



# Freehill Mining Limited (ASX: FHS)

*Annual General Meeting of Shareholders - 2020 year*

Presentation 28 January 2021

Peter Hinner – Chief Executive Officer



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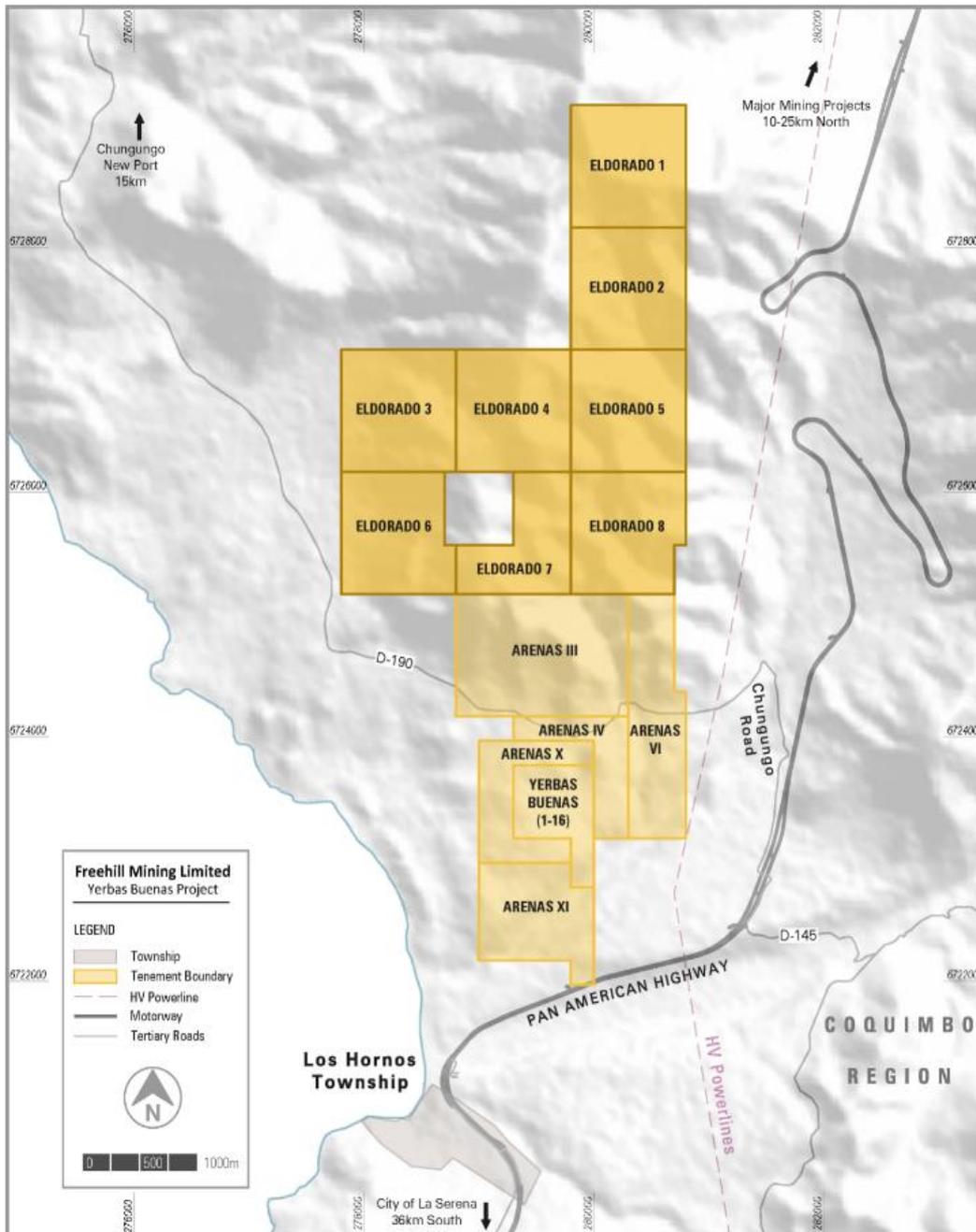
## **Competent Persons Statement**

The information contained in the report that relates to Mineral Resources, Exploration Targets and Exploration Results is based on information compiled or reviewed by Peter Hinner, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Hinner is a consultant of the company 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'. Mr Hinner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



