Carrapato Project

Gold Ore

www.cme7.com.br

SUMMARY

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

1. Introduction

This report describes the results of the prospecting and exploration works for gold ore developed inside an area of 9899.95 hectares, situated in a place called Garimpo (Artisanal Mine) Carrapato, city Santa Maria, state of Pará.

The report, besides the technical information relating to execution of works made during the term of the license, also presents the technical economic justification for continuing the exploration, accompanied by a program of the pretended works for the next three years.

The focused area falls in a region with notorious auriferous potential and has been thoroughly investigated to assess their real economic potential, which importance can be seen in numerous works and artisanal mining activities in the region.

In addition to the data presented in this report, it is estimated three more years of mineral exploration, which allows detecting anomalies, selecting targets and, as a result, undertaking a detailed comprehensive work program, which includes the execution of trenches and boreholes.

At the end of these works, if it is proved the existence of a mining deposit, as expected, other works will be conducted, such as: new calculations of reserves, beneficiation tests, metallurgical tests, new feasibility and economic studies for mining and environment projects, which together with the work already done, will be part of the Mineral Research Report.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

2. General Description of Area

Location and Access

The area of study is located in the southern mineral and metallogenetic province of Carajás, nearby of the village Casa de Tábua, municipality of Santa Maria das Barreiras, state of Pará, Brazil. The access is made departing from Redenção, main local city in terms of infrastructure, following through BR 158 for about 115 km until Casa de Tábua. This is followed by 12 km to east on a road, giving access to the town of Santa Maria das Barreias, until the domains of Capri and Flamboyant Farms.

Access by air is facilitated by the existence in the region of many airfields that allow operation of single-engine and twin-engine planes. The airfield of the Capri Farm is located in the central west part of the exploration license. There are currently regular commercial flights between Redenção and Marabá by the regional company Sete.

Physiography and Climate

The region of the Inajá structure, in which the exploration license is included, presents regularity in the distribution of precipitation, with two distinct periods: from July to November, with low precipitation; from December to May, the rainy season. Seasonally the average monthly temperatures vary little, remaining between 26 ° C and 20 ° C, with a maximum in September, a minimum in February and annual average of 27.27 ° C.

The pluviometric regime has a well-defined seasonality, and the largest concentration of rainfall occurs between January and April. A semi-dry period extends from May to September, with a period of recharge of precipitation from October, supplying the atmospheric demand. Between January and April, the average total rainfall of five years (973.1 mm) shows 57% of total annual average, which is 1717.66 mm. In the period of semi-drought precipitated only 64.7 mm (4% of the annual total), while in the period of recharge, rainfall reached 578.8 mm (34%) of the annual total. Despite the semi-drought, the relative humidity is high in the region, ranging between 83% and 88% in the months from November to April, respectively. It is observed that the relative humidity does not provide a clear answer to the sudden reduction in the pluviometric regime between May and September, which keeps the atmosphere always close to saturation during this period. The average relative humidity is 77% annually.

The annual distribution of solar brightness is inversely related to rainfall and cloudiness. Although much cloudiness occurring during most of the year, the monthly values of the solar brightness are always above 40% of full brightness in the dry season and 25% in the rainy season, with an annual value of 1,500 hours. The area of Rio Inajá suffered strong environmental degradation due to artisanal gold mining activity. Vegetation was also hit, and in some cases, quite low and exposed to erosion.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Geomorphology

The characteristics of relief, combined with structural and lithological constraints as well as common genetic traits constitute the range of basic elements for defining geomorphological units. Based on these criteria were recognized two geomorphological units: The Dissected Plateau of Southern Pará and Peripheral Depression of Southern Pará.

The Dissected Plateau of Southern Pará shows medium altitudes around 500 to 700 m, reaching the highest point in the hills of Inajá with 770m. In Depression of Araguaia, the medium altitudes reaching 300 m, occurring steeps with expressive slopes. The mountain of Inajá is the greatest expression of relief in the region with general EW direction, with raised surfaces, extremely dissected with sharp shapes, very similar to the mountain of Gradaús.

The Depression Araguaia, which is an extension of the Peripheral Depression of Southern Pará, comprises a wide lowered surface with altimetry ranging between 200 and 300 m, observing a dissected relief, in forms of convex top and tabular top. Locally in the fields of the exploration license, there is a predominance of flat terrain with a few hills with small altitudes, comprehending the extension of the Serra do Inajá further east, dominated by iron formations and some felsic volcanic formations. On the flattest and devastated part are found tonalities and granites that form the lithologic basement of the region.

Vegetation

The vegetation is represented by broadleaf equatorial forest. The deforestation occupies part of the basins of rivers Inajá and Arrais do Araguaia. The noble species still found are: mahogany, jatoba, angelim, pau d'arco, red bay, pau Brasil and cedrorana. In the Cerrado region, the common species are: caimbé, pau terra, faveiro, barbatimão, angico-preto, sucupira, yellow ipe and pequi. The Capri and Flamboyant farms keep their vegetables reserves, where native species are preserved and there were no systematic deforestation. The pastures are all covered by braquiara grass and are relatively clean.

Hydrography

The area subject to mineral exploration belongs to Inajá River's basin, which drains into the Rio Araguaia. The river rises in the Serra dos Gradaús, located in the municipalities of Cumaru do Norte and Ourilândia, in the State of Pará. He travels about 150 km in WE direction before ending into the Rio Araguaia.

The Inajá River passes north of the Carrapato Project. Its basin within the municipality of Santa Maria Barriers covers an area of 5972 km ² and its largest tributary is Inajazinho River with 920 km ². The main tributaries of the left bank are: Creek of the Antas; Inajazinho River; São João Batista Stream; Procópio Stream; Cipó Creek; Creek of the Garça and Ribeirinho Creek. For the right bank: Água da Onça Stream; Periquito Creek; Carrapato Stream; Juary Stream; Creek of the Porcos and Caracol Creek.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Inside the project area highlights the Carrapato Stream, which has been exhaustively explored by artisanal mining activity, especially in the decade of 80, which caused significant changes in their original morphologic configuration, with the presence of numerous abandoned pits along its course, causing considerable environmental degradation.

