

Description of Geologic Map Units

This map shows the distribution of geologic units west-northwest of the town of Sierra Blanca, north of Interstate Highway 10 in the Diablo Canyon East Quadrangle. Geologic units were mapped and structural elements were measured in the field, where bedrock units are covered by surficial units and vegetation, or access is limited, units were interpreted using soil data, well-drilling records, previous mapping, and surveys.

GEOLOGIC 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.
QUATERNARY-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	Belson 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).
TERTIARY	
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. Dicyonoceras wainwrightensis 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	Campagne 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 Orbitolina d'Orbigny foraminifera found near the base of the unit.
PERMIAN	
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.
Pj	Permian limestone and limestone-pebble conglomerate —Form thick sequences of sand, silt and cherty pebble conglomerate interbedded with grey limestone.

MAP SYMBOLS

—	Contact (distinct)	—	Anticline
- - -	Contact (gradational)	—	Syncline
—	Body of water	—	Plunging syncline
—	River	- - - -	Normal fault (inferred)
—	Highway	- - - -	Normal fault (concealed)
—	Road/Street	●	Sample locality—Location of sample taken for analytical work
—	Dike or Sill	—	Bedding—Sedimentary bedding plane showing strike and dip
—	Elevation (ft); contour interval 20 ft		

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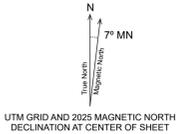
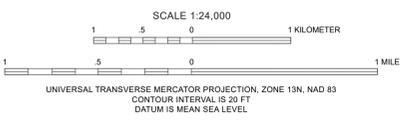
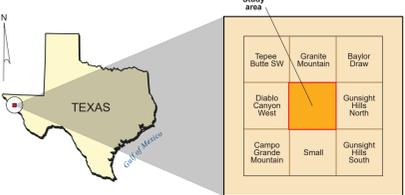
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GEOLOGIC MAP OF THE DIABLO CANYON
EAST QUADRANGLE, TEXAS
Brent A. Elliott, Shelby R. Short, and Mert Ugurhan
2025

Topographic base map from:
U.S. Geological Survey (2022)

Projection:
Universal Transverse Mercator Zone 13N

Datum:
North American Datum 1983

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