

# **QUARTERLY ACTIVITIES REPORT**

For the period ended 31 March 2012

# FOR THE QUARTER TO 31 MARCH 2012

#### HIGHLIGHTS

- During the quarter BMG took a significant step forward in its strategy to complement its existing large scale iron projects in Northern Minas Gerais with smaller, high grade projects with near term production potential, through its agreement to acquire 100% of the Carrapato iron deposit ('Carrapato Project')
- The Carrapato Project is situated in the iron quadrilateral region close to Belo Horizonte:
  - it is an extension of the Itaminas Sarzedo mine and adjacent to Vale's Corrego do Feijao mine, with continuity of the mineralisation a delineation of a significant iron ore deposit; and
  - has proximity to domestic steel mills and rail infrastructure to provide future domestic or export options for early development of a low cost iron ore operation
- Metalurgical testwork and pre-feasibility work continued for the Gema Verde and Rio Pardo Projects

# CARRAPATO PROJECT

In March 2012 BMG reached an agreement with Larf Consultoria e Administracao Ltda to acquire 100% Carrapato Project in the Quadrilátero Ferrífero (Iron Quadrilateral) close to Belo Horizonte, Minas Gerais State, Brazil.

The Carrapato Project adjoins and is an extension of the Sarzedo mine currently operated by Itaminas. The Sarzedo mine has a reported resource of 1.3 billion tonnes and was recently sold to Chinese state-backed East China Mineral Exploration and Development Bureau (ECE), for \$1.2 billion. The Carrapato Project is also immediately adjacent to Vale's Corrego do Feijao Mine which produced direct ship iron ore at a grade of 66.6% Fe. Continuity of the mineralisation from the Sarzedo and Corrego do Feijao Mines into the Carrapato Project is confirmed and a significant iron ore deposit delineated.

The Carrapato deposit has been drilled with diamond coring in 28 holes for a total of 2,393.5 metres on 100 metre sections. The Project has an Exploration Target<sup>\*</sup> of 53 to 62 million tonnes at 35.2% to 41.1% Fe including a high grade zone at surface of 3.7 to 4.3 million tonnes at 51.1% to 59.7% Fe. Subject to satisfactorily completing its due diligence, the Company plans to progress the feasibility assessment and an application for a mining and environmental permits to allow an early commencement of production.

This acquisition is a significant step in the Company's strategy to complement its existing large scale Iron projects in Northern Minas Gerais with smaller scale, high grade projects with near term production potential. The Company is also currently reviewing other opportunities in the region that meet these criteria.

#### The Terms of the Agreement

The Company has agreed to acquire the Carrapato Project for US\$38m payable over 4 years, subject to a 4 month evaluation period during which the Company will undertake due diligence.

Exploration in Brazil historically is not undertaken or reported in accordance with the JORC Code and the Company will undertake infill drilling and supplementary analysis if necessary during the evaluation period to enable the Company to estimate a Mineralised Resource on the Carrapato deposit.

If BMG elects to proceed with the acquisition following the evaluation period, BMG will pay the vendors in stages over 4 years, with the bulk of the acquisition price being paid at the end of the period (US\$22m). The Company will also retain a right to withdraw from the project at any time without the obligation for further payments, and will retain a pro-rata interest in the project for any payments already made.

The first payment of US\$3m will follow the finalisation of the definitive sale documentation (DSD) within 1 month after the evaluation period. The next payment of US\$3m will be due 8 months after the DSD; then US\$5m 20 months after the DSD; US\$5m 26 months after the DSD; and the final payment of US\$22m 44 months after the DSD.

#### **Project Area**

The project area is located in a rural setting on the south western outskirts of Belo Horizonte. The tenement is immediately north of Vale's Corrego do Feijao mine. The tenement is also along strike from Itaminas' Sarzedo mine which has recently been sold to Chinese state owned interests.



Location of Carrapato Tenement, Itaminas Sarzedo Mine to the east; Vale's Corrego do Feijao mine to the south. The tenement is about 1000 metres wide east-west.

#### **Tenement Status**

The tenement is held under DNPM Process (Exploration Licence) 830.094/2006 which covers 47.14 hectares and was granted on January 20, 2006.



Exploration Licence 830094/2006 – The Carrapato Project Mining Licence 3035/1963 – Itaminas Sarzedo Mine Mining Licence 4757/1940 – Vale S.A - Corrego do Feijao Mine Other tenements held by Vale S.A.

