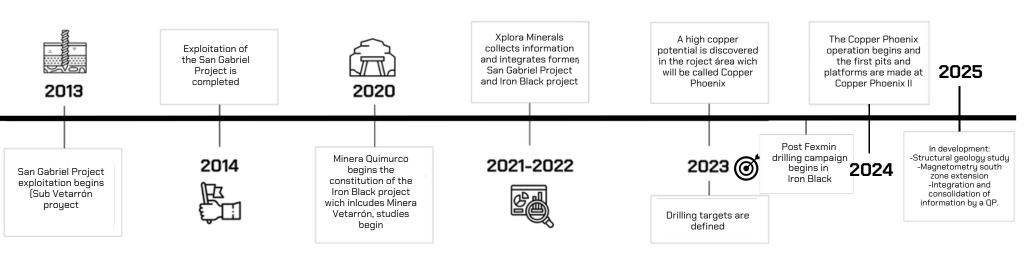


FEXMIN 2025

Iron Black (IOA) Fe
Copper Phoenix I (IOCG) Cu-Ag
Copper Phoenix II (IOCG) Cu-Au

## Iron Black - Copper Phoenix





### Summary

The Iron Black & Copper Phoenix project by Xplora Minerals is located in the southern portion of the II Region of Antofagasta, Province of Taltal, very close to the northern regional boundary of the III Region of Atacama, Province of Chañaral. The nearest towns to the project are: 80 km northwest, the port city of Taltal; 60 km south, the mining town of Diego de Almagro; 60 km southeast, the mining town of El Salvador; and 95 km southwest, the port city of Chañaral. The regional capitals of the II Region (Antofagasta) and the III Region (Copiapó) are located 240 km to the north and 180 km to the south, respectively. Its central U.T.M coordinates (PSAD56, H19) are: 7,129,500 N – 390,000 E; at an elevation of 1,030 m.a.s.l.

The IB-CP project is covered by exploration mining concessions (3,200 Ha) that cover a surface with evident manifestations of iron, iron-copper and copper-argentite mineralization, located on the eastern slope of the Coastal Rang of Northern Chile, over a metallogenic strip of north-south orientation dating from the Aptian-Albia (Lower Cretaceous). In this context, the District and Local area of the proyect is characterized by the occurrence of significant mineralized deposits of the Iron Oxide-Copper-Gold (IOCG) and Iron Oxide-Apatite (IOA) types, both styles of mineralization hosted in continental origin volcano-sedimentary units, classified as belonging to the Airport Formation of the Lower Cretaceous (ca. 141 to 128 Ma, Berrasian to Barremian), as well as in plutonic rocks of dioritic to tonalitic composition and dioritic-andesitic hypabyssal intrusives belonging to the Barreal Seco Intrusive Complex, which radiometric dating constrains to a fairly narrow chronological range, ca. 125 to 121 Ma (Aptian) (Espinoza et al., 2014).

The main structural feature located to the west of the IB-CP project corresponds to the Atacama Fault System (SFA), which extends for 1,000 km along the entire Northern Coast of Chile. Radiometric dating of this mega structural feature, with sinistral extensional to transcurrent kinematics, specifies its main activity between 127.5 and 125 Ma (Barremian) (Espinoza et al., 2014; Seymour et al., 2021).

At the northern boundary of this metallogenic domain, there is a first-order structural trend known as the Taltal Fault (or Sierra Overa Fault in its eastern projection), which traverses almost the entire Coastal Range in a NW-SE direction. This fault has a period of oblique transpressive sinistral activity between 125 and 110 Ma (Aptian) (Espinoza et al., 2014).

In this environment, other significant faults are also recognized, with a main N-S/subvertical orientation, called Quezada and Malvina Faults, located east of the SFA and sinistrally displaced by NW-SE oriented faults, closely linked with the trend of the Taltal Fault and/or Sierra Overa Fault. It is noteworthy that the Taltal Fault and its associated branches produce a remarkable tectonic segmentation in a north-south direction: The southern block is characterized by the dominant presence of volcanosedimentary rocks, whereas the northern block mainly exposes rocks from the Epimetamorphic basement and the plutonic roots of the Jurassic-Lower Cretaceous magmatic arc (Espinoza et al., 2014).

Located in Chile's IOCG belt, just like the World-Class Manto Verde, Santo Domingo Sur and Candelaria.

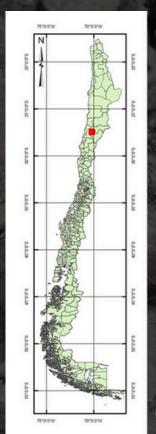
The IRON BLACK and COPPER PHOENIX projects are located in the Taltal Commune, II Region of Antofagasa, at the border with the III Region of Atacama. They are located 75 km southeast of Taltal, 50 km north of Diego de Almagro, and 70 km northeast of Chañaral.

#### Coordinates, UTM PSAD56, H19:

- N 7.129.500
- E 390.000
- Average altitude: 1,030 m.a.s.l.

#### Access:

- North entrance: From Route 5 North, taking Route B-955 for 7 km then turn on to Route B-965 for 28 km. (Gravel road)
- **South entrance:** From Route 5 North taking route C-119 for 35 km.





Port	Region	Distance (km)	Orientation
Puerto Antofagasta	Antofagasta	303	North
Puerto Mejillones (Angamos)	Antofagasta	378	North
Puerto Caldera	Atacama	211	South
Puerto Barquito (Chañaral)	Atacama	122	South

## Regional Geology

The property is located on the eastern edge of the Coastal Range in northern Chile, where evidence of the evolution of the Andean magmatic arc during the Jurassic and Early Cretaceous is exposed.

