MAGNUM
MINING AND EXPLORATION LIMITED

SAMPLING MAPS HIGH GRADE AT BUENA VISTA

HIGHLIGHTS

- Massive magnetite outcrop sampling at Buena Vista Iron Project completed
- Unbiased channel sampling was used to characterise the entire width of the outcrops
- Controlled pXRF assaying used for initial assessment
- High grades in individual channel samples:
  0.6m @ 66.6% Fe
  1.2m @ 61.9% Fe
  3.1m @ 60.3% Fe
  3.7m @ 59.9% Fe
  3.7m @ 59.7% Fe
- Samples dispatched to lab for full analysis
- Breccia and stockpile sampling underway

Magnum Mining & Exploration (ASX: MGU, "Magnum" or "the Company") is pleased to announce that an extensive outcrop sampling campaign of massive magnetite outcrops has been completed at its flagship Buena Vista Iron Project in Nevada, USA.

Channel sampling of the widespread outcrops was undertaken to characterise their bulk grades in a less biased way than previous point sampling.

A total of 32 channel samples were collected. The samples were prepared in-house to a high standard to ensure sample homogenisation and sizing. This maximises the efficacy of pXRF assaying.

Samples where scanned for 40 elements using an Olympus Vanta pXRF unit. This model uses three energy beams to minimise spectral interference in

Figure 1 Massive magnetite outcrop at the West Deposit

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determining element concentrations. Table 1 is a summary of pXRF results while Figure 2 shows their locations. Critically, the pXRF assays show the magnetite to be low in deleterious elements.

Table 1 Channel sample pXRF assays

Sample	East NAD83z11	North NAD83z11	Chanel length (m)	Fe %	Al %	P %	S%	Ti %	V %
NF01	400206	4425492	1.22	**56.71**	1.64	0.08	BD	0.27	0.25
NF02	400209	4425490	1.22	**61.92**	1.51	0.21	BD	0.30	0.24
NF03	400151	4425523	0.61	**66.60**	2.48	0.05	0.021	0.41	0.18
NF04	400157	4425502	1.83	29.17	2.55	0.24	BD	0.36	0.14
NF05	400163	4425499	1.52	43.13	3.22	0.12	BD	0.26	0.19
NF06	400171	4425499	2.13	45.34	2.49	0.12	0.018	0.27	0.19
NF07	400167	4425497	1.22	31.85	3.91	0.28	BD	0.26	0.13
NF08	400172	4425502	2.44	47.04	2.64	0.04	BD	0.23	0.18
NF09	400192	4425439	1.52	**62.61**	1.81	0.27	BD	0.22	0.18
NF10	400194	4425439	1.22	45.76	1.48	0.74	BD	0.25	0.16
NF11	400195	4425432	1.52	38.21	0.97	0.45	0.021	0.27	0.15
NF12	400822	4425843	1.22	**53.83**	1.02	0.23	BD	1.49	0.32
NF13	400816	4425844	1.52	**56.22**	1.29	0.15	BD	1.54	0.30
NF14	400813	4425848	1.22	15.92	1.94	0.23	BD	0.83	0.12
NF15	400846	4425812	3.05	**52.91**	1.43	0.18	BD	1.19	0.27
NF16	400840	4425804	3.05	45.45	1.60	0.86	0.065	0.34	0.16
NF17	400266	4425418	3.66	**56.44**	1.28	1.15	BD	0.63	0.23
NF18	400246	4425436	3.66	48.26	1.12	1.58	BD	0.48	0.22
NF19	400246	4425425	3.66	**52.05**	2.31	0.65	BD	0.21	0.18
NF20	400249	4425421	3.66	48.69	2.35	0.33	BD	0.33	0.17
NF21	400287	4425451	3.05	**60.34**	1.72	0.03	0.149	0.19	0.17
NF22	400316	4425421	3.66	24.41	3.68	0.17	0.027	0.19	0.11
NF23	400316	4425419	3.66	35.78	3.65	0.05	BD	0.23	0.14
NF24	400381	4425345	3.66	26.34	4.48	0.35	BD	0.40	0.08
NF24A	400355	4425372	3.05	44.76	1.14	0.02	BD	1.06	0.27
NF25	400147	4425438	1.52	36.34	1.95	0.12	0.036	0.35	0.12
NF25A	400148	4425452	3.66	**59.94**	1.89	0.37	BD	0.71	0.21
NF26	400159	4425451	1.83	43.23	2.90	0.45	BD	0.28	0.14
NF27	400308	4425454	3.66	**59.66**	1.70	0.37	0.032	0.20	0.20
NF28	400289	4425446	0.91	22.87	4.51	0.03	0.012	0.23	0.11
NF29	400348	4425466	3.05	36.01	2.62	0.18	BD	0.50	0.13
NF30	400399	4425449	1.22	**50.34**	2.62	0.12	BD	0.38	0.15

