ASX Release

16 May 2024

El Dorado copper-gold strike length expands six-fold to 1.3km

- **Latest assays also include seven Au results obtained from ongoing analysis of the geological database, including 3.3g/t Au at the northernmost point of 'Target A' through to 5.2g/t Au at the southernmost point.**

- **Builds on earlier sample results reported late January of 13.52g/t Au, 9.3g/t Au (both 1m samples) and an average Au grade of 5.24 g/t Au with a mode of 7.94g/t Au over a 200-metre mineralised vein.**

- **Encouragingly, results now include a 50m vein with an average copper grade of 1% Cu – follow up work planned along strike. Multiple historical small-scale copper mines also identified across the project.**

- **These latest high-grade gold results and historical data from surface have defined Target A as a highly prospective mining target which has now been extended from 200m to ~1.3km.**

- **The newly extended ~1.3km prospective corridor, hosting multiple copper veins and high-grade gold veins is located adjacent to numerous large magnetic targets over 500m in length – potentially indicative of a large mineralised ore body in an emerging IOCG province.**

- **Further encouraging results support plans for continued low-cost exploration at El Dorado, with extensive trenching program across Target A being planned.**

- **Concurrent to exploration at El Dorado, Freehill's mining operations at Yerbas Buenas continued to ramp with a significantly expanded production capacity to meet growing demand. Further updates are pending.**

Freehill Mining Limited (ASX:FHS 'Freehill' or 'the Company') is pleased to announce that it has completed additional integration of the property's geological database across the Target A area at the 800 hectare, 100%-owned Copper-Gold El Dorado prospect, located adjacent to the Company's mining operations at Yerbas Buenas, Northern Chile.

The latest analysis follows extensive sampling for the El Dorado Central area, including Target A Central, Target A North, and Target B that was completed earlier this year (*refer ASX Announcement 30 January 2024*).

New geochemical results

A total of 16 new geochemical results for rock chip samples across 31 locations, which were collected in late-2023, have now been made available. The additional results are focused on the El Dorado Target A area and key results are reflected in the highlights above.

These new results also include two sectors that were particularly prospective for copper. A central vein, dipping 70 degrees to the NW, with 1% Cu, and 257 ppm Cobalt, is detectable for over 50m in length with an unknown undercover extension. As well, a number of small-scale historical copper mines have been identified *(see images 2-5)*. These copper results, in addition to previously reported high-grade gold findings, have significantly upgraded both the Target A corridor, and the project as a whole, to host potential valuable IOCG-style copper-gold mineralisation, similar to that found at nearby prospects.