# Project Highlights

- ✓ YB6 magnetite JORC 49Mt 20.4% Fe mineral resource declared June 2020
- ✓ Total project JORC magnetite resource now 67.7 Mt @ 19.1% Fe
- ✓ Scoping study foundational works underway
- ✓ Infill & extensional drilling planned for YB6 subject to completion of environmental approval
- ✓ El Dorado tenement acquired & geophysics completed in first 3 months
- ✓ El Dorado Induced Polarisation completed in first 3 months & identifies large mineralised Cu structure
- ✓ Diamond hole ES-001 drilled to 400m and has 18m of Copper grade in first 144m of
- ✓ Copper sulphides confirmed in ES-001



**Freehill's  
exploration area  
Increased from  
390 Hec to 1188  
hectares**

## Copper and Gold Exploration

- 4 IP lines covering 250 hectares completed in SE sector
- large IP structure identified with high chargeability core of 1000m x 500m
- A number of smaller magnetic structures identified
- Several geological surface sampling and structural mapping surveys completed
- Surface samples of 1.5% Cu up to 9.9% Cu over a wide area
- Surface samples of up to 11 grams per tonne gold
- 3 prospective copper & gold target areas identified and first to be drilled
- Completed 750 Hec Ground Magnetics geophysics survey
- Currently awaiting mines department approval to commence drilling of 2-3 diamond test holes;

# El Dorado :



## Geophysics review highlights

### *Precis of geophysics findings for El Dorado*

*“Several important NW structures cut through the center of the coincident chargeable-resistive anomaly. Higher grades may be associated with these structures, so central zone is considered a priority exploration target”*

*“A second exploration target is a strongly magnetic zone that lies on the west edge of the strong chargeability anomalies. The magnetite, which is thought to predate the sulphide mineralization, may provide a good host for IOCG style Au-Cu mineralization as it does at neighbouring deposits.”*

*“A third target type exists west of a major interpreted structure that divides the eastern high chargeability-resistivity material from the western low chargeability-conductive material. A weak chargeability anomaly in conductive material near a major structural intersection is considered a good target for structurally-controlled oxide mineralization.”*

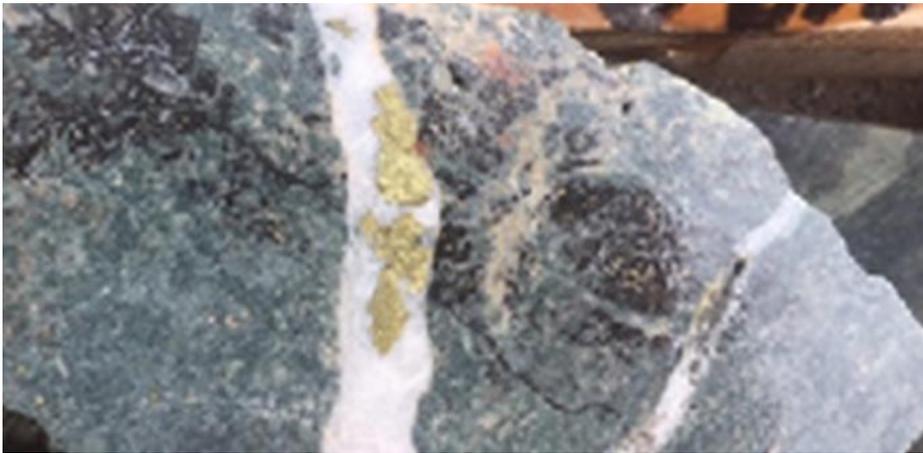


# El Dorado



## Maiden drill hole ES001

A single 400m diamond hole ES-001 was drilled into an Induced Polarisation target at the north eastern corner of the Yerbas Buenas project area prior to acquisition of the El Dorado concessions. Interval 118-119m showing visible chalcopyrite veining and channel sampling rock shown below



Depth DDH ES-001

From (m)	To (m)	Interval (m)	Cu %
33.00	34.00	1.00	0.25
81.00	82.00	1.00	0.17
83.00	84.00	1.00	0.15
91.00	92.00	1.00	0.29
98.00	99.00	1.00	0.15
110.00	111.00	1.00	0.17
113.00	114.00	1.00	0.16
114.00	115.00	1.00	0.32
115.00	116.00	1.00	0.18
116.00	117.00	1.00	0.32
117.00	118.00	1.00	0.17
118.00	119.00	1.00	0.25



