



Ribeiro Project

Location and Access

The areas of the Project, that totalize 1406,09 ha, are placed in the limits of the city Mariana, in Minas Gerais, and approximately 12 km away from the downtown, being easily accessed by the MG-129 road. However, transiting within them is difficult, due to the fact that the local roads have been destroyed in order to avoid the illegal cutting of trees, which requires the implementation of major walking routes.

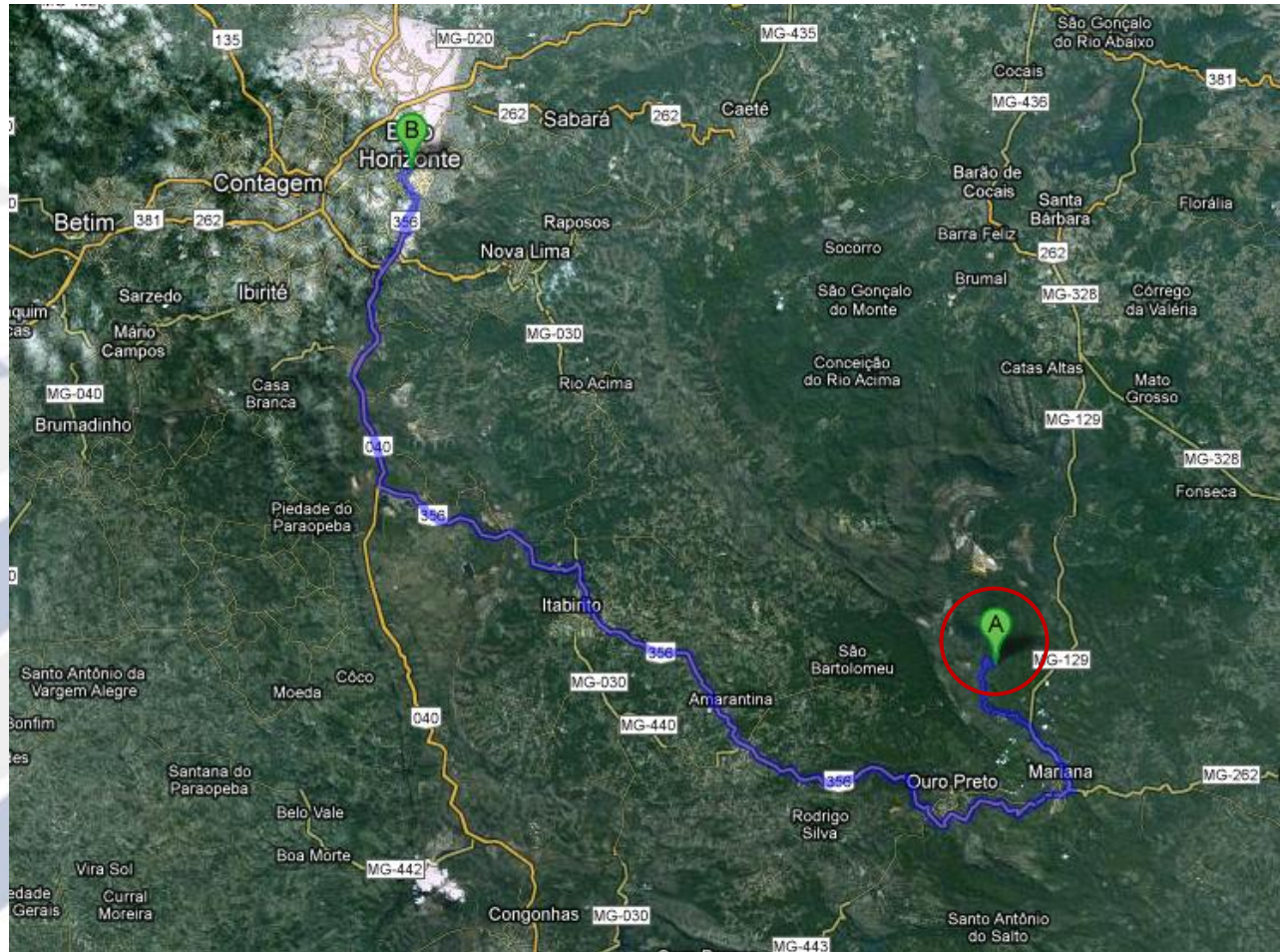
Starting from the state capital, Belo Horizonte, 130 km is traveled, totaling approximately a 2 hours-trip.

