

# SURFICIAL GEOLOGIC MAP OF THE WESTERN PIEDMONT OF THE MARICOPA MOUNTAINS AND THE SOUTHERN PIEDMONT OF THE BUCKEYE HILLS, MARICOPA COUNTY, ARIZONA

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Arizona Geological Survey Digital Geologic Map 75  
(DGM-75), version 1.0

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Arizona: Arizona Geological Survey Digital Geologic Map DGM-75, scale 1:24,000.

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## Description of Map Units

### Holocene Deposits

- Qy** Active channel deposits - light gray, moderately to poorly sorted, unconsolidated sand, pebbles and cobbles, locally with small boulders in channels and bars of larger washes; lightly vegetated except along channel margins, both tributary and distributary channels are mapped separately from surrounding deposits where large enough to delineate at mapping scale.
- Qy1** Smaller channel, bar, and low terrace deposits that are part of the active drainage system - channel and bar deposits typically consist of light gray, poorly sorted sand and pebbles, with some cobbles and boulders; terraces typically are less than 3 feet above adjacent active channels and consist of similar deposits, but typically are partially or totally mantled by sand and silt; deposits of this unit have no soil development and the associated vegetation consists of bursage, creosote, palo verde, ironwood, and mesquite.
- Qy2** Low terrace deposits along larger channels - typically at least 3 feet above active channels and not laterally extensive; deposits consist of moderately sorted sand, pebbles and cobbles, and are commonly capped by sand and silt deposits; surface gravel is not varnished and soil development is very weak, with no clay accumulation and weak carbonate accumulation; associated vegetation includes mostly creosote with some palo verde, ironwood and mesquite.
- Qy10g** Coarse-grained proximal alluvial fan deposits - surface color is light gray; deposits are very poorly sorted, consisting of sand to small boulders; coarse cobbly and boulder deposits form distinct bars up to 3 feet higher than adjacent channels; mapped only where deposits of a large proportion of cobbles and boulders.
- Qya** Laterally extensive young alluvial fan or sheetflood deposits - surfaces are light gray to brown in color; deposits are very poorly to poorly sorted sand, pebbles, cobbles and rare boulders; channels are incised less than 5 feet and typically much less than that; weakly integrated networks of very small distributary channels are common; soil development is very weak with no clay accumulation and minimal carbonate accumulation; Qya units are dominated by creosote with some small shrubs and desert trees such as palo verde and mesquite.
- Qy1** Intermediate terrace deposits along channels and inactive portions of alluvial fans - surfaces are at least 3 feet above adjacent channels; deposits consist of poorly to moderately sorted silt, sand, pebbles, and cobbles, with some small boulders; gravel clasts on Qy1 surfaces are generally unvarnished or weakly varnished; gravel bar and waste deposits are about 1 foot high; soil development is weak, with incipient calcium carbonate accumulation; Qy1 surfaces are dominated by creosote.
- Qyd** Holocene to late Pleistocene debris flow deposits - this unit consists of coarse, very poorly sorted deposits on steep hillslopes and along some washes within and near the mountains. Deposits consist primarily of small to medium boulders, cobbles, pebbles and sand. Typically, the coarse deposits form linear levees paralleling small washes or irregularly shaped piles representing debris flow snouts. Surface boulders and cobbles have minimal to moderate rock varnish. This unit also includes areas of erosion (debris flow scars) on hillslopes that are spatially associated with debris flow deposits.

### Pleistocene Deposits

- Qy** Pleistocene alluvial fan deposits that have been substantially eroded or partially buried by younger deposits - some areas retain characteristics of Pleistocene relict surfaces, such as gravel surface lags and moderate soil development, but in other areas these characteristics have been modified by erosion or partially obscured by younger deposits; this unit designation is applied to areas where the spatial relationships between Pleistocene and younger deposits are complex, and topographic relief between surfaces of different ages is a few feet or less.
- Q1** Lightly to moderately dissected relict alluvial fan and terrace deposits - deposits consist of poorly sorted sand, pebbles, cobbles, and silt, with some small boulders and clay; gravel clasts on Q1 surfaces are weakly to moderately varnished; pavements, where present, vary from weak to moderate; surfaces are generally fairly smooth between incised drainages, which are up to about 6 ft deep; soil development is weak to moderate, with visible calcium carbonate accumulation; Q1 surfaces are typically lightly vegetated, with small trees along incised drainages and sparse creosote bushes on planar surfaces.
- Q1** Moderately dissected relict alluvial fan and terrace deposits - deposits consist of poorly sorted sand, pebbles, cobbles, and silt, with some small boulders and clay; gravel clasts on Q1 surfaces are weakly to moderately varnished; pavements vary from weak to moderately strong; surfaces are generally fairly smooth between incised drainages, which are up to about 10 ft deep; soil development is moderate, with visible calcium carbonate accumulation; Q1 surfaces are typically lightly vegetated, with small trees along incised drainages and sparse creosote bushes on planar surfaces.
- Q1** Eroded relict alluvial fans - deposits consist of poorly sorted pebbles, cobbles, sand and silt, with some small boulders and clay; gravel clasts is variable, from darkly varnished to weakly varnished; pavements vary from weak to strong depending on preservation; surfaces are generally broadly rounded, and planar remnants between incised drainages up to 30 ft deep; soil development is strong, with abundant calcium carbonate accumulation and some cementation; Q1 surfaces are typically lightly vegetated, with small trees along incised drainages and sparse creosote bushes on rounded surfaces.
- Q1** Undifferentiated Pleistocene alluvial fan and terrace deposits.
- Q1a** Deeply dissected relict alluvial fans deposits - deposits consist of moderately cohesive sand and gravel with no preservation of the original capping alluvial surface; soil development is variable as a result of erosion.

### Other units

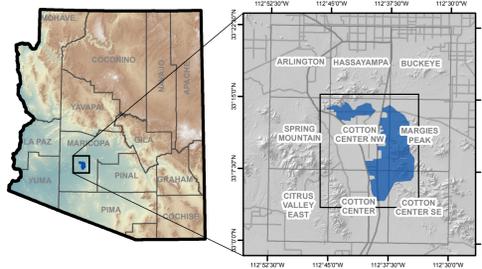
- Qtc** Hillslope colluvium - designated only near bedrock hills.
- d** Profoundly disturbed by human activity - primarily highways, including cattle tanks and earthen dams
- pcg** Precambrian granite and gneiss - also includes bedrock areas covered by colluvium.

## Line Symbol Descriptions

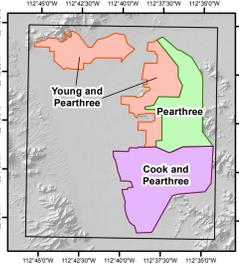
- accurate contact
- - - approximate contact

## Location Map

Mapped Area Shown in Blue - Adjacent quadrangles identified by name



## Mapping Responsibility



SCALE 1:24,000



CONTOUR INTERVAL 20 OR 40 FEET

2011 MAGNETIC NORTH DECLINATION

Topographic base from USGS 1:24,000 Quadrangle Series.  
Seamless basemap generated using iStage All Topo Pro software.

Projection Information:  
North American Datum of 1983  
1000-meter Universal Transverse Mercator grid tics, zone 12, shown in blue.  
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