ASX Release

15 October 2020

Metallurgical Testing Results Confirm the High Quality of Yerbas Buenas Ore

- **Successful testing of diamond core from 2019/20 drilling program completed**
- **+62% Fe iron ore concentrate produced using totally dry process at high iron recoveries**
- **-3mm concentrate capable of producing high quality pellet feeds of +70% Fe**
- **Metallurgical Testing results for a key component of Yerbas Buenas feasibility study**

Freehill Mining Limited (ASX: FHS 'Freehill' or 'the Company') is pleased to announce that as part of the feasibility study for the 100%-owned Yerbas Buenas project, metallurgical testing results of drill core samples from the company's YB6 magnetite resource have been completed with high quality and grade iron ore concentrate produced.

Results have confirmed that a quality -3mm concentrate 'sinter feed' of **+62% Fe** can be produced relatively simply due to the high quality of the Yerbas Buenas mineralisation whilst some tests have produced over **63% Fe**.

Additional testing of the concentrates using Davis Tube Separation showed that the Yerbas Buenas sinter feed reduced to -45 microns can produce a high quality, low impurity pellet feed with **over 71% Fe.**

What is most encouraging is that even the lower grade feed samples were able to produce a Davis Tube concentrate of over **70% Fe** indicating Yerbas Buenas materials amenability to potentially produce high quality pellet feed and pellets.

Testing was carried out at SGS Santiago, JK Tech Centre Australia and at one of Chile's most respected iron ore metallurgical laboratories Polimin Ltda.

Several samples totalling 650kg and representing low, medium and high grade mineralised diamond core from varying geological domains were used to conduct crushing and magnetic separation tests at various feed grades and process settings. Each type was tested separately to determine magnetite recovery through different regions of the resource.

Several more phases of testing and development to optimise results will occur however this first round of results are very encouraging.

Type of product	%Fe	%SiO_2	% Al_2O_3	P	S	Moisture %
Yerbas Buenas Sinter feed	61-63	5.5	1.25	0.082	0.026	<2
Typical Platts IODEX 62% Fines specifications	62.00	4.50	2.00	0.075	0.020	8.00
Typical Sinter feed specification for sale within Chile	62.00	4.50	2.00	0.075	0.15	3.00
Yerbas Buenas indicative pellet feed P_{80} -43 microns	70-71	2.3-3.5	0.7-1.1	0.03	0.01	-

Table 1 – Comparison of Yerbas Buenas concentrate (sinter feed) against Platts and indicative pellet feed

As this is the first time that metallurgical testing has been performed on YB6 material the results are extremely encouraging and further testwork is expected to lead to lower contaminant levels.

Highlights of the testing program were:

- SGS SMC testing to establish various crushing parameters.
- Bond Work Index tests indicate relatively low crushing energy requirements at 14-18 kWh/t.
- JK Tech Simulation using crushing data to establish likely processing circuits and crushing equipment needs.

- Pilot scale magnetic separation testing done at -3mm using only rougher and cleaner stages.
- All processing and magnetic separation done dry to reflect a final plant design that would use no water.
- All Davis Tube Separation tests produced concentrates of >70% Fe grade indicating very good magnetite release.
- Low degree of oxidation indicating minimal hematites present and thus high mass yields.
- Over 90% recovery of iron at the nominal mineable grade.
- Mineralogy work under way to investigate whether recoveries can be increased further.
- Phosphorus (P) levels and other impurities below industry maximum limits.

Figure 1 – Polimin pilot magnetic separation equipment used during some of the Yerbas Buenas tests

Metallurgical testing of the diamond core is one important part of the various works being undertaken as part of the Feasibility Study into the development of a magnetite mine at Yerbas Buenas.

Project Development Concept

Freehill's development concept is that of an open pit drill, blast, truck and shovel mine with a conventional crushing and screening operation producing a -3mm crushed ore. Crushed material will then be processed through two or three stages of dry magnetic separation to produce a nominal 62% Fe fines product for sale.