# El Dorado Next Steps

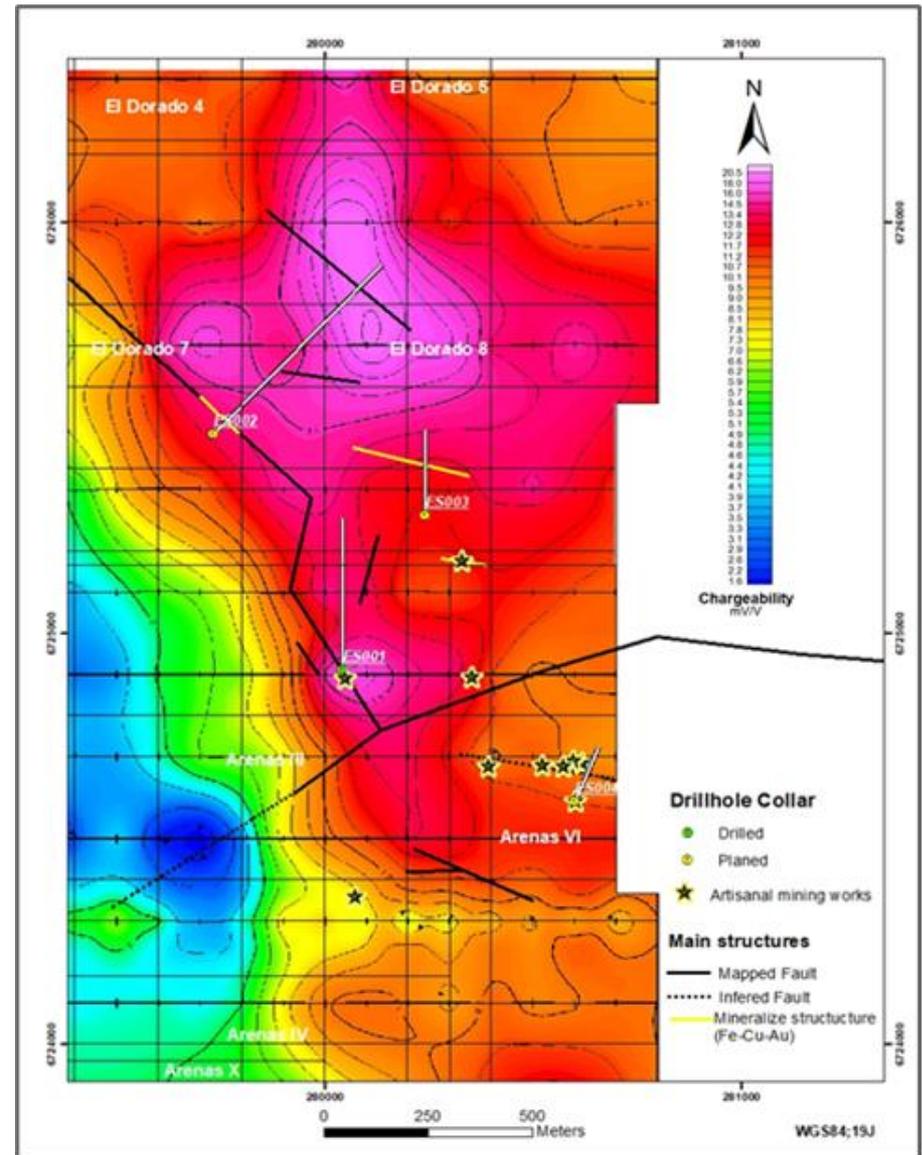
