AUSTRALIAN
RESEARCH
INDEPENDENT INVESTMENT RESEARCH

Southern Hemisphere Mining (SUH)

October 2024

INDEPENDENT
INVESTMENT RESEARCH

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Contents

INDEPENDENT INVESTMENT RESEARCH

Southern Hemisphere Mining Ltd (SUH)

October 2024 - Initiation

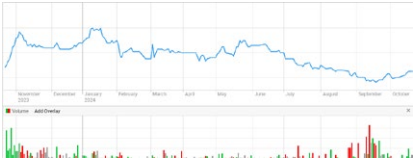
Note: This report is based on information provided by the company as at October 24, 2024

Investment Profile	
Share Price - October 24, 2024	A$0.041
12 month L/H	A$0.016 /$0.062
Issued Capital:	
Ordinary Shares	736.24 m
Options	14.75 m
Fully Diluted	751 m
Market Capitalisation - Undiluted	A$30.19 m
Cash (September 30, 2024)	A$4.04 m

Board and Management
Mr Mark Stowell - Chairman
Mr David Frances - Director
Mr Richard Caldwell - Director
Mrs Natalie Dawson - Director

Major Shareholders	
Pictet Asset Management	9.9%
Merchant Holdings (Mark Stowell)	9.7%
Ice Cold Investments	6.5%
BNP Paribas Nominees Pty Ltd	6.0%
Jay Hughes	5.9%
Top 20	68%
Board and Management	13.4%

Share Price Performance (Source ASX)



The investment opinion in this report is current as at the date of publication. Investors and advisers should be aware that over time the circumstances of the issuer and/or product may change which may affect our investment opinion.

ELEPHANT HUNTING IN ELEPHANT COUNTRY - DRILLING UNDERWAY

Recent targeting work by Southern Hemisphere Mining ("Southern Hemisphere" or "the Company") on the 100% owned Llahuin Porphyry Cu-Au-Mo Project ("Llahuin", or "the Project"), located less than 70 km from the 6.1 billion tonne Los Pelambres porphyry deposit in Chile, has defined several compelling drill targets. These are at a range of depths, and highlight the potential for additional discoveries to significantly grow the current Mineral Resource Estimate ("MRE") of 169 Mt @ 0.43% CuEq.

The Company has recently commenced a ~5,000 m drilling programme that will look at expanding the current defined mineralisation, as well as test several of the newly defined targets, with an updated MRE expected in H1, 2025.

The current inventory is restricted to three relatively shallow deposits, with work to date, including significant drilling, barely scratching the surface of an intrusive complex with a strike length of between 5 km and 6 km, and with mineralisation thus far recognised over a strike length of 3.7 km. This has also been poorly tested at depth, highlighting the potential (supported by the targeting work) for the higher grades, and larger zones commonly found deeper in these systems.

The Project has several advantages that should overcome what to some may seem a relatively low grade (although similar to that of many operations globally, and with upside) - being located at a low elevation in the Coastal Cordillera of North-Central Chile, close to infrastructure, including road, electricity and ports, and in an active mining district, just 375 km from Santiago. It is also located just 8 km from Santiago-listed Pucobre's El Espino IOCG development project.

On the technical front, first pass metallurgy has highlighted excellent flotation characteristics, and the overall resources defined to date include relatively shallow, low strip ratio higher grade cores, that could prove feasible as low cost starter pits on any future operation. There is also the potential to include molybdenum as a valuable credit to the copper and gold.

The second project is the Los Pumas Manganese Project ("Los Pumas"), located 175 km by road east of the port of Arica in the far north of Chile - the Company was floated on Los Pumas, which is ideally located with ready access to infrastructure, personnel and services.

Los Pumas has already been the subject, in 2011, of a positive PFS looking at the potential of producing a 38% Mn concentrate to be shipped through Arica. Background work has been continuing on Los Pumas, including undertaking metallurgy on the production of high purity manganese sulphate monohydrate ("HPMSM") for the battery market as well as looking at the potential to produce other products. The Company is also considering different options to provide value to shareholders and fund development.

Southern Hemisphere has more recently picked up Lago, an early stage 27 km^2 lithium brine project near Salar de Atacama.

Given the work in progress at Llahuin, and the prospectivity, we see steady positive news flow in the short to medium term from a company that seems to have flown beneath the radar. With an EV of just ~A$26 million, Southern Hemisphere is well-geared to exploration success.

KEY POINTS

Value upside: Southern Hemisphere is currently valued at a discount to peers, and we see significant value upside driven particularly by the exploration and resource upside potential to a size that would potentially support a technically and financially viable operation) at Llahuin.

Straight forward projects: Llahuin is a straight forward porphyry project, with near surface, bulk minable, low strip mineralisation, very good metallurgical characteristics (even without optimisation work) and ready access to infrastructure and services. Likewise Los Pumas enjoys the same advantages, however further metallurgy is required.

Quality, committed personnel: Personnel have extensive experience in the resources sector, and they hold some 13.4% of the shares, aligning their interests with those of other shareholders - all shares have been paid for, through placements and on-market buying.

Money in the ground: Overheads are kept to a minimum, with, over the last three years around 80% of all funds going into the ground on direct exploration expenditure - this is an excellent figure when compared to juniors as a whole.

