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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** **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).

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

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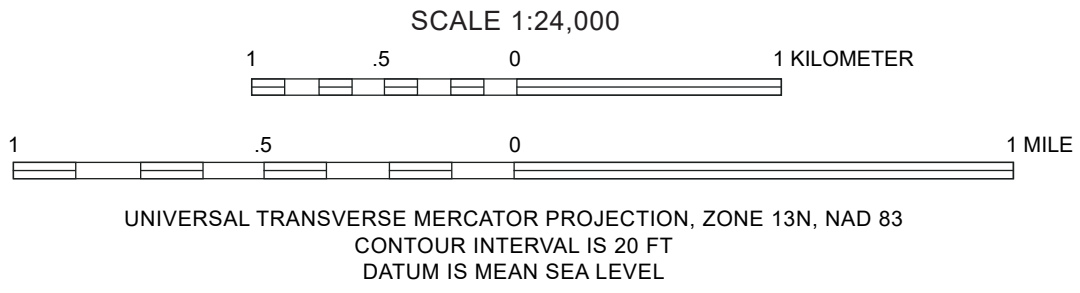
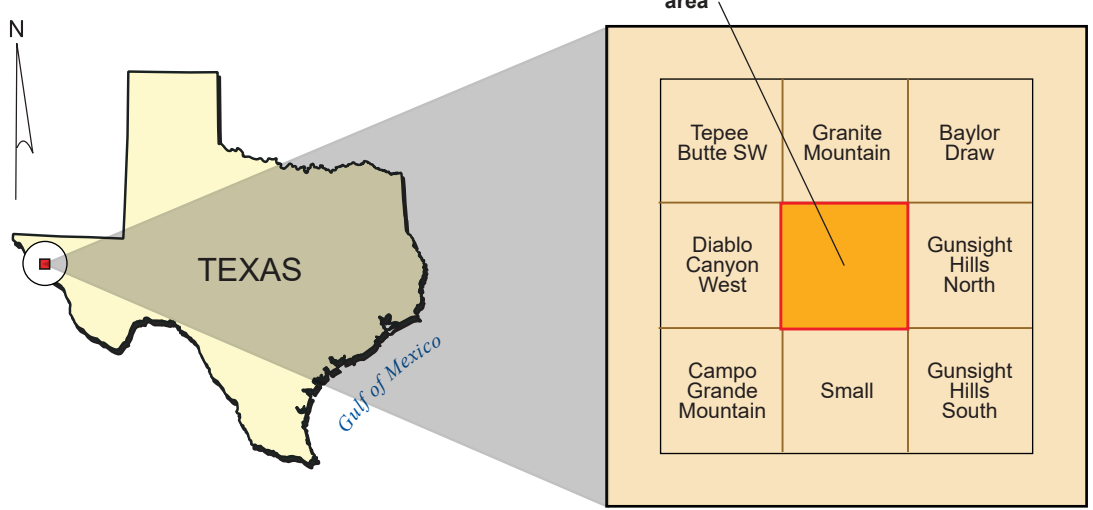
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BUREAU OF ECONOMIC GEOLOGY
Jackson School of Geosciences
The University of Texas at Austin
10100 Burnet Road, Bldg. 130 • Austin, Texas 78758
Phone 512-471-7144 • Fax 512-471-0140
email: pubsales@beg.utexas.edu
website: www.beg.utexas.edu



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:
North American Transverse Mercator Zone 13N

Datum:
North American Datum 1983

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