MAGNUM
MINING AND EXPLORATION LIMITED

STOCKPILES AT BUENA VISTA EVALUATED FOR MILL FEED

HIGHLIGHTS

- Existing ore stockpiles at Buena Vista mine site assessed for possible early processing feedstock
- The stockpiles are located within 500m of the proposed crusher
- Extensive stockpile surface sampling returned an average grade of 26.7% Fe
- Grade estimation of stockpiles cannot be based on surface sampling: drilling of the stockpiles is required to determine the bulk grade
- Drilling is planned to fully characterise the stockpiles

Magnum Mining & Exploration (ASX: MGU, OTC: MGUFF, "Magnum" or "the Company") has undertaken a surface sampling programme and volume estimation of the stockpiles that exist on its 100% owned and controlled Buena Vista iron mine site in Nevada, USA (Figure 1).

The stockpiles are estimated to hold **411,000 to 894,000 tonnes at 15% to 45% 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 Stockpile Estimate is conceptual in nature, there has been insufficient work to estimate a Mineral Resource over the entire area of the stockpiles, and it is uncertain if further work will result in the estimation of an increased Mineral Resource.

Figure 1 Buena Vista Iron Project in central Nevada, USA.

Stockpiles

US Steel mined high grade iron ore at Direct Shipping Ore (DSO) grades from the Buena Vista mine in the 1950s during which time approximately 2Mt of DSO and 640kt @ 58% sorted ore was produced. "Low grade" ores were dumped in a series of stockpiles and waste dumps that surround the historic open pits (Figure 2).

[1] ASX:MGU "Maiden JORC Resources for the Buena Vista Magnetite Project' dated 23 March 2021.

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To the Company's knowledge, there exists no records of the tonnages dumped on these stockpiles, nor their grades, exist in the historic records. Magnum proposes to establish a magnetite beneficiation plant at the mine to produce Direct Reduction Iron (DRI) grade magnetite concentrate from the resource announced 23 March, 2021[2]. These stockpiles represent easily accessed ore at no mining cost and very low recovery costs. Their grades are attractive as a processing stock feed to the proposed mill, particularly during the mill's commissioning stages.