Proven mining destination: Chile, the only South American country with an "A" international credit rating, is a well recognised mining destination, and the world's number one producer of copper, with most majors operating in the country. There is world-class geology, well developed infrastructure, ready access to the required skills and services, and a well developed mining law, with good "doability" for resource project related activities. Positive sentiment and stability has returned following political ructions over the past few years, with some of the more planned radical reforms proposed for the mining industry not being accepted, and sentiment swinging back to the centre. Given recent Australian ministerial decisions on resources projects and increasing impediments to exploration and mining, Chile could well be considered a lower risk destination than Australia.

SWOT ANALYSIS

Strengths

- **Improving market sentiment:** We see an improvement in sentiment in the junior resources market, particularly in gold and copper, with many stocks now coming off their lows - this is timely for Southern Hemisphere.
- **Proven mining destination:** Chile is a proven mining destination, and the world's top copper producer. Although recent years have seen some political issues, things seem to have settled down, with the populace showing a dislike for radical change. The "A" credit rating also shows market confidence in investing in the country.
- **Ready access to skilled labour and services:** Given the location of the Company's projects, there is ready access to skilled labour and services.
- **Infrastructure:** Projects are close to, and have ready access to necessary infrastructure.
- **Well understood mineralisation:** Porphyry deposits are well understood mineralised systems, are mined and treated widely, and only require "off the shelf" technology for operations - in short, they are not rocket science.
- **Good leverage to copper price rises:** This is maximised with large porphyries, given that a large tonnage of lower grade material becomes economic with rising prices.

Weaknesses

- **Grade and Tonnage:** Currently this is a potential weakness at Llahuin, with both market perceptions and project viability. The Project needs more tonnes, and work to date has highlighted the major upside potential. With regards to grade, there are zones of shallower higher grade mineralisation that could be mined in starter pits - drilling is also targeted at further defining such zones. It needs to be said that there are several operations globally that operate successfully at grades similar to or lower than the Company's overall resource grade.
- **Porphyries:** One issue with porphyry deposits is that they can take a lot of drilling to hit and define the "sweet spot", however the rewards can be very lucrative. It can take the nimbleness of juniors to make the early discoveries, and then the deeper pockets of larger companies to evaluate, and then if viable, develop such deposits.

Opportunities

- **Resource upside:** This is the key technical opportunity at Llahuin, with the geological setting, and recent holistic targeting work, highlighting the potential for the discovery of significant additional mineralisation, both shallow and deep at what we consider a significantly under-explored project, with previous work largely concentrating on the three defined deposits. The geology also shows at least two ages or pulses of overprinting mineralisation, a positive feature in the development of major deposits.
- **Metallurgy:** Flotation work to date has been successful (good recoveries to a good grade concentrate, relatively low bond work index), however there is the potential for improvements with optimisation work, which should lower costs/increase revenue with any future operation. There is also upside with Mo recovery, as well as looking at sulphide leaching, a technique that has improved significantly in recent years.
- **Forecast supply deficits:** Forecast supply deficits, and a dearth of new higher grade discoveries, bodes well for companies with advanced projects, with expected higher prices making lower grade projects viable.
- **Los Pumas Mn and Lago Li:** Both of these projects provide upside potential for Southern Hemisphere, particularly Los Pumas, given the advanced stage. Although Lago is early stage, it is located near the globally significant lithium producing area at Salar de Atacama, and could provide value, particularly on any recovery of lithium markets.
- **Corporate activity - Llahuin:** The ideal corporate outcome for Llahuin would be a partial sale (with the Company thus exposed to the upside), rather than a farm out/joint venture, with, in the latter, progress largely being at the whim of the incoming partner, and value being slow to accrete to the party that is farming out the interest. Pucobre would appear to be a natural buyer, given the development of the nearby El Espino project, and the potential to extend the current 20 year project life. However a sale to any party should attract a premium valuation.
- **Corporate activity - Los Pumas:** Southern Hemisphere is also considering options regarding Los Pumas, including a development JV, funding through offtake sales, else an outright sale amongst others. A spin out could also be considered, but not at the moment, given the current manganese price and the general market view on lithium stocks.

Threats/Risks

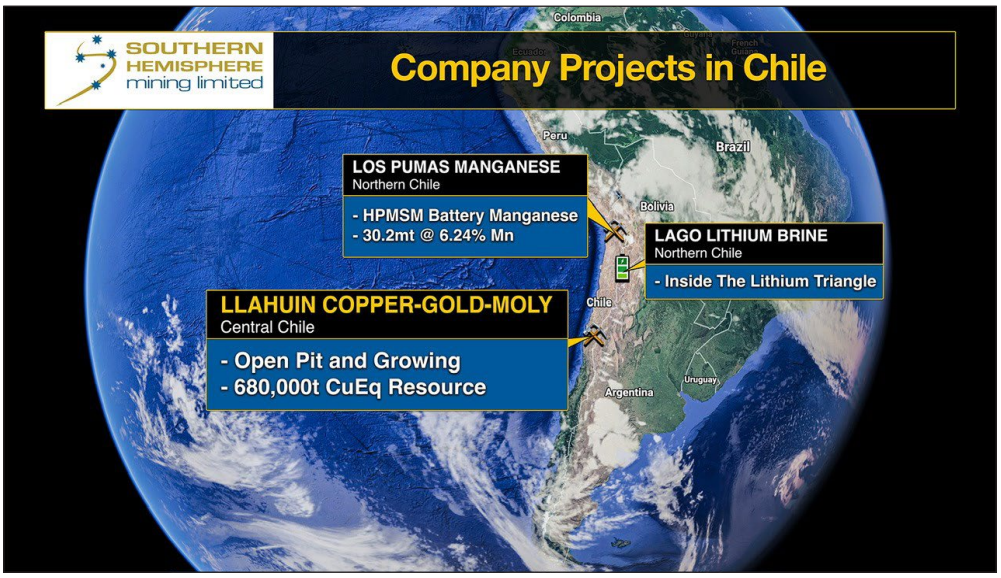
- **Equities and metals markets:** Being a junior, Southern Hemisphere is highly vulnerable to negative changes in the markets. Our analysis of junior exploration stocks indicates that many in the traditional base and precious metals were until recently trading at close to 12-month lows, however we are now seeing improvements in values.
- **Lack of drilling success:** This is a key risk for any exploration and evaluation company.

