



## AEROMAGNETIC SURVEY TO MAXIMISE POTENTIAL OF BUENA VISTA

### HIGHLIGHTS

- J A high resolution, low altitude aeromagnetic survey has begun over Magnum's Buena Vista Green Pig Iron Project land holdings.
- J The survey will support detailed mineralisation and structural mapping of the Initial Mining Area to inform mine scheduling.
- J Magnetite target easily mapped by aeromagnetics allowing the Company to reconnoiter large areas swiftly.
- J Experienced and industry leading Precision Geosurveys out of British Columbia have been contracted to fly the survey using a helicopter platform
- J In excess of 1,400-line kilometres of data to be collected by the survey.
- J Data is expected to be available within weeks after the survey.

Magnum Mining & Exploration (ASX: MGU, "Magnum" or "the Company") advises that a high-resolution aeromagnetic survey of its Buena Vista Green Pig Iron Project is underway.

The survey is designed to cover Magnum's claims in and around the Buena Vista mine in Nevada, USA (Figure 1).

### BETTER DATA FOR A BETTER INTERPRETATION

Previous explorers had undertaken piecemeal ground magnetic surveys over parts of the Buena Vista mine area. These varied in quality and resolution, with line spacing of up to 400m. While these data give an idea of the general extend of the magnetite mineralisation that makes up the Buena Vista resource, they are inadequate to map out the features needed for mine planning and exploration target prioritisation.



Figure 1 - Buena Vista Green Pig Iron Project Location

Nevada State aeromagnetic data is wholly unsuitable for anything but the most regional of geological interpretations, with the data collected at a line spacing of over 3,000m.

The survey is being done at a line spacing of 50m and a sensor height of 30m. Approximately 1,400-line kilometres of data will be collected. This is a higher resolution survey covering a larger area than what has previously been completed.

The detailed data Magnum is collecting will allow a superior identification of lithology, structures, and magnetite mineralisation. Importantly, it will allow the construction of a 3D voxel inversion model that will guide exploratory drilling outside the currently estimated resources.

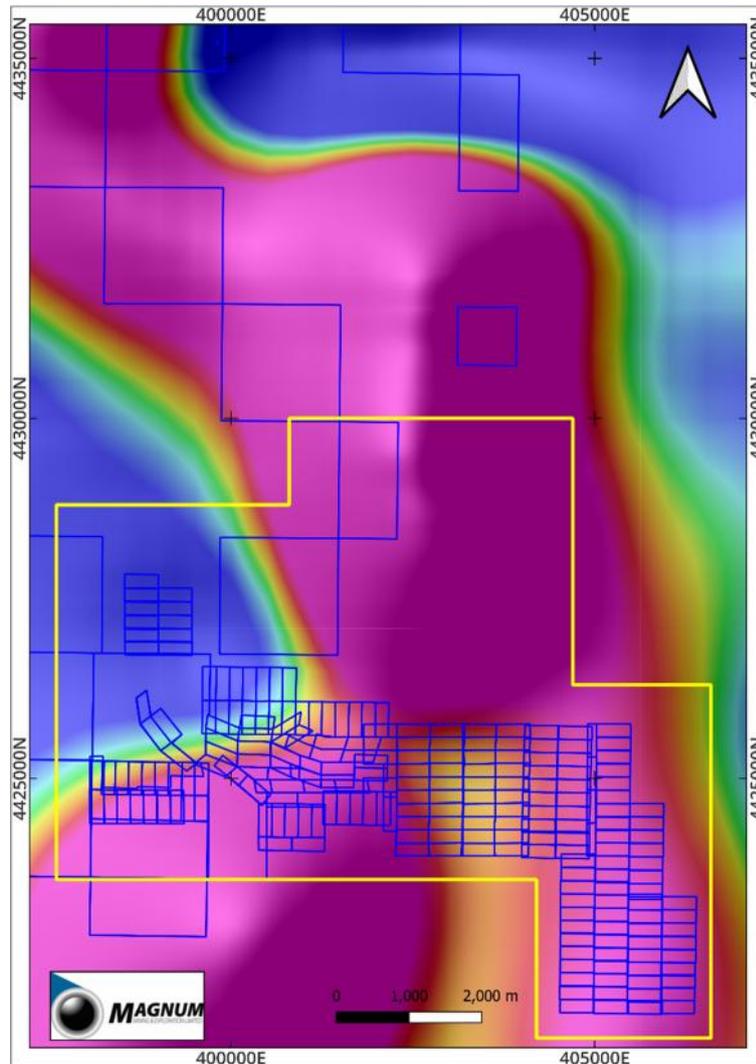


Figure 2 - Magnum's claims on state of Nevada aeromagnetic image. The area being surveyed with high resolution survey is shown in yellow.

