

BEDROCK UNITS

QUATERNARY

Qws

Windblown sand—Accumulations of windblown sand, with partially vegetated dunes, 0.5 to 2.0 m high, along with interdune sheet deposits and windblown gravel surface deposits. Some low lying areas are covered by alluvium and interspersed with active dune formation.

Qal

Alluvium—River and stream floodplain deposits, silty sand, mud, channel gravel, rounded pebbles, and cobbles.

Qao

Undivided alluvium and colluvium—Angular bedrock fragments, gravel, silt, sand, and clay; increasing amounts of igneous material around Tertiary intrusive units. These deposits are mostly above flood level across the desert plain, except along the river and stream channels prone to flash floods. Fluvial characteristics, such as point bars, oxbows, and abandoned channel segments, are well-preserved.

TERTIARY

Qt

Talus deposits—Accumulations of various sized rock fragments that have eroded and gathered at the base of slopes due to gravity and physical weathering. Rock type depends on upslope formation composition.

QTb

Bolson deposits—Clay, silt, sandstone, and conglomerate terrace gravels. Finer-grained material found in the central areas, coarsening to pebbles and boulder conglomerates on the outer edge(s).

Ti

Intrusive Dikes and Sills (undifferentiated)—Massive, light to dark gray to green-gray, porphyritic latite, andesite and hornblende andesite with phenocrysts of andesine or oligoclase, hornblende and augite. Plagioclase lathes in the groundmass are trachytic, subparallel, locally randomly oriented. Dikes and sills intrude along bedding typically between sandstone and limestone layers, and intrude along pre-existing faults.

CRETACEOUS

Kf

Finlay limestone—Alternating resistant and non-resistant units of fine grained, massive, thick-bedded, grey limestone that is fossiliferous and occasionally cherty. Interbedded with shaly, silty and calcareous limestone, and thin beds of siltstone and sandstone. *Dictyoconus walnutensis* foraminifera and *Exogyra texana* Roemer occur throughout the unit.

Kcx

Cox sandstone—White, to various shades of red, orange, and brown, thin to thick bedded, occasionally cross-bedded, fine to medium grained, hematitic, quartz sandstone to conglomeritic sandstone cemented by authigenic silica. Rarely interbedded with thin, micritic, limestone layers, and red and green shale layers toward the base.

Kcg

Campagrande Formation—Massive to thick bedded, fine grained, grey, limestone, occasionally interbedded with thin layers of marl, sandstone, conglomerate, siltstone and shale. Limestone is fossiliferous throughout, with diagnostic *Orbitulina d'Orbigny* foraminifera found near the base of the unit.

TERTIARY

Pm

Permian marlstone—Grey, alternating thinly bedded sequence of approximately 35% limestone and 65% marl. Marl beds are weakly indurated, mixed with fine and very fine quartz sand, and contains shell fragments, ostracodes and foraminifera.

Pl

Permian limestone and limestone-pebble conglomerate—Form thick sequences of sand, silt and cherty pebble conglomerate interbedded with grey.