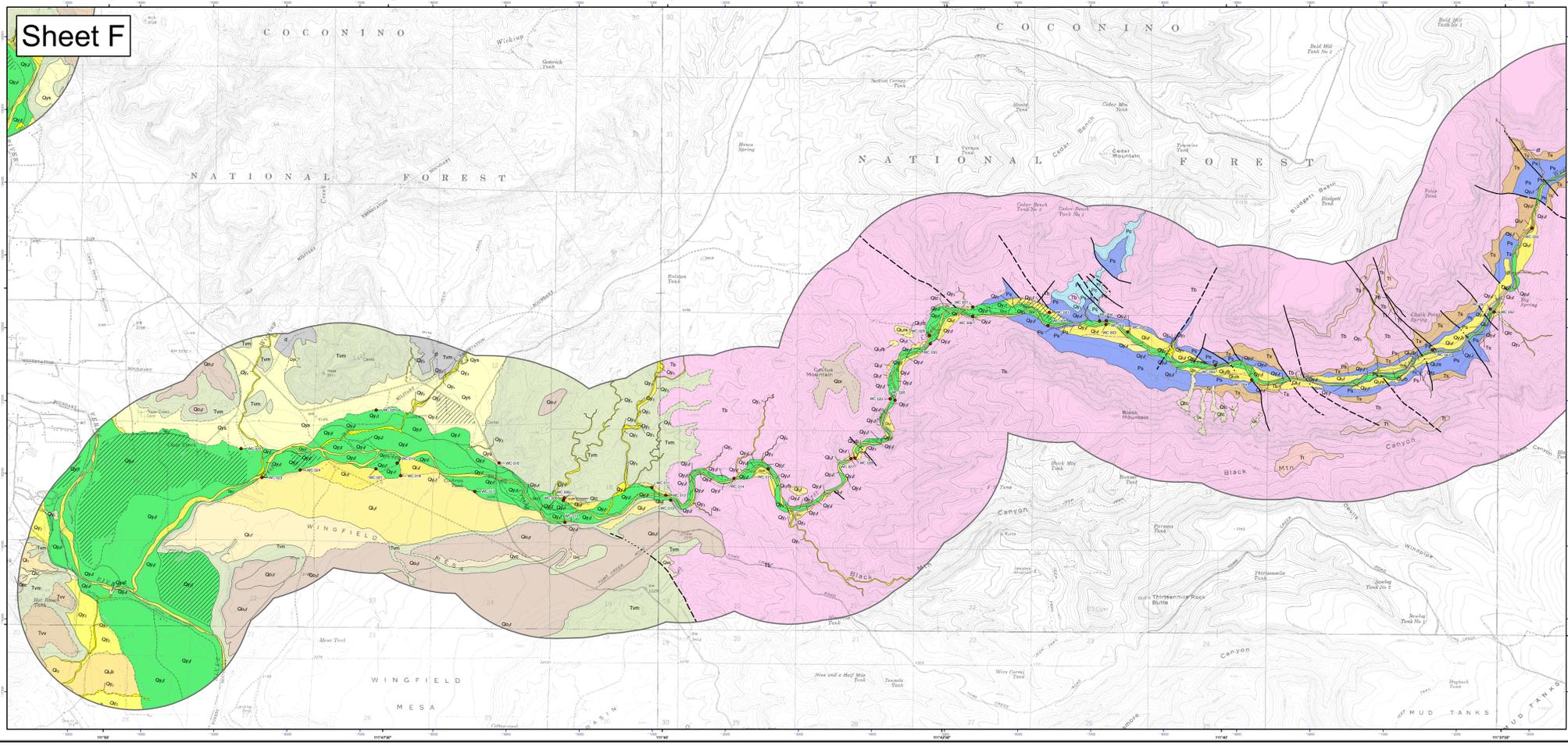


Sheet F

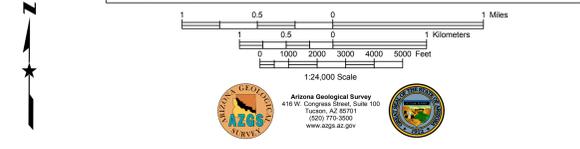


Map Unit Descriptions

- Other units**
- Qd** Disturbed ground - formerly cultivated ground due to agriculture, extensive excavation, mining activity, or construction of earth dams.
 - Qf** Fenced areas - historically or actively grazed fields, irrigated pastures, and other lightly disturbed ground.
 - Qc** Debris flow chutes - slope failure scars, debris flow scars, and steep debris flow and flood-scoured channels.
 - Qh** Quaternary hillside talus and colluvium - unconsolidated to weakly consolidated, very poorly sorted angular rock debris deposited at the base of bedrock slopes.
 - Qm** Height and colluvium formed on deposits of the Verde Formation - generally fine-grained, in situ deposits containing gentle slopes on the Verde Formation.
- River Alluvium**
- Qar** Active river channel deposits - unconsolidated, poorly to very poorly sorted sand to boulder deposits in active river channels. Deposits in active channels reachers are very thin to discontinuous, exposing underlying bedrock. Deposits are typically unvegetated to lightly vegetated and exhibit no soil development.
 - Qab** Bedrock-lined river channel - portions of the active channel where flow passes directly over exposed bedrock. A discontinuous layer of pebbles to boulders may be present but smooth, polished bedrock lies the channel bottom.
 - Qaf** Flood channel and low terrace deposits - unconsolidated sand, gravel, silt and clay deposits on bars, flood channels, and low terraces. Deposits from lightly vegetated to channel bars, channels occupied by flow in flood events, and small gravel bank terraces less than 4 feet above the active channel.
 - Qah** Historical river terrace deposits - unconsolidated, poorly sorted sand, gravel, silt and clay deposits on low terraces and high bars within the modern floodplain.
 - Qal** Late Holocene to historical river terrace deposits - unconsolidated, poorly sorted silt, sand, clay and gravel deposits on terraces adjacent to the modern floodplain. Surfaces are typically planar with tabular or lenticular gravel lenses.
 - Qa** Late to early Holocene river terrace deposits - unconsolidated, poorly sorted silt, sand, clay and gravel deposits on slightly higher terraces adjacent to the modern floodplain. Surfaces typically are planar with local soil development.
 - Qay** Late Pleistocene river terrace deposits, younger member - gravely, sandy river terrace deposits up to 65 feet above the active river channel.
 - Qax** Late Pleistocene river terrace deposits, older member - gravely, sandy river terrace deposits up to 65 feet above the active river channel.