Structural features are closely linked to the Atacama Fault System (SFA), which runs N-S and began its activity during the Jurassic, dominating an extensional regime before transitioning to a left-lateral transpressive kinematics in the Early to Mid Cretaceous (Thiele and Pincheira, 1987).

Oblique NW-SE branches stemming from the SFA partition the crust, generating local/district structural domains. The study area is located within the Cerro del Pingo structural domain.

The geology of this domain consists of Cretaceous rocks, where intrusive complexes of basic to intermediate composition (Barreal Seco Intrusive Complex) are hosted by the so-called Aeropuerto Formation, which is of volcanosedimentary character and represents the continuation of Jurassic magmatism (Fm. La Negra; Ulriksen, 1979).



Figure 3: Structural domains of Northern Chile (25 - 26°S). Modified from Contreras et al. (2019). FSC: Sierra del Carmen Fault

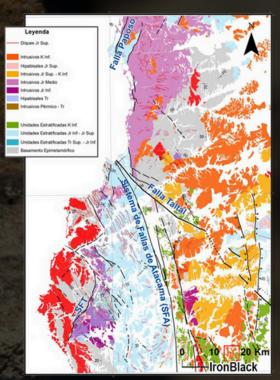


Figure 4: Geological configuration of Northern Chile (25 - 26°S). Modified from Contreras et al. (2019).

#### **Regional Geology**

Metallogenic events are associated with the construction of the Cretaceous magmatic arc, where various IOA – IOCG deposits are recorded in the Coastal Range.

Particularly, during the **Early Cretaceous (120 - 98 Ma)**, some of the most prolific events recorded in this area occurred on the eastern edge of the Coastal Range, evidenced by significant deposits such as **Candelaria** and Manto Verde.

Adjacent to the property is the Barreal Seco deposit and mine (Minera Las Cenizas), which has a reported age corresponding to the Early Cretaceous based on Re-Os measurements in chalcopyrite (Barra et al., 2017).

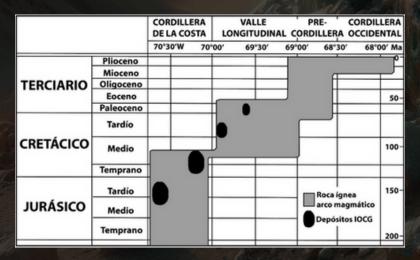


Figure 5: Temporal and spatial distribution of IOCG deposits in northern Chile. Modified from Sillitoe (2003).

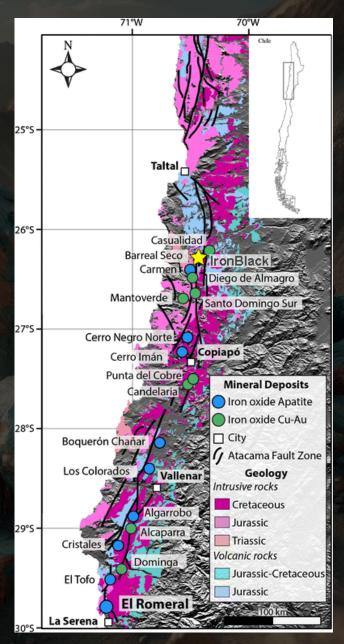
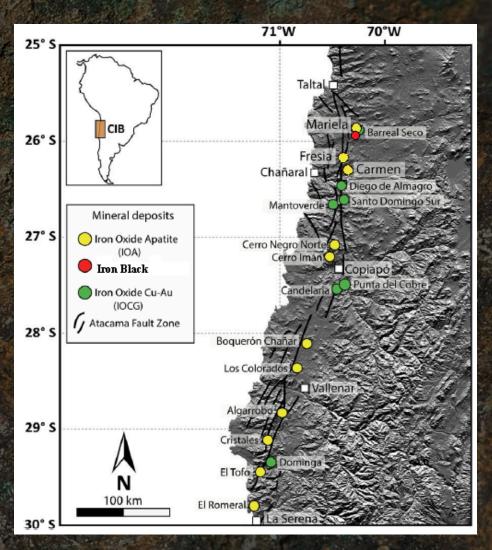


Figure 6: Distribution of IOA and IOCG deposits in northern Chile (30 - 25°S). Modified from Rojas et al. (2018).

### Metallogenic strip

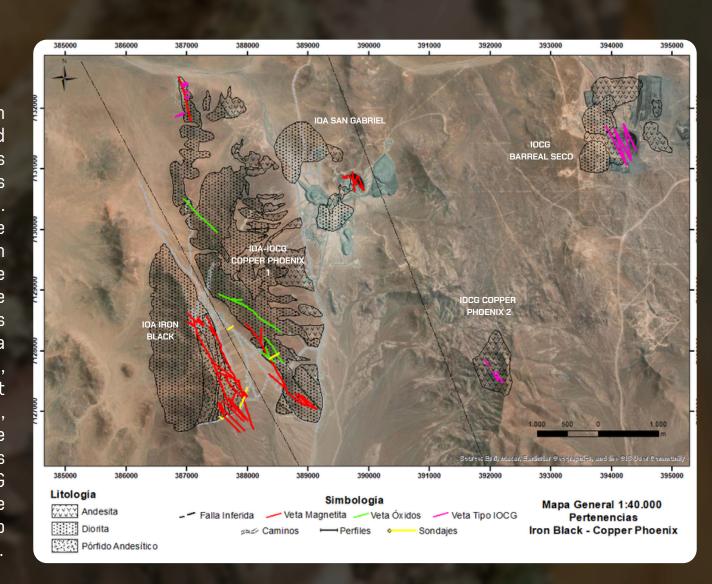
The project is located at the northern end of the iron belt. Cretaceous strip that not only contains iron-apatite deposits but also intercalations of IOCG-type deposits. The image shows the project's location between the IOCG deposits of Barreal Seco, Diego de Almagro, Santo Domingo Sur, Manto Verde (Capstone), Candelaria (Lundin Mining) as well as between the IOA deposits of Mariela, Fresia, and Carmen