# **Regional Setting**

The mining district of the Quadrilátero Ferrífero (Iron Quadrilateral) in south eastern Brazil contributes to 70 per cent of the Brazilian iron ore production. Traditionally, four iron ore types were mined in the Iron Quadrilateral region:

- 1. soft haematite,
- 2. hard haematite,
- 3. friable 'itabirite' (the Brazilian name for metamorphosed banded iron formation), and
- 4. canga (an indurated iron-rich crust).

With the exception of the hard haematite, these categories are derived from supergene enrichment of the Paleoproterozoic Cauê Formation (itabirite) and the overlying Gandarela Formation (carbonatic itabirite). These units are exposed over a continuous strike length of many tens of kilometres in a series of structures that collectively define a larger synclinorium. The iron ores of the Itabira district occur both as hard 67% grade Fe hematite and as friable 35 – 50% grade Fe itabirite. The ore bodies are often covered by canga (lateritic material) and detrital deposits.



Location and Geological Map of the Quadrilátero Ferrífero, Minas Gerais, Brazil

# Local Geology

The main lithologies present in the Carrapato deposit are soft itabirite of the Cauê Formation, and dolomites and weathered iron-manganese formations of the Gandarela Formation, in addition to Tertiary argillaceous sedimentary deposits, cangas and soil coverage.

The extended Carrapato deposit including the Itaminas Sarzedo deposit occurs continuously over several kilometres with a strike length of 1 km within the tenement. In this region, the Cauê and Gandarela Formations are oriented east-west varying to over 500m thick.



Local Geology of the Carrapato Project

The adjacent Itaminas Sarzedo deposit is being actively mined a few kilometres along strike from Carrapato. Current production from Sarzedo is 3 mtpy for delivery to local steel mills. The Sarzedo mine has a reported resource of 1.3 billion tonnes and was recently sold to Chinese state-backed East China Mineral Exploration and Development Bureau (ECE), for \$1.2 billion. News reports indicate the mine has the capacity to produce 25 mtpa.

Vale's Corrego do Feijao has been mined up to the Carrapato tenement southern boundary with a reported reserve in 2009 of 35 million tonnes at 66.6% Fe remaining. The mine is currently inactive on care and maintenance status.

# **Diamond Drilling**

Twenty eight diamond drill holes have been completed on the project for a total of 2,393.5 metres. One hole (FS-8) was found to have been drilled outside the tenement boundary. The deposit was mainly drilled on 100 metre sections to an average depth of 85 metres. Four holes were drilled into the Caue Formation from elevated sites approximately 100 metres above the lower cangas and detritals. There is scope to extend the drilling in the southern part of the tenement to test this zone at depth. Ten other holes were completed in good grade mineralisation at the end-of-hole. A table of drill hole locations is included at the end of this announcement.



Location of Diamond Drill Holes

#### **Results of the Drilling**

A table of significant intercepts was compiled from the assay results using a lower cut off of 35% Fe. Every hole intersected high grade mineralisation mostly from the surface with a weighted average grade for the 28 drill holes of:

# • 44.0% Fe, 23.4% SiO<sub>2</sub>, 5.1% Al<sub>2</sub>O<sub>3</sub>, 0.06% P and 6.6% LOI

The significant intercepts were drawn from a data base of 276 assays distributed as shown in the following graph. Approximately 31% of the assay values for Fe were above 40% and 13% above 50%.



All intercepts are measured down hole. There is insufficient evidence at this stage to determine the dip of the strata but mineralisation is interpreted to be continuous across the strike and the contacts steeply dipping. A table of intercepts above 35% Fe in included at the end of this announcement.