OVERVIEW

STRATEGY & BACKGROUND

- Southern Hemisphere's activities are focussed on resource expansion and activities on Llahuin, located in North-Central Chile (Figure 1), and which has total resources (estimated in 2013, and using a cutoff of 0.28% CuEq) of 168.84 Mt @ 0.277% Cu, 0.132 g/t Au and 70 ppm Mo, which, using current metal prices is 0.43% CuEq.
- Recent work has generated several new targets in addition to open areas adjacent to the defined mineralisation, with drilling underway to test some of these to look at the potential of increasing Project resources - an indicative target is a "mining inventory" of at least 300 Mt, to be able to support a 25 year, 12 Mtpa operation.
- Given the potential high development capital, and long lead time to production, the ideal outcome would be either a complete takeover, or partial acquisition of the advanced Llahuin project by a mid-tier or major miner, that has the experience, capabilities and balance sheet and patience to develop such an asset.
- Holding a stake through to production exposes Southern Hemisphere shareholders to the upside, with the potential for a good sized operation (~50 ktpa CuEq) over decades.
- Is there also the option of dealing with Santiago listed Pucobre, which is developing the nearby El Elspino IOCG deposit, or is there the potential of a party taking both?
- The Company also holds the Los Pumas Manganese Project, located adjacent to infrastructure in Northern Chile, and which has a total MRE of 30.26 Mt @ 6.24% Mn (2023), with recent work investigating the on-site production of high HPMSM - results of metallurgical test work to date has supported the Company's plans.
- The Company is looking at options regarding Los Pumas, including a partial sale, development JV or spin-out - any development could involve offtake or joint venture funding for a long life mine to produce agricultural products for soil improvement, electrolytic manganese for steel making or, as mentioned above MPMSM to supply the electric vehicle and energy storage markets.
- The third string to the bow is the more recently acquired Lago Lithium Brine Project, for which a potential direct leach extraction ("DLE") operation will be investigated - this includes nine concessions totalling ~27 km^2, located in an adjacent sedimentary basin to the world class lithium producing Salar de Atacama, however will not be discussed in detail.