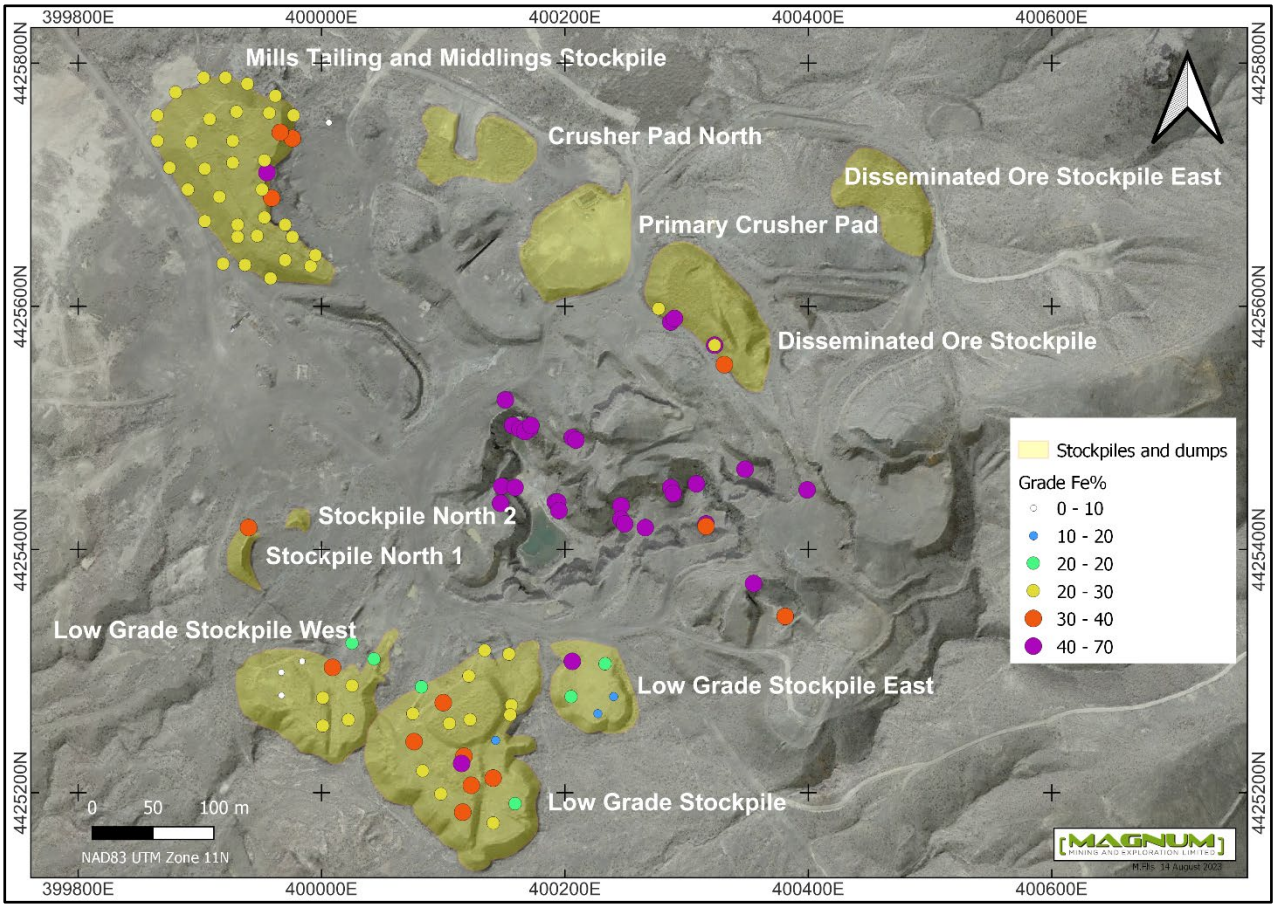

Figure 2 Stockpile outlines and summary of assay results. Channel sampling reported on 5 June, 2023 also shown[3].

Stockpile sampling

Surface sampling of six of the nine stockpiles was undertaken during June and July, 2023. Approximately 0.5kg of sample was collected at each site, with the sample taken from a depth of 20- 30cm to ensure there was no surface contamination or winnowing from wind. The work was carried out by an independent geological consultant and delivered to American Assay Laboratories in Sparks, Nevada. Repeats, blanks, and Certified Reference Material were used for Quality assurance. A total of 86 unique samples were collected and processed. A summary of the results is shown in Table 1.

This sampling has only tested the near surface material. It may not be representative of the bulk grades of the stockpiles.

[2] ASX:MGU 'Maiden JORC 2012 Resource for Buena Vista Magnetite Project', 23 March, 2021.
[3] ASX:MGU 'Sampling Maps High Grade At Buena Vista', 5 June, 2023.

Table 1 Statistics from the stockpile sampling programme.

Stockpile	No of surface samples	Minimum Fe%	Maximum Fe%	Average Fe%
Low Grade Stockpile	21	14.22	42.7	27.23
Low grade Stockpile East	5	11.33	42.79	20.38
Low grade Stockpile West	7	17.22	33.68	23.22
Disseminated Ore Stockpile	7	20.9	43.7	33.96
Primary Crusher Pad	Yet to be sampled			
Mills Tailing & Middlings Stockpile	37	20.93	42.1	26.29
Crusher Pad North	Yet to be sampled			
Disseminated Ore Stockpile East	Yet to be sampled			
Stockpile North 1	1	36.02	36.02	36.02

Figure 3 "Low Grade" stockpile. The entire grass covered area to the right of the bare-earth slope is low grade ore from US Steel's mining days.

Stockpile volume estimation

Outlines of the stockpiles were generated from satellite imagery (Figure 2). The resulting outlines are placed on a Digital Terrain Model (DTM). The DTM data was generated by a LIDAR drone survey of the mine area by Geomega and checked against the regional DTM produced by the USA Government for agreement.

The outline of the stockpiles on the DTM define a plane that defines the base of the stockpiles (Figure 3).