Modificado de Palma et al 2019

## Prospect Geology

On the map, three projects can be observed, which are located three geological blocks separated by two major faults oriented in a NNW direction. The western block contains the 'Iron Black' project, which corresponds to an IOA-type deposit. In the central block, the 'Copper Phoenix I' project is located, which corresponds to a transition between IOA-IOCG, the San Gabriel corresponds to an IOA. Finally, in the eastern block, 'Copper Phoenix II' project is located, which is an system, similar to the consolidated Barreal Seco mine, located further northeast.



## **Local Geology**

The geology of the property is dominated by a series of NNW-SSE oriented plutons with basic to intermediate composition, including tonalites, quartz-diorites, and diorites with textural variations. The latter lithology acts as a host rock for andesitic porphyries.

The host rock of these intrusive units corresponds to volcanic and volcanosedimentary sequences, primarily composed of andesites and, subordinately, volcanic breccia levels, constituting a homocline oriented NNW-SSE (326°) with dips of approximately 50° to the ENE. Throughout the property, various andesitic dikes crop out, predominantly oriented NW-SE, along with other dikes oriented NE-SW and EW.

The structures in the area, including veins, faults, and vein-faults, exhibit a marked NW-SE trend, supported by field evidence [481 structural data points], geophysical data, and satellite imagery. The faults show a preferred left-lateral to left-lateral normal kinematics.

Primary mineralization consists of iron veins of opening, primarily magnetite, and copper oxide veinfaults.

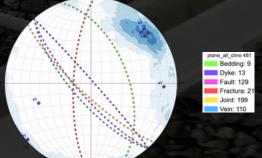
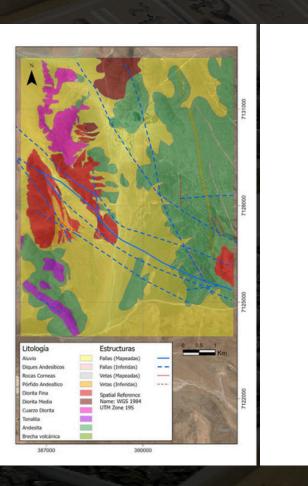


Figure 7: Pole diagram with all structural data collected in the field. Fisher mean plane. Note the strong NW-SE trend. N=481.



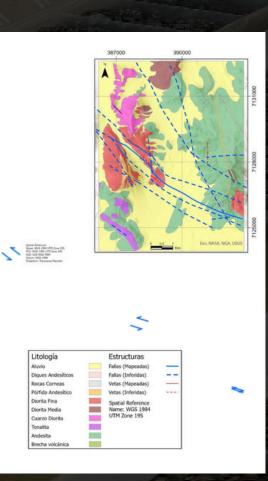


Figure 8: District geological map based on technical reports (Castro M. & Zambra J., 2023), regional geological map 1:100,000 (Espinoza et al., 2014), scientific articles (Jiménez, E., 2014), and this work. CPI: Copper Phoenix I; CPII: Copper Phoenix II.

### Structural Geology | Temporal Relationships

Based on cutting relationships identified in the field, through satellite imagery and geophysical products, it is interpreted that there are different overlapping events of deformation and mineralization over the deposits of Iron Black and Copper Phoenix I and II. These are summarized from oldest to youngest:

- NS Magmatism: marked NS orientations are observed in RTP magnetic highs. However, these trends were not measured on the ground, indicating that the NS magnetic highs are associated with magnetic bodies from the magmatic arc.
- NE-SW Extension in a transtensional environment: formation of high-temperature magnetite veins in opening veins, leading to Iron Black, San Gabriel, and Esperanza-type mineralization.
- Syn- to post-tectonic mineralization: this event is associated with IOCG-type mineralization, with copper vein-faults containing magnetite, forming Copper Phoenix-type mineralization. NW-SE structures show reactivation generating left-lateral transpressive structures, hosting mineralization in the tectonic breccias and brecciating the previous magnetite veins.
- W-E Deformation: there is an east-west fracturing pattern that tends to cut through NW-SE structures (faults, veins). These are likely late deformation events, but could be associated with unidentified major structures that displace the bodies.



Figure 21: Monomictic breccia with fragments of diorite and matrix/cement composed of magnetite..



Figure 22: Mosaic-type fault breccia monomictic with clasts of magnetite (possible lenses?).



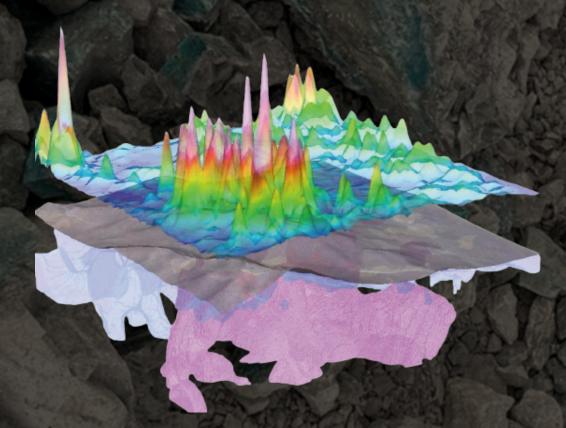
Figure 23: Vein composed of euhedral crystals of magnetite..