While some of the outcrops are often restricted in terms of area, their geometry is known to often balloon out at depth. This data will be used to better model the mineralisation mapped out by drilling.

"*These represent particularly high grades for a deposit that has been primarily thought of as a magnetite concentrate feedstock*", commented Mr Neil Goodman, CEO of Magnum, continuing: "*High grades bode well for beneficiation plant economics by decreasing unit costs*."

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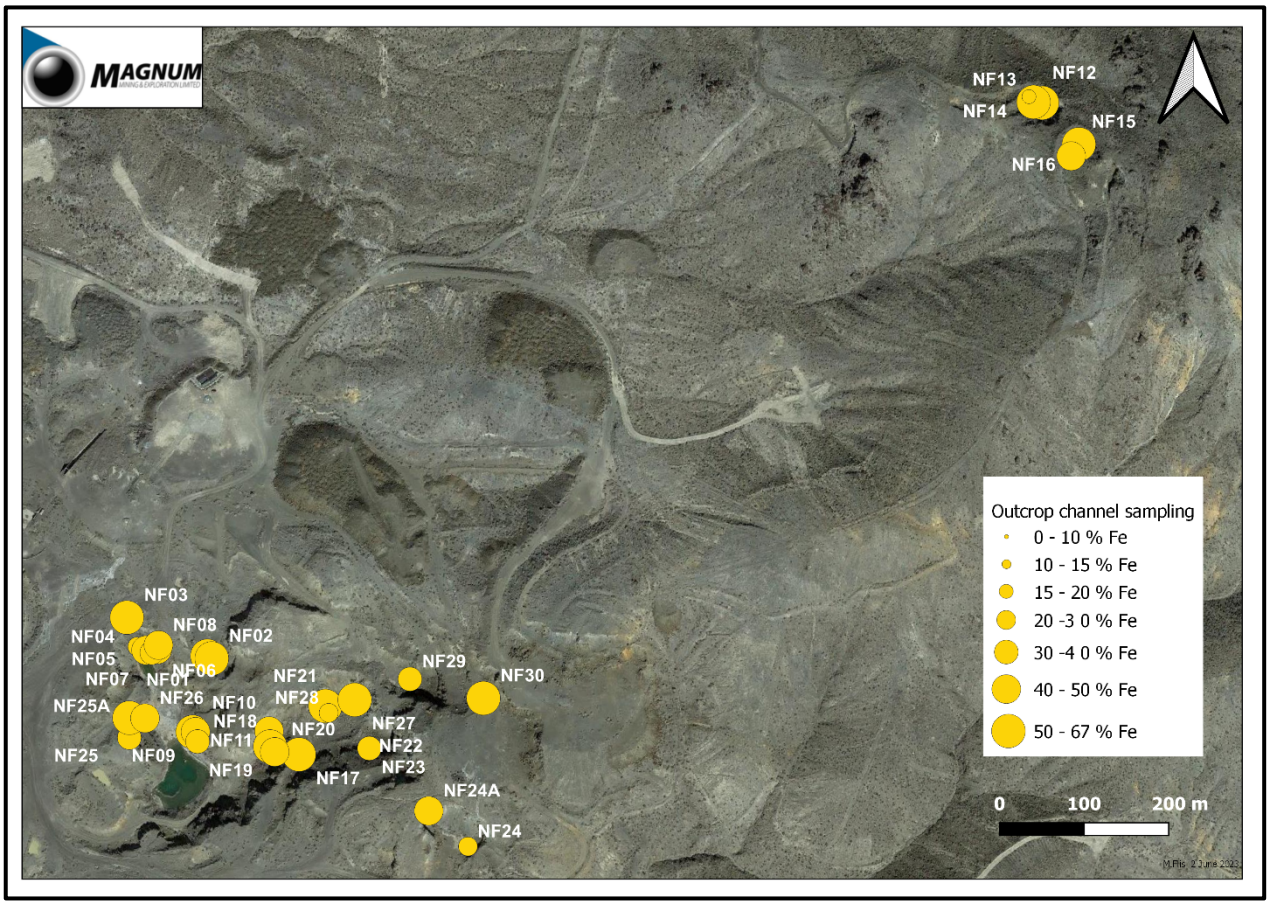

