ASX Release



25 August 2020

Sampling program at El Dorado yields high grade Iron, Copper and Gold

- Extensive rock chip sampling and mapping program completed across the ~750 hectare El Dorado project with three new mineralised targets discovered
- Ground magnetic geophysics survey underway and exploration activities ongoing through to end September

Freehill Mining Limited (ASX: FHS 'Freehill' or 'the Company') is pleased to announce that a five-day mapping and sampling program was completed in July 2020 across the El Dorado project area with high grade iron, copper and gold mineralisation present in rock chip samples.

Whilst advancing development of the JORC-compliant 67 million tonne magnetite resource at the 100%-owned Yerbas Buenas project is the Company's main priority, Freehill is pleased to confirm that preliminary exploration work at the El Dorado concessions has identified three high grade copper and gold targets. Results from the sampling are provided in table 1 below, and some highlights include:

- Cu- 9.93%
- Au- 22.10 g/t
- Fe- 36%

The El Dorado project covers 750 hectares over eight tenements and adjoins the northern boundary of Freehill's Yerbas Buenas project area (Fig 1). The Company entered into a formal acquisition agreement in respect of the El Dorado tenements in March this year, and the acquisition by issue of Freehill shares was approved by shareholders in July 2020. The El Dorado tenements will lift Freehill's exploration and development area to approximately 1,250 Hectares in Chile's highly prospective iron-copper-gold belt.

Comment

Chief Executive Officer Peter Hinner said: "These assay results from this sampling program confirm that El Dorado is another richly endowed mineralised area that will potentially add to our magnetite resource at Yerbas Buenas, but it also gives us further value upside given the discovery of this copper and gold mineralisation. The grades are undoubtedly very encouraging. While magnetite is our primary focus, it is worth reminding shareholders that El Dorado and Yerbas Buenas are along trend from some significant copper and gold discoveries. We are now considering follow-up exploration given these results. That said, at this time our focus is on advancing the Yerbas Buenas feasibility study – an important body of work will be another major value catalyst for Freehill."

Recent Reconnaissance Work

Freehill's geological personnel have recently carried out preliminary surface sampling and mapping program targeting the entire El Dorado tenements and follows on from work completed earlier this year.

The work focussed on the artisanal mining areas in the southern portion of the project area (Target 1) that showed encouraging gold mineralisation during earlier work this year, as well as two areas (Target 2 & 3) highlighted during the work and 19 samples were collected (Fig 2).

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Three of the samples were collected from $float^1$ that was located just outside the El Dorado tenements in the northern section of the project area as it was deemed by Freehill geologists to be representative of mineralisation in a steep cliff that marks the boundary of the project area. The three samples are EDM16, EDM18 & EDM19 (Fig 2 & Table 1).



Figure 1: Freehill's tenement plan highlighting the El Dorado & Yerbas Buenas projects

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¹ - Rock that has moved from its original location & not in-situ.

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Sample Number	Tenement	North (WGS84)	East (WGS84)	RL	Fe (%)	Cu (%)	Au (ppm)
EDM01	ED 8	6,725,581	280,190	401	7.9	0.09	0.03
EDM02	ED 8	6,725,581	280,190	451	2.1	0.04	0.00
EDM03	ED 8	6,725,518	280,289	375	3.1	0.05	0.01
EDM04	ED 8	6,725,428	280,343	375	36.0	1.48	0.02
EDM05	ED 8	6,725,379	280,340	368	18.4	0.29	3.56
EDM06	ED 8	6,725,385	280,297	381	10.9	0.38	7.12
EDM07	ED 8	6,725,405	280,212	407	20.5	0.82	22.10
EDM08	ED 8	6,725,405	280,212	408	4.4	0.05	0.64
EDM09	ED 8	6,725,286	280,255	401	10.0	0.25	13.00
EDM10	ED 8	6,725,288	280,242	400	1.9	0.05	0.35
EDM11	ED 8	6,726,870	280,611	513	16.6	3.55	0.25
EDM12	ED 5	6,726,868	280,586	526	22.3	4.02	0.87
EDM13	ED 5	6,726,868	280,586	526	7.6	0.06	0.01
EDM14	ED 5	6,726,868	280,586	526	9.2	0.05	0.02
EDM15	ED 5	6,726,983	280,594	519	10.7	0.04	0.01
EDM16*	ED 5	6,728,256	279,712	947	18.2	9.93	1.59
EDM17	ED 5	6,727,134	280,310	603	29.0	2.09	0.72
EDM18*	ED 1	6,727,787	279,644	989	12.3	3.27	0.74
EDM19*	ED 1	6,727,787	279,644	989	2.1	0.57	0.04

