Geology of the Tecolotlan Graben, Jalisco, Mexico

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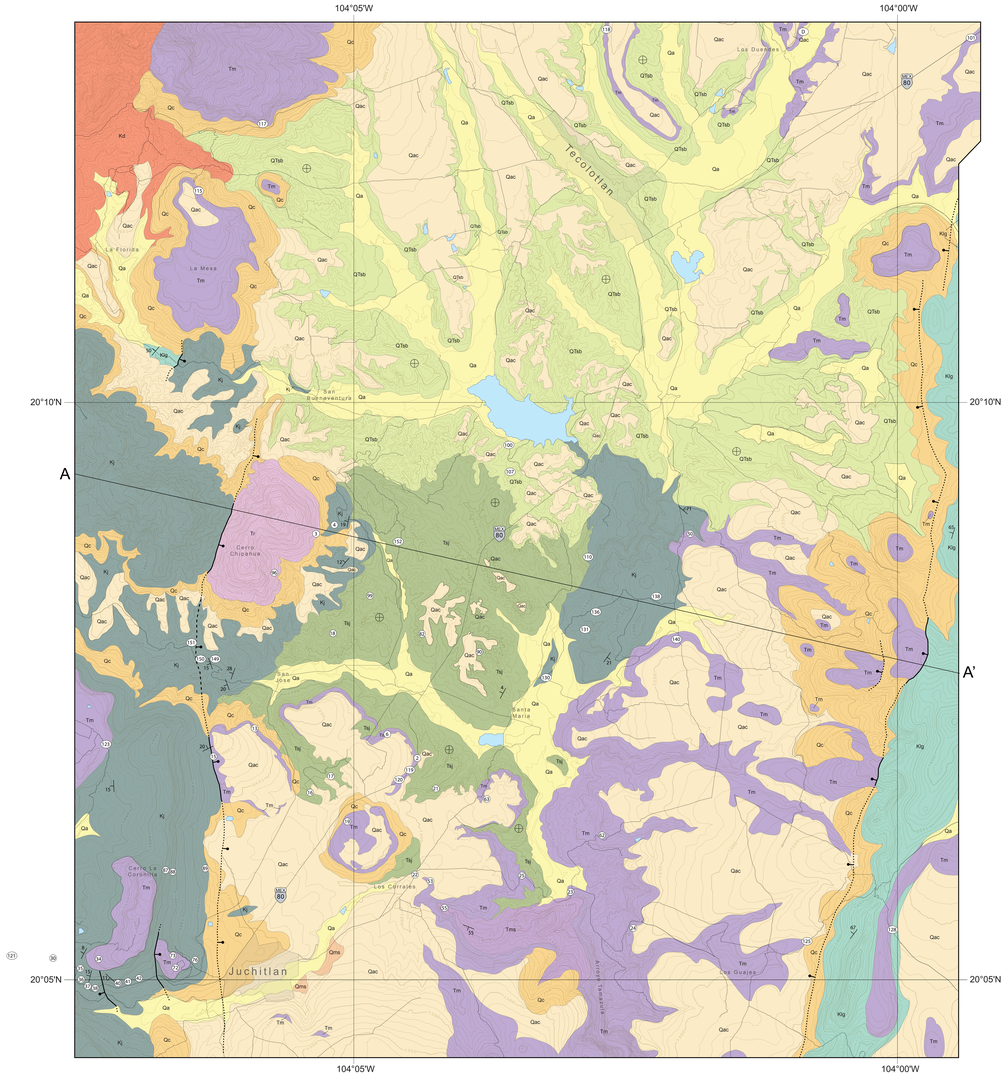


Description of Map Units

Quaternary

Qa — Alluvium, unconsolidated sand and gravel in drainages and main graben valley.

Qc — Colluvium, unconsolidated sand and gravel on slopes.

Qac — Colluvium and alluvium on generally flat surfaces, but at a higher elevation than Qa, typically composed of unconsolidated sand and gravel.

Qms — Small landslide or mass movement deposits near the town of Juchitlan.