Socio Economic Aspects

Livestock farming is the main economic activity of the region. The extensive deforestation has virtually eliminated all the plant species with economic value and the artisanal mining activity continues in decline. The farms in the area support their employees with residences and labor rights, and in some isolated spots are noticeable movements demanding land (as MST). Farms are titled, surrounded and controlled by surveillance posts.

The region has also a few establishments that exploit logging. One meatpacking industry is being implemented and the representation of mineral activity is realized by the presence of gold mining companies in the region. The trading still shy, consists of small markets, pharmacies, agricultural trade, some machine shops and small gas stations.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

3. Infrastructure

Logistic and Available Resources in the Region

The region has reasonable infrastructure resources, having been pioneered in the '80s and continuously developed. The project area is situated 16 km from the village of Casa da Tábua (through highway BR 158), 100 km from Santana do Araguaia, 140 km of Redenção and 120 km of Santa Maria das Barreiras, the capital of the municipality. The cities of Redeção and Santana do Araguaia have hospitals, telephone communications and varied trading market. Road access is permanent through paved road on BR 158 and numerous local roads. Heavy loads must be transported via Santana do Araguaia due disrepair and lack of definitive bridges on the stretch between Redenção e Casa da Tábua.

Infrastructure to aid Exploration

The project has an office in the district of Casa da Tábua (about 16 km), with facilities to offer satisfactory conditions of work with computers and printers of the last generation, accommodation for technical service, five available vehicles, shed for storage and description of the boreholes, and various other items that provide a good condition for the exploration works. The project already has a qualified staff of two geologists, one senior and one junior, three senior mining technicians, two interns from CEFETE of Belém, and a staff of 24 field assistants hired under CLT regime, as well as providing a positive influence on the local economy, both in generating jobs and improving trade.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 1: Office of the company owner of the license, Casa de Tábua

Image 2: Shed and bench for boreholes analysis, Casa de Tábua

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

4. Historical of Previous Work

Previous Exploration Work

The area in study was included in the regional prospecting work conducted by the Geophysicists Project Brazil Canada (PGBC), which made regional survey of stream sediments and aerial magnetometry.

The adjacent areas were studied by the companies Unigeo, Mineração Arapuá Industria e Comércio SA, Mineração Santa Elina Indústria e Comércio Ltda. and BHP Empreendimentos Minerais Ltda.

Artisanal Mining Activity and Environmental Degradation

The license incorporates a mining area that was very active in the 80s, with the presence of thousands of artisanal miners. This mining occupied the valley of the Carrapato Stream, which debouches into the Rio Inajá, and evolved to mining of quartz veins in saprolite. This activity caused widespread degradation of vegetation, mulch and hydrographic system of the region. Other major artisanal mines were developed near the project area.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

5. Regional Geology

Like anywhere in the world, meta-volcanic sedimentary sequences from Archean and Proterozoic ages, greenstone belt type, in Brazil are important for their metallogenic potential, mainly for their mineralization and deposits of gold and other elements such as platinoids, Ni and Cu (Schobbenhaus et al. 1984). The meta-volcanic sedimentary sequence that outcrops in the region of Serra de Inajá, SE of Pará, belonging to the Serra de Inajá greenstone belt, is no exception in this context.

Located at the southern end of the known mineralogical and metallogenic province of Carajás, eastern portion of the Amazonian Craton (Shell-Brazil-Central), within a tectonically complex area composed of Archean granite and greenstone belts, the volcano sedimentary sequence of the Serra de Inajá would be the southernmost of the Archean core, been reworked during the Thermo-Tectonic Transamazonic Cycle.

Among the established divisions for the eastern region of the Serra dos Carajás, the volcano sedimentary sequence of the Serra do Inajá, belong to the group Grão Pará. The rocks of this group have an average age of 2.90 Ga (Pimentel & Machado, 1994). The group Serra do Inajá comprises the formations Quixadá (metabasalts and ultramafic schists) and Morada da Prata (metasediments with abundant BIFs) (Althoss, 1996).

The basement rocks of the supracrustal sequence consists of a series of rocks with different compositions, composed mainly of gneisses, migmatites, granulites, amphibolites, granodiorites, and cataclastic rocks belonging to Xingu complex with Archean age and associated with the events: Transamazonic; Uatamã; Paraguaense; Rondoniense.

In the region of Serra do Inajá the TTG basement rocks are represented mainly by tonalíticas suite known as Arco Verde Tonalite and Granite Xinguara ages of 2.96 to 2.98 (Neves and Vale, 1995). The Arco Verde Tonalite presents rare mylonitic deformation preserved portions merging with other intensely deformed vertical foliation and coexist with other low-angle and kinematic indicators sinestrais (Neves and Vale, op. Cit).

In the W portion can find the Rio Fresco group composed of chemical clastic sedimentary units with Archean age, alluvial river bar formation composed of mudstones, siltstones, graywackes and chert, that were individualized in the map of CPRM in two units: Clastic Gorotire Unit, Paleoproterozoic, composed of arkose quartzites, graywackes, siltstones and polymictic polymictic and Clastic Chemical Unit Rio Naja, Mesoarchean, composed of horfels, arkose, graywackes, siltstones beyond of carbonate rocks and breccias.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

6. Local Geology

Lithologic Types

The mapped units are composed by four main geological units: Serra do Inajá Group; Rio Fresco Group; Arco Verde Tonalite; Monzogranite Xinguara. The Sierra do Inajá Group can still be subdivided into several litho-structural units: Undifferentiated Serra do Inajá, Banded Iron Formation Unit, Mafic Volcanic Unit, Ultramafic Unit, Intermediate Volcanic Unit, laterite and alluvium coverage.

Alluvial Cover

This cover is formed by silt sediment and silt-sandy sediments, light gray to black color due to the presence of organic materials in its upper portion. This coverage is conducted mainly along the margins of the main drainage locations, sometimes occupying large areas which in times of floods become marshy and swampy; or in downgraded flat terrains, sometimes covering areas of the local lateritic coverage. All major artisanal mines in the area have alluvial origin.