A zone of higher grade iron mineralisation at surface is present on the eastern side of the tenement which will be suitable for start-up production. The significant intercepts for the zone are as follows:

SUMMARY OF HIGH GRADE INTERCEPTS									
Hole no.	From	То	Length	%Fe	%SiO <sub>2</sub>	%Al <sub>2</sub> O <sub>3</sub>	%Р	%LOI	
FS-5	0.00	17.70	17.70	47.78	10.89	11.37	0.069	8.48	
FS-6	0.00	26.55	26.55	52.99	7.99	7.96	0.058	6.90	
FS-7	0.00	13.05	13.05	49.72	7.70	11.97	0.085	7.66	
FS-9	0.00	9.65	9.65	53.49	4.72	8.10	0.048	9.75	
FS-10	0.00	5.85	5.85	58.00	5.53	6.11	0.046	5.30	
FS-12	0.00	8.15	8.15	57.28	4.15	6.70	0.075	6.46	
FS-13	0.00	31.80	31.80	56.89	3.62	4.36	0.048	10.35	
FS-16	0.00	5.00	5.00	57.09	5.22	7.67	0.083	4.65	
FS-18	0.00	18.20	18.20	55.86	3.43	4.65	0.040	8.97	
FS-28	0.00	3.85	3.85	57.52	5.82	3.56	0.063	8.19	
Weighted Average Grades				54.05	6.03	7.24	0.058	8.29	



Carrapato Project area looking south across the high grade zone. The Corrego do Feijao mine is on the far side of the hill.

# **Exploration Target**

The geological model used to define the Exploration Target of the Carrapato Project is based on a wireframe model constructed in Micromine. This model was used to validate the geological model based on 10 vertical geological sections produced by Larf. The lithologies modelled were those corresponding to ore types recorded in the Serra Azul area.

Four mineralised domains combining lithology and hardness were defined:

• Detrital iron rich material overlying the Gandarela Formation and parts of the Caue Formation.

- Lateritised Canga material in the weathered zone.
- Moderately Friable Cauê Itabirite (Siliceous).
- Gandarela Itabirite and Colluvium (Carbonate).

This is a fairly simple model and consistent with other mines on the Serra Azul. The lower elevation limit for the original resource calculation was determined from the cross-sections and a topographic surface plane (DTM) was created in Micromine.

The interpreted lithological boundaries and mineralised zones were transcribed into Micromine. These zones were then wireframed to complete three dimensional volumes. The colluviums and lateritic zones were wireframed together, as was the +35%Fe mineralised horizon.

These two wireframed mineralised zones were then cut to the surface DTM, lower boundary DTM and the tenement boundary. The wireframes were electronically and visually validated. Density values were researched from documents relating to the MMX's deposit 20 kilometres to the south west on the Serra Azul range in the same stratigraphic units.

MMX conducted three programs of density measurements at its project. The sand flask method was used for the friable lithotypes and the water displacement method for the competent lithotypes. Average values were calculated with and without outlier values by lithotype. The densities (tonnes per cubic metre) by lithotype for the MMX deposit are as follows:

•	Friable Itabirite	2.70	Ore
•	Compact Itabirite	3.40	Ore
•	Mineralized Canga	2.82	Ore
•	Friable Carbonate Itabirite	2.09	Ore

These values were then averaged proportionally to the lithologies encountered in the Carrapato geological interpretation. A value of 2.6 tonnes per cubic metre was applied to the colluviums/laterite zone, and a value of 2.4 tonnes per cubic metre was applied to the mineralised itabirite zone. A wireframe volume and tonnage report was produced.

An estimate of the material inventory within the tenement boundaries was based on the 27 drill holes excluding FS-8. The weighted average grade of the drill intercepts was calculated based on intercept length. A range of grade and tonnage estimated was compiled by considering a lower cut off of 25% with a range of +5% and -10% with densities consistent with the nearby MMX mine. The calculations were reviewed and the estimate is considered to represent an Exploration Target\* in accordance with the JORC code.

# • Exploration Target\*: 53 to 62 million tonnes at 35.2% to 41.1% Fe

The Exploration Target\* includes a high grade zone at surface which will be sufficient to support the first few years of production under the current plan. The high grade zone is estimated to be:

# • High Grade component: 3.7 to 4.3 million tonnes at 51.1% to 59.7% Fe

The exploration targets are estimated from geological information including drill holes, outcrops and geological information and are shown as a range. While the Company remains optimistic that it will report resources in the future, any discussion in relation to exploration targets or resource potential is only conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource. Mr Malcolm Castle, a Member of the AusIMM, reviewed the information relating to the estimation of Exploration Targets and is satisfied that it fairly represents the scope of the deposits. He has sufficient experience relevant to the style of mineralization and type of deposits under consideration to qualify as a Competent Person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (The JORC code).