Quaternary/Tertiary

QTsb — Formation of San Buenaventura (Irvingtonian-Blancan), semi-consolidated silt, sand and gravel, typically weathers to rounded hills and slopes, more coarse-grained than underlying San Jose beds. Vertebrate fossils from this unit include: teleost fish, lizard, turtle, tortoise, crocodile, camel, peccary, horse, capybara, mastodont, and glyptodont. One ash bed dated at 2.62 ± 0.03 (1σ) Ma in this unit.

Tertiary

Tm — Mafic to intermediate composition lava flows, overlying and intercalated with the formation of San Jose, ranging in age from 3.59 ± 0.01(1σ) Ma to 4.95 ± 0.02(1σ) Ma. These lavas are correlative with the Chapala Group basalts mapped by Ferrari et al. (2000).

Tms — Volcanic sediments and cinders, brown to dark gray, variably inclined 20-55°; sand to gravel size fragments; local unit only found east of Los Corrales; 30+ m thick.

Tr — Rhyolite lava flows of Cerro Chipahua; grayish red, ~15% phenocrysts of quartz (4%) and altered sanidine (5%), plagioclase (3%), and biotite (2%); devitrified matrix.

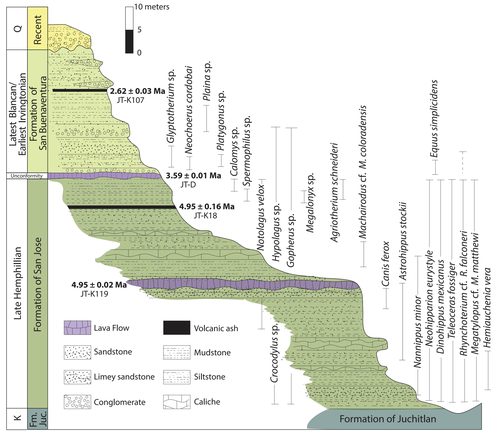
Tsj — Formation of San Jose (Hemphillian), poorly consolidated, fine siltstones and mudstones, alternating in color from light gray-green to light reddish brown; minimum thickness of about 30 to 35 m; fossils include: *Dinohippus mexicanus, Neohipparion eurystyle, Teleoceras fossiger, Canis ferox,* and *Notolagus velox.*

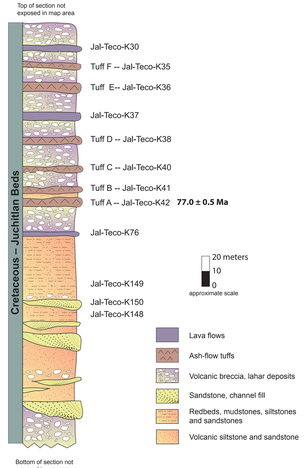
Cretaceous

Kj — Formation of Juchitlan, altered rhyolitic to dacitic ash flow tuffs (ignimbrites), trachyandesitic lava flows, tuffaceous sediments, and volcanic debris flows, feldspathic sandstones and conglomerates; dark grayish red to pale orange; estimate 400+ m thick.

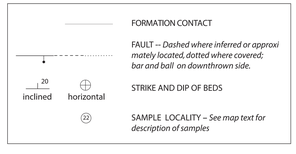
Kd — Diorite of La Florida, medium-gray, about 38% plagioclase, 25% quartz, 17% hornblende, 11% biotite, and 6% K-feldspar. Accessory apatite and Fe-oxides are also present. Chlorite and sericite alteration occur throughout.

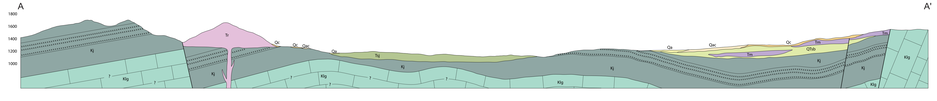
Klg — Limestone of Los Guajes, light to medium gray, crystalline limestone, thick bedded, contains some poorly preserved fossils; probably correlative with the Late Cretaceous La Coronilla Group as defined by Ferrari et al. (2000); total thickness unknown.





Map Symbols





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