 - Qay** Late Pleistocene river terrace deposits, undivided - gravely, sandy river terrace deposits 15 to 65 feet above the active river channel. Deposits consist of well rounded to rounded pebbles to cobbles with cross-bedded coarse sandy interbeds. Clast lithologies are diverse.
 - Qay** Middle to late Pleistocene river terrace deposits, younger member - high-standing, cobble to sandy river terrace deposits exhibiting moderate to strong clay development and calcium carbonate accumulation.
 - Qay** Middle Pleistocene river terrace deposits, undivided - high-standing, cobble to sandy river terrace deposits exhibiting strong to very strong clay development and calcium carbonate accumulation.
 - Qay** Early Pleistocene river terrace deposits, younger - very high standing, old river terrace deposits, basal level.
 - Qay** Early Pleistocene river terrace deposits, middle - very high standing, old river terrace deposits, middle level.
- Piedmont Alluvium**
- Qp** 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.
 - Qpl** Latest Holocene alluvium - unconsolidated, very poorly sorted silt to cobble low terrace and overflow channel deposits.
 - Qpl** Late Holocene alluvium, active fan deposits - active portions of young fan deposits exhibiting distally changing depositional facies.
 - Qpl** Late Holocene alluvium - older terrace deposits located along incised drainage, basal embayment distal fan deposits overlapping onto Holocene river alluvium, and infrequently active tributary drainage fan deposits.
 - Qpl** Holocene fine-grained deposits - unconsolidated alluvium derived predominantly from basin fill deposits.
 - Qpl** Fine-grained Pleistocene deposits - older fine-grained deposits derived primarily from the Verde Formation.
 - Qpl** Late Pleistocene alluvial fan and terrace deposits - weakly consolidated sandy gravel deposits with moderate soil development.
 - Qpl** Early Pleistocene alluvial fan deposits, undivided - high, moderately consolidated gravelly deposits with strong soil development.
- Conocinic Basin Deposits**
- Tm** Late Miocene to Pliocene Verde Formation, lacustrine marl facies - olive green marl locally containing gypsum and minor halite.
 - Tm** Interbedded gravel, lacustrine, and volcanic facies - areas where volcanic rocks are clearly interbedded with fluvial and lacustrine facies of the Verde Formation.
- Bedrock units**
- Tb** Tertiary basalt, undivided - Tertiary basalt flows, associated cinder cones and pyroclastic rocks, intrusive basalts, and mafic rocks.
 - Tt** Tertiary tuff, undivided - tuffic ash flow tuff, pyroclastic, and siliceous flows.
 - Ts** Sandstone, undivided - Sandstone, volcanic sandstone, nonwelded tuff beds, and interbedded mudstone to cobble conglomerate.
 - Pc** Coconino Sandstone - light gray to tan, fine-grained siltstone, cross-bedded sandstone.
 - Ps** Supai Formation - Permian and Upper Pennsylvanian mudstone, siltstone, sandstone, limestone and dolomite.