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Regional Geology

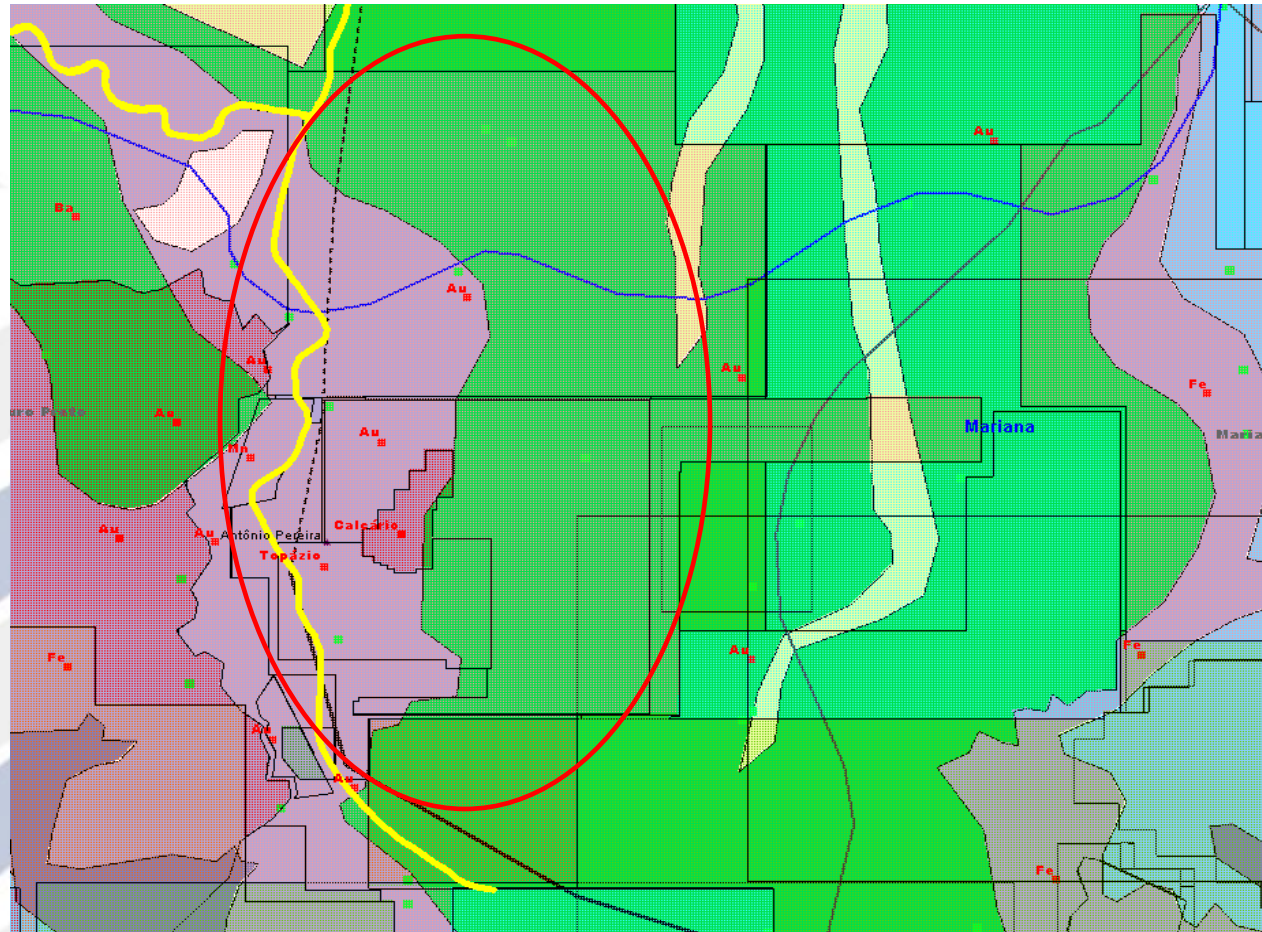
Geologically, the areas are located in two main units, the Piracicaba Group, in green, a metamorphic sedimentary rock class, composed mainly of phyllite, schist, dolomite and quartzite; and the Itabira Group, in pink, of metamorphic sedimentary rocks, composed mainly of dolomites and itabirites.

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Photographic Record

During the mapping works, the areas were divided into key points, all of the showing friable Itabirite outcroppings of apparently low iron percentage due to the quantity of silica in their composition. It was also identified hard hematite lenses with high-grade of iron, as showed in the following picture (taken at Point 104).

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Photographic Record



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Point 107 is on the banks of a small stream, whose bed is all lined by Itabirite type iron ore, what indicates that the ore is present throughout the surrounding environment.

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Photographic Record



Point 101



Point 103



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At Point 108 there is the same ore type identified in its predecessors, what suggests that the mineralized body of friable Itabirite continues to East and South. In some points the iron percentage tends to increase.

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Point 108

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At Point 114, which is only 30 m away from the residences of village Samarco, there is a beautiful friable Itabirite outcrop of medium hardness and iron percentage. From this point it is possible to identify several occurrences towards east and southeast, and where the rock does not outcrop robustly, the entire hill is composed by “Chapinha” Itabirite of good quality.

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Point 114

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At Point 115 there is also Itabirite of medium hardness and iron percentage, the entire surrounding hill is rich in “chapinha” occurrences and there is a great possibility of existing a good ore reserve in the place, that is likely to extend up to points 100 to 106.

At Points 116 and 117, there are excellent occurrences of Itabirite and “chapinha” of good quality and apparently good volume. At Point 118, there is a big Itabirite outcrop.

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Point 118

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Point 120 shows an Itabirite occurrence of good quality, with dimensions of approximately 600 m long to 250 m wide, with outcrops of hard rocks and a capping that covers much of the hill. At Point 121, begins a massive occurrence of dolomitic limestone that spans throughout the area towards northeast and east.