Image 3: Alluvion – Artisanal Mining of Carrapato

Lateritic Coverage

This unit is formed by a set of typical lithologic lateritic profile of change. Occur lateritic shells with thicknesses ranging from a few centimeters to three meters average thickness, lateritic canga or rolled blocks from small clusters to morrotes, saprolite and lateritic rocks with preserved structures in mottled zone, or with presence of pisolite and also by lateritic soil alteration.

Occur primarily associated with mafic volcanic rocks of Serra do Inajá Group. Small morrotes are identified with flattened top composed by different lateritic levels, which indicates remnants of old lateritic surface alteration associated with a flatting surface. The alignment of these morrotes is

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

associated with the local structure and the presence of bodies composed of basic rocks (diabases) or ultramafic in advanced lateritic process. Even large exposures of mottled areas near the mines are covered in search of gold nuggets associated with lateritic coverage, with localized devices called "Piu-Piu", forming zones of scrapings.

Image 4: Metal detector used to locate nuggets; concentrated gold nuggets; site of scraping laterite coverage; flattened hill of lateritic coverage.

Arco Verde Tonalite

It is the most important unit in terms of outcropping and consist inequigranular igneous rock, leucocratic, quartz-feldspartic composition, have biotite as the main mafic mineral and commonly concentrated mafic and opaque minerals (with less than 1% of ilmenite and magnetite in the composition). The outcrops occur as small rounded hills, fields covered with boulders with strong spheroidal exfoliation and quartz saprolite. These rocks give rise to residual sandy soils with yellow and cream colors, with typical characteristic the presence of yellowish grayish or whitish termites. Form the local basement of Archean suite.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 5: Arco Verde Tonalite

Monzogranite

It is formed by plutonic igneous rock body as an inequigranular leucogranite. The outcrops occur as little hills and set of boulders with a strong spheroidal exfoliation. Like the Arco Verde Tonalite give rise to residual yellowish and cream color sandy soils and the presence of whitish termites. Occurs like intrusive bodies inside the Arco Verde Tonalite and even in sedimentary volcanic sequence, occurring primarily in the SW portion of the map.

Image 6: Monzogranite Xinguara

Serra do Inajá Group

Occurs in the northeast portion of the license, with EW orientation, extending from the W portion where the Serra do Inajá has its highest expression in terms of relief, to the E portion, where the main track bends in the curve. In its E portion the group is strongly associated with the development of lateritic covers that become absent in places with more pronounced relief or drainage sites.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

At Serra do Inajá predominate lithologies of basic to intermediate composition, having the banded iron formations as the predominant lithologic unit of the group. In the W part predominate rocks with ultramafic composition, while in the E portion, predominate felsic volcanic rocks. Six litho structural units were identified. They are formed mainly by bodies of ultramafic, mafic volcanic, intermediate volcanic, acid volcanic rocks, mafic, intermediate and acid tuffs and banded iron formations. Gives rise to clay soil, reddish to brown colors, emerging lateritic and shale saprolite or rocks with not determinate mafic composition. Sharper reliefs are associated with bodies of iron formation of the Sierra Inajá.

Image 7: Serra do Inajá

Meta-sediments

The meta-sediments are mainly composed by muscovite schists, quartz-muscovite schist and quartz-sericite schists. These meta-sediments prevail outcropping near the borders of the Inajá River. Originate sandy yellowish soils.

Banded Iron Formations

Composed by banded iron formations, presents a range of compositional variations, from rich in chert up to rich in massif hematite. The BIFs occur from centimetric to metric intercalations in mafic schists, forming more expressive bodies which Serra do Inajá is their greatest expression. Compose slender bodies, elongated with NW-SE overall direction.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 8: Banded iron formation (BIF)

Felsic Volcanic Rocks

Comprise the smallest unit of expression in terms of area in the map. Composed by felsic schists rich in quartz, feldspar, sericite and muscovite, occur associated with outcrops of matadacito and intermediate tuffs in the E portion of the area. Still occur in little significant bodies interspersed with BIFs in the W portion. Form sandy-clayed light-colored soils. They are normally found quite deformed.

Intermediate Volcanic Rocks

They appear as small elongated bodies, being the most significant portion in the E part of the area. This unit is composed by andesites, dacites and minor interbedded tuffs of similar composition (sometimes indistinguishable due to the degree of deformation and weathering of these rocks). The best preserved andesitos look massive, with colors ranging from gray-green to gray-purple. More restricted rocks can still be found as quartz-andesites. The dacites occur over the central and W portion of the area with insignificant amounts. The originated soils are sandy-clayey, yellowish or reddish. The terrain is generally flat except on the slopes of the Serra do Inajá, where the presence of bodies of BIF interspersed with these bodies maintain the relief.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 9: Weathered andesite

Mafic Volcanic Rocks

This unit presents is in the form of elongated bodies associated mainly with the southern edges of volcano-sedimentary sequence. Are mainly compose by schists with predominantly mafic composition, may also occur interbedded minor bodies of banded iron forms and small bodies of intrusive diabase. They are seen as quite altered schists with varying colors (predominantly reddish and brownish). Appears as the unit with less information, with poor and rare outcrops. Forms reddish clayed soils and generally associated with the presence of strong alteration lateritic profile.

Image 10: Mafic volcanic rocks

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

7. Structural Geology

The structural geological context of the area showed quite complex, involving litho structural areas with distinct phases of deformations and overlapping patterns of deformation, shear zones and a range of families of faults and fractures that however, are typical of the evolution of Precambrian polycyclic terrains as the others that occur in the region. The structural standards and frames present in the area were intercepted as involving at least four main phases of deformation: D1; D2 ductile; D3 ductile-brittle and D4 brittle.

The first litho structural domain is composed by volcanic-sedimentary unit of the group Serra do Inajá, which is the oldest unit, intensively deformed and subjected to at least three distinct phases of deformation. The phase D1 gave its current closed folds and elongated body configuration with general direction EW, associated with the locks NS and placement of the plutons granites for Arco Verde Tonalite and Xinguara Monzogranite. The main local structural feature site printed on the outcropping rocks of this sequence is formed by planar structure consisting of Sn foliation, S1 considered, the axial plane, with general guidance EW and local variations to N70 and N130 and dips ranging to overall direction N or S. These originate from deformations of closed folds with axes and general direction WE, dip predominant to E.

