



BUENA VISTA SAMPLE TESTING CONFIRMS HIGH GRADE DSO (+67.5%) Fe CONCENTRATE

- **Sample testing completed by American Assay Laboratories**
- **Sample testing confirms high grade (+67.5%) Fe concentrate**
- **Buena Vista has 232 million tonnes of iron ore**
- **Magnum On track to ship shovel ready DSO in Q4 2021**

Magnum Mining and Exploration Limited ("Magnum" or "Company") (ASX: MGU) is pleased to provide an update to the market from recent sample testing completed by American Assay Laboratories ("AAL"). The testing confirms the results published in the JORC 2012 Resource for Buena Vista Magnetite Project with testing confirming high grade (+67.5%) Fe concentrate.

As mentioned in the announcement published on May 11, the company is presently in advanced discussions with various tier-1 steel mills and dry bulk commodity buyers for the purchase and off take of its magnetite iron ore. It is now the intention of the company to secure favourable terms that include an offtake agreement, cornerstone investment and possible future debt funding to further accelerate our vision and growth plans for the supply of a Green Steel HBI product.

These samples were provided to American Assay Laboratories ("AAL") to undertake test analyses as a pre-cursor to the proposed Iron Horse drilling programme and DSO mine plans. The samples were collected across the sample site to be as representative as possible of the material at that location.

AAL undertook the following works:

1. Crush each sample and screen to a -5mm+2mm fraction and a -2mm fraction
2. Analyse each of those fractions
3. Undertake a magnetic separation and analysis of each of those samples to determine the Fe grade and percentage recovery of magnetite. AAL have advised the magnetic separation was undertaken using Davis Tube.

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Samples Taken

Sample Prefix	Location	Coordinates	Sample Description
MBV001	Iron Horse	39° 58.592" N, 118° 09.665" W	Massive Mgt, estimated Mgt grade +60%
MBV002	West Pit	39° 58.395" N, 118° 10.087" W	Massive Mgt, +50%
MBV003	West Pit	39° 58.380" N, 118° 10.057" W	Massive Mgt, +50%
MBV004	West Pit	39° 58.370" N, 118° 10.082" W	Scapolitised Mgt, +45%
MBV005	Mining Waste dump	39° 58.462" N, 118° 09.990" W	West Pit mine waste, scapolitised Mgt,+45%

Table 1: Sample Locations and descriptions MBV001-MBV005

The samples were analysed using ICP and XRF. The total Fe was calculated based on the Fe₂O₃ analysis.

Head Grade Assay Results (summarised)

Sample	Fe	Al ₂ O ₃	P ₂ O ₅	S	SiO ₂	TiO ₂	V ₂ O ₅
MBV001	65.6%	0.71%	0.30%	0.007%	2.61%	1.97%	0.63%
MBV002	59.9%	1.03%	0.66%	0.008%	8.19%	0.21%	0.36%
MBV003	67.2%	0.73%	0.16%	0.001%	2.48%	0.47%	0.41%
MBV004	37.5%	7.96%	0.34%	0.004%	25.06%	0.64%	0.23%
MBV005	38.9%	7.95%	0.13%	0.004%	24.27%	0.52%	0.21%

Table 2: Head assay results MBV001-MBV005

As to be expected MBV001, which was of the Iron Horse vein, returned a very high iron grade as did both massive magnetite samples from the West Pit (MBV002 and MBV003).

5.1 -5mm+2mm fraction results (magnetic separation)

Sample	Fe	Al ₂ O ₃	P ₂ O ₅	SiO ₂	TiO ₂	V ₂ O ₅	Weight %
MBV001	68.8%	0.42%	0.05%	0.90%	1.06%	0.65%	95.1%
MBV002	66.1%	0.50%	0.12%	5.37%	0.16%	0.41%	87.7%
MBV003	69.7%	0.40%	0.05%	1.10%	0.37%	0.41%	92.2%
MBV004	59.3%	3.13%	0.04%	9.67%	0.18%	0.36%	59.2%
MBV005	63.8%	2.11%	0.01%	6.00%	0.23%	0.34%	53.5%

Table 3: Assay Results magnetic proportion -5mm+2mm fraction MBV001-MBV005

Of most interest with the beneficiation of the -5mm+2mm fraction is the amount of upgrade achieved with the two lower primary grade samples being MBV004 and MBV 005. Both of these samples for example upgraded to +59% Fe with a corresponding reduction in impurities (note the P₂O₅ and its reduction by a factor of nearly 6 times).

The silica content still however remained and in the **preferred range for HBI and HPI** feedstock (5-10%). Of equal importance is the weight percentage of each of samples MBV004 and MBV005 (59.2% and 53.5% respectively) which indicates a recovery of around 90% magnetite for each fraction (in other words around 90% of the magnetite is being liberated at this crush fraction).