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Photographic Record



Point 120

Photographic Record

At Point 124 it is possible to identify the occurrence of conglomerates of hard and rich itabirite pebbles. At Points 125 and 126 “canga”, itabirite pebbles, ferruginous quartzite and phyllite can be found, and there may be a good volume of iron ore. At Point 127, it was observed the occurrence of hard itabirite in a ditch, which serves as a transportation for rocks located on the top of the hill. It is believed that this set of points has significant potential.

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Point 124



Point 125

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At Point 132, there is “canga” with conglomerates of itabirite and hematite pebbles, which is presented compacted.



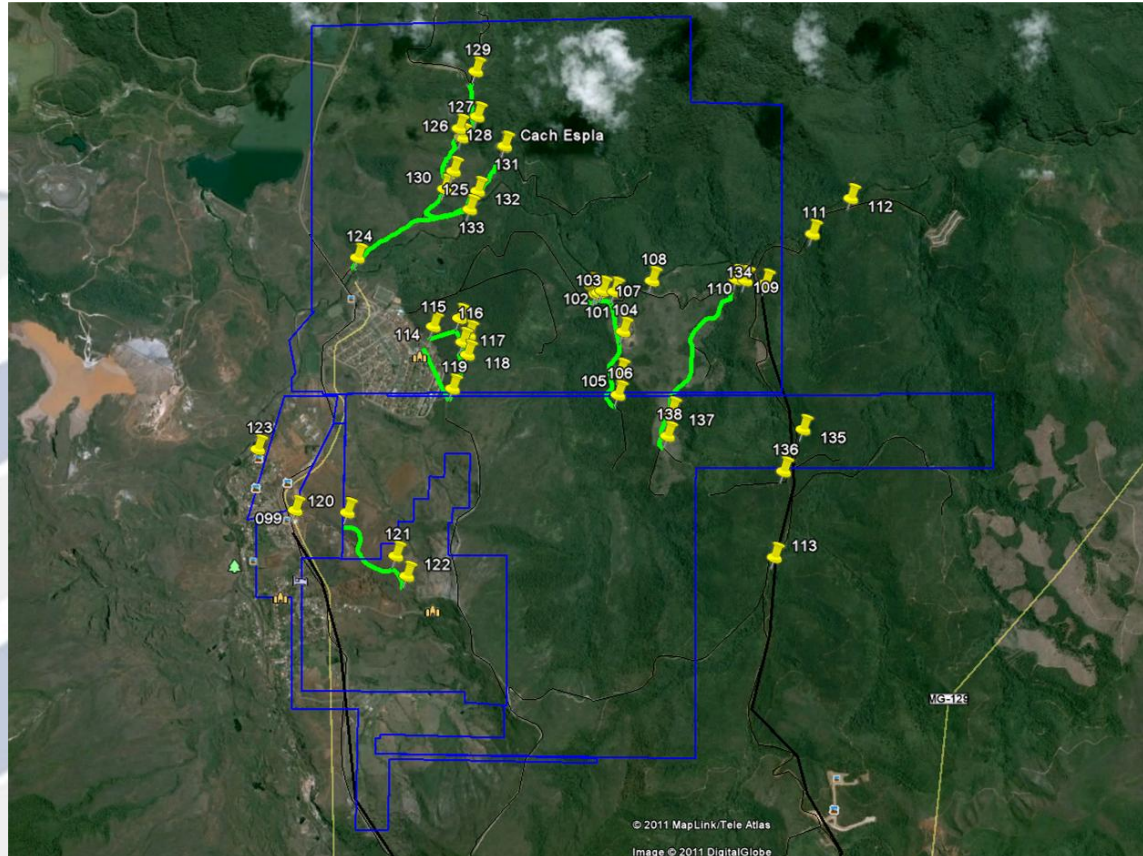
Point 132

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Photographic Record



Location of the points

Conclusions

Based on the points visited in this first field work, it is possible to consider the existence of four areas within the areas of the Research Requests, all of them with a great potential on having economic reserves of iron ore. In order to confirm these suspicions, it is necessary a complete work of research including geologic mapping, drillings, physical/chemical analysis and mineral characterization.

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Conclusions

- The Area 1, considered as being of great potential, is where the points 100 to 107 are located, showing no apparent difficulties for further work.
- Area 2, which is also a great potential, takes place from points 114 to 119. It is quite probable the ore in this area to be connected to the one in Area 1, what indicates a possible mineralized area of approximately 60 HA.

Conclusions

- Area 3, which has Point 120 as its most important, shows a mineralized area that goes through a 15 HA area approximately. This area is next to the urban area, but this does not appear to be a reason of infeasibility.

Conclusions

- In Area 4, which includes Points 124 to 127 and 130 to 133, it was unable to set or scale the possible mineralized area, due to the fact of the occurrences to be punctual and to not show an idea of the body. Its potential is related mainly with the itabirite pebbles localized at Point 132 and the possibility of rolled itabirites, located at Points 125 and 130, to continue to the west, where there is a hill covered by dense vegetation.