MAGNUM MINING AND EXPLORATION LIMITED

SIGNIFICANT EXPLORATION TARGET DEFINED

HIGHLIGHTS

- Independently calculated Exploration Target Estimate has been derived for the Buena Vista Green Pig Iron Project
- The Exploration Target Estimate is based on modelling of a recently completed high resolution aeromagnetic survey
- Twenty-one targets defined, seventeen targets with no previous drilling
- Potential to grow the Buena Vista iron resource to be one of the largest in the western USA

Magnum Mining & Exploration (ASX: MGU, OTC: MGUFF) ("Magnum" or "the Company") is pleased to announce that a significant Exploration Target has been defined for its Buena Vista Green Pig Iron Project in Nevada, USA (Figure 1).

The Exploration Target Estimate is approximately **407 to 540 million tonnes at 15% to 22% iron (Fe)**, exclusive of the existing Indicated and Inferred Resources of 232Mt @ 18.6% Fe (JORC 2012), announced on 23 March 2021[1]). The potential quantity and grade of the Exploration Target Estimate is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource over the entire area of the Exploration Target, and it is uncertain if further exploration will result in the estimation of an increased Mineral Resource.

The Buena Vista iron resource consists of magnetite that ranges in grade from less than 10% Fe, the cut-off used in the resource estimation, to over 60% Fe.

Figure 1 Buena Vista Green Pig Iron Project Location, Nevada, USA

[1] Refer to ASX Announcement ''Maiden JORC Resources for the Buena Vista Magnetite Project' dated 23 March 2021.

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BASIS OF EXPLORATION TARGET ESTIMATION

The Buena Vista Green Pig Iron Project is covered by a high definition, helicopter-borne aeromagnetic survey, as announced on 7 November 2022 (Figure 2). This data is used to model the causative magnetic bodies that could give rise to the observed magnetic anomalies by dividing the earth into voxels. The voxels are assigned magnetic susceptibilities in an iterative manner until the theoretical magnetic anomalies caused by those susceptibilities match the observed ones.

