



ASX Release: 10 February 2021

Magnum to commence study into Direct Shipping Ore (DSO) operation at Buena Vista Magnetite Project

HIGHLIGHTS

- **The Buena Vista resource base contains significant zones of high-grade low impurity magnetite iron ore**
 - **Magnetite iron ore presents a growing alternative feed source for steel mills looking to reduce their carbon footprint**
 - **Magnum is to immediately commence a study to investigate the potential of these high grade zones to be upgraded to a high grade DSO product**
 - **Accelerated development at Buena Vista through the production of DSO provides an exciting opportunity for Magnum to benefit from the bullish outlook for iron ore and in particular the growing recognition of magnetite as the “green” iron ore**
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Magnum Mining & Exploration (“Magnum” or the “Company”) is currently collating the extensive technical data base over the Buena Vista iron ore project prior to commencing the scheduled update of the historic feasibility study. This feasibility study is for the development of a long-life high-grade (+66% Fe) magnetite concentrate operation at Buena Vista which is located approximately 160km east-north-east of Reno in the state of Nevada, United States.

Buena Vista is an advanced magnetite iron ore project where in excess of A\$34 million has been spent on the project over the past decade.

Historical studies and permitting for the long-term production of a magnetite concentrate with no deleterious impurities have already been completed and just require updating to current cost structures and iron ore pricing.

As part of this data collation it was recognised that the Buena Vista resource contains a number of zones of massive high-grade magnetite that typically assay +55% Fe with minimal apparent impurities.

A review of the historical metallurgical test work over these massive high grade zones demonstrates that the material has the potential to be easily upgraded with a dry crush to produce **a high grade DSO quality product.**

As a result, and in tandem with the proposed updating of the feasibility study, Magnum has commenced a study into the establishment of a DSO magnetite fines operation from the high-grade magnetite zones located at Buena Vista.

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If such an operation is demonstrated to be both feasible and value adding, it is expected that a simple crushing and screening circuit could be utilised to upgrade the material to a premium or near premium magnetite fines product.

This simple processing circuit would require minimal capex relative to a high grade concentrate circuit and significantly cut the timeline to first production from the project.

Importantly the production of a DSO product would also provide the project with an opportunity to take advantage of the latest bank forecasts for ongoing bullish iron ore prices.



Figure 1: Massive magnetite outcrop

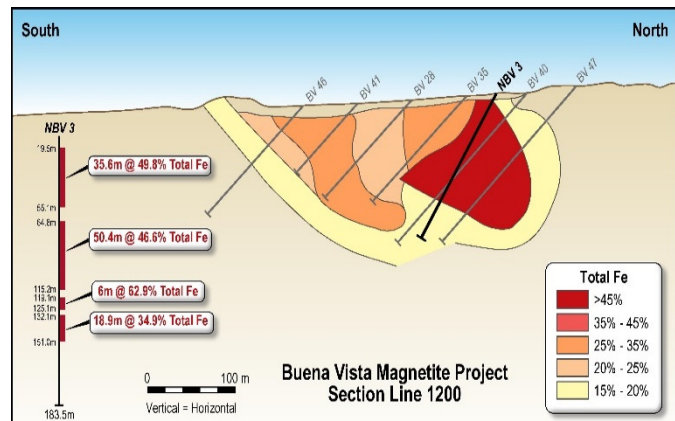


Figure 2: Section 1200 showing massive magnetite Zone

Any DSO operation would pre-empt the larger (wet) magnetite concentrate operation at Buena Vista and thereafter be integrated with this potential larger and long life high grade concentrate operation.

The Buena Vista project, which was discovered in the late 1890's, has a history of successful DSO operations.



Figure 3: Massive magnetite in drill core



Figure 4: Massive lump magnetite

As an example, in the late 1950's to early 1960's in the order of 900,000 tonnes of magnetite ore with an estimated grade of 58% Fe was produced and sold into, we understand, the US domestic and Asian markets.

It is expected that a ready market for a Buena Vista DSO product will be available, particularly as magnetite becomes more important as a low impurity and green iron ore alternative for steel mills looking to reduce their greenhouse gas emissions.

This announcement is authorised for release to the market by the Board of Directors of Magnum Mining & Exploration Limited.

Magnum Mining and Exploration Ltd

A handwritten signature in dark ink, appearing to read 'G. Button', with a stylized flourish above the first name.

Grant Button
Company Secretary

Competent Persons Statement

The information in this announcement that relates to Exploration Results, Mineral Resources and magnetite grades at Buena Vista complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr Howard Dawson, Non-Executive Director of Magnum Mining and Exploration Limited. Mr Dawson is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Dawson consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Mr Dawson has reviewed this announcement and considers all of the technical information provided to be an accurate representation of the Buena Vista project and the extensive technical work completed.