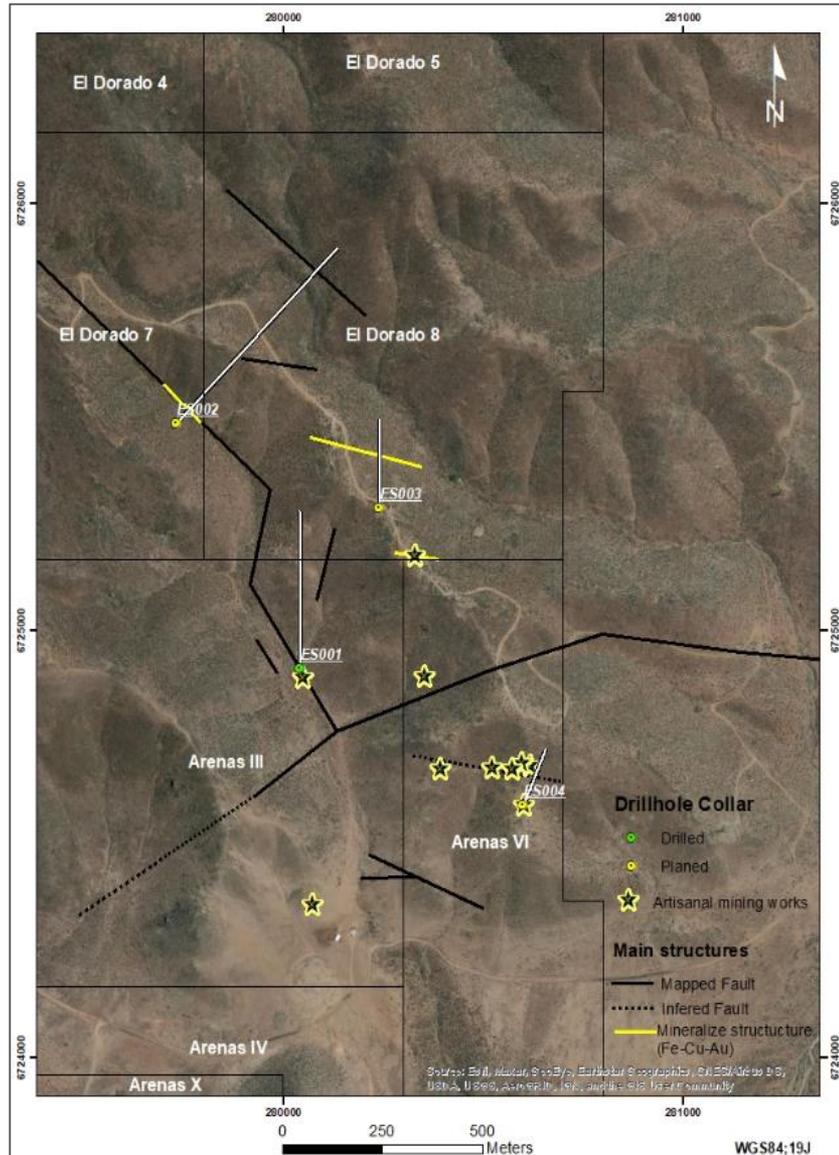