The volcano-sedimentary sequence molds to the basement with mylonitic contacts that locally generate deformations of the foliation S1, making it a mylonitic foliation. The basement consisting of TTG suite, locally represented by Arco Verde Tonalite presents incipient foliation with more attenuated deformation toward to the granitic cores and cut by mylonitic discrete zones with sub vertical foliations, generally associated with zones of regional and local transcurrence.

The deformation D2 is associated with the installation of an structure of transposition of the main structure with the establishment of regional transcurrent zones with WNW direction and local shear zones with development of the second foliation Sn +1, mylonitic, with small slanting over Sn (40-60 °) plus conjugated faults ENE. At this stage would still be associated with overlapping folds with axis direction N110, installation of distention zones type tension gashes and systems stockwork of quartz veins, which include mineralized veins of the artisanal mines of Carrapato, Gossip and Forkilha. The preferred direction of the quartz veins follows the direction N110-130 sub parallel to the fold axes.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 11: (a) Structural deformations; (b) iron formations with strong plastic deformation of closed failures and shearing of Serra do Inajá; (c) folds in chameira zones; (d)upper flank of banded iron formation with high grade of hematite

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

8. Prospecting and Exploration Works

The work done in the area of the license in question contains the following items:

- Interpretation of satellite images: Aster, Landsat, Spot and Quickbird;
- Compilation of existing data;
- Geochemistry;
- Local geological mapping range of 1:5,000;
- Geophysical survey with ground magnetometry;
- Topographic survey of the geophysical and geochemical mesh.
- Diamond drilling;
- Organization and data processing, with interpretation, preparation of geological maps and profiles, reports and the like.

Geochemistry – Soil Sampling

The soil geochemistry program initially was aimed choosing sites with evidence or indicated potential for the presence of gold mineralizations. In the eastern portion of the area an exploratory line of soil was made with approximately 4 km, general guidance NE and segmented into three parts due to deviations of wetlands and drainages. This soil line intercepted the main local structures oriented W-NW/E-SE and small outcrops of iron formation as well as mining sites with equipment that detect gold nuggets at depths below 30 cm. Cut mineralization trend NW-SE which include pits in primary mineralization of the artisanal mine of Carrapado.

Based on the initial obtained results, mesh of lines was implemented with general direction NNE counting with eight spaced lines, about 4 km from each other. For this sampling program was established to collect samples in duplicates and replicates every 20 samples alternately. Was performed an insertion of a white sample for each set of samples sent to the laboratory. The samples were collected at intervals of 100 m and conditioned in bags of 2.0 L, identified with specific numbering. Two kilos of material were collected and sent to chemical analysis.

This sampling was performed under the supervision and responsibility of a geologist. It's expected to obtain permission from the surface owners of the eastern part of the license for the continuity of geochemical survey there.

Geochemistry - Rock Sampling

The rock samples were collected on two work fronts: a front type "chip sample" ongoing with geological mapping of the geophysical mesh and another front collecting channel samples on the exposed walls of prospecting pits from Rio Carrapato, mainly in the pits known as Zé Padeiro, Fofoca and Cava Barbosa. The channels were made with 10 cm wide and 5 cm deep. Samples were collected every meter. In all, it was collected about 40 "chip sample" and 500 channel samples.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 12: Channel sampling in Cava do Barbosa and high Carrapato

Image 13: Artisanal mine of Zé do Padeiro with channel samplings of the walls

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Geochemistry - Sample Treatment

All samples were sent to SGS-Geosol in Parauapebas, PA, for analysis in Belo Horizonte, MG.

- Soil samples: drying, crushing to 90% passing by 150 mesh, analysis for elements ICP32 with dust digestion aqua regia and gold for "fire assay".
- Channel samples and "chip samples": drying, crushing to 2mm, pulverization until 95% passing by 150 mesh, analysis for gold. For some sample were performed analyzes for ICP32 elements.

Geological Mapping

Taking as base the geophysical mesh, the geological mapping was carried out in the scale 1:5,000 seeking to detail the lithotypes and regional structures that are shown in the area in question. The result shows: a volcano-sedimentary sequence with mafic meta-volcanic rocks intercalated with lenses of BIF and felsic volcanic rocks in contact with tonalitic basement; several quartz veins are present in the area, with preferred direction NW-SE, concordant with the regional structures, type shear zone, and also in second order with NE-SW direction. This survey also searched to make the association between the analytical results of the magnetic geophysical work with presented rocks.

Geophysical Research

For a ground magnetometry campaign, it was planned a mesh of 12 km baseline with NW-SE direction and transverse lines spaced 200 meters NE between them. In the first phase, the readings were taken every 50 meters along the cross and were raised for about 180 km. In the second phase readings were taken every 25 meters and were raised for about 100 km.

To make the survey were used two proton precession magnetometers (model GSM-19). The base readings to correct diurnal variation of the magnetic field were taken every five seconds. The data were processed and stored in ASCII files (xyz) and formatted in spreadsheets GDB GEOSOFT-OASIS.

It is expected to obtain permission from surface owners of the eastern part of the license to continuous the geophysical mesh of that area.

Topographic Surveys

The surveying work in the required area were generally made by GARMIN GPS-map76CSx using 22S SAD 69 datum, more specifically in the readings of the locations of geological points, soil, rock and channel sampling, as well as a record of geophysical readings. These points were transported to ArcGis database for mapping production and interpretation. In open loop for magnetometric, geophysical and soil geochemistry were used Bruntom compasses and tape for opening lines and used theodolites for moorings the limits of baseline and points along this. Including the base mesh and its extensions, were opened about 300 km of lines.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Diamond Drilling

Fourteen preliminary boreholes were scheduled around the mining pit artisanal mine of Zé Padeiro, Barbosa and Maria do Arraiá, all of the inside farm Capri (about 2100 meters). These holes are trying to get results in depth based on previous work done at these sites. The drilling machine used was a Longyear 38 and testimonials are NQ in size.

Environmental Studies

The artisanal mine Carrapato, situated in the center of the license, occupying the Homônimo's valley, was very active in the heyday of the '80s, with the presence of thousands of artisanal miners, evolved into mining of quartz veins in saprolite and now has only a few artisanal miners. The big activity of the years of frenzied gold mining activity left an important degradation of vegetation, soils and local hydrological system.