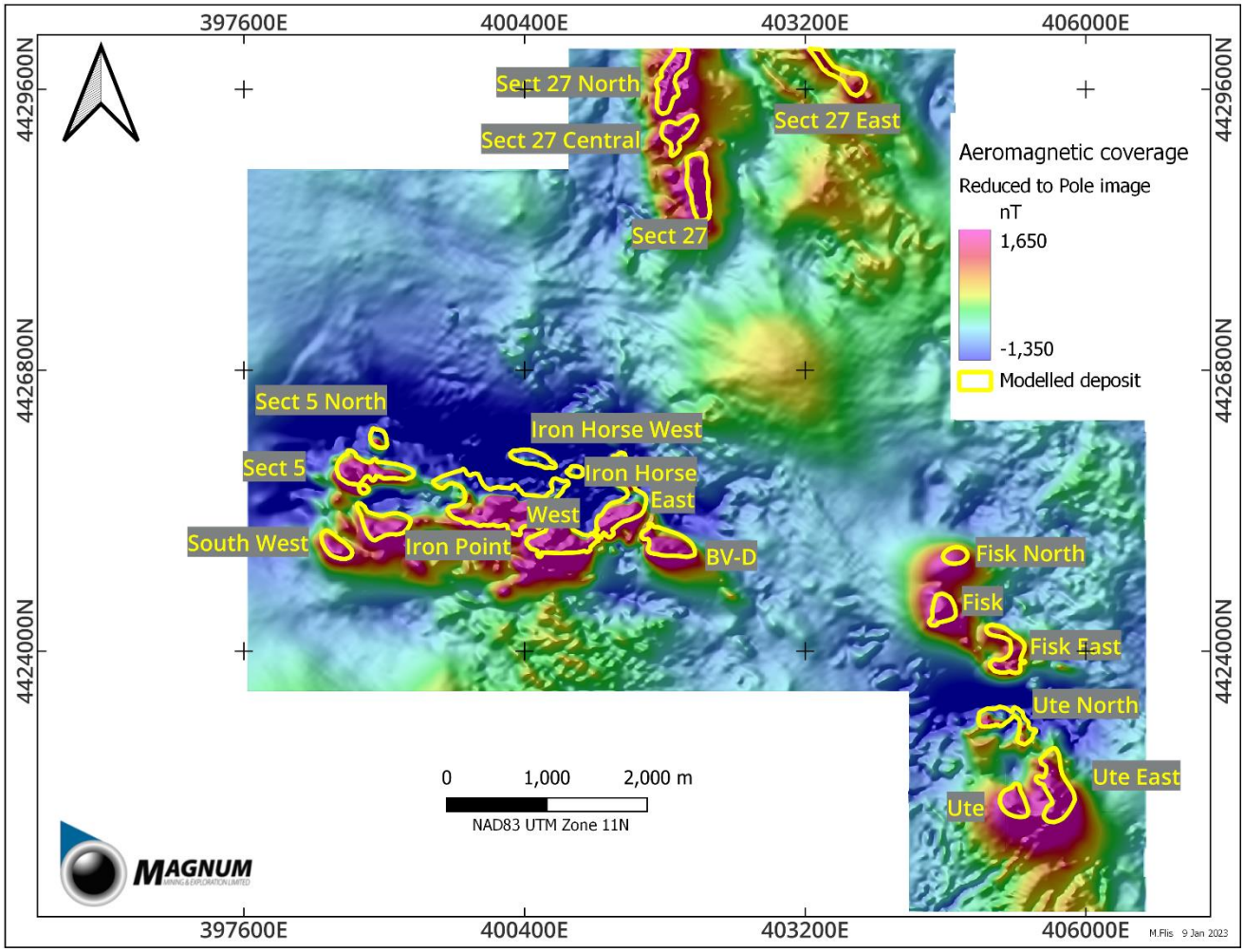

Figure 2 Buena Vista helicopter-borne aeromagnetic data: image of the Total Magnetic Intensity showing major prospect locations

Once a 3D map of susceptibilities is obtained, zones of susceptibilities that are over some chosen magnetic susceptibilities are defined and the volume encompassed by that isosurface calculated.

The choice of the magnetic susceptibility isosurface is made both on the basis of magnetic susceptibility logging and calibrating the models against existing MREs where available. The resources at East, West, and Section 5 deposits were used for this calibration. Both methods indicated that a value of 0.1 SI provides the best correlation between the magnetic model and the known resources while at the same time corresponds with an iron grade of approximately 10%, the cut-off used for the existing Indicated and Inferred resources.

This 0.1 SI isosurface is cut off at a depth of 250m below ground level to restrict the model's depth extent to a practically mineable depth. In addition, small volumes, representing minor magnetic anomalies, were ignored as likely being of insufficient size to mine.

A density of 2.79 t/m^3 was used to convert the model volume to a tonnage. This density is calculated from the density – ore grade curve used in the MRE and represents an 18% Fe grade.

The final model is then referred back to existing drill hole information, geological mapping, and the aeromagnetic data to ensure it complies with those datasets.

The ETE tonnage is deemed to be accurate within +/-25%. Iron grades reflect those already defined in the existing MRE.

An example of a final model for the Buena Vista mine area is shown in Figure 3.