Figure 1: Southern Hemisphere project locations



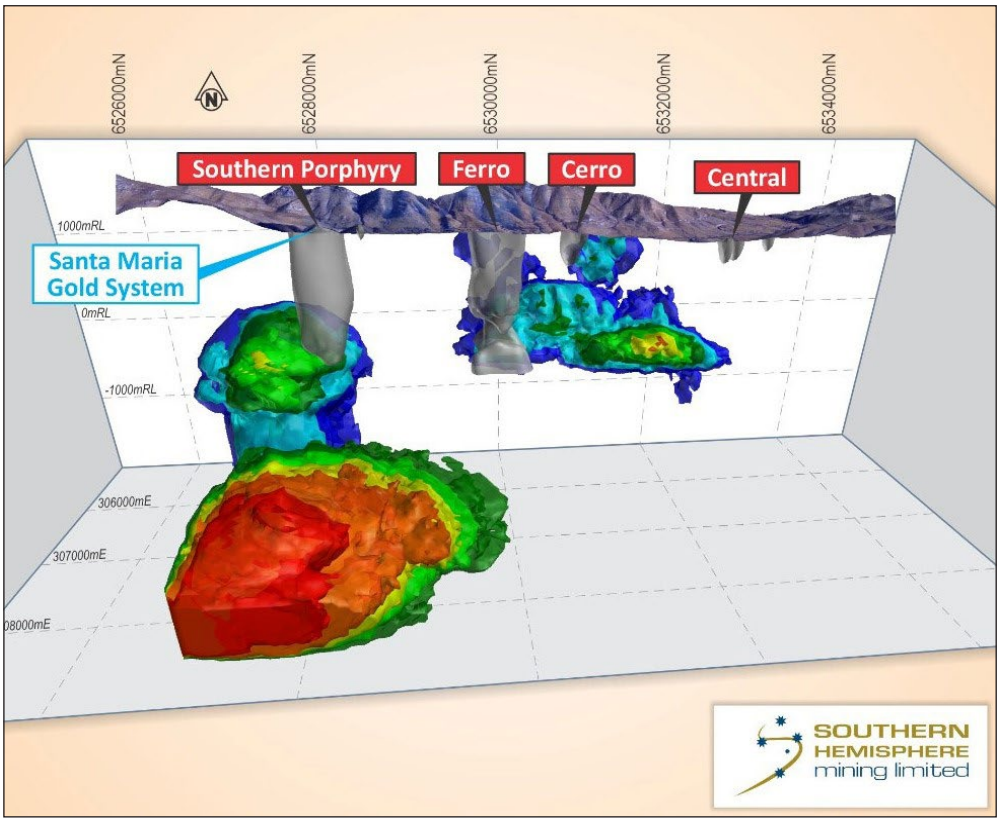
Source: Southern Hemisphere Mining

CURRENT AND UPCOMING ACTIVITIES

- Current activities are focussed on drilling at Llahuin, with a recently commenced ~5,000 m reverse circulation ("RC") and diamond ("DD") programme.
- The RC programme is expected to be finished by late November/early December, with results to be released as the programme progresses (with an expected six week lag due to laboratory turnaround) - diamond drilling is expected to commence early in 2025.

- This is initially targeting shallow mineralisation immediately to the south of the Ferro resource (Figures 2, 3 and 5), however overall is also designed to delineate the interpreted deeper core of the +2 km strike of the Cerro-Ferro porphyry targets, defined by a recent targeting programme.
- Subject to target depth refinement completion, the Company may also drill a deep hole at the untested Southern ("Curiosity") porphyry target, which is located at ~ 500 m to 1,000 m depth below an epithermal vein field.
- As part of this work the Company is undertaking geophysics, including induced polarisation ("IP") and magnetotellurics ("MT"), with this including reprocessing of existing data, and new data collection from areas not previously surveyed and infilling of existing surveys.
- Gravity surveying is also being considered.
- Results of the drilling, at least along the Central to Ferro corridor, will be used in a planned MRE update in H1, 2025, which will also incorporate other significant work, including drilling and a geological synthesis undertaken since the 2013 MRE.
- The targets, particularly the deeper core, have partly been generated using Fathom Geophysics' 3D Geochemical Footprint Modelling, supported by inversion modelling of a recently undertaken detailed drone magnetics survey.
- The 3D Geochemical Footprint Modelling has been generated from drill data, as well as a grid-based rock chip sampling programme over the tenement areas.
- As mentioned above Southern Hemisphere is considering options regarding Los Pumas, however background work is continuing, including investigating "go forward" options.

Figure 2: 3D view looking west showing geochemical footprint models thematically colour scaled from blue (moderate probability) through to reds and magentas (high probability). Drone magnetic inversion models are in silvery grey.



Source: Southern Hemisphere Mining

FINANCIAL POSITION

- As of September 30, 2024 the Company had A$4.039 million in cash and no debt - A$5.10 million was raised during the June quarter through the placement of 145.7 million shares at A$0.035/share, leaving the Company well-funded for the planned Llahuin drilling and other activities.
- Other capital raises of the past two years include $0.88 million (placement @ A$0.02/share, Q3, 2022), A$2.03 million (rights issue @ A$0.015/share, Q4, 2022) and A$2.36 million (rights issue @ A$0.02/share, Q3, 2023).

- The Company is expecting a VAT refund of up to A$3.5 million, which will most likely be delivered in stages.
- Over the two years to June 30, 2024, the Company had spent A$4.30 million on exploration and A$1.19 on staff and administration, demonstrating that a large majority (~80%) of money goes into the ground - in effect administration costs are relatively low for the industry, and in line with those just to keep the lights on.

CAPITAL STRUCTURE

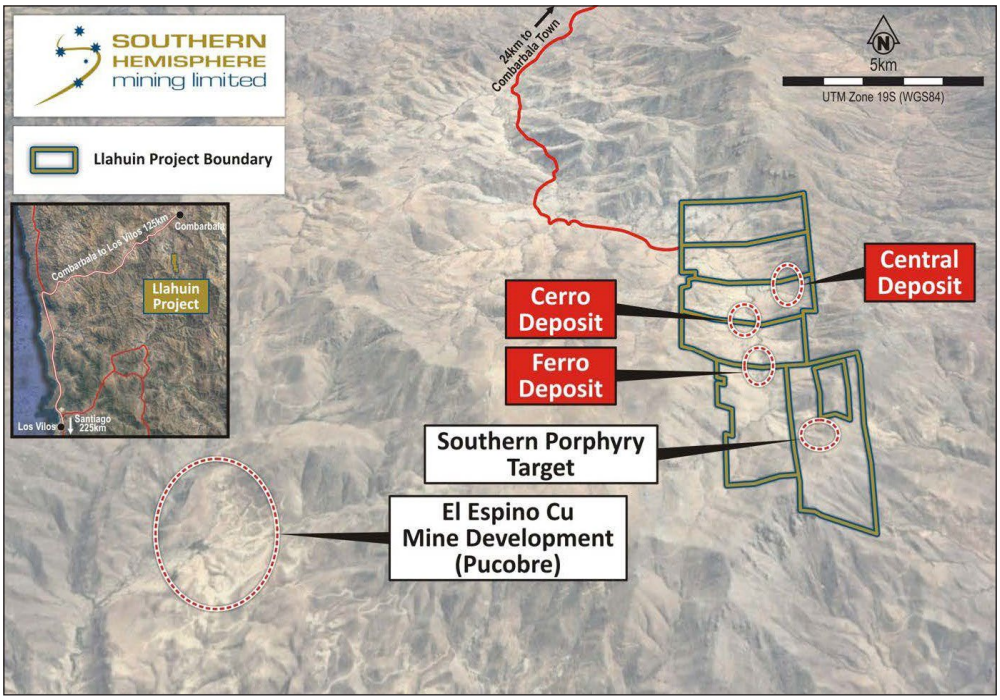
- The current capital structure is as follows:
  - 736.2 million fully paid ordinary, tradeable shares,
  - 13.75 million unlisted zero-priced options expiring on June 30, 2026; and, .
  - 1 million A$0.10 options, expiring on June 17, 2027.
- The Board holds 13.4% of the ordinary shares, with the Top 20 holding 68%.
- Top holders include Pictet Asset Management, with 9.94%, and Mark Stowell (Chairman) with direct and indirect holdings of 9.71%.
- Other significant holders include Ice Cold Investments (6.51%), BNP Paribas Nominees Pty Ltd (6.01%) and Jay Hughes (5.94%)