Table 1- Rock chip sampling results

*- samples from outside project area

District Geology

The El Dorado project is located in the La Negra Formation and is located between the El Romeral fault and the El Tofo fault (Fig 4) at the southern end of a zone of magnetite mineralisation with a number of deposits currently in development (Tofo Norte, Dominga and Pleito Cristales) with all having resources of more than 1 Billion tonnes of iron ore.

The Atacama Fault System (AFS), also locally known as the Romeral fault system, is located approximately 3-4 km to the east of the Yerbas Buenas and El Dorado projects and is striking NNE. The area is generally obscured beneath alluvial gravels and sand that has filled the wide Choros Altos valley.

Subsidiary distensional faults, related to the AFS, are believed to control vein mineralisation within the La Higuera region, which is located to the east of the AFS, as well as numerous other deposits in the area.

The El Tofo fault, which is associated with the Santa Dominga mineralisation, continues south through the El Dorado project and is thought to control the known mineralisation at El Dorado.

Project Geology

The El Dorado area consists of a sequence of intrusive rocks (diorites, quartz-diorites, amphibole diorites), micro-diorites, granodiorites, tonalites in the northern section and intermediate volcanic to sub-volcanic rocks emerging predominantly in the southern and western sections in the form of fine andesites and andesitic dikes.

The intermediate units are closely related with structural controls associated with the El Tofo-Romeral fault system which also led to the intrusion the dioritic complex, in the north, that left several isolated blocks of heavily altered andesite.

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Structurally, the area is dominated by a set of faults trending sub-parallel to the El Tofo-Romeral fault (northwestsoutheast) and a sub-set of cross cutting lineaments associated with contact limits of andesite tectonic blocks were recognized. Figure 3 shows the project area geology together with known artisanal mines.

Mineralisation mainly corresponds to magnetite veins and, to a lesser extent, disseminated copper carbonate and sulfide mineralisation associated with strongly oxidized limonite vein and fault structures.

Hematite is also associated with magnetite as well as jarosite and pyrite.



Figure 2: - El Dorado rockchip sampling carried out by Freehill personnel

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Results

The majority of the sampling was focussed on Target 1 area (Fig 2) where work by the tenements previous owners highlighted a series of veins and artisanal workings that are sub-parallel to the El Tofo-Romeral fault (see ASX release: 27/04/2020) where results of up to 4.9% Cu, 22.8g/t Au & 50% Fe were returned.

The current sampling by Freehill has confirmed the previous results and confirms the area as a prospective target for Cu/Au mineralisation with results up to sub-parallel to the El Tofo-Romeral fault.

Target 2 contains a series of veins that are sub-parallel to the El Tofo-Romeral fault as well associated cross cutting mineralised structures that are anomalous in Cu/Fe mineralisation. Grades of up to 4% Cu, 0.9g/t Au & 29% Fe were returned.

Target 3 is a steep north-south cliff running parallel to the project area's western boundary, where float sampled from the scree of the cliff has returned anomalous Cu/Au mineralisation. Grades of up to 10% Cu, 1.6g/t Au & 18% Fe were returned.

Areas 3 will be more extensively mapped and sampled as part of the work planned for September.