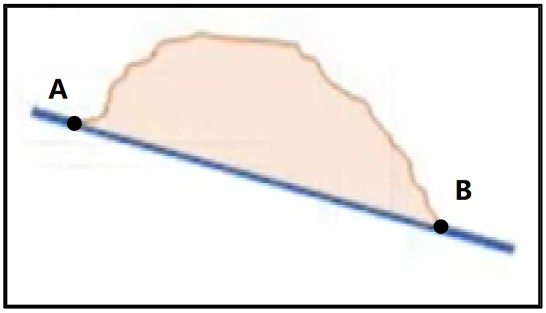

Figure 4 How the stockpile volumes are estimated constructed. The DEM elevation at "A" and "B" define a plane that is subtracted from the DEM elevation of the stockpile to produce a stockpile thickness, and hence a volume when extended to 3D.

That plane is subtracted from the stockpile elevations to produce a stockpile thickness at every point, and so a total volume over the area of the stockpile.

Stockpile tonnage estimation

The stockpiles' volumes were converted into tonnages with an assumed stockpile rock density. The Buena Vista Mineral Resource Estimation done by MPR Geological Consultants Pty Ltd in 2021[4] includes a density function for converting ore grades to density and was used to calculate the stockpiles' densities.

Sources of error

There are three sources of error:

1. The topography beneath the stockpiles is unknown and assumed to be a plane. There are no DTMs of sufficient resolution that predate the emplacement of the stockpiles. A ±25% error in the volume estimation has been applied to the final tonnage estimation.
2. Iron grades from surface sampling are insufficient to characterise the stockpiles' bulk grades. The Buena Vista magnetite mineralisation is alteration driven; it is not stratabound. As a result it can be assumed that there exists no completely barren rock in the stockpiles and that all ore over some grade was taken. This is based on the observation that all high grade magnetite occurrences are hosted in a thick lower grade envelope. A grade range of 15% to 45% ore is accepted as being a reasonable grade range for the stockpiles.

[4] ASX:MGU 'Maiden JORC 2012 Resource for Buena Vista Magnetite Project', 23 March, 2021.

3. The density function is derived from *in situ* ore. It is universally accepted that rock of the type hosting the Buena Vista resource has a 50% swell factor when mined. However, the stockpiles have been in place for over four decades and assumed to have settled considerably. A 10% reduction in the swell factor was applied.

Material estimation

The material contained in the stockpiles at Buena Vista is estimated as:

411,000 to 894,000 tonnes at 15% to 45% Fe.

The potential quantity and grade of the Stockpile Estimate is conceptual in nature, there has been insufficient work to estimate a Mineral Resource over the entire area of the stockpiles, and it is uncertain if further work will result in the estimation of an increased Mineral Resource.

Mr Neil Goodman, CEO of Magnum, observed: "*The stockpiles at Buena Vista potentially represent a quick win when the beneficiation plant is built. It will save considerable mining costs if they prove to be of sufficient grade to be economic. Work to date indicates this may be the case although more work needs to be done to confirm bulk grades.*"

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 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 is[5]:

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.

Additionally, an Exploration Target Estimate exists[6]:

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 proposed green pig iron producer. Using cutting edge technology in tandem with biochar sources, the Company aims to capitalise on a first-mover advantage to supply green pig iron to the USA steel industry.

[5] Refer to ASX:MGU – 'Maiden JORC 2012 Resource for Buena Vista Magnetite Project', 23 March 2021.

[6] Refer to ASX:MGU – 'Significant Exploration Target Defined', 13 January 2023.

CAUTIONARY STATEMENTS

COMPETENT PERSON'S 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 this announcement in the form and context in which it appears.

COMPETENT PERSON'S STATEMENT – STOCKPILE AND EXPLORATION TARGET ESTIMATIONS

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.

The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified.

NO NEW INFORMATION

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.

FORWARD LOOKING STATEMENTS

This release contains "forward-looking information" that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to studies, the Company's business strategy, plan, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'likely',' believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this news release are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information.

