

Mining in the DR

The history of the Dominican Republic has deep running roots based on the gold and mining industry. Today there is a growing mining and exploration community made up of many explorers and three major mining companies.

- Barrick, with a 60/40% partnership with Goldcorp, operates the Pueblo Viejo gold mine. The mine has recently completed a major expansion and the current mine life is expected to be over 30 years. With Proven and Probable reserves of 16.2M ounces of gold at 3.2 g/t Au and Measured and Indicated Resources of 15M ounces at 2.42 g/t Au. (See Technical Report on the Pueblo Viejo Project, Sanchez Ramirez Province, Dominican Republic by RPA dated March 27, 2014 on SEDAR).
- Glencore (Previously Xstrata and Falconbridge) has been successfully exploiting nickel laterites in the Dominican Republic for almost 25 years.
- Perilya operates the Cerro de Maimon Cu-Au-Ag mine.

The gold exploration industry, although active for many years, has heated up following the Goldquest Romero discovery in 2012. This discovery has drawn attention to an under explored belt in the western part of the country known as the Tireo Formation where a number of companies are currently active. In early 2014, Goldquest completed the first airborne electro-magnetic survey (ZTEM survey) over the Tireo belt and are currently drilling new target areas.

Geology of the DR



The island of Hispaniola evolved as a complex island arc associated with bi-polar subduction through Cretaceous to Late Eocene time. Since then, the island has straddled the left-lateral strike-slip fault zone that separates the North American and Caribbean Plates and has largely been volcanically inactive. The Tertiary stratigraphic succession is dominated by sedimentary rocks. The most important rock units in terms of gold and base metal mineralization are the Los Ranchos, Maimon, Tireo and Duarte Formations.

Model lead isotope ages and paleontological evidence yield early Cretaceous ages for both the Los Ranchos and Maimon Formations. Together, they constituted a composite arc associated with NW-directed subduction of the proto-Caribbean plate. The Maimon Formation represents a

primitive, bimodal fore-arc assemblage composed of tholeiitic basalts and subordinate felsic volcanics and meta-sedimentary rocks whereas the Los Ranchos Formation represents the axial portion of the associated island arc. The Loma Caribe peridotite, which now hosts the nickel laterite mines, and the Duarte Formation amphibolite would have been part of the oceanic crust that floored the proto-Caribbean Sea.

The volcanic arc underwent a change in polarity in Mid-Cretaceous (Aptian to Early Albanian) time, likely triggered by the collision of the Caribbean Oceanic Plateau with Hispaniola. North-vergent obduction of the Loma Caribe peridotite also took place at this time and the arc was tectonically shortened by major thrust faulting. Shearing and metamorphism was stronger in the fore-arc (Maimon) than the island arc (Los Ranchos).

Renewed calc-alkaline arc volcanism began in the Late Cretaceous (Cenomanian), associated with SW-directed subduction of the North Atlantic Plate beneath Hispaniola. This formed the volcanic arc now represented by the Tireo and Duarte Formations of the Central Cordillera.

Calc-alkaline volcanism continued until Middle/Late Eocene time, when the Bahama Platform (North Atlantic Plate) collided with Hispaniola and the island underwent NE-SW contraction. The Loma Caribe peridotite was emplaced over Late Cretaceous basalts of the Peralvillo Formation. Earlier faults and penetrative fabrics were steepened and overprinted by folds and Mid-Cretaceous thrusts were re-activated.

The Maimon Formation is separated from Late Cretaceous basalts (Peralvillo Formation) and the Loma Caribe peridotite by the NW-striking, left-lateral Ozama Shear Zone which is Eocene or younger. From Late Eocene time until the present, Hispaniola has been subjected to left-lateral transpression and left-lateral strike-slip faulting.