



# Magnum to purchase Buena Vista Iron Ore Project

## ASX Release

12 October 2020

## Magnum Mining and Exploration Limited

ABN 70 003 170 376

## ASX Code

MGU

## Non-Executive Chairman

Howard Dawson

## Chief Executive Officer

Grant Button

## Non-Executive Director

Francesco Cannavo

## Company Secretary

Grant Button

## Issued Shares

312,932,148

## Listed Options

109,839,603

Exp 30/09/2022 @ \$0.05

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## HIGHLIGHTS

- Magnum to purchase the advanced Buena Vista magnetite iron ore project located in Nevada, United States.

- Buena Vista is a significant magnetite mineral resource that has had over \$A34 million spent on it over the past decade advancing the project to completed feasibility status in 2011 and 2013.

- The project has secured all major permits for the long-term production of magnetite concentrate grading +67.5% Fe.

- The Buena Vista concentrate is very clean with no deleterious impurities.

- The project is well situated to existing rail, power and port facilities.

- Pursuant to the purchase Magnum is undertaking a title and data due diligence which is estimated for completion by early December 2020.

- Following a successful due diligence Magnum will fast track the update of the feasibility studies to reflect current capital and operating costs.

- Experienced resource executive Simon Baldwin has joined Magnum to manage the due diligence, co-ordinate the update of the feasibility study and be executive in charge for the financing and proposed development of Buena Vista.

- Simon brings to Magnum extensive large scale project experience ranging from project finance right through to managing development and production.

- This is a unique opportunity for Magnum because Buena Vista presents as a near term development opportunity with all technical work already completed.

- Total acquisition cost is up to \$A7.0 million paid via a combination of shares in Magnum and cash with \$A5.5 million of the acquisition cost linked to key project milestones.

- Coincident with the acquisition, Magnum will raise \$1.0 million (before costs) to fund the update of the Buena Vista feasibility study, continue ongoing pre-development activities at Gravelotte and provide general working capital.

## SUMMARY

Magnum Mining & Exploration Limited (ASX:MGU) (**Magnum or the Company**) is pleased to advise that it has entered into a binding Sale and Purchase Agreement (SPA) to acquire a 100% interest (inclusive of existing royalty arrangements) in the Buena Vista iron ore project (**Buena Vista or the Project**) located in Nevada, United States.

Buena Vista is an advanced magnetite iron ore project. In excess of A\$34 million has been expended on the Project over the past decade completing feasibility studies and permitting for the long term production of a +67.5 % Fe magnetite concentrate with no deleterious impurities.

All major development permits have already been secured.

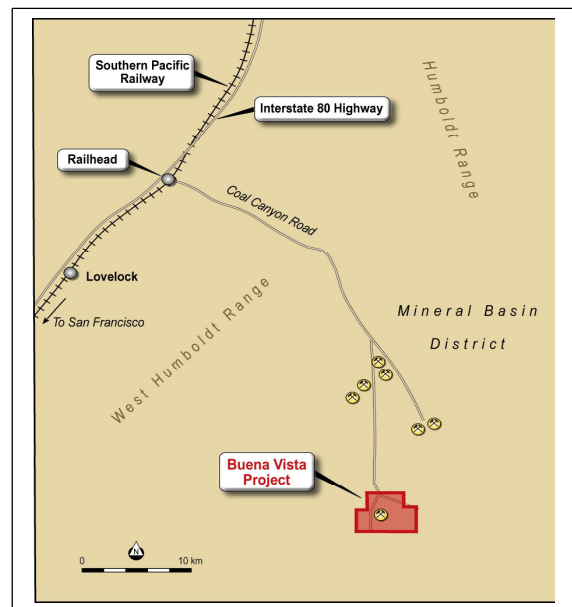
Magnum is purchasing Buena Vista as a pre-development opportunity. Required technical work such as drilling, metallurgy, hydrogeology, plant design and logistics have already been completed.

The Company proposes to update the previous feasibility studies capital expenditure (capex) and operating expenditure (opex) estimates and concurrently explore funding options available to move Buena Vista to pre-production status.

It is a huge positive for Magnum that all of the key technical work required for the feasibility study update has already been completed.

In addition, Buena Vista also provides a very favourable ore characteristic given its intrusive origin.

**In this regard, the magnetite at Buena Vista is much coarser grained, and softer, than typical banded iron (BIF) hosted magnetite deposits and consequently much more easily liberated during the beneficiation process. On a comparative basis this provides significant capex and opex benefits compared to typical BIF hosted magnetite deposits.**



Magnum has commenced a 60-day due diligence process which will include reviewing the extensive data base, screening technical consultants and confirming that all title and development permits remain in good standing.

**The consideration for the acquisition is up to \$A7.0 million with \$A5.5 million linked to key project milestones including an updated feasibility study, securing development finance, and achieving certain production targets.**

## **SIMON BALDWIN TO JOIN MAGNUM**

In tandem with the acquisition of Buena Vista, Magnum is pleased to advise that Simon Baldwin has agreed to join the Company in an executive capacity and will become a Director on completion of the due diligence phase.

Simon is an experienced resource industry executive with 25 years of geological, commercial, finance and marketing experience in large project development.

Prior to joining Magnum, Simon was the Head of Commercial and Vice-President Marketing at Oil Search Limited. In this role he developed new agreements to underpin the integration of Papua New Guinea LNG projects and led the companies LNG and Domestic Gas sales teams.

Prior to Oil Search, Simon worked with ATCO Australia, leading M&A business, spent 15 years with Woodside Petroleum, and led exploration and resource evaluation programs for BHP Iron Ore and international power companies.

Simon has a Bachelor of Applied Science (Geology) from RMIT, a Graduate Diploma in Applied Finance and Investment (FINSIA) where he was awarded both National and State prizes, and an Executive Certificate in Global Management from INSEAD.

### **Simon commented on his appointment:**

***“I am very pleased to join Magnum at such an exciting time for the company. It is very rare to be able to acquire such an advanced project in a high profile commodity with a long potential production life. The transformation opportunity that the Buena Vista project provides this company is profound and I look forward to working with the existing Board and team to deliver this value to shareholders”***

## **ABOUT THE BUENA VISTA MAGNETITE IRON ORE PROJECT**

### ***Location and History***

Buena Vista is located approximately 160km east-north-east of Reno in the mining friendly state of Nevada, United States.