5.2 -2mm fraction results (magnetic separation)

Sample	Fe	Al ₂ O ₃	P ₂ O ₅	SiO ₂	TiO ₂	V ₂ O ₅	Weight %
MBV001	67.7%	0.58%	0.13%	1.57%	1.25%	0.64%	96.1%
MBV002	66.6%	0.51%	0.15%	4.43%	0.16%	0.40%	88.1%
MBV003	67.4%	0.72%	0.15%	2.19%	0.49%	0.41%	92.7%
MBV004	62.7%	2.23%	0.03%	6.95%	0.14%	0.39%	55.4%
MBV005	66.5%	1.31%	0.02%	3.61%	0.20%	0.35%	53.2%

Table 4: Assay Results magnetic proportion -2mm fraction MBV001-MBV005

As to be expected, the finer crush liberated more of the magnetite resulting in grades above 60% Fe for MBV004 and MBV005. The weight % of MBV004 and MBV005 also indicate magnetite recoveries of around 90% for each of these lower grade samples at this crush fraction.

Figure 1 (aerial photo) gives an overview of the sample site locations and the rest of the photos provide details for each site.

Figure 1. Sample sites shown here are numbered from 1 through 5 and show where the five samples were taken. First in upper right is Iron Horse, the next three (2-4) from within the pit and the last from the tailing pile located north of the main BV pit.

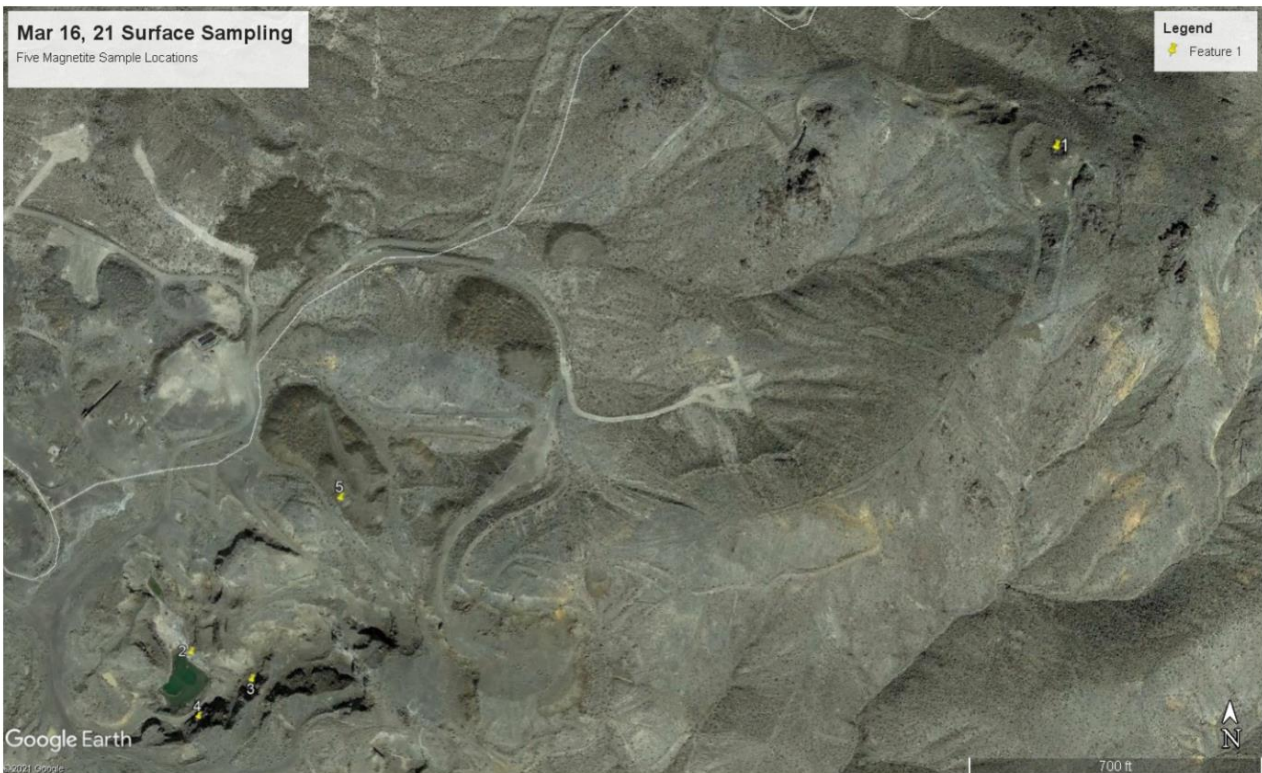


Figure 2. This is where sample **MBV001**, **3/16/2021** was taken. Note this outcrop consists of very heavy magnetite, dense with a SG over 5, and floating downhill. This located was recorded to be 39° 58.592" N, 118° 09.665" W.



Figure 3. This view is a close up of sample site **MBV002, 3/16/2021**. This sample location is 39° 58.395" N, 118° 10.087" W.



Figure 4. This sample site is located in the northeasterly corner of the pit and from this location sample **MBV003, 3/16/2021** was collected from the center of this outcrop. This location is 39° 58.380" N, 118° 10.057" W.



A handwritten signature in black ink, appearing to read 'John Dinan'.

John Dinan
Company Secretary
May 20, 2021