Freehill operated a trial mining and demonstration processing plant in the YB1 orebody for almost two years supplying sinter feed and preconcentrate to one of Chile's largest pellet feed plants. Feedback from the customer was that Yerbas Buenas concentrate produced a very high quality pellet feed that performed well in iron ore smelters. **The current metallurgical test work using YB6 material suggests that a similar quality product is capable of being produced.**

Comment

Chief Executive Officer Peter Hinner said: *"The metallurgical test work is a key component of the feasibility study for Yerbas Buenas and the results achieved clearly demonstrate that we can produce a quality, high grade concentrate suitable for local customers and other potential off-takers that have expressed an interest in our product. More test work is ongoing and we are confident that concentrates of similar quality will be produced."*

Competent Persons Statement

The information in this report that relates to exploration results is based on information compiled by Mr Peter Hinner, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hinner is a full-time employee of Freehill Mining Ltd 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code 2012). Peter Hinner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

About Freehill Mining Limited

Freehill Mining Limited (ASX: FHS) is a mineral exploration company focused on the development of its 100%-owned Yerbas Buenas magnetite project in Chile. Yerbas Buenas has proven magnetite mineralisation as well as being prospective for both gold and copper mineralisation. Drilling results to date have so far demonstrated that magnetite mineralisation extends along at least a 2km contiguous corridor of what is shown by geophysics to be a 3km long structure extending from the northern boundary to southern boundary of the property. The company has also identified copper and gold mineralisation testing has commenced with diamond drilling on two IP anomalies highlighted in earlier exploration.

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JORC Code, 2012 Edition – Table 1 report

Freehill Mining Limited

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Sampling techniques described apply only to the raw core. NQ diamond core drilling carried out by DV Drilling using two Cortech 1300G maxi track mounted drill rigs. • Holes were orientated as listed in Table 1, and were drilled at dips of 60° in a generally easterly direction. • Core remained in the custody of the company after being picked up from the drilling site. • Protocol set up and several magnetic susceptibility meter readings taken for each 1m of core. Meter readings then averaged for each 1m of core and recorded. • Instrument calibrated against a magnetic standard regularly. • The drill hole locations were located by survey differential GPS and checked against known government benchmarks. • Down hole surveys were conducted on all holes during drilling for azimuth and orientation using Reflex Ezi-Gyro and Reflex-Ori
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	• DDH drilling was the method chosen for all holes drilled. The core diameter was HQ triple tube (in weathered rock and surficial sands) and NQ size in competent rock.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Core recoveries were observed during the drilling and any core loss was noted in the geological logs. • Samples were checked by for volume, moisture content, possible contamination and recoveries. Any issues are discussed with the drilling contractor. • Some core loss was apparent and noted (generally <5%) in the weathered portion of the holes, however this was generally minor.
Logging	• *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 metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All core sample logged by a qualified geologist with experience in magnetite deposits in Chile to a level appropriate with the style of mineralization • Logging was both qualitative and quantitative • Lithology, alteration, mineralization level & magnetic susceptibility all logged • All core remained as full core until fully logged and magnetic susceptibility measurements recorded. • Four magnetic susceptibility readings taken of each metre of core prior to cutting and the averaged recorded. • All holes were logged in full.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• All core cut using a standard electric diamond saw. • The preparation of samples follows industry practice. • Following detailed logging and magnetic susceptibility measurements taken the core was marked for orientation and cut in half by diamond saw. • Assay sample intervals were then marked by the geologist and ½ core samples bagged into plastic bags and dispatched to ALS Coquimbo, Chile for ore preparation. • Ore preparation was a standard PREP-31 method which involved oven drying, crushing to -2mm and a 250g sub-sampled pulverized of 85% passing 75 micron using LM5 mills. • Field QA_QC involved submitting blank material and also certified standard pulps. The laboratory also carried out internal standard QA_QC procedures. The sample sizes are considered appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• All assaying of sample pulps conducted at ALS Iron ore Technical Centre Perth which is an accredited assay laboratories. • Assays on pulps include XRF of all samples, Magnasat testing of all samples and Davis Tube Recovery tesing of a subset of samples • Laboratory QA/QC samples involving the use of blanks, duplicates, standards (certified reference materials), replicates as part of in-house procedures.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Significant intersections were verified by magnetic susceptibility meter and visual colour assessment. • One twinned hole was done, which compared YB-016 with YB-039. • Drill logs and geological logging has been done on hand written sheets which are converted to digital format each day
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• All drill hole locations have been done using differential GPS by a registered surveying company. • Drill collar elevations and project area topography have been double checked by GeoAmbiente using a GPS GEODÉSICO V60 GNSS MARCA HI-TARGET drone with +/- 1.5mm accuracy • All digital data, maps and data products associated with the drilling program are provided in coordinate system: datum WGS84 and projection UTM zone 19S.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity*	• Drill holes at the Yerbas Buenas project YB6 structure are shown in the appendix of the main report