The project 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 project and carried out an extensive exploration program including 230 diamond drill holes and considerable metallurgical test work.

The project was refreshed in 2009 when Richmond Mining Limited, an ASX listed company acquired the project and commenced a detailed exploration program culminating in a definitive feasibility study in July 2011 and an updated study in 2013 for an expanded production rate.

A key component of these studies was extensive investigation of the optimal logistics plan for development of Buena Vista. This included the negotiation of in-principle agreements with existing rail and port operators and the securing of all major mining permits.

In addition, 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 an eventual low of less than US\$50/ tonne caused the then proposed development of Buena Vista to be deferred.

## Resources

The Buena Vista magnetite deposits are the product of late stage alteration of a localized intrusive local gabbro that resulted in intensely scapolitised lithologies and the deposition of magnetite.

The most well-known example of this type of magnetite mineralization is the Kiruna magnetite deposit in Sweden which has been in production since the early 1900's.

The distribution and nature of the magnetite mineralization at Buena Vista is a function of ground preparation by faulting and fracturing forming a series of open fractures, breccia zones and networks of fine fractures. These ground conditions produce variations in mineralization 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 beneficiation characteristics over the other main type of magnetite deposit which is a banded iron hosted magnetite, also known as a taconite.

	<b>Buena Vista (Magmatic)</b>	<b>Taconite (Banded iron)</b>
<b>Genesis</b>	Metasomatic (hot solutions)	Non-magmatic precipitate
<b>Grain size</b>	Coarse	Fine
<b>Grind size to liberate magnetite</b>	+100 microns	Sub 15-20 microns
<b>Capex</b>	Lower capital intensity	Higher capital intensity
<b>Opex</b>	Lower opex	Higher opex

Buena Vista has had two recent resource estimates completed. The first, a JORC 2004 resource estimate was completed for the definitive feasibility study by Western Australian based consultants Geostat Services in conjunction Veltox Pty Ltd in July 2011.

A N143-101 report was then commissioned by Nevada Iron for a dual listing on the Canadian TSX-V and completed in October 2013. This report was undertaken by consultants AMC Consultants, Crosscut Consulting and Holland and Holland.

The N143-101 study estimated Indicated and Inferred resources at Buena Vista as 178.5Mt at 18.9% Fe producing a magnetite concentrate grading 68.1% Fe with no significant impurities.

Cut-off Grade	Indicated		Inferred		Total	
% Fe	Tonnes (Mt)	% Fe	Tonnes (Mt)	% Fe	Tonnes (Mt)	% Fe
10%	148.7	18.8	29.8	19.6	178.5	18.9

Based on established market economics the study concluded that the high-grade concentrate was expected to attract a minimum 20% price premium to the bench mark Hamersley 62% fines from buyers.

### **Important Note**

***The Company considers these foreign estimates (pursuant to ASX LR 5.12) to be both material and relevant to the decision by the Company to acquire the Buena Vista Project. There is a significant data base available over the Project from various companies dating from the early 1960's through to the present day. This data base includes extensive diamond drilling and conventional and Davis Tube assay results, comprehensive metallurgical testing, hydrogeological drilling and test work. Logistical studies include quoted costings for power supply, road, rail, slurry pipe and port transport, tailings dam design, geotechnical studies for pit design and infrastructure placement, plant design, detailed capex and opex costings, detailed financial modelling and analysis and permitting approvals. The N143-101 report, completed in October 2013 is based on this extensive data base and has synthesised this data into a comprehensive summary of the Project and its potential, including an estimate of available resources. The report was prepared on behalf of Nevada Iron Limited, a publicly***



***listed ASX and TSX-V company by reputable and experienced consulting groups (AMC Consultants, Crosscut Consulting and Holland and Holland) and incorporated the extensive data utilized in a definitive feasibility study completed over the Project by GR Engineering Limited in July 2011. The Company's Competent Person has reviewed the report and informed the Company that it was prepared in a competent and conservative manner. The resource as calculated pursuant to the NI43-101 report has been classified as Indicated and Inferred. These categories are comparable (see Cautionary Statement) with the categories used by JORC Code 2012. It is the opinion of the Company and the Competent Person that these estimates are reliable and represent the results of work done to high standards, using quality sampling, testing and geological and geostatistical modelling. The foreign estimates represent best practice work at the time.***

### ***JORC 2012 Mineral Resource Estimate***

Magnum is of the opinion that the Buena Vista data base is sufficiently detailed to allow a JORC 2012 mineral resource estimate to be carried out without additional drilling or other technical activities such as metallurgical test work or geotechnical studies. As a consequence the work required to update the NI43-101 estimate to JORC 2012 will comprise verification of the data base and confirmation of the mineral resource estimate using three dimensional software.



**Historic West Pit at Buena Vista**

### ***Historic Drilling***

Buena Vista has been extensively drilled with three main programmes having been carried out.

The initial programme was by US Steel in the early 1960's and was by BQ, NQ and HQ diamond drilling and holes were surveyed for dip using a Tropari instrument.

A total of around 13,600 metres of core was completed and all holes were geologically logged.

Around 5,000 samples across the magnetite mineralized zones were taken from the drill core and the magnetite content determined by Davis Tube. All testing was carried out at the Colorado school of Mines Research foundation.

In 2010 a confirmatory diamond drill programme of around 930 metres was carried out by Richmond Mining Limited. This programme, which was HQ was designed to twin various 1960's holes in order to test for vertical and lateral continuity as well as provide QA/QC information on the historic drilling.

All of the core was geologically logged and then halved or quartered and samples assayed by American Assay Laboratories in Reno and SGS Laboratories in Perth.

In 2012 Nevada Iron Limited carried out a programme comprising 3,420 metres of HQ diamond drilling and 13,024 metres of 138 mm reverse circulation drilling.