- Drill 2-3 x 400m diamond test holes into primary IP target being planned
- 2 holes will test main IP target & 1 hole will test an area of intense artisanal mining
- If results encouraging then further holes will be drilled to define extent of structure
- Drilling contractor and exploration team already organised
- Awaiting mines department permission to drill as El Dorado tenement area has not been drilled before
- Pre-drill activities include landowner engagement and road preparation
- If first few drill holes are encouraging then new IP lines will be done to north



*Diamond rig at previously drilled hole ES-001. 18m at 0.2% Cu aggregated in first 144m. Proposed new holes to be drilled in Valley behind rig. Rig is only 600m from a public road.*

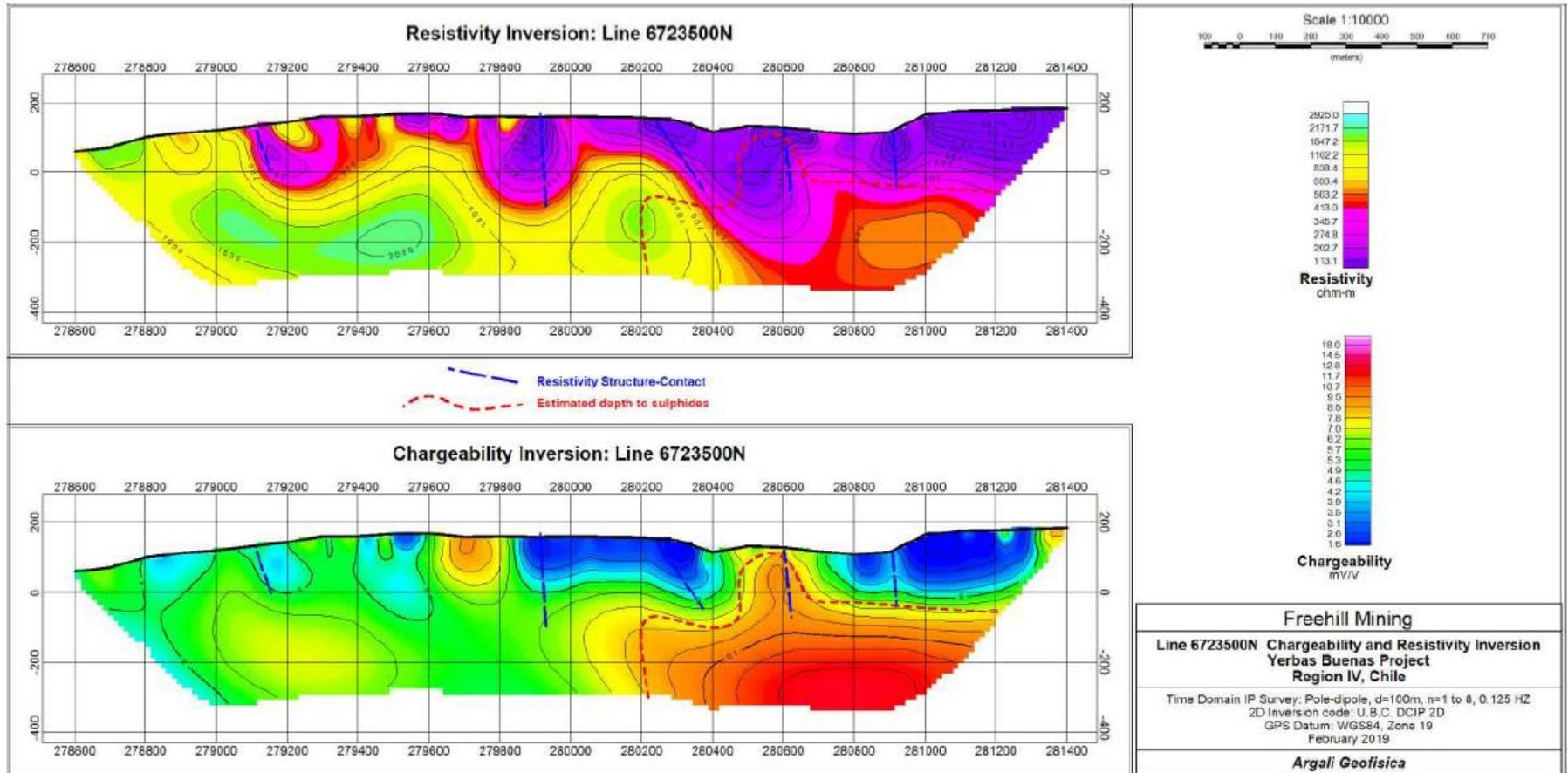
# El Dorado Copper/Gold Exploration – Drill targets