Forward-looking information is developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to general business, economic, competitive, political and social uncertainties; the actual results of current development activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of metals; failure of plant, equipment or processes to operate as anticipated; accident, labour disputes and other risks of the mining industry; and delays in obtaining governmental approvals or financing or in the completion of development or construction activities. This list is not exhaustive of the factors that may affect our forward-looking information. These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information.

Neither the Company, nor any other person, gives any representation, warranty, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. Except as required by law, and only to the extent so required, none of the Company, its subsidiaries or its or their directors, officers, employees, advisors or agents or any other person shall in any way be liable to any person or body for any loss, claim, demand, damages, costs or expenses of whatever nature arising in any way out of, or in connection with, the information contained in this document. The Company disclaims any intent or obligations to or revise any forward-looking statements whether as a result of new information, estimates, or options, future events or results or otherwise, unless required to do so by law.

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Section 1 Sampling Techniques and Data

CRITERIA	COMMENTARY
Sampling techniques	• Broken ore was collected from existing stockpiles. • The samples were taken from 20 – 30cm below the surface to avoid modern contamination of winnowing by wind. • Approximately 0.5kg was collected at each site. • The sample will be assayed by ICPMS techniques for a range of elements
Drilling techniques	• Drilling is not being reported
Drill sample recovery	• Drilling is not being reported
Logging	• A description of each sample was logged by the sampling geologist and entered into Magnum's database.
Sub- sampling techniques and sample preparation	• There was no in-field subsampling. • The samples were delivered to American Assay Laboratories in Sparks, Nevada, by the independent consulting geologist. • Samples did not need drying. • Dried samples are jaw crushed to 90% passing -10 mesh (2000µm). • Samples are Jones riffle split (riffle same length as pans). • Samples (1lb to 4lbs) are pulverized in a Vertical Spindle Pulverisers (120-150 mesh, 125 – 89V). • A pulp is placed in a 3" by 5" labelled pulp packet.

Quality of assay data and laboratory tests	• The laboratory uses a
	  ○ 1 in 25 blank with a minimum of two blanks per batch.
	  ○ 1 in 5 repeat
	  ○ 1 in 15 Certified reference Material sample
	• The laboratory used is ISO certified and participates in We participate in
	  ○ CANMET PTP-MAL certification analyses twice a year.
	  ○ GEOSTATS testing twice per year.
	  ○ SMA (US and Canada) twice per year.
	  ○ IOAG testing twice a year.
	• Pulps are retained for future analysis.

Verification of sampling and assaying	• Field note book was used to record primary data in the field. Primary data was then entered digitally and is stored and archived to Magnum's server in Excel format. Data is visually checked and validated prior to import and additional validation is carried out upon entry to the database. • All data is checked by a Competent Person. • No adjustments or calibrations were made to the assay data. • Assay QA/QC is monitored.
Location of data points	• Handheld GPS was used to determine sample locations with an accuracy of approximately ±5m. • Grid Co-ordinate system used is NAD83, UTM Zone 11N. • Original Handheld GPS co-ords are maintained in the database. • This is considered appropriate at this early stage of exploration.
Data spacing and distribution	• Data spacing for samples are varied but generally 25 x 25m. • Data spacing is sufficient for this early stage of assessment
Orientation of data in relation to geological structure	• Not applicable – samples were collected from stockpiles having no preferred orientation
Sample security	• Samples are collected by an independent consulting senior geologist • Samples are secured in locked premises and not left unlocked or unattended in public places • All samples were transported to the lab by an independent consultant geologist
Audits or reviews	• The laboratory's QA/QC procedures and results are monitored. • All samples were measured with a magnetic susceptibility meter and results compared to assays. • Spot pXRF analysis was done by the Company on pulps to check results.

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 Mt 2MS14880,3MS14880, 6MS14880, 7MS14880, 10MS14880, 12MS14880, 13MS14880, 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	• No aggregation has been applied.
Relation between mineralisation widths and intercept lengths	• No drill hole results are reported in this announcement.
Diagrams	• See diagrams included in this announcement.
Balanced reporting	• All results are reported in this release.
Other substantive exploration data	• Drilling, geological mapping, geophysical surveying, and metallurgical testing exist and have been reported in previous announcements
Further work	• Stockpiles are planned to be assessed by drilling.

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.