## Geophysics

High-resolution terrestrial magnetic measurements and 3D IP/resistivity followed by VOXI inversions report highly complex anomaly systems with significant economic potential.

- Proven MVI anomalies > 0.5 SI
- $\circ$  Proven resistivity anomalies < 5  $\Omega$ m (conductors)
- Proven chargeability anomalies > 20 mV/V

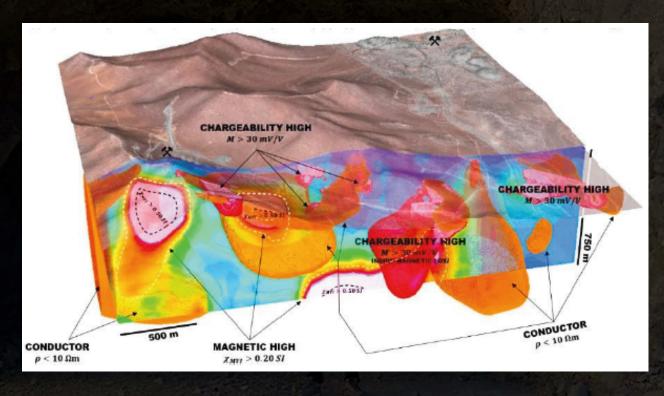
High-resolution ground magnetometry and MVI results were conducted over 3,200 hectares at Iron Black and Copper Phoenix I and II.
3D IP/Resistivity was conducted over 900 hectares at Iron Black and Copper Phoenix I.



### Geophysics

Once the measurements were completed, the information was collected and interpreted. The patterns in the drilled areas are evident and allow for further pattern investigation. Anomaly systems are categorized as:

Chargeable-conductormagnetic Chargeable-conductornon-magnetic Chargeables capping large magnetic conductors Magnetic bodies surrounded by conductor and/or chargeable anomalies All of these were used for volume calculation and allowed for the estimation of tonnage for each defined anomaly system.



#### **Geophysical Interpretation**

For the geological interpretation of geophysical data, available magnetometry products were utilized, including: RTP (reduction to the pole) from the regional geophysical map (SERNAGEOMIN), district RTP and AS (analytic signal) from Iron Black and Copper Phoenix I; and finally, RTP, AS, and local first vertical derivative from Copper Phoenix II.

Geophysical lineament maps were created, indicating discontinuities and cutting relationships, identifying two main trends: NS and NW-SE, where the latter appear to cut and displace the former.

A mapping of magnetic highs was conducted to crossreference this information with lineaments, data, and surface geological maps. This aimed to correlate positive and negative anomalies with geology.

Geological faults identified on the surface were correlated and extended with observed magnetic lineaments, enabling the mapping of subsurface structures and possible extensions of mineralized bodies associated with these structures, as is the case with the Copper Phoenix fault.

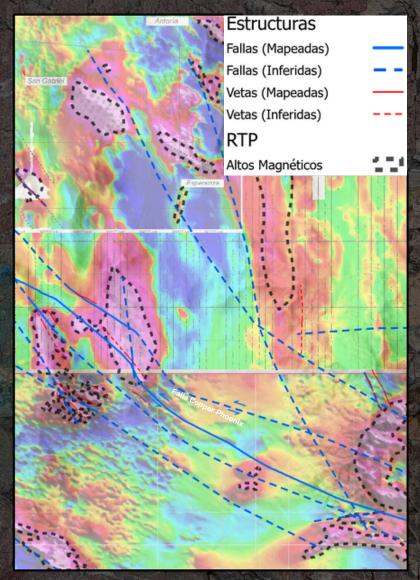
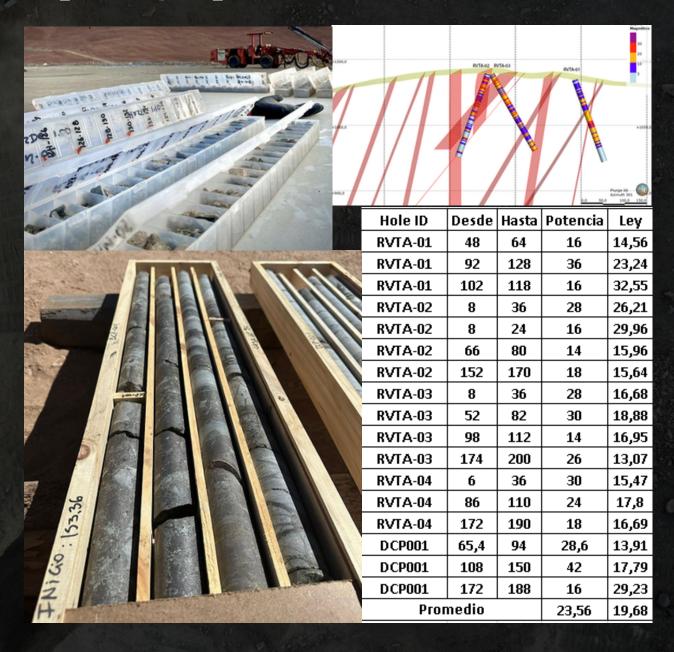