LLAHUIN COPPER PROJECT

LOCATION, GEOGRAPHY AND TENURE

- Llahuin is located approximately 375 km north by road from Santiago, with the nearest town being Combarbalá (24 km), with a population of ~13,000 (Figures 1 and 3) - geographically it is located in the Coastal Cordillera of North-Central Chile at an altitude of ~1300 m, and with local relief in the order of 300 m.
- The Project is generally coincident with a north-south trending valley (Figure 3), potentially reflecting weathering of more regressive units or a structure.

Figure 3: Llahuin tenements and access



Source: Southern Hemisphere Mining

- The region is sparsely populated with "Estancios" largely given to goat shepherding, with some grape growing also undertaken regionally.
- The region is semi-arid, with annual rainfall of ~200 mm, however this can vary from droughts to periods of heavy rainfall, with rivers fed by both the winter rains and spring thaw.
- The Project comprises nine 100% owned tenements for 14.55 km^2, of which the four northern tenements were initially acquired in July 2011 through an intermediary from Antofagasta plc (announcement of July 13, 2011).

- Consideration included:
  - Staged cash payments of US$615,000 over twelve months; and,
  - Shares in SUH to the value of US$1.2 million after 18 months.
- The area is well served by infrastructure, including roads, and is also just 5 km from the electricity grid and 20 km from the nearest sealed airstrip; in addition a disused railway passes through the property, hence the name of the "Ferrocaril" deposit.
- Despite the semi-arid climate, the Project is not in a critical water vulnerable area, and although there has been a severe drought over recent years the Company has been hitting water (non-potable) in all holes at an average depth of ~60 m.
- We note that Pucobre's plans for the nearby El Espino project includes a 175 km water pipeline from a desalination plant on the coast.
- Nearby ports include Coquimbo, some 200 km by road to the NW, and which supports the Andacollo operation of Teck, and Los Vilos, 150 km by road to the south-west, which supports the Los Pelambres mine, owned 60% by Antofagasta plc.
- Being in a recognised mining district (and country), there is ready access to skilled services and suppliers, as well as personnel, from unskilled labour to professionals.
- Andacollo, a hybrid manto/porphyry operation is located some 120 km north of Llahuin, with the Los Pelambres porphyry open pit and concentrator being located ~70 km SW.
- Santiago-listed Pucobre's El Espino Cu development is based on the El Espino iron oxide copper gold ("IOCG") deposit (Figure 3), with the last publicly released (Explorator, 2010) M-I-I resource of 230 Mt @ 0.45% Cu and 0.19 g/t Au (0.59% CuEq).
- El Espino is at the development stage, with Resource Capital Funds ("RCF") having earned 23.68% through the investment of US$90 million towards development, giving the project an EV of US$390 million at the time of the investment.