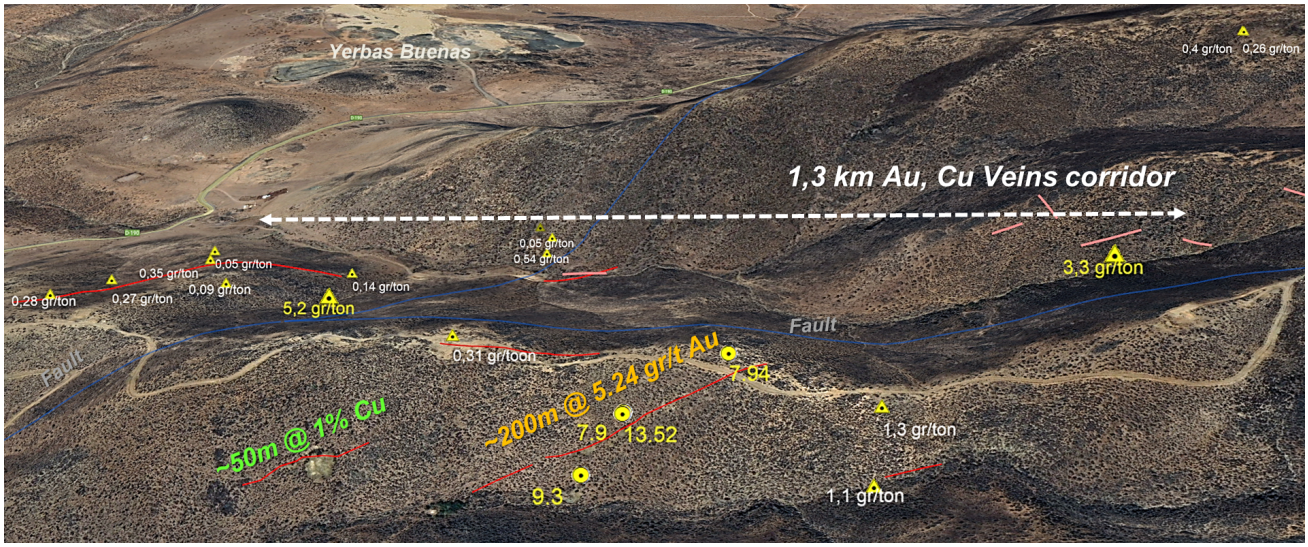

Image 1: Extended 1.3km strike length of Target A at El Dorado Cu-Au Project and new 50m copper vein grading 1% Cu

Along with the mining potential of these high-grade gold veins, their emplacement along a structural corridor and proximity to numerous large magnetic targets over 500m in length – with strong iron grades anomalous to cobalt (up to 0.05%) and vanadium (up to 0.39%) – as well as untested chargeability anomalies and the presence of subvolcanic extensively IOCG type altered zones, all further refine the prospective factors that support the presence of a large orebody emplaced within the central tenement area.

Freehill's Non-Executive Chairman Ben Jarvis commented: *"These results mark another important step forward in our systematic exploration program at El Dorado, with more high-grade gold mineralisation defined and a more than six-fold increase in the strike length of the Target A vein corridor. Most encouraging is the identification of significant copper mineralisation at El Dorado which includes the presence of a number of small-scale historical mining operations across the project and significant IOCG orebodies regionally. Freehill continues to benefit from the extensive works program carried out by senior exploration geologist Camilo Raggo, whose field work and analysis of existing geological data has given the Board confidence that El Dorado represents a compelling exploration and near-term development opportunity. We are now planning an extensive trenching program to better define these high-grade gold targets and newly-identified copper zones, and a focus on structural geology to enhance our understanding of the larger-scale potential, which we expect will kick off early in the September quarter. Exploration at El Dorado complements our cash-generating processing operations at Yerbas Buenas, where production volumes are growing to meet an expanded order book following the recent installation of new state-of-the-art crushing & screening equipment."*

The El Dorado Project

Acquired in 2020, the El Dorado Project is highly prospective for magnetite, copper and gold mineralisation, and offers access to an additional 4-kilometre stretch of the Atacama-El Tofo fault zone.

Around seven kilometres to the northeast lies the Higuera district, which hosts a number of copper mines and IOCG resources, while 22 kilometres to the north sits Andes Iron's $1-billion Dominga copper-iron project. There are also three copper-gold concentrating plants located within 30 kilometres of the El Dorado Project, each of which have active environmental permits in place.

Twenty-two kilometres north of the El Dorado Project area is the Dominga IOCG deposit, which was a gold mine exploited in the 70's and 80's. Mineralisation at Dominga consisted of a gold vein 500 metres long, two metres wide and 250 metres deep, and annual production was estimated to be around 100koz. The main vein coincides with the trace of the El Tofo fault and corresponds to the known mineralisation of the Atacama Fault System.

Image 2&3: El Dorado rock-chip samples and historical artisanal copper workings

Images 4 & 5: Further historical copper workings underground and open-cut mining operations

This announcement has been approved by the Board of the Company.

For further information, please contact:

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COMPETENT PERSONS

Competent Person Statement – El Dorado Sampling Results

The information in this statement that relates to Sampling Results from December 2023 sampling of the El Dorado Gold Prospect, Chile is based on information compiled by independent consulting geologist Geoffrey R Muers B.Sc (Hons). Mr Muers is a Member of The Geological Society of Australia, employed by Mine Invest consulting and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is 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'.

Mr. Muers consents to the inclusion in the report of the matters based on the information made available to him, in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

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.	• All rock chip and channel chip samples subject to this report were collected in such a way as to represent the entire lithology, not just veins and veinlets zones. Generally, a sample weighs about 4 kg. Each sample location was captured digitally by software with GPS integrated in WSG84, recording the capture time, and a detailed geological description was taken. • Sample representativity was ensured by collecting rock chips across the face or along a channel across the structure. • At Target A, veins zone, the average distance between samples is 18m with a maximum of 38m due to physical constraints or other limitations with outcrop • The presence of or indications of mineralization was determined based on the texture and nature of the outcrop, including quartz veins, copper oxides, and limonite minerals after sulphides. • The rock chip samples were transported to the facilities of AGeological, a certified Laboratory in Coquimbo. The individual hand samples of each sample are stored for logging and reference in the company facilities at Yerbas Buenas deposit, IV Region, Chile.
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).	• No drilling has been undertaken to date by the Company
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.	• NA as above