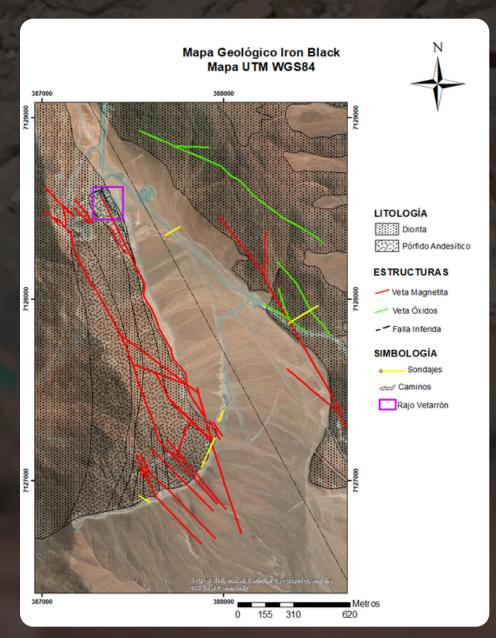
Figure 24: Magnetic high map of the study area, with a background compilation of geophysical maps (RTP).

## **IRON BLACK – Drilling Campaign**

Data from reverse circulation drilling is collected (13 drill holes totaling 2,600 meters). Additionally, two diamond drill holes were conducted, together totaling 558 meters.



### **IRON BLACK – Inferred Resources**



Based on surface mapping and drilling at targets A1 and A3, inferred iron resources are reported down to a depth of 200 meters, with 360 million tons at 11% magnetic Fe, reaching up to 30% in 15-meter-thick lenses of massive magnetite.

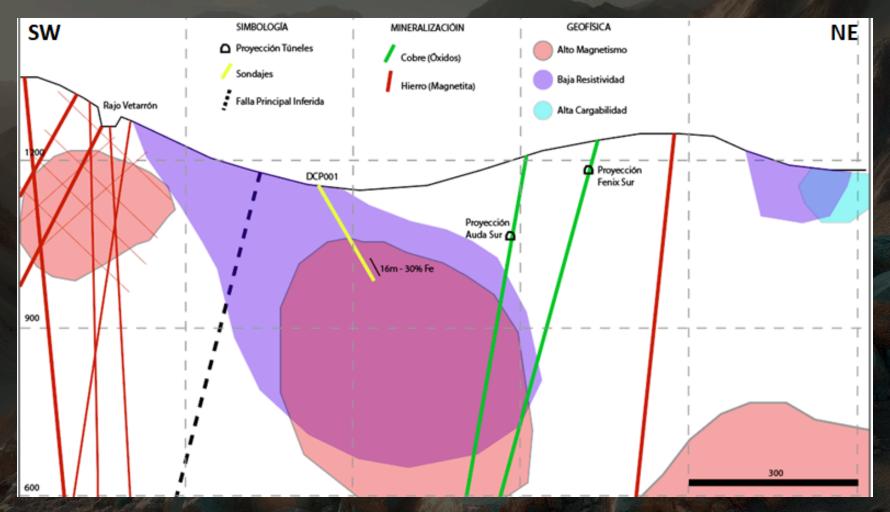


### **IRON BLACK - LITHOLOGY DCP001**

Drilling	From	То	Lithology	Observations	
DCP001	0,00	19,60	GR	ALLUVIAL AND FOOTHILL COLLUVIAL FILL (GRAVEL, SAND, AND SILTS)	
DCP001	19,60	36,50	PA	ANDESITIC PORPHYRY, DARK GREEN-GRAY COLOR, PLAGIOCLASE AND EUHEDRAL MAFIC PHENOCRYSTS, SHORT TABULAR SHAPES, EMBEDDED IN (+) MICROCRYSTALLINE GROUNDMASS	
DCP001	36,50	42,60	А	PORPHYRITIC ANDESITE, GRAY TO DARK GREEN-GRAY COLOR, VERY RESISTANT TO SCRATCHING (HORNFELS OR CONTACT METAMORPHIC ROCK)	
DCP001	42,60	50,63	PA	ANDESITIC PORPHYRY, DARK GREEN-GRAY COLOR, PLAGIOCLASE AND EUHEDRAL MAFIC PHENOCRYSTS, SHORT TABULAR SHAPES, EMBEDDED IN (+) MICROCRYSTALLINE GROUNDMASS	
DCP001	50,63	67,30	А	PORPHYRITIC ANDESITE, GRAY TO DARK GREEN-GRAY COLOR, VERY RESISTANT TO SCRATCHING (HORNFELS OR CONTACT METAMORPHIC ROCK)	
DCP001	67,30	77,70	ВН	HYDROTHERMAL MOSAIC-TYPE BRECCIA, FILLED WITH MT-CHLORITE	
DCP001	77,70	122,55	А	PORPHYRITIC ANDESITE, DARK GREEN-GRAY COLOR, VERY RESISTANT TO SCRATCHING (HORNFELS CONTACT METAMORPHIC ROCK)	
DCP001	122,55	123,90	OIO	INTRUSIVE ROCK OF INTERMEDIATE COMPOSITION, HOLOCRYSTALLINE, MEDIUM-GRAINED PHANERITIC, INEQUIGRANULAR	
DCP001	123,90	146,20	ВН	HYDROTHERMAL BRECCIA WITH MASSIVE MT (CHLORITE) FILL	
DCP001	146,20	149,30	А	PORPHYRITIC ANDESITE, GRAY TO DARK GREEN-GRAY COLOR, VERY RESISTANT TO SCRATCHING (HORNFELS OR CONTACT METAMORPHIC ROCK)	
DCP001	149,30	151,30	PA	ANDESITIC PORPHYRY, DARK GREEN-GRAY COLOR, PLAGIOCLASE AND EUHEDRAL MAFIC PHENOCRYSTS, SHORT TABULAR SHAPES, EMBEDDED IN (+) MICROCRYSTALLINE GROUNDMASS	
DCP001	151,30	181,70	OIO	INTRUSIVE ROCK OF INTERMEDIATE COMPOSITION, HOLOCRYSTALLINE, MEDIUM-GRAINED PHANERITIC, INEQUIGRANULAR	
DCP001	181,70	186,00	ВН	HYDROTHERMAL BRECCIA WITH MASSIVE MT (CHLORITE) FILL	
DCP001	186,00	237,70	OIO	INTRUSIVE ROCK OF INTERMEDIATE COMPOSITION, HOLOCRYSTALLINE, MEDIUM-GRAINED PHANERITIC, INEQUIGRANULAR	