The company of environmental studies Keystone Ltda., Belém, Pará, was contracted to perform an Environmental Control Report (CAR) and environmental audit of degraded areas of Carrapato River, documenting the environmental degradation on these activities. The RCA was submitted in December 2006 to the Secretary of Industry, Commerce and Mining (SEICOM) of Para.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

9. Evaluation of the Results

Soil Geochemistry

There was an initial concern in mapping the distribution of previous artisanal mining works carried before the extensive soil geochemical coverage due to contamination of such works in the local environment. It is estimated, for example, that the bed of all streams is disturbed by artisanal mining works, and the soil in the vicinity of these works contains some cover of mined material.

The results of soil sampling in the area are those related to the first recognition phase and present significant results. It was discovered the presence of gold anomalies associated with some iron formations.

Rock Geochemistry

The most significant results in rock sampling are related to the channel sampling channel of Zé Padeiro and Fofoca. Major amounts presented levels from 1308 to 1585 ppb gold in the pit of Zé Padeiro and from 1188 to 1618 ppb gold in the pit of Fofoca. Samples type "chip sample" showed only isolated results, with the best coming from quartz veins with sulphides which managed the most isolated of 1400 ppb gold.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

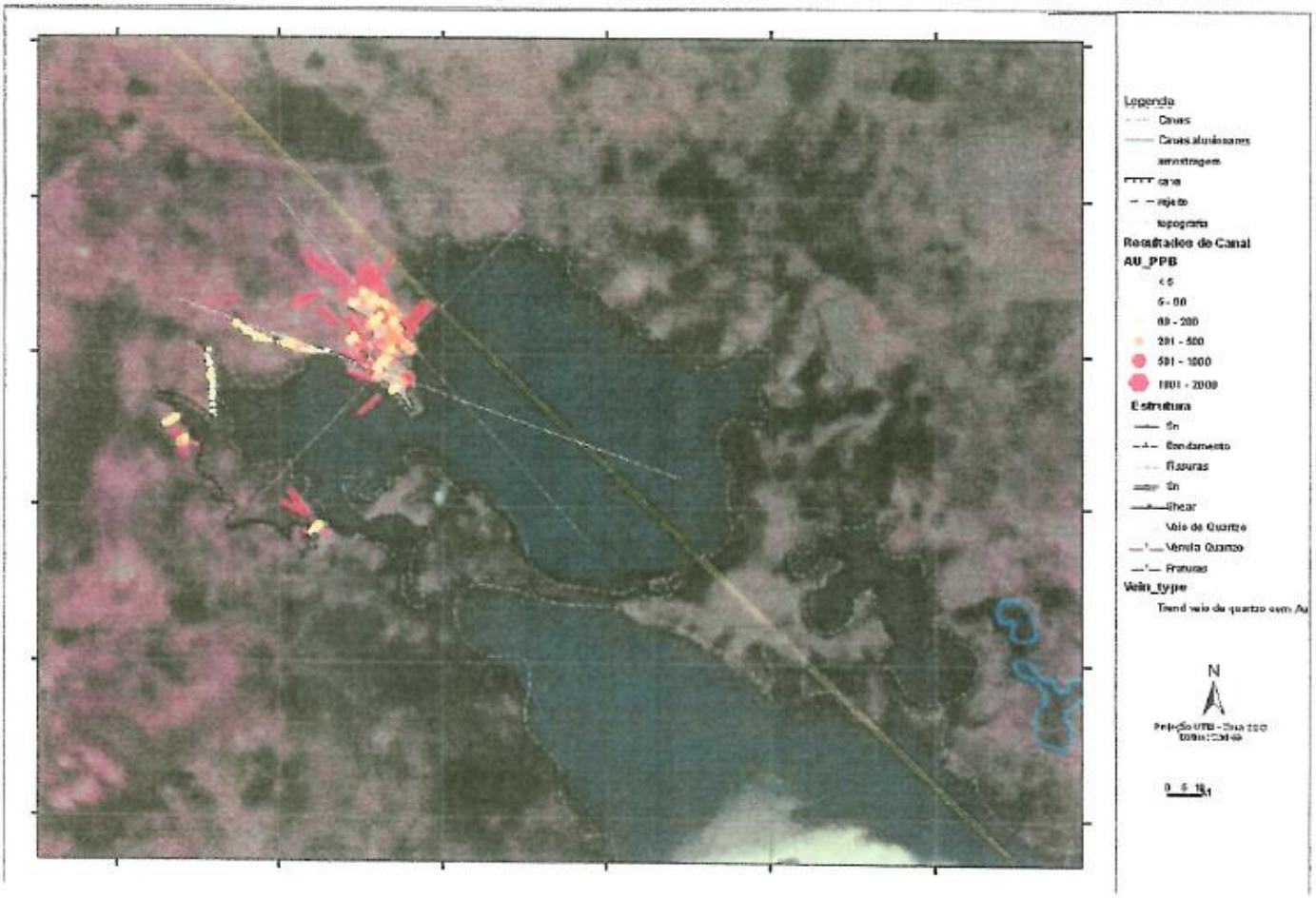

Image 14: Channel sampling of the artisanal mine of Zé Padeiro

Ground magnetometer geophysics

The results obtained so far, are those initially raised by FUGRO, which essentially showed strong magnetic anomalies (total field and analytical signal) directed according to a NW-SE trend, consistent with the regional structure and distribution of contacts between major rock types in the area. This dataset is being considered in the implementation of the drilling program that is being executed and directing work details.