This programme was designed to provide infill drilling for an expanded resource estimate, extend the boundaries of the known mineralized areas and provide additional core for definitive metallurgical beneficiation test work. All drill holes from this programme were geologically logged and the diamond holes surveyed down hole.

Samples from this programme were prepared by ALS Global Laboratories in Reno and analysed by ALS Laboratories in Perth.

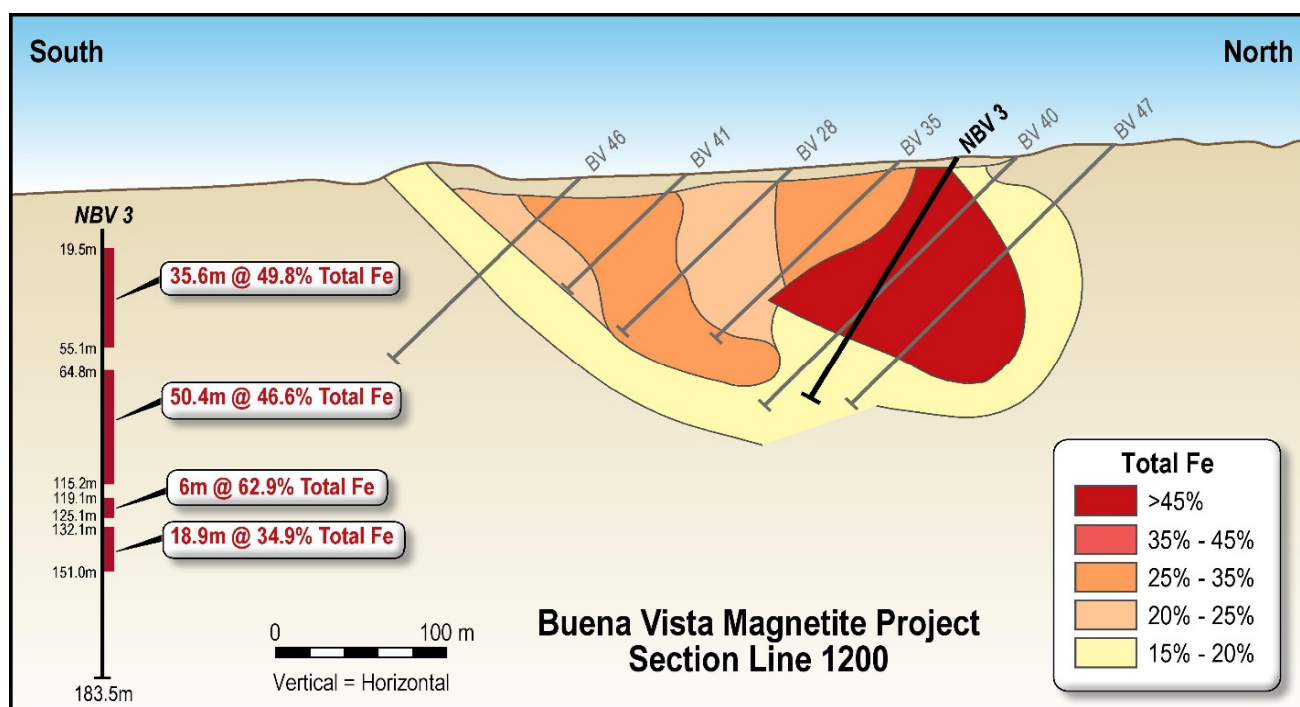
**Mineral Resource Estimation Methodology** (carried out by AMC Consultants for the NI43-101 report dated October 2013)

- Drill hole samples were flagged to identify which geological and mineralogical zone they represent.
- Each sample was flagged according to where the mid-point of the sample lies relative to the relevant wireframes.
- Drill hole samples were flagged with a DOMAIN code to identify which mineralisation and lithological domain they represent.
- For the West deposit additional zone fields were created based on the structural interpretation.
- Samples were composited to 1.5m in length for the West deposit and 3m for the East deposit to ensure all samples have the same sample support. Compositing was not considered necessary for Section 5 as more than 97% of this deposit was collected in 1.5m lengths.
- A wire frame model was constructed for each deposit (Section 5, West and East) in Datamine using standard model prototype parameters.
- Sub celling down to 3.8m E x 3.8m N x 1.5m RL was used to ensure domain boundaries were honored as accurately as possible.
- The wireframe model parameters were determined after due consideration of the drill hole spacing over the entire deposit.
- To build the Fe mineralisation domain components AMC manually created 3D grade shell wireframes for the various Fe domains
- Low Grade >7.5% Fe, High Grade >15% Fe for Section 5 deposit
- Low Grade >10% Fe, Med Grade >20% Fe, High Grade >50% Fe for East and West deposits
- Variography was undertaken on Fe for the flagged 1.5m composites using Visor software for Section 5 and West deposits.
- Grade estimates were completed using ordinary kriging for all 3 deposits
- A Mineral Reserve was estimated using optimisation software to determine the optimal pit design.

**Cautionary Statement:** *The information disclosed above was prepared and first disclosed under the NI43-101. National Instrument 43-101 is a national instrument for the disclosure for mineral projects within Canada or mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. The NI43-101 is broadly comparable to the JORC 2012 Code. The content of the technical reports, and the scientific rigors to which the [mineral resource classifications](#) within them are put, are often very similar and in many cases, NI43-101 and JORC Code technical reports are considered interchangeable. The NI43-101 report was based on the historic exploration work completed by parties prior to 2012 and hence to update the NI43-101 analysis to JORC 2012 the same historic data base will be evaluated. The NI43-101 report has not been prepared by the Company and has not been updated to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The resource estimates may not comply with JORC Code 2012 and a Competent Person has not done sufficient work to classify the estimates to comply with the JORC Code 2012. A review of the data on behalf of the Company indicates the estimates were prepared in a competent manner and nothing has come to the attention of the Company that causes it to question the accuracy or reliability of the former owners' estimates but the Company has not independently validated the former owners'*

*estimates and therefore is not to be regarded as reporting, adopting or endorsing these estimates.*

*It is possible that following further evaluation and/or further exploration work that the estimates presented may materially change and will be needed to be reported afresh under and accordance with the JORC Code 2012.*



**Section Line 1200 (2011 feasibility study)**

## Metallurgy

Unlike banded iron hosted magnetite deposits (taconites) where the magnetite mineralization is finely disseminated in siliceous bedding planes, the Buena Vista ore is of magmatic origin and as a consequence is coarser grained in association with the siliceous host rock.

