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Gold Price: US \$1,605.6/ounce  
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Mato Grosso

## Location

The Mato Grosso property consists of 122 generally contiguous mining claims with a total surface area of 324,244 hectares. The project area is located in central Brazil's Cuiabá Basin (Baixada Cuiabana) in the southern part of the state of Mato Grosso between Cuiaba and the town of Pocone, approximately 100km to the southwest.

## History

Mining in the greater Mato Grosso region dates back to the mid 1500s. Gold was first discovered in the Cuiabá Basin in 1718, and the town of Poconé owes its origin to a gold rush which occurred during the late 1770s. Mining activity declined dramatically following the end of the 18th century, and it wasn't until the early 1980s that gold exploration began again in earnest throughout the region. According to the National Department of Mineral Production (DNPM), more than 80 garimpos (mines) were operating in the area by 1984, producing on the order of 400 kilograms of gold per month.

## Agreements

In July 2010, Magellan announced that it had signed a binding letter of intent to form a 50/50 joint venture with ECI Mining and Exploration Inc. regarding mineral properties located in southern Mato Grosso. Magellan and ECI agreed to contribute their respective mineral claims located in the region for exploration by the joint venture. Each party agreed to fund a minimum of \$250,000 in exploration expenditures on the properties, subject to the joint venture during the initial twelve months. (ECI is a private gold, silver and associated base metal exploration company with properties in Brazil and Mexico).

In August 2010, Magellan announced that it had agreed to acquire a 25.5% interest in certain mineral rights located in the southern part of the state of Mato Grosso from Brasil Central Engenharia Ltda., in consideration for US\$ 2.5 million. Brasil Central is a private company incorporated under the laws of Brazil. ECI also agreed to purchase a 25.5% interest in the mineral rights from Brasil Central for identical consideration. The agreement was finalized in October 2010.

In February 2011, Magellan announced that it had signed a formal agreement to acquire a further 9.5% interest in the joint venture with ECI and Brasil Central for consideration of US\$ 2.5 million thereby increasing its interest in the joint venture to 35%. ECI also agreed to purchase a further 9.5% interest for identical consideration, thereby also increasing its interest to 35%.

## Geology and Mineralization

Magellan claims cover large portions of the Poconé Gold Belt, which extends about 100km south from the city of Cuiabá to the town of Poconé. The belt can be divided into eastern and western belts which are marked by regional aeromagnetic highs trending NNE-SSW. Geological literature suggests that the host rocks and style of gold mineralization are the same in both the west and east belts

The dominant stratigraphic unit important to mineralization is a lower greenschist grade phyllitic mudstone sequence, with thin to medium bedded gray meta-mudstone intercalated with thin meta-sandstone units. These stratigraphic units are part of the Late Proterozoic Cuiabá Group, and are strongly folded and foliated. Gold mineralization is associated with steeply-dipping brittle fractures filled by vein quartz with associated pyrite.

Vein quartz is generally a few centimeters to a meter thick, but locally veins exceed four meters in thickness. Gold occurs in veins and is also disseminated in the surrounding country rocks for a distance of less than one to about four meters from the associated vein structure. Locally, veins are closely spaced and contiguous zones of veining and alteration occur across tens of meters. In saprolite, disseminated gold may be dispersed further by supergene processes, up to ten meters. The quartz veins contain minor sericite, chlorite, ankerite and pyrite. Euhedral undeformed pyrite or limonite after pyrite are associated with gold-bearing veins and are disseminated a short distance from them.

Steep fractures hosting gold-bearing quartz veins appear to be part of a regional brittle fracture set that developed at or shortly after the end of greenschist grade metamorphism, and after brittle/ductile deformation. The dominant orientation of veins observed is consistent with either a left-lateral fault system with the main strike-slip faults trending NW or a right-lateral fault system with the main strike-slip faults trending NE.

The veins are likely mesothermal and related to connate and metamorphically-derived hydrothermal fluids which scavenged gold from lower portions of the metamorphic welt, depositing it at higher levels during uplift and transtension of the terrane. Gold was preferentially deposited in the iron-rich and locally carbon-rich phyllitic mudstone unit.

High gold grades (reportedly up to 100gpt Au) occur in the quartz veins, while the mineralized selvage generally carries tenths of grams per ton of gold. The gold is erratically distributed in the quartz veins, creating a significant nugget effect.

## Exploration Program

Extensive ground reconnaissance and data compilation work is in progress. At least six drill targets in different locations have been identified on the basis of geological, structural, geophysical and geochemical criteria. These targets will be initially tested using an air core drill rig which can drill to a maximum depth of 60m.

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