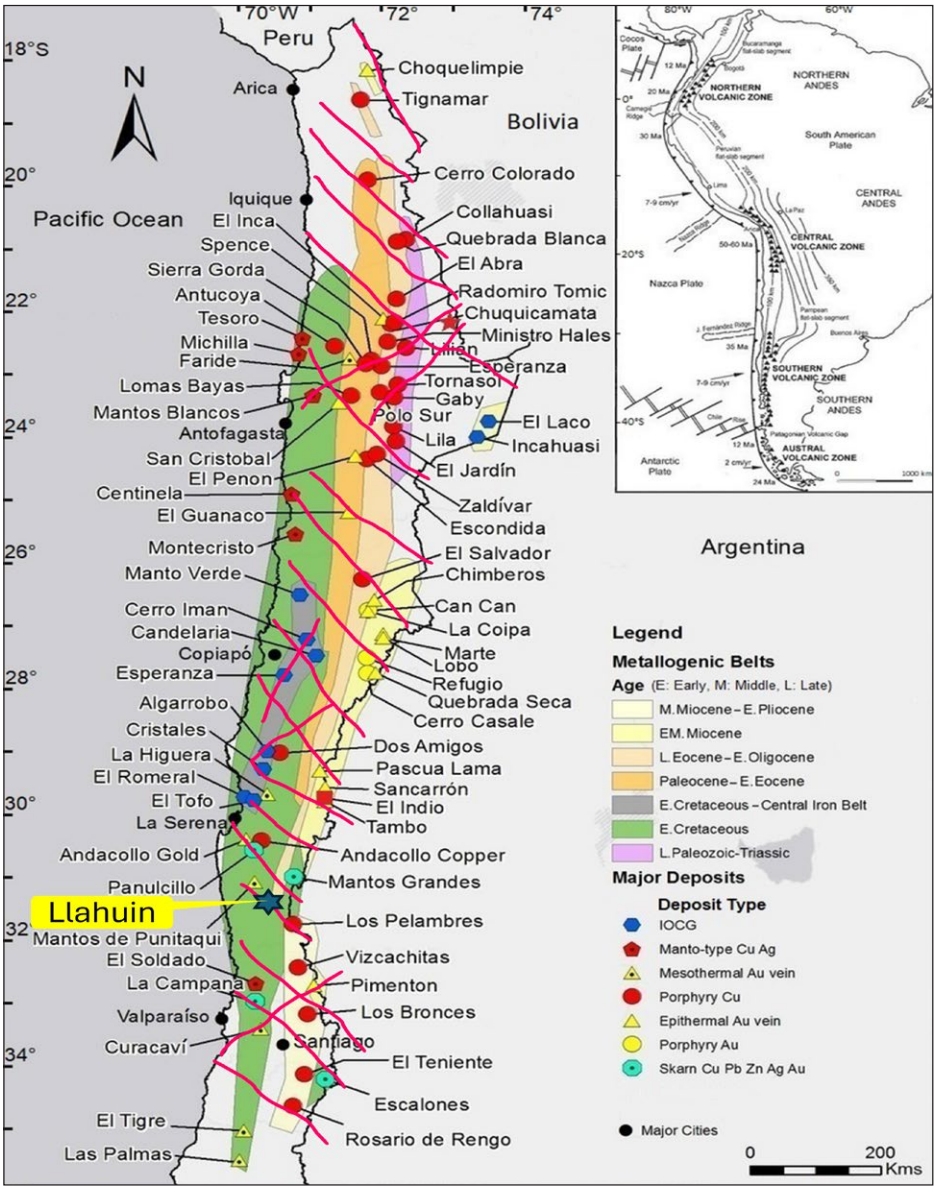
GEOLOGY, MINERALISATION AND PROSPECTIVITY

Regional Geology

- The Project is located over volcano-sedimentary units of the Early Cretaceous Coastal Metallogenic Belt (Figure 4), one of several arc-parallel belts hosting mineralisation in Chile.
- The coastal belt is the oldest, with these progressively younging to the east - this belt is also characterised by manto-style mineralisation, however none of this style has been recognised at Llahuin to date.
- Figure 4 also shows that Llahuin is located on a SE-trending structure that appears to terminate the southern end of the Eocene/Oligocene belt (which hosts Escondida to the north), and the northern end of the Miocene belt, which hosts Los Pelambres to the SE amongst many others.
- Los Pelambres, less than 70 km from Llahuin, has current Resources of 6.13 Bt @ 0.48% Cu, 0.017% Mo and 0.05 g/t Au, with Reserves of 849 Mt @ 0.58% Cu, 0.02% Mo and 0.05 g/t Au, and produces in the order of 300,000 tpa of copper in concentrate.
- These structures are important for localising intrusive complexes and hence mineralisation.
- Is there then the potential for Oligocene/Eocene or Miocene intrusives at depth at Llahuin, in addition to the Cretaceous mineralised rocks?
- There is an epithermal event overprinting the porphyry mineralisation at Llahuin, that could well be due to telescoping of the Cretaceous event, however another possibility could be a younger mineralising event.
- Overprinting relationships indicate at least two stages of mineralisation, with at least the Central porphyry having an epithermal overprint.
- The deformed Early Cretaceous volcano-sedimentary rocks include:
  - The Arqueros Formation, comprising volcanic flows and andesitic breccias, with interbedded sandstone and epiclastic breccias; and,
  - The concordant Quebrada Marquesa Formation, comprising chemical and clastic sediments, including marls, shales, sandstones, conglomerates and gypsum.
- The volcano-sedimentary units form an east-dipping homocline, and are cut by three main fault sets, namely NE-SW, N-S and NW-SE - these are generally steeply dipping, and are considered important in that structure has paid a major part in controlling the location of the major intrusives.

- Recognised intrusives include plutons of the Ilapel Super Unit and the San Lorenzo Unit - the former includes largely a Cretaceous granodiorite and quartz diorite (unmineralised), and the latter a Late Cretaceous to Paleogene dioritic porphyry complex.

Figure 4: Northern Chile, showing metallogenic belts, deposits and interpreted structure