Geophysics

Argali Geophysics are currently completing a ground magnetic survey of the entire El Dorado project area and the data from the survey is expected to be available to assist in the planned mapping and sampling program discussed below.

Future Exploration by Freehill

Freehill has contracted Tracking SpA, a Chilean contract exploration company that specialises in exploration of copper gold mineralisation, to complete a more detailed mapping and sampling survey of the El Dorado project and the survey will include rockchip and soil sampling as well as more detailed surface mapping.

The survey is expected to commence in late August-early September 2020 and is expected to complement the ground magnetic survey that will be completed and modelled prior to Tracking commencing the survey.

Regional Mineralisation

Within 30km of the El Dorado project there are three copper-gold concentrating plants currently in operation and 22 kilometres north of the El Dorado area, is the Santa Dominga gold mine which was mined in the 1970s and 80s.

Mining activity in the La Higuera region dates back to at least the late 18th century, however there had been no known modern or published exploration conducted until Azul Ventures (TSX: AZL) commenced exploration in the area at their Caballo Blanco project which is located to the immediate east of the El Dorado area and west of La Higuera.

Azul has reported that its exploration program focused on two target areas known as La Higuera and Caballo Blanco which abuts the eastern side of the El Dorado area and work by Azul has included rock chip sampling, geophysical surveys (both ground magnetics and Induced Polarisation) 4,088m of drilling.

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Figure 3: Geological map Yerbas Buenas North & El Dorado

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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. 	 Reconnaissance rock chip sampling is reported in this release. The nature of sampling is termed grab sampling. Samples were collected on a loose grid system where outcrop was encountered. The sampling is not considered to be continuous chip method. Samples tabulated in this release have been taken from both mineralised and unmineralised material. This is a common practice to determine background element concentrations in an area and for use in alteration characterisation
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). 	 Not applicable as no drilling was required to take the sample
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. 	 Not applicable for grab sample
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. 	 Samples were logged as collected & used to form a geological map of the area sampled Logging was qualitative by nature
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. 	 Samples ranged in weight from 1.8 to 4.1 kgs and averaged 2.4 kgs. Laboratory standards and duplicates were run. Sample size was considered appropriate for the grain size of the mineral
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 	 Assaying was by ALS Coquimbo using method M-Au – FA-AAS which used Fire Assay with AA finish. No standards, duplicates or blanks submitted with the exploration sample Laboratory standards and duplicates

Criteria	JORC Code explanation	Commentary		
	 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. 	were run.		
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. 	 Not applicable for grab sample Sample data were recorded onto logging sheets and subsequently recorded into the exploration database 		
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. 	 Sample locations were recorded using a hand held GPS All digital data, maps and data products associated with the sample 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 appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	 Data spacing is controlled by the natural distribution of rock on the natural surface. This results in an irregular sample distribution. No sample compositing occurred 		
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. 	 Sampling is considered appropriate to identify 'broad' anomalous areas of potential mineralisation. Samples are not to be used in resource/reserve estimation. 		
Sample security	The measures taken to ensure sample security.	 Samples secured under a "chain of Custody' protocol and under the control of Tracking personnel at all times. Tracking personnel delivered samples to the 'AGS' assay laboratory for formal receival. 		
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No formal review has been undertaken and all work managed and under the control of the competent person.		

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 	 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

Criteria	JORC Code explanation	Commentary		
	licence to operate in the area.	 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 Chiliean 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. 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. 	 Not applicable. No drilling reported. 		
Data aggregation	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off 	 Not applicable for currently reported magnetic susceptibility measurements. 		

Criteria	JORC Code explanation	Commentary
methods	 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. 	
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'). 	 Not applicable for currently reported magnetic susceptibility measurements. 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 the body of the report
Balanced reporting	 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	 This document is considered to be a balanced report of the sampling completed.
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. 	 IP geophysics & Ground magnetics have been completed over the area covered by the sampling. Reporting of the geophysical work completed is in previous reports and in this report
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. 	 Diamond drilling is being planned for the two anomalies highlighted in the IP geophysics.