The data obtained show that the area is cut by a structure of approximate direction of N110W. This structure is very magnetic anomalies exceeding 1000 nT which can be interpreted as basic dykes and / or banded iron formations (BIFs). In the northwest portion of the mesh stand at least seven very intense magnetic anomalies. The figure below shows the views in plan and profile of the modeled magnetic source.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

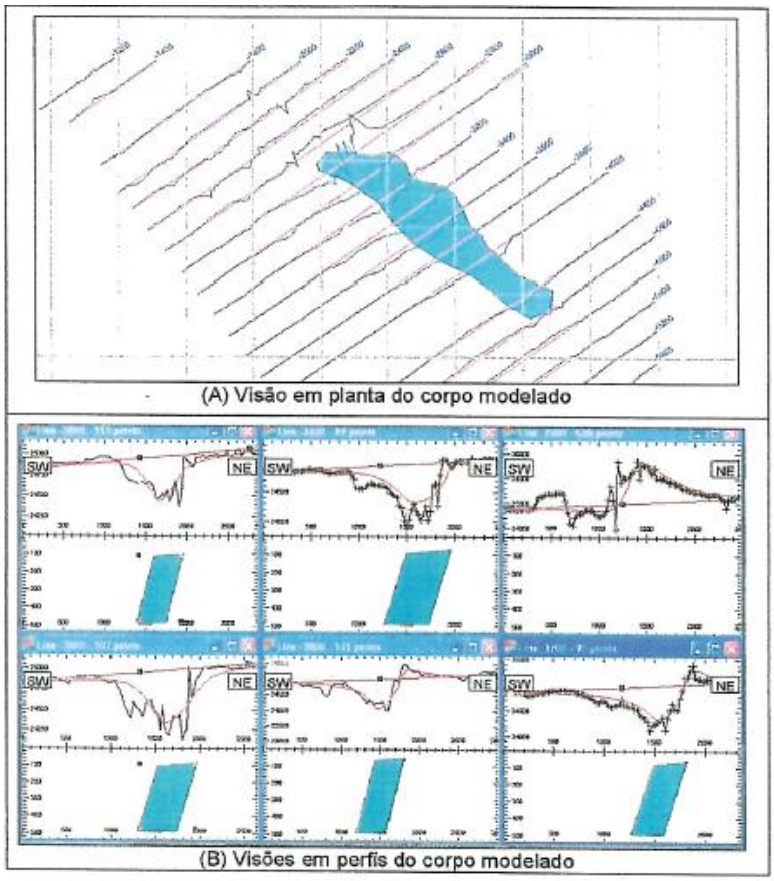

Image 15: Modeled magnetic source (ANJ01) in plan view (A) and lateral view (B)

Target ANJ01

Description: extensive magnetic anomaly (2.3 km towards NW by 0.65 km in NE direction) and intense (> 1500nT) defined by low magnetic. The modeling showed that the source is sub-outcropping (~ 40 meters). Although be modeled by a single body, most likely the anomaly is generated by more than one magnetic body.

Geochemistry: We analyzed 15 samples of soil collected on the area of anomaly. The samples to SE show more interesting values of gold and nickel, reaching 414 ppb Au and 1138 Ni. Copper values in this southern portion are always below 150 ppm.

Geology: the NE portion of the anomaly has been mapped as BIF.

Recommendations: detailing the anomaly with geochemical soil sampling preferably performed in magnetometric lines. If you set up an anomalous geochemical zone, program IP and auger to help define the ideal point of direct drilling.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

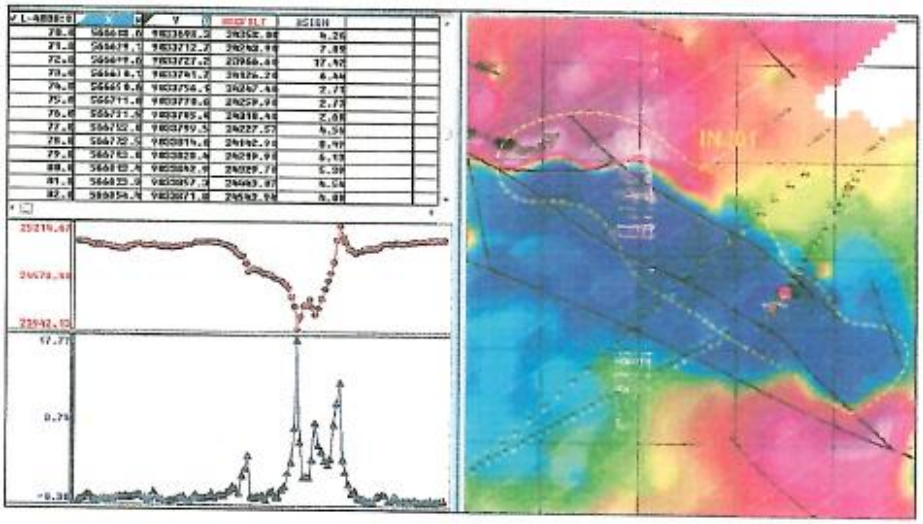

Image 16: Target ANJ01

Target INJ02

Description: Restricted magnetic anomaly (~ 200 m radius) defined by an intense magnetic high of 1250 nT amplitude, probably reflecting strong magnetic reminiscent of cause source. This anomaly is located in a zone of confluence of structural and magnetic lineaments break.

Geochemistry: no geochemical data on the magnetic zone.

Geology: There are no geological spot upon the magnetic anomaly.

Recommendations: conduct a geological reconnaissance of the anomaly and geochemical sampling preferably performed in magnetometric lines. If geochemistry is positive, lead IP aiming the precise location of the best point for direct drilling.

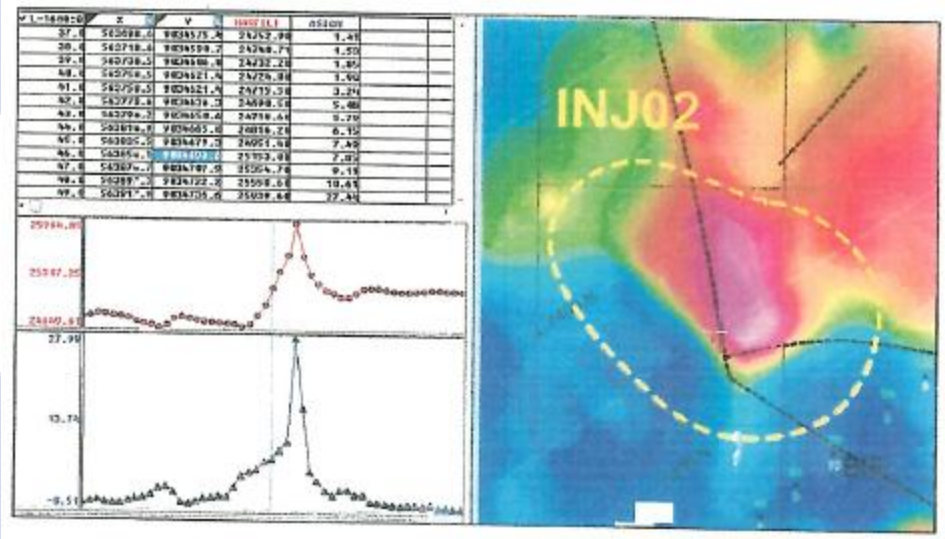

Image 17: Target ANJ02

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Target ANJ03

Description: this target consists of five defined magnetic anomalies, low type, with intensities greater than 1000 nT.