#### Infrastructure

The Carrapato deposit is 9 kilometres by road from the Sarzedo Multi-use Load Terminal which has facilities to load iron ore on the MRS rail system for transport to a coastal port. This provides easy access for the export of iron ore as the project develops.

The infrastructure and access to the domestic steel market around the Carrapato project is excellent with an experienced mining workforce amongst a population of over 2.3 million people, contract mine operators, excellent infrastructure (including an international airport) and over 100 pig iron smelters within less than 180km radius of the project.

Brazil's installed steelmaking capacity, among the most advanced in the world today, comprises 25 mills, 11 of which are integrated with iron ore mining, and another 14 are mini-mills (recycling ferrous scrap feedstock), administered by seven corporate groups. Integrated mills currently account for 74% of all Brazilian steel production, with mini-mills producing the remaining 26%. Total Brazilian installed capacity amounts to 36 million tonnes of crude steel per year, 94% of which is produced by strip casting.

Nine large steel mills and over a hundred smaller mills draw feed from the many mines that operate within the region. Iron ore and steel are also transported by rail to ports near Rio de Janeiro and Vitoria from where it is shipped throughout the world. Several domestic steel mills are in the vicinity of the Carrapato Project and supply to these mills will be assessed during the pre-feasibility studies.

#### Conceptual development plan and start-up

The conceptual plan for the development of Carrapato will be based on a lower cut off of 25% Fe. Significant elements for the Project include the following:

- The mineralisation extends from the surface with no overburden waste.
- Internal waste within the mineralised envelope represents about 10% of the volume at grades of 10% to 20% Fe and could be blended with the mineralised zones.
- Half the holes drilled in the deposit were completed with strong mineralization at the end-of-hole suggesting further mineralisation will be available beneath the current envelope.
- The high grade zone represents a coherent unit with sufficient capacity and consistency to support early mining.
- Parts of the high grade zone are considered to be DSO grade in the current market.

BMG intends to complete a pre-feasibility study and enter a pre development phase as soon as possible with an application for a 'Special Mining Permit' based on a Mineral Resource estimated in accordance with the JORC code and preliminary feasibility test work.

Initial production conceptual targets are 300,000 tonnes per annum to the domestic market ramping up to 2.0 million tonnes per annum when the full mining concession is granted. Export options will be considered at that time. The DNPM may grant a Special Mining Permit prior to the granting of the full Mining Concession with a gross production of up to three hundred thousand tonnes per year to allow detailed feasibility studies to continue and marketing of test parcels to prospective off take partners.

A review of the publicly available NI43-101 report on the MMX mine 20 km to the south west suggests the operating costs for the Carrapato deposit will be in the range of \$3 to \$4 for mining, \$2 to \$3 for processing the 50% to 60% Fe material and \$5 to \$6 for the 35% to 45% Fe material, and \$4 to \$5 for transport and loading to domestic steel mills. Transport to the port would add additional cost and will be evaluated further during pre-feasibility.

The Serra Azul area has been in production for many years and treatment plants may be available for toll treatment of the material. This will significantly reduce the need for capital expenditure. We anticipate that most of the activities will be carried out by contract miners and transport companies. The initial capital requirements to commence production are expected to be restricted to mine infrastructure and access roads.

#### **EXPLORATION PROGRESS AND OPERATIONAL MATTERS**

Surface evaluation of the tenements in the Granduvale package in the Rio Pardo area is continuing with surface mapping and surface sampling by hand-held XRF analyser in conjunction with the aeromagnetic interpretation prepared by Southern Geoscience. Reports have been prepared and further work planned for those areas with identified targets. A program of RAB drilling is being considered.

The preliminary process testwork on diamond drill samples examined the effect of desliming and floatation on the mineralised diamictites and further work on the magnetic separation of iron minerals from waste rock will be carried out to provide a valid beneficiation process route.

ENDS

# For further information please contact:

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#### **Competent Persons Statement**

The exploration targets are estimated from geological information including drill holes, outcrops and geological information and are shown as a range. While the Company remains optimistic that it will report resources and reserves in the future, any discussion in relation to exploration targets or resource potential is only conceptual in nature. There has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Malcolm Castle, who is a Member of the Australasian Institute of Mining and Metallurgy ("AusIMM"). Mr Castle is a director of Brazilian Metals Group Limited. He has sufficient experience relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Castle consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.