As previously mentioned, two diamond drill holes were conducted. The following table shows the lithological observations of drill hole DCP001, which indicates the presence of Andesitic Porphyries, Porphyritic Andesites, Hydrothermal Breccias, and Diorites intercalated. These drill holes were thoroughly studied in terms of lithology, structures, mineralization, alterations, and chemical analysis. It is also worth noting that surface mapping reveals the presence of medium-grained diorite to the west of the study area.

## Potential in depth Iron Black - Copper Phoenix I

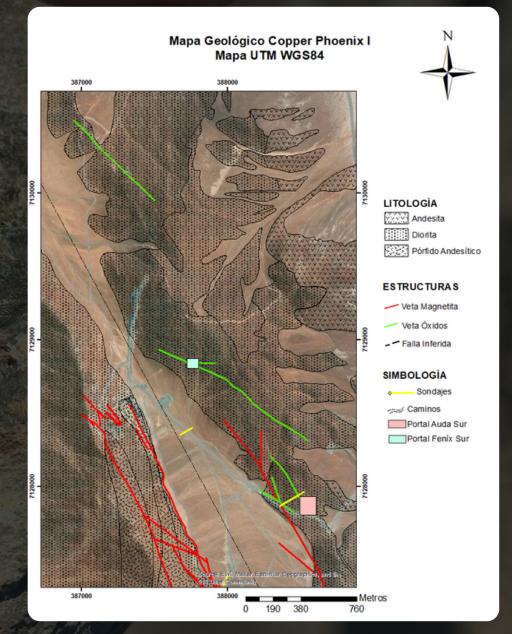


Regarding the magnetic anomaly and the conductive material, intercepts have been recorded with an Fe content of up to 46%, reaching a Fe DTT of up to 70%. Additionally, at a depth of 120 meters, traces of native copper and chalcopyrite have been identified at deeper levels. On the other hand, the exploration galleries located above this body present high-grade copper oxides, with traces of bornite and chalcopyrite.

# COPPER PHOENIX I [Cu-Ag]

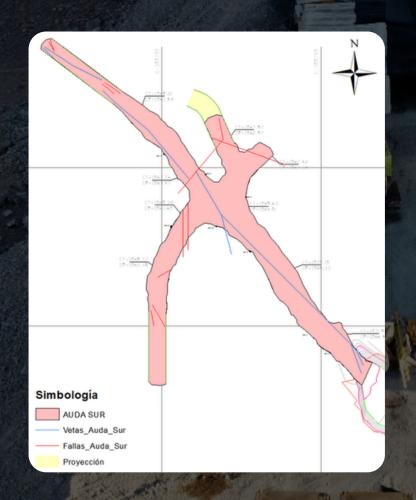
Two exploration tunnels have been initiated, where the host rock is dioritic (intrusive origin). The vein thickness has varied between 20 to 70 cm in the floors of the faces currently being developed (the vein opens in an 'A' shape).

The project has been approved by Sernageomin for a capacity of up to 4,999 tons and has an authorized explosives magazine. So far, 689 tons have been sold with a grade of 2.22% CuS, achieving an acid consumption of less than 4 kg/kg.



### **COPPER PHOENIX I – RECOGNITION TUNNEL**

The AUDA SUR and FÉNIX SUR workings have dimensions of 4.5 x 4.5 meters. Currently, two galleries are being developed, advancing to depths of 60 and 70 meters, respectively, with the aim of reaching a lower level. Once there, an expansion is planned towards the NW and SE quadrants to establish four mineralized fronts, expected to be of greater thickness. The mineralization of the veins has proven to be continuous, both at the surface and in the underground developments, suggesting persistence of mineralization at depth.