The prime benefit of this is that metallurgical test work has shown that the primary crush of the Buena Vista ore on average increases the mill grade to +45% irrespective of the primary ore grade. This is an important distinction to taconites and results in reduced energy usage for the subsequent crushing and grinding upgrade to the concentrate grade of +67.5%.

The Buena Vista concentrate contains no deleterious concentrations of impurities with silica typically 1.4-1.5%, alumina less than 1% and negligible sulphur and phosphorous content (around 0.003% respectively). In addition titanium and vanadium levels are low in the Buena Vista concentrate, typical levels are around 0.2%  $\text{TiO}_2$  and 0.3% V.

% Fe	% $\text{SiO}_2$	% $\text{Al}_2\text{O}_3$	% CaO	% MgO	% P	% S	% $\text{TiO}_2$	% V	% LOI
69.5	1.72	0.67	0.16	0.22	0.003	0.002	0.20	0.26	3.15

**Buena Vista Composite Concentrate -150 mesh (106 microns) (After GR Engineering 2011)**

## Project Logistics

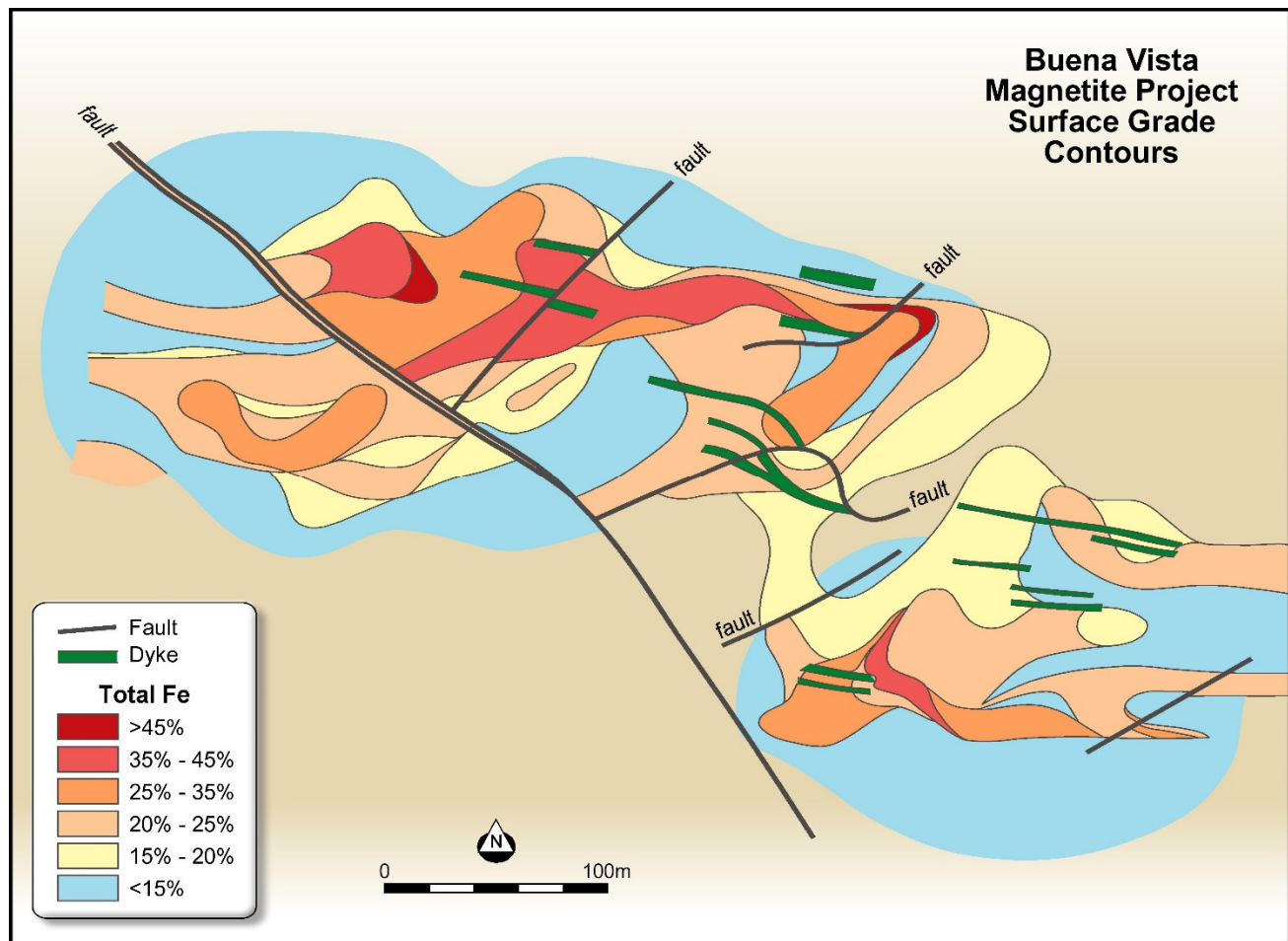
The Buena Vista mine site is ideally located with towns Fallon (20,000 population) and Lovelock (8,000 population) within close proximity to the mine site. This provides site personal and their families the opportunity to reside in local communities with existing infrastructure and facilities.

The mine site is around 50kms from the Union Pacific rail line which connects with multiple export port options including Stockton, West Sacramento, Oakland, San Francisco and Richmond.



Grid power is available within 40km of the deposits and sufficient water can be sourced from ground water aquifers located in the North Carson sink. The Nevada Department of Conservation and Natural Resources has already granted the required water rights for the life of the mine.

The mine is located in Churchill County in the State of Nevada which has a strong history of supporting mining developments and is easily accessed via the sealed Coal Canyon road.