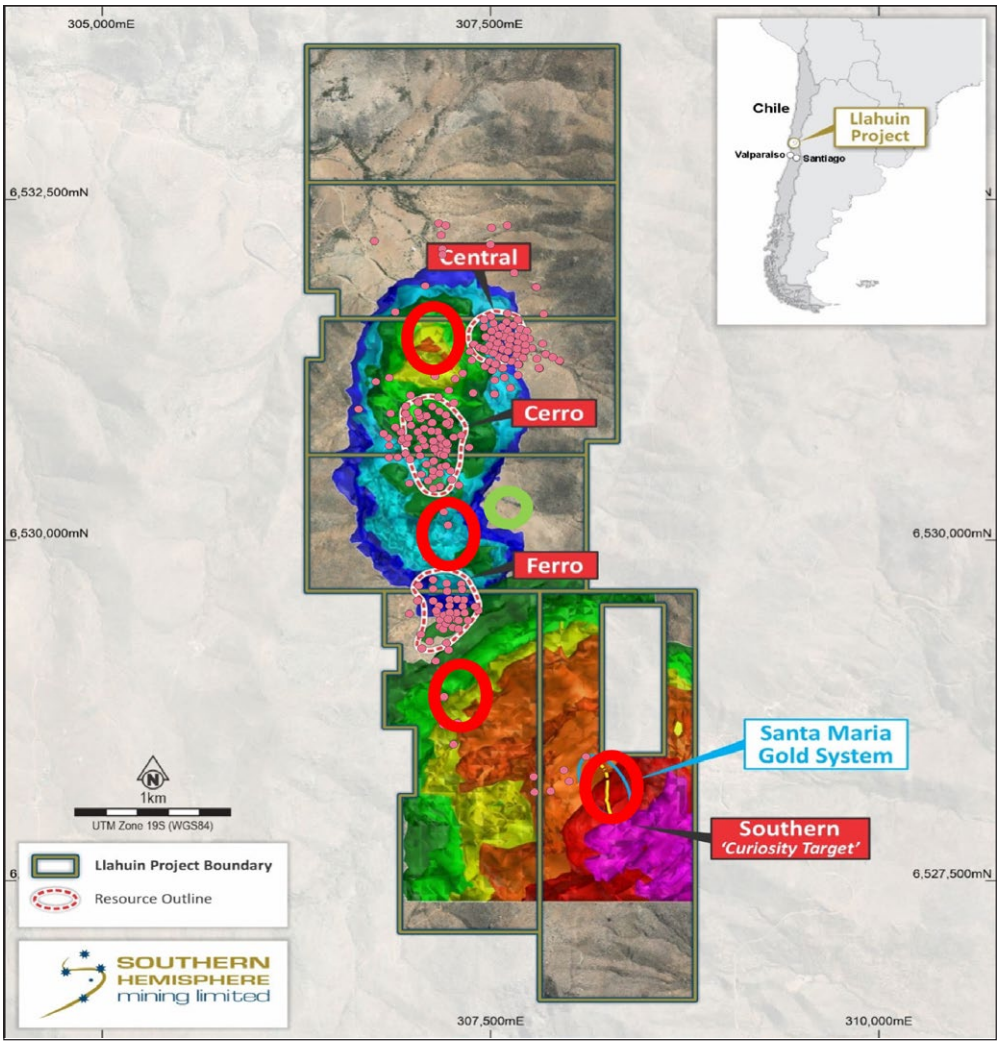
Source: Adapted from Southern Hemisphere Mining

Project Geology and Mineralisation

- Porphyry-style Cu-Au-Mo mineralisation identified to date is largely hosted in three main mineralised zones - the Central Porphyry Zone, Cerro do Oro and Ferrocarril, occurring along a +2.5 km N-S strike (open north and south, with a total strike length of up 6 km), with other work, including just four drill holes identifying the potential for an additional significant porphyry mineralised zone below the epithermal mineralisation at the Southern Target (Figures 2 and 5).
- Figure 5 also shows targets identified from the Fathom Geochemical Footprint Model, with these outside of the defined mineralisation, and having only limited drilling; likewise, Figure 9 shows a close correlation between Fathom anomalies and defined mineralisation.
- Figure 5 also shows a recently recognised prospective porphyry, associated with a geochemical anomaly, that has been better exposed after recent rains.
- Mineralisation at the defined resources is largely hosted in a series of medium to fine-grained porphyritic diorites to monzonites, with mineralisation also hosted in brecciated, altered and hornfelsed wall rocks.
- Mineralisation occurs as veining, stockworks and breccia zones, with higher grade mineralisation being associated with strong potassic alteration accompanied by magnetite and quartz stockworks, with the potassic alteration characterised by biotite.