## COPPER PHOENIX I – IMMEDIATE AVAILABILITY AND COMPETITIVE ADVANTAGES

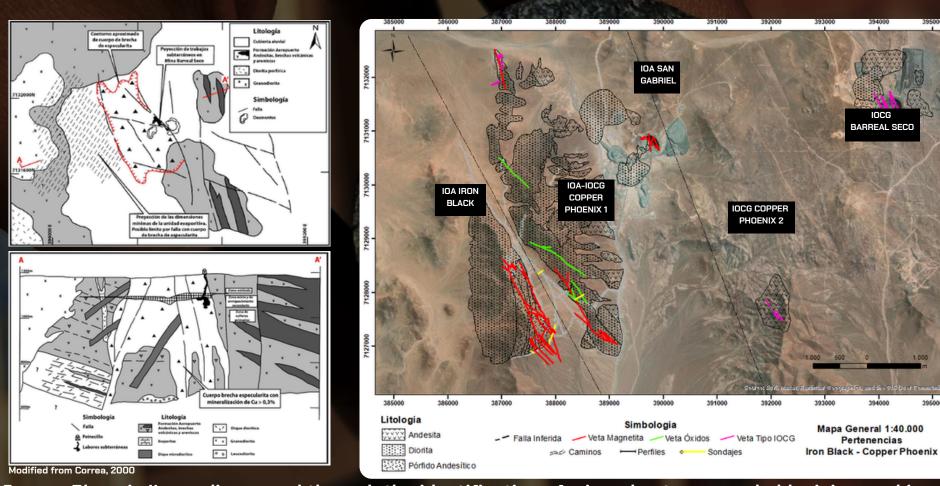
- The project has the necessary facilities for operation (bathrooms, dining room, rooms)
- It is located 16 km from the POX plant of Minera Las Cenizas and 60 km from El Salado ENAMI plant
- Water supply is from El Salado

#### **BUSINEES OPPORTUNITY**

- We are looking to lease the mine.
- Investors interested in drilling the copper veins to determine their depth and thickness.
- Metallurgical tests with the mineral (Cu-Ag).



## COPPER PHOENIX II [Cu-Au] - New DISCOVERY



Copper Phoenix II was discovered through the identification of mineral outcrops and old mining workings on the property. At least two NNW-oriented structures containing copper oxides, gold grades, and specularite have been identified, suggesting the presence of an IOCG System at the top of the model. Although most of the area is covered by alluvial sediments, it is crucial to continue drilling exploration to determine if there is a mineralized body similar to Barreal Seco, characterized by a gap formed by the intersection of NNW and EW structures.

## COPPER PHOENIX II [Cu-Au] - NEW DISCOVERY

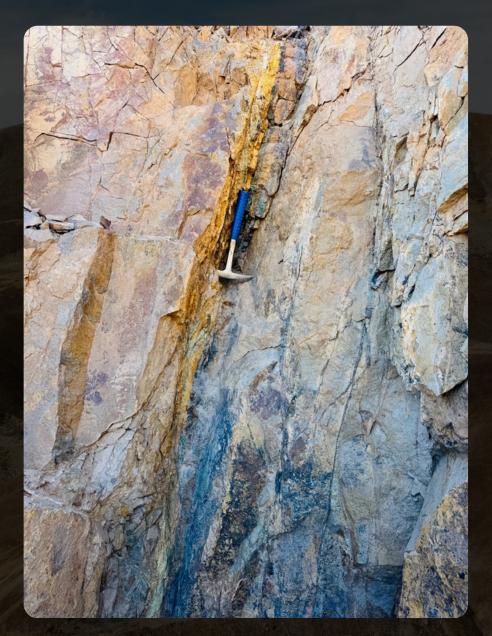
The exploration of the Copper Phoenix II project has begun with surface trenching, which has revealed the presence of two NNW-oriented structures. The area has adequate road infrastructure for machinery access and platform installation, which will facilitate a future drilling campaign. The host rocks are primarily andesites, and the surface veins show a thickness ranging from 15 to 35 cm, with evident structural continuity in the NW and SE directions.



## COPPER PHOENIX II [Cu-Au] - MINERALIZATION

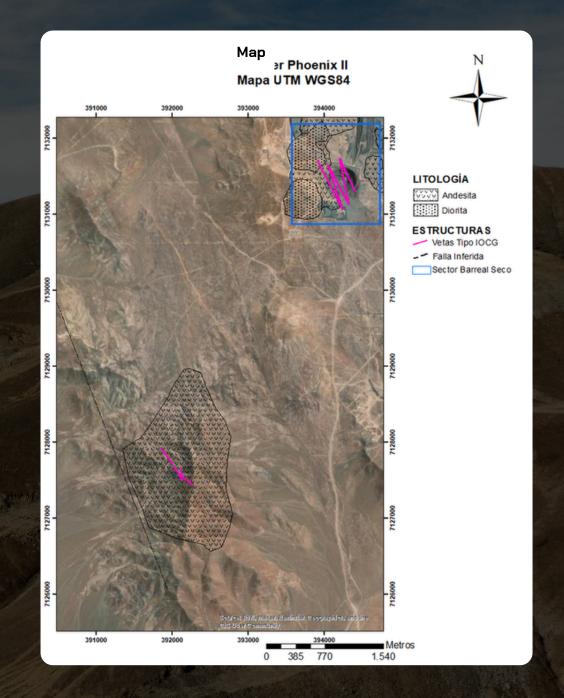
The types of minerals found in the CPII sector include **chalcopyrite**, **bronze**, **copper oxides**, **and specularite**.





## COPPER PHOENIX II [Cu-Au]

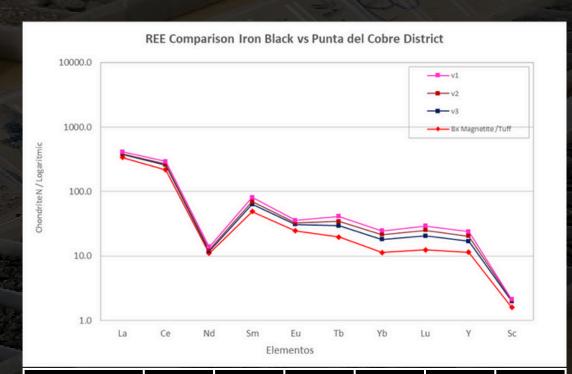
It was previously mentioned that in CPII, trenching was conducted with sampling to obtain accurate chemical analyses, resulting in CuT grades of up to 11%, CuS up to 11.50%. Au up to 18,3 g/t, and it should be noted that it has a lower acid consumption compared to CPI