Criteria	JORC Code explanation	Commentary
	• 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.	
Logging	• Whether core and chip samples have been geologically and geotechnical 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.	• Each sample description was captured digitally in a tablet by software with GPS integrated in WSG84 and a detailed geological description of the lithology, alteration, mineralization, and measurement of the controlling structure. Width of structures, veins and halos were recorded. • The presence of or indications of mineralization was determined based of the texture and nature of the outcrop, including the presence of quartz veins, calcite, actinolite, albite, the presence of copper oxides, magnetite or hematite and limonite minerals after sulphides. • Most sample sites were photographed, and a detailed digital field capture software in a tablet. • Where possible fault planes and central veins were measured and documented.
• **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.	• No drilling has been undertaken

Criteria	JORC Code explanation	Commentary
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 rock chip samples properly identified with two tickets and labelled and ordered sequentially were packed in bags with ten samples and closed using cable ties. The sample bags were identified, written, and delivered after completion of the fieldwork to the AGeological preparation laboratory in Coquimbo. Thel laboratory holds ISO/IEC 17025:2017 certification and is independent of the company and its subsidiaries. The laboratory is well run, with a full-time chemist supervising operations. Based on a shift five days per week. • AGeological undertook Mechanical Sample preparation in a sample preparation facility installed in Coquimbo. Preparation procedures followed the following mechanical preparation steps: Drying at 105°C; Primary crushing in a “Rhino” jaw crusher to 85% passing <10# Tyler; Homogenization and reduction by Jones Riffle Splitter Pulverizing to 95% passing <150# Tyler; Splitting to 2 sample pulp bags of approx. 250 g each. • The pulverized samples were analyzed by a 4-acid digest with ICP-OES. This method is designed to analyze geochemical anomalies in exploration-grade rock/soil samples. The technique is a multi-acid digest and is considered as near total. • Each samples was analysed for 36 elements with all samples also analysed for gold . the internal laboratory code is Code M-DT ICPOES-36 (1F2)* PR-04 V.00 The gold with M-Au FA-AAS 30g PR-15 V.00 method is determined by fire assay by using lead collection technique with a 30g sample charge weight and MP- AES instrument finish. • Selected samples were also assayed for Cu using the Code M-Cu Vol* method when M-DT ICPOES-36 (1F2)* PR-04 V.00 exceeded the analytical range. • No duplicates, standards and blanks were used for the field samples however this is to be considered for future programs • The laboratory used internal standards and blanks for its own QC, including four certified standard reference materials. High-grade copper standard (code Std Cu Oreas 507 and Oreas 993), low-grade copper standard (code Std Cu OREAS 13b), and the gold standard (code STD Au Oreas 242).

Criteria	JORC Code explanation	Commentary
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.*	• *Apart from the laboratory internal QAQC protocol, the only QAQC protocol applied was the collection of a twin sample at specific sample locations.* • *Assay data are supplied electronically by AGeological and uploaded into the spreadsheet.* • *Assay data was considered reliable and no spurious numbers were reported*
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 sample locations, outcrop locations, historic workings, and locations of geographical significance were recorded using both an Android Note S20 ultra and a GPS Garmin GPSMap 65Series.* • *All samples and mapping locations were recorded in WGS84, UTM Zone 19S grid reference system*
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.*	• *The spacing of locations of geological data points, including sampling locations, was determined by the nature and distribution of outcrops constrained by other physical features such as vegetation, access* • *Outcrops occur mainly along topographic highs and along resistant lithologies like silicified structures, quartz veins, and albitic/magnetite veinlets.* • *Inference of geological continuity and spatial significance of sample results was concluded from the interpretation of satellite photography, geological reconnaissance, and structural.* • *At the Target A central, an average distance between samples resulted in 18m with a maximum of 38m. This is due to topographic and other local constraints.*
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*	• *Care was taken in collecting rock chip samples orthogonal to the strike of the controlling structures and as channel samples.* • *Local scale structures are a key factor in the localization of mineralization in the project area. Faults are highly significant aspects of the project geology.*

	orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• *Faults and fractures that range from pre and syn-mineralization. The pre and syn-mineralization structures are likely to have controlled the localization of hydrothermal fluids and emplacement of mineralization. Two groups of fault or fracture orientations are conspicuous and, in order of importance, are west-north-westerly (Target A 234-280 degrees) and east-west Folding has not been directly observed within the volcanic rocks.*
Sample security	• *The measures taken to ensure sample security.*	• *The samples were personally delivered by a company representative in sealed bags at the AGeological preparation laboratory in Coquimbo Samples were transported by Company personnel using pickup truck and were securely locked at the AGeological Labs.* • *Chain-of-custody procedures consisted of filling out sample submittal forms that accompanied the sample delivery to confirm that all samples were received by the laboratory. Sample security consisted of locking samples, once collected, in the field camp compound prior to delivery to AGeological. This level of assurance is considered industry standard for early-stage exploration programs.* • *Sample rejects, and Pulps are currently stored at the AGeological lab in a secure environment. Company sampling data are stored in an Excel spreadsheet and in a pdf file.*
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.*	• *All claims relating to the El Dorado Project minerals claims are in good standing. The company holds a 100% interest.* • *No known impediments.* • *The El Dorado Project, Central area, Target A and B are located on 3 licenses held through Chilean subsidiaries, of which Freehill Investments Pty Ltd currently has a 100% interest.* • *Licences are numbers 041023675 – 3, El Dorado VII, 1-7; 041023676 – 1, El Dorado VIII, 1-10; and 041022755 – K, Arenas VI 1-20.* • *Total of 258 hectares.*
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• *No work developed by others at the Target A and B areas.*
Geology	• *Deposit type, geological setting and style of mineralisation.*	• *The El Dorado Prospect, Target A occurs between the El Tofo and Romeral Fault, part of the Atacama Fault System.* • *Tofo-Romeral Fault prevails in the area, showing main structural attitudes N40W;80SW. recognised structural lineaments associated with contact limits of andesite tectonic blocks.* • *El Dorado is in a porphyritic dioritic unit (JKd) dated to 145 mA. and is related to the Agua Salada subvolcanic complex, made up of porphyritic diorites and andesitic bodies, andesitic lavas of porphyry and pyroxenes, and black to greenish amphibole microdiorites.* • *The mineralization of the surface of El Dorado corresponds mainly to veins and veinlets of quartz–limonite, magnetite-hematite associated with actinolite, albite and potassic feledspar* • *At Target A central, the Au vein structure azimuth is between 234 and 280, dipping to the South between 71 and 75 degrees. Goethite and red hematite textures indicate chalcopyrite and pyrite lixiviation.* • *Au veins of 100 cm thickness on average are composed of a 10 to 30cm fault gauge zone followed by one or two semi-translucent 10 to*

Criteria	JORC Code explanation	Commentary
		30cm qtz-limonite (Au) central lines distributed into the altered locally brecciated microdiorite. • *The veins mineralogy indicates this system genetically associated with an IOCG type systems . Magnetite and actinolite lines are present at the edges of the vein structure.*
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 meters) 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.*	• No drilling has been undertaken
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*	• No drilling has been undertaken

Criteria	JORC Code explanation	Commentary
	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').*	• *Sampling of such geological structures was undertaken in such a way that the true width of the structure in the outcrop was sampled in the most representative way.* • *There is not sufficient information at this stage to determine potential depth extent of mineralisation, and due to the sub-vertical dip (Orientation) of the veins, it can be assumed there will be a degree of depth continuity which can only be ascertained by drilling.* .
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.*	• Site location plan.
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.*	• *All available results and relevant technical field information is provided.* • *The use of averages, modes, means and other statistical terms are relevant in this case due to the relatively low standard deviation however these results whilst encouraging, cannot be used without further testwork (drilling) to estimate any Mineral Resources (JORC, 2012)*
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;*	• No drilling has been undertaken

Criteria	JORC Code explanation	Commentary
	bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.*	• *The Company geologists are currently processing and interpreting the geochemical data in the context of adjacent targets and geological settings observed and recorded.* • *An evidence-based systematic exploration program is in place to evaluate numerous IOCG-type targets, as well as magnetic and chargeability anomalies and several cobalt and vanadium high values at samples.* • *The next activities comprehend the trenching and mapping and sampling of Target A* • *Assuming positive results from the work, and availability of sufficient funding: drilling to define the extent of the mineralized zones at depth and along strike, with a view to later establishing Mineral Resources, can be conducted.*