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

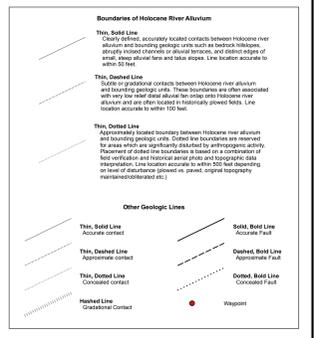
- Cook, J.P., Peartree, P.A., Onken, J., Youberg, A., Bigio, E.R., 2010. Mapping of Holocene River Alluvium along the Verde River, Central Arizona, 54 p., 10 sheets, scale 1:24,000.
- DeWitt, Ed., Langenheim, Victoria, Force, Eric, Vance, R.K., Lindberg, R.L., Driscoll, R.L., 2008. Geologic Map of Prescott National Forest and the Headwaters of the Verde River, Yavapai and Coconino Counties, Arizona. U.S. Geological Survey Scientific Investigations Map 2996, scale 1:100,000, 100-p.
- House, P.K., 1994. Surficial geology of the southern Verde Valley, Yavapai County, Arizona. Middle Verde, Camp Verde, and Homer Mountain 7.5' quadrangles: Arizona Geological Survey Open-File Report 94-23, 20 p., 3 sheets, scale 1:24,000.
- Weir, G.W., Ulrich, G.E., and Nealey, L.D., 1989. Geologic map of the Sedona 30' x 60' quadrangle, Yavapai and Coconino Counties, Arizona. U.S. Geological Survey Miscellaneous Investigations Series Map I-1896, 1 sheet, scale 1:100,000.



SURFICIAL GEOLOGIC MAP OF OAK CREEK, WET BEAVER CREEK, WEST CLEAR CREEK, FOSSIL CREEK, AND THE EAST VERDE RIVER, CENTRAL ARIZONA

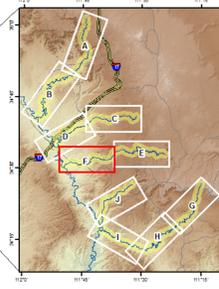
by Cook, J.P.
October 2010
Arizona Geological Survey
Digital Map DM-RM-3F
version 1.0

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.