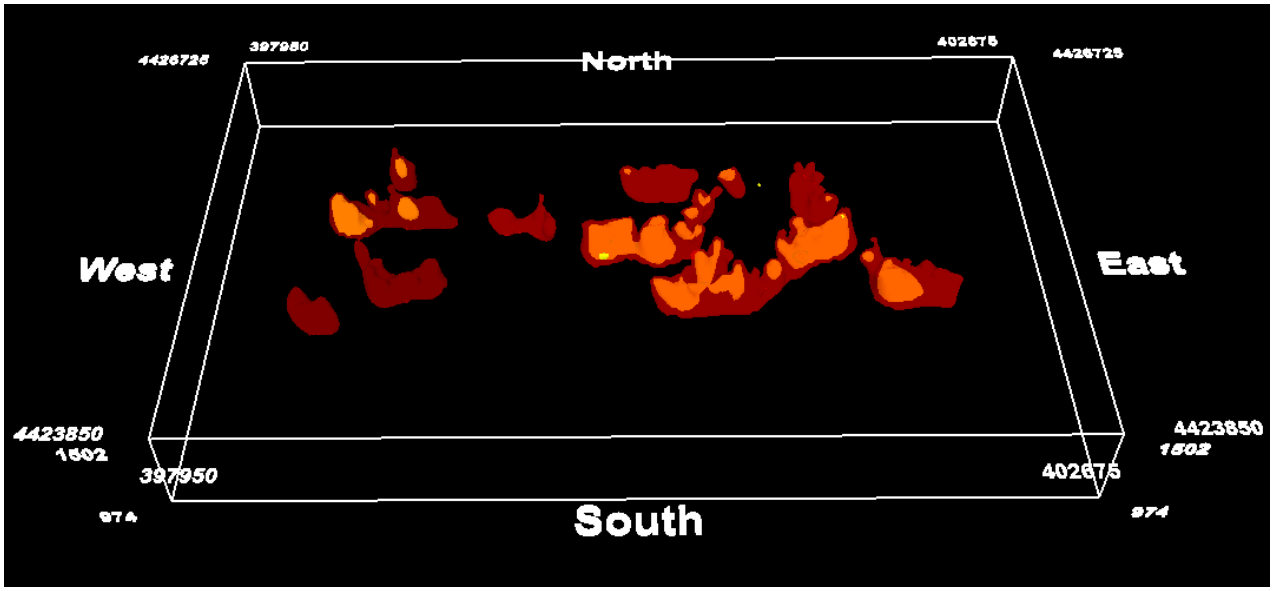

Figure 3 Isometric view of the 3D inversion results of the Buena Vista mine area. The red outlines represent the 0.1 SI isosurface and the orange outlines represent the 0.4 SI isosurface. The 0.4 SI isosurface represents approximately +35% Fe. The magnetic bodies have been cropped at 250m below the ground surface. The bright area in the east represents the West and East deposits, while that in the north west is the Section 5 deposit. The view is looking towards the north from an elevation of 45°.

TWENTY-ONE DISTINCT TARGETS INDENTIFIED

Exploration Target Estimates have been identified and calculated for twenty-one prospects (Figure 2):

- East Deposit & NE
- West Deposit
- Section 5 Deposit
- West Pit SW
- West-5 Inter
- South-West
- Iron Point
- Sect 5 North
- Iron Horse
- Iron Horse West
- BV-D
- Fisk
- Fisk North
- Fisk East
- Ute
- Ute North
- Ute East
- Section 27
- Section 27 Central
- Section 27 North
- Section 27 East

Exploration Target Estimates for East, West, and Section 5 deposits were discounted by the already defined MREs for those areas. The Iron Point ETE is updated from that announced on 13 September 2022. Seventeen of these targets have no drilling on them.

NEXT STEPS

The Company has planned a prioritisation of targets for follow-up by drilling, based on potential size and distance from the Buena Vista Mine area, with activities to be completed during 2023.

CEO Neil Goodman said: "The collection of high-resolution aeromagnetic data, and the re-interpretation that has enabled, has shown that the Buena Vista area has the potential to grow its iron resources significantly. This Exploration Target Estimate provides investors with the comfort that Magnum may control iron resources that could prove to be one of the largest in the USA outside the Lake Superior iron district."

THE BUENA VISTA IRON DEPOSIT

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

In the 1960's, 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 1900's.

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 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 has been estimated in this announcement:

Category	Million Tonnes	Fe %
Exploration Target	407 to 540	15 to 22

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 December 2022 Quarter.

The potential quantity and grade of the Exploration Target set out in this announcement is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource over the entire area of the Exploration Target, and it is uncertain if further exploration will result in the estimation of an increased Mineral Resource.

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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Table 1 - (JORC Code, 2012 Edition)