**Surface grade distribution (2011 feasibility study)**

### ***Proposed Works Programme***

As a result of the modern feasibility studies the Buena Vista project has already completed all of the required technical studies such as drilling and metallurgy which are integral to support development.

In addition, important logistical options such as road, rail and port access have been evaluated and costed.

Based on the historical feasibility studies the Buena Vista project presents a unique near-term development opportunity with low capital and low estimated operating costs presenting a robust case against current iron ore prices.

The historic data provides a sound basis for Magnum to undertake an updated feasibility study with the main variable being the optimum annual average production rate.

Magnum has commenced the due diligence with a focus on the accuracy and completeness of the data base and to confirm title and development permit approvals.

Following the due diligence, the proposed works programme to produce an updated feasibility study in preparation for the development of Buena Vista will be as follows:



- 1. Review and verify the existing data and update the mineral resources to JORC 2012 compliance using three dimensional software**
- 2. Review the existing capex and opex estimates of the previous feasibility studies and update to 2020/21 costs**
- 3. Initiate confirmatory negotiations with logistic providers including power, rail and ports.**
- 4. Evaluate rail, slurry and road options for transport of concentrate to rail head**
- 5. Commence discussions with potential debt financiers for the development of Buena Vista**
- 6. Evaluate and determine the optimal production rate for the project.**

Magnum intends to fund this work through a placement of shares to strategic investors undertaken in conjunction with this announcement.

## **GRAVELOTTE PROJECT, SOUTH AFRICA - UPDATE**

Magnum's 74%-owned Gravelotte Project is located in the Limpopo Province of South Africa.

Emeralds were discovered in the province in 1927 and, since then, several companies have explored for and mined within the broader region for emeralds.

From 1929 to 1982 the total recorded emerald production from the Gravelotte Project, as well as the area surrounding the nearby Gravelotte Township, was nearly 113 million carats.

It is reported that during the 1960's the Gravelotte Project itself was the largest emerald mine of its type in the world, employing over 400 sorters.

The Gravelotte emerald project is at a pre-development status.

The final work required for a development decision is finalization of the preferred sorting method, be it XRF or colour sorting.

Magnum has engaged with leading manufacturers of material sorting solutions with a view to providing an effective, cost efficient sorting solution for the recovery of emeralds.

The brief has been to examine Gravelotte ROM and emeralds to determine which technology or combination of technologies will deliver the optimum sorting solution.

In this regard and whilst the use of XRF technology during the trail mining programme was successful, recent advances in colour sorting technology for emeralds has indicated that this technology should also be re-assessed.

Ongoing trials have received positive results with fine tuning continuing, and the manufacturers used all have practical operational experience in the gemstone sorting industry.

The finalisation of the colour sorting test work was however delayed because of Covid-19 export restrictions on ROM ore parcels to the colour sorting test laboratory in Germany. These export restrictions have now been lifted sufficiently to allow the parcel to be sent and test work commenced in late September.

Proposed mining operations will commence within the Cobra North pit where current planning is for around 5 years of production before potential underground mining is required.

The Cobra South and Discovery Pits will provide additional sources of material for potential expansion of operations during this period.

Detailed mine planning has commenced and at this stage it is likely that mining will be on a campaign basis but with year round processing and sorting.



**Gravelotte Project showing existing infrastructure and mining stockpiles**

Gravelotte offers Magnum established infrastructure, existing and accessible open cuts together with extensive low-grade dumps, a large (albeit incomplete) historic data base, a nearby and available work force, local on-site technical expertise and a nearby township that can serve as a supply centre.

The Company has maintained and refurbished much of the extensive mine site infrastructure at Gravelotte including offices, laboratory, workshops, garages, management accommodation complex and a mine hostel to accommodate mine workers.

The mine site is well situated with utilities and logistics being serviced by ESKOM grid power, has a sealed road to the mine gate and has a working airstrip.

## **SHARE PLACEMENT**

Coincident with the proposed acquisition of the Buena Vista Project Magnum intends to undertake a placement of 33,333,333 new shares at an issue price of \$0.03 per share.

The placement has been fully committed to by a range of strategic sophisticated investors with \$250,000 raised immediately and the balance of \$750,000 subject to shareholder approval and the completion of a positive due diligence over Buena Vista.

The funds raised will be used to update the Buena Vista feasibility study and advance funding options for the projects development, continue ongoing pre-development activities at Gravelotte and provide general working capital.



**GRANT BUTTON**  
**Chief Executive Officer/Joint Company Secretary**

Further information please contact:

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Competent Persons Statement

*The information in this announcement that relates to Exploration Results and Mineral Resources complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code**) and has been compiled and assessed under the supervision of Mr Howard Dawson, Non-Executive Director of Magnum Mining and Exploration Limited. Mr Dawson is a member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Dawson consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears. Mr Dawson has reviewed this announcement and considers all of the technical information provided to be an accurate representation of the Buena Vista project and the extensive technical work completed.*