Figure 2 Channel sample sites and iron grades in the Buena Vista mine area

NEXT STEPS

Samples have now been dispatched to a commercial laboratory for full assaying. This will include a wide range of iron ore related elements as well as the Rare Earth Element (REE) group.

Two other sampling campaigns are being completed. The first is to assess the breccias in the area for exotic mineralisation associated with classic iron oxide-apatite ± rare earth element (IOA ± REE) deposits, a subset of the better known one iron oxide-copper gold (IOCG) deposits.

The second campaign will sample an old US Steel stockpile on the property that may provide the initial feed to a beneficiation operation.

Figure 3 Massive magnetite outcrop in the West Deposit area. These occurrences are known to bloom out with depth

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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 2012. 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[1]:

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[2]:

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.

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

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

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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 – 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.

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.

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These and other factors should be considered carefully, and readers should not place undue reliance on such forward-looking information.

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Section 1 Sampling Techniques and Data

CRITERIA	COMMENTARY
Sampling techniques	• Rock chip samples were collected along channels from outcropping massive magnetite. • Continuous channel sampling was done and consolidated into the one sample for each outcrop. • No channel exceeded 4 metres in length • 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	• Drilling is not being reported
Sub- sampling techniques and sample preparation	• Single channels were consolidated into one sample and processed using the following procedure: 1. The complete sample bag is processed through a hammermill with a 6mm aperture and sieved to 3.4mm. 2. Oversize is crushed to 3.4mm with a jaw crusher. 3. The sample is measured with a magnetic susceptibility meter and then split into two using a 2 way splitter. 4. One subsample is and an archive stored. 5. The second subsample is split down to 300-350 grams and archived, and 45 grams used to make up a pXRF cup. The remainder is stored in a pulp envelope for dispatch to the lab. 6. Three readings of each pXRF cup are taken at a 60 second integration time. Readings are taken on 120^{o} rotations of the cup. Consistent readings are averaged. Inconsistent readings are repeated until consistency is obtained. • An Olympus Vanta pXRF is used.
Quality of assay data and laboratory tests	• pXRF consistency is attained through multiple readings. At least three readings are taken from each sample. • The reported pXRF error is monitored to ensure accuracy. • No laboratory assays are reported at this time.
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. • pXRF assays will be checked through an independent assay laboratory
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 and dependent on outcrop distribution. • Data spacing is sufficient for this early stage of exploration • Samples were composited for each channel on any one outcrop. This will be fully reported once results are in.

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Orientation of data in relation to geological structure	• Not applicable – samples were collected across the width/strike of the outcrop
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 to be transported to the lab by an independent consultant
Audits or reviews	• No audits were done • Sample pXRF assays will be backed up by lab assaying

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.

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	• 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	• Channel samples are taken across apparent widths only with no consideration of outcrop dip.
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	• Future exploration programs are currently under development

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.

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