Geochemistry: no geochemical data.

Geology: about the magnetic source on the NE, there are two spots with BIFs.

Recommendations: extend the magnetometry mesh to NW. Make the geological recognition for each of the five meshes. Conduct geochemical soil sampling on magnetometry lines. If it is defined anomalous zones, lead IP to prioritize the anomalies and to define the best drilling points.

In conclusion, geochemical grid has at least seven very strong anomalies that must be correlated mainly to banded iron formations (BIFs) and the subordinated to mafic and ultramafic suites. These anomalies were selected and should be detailed by geochemistry and geology of detail. Perhaps the model that best applies to the mesh is gold deposits associated with banded iron formations (BIFs).

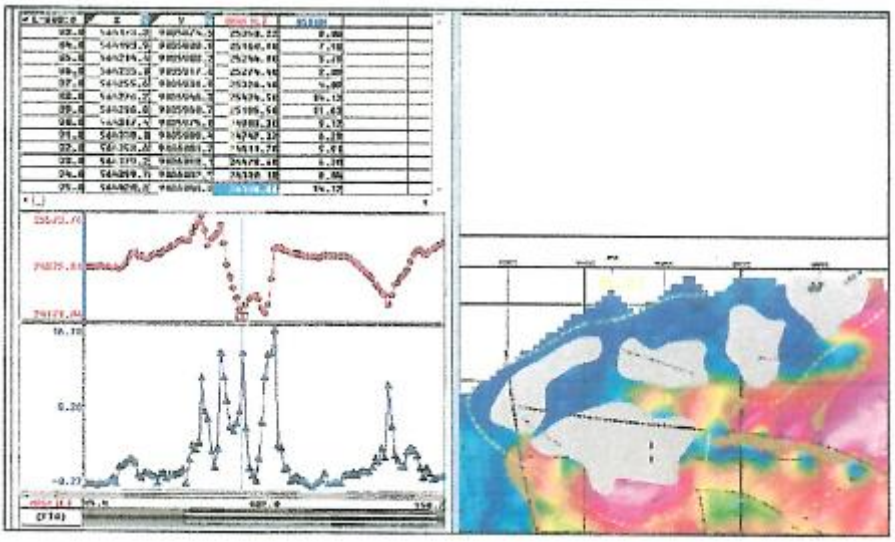

Image 18: Target ANJ03

Diamond Drilling

The first holes are being made inside the mine artisanal mine of Zé Padeiro, trying to seek confirmation of the extent of the quartz veins with gold at depth, further defining the zone of hydrothermal alteration where they are seated. The first holes show a dominant medium to coarse tonalite, with bands of hydrothermal alteration, predominantly chlorite, epidolito and potassium, with a good presence of disseminated pyrite associated with venulations quartz, confirming the geological context detected during the geological mapping, channel sampling and chip sample.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Image 19: Borehole DH01 - testimony NQ of the target Carrapato, Zé Padeiro

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

10. Justification for Further Works

The initial interest in mineral exploration in the area under consideration is the set of lithologies and geological structures considered very favorable to gold mineralization and the presence of large artisanal mines that worked with great intensity in the 80's, at Zé Padeiro, Barbosa, Maria do Arraia (Capri Farm) and Fofoca (Flamboyant farm). The support given by analytical results with the confirmation of magnetic anomalies and the geological context of the first boreholes, the mineralization potential of this area will be highly reinforced. Based on these data and the interest of the company to follow with exploration works that can define a mineral deposit in this area, it is justified the continuation of the works.

Obtaining access to the eastern part of the license will be essential for the completion of the exploration, since there is the continuation of the trend considered mineralized in the regional context, extending for miles in that direction. Several friendly discussions are being made with the surface owners. Further work in this area would be magnetometry, soil geochemistry, and boreholes, mainly to test the successful channel sampling results of Fofoca (which remains inaccessible at Flamboyant Farm).

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

11. Additional Work Program

Exploration Methodology

Additional planned exploration works aim to make a definitive diagnosis of the area, continuing the existing ones. Special attention should be concentrated in certain lithologies, such as iron formations, considered a big potential for gold mineralization, mainly in contact with other lithologies (mafic volcanic rocks and tonalite).

The completion of certain exploration work will depend on definitive agreements with the surface owners, especially in the eastern part of the license (Flamboyant Farm).

Topographic Services

All entries will continue to be raised with instrumentation allowing accuracy georeferencing, including differential GPS, total station and other related instruments.

Geological Mapping

The lithologic units and structures of interest will continue to be mapped with an appropriate scale (1:5000), which will show the evidence of hydrothermal deformation and brittle alteration. Mapping will be continued in the extension lines of the geophysical mash, seeking to associate lithology versus magnetic anomalies.