## **Appendix 1 – Material Terms of the Proposed Acquisition**

- (a) \$25,000 payable to the Sellers and/or their nominees within 5 days of the Due Diligence Commencement Date; and
- (b) \$225,000 in cash and the issue of 25,000,000 shares in Magnum at a deemed issue price of \$0.03 per share to the Sellers and/or their nominees on completion of the due diligence and a decision by Magnum to proceed with the acquisition; and
- (c) On completion of a Definitive Feasibility Study, Magnum will issue to the Sellers and/or their nominees, shares in Magnum to the value of \$500,000 with the issue price of the Magnum Shares equal to the 15 day VWAP of Magnum determined as the 15 trading days immediately prior to the completion date of the Definitive Feasibility Study and its announcement to ASX
- (d) On the receipt by Magnum of firm and unconditional offers for the total amount of finance required to develop Buena Vista, Magnum will issue to the Sellers and/or their nominees, shares in Magnum to the value of \$1,500,000 with the issue price of the Magnum Shares equal to the 45 day VWAP of Magnum up to the date at which Magnum is in receipt of the unconditional offers for the total amount of finance required to develop Buena Vista; and
- (e) On the completion of the commissioning of the production facility at Buena Vista, Magnum will issue to the Sellers and/or their nominees, shares in Magnum to the value of \$1,000,000 with the issue price of the Magnum Shares equal to the 15 day VWAP of Magnum immediately up to the completion of the commissioning of production; and
- (f) On receipt by the Buyer of the first payment from the sale of concentrate from Buena Vista, Magnum will issue to the Sellers and/or their nominees, shares and/or cash in Magnum (at the Sellers option) to the value of \$500,000 with the issue price of the Magnum Shares equal to the 15 day VWAP of Magnum up to the date at which Magnum is in receipt of the first payment from the sale of concentrate from Buena Vista; and
- (g) On the delivery by Magnum of the three millionth tonne of concentrate from Buena Vista, Magnum will issue to the Sellers and/or their nominees, shares and/or cash (at the Sellers option) in Magnum to the value of \$1,000,000 with the issue price of the Magnum Shares equal to the 15 day VWAP of Magnum up to the date at which Magnum has delivered the three millionth tonne of concentrate from Buena Vista; and
- (h) On the delivery by Magnum of the five millionth tonne of concentrate from Buena Vista, Magnum will issue to the Sellers and/or their nominees, shares and/or cash (at the Sellers option) in Magnum to the value of \$1,000,000 with the issue price of the Magnum Shares equal to the 15 day VWAP of Magnum up to the date at which Magnum has delivered the five millionth tonne of concentrate from Buena Vista; and
- (i) Magnum will pay \$100,000 to the Sellers and/or their nominees on each six-month anniversary of the Completion Date to a cumulative total of \$500,000 in cash



## JORC CODE, 2012 EDITION

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code ex Figuration	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> </ul>	<p>From the 1960s phase of drilling, approximately 5000 individual samples (taken on footage intervals) were taken, representing about 13,600m of drill core.</p> <p>For the 2010 drilling program approximately 930m of drill core was sampled, usually in 2.1m intervals. The diamond core was cut into quarter core for sampling. Pieces of core that were too small to cut were broken into smaller fragments by hammer and 25% of the volume placed in sample bag.</p> <p>For the 2012 drilling campaign approximately 3,430m of drill core and 13,024m of RC drilling was completed. The diamond core sample intervals were mostly 1m.</p> <p>For the 2010 and 2012 drilling, RC samples were collected at the drill rig after passing through a sample splitter. Samples were collected at 1.5m. Rock chips were logged and sent to storage.</p> <p>The diamond core was logged for lithology, alteration, structure and geotechnical features. The core was then cut in half with half sent to storage and half sent to the lab for analysis.</p> <p>The samples were assigned codes at the point of collection. The code represented the deposit from which the sample was taken without giving an indication of the origin of the sample.</p> <p>For the 2012 program samples were sent in batches to ALS's laboratory in Reno for preparation. Following sample preparation, the pulps were sent to ALS in Perth for assaying. A chain of custody procedure was used to monitor the progress of each sample despatched from site right through to return of the final assay results and storage of the pulps.</p> <p>A log of all samples despatched and details of the date of despatch were maintained on site. Confirmation of receipt of each sample at the laboratory was provided for each batch by ALS.</p> <p>At the laboratory the samples were dried at 105C for 24hrs and then crushed to 90% at passing 6mm. The crushed sample was put through a Jones riffle splitter, and a 0.3kg split was then pulverised to 85% passing 100um</p> <p>For the 2010 program all chemical analyses in America were completed by American Assay Laboratories (AAL) and in Australia were completed by SGS laboratories in Perth.</p> <p>For the 1960s program samples were assayed by the Colorado School of Mines Research</p>

Criteria	JORC Code ex Figuration	Commentary
		Foundation (CSMRF). The CSMRF database provides some empirical assay data for Fe, while for other 1960s drill-holes the Fe has been estimated from a ratio of magnetic Fe results, derived from composite Davis Tube recovery (DTR) analyses and Fe results undertaken on 7.6m composite samples
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>• <i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i></li> </ul>	<p>Phase 1: diamond drilling conducted by Columbia Iron Mines in 1960s drill-holes BV001-BV114, covering West, South-Central and Section 5 deposits. The holes were initiated with a NX casing bit until the hole reached solid ground. Drill core was approximately 2.3 inches in diameter using a wireline drill. For some holes the core was BX size; nearly 1.6 inches in diameter. The drilling in the West section was both along-strike and across-strike, with the majority of holes drilled at a dip of 45 towards 188 degrees. Drill-hole depths ranged from 54m to 334m. Average was 161m. Downhole surveys were measured for dip with a Tropari instrument.</p> <p>Phase 2: diamond drilling conducted by Richmond Mining Ltd in 2010, over the West and South-Central deposits only. A local contactor was used to obtain HQ sized diamond core.</p> <p>Phase 3: diamond and RC drilling conducted by Nevada Iron in 2012, over the West, South-Central and Section 5 deposits. A local contactor was engaged to carry out the programme with two reverse circulation rigs and one diamond drill rig. Core drilling was completed using HQ sized core and the RC drilling was completed using a 5 &amp; 3/4" drill bit.</p>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<p>Whilst no recovery information from the 2010 and 2012 programmes is available, sample weights were recorded in the laboratory. Sample weights show that the average sample was 4kg. These results are considered reasonable.</p> <p>No observations or measurements were made regarding the reverse circulation recoveries. The drill cyclone used to capture the percussion chips was however fully enclosed to reduce dust and loss of fines.</p> <p>All of the drill sampling appears to have been carried out competently and to best industry practice, as consequence there is no evidence to suggest there exists a relationship between sample recovery and grade.</p> <p>AMC from the 43-101 report in 2013 advised that it has not identified any drilling, sampling, or recovery factors that could materially impact on the accuracy or reliability of the results.</p>
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and</i></li> </ul>	<p>Geological logging was undertaken to record lithology, mineralisation type, content and style, geotechnical and structural information.</p> <p>The geological logging is considered</p>