## **COPPER PHOENIX I & II**

Samples: Veins of Copper Phoenix vs IOCG

ICP samples taken from trenches and outcrops in CPI & CPII



	Au	Ag	Со	Fe	Mo	Cu
	ppm	ppm	ppm	%	ppm	%
CPI	0,017	60	15	8	0,8	3,6
CPI	0,016	136	12	3	0,9	4,1
CPI	<0.005	159	25	5	1,1	3,5
CPI	0,016	21	64	23	10	7
CPII	18	6,9	38	8	2,3	9,2
CPII	3	1,1	24	22	64	3,9
CPII	9	1,8	3	10	8	4,2
CPII	0,2	0,4	222	15	12,6	0,56

## ¿Why Copper Phoenix?

- 1. All properties 100% owned.
- 2. There are **no communities**
- 3. An **environmental impact statement was approved** in the past.
- 4. There are **4 drilling targets in different areas**, one of them was exploited with underground mining and its mineral was sold to ENAMI.
- 5.Other minerals such as **Ag** (until 490 g/ton) and **Au** (18,3 g/ton) **have been identified** that can increase the value of the project.
- 6. Similar geological with Candelaria mine and Mantoverde mine.
- 7. Copper is a critical mineral that has growing demand, gold reaches historic high prices and is expected to continue growing.
- 8. All the geological, geophysical, and geochemical information is available to support a drilling campaign.

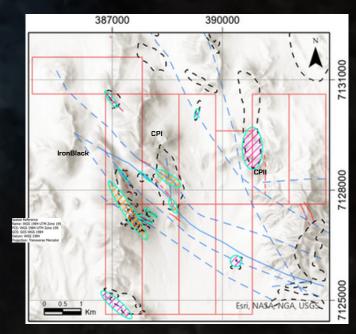


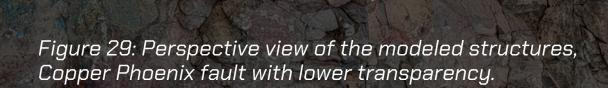
Figure 35: Exploration targets generated from the described factors. Mining property marked with red polygons.

Estructuras	Altos Magnét	ticos	ر ا ا ا
Fallas (Mapeadas)	 Targets (Priorid	lad)	
Fallas (Inferidas)	 Primera Prioridad	7//	
Vetas (Mapeadas)	 Segunda Prioridad	1//	
Vetas (Inferidas)	 Tercera Prioridad	77	

## What are we looking for?

We are searching for a deposit that exceeds
100 M tons of Cu.
There are 5 targets defined, which also have Gold and Silver.
We want the project to have a value in CuEq greater than 150 M Ton.

The new Candelaria or Manto Verde



# THE PLAN – 40.000 meters of drilling in Copper Phoenix

Stage	Total Cost
Starge 1 (5,000m)	\$2.515.000
Stage 2 (15,000m)	\$7.545.000
Stage 3 (20,000m)	\$10.060.000
	\$20.120.000

Stage 1: Term 5 months Stage 2: Term 15 months Stage 3: Term 20 months Total: 40 months

\*Adding a machine reduces time by 35%. (26 months).

Includes: Cost loggin, cost simples, cost geologist team, cost logistics, cost of create platforms.

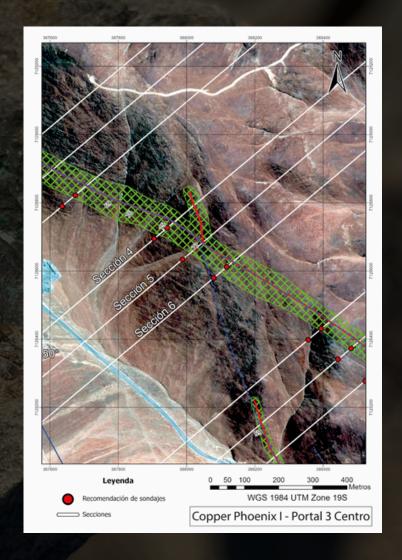
For more details you must sign NDA.

## And what do we gain with 40,000 meters?

We seek to value this project with a sales target of 100-150 M USD.

This project can continue to increase in value if more drilling is done after this campaign, the surprise will be the geochemical results of the **gold and silver**.

Continue exploring the hot zones.



## The Business - Purchase Option Copper Phoenix

Stage	Total	Cost Campaing	Price to acquire project		Purchase description
Starge 1 (5,000m)	\$	2.515.000	\$	2.000.000	Price to drill
Stage 2 (15,000m)	\$	7.545.000	\$	8.000.000	Price of continuing drilling
Stage 3 [20,000m]	\$	10.060.000	\$		Price to buy 100% property. NSR 2% with option to purchase 10M USD in the future.
	\$	20.120.000	\$	20.000.000	

This is our call option offer. If you'd like to offer a JV or other option, we're open to hearing from you.

Cost		Sales In	come	Utility		
9	\$	40.000.000	\$	100.000.000	\$	60.000.000
9	\$	40.000.000	\$	150.000.000	\$	110.000.000

## Our partners to make this project a reality



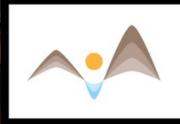
High standard diamond drilling company. (2 machines available)



"Al-powered technology for drill core description"







Geophysical Studies Chile

Luis Alvarez Loyola Geólogo Senior - QP







**Our Podcast on Spotify** 







Mining is history... and our projects are part of it.