# El Dorado Copper/Gold Exploration



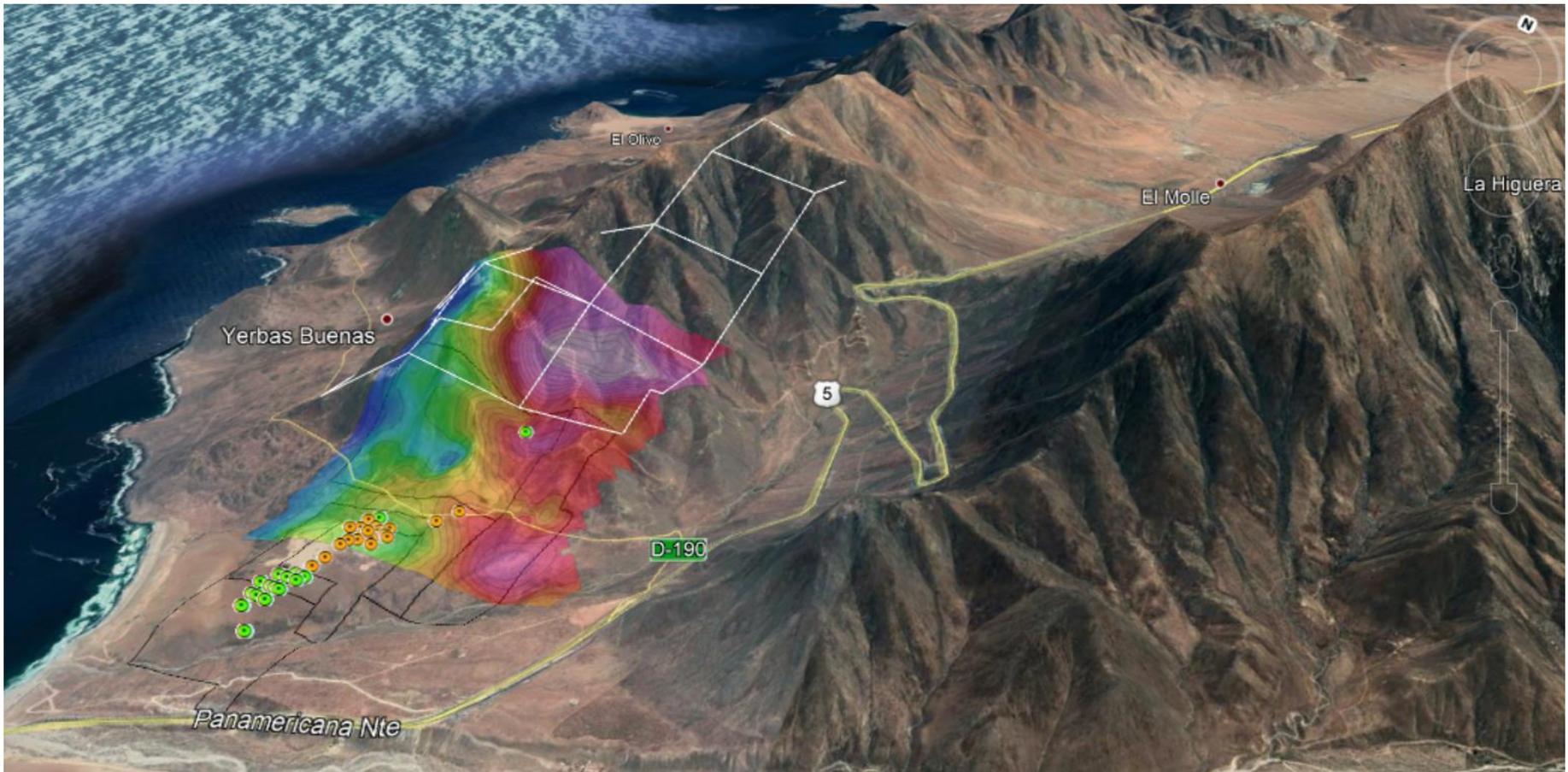
## Chargeability and resistivity sections through centre of main IP structure



# El Dorado



Topography at exaggerated scale showing new Induced Polarisation target within El Dorado concession area ( white outlines) and YB1 and YB6 drill holes to south



# YB6 Magnetite Project Development



## Technical and economic studies

Metallurgical testing on drill core allows plant design parameters to be determined

- Iron recovery
- Process plant energy requirements
- Ore hardness
- Suitable Flowsheet
- Final product grade for Sinter feed
- Potential pellet feed grade



*-3mm +62% Fe concentrate produced from diamond core*

# YB6 Magnetite Project Development



## Test outcomes:

- Over 90% recovery of iron at the nominal mineable grade
- A quality -3mm concentrate 'sinter feed' of **+62% Fe** able to be produced due to the high quality of the Yerbas Buenas mineralisation with some tests producing over **63% Fe**.
- Bond Work Index tests indicate relatively low crushing energy requirements at 14-18 kWh/t.
- Davis Tube Separation shows that if sinter feed reduced to -45 microns it can produce a high quality, low impurity pellet feed with **over 71% Fe**.
- Phosphorus (P) levels and other impurities below industry maximum limits.
- Simple primary jaw crushing, screening, secondary/tertiary cone crushing and two stage dry magnetic separation
- Potential pellet feed grade able to be produced with very low impurities
- All testing done at major and reputable laboratories including SGS Santiago, JK Tech Centre Brisbane and Polimin Chile