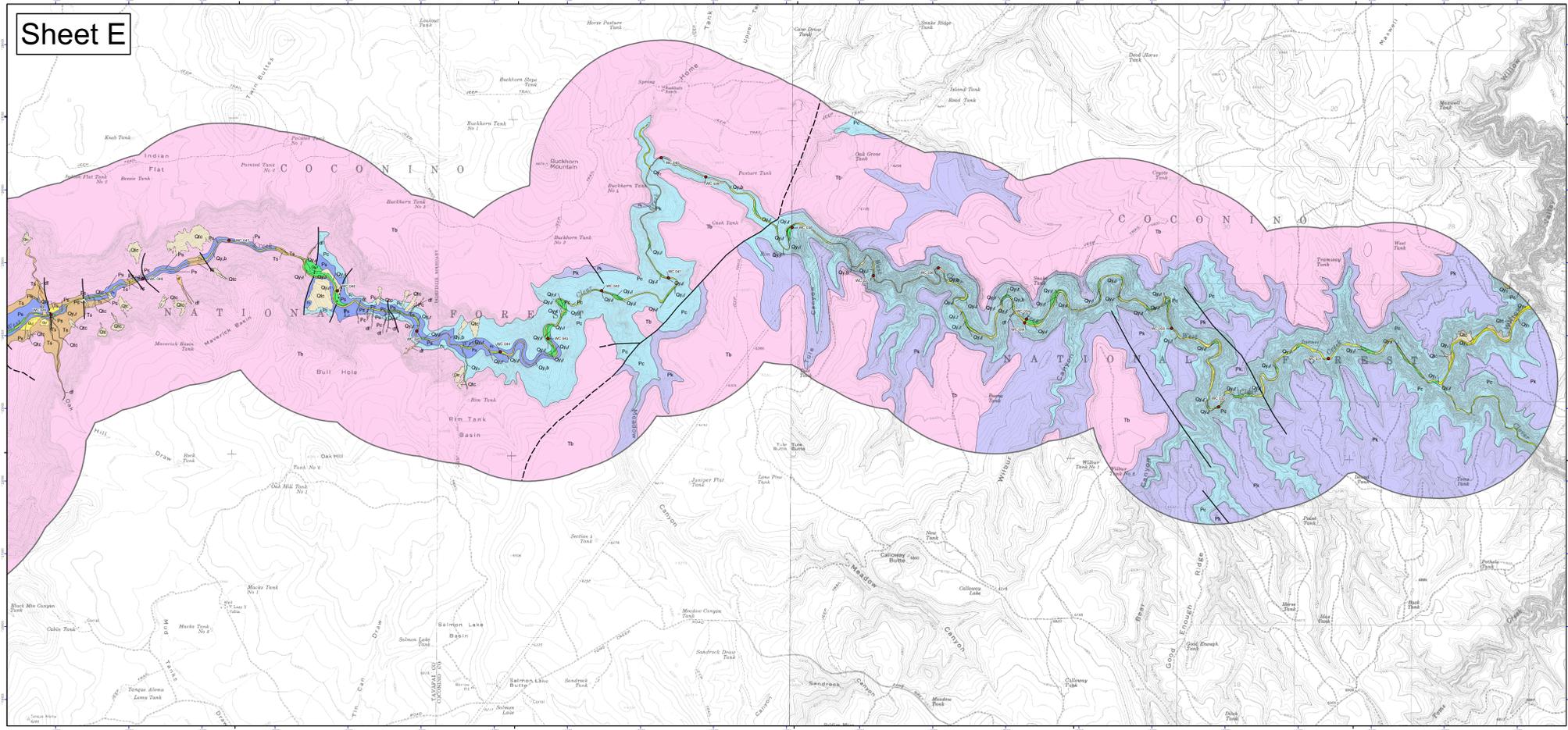


Location Map

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Sheet E

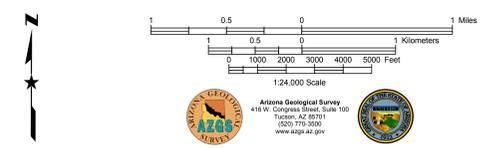


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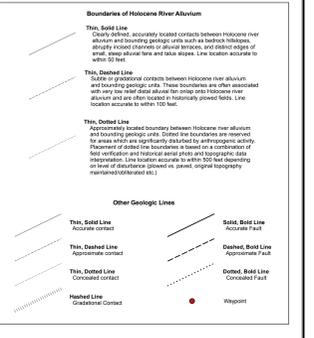
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by Cook, J.P.
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Location Map

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