Criteria	JORC Code ex Figuration	Commentary
	<p><i>metallurgical studies.</i></p> <ul style="list-style-type: none"> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<p>appropriate to the style of mineralisation forming the mineral resource.</p> <p>Both summary and detailed logging was carried out and also included in some cases angle to core axis and vein type and frequency.</p> <p>The entire length of all drill holes from 2010 and 2012 programmes was geologically logged.</p> <p>The early drilling, completed by Columbia Iron Mines, was extensive and has been well documented in written reports and images. Based on review of associated documentation, the 1960s drilling data appears to have been obtained using processes and methodologies that are considered satisfactory in modern drilling programmes.</p>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<p>The drill core was either halved or quartered using a masonry saw. It is not known if the core was orientated before cutting or if a consistent side was taken however tis is largely irrelevant for a bulk commodity deposit such as Buena Vista..</p> <p>The reverse circulation samples were taken at 1.5 metre intervals from the cyclone and riffle spilt.</p> <p>The sampling techniques for the drilling programmes were considered appropriate and the diamond drill core and reverse circulation sampling techniques were representative.</p>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<p>Commercial laboratories ALS (2012 programme) and ALL &amp; SGS (2010 programme) were used for the preparation and analysis of samples. This is best industry practice and the techniques used appropriate to the style of mineralisation.</p> <p>Davis Tube was the analytical method in the 1960's and 1970's programmes and XRF was then used subsequently.</p> <p>Extensive QA/QC was undertaken by the laboratories with each batch having a combination of standards, blanks and controls inserted equally around 10% of the batch size.</p> <p>In addition in the post 2000 drilling programmes extensive cross laboratory checks were carried out using pulps and having the pulps relabelled and re-assayed with results cross compared.</p> <p>In all programmes field duplicated were also taken and submitted for analysis.</p>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry</i></li> </ul>	<p>Comparisons between drill sample types show no evidence of bias.</p> <p>A selection of diamond holes were twinned.</p> <p>All drill holes were geologically and structurally</p>

Criteria	JORC Code ex Figuration	Commentary
	<p><i>procedures, data verification, data storage (physical and electronic) protocols.</i></p> <ul style="list-style-type: none"> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<p>logged. Strict QA/QC field protocols were followed to ensure no sample contamination or incorrect recording. There was no adjustment made to assay data.</p>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<p>The drill hole collar positions for the 2010 and 2012 drilling programmes were surveyed by a contractor from known surface datum. The orientation and dip at the commencement of the drill hole was recorded.</p> <p>Topographic control was taken from detailed site surveys and individual drill hole collar surveys. This methodology was considered adequate for the survey control required.</p>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<p>The Buena Vista project area has been explored for over 50 years. The early drilling was extensive and has been well documented in reports and graphical images.</p> <p>Significant infill drilling has been undertaken by Richmond Mining and Nevada Iron focussed on verifying the earlier results and closing off the mineralisation laterally and at depth.</p> <p>The majority of infill drill holes returned mineralisation in the expected position. This provided a high degree of confidence in the geological continuity. Close spaced drilling provides good support for positioning of mineralisation by domain.</p>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<p>The drill holes were orientated as close as possible to perpendicular or near perpendicular to the structure or geological trend containing the mineralisation.</p>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<p>The samples were assigned codes at the point of collection. The code represented the deposit from which the sample was taken without giving an indication of the origin of the sample.</p> <p>For the 2012 program samples were sent in batches to ALS's laboratory in Reno for preparation. Following sample preparation, the pulps were sent to ALS in Perth for assaying. A chain of custody procedure was used to monitor the progress of each sample despatched from site right through to return of the final assay results and storage of the pulps.</p> <p>A log of all samples despatched and details of the date of despatch were maintained on site. Confirmation of receipt of each sample at the laboratory was provided for each batch by ALS.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<p>The sample collection processes were observed by an AMC QP (Sharon Sylvester)</p>



Criteria	JORC Code ex Figuration	Commentary
		<p>during a May 2012 site visit. The methods observed were standard to the industry. Sampling handling was observed and considered acceptable. The ALS sample lab was also inspected and considered satisfactory. The assay results in the drill hole database were verified by cross checking a selection (20%) with the original lab certificates. No significant issues were identified.</p> <p>The QP considered that the quality of the data is sufficient to support the estimation of mineral resources</p>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code ex Figuration	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<p>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</p> <p>In September 2013 NVI announced that it had entered into an agreement to lease a further 4,105 Ha (9,921 acres) of neighbouring tenements comprising fee title land and unpatented mining claims.</p> <p>The 45 patented mining claims covering 777 acres are all secured through lease agreements</p> <p>In June 2011 Nevada Iron announced that it had acquired the surface rights to the Section 5 patented land claim (528 acres). The acquisition of the Section 5 surface rights provided Nevada Iron with full surface rights to the land that will house all of the Buena Vista's proposed production facilities, plant, workshops, stockpiles and waste dumps.</p> <p>All tenements are believed to be in good standing with warranties provided by Nevada Iron to that effect in the S&amp;P agreement</p>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<p>Major exploration programmes have been conducted by the following companies for this opportunity:</p> <ol style="list-style-type: none"> <li>1. Columbia Iron Mining Company from 1960</li> <li>2. Richmond Mining – 2010</li> <li>3. Nevada Iron - 2012</li> </ol>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<p>The general geology of the Buena Vista area consists of basaltic volcanic rocks of Jurassic age that are intruded by the partially scapolitized Humboldt gabbroic complex. Tertiary deposits are in fault contact against</p>

Criteria	JORC Code ex Figuration	Commentary
		<p>the complex in the eastern part of the project area</p> <p>The Buena Vista magnetite deposits formed as the result of metasomatic processes associated with the intrusion of the large Humboldt Gabbro lopolith</p> <p>The magnetite mineralisation at Buena Vista occurs as high grade pods, veins and disseminations within the heavily altered volcanic rock, now mostly represented by scapolite and hornblende</p>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	The drill data base is too large to meaningful summarise. Drill data has been released by previous explorers.
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>Reported drill result data contains aggregated length and assay results.</p> <p>Unaggregated true drill width grades were used for the sample base to estimate the mineral resource.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<p>Drill holes were drilled as close as possible to perpendicular to the geological strike and particularly the strike of mineralized zones.</p> <p>All depths and intervals are downhole depths.</p>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a Figure view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	Drill location maps have been released by previous explorers.
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high</i></li> </ul>	The NI430101 report had full access to all drill results.