Criteria	JORC Code explanation	Commentary
	appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • *Whether sample compositing has been applied.*	• The drilling program line spacing,hole spacing and downhole sampling and assaying frequency is considered sufficient to establish a JORC compliant resource. • No sample compositing has been done. Assay intervals have been selected based on grades estimated by magnetic susceptibility meter and visual assessment and any single assay sample does not contain more than 2m of core.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• Drill lines run East-West • No orientation based sampling bias has been identified in the data to date. • The main structure is thought to dip to the west
Sample security	• *The measures taken to ensure sample security.*	• Chain of Custody from drilling through to delivery of samples to the laboratory is entirely the supervision of Freehill and its employees. From the ore preparation stage at ALS Coquimbo the samples are under the control of ALS until fully assayed in Perth.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audit of data has been completed to date.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Yerbas Buenas Project is located on licenses held through Chilean subsidieries in which Freehill Investments currently has a 100% interest. Licenses are numbers 04102-2723-1, 04102-2714-2, 04102-2715-0, 04102-2755-K, 04102-2937-4 and total 398 hectares • Freehill Investments Pty Ltd has a 100% interest in these subsidiaries. The licences allow for the extraction of up to 5000 tonnes per month and application currently with Sernageomin, the Chilean mining authority.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Two Reverse Circulation drill holes- SDHYB1101 & 1102- completed by previous tenement holder Compania Mineria Pacifico (CAP) in 2011 and referred to in prospectus section 2.5 of IGR • Holes drilled to 101m & 150m, Dip 70 degrees, azimuth 119, E6,723,594 N279,725 & E6,723,564 N279,758 • Complete drill hole assays provided by Compania Minera del Pacifico, photographs of drilling activity and hole collars, geophysics by Geoexploracoiones, • Samples assayed for Total %Fe and % magnetics by Davis Tube.

Criteria	JORC Code explanation	Commentary
		• 50m line spaced ground magnetics survey completed over 800mx800m in 2010 by Geoexploraciones
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit occurs within the El Tofo and Atacama Fault region with those projects lying along the El Tofo Fault being primarily iron bearing whilst those along the Atacama Fault tending to be predominantly copper bearing. The central area is characterised by three dominant intrusive structures.The structural setting is one of NE-SW trending subvertical tabular bodies with apatite the primary gangue. The primary intrusives unit is a diorite with veins of quartz-magnetite, disseminated magnetite. Andesitic porphyry occurs with abundant biotite, quartz with magnetite as well as hydrothermal breccia with magnetite. Yerbas Buenas shows some evidence evidence of IOCG mineralisation

Drill hole Information	• *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:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *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.*
		• Table of drill hole positions provided in several previous media releases

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Exploration results are not being reported. • No aggregate intercepts were used in the estimation. • No metal equivalents are being reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Exploration intercepts are not being reported. • Where possible drill holes are oriented to cut at right angles across the mineralisation. • Down hole widths are considered as true widths. • Geometry of mineralization not yet determined but will be determined as a result of the current drilling campaign
Diagrams	• *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 plan view of drill hole collar locations and appropriate sectional views.*	• See Figure in Appendix following body of report
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of*	• This document is considered to be a balanced report of the diamond core

Criteria	JORC Code explanation	Commentary
	both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	logging and magnetic susceptibility measurements taken to date.
Other substantive exploration data	• *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.*	• Metallurgical crushing and magnetic separation tests were carried out at Polimin Ltda Santiago to establish iron recovery, mass yields to concentrate and likely concentrate qualities. • Three mineralization domains selected – disseminated , breccia, and massive used to make 6 composite samples of 100kg each. • Half drill core from diamond drilling program used. 167 drill intervals used. • Statistical analysis conducted of all core to identify grade and mineralization domains. • All samples dry crushed to -3mm for magnet testing. All test products assayed for Fe and impurities. Some David Tube testing done. Head grades varied from 16.64% and 58.81%Fe. • All magnet test done using Eriez Pilot DFA Dry Magnetic Separator: 36" diameter roll • Bond work indexes also established. • Report issued as "NPP241 magnetic Concentration tests". Testing resulted in recover. • Separate set of half core samples sent to SGS Santiago for SMC testing that established various hardness and size distribution parameters. Those results then supplied to JKTech Brisbane who modelled data to generate suitable crushing circuit designs. Report issued as "San Patricio Crushing Circuit Simulation Study"
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Additional ground magnetics work planned for YB6 resource to assist in identification of infill drill hole positions • Followup RC 'in-fill' drilling of the YB6 magnetic structure is planned for Q4 2020 to upgrade the resource category