# YB6 Magnetite Project Development



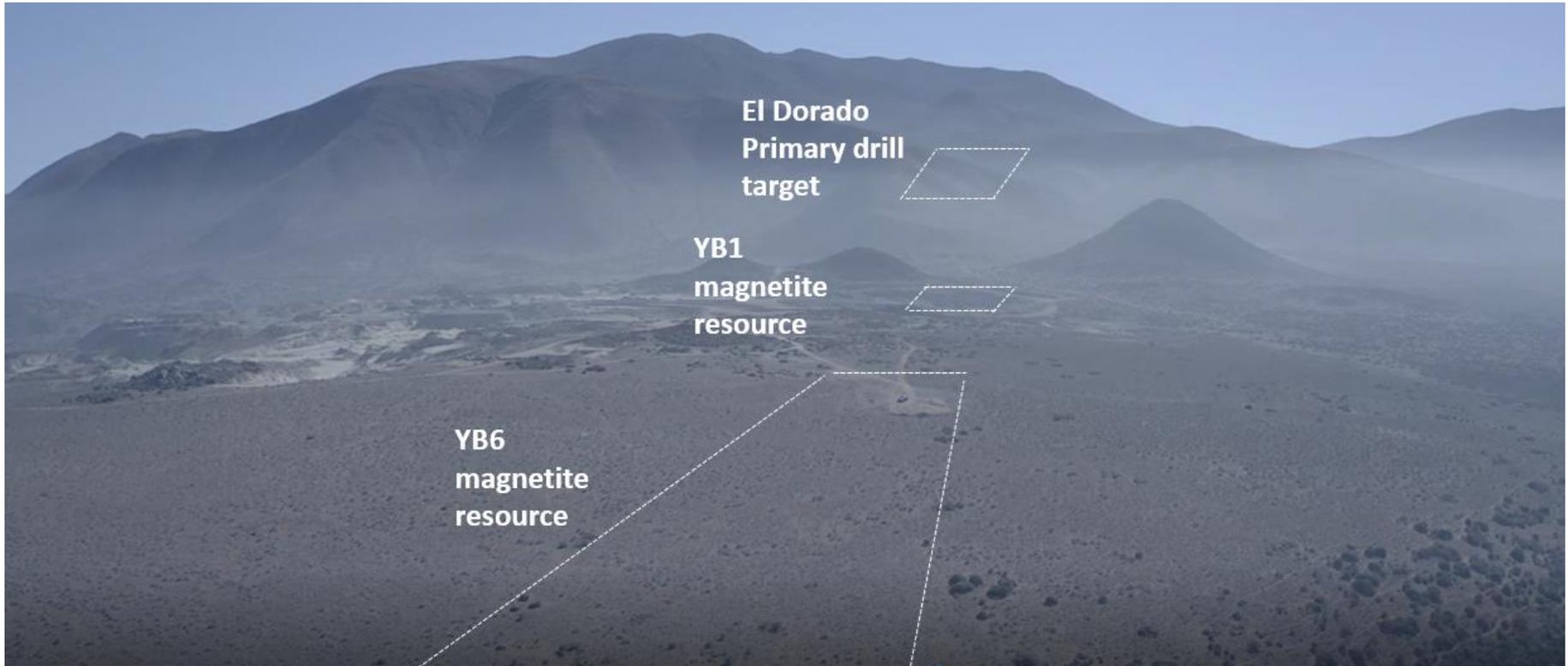
## Other works:

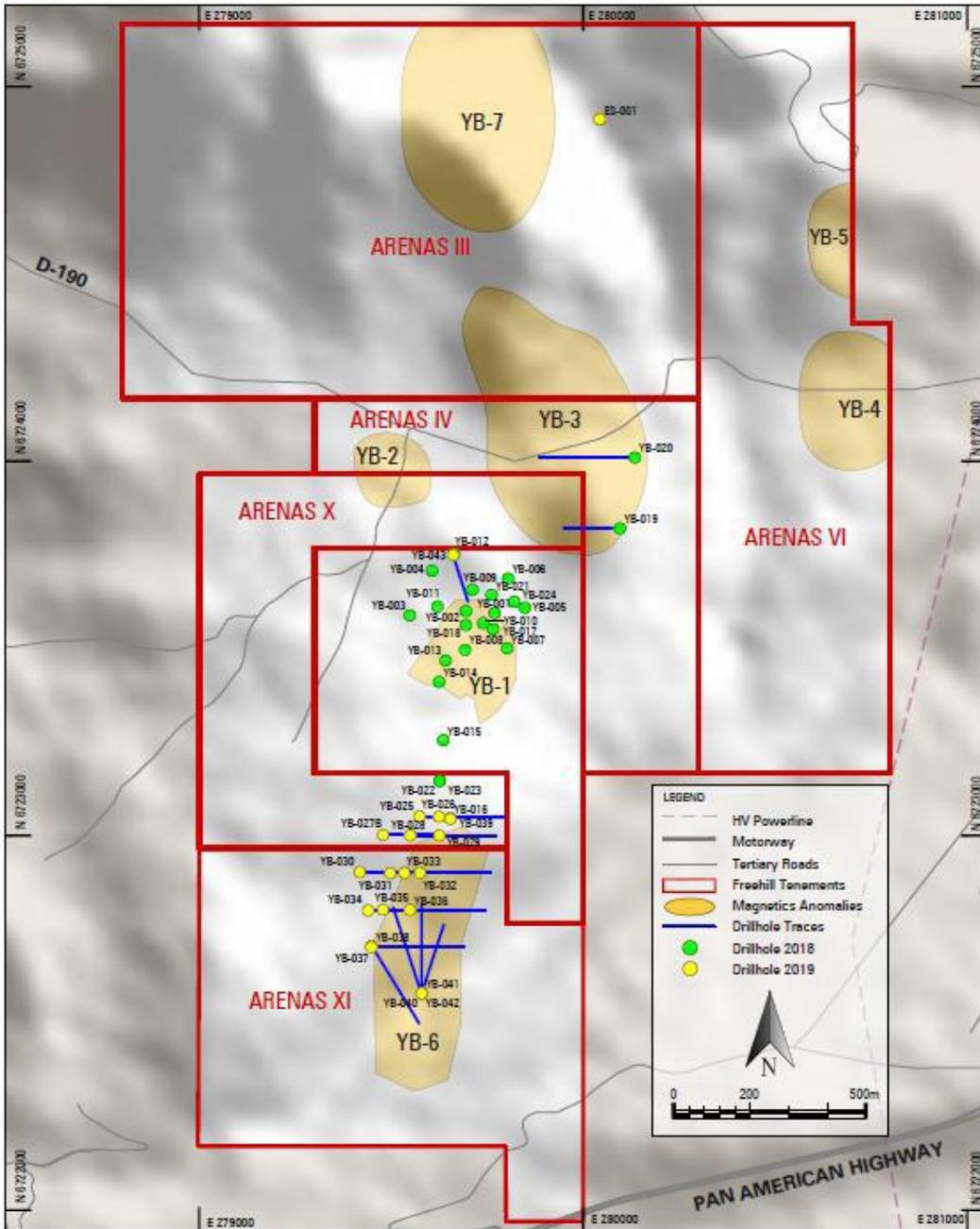
- Proposals already received from engineering groups to assist with preparation of a feasibility study
- Followup testwork underway to assess economic benefits of finer crushing
- Logistics aspects of the study also underway – Port options, transport to port, shipping
- High level pit and mining modelling underway
- Pre-feasibility study by end of 2021
- Consulting group selected to complete DIA ( environmental study) that allows application for mining licence

# YB6 Magnetite Project & El Dorado Copper-Gold



Both the YB1, YB6 magnetite projects and El Dorado copper-gold projects are all situated within the same area





# YB1 & YB6 Drilled areas

# 2021 Objectives



## YB6 Magnetite Project

- Focus on tasks that work toward getting a mine up and running
- Continue development of a processing flowsheet & Conceptual mine plan
- Application for mining licence
- Run Pre-feasibility study in parallel with DIA
- Deliver economic model by end of year
- Verify sales solutions & secure offtake partner
- Identify port and export options
  
- **El Dorado Copper & Gold Project**
- Complete test diamond holes ES-002 to ES-004 in new target
- additional IP lines north to generate additional targets & potential Cu resource
- Mineralogical study on copper and gold

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