Criteria	JORC Code ex Figuration	Commentary
	<i>grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<p>The project has been extensively explored over many years along with some geophysical investigations. There is a significant amount of historical information available for the project area.</p> <p>Fixed wing and helicopter aeromagnetic surveys have been completed over the project area. These surveys delineated strong positive magnetic anomalies associated with the magnetite bodies. Follow-up ground magnetic surveys were conducted to refine the airborne anomalies, estimate depth to mineralisation and define drilling targets</p>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of Figured further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<p>Further work has been completed. The drilling programmes in 2010 by Richmond Mining and 2012 by Nevada Iron was designed to delineate the lateral and depth edges of the targeted mineralisation.</p>

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The data used for the mineral resource estimates was validated by Nevada Mining and its consultants through a combination of cross comparison of laboratory results sheets and sample intervals on the drill logs to the contents of the database.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person has been to site on many occasions including during drilling programmes.</li> <li>On all occasions it was determined that the work being completed was to the highest industry standards.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>Buena Vista is a magmatic intrusive deposit. The pre zones are variably mineralised dependent upon the availability of structural conduits and intensity of alteration. The project is a bulk mining proposition and as a consequence in pit geological interpretation is not overly critical as the ore zones have been intensively drilled and on a pit scale the geology and structure well understood.</li> <li>Only physical data obtained in the field has been used in the resource estimates.</li> <li>The application of hard boundaries to reflect the position of the domains is supported by the field and drilling observations.</li> <li>The intensity of alteration is the main contributing factor for mineral intensity in</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>the disseminated zones. For the zones of the massive magnetite it is likely that structure was the dominant controlling feature.</p> <ul style="list-style-type: none"> <li>Factors affecting grade are alteration and structure.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>The intensity (grade) of the mineralisation is variable within the proposed pits but cohesive within the cut-off.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>Drill hole samples were flagged to identify which geological and mineralogical zone they represent.</li> <li>Each sample was flagged according to where the mid-point of the sample lies relative to the relevant wireframes.</li> <li>Drill hole samples were flagged with a DOMAIN code to identify which mineralisation and lithological domain they represent.</li> <li>For the West deposit additional zone fields were created based on the structural interpretation.</li> <li>Samples were composited to 1.5m in length for the West deposit and 3m for the East deposit to ensure all samples have the same sample support. Compositing was not considered necessary for Section 5 as more than 97% of this deposit was collected in 1.5m lengths.</li> <li>A wire frame model was constructed for each deposit (Section 5, West and East) in Datamine using standard model prototype parameters.</li> <li>Subcelling down to 3.8m E x 3.8m N x 1.5m RL was used to ensure domain boundaries were honoured as accurately as possible.</li> <li>The wireframe model parameters were determined after due consideration of the drill hole spacing over the entire deposit.</li> <li>To build the Fe mineralisation domain components AMC manually created 3D grade shell wireframes for the various Fe domains <ul style="list-style-type: none"> <li>Low Grade &gt;7.5% Fe, and</li> <li>High Grade &gt;15% Fe for Section 5 deposit</li> <li>Low Grade &gt;10% Fe,</li> <li>Med Grade &gt;20% Fe, and</li> <li>High Grade &gt;50% Fe for East and West deposits</li> </ul> </li> <li>Variography was undertaken on Fe for the flagged 1.5m composites using Visor software for Section 5 and West deposits.</li> <li>Grade estimates were completed using ordinary kriging for all 3 deposits</li> <li>A Mineral Reserve was estimated using optimisation software to determine the optimal pit design.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li><i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the</i></li> </ul>	<ul style="list-style-type: none"> <li>The tonnages were estimated using density determined by dry measurements.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>method of determination of the moisture content.</i>	
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>For the Section 5 deposit the cut-off was 7.5% Fe.</li> <li>For the East and West deposits, the cut-off was 10% Fe.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Mining will be by open cut. Visual controls will be used to determine ore and waste.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>In 1960 extensive Davis Tube testing was conducted by the CSMRF by Columbia Iron Mines and US Steel on 120 drill-cores, 77 from the West/South Central deposits, with tests being conducted on approximately every 7 top 10 feet. Totally 400 determinations. This testing gave an excellent insight into the metallurgical variation that can be expected across and at depth for the deposits. In total 884 drill core bench composites were tested at nominally P80 = 50 microns. The unweighted average of comparable results gave a feed grade of 22.8%. At the 63 micron grind a concentrate grade of 64.6% was achieved. At 50 microns the concentrate grade achieved was 66.9%. The test work shows there is a strong correlation between the feed grade above 20% Fe and a concentrate grade above 65% Fe. The lower grade feeds all show that a concentrate grade between 60% and 70% Fe can be obtained from feed grades as low as 10% Fe. Later test work by Nevada Iron confirmed these findings. This work showed by high grade +45%Fe and med grade 25-45%Fe feed can be recovered to high grade +65%Fe.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the</li> </ul>	<ul style="list-style-type: none"> <li>The mineral resources are within a granted mining leases and all of the required licensing approvals are in place.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>environmental assumptions made.</i>	
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>• <i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> <li>• <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The bulk density has been determined from core using industry standard techniques..</li> <li>• In general the host lithologies do not display any significant porosity.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The classifications determined in the NI43-101 report are based on the quality and amount of input data.</li> <li>• The extensive drill data provides confidence in the classification determined.</li> <li>• The mineral resource estimates reflect the Competent Persons understanding of Buena Vista.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A detailed visual validation was completed, and it was determined that the drillhole data and model flagging was completed as intended.</li> <li>• The grade models were also checked in section and plan against the drill hole assays and it was determined that the cell model estimates appeared to reflect drill hole data reasonably well.</li> </ul>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Competent Person has a high level of confidence in the mineral resource estimate determined under the NI43-101 report.</li> <li>• The statement relates to global estimates of tonnes and grade.</li> </ul>