Section 1 Sampling Techniques and Data

CRITERIA	COMMENTARY
Sampling techniques	• Aeromagnetic survey.
Drilling techniques	• Drilling is not being reported
Drill sample recovery	• Drilling is not being reported
Logging	• Drilling is not being reported
Sub- sampling techniques and sample preparation	• Sampling is not being reported
Quality of assay data and laboratory tests	• A Caesium vapour magnetometer was used with a 20Hz sampling rate. The base station was a Geometrics G856AX proton precession magnetometer. Radiometric data was obtained using a RSI Spectrometer operating at a 2 Hz.
Verification of sampling and assaying	• All data is checked on a daily basis by field staff and consultants. Data falling outside the tolerances of the survey are recollected.
Location of data points	• Data points were located by a KRA405B altimeter. • Locational accuracy is better than 1m. • The grid system is NAD83, UTM Zone 11N.
Data spacing and distribution	• Flight lines are 50m apart. • Magnetics data was collected in 0.05 second intervals and Radiometric data at 0.5 second intervals
Orientation of data in relation to geological structure	• Flight lines are east-west (true north) • Geological strike varies across the survey area with the target lithology, a gabbroic intrusive, having no strike direction
Sample security	• The survey was undertaken by Precision GeoSurveys Inc. of Langley, Canada • Survey data was processed by Precision GeoSurveys
Audits or reviews	• Data was checked and relevelled by MagSpec.

Section 2 Reporting of Exploration Results

Criteria listed in the preceding section also apply to this section

CRITERIA	COMMENTARY
Mineral tenement and land tenure status	• The project contains mineral rights over 234 separate claims covering an area of 2,457Ha (6,071 acres). Of these 45 are patented mining claims with the balance being either former railroad fee title land or unpatented claims • The 45 patented mining claims covering 777 acres are all secured through lease agreements and have overriding royalties. • The project has surface rights to the Section 5 patented land claim (528 acres). These rights provide for the housing of Buena Vista's proposed production facilities, plant, workshops stockpiles and waste dumps. • All tenements are in good standing. • Relevant tenements to this announcement are T24NR34E Section 4, Section 5, Section 7, Section 8, Section 17, Rover 1832, Albatross 1832, Wyoming 1832, Cactus 1832, NVFe2,3,4,5,6,7,8, Iron Mountain 2MS14880,3MS14880,

	6MS14880, 7MS14880, 10MS14880, 12MS14880, 13 MS14880, 14MS14880, 15MS14880
Exploration done by other parties	• The database compiled for resource modelling comprises 218 holes for 36,084 m of drilling. Diamond drilling by Columbia Iron Mines in 1960 provides around 50% of the combined drilling (112 holes for 18,215 m), with 2010 Richmond Mining Pty Ltd diamond drilling contributing 4% (8 holes, 1,415 m), and 2012 Nevada Iron Limited RC and diamond drilling contributing 10% and 36% respectively (19 holes, 3,431 m and 50 holes, 13,024m).
Geology	• Buena Vista magnetite iron mineralisation occurs within scapolite-hornblende-clinopyroxene-calcite-magnetite altered gabbro. Magnetite mineralisation varies from fine disseminations to massive pods up to tens of metres in dimensions, reflecting variable ground preparation of the gabbro. The mineralisation generally dips moderately to the north, striking approximately east-southeast (~098 to 120) for most of the property area, and trending southwest-northeast in the East Deposit area (~070). • The magnetite mineralisation is cross cut by late-stage steep, generally east-west trending dykes ranging in thickness from less than 1m to rarely ~60 m. • The mineralisation generally outcrops, but in the west of the project, including the Section 5 Deposit and western portions of the West Deposit it is overlain by around 3 to rarely 25m of un-mineralised surficial alluvial gravels. • The mineralisation shows no significant oxidation, with fresh material occurring at shallow depths
Drill hole information	• No drill hole results are reported in this announcement.
Data aggregation methods	• N/A.
Relation between mineralisation widths and intercept lengths	• The mineralisation dips to the north or northeast at around 35°, approx perpendicular to the generally 45° to 60° south to south-easterly inclined drill holes giving true thicknesses of mineralised intersections generally approximating 87% to 97% of intercept down-hole lengths.
Diagrams	• See diagrams included in this announcement.
Balanced reporting	• No results are reported in this announcement.
Other substantive exploration data	• The large number of Davis Tube Recovery tests available for Columbia's drill hole samples and more comprehensive test-work by Nevada Iron demonstrate the mineralisation is amenable to concentration by simple magnetic processes. • Ground magnetic and gravity surveys exist over the area.
Further work	• Prioritisation of exploration targets will be done following modelling and interpretation • Drilling may be recommended for the highest priority targets

Section 3 Estimation and Reporting of Mineral Resources

Criteria listed in the preceding sections also apply to this section

Mineral Resources are not being reported in this announcement.