The **Capela**, formerly ***Rey de Plata***, Zn-Pb-Cu-Ag-Au volcanic hosted massive sulphide (VHMS) deposit cluster is located ~150 km and ~8 km SW of Mexico City and Teloloapan respectively, in the state of Guerrero, in southwestern Mexico (#Location: 18° 37' 18"N, 99° 55' 54"W).

The *Rey de Plata* mine commenced operation in October 2000 under a partnership between Industrias Peñoles (51%), Dowa Mining and Sumitomo Corporation. A steep decline in the zinc price led to a decision at the end of 2001 to suspend operation of the mine. Peñoles acquired the minority interests in December 2004, and in 2008 resumed evaluation and exploration drilling. In 2011, an initial estimate of mineral resources was issued of 18.8 Mt @ 15% Zn equivalent, and in 2012 the construction of the new *Capela* mining unit was approved. Exploration during 2013 further expanded reserves to 25.2 Mt @ 15.7% Zn equivalent. The mining unit was commissioned in the first quarter of 2020 and commenced operation in the same year.

The Capela deposit lies within the Guerrero Terrane, which is interpreted to underlie much of western Mexico. However, the Mesozoic assemblages that define the Terrane, are only exposed over <5% of the surface area, occurring as scattered erosional windows through the extensive Tertiary and Quaternary volcanic and sedimentary strata of the Sierra Madre Occidental Province and Trans-Mexican Volcanic Belt. Capela falls within the Teloloapan Sub-terrane of the Guerrero Terrane. This sub-terrane is exposed over a north-south interval of ~150 x 50 km and also hosts the ***Tizapa*** VHMS deposit, ~80 km to the north. The Capela deposit also lies between the smaller *Campo Morado* district 10 to 20 km to the SSW and the *Tlanilpa-Azulaquez* district a similar distance to the north.

The Teloloapan Sub-terrane It is bounded by the Arcelia Sub-terrane and younger cover to the west and by the similar cover sequence and the Mixteco Terrane to the east. The *Arcelia Sub-terrane* is predominantly composed of deep water, tholeiitic, pillowed mafic volcanic rocks, interlayered with, and overlain by, black shale and chert, and has been thrust east over the Teloloapan Sub-terrane. The *Teloloapan Sub-terrane* is composed of mainly Cretaceous mafic volcanic rocks, stratigraphically overlain by intermediate to felsic volcanic and volcaniclastic units, with interlayered and overlying fine grained clastic rocks. This succession is capped by a shelf sequence of clastic and carbonate rocks. The volcanic rocks are calc-alkaline. The entire sub-terrane has been metamorphosed to greenschist facies, and is internally imbricated by thrust and low angle normal faults, and thrust eastward over the Cretaceous Albian carbonates and older Palaeozoic clastic strata of the Mixteco terrane.

The Capela deposit is developed near the top of the volcanic arc succession of the Teloloapan Sub-terrane. Two main lithologic assemblages have been recognised in the deposit area: **i).** an ~3500 m thick basal calc-alkaline basaltic to andesitic pile, and **ii).** an overlying, ~1500 m thick package of sedimentary rocks. Sulphide mineralisation at Capela is hosted within a 400 m thick sequence of rhyolitic/felsic volcanic and volcaniclastic rocks with interlayered carbonaceous siliciclastic rocks and andesitic volcanic rocks that locally predominate in the upper portion of the volcanic pile.

Sulphide mineralisation occurs as a group of bodies, that may be either of both stockworks and conformable lenses or mantos developed in schists and meta-volcanics of felsic composition. The lens-shaped bodies range in size from 3 to 60 m in thickness, from 300 to 1200 m length, and from 100 to 500 m width (Monter-Ramírez and Zavala-Esquivel, 2011). The ore is composed of pyrite, sphalerite, galena, bornite, chalcopyrite, pyrargyrite, tetrahedrite-tennantite, native gold, arsenopyrite and jamesonite, along with gypsum, barite and calcite as gangue phases (Miranda-Gasca *et al.*, 2001). The main orebody, *Tehuixtla*, is strongly zoned from: **i).** a lower zone of mainly pyrite, including framboidal aggregates; **ii).** chalcopyrite and bornite; and **iii).** an upper interval of mainly of pyrite, sphalerite, galena, barite and, sporadically, silver sulphosalts (Monter-Ramírez and Zavala-Esquivel, 2011). The sulphide assemblages are predominantly banded, with a weakly developed tectonic foliation. Gold is found in the upper part of the deposit, and is associated with ankerite-rich silicification.