Soil Geochemistry

The sampling work needs to be continued over the sampling lines for reading the geophysical data and extensions, with more detailed coverage where the magnetic anomalies are more favorable for gold ore, with collection every 25 meters on lines spaced 200 meters. In the extensions of the mesh, both to NW and to SE the samples will be collected every 50 meters. The sampling will be carried out with hand augers type clamshell and / or dredges to depth until reaching the base of the mottled zone of the laterite profile.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

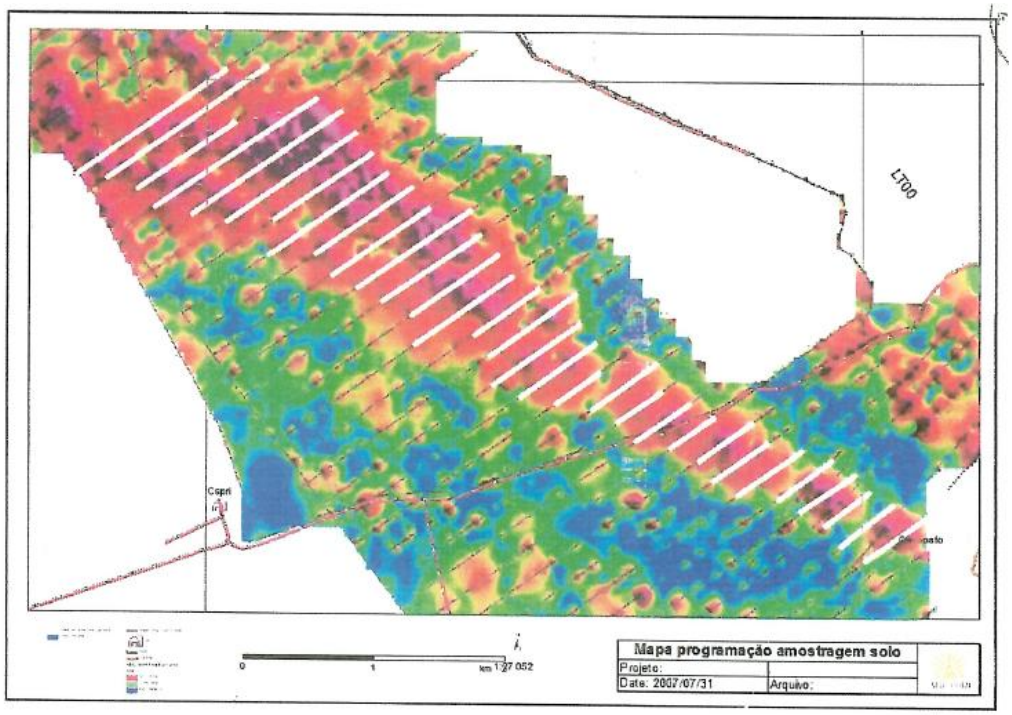

Image 20: Map of the soil sampling program

Table 1: Proposed Soil Sampling Program – Carrapato's Mesh

Line	From	To	total(m)
LT2000	0	1400	1400
LT2200	150	1650	1500
LT2400	300	1200	900
LT2600	300	1800	1500
LT2800	500	1900	1400
LT3000	700	1900	1200
LT3200	1000	1900	900
LT3400	800	1900	1100
LT3600	1100	2000	900
LT3800	1100	2000	900
LT4000	1200	2250	1050
LT4200	1300	2200	900
LT4400	1400	2200	800
LT4600	1300	2200	900
LT4800	1700	2300	600
LT5000	1700	2500	800

Line	From	To	total(m)
LT5200	1600	2400	800
LT5400	1700	2400	700
LT5600	1900	2300	400
LT5800	2100	2700	600
LT6000	2200	2600	400
LT6200	2200	2700	500
LT6400	2400	2800	400
LT6600	2500	3000	500
LT6800	2500	3000	500
LT7000	2600	3200	600
LT7200	2800	3300	500
LT7400	2900	3400	500
LT7600	2900	3400	500
LT7800	3000	3600	600
LT8000	3000	3700	700
LT8200	3000	3800	800
			16750

Total of original samples = 1030

Control samples DP/Rep = 52

Total = 1082

Estimated time = 20 days (one team)

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

Litho Geochemistry

Samples of saprolite and fresh rocks of the lithologic units of interest continued to be collected to determine anomalies of typical elements of hydrothermal alteration and metal content. Samples will be collected during the geological mapping of the lines of geophysical mesh or possibly during the detailing of the pit.

Geophysics

Magnetometric readings will be continued in the mesh extensions, in addition to the 180 km of extended lines that were planned. It is indicated the development of profiles of induced polarization (IP) about anomalies favorable potential.

Diamond Drilling and Geological Modeling

The drilling program will be continued in this first phase, until it reaches the 2100 meters planned. It is expected a collection of approximately 1200 samples for chemical analysis. If the initial results of the exploration look promising, will be elaborated a program with detailed drilling mesh with the objective to evaluate and cube the intersected mineralized bodies, including being able to be extended surrounding areas, following the track of the anomalous behavior of interest.

Environment Studies

It will require the preparation of a full environmental impact study (EIS) if the results of the exploration works show favorable.

Preparation of the Final Report of Mineral Exploration

This report contains the results of all related works and studies, demonstrating its findings and making recommendations on the possible extraction of minerals found.

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111

12. Budget and Execution Schedule for Additional Works

Table 2: Estimated investment to be done in the next three years

Activity	Price (R$)
Topographic survey and mesh opening	35,000
Soil geochemistry (phase 2)	25,000
Soil geochemistry (phase 3)	40,000
Litho-geochemistry	15,000
Ground geophysics (mag and IP)	100,000
Trenches (200m) and analysis	27,000
Diamond drilling (2000m), analytics, etc.	800,000
Diamond drilling (8000m), analytics, etc.	3,200,000
Geological modeling and reserve calculation	65,000
Compensation to surface owners and infrastructure	35,000
Processing tests	75,000
Environmental studies (initial phase)	30,000
Environmental studies (finals)	150,000
Technical and administrative support	450,000
Transportation and food	80,000
Final Report	10,000
Eventual (10%)	513,700
Total	5,650,000

Table 3: Sequence of activities to be performed during the next three years

Activity	Year 1	Year 2	Year 3
Ground geophysics	X		
Topographic survey and mesh opening	X		
Geochemistry of soils (phase 2)	X		
Geochemistry of soils (phase 3)	X	X	
Lithogeochemistry	X	X	
Environmental studies (initial phase)	X	X	
Trenches (200m) and analysis	X		
Diamond drilling (2000m), analytics, etc.	X	X	
Diamond drilling (8000m), analytics, etc.		X	X
Geological modeling and reserve calculation			X
Beneficiation tests			X
Environmental studies (finals)			X
Final Report			X

www.cme7.com.br
345, Luiz Paulo Franco Av. – 1st floor – CEP 30320-570 – Belo Horizonte, MG – Brazil
Tel.: +55 31 3282-3232 Fax: +55 31 3286-5111