Mr Neil Goodman CEO of Magnum, observed, "The data generated by this survey will provide a basis for resource expansion and ground sterilisation to support mine planning. Importantly, it allows the Company to efficiently and effectively assess prospects on our land holdings to prioritise for future drilling campaigns and further development".

### The Buena Vista Iron Deposit

Buena Vista Iron Deposit is located approximately 160km east-north-east of Reno in the mining friendly state of Nevada, United States. It was discovered in the late 1890s and in the late 1950s to early 1960s around 900,000 tonnes of direct shipping magnetite ore with an estimated grade of 58% Fe was mined.

In the 1960s, US Steel Corporation acquired the Buena Vista Project and carried out an extensive exploration program including 230 diamond drill holes and considerable metallurgical test work. Richmond Mining Limited, an ASX listed company, acquired Buena Vista in 2009 and commenced a detailed exploration program culminating in a definitive feasibility study in 2013. A key component of these studies was extensive investigation of the optimal logistics plan for the deposit's development. This included the negotiation of in-principle agreements with existing rail and port operators and the securing of all major mining permits. Detailed costings were completed on the trucking or slurry pipeline options to deliver the concentrate to the rail head located some 50 kilometres from mine site. A significant decline in iron ore prices to less than US\$50/ tonne caused the then proposed development of Buena Vista to be deferred.

### Geology

The Buena Vista Project magnetite deposits are the product of late-stage alteration of a localised intrusive local gabbro that resulted in intensely scapolitised lithologies and the deposition of magnetite. The most well-known example of this type of magnetite mineralisation is the Kiruna magnetite deposit in Sweden, which has been in production since the early 1900s.

The distribution and nature of the magnetite mineralisation at Buena Vista is a function of ground preparation by faulting and fracturing, forming a series of open fractures and breccia zones. These ground conditions produce variations in mineralisation types from massive pods grading +60% magnetite to lighter disseminations grading 10-20% magnetite.

Metasomatic magnetite deposits such as those at Buena Vista have important positive beneficiation characteristics over the other main type of magnetite deposit which is a banded iron hosted magnetite, also known as a taconite.

The Buena Vista ore is of magmatic origin and as a consequence is coarser grained and softer than banded iron hosted ores. Industry standard crushing, grinding and magnetic separation produces a concentrate grade of +67.5% Fe with very low levels of impurities.

### Resource

The current Mineral Resource Estimate (JORC(2012)) at Buena Vista (ASX:MGU 23 March 2021) is:

Category	Million Tonnes	Fe %	DTR %
Indicated Resource	151	19	23.2
Inferred Resource	81	18	22
Total Resource	232	18.6	22.6

*The company confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.*

In addition, an Exploration Target at Iron Point has been estimated (ASX:MGU 2022):

Category	Range Mt	Range Fe %
Exploration Target	19 to 32	15 to 25

*The potential quantity and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.*

### Development

Mining permits are in place to develop the Buena Vista Iron Mine. The Company has re-aligned the project from a simple mining, concentration and exporting model to a green pig iron producer. Using cutting edge technology in tandem with biochar sources, the Company is capitalising on a first-mover advantage to supply green pig iron to the USA steel industry.

## CAUTIONARY STATEMENTS

In accordance with ASX Listing Rule 5.3.2, the Company advises that no mining development or production activities were conducted during the March 2022 Quarter.

The Company confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates in the announcement of the ‘Maiden JORC Resources for the Buena Vista Magnetite Project’ dated 23 March 2021 continue to apply and have not materially changed.

The company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified.

## COMPETENT PERSONS STATEMENT – RESOURCE ESTIMATION

The information in this report that relates to Mineral Resources is based on information compiled by Mr Jonathon Abbott, a Competent Person who is a Member of the Australian Institute of Geoscientists and a full time employee of MPR Geological Consultants Pty Ltd. Mr Abbott has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the “Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves”. Mr Abbott consents to the inclusion of the matters outlined in Appendix A in the form and context in which it appears.

The company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified.

## COMPETENT PERSONS STATEMENT – EXPLORATION TARGET ESTIMATION

The information in this report that relates to an Exploration Target is based on information compiled by Mr Marcus Flis, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy and a full time employee of Rountree Pty Ltd. Mr Flis has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the “Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves”. Mr Flis consents to the inclusion of the matters outlined in Appendix A in the form and context in which it appears.

## BY ORDER OF THE BOARD

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29 September, 2022

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