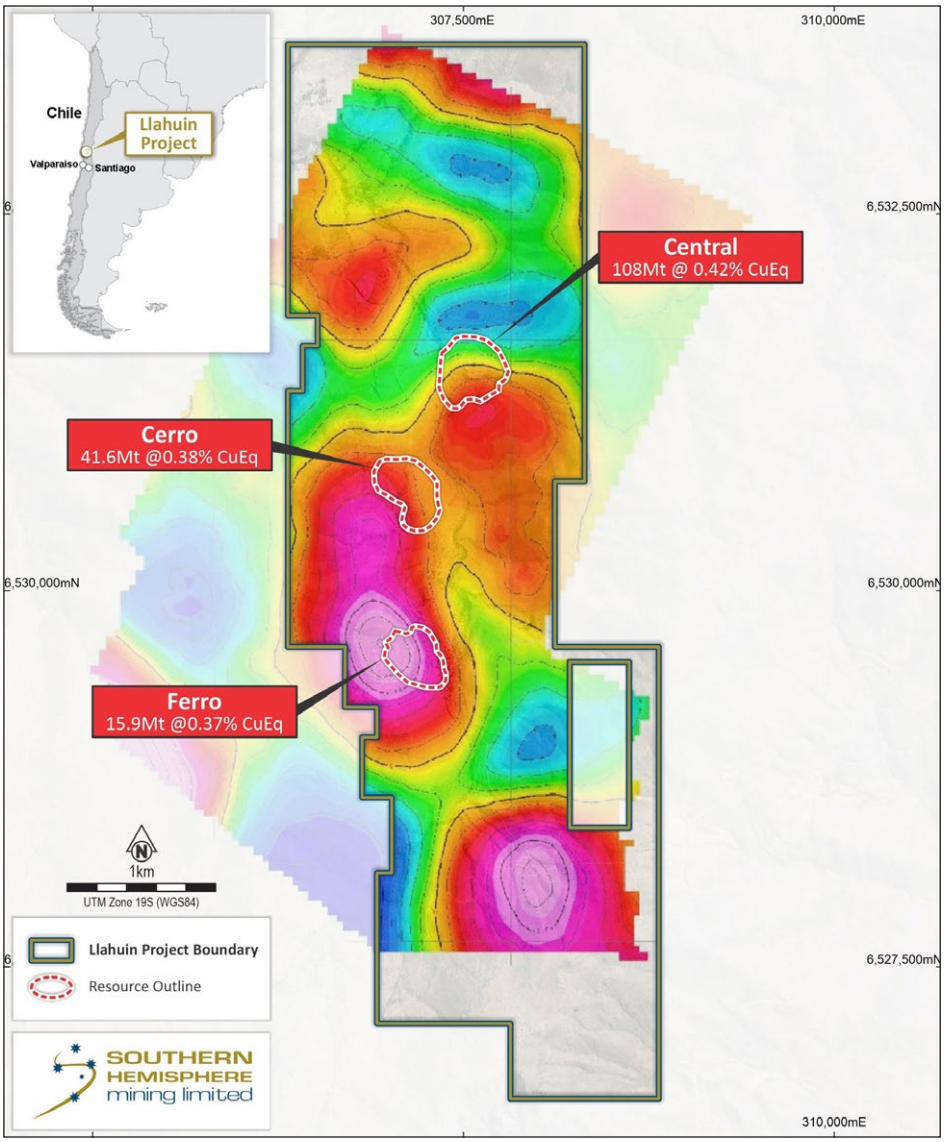
- The higher grade mineralisation has a chalcopyrite-bornite-molybdenite sulphide assemblage, sometimes accompanied by pyrite.
- In addition to the Cu-Au, there are zones of higher grade molybdenum on the periphery of the Cu-Au zones at Central - recent sampling and assaying of historic drilling where Mo was not originally assayed has identified this mineralisation, with intervals of up to 375 ppm Mo being identified - these will be incorporated into the H1, 2025 MRE update.
- Mineralisation outcrops, and at Central, has been intersected at up to 600 m below surface, and is still open - grade within the modelled deposits tends to increase with depth.
- Unlike several other porphyry systems in South America, no material higher grade supergene zone is present at Llahuin.
- In addition to the porphyry mineralisation, high (and/or intermediate) sulphidation vein-style epithermal Au mineralisation was recognised in early drilling at Central by Antofagasta, overprinting the pre-existing porphyry mineralisation - higher grade gold assays in drilling would suggest that the overprint is also present at Cerro de Oro ("Golden Hill").
- Epithermal mineralisation also outcrops at Santa Maria (Figure 5), near the Southern Porphyry Target, with this epithermal mineralisation indicating telescoping of the Cretaceous event, else, as mentioned earlier, is there the possibility for a separate younger event - both scenarios support the interpretation of mineralised porphyries at depth.
- Magnetic inversion modelling has highlighted the presence of interpreted source intrusions at depth (Figure 6) - this highlights one causative stock for Central, Ferro and Cerro, with a separate large stock below the Southern Target.
- What is also shown in Figure 6 is a separate, as yet untested magnetic body to the north of Central - this area is largely under colluvial cover, and as such has not seen any geochemical sampling given the concentration on operating in outcropping areas.

Figure 5: Llahuin Fathom targets (red ovals), recently identified geological/geochemical target (green circle), resource outlines and drillhole collars (pink dots) on geochemical footprint model image



Source: Adapted from Southern Hemisphere Mining

Figure 6: 500 mRL (700 m depth) magnetic slice



Source: Southern Hemisphere Mining

EXPLORATION HISTORY, DRILLING AND RESOURCES

- The Project has seen extensive work, with the majority being in the period 2011 to 2013, at which time resources were shifted to other projects, and then with a restart of meaningful activities in 2021.
- Other than some small scale mining, the earliest work was undertaken by Antofagasta, with two holes being drilled in 2005.
- Key activities and results to date have included:
  - Drilling (not including the current programme) - 269 holes for 61,775 m,
  - Metallurgical testwork, with closed loop rougher and cleaner tests averaging 84% Cu recovery to a 28%, low deleterious element concentrate, and 47% Au recovery to a grade of 4.9 g/t in the concentrate; and,
  - The latest MRE, containing 169 Mt @ 0.277% Cu, 0.132 g/t Au and 70 ppm Mo, which equates to 0.43% CuEq using current metals prices.
- This period before the restart of activities included two joint ventures, firstly with Lundin Mining Corporation (TSE: LUN, "Lundin") from October 2012 to 2015, and then with Hudbay Minerals Inc (TSE: HDB, "Hudbay") from February 2018 to August 2019.
- Extensive work was carried out under both agreements, however neither company retains any interest in the Project.
- Hudbay's bigger plan was to combine El Espino and Llahuin, and as such preliminary JV negotiations were also with Pucobre, however these did not progress.

Activities - 2011 to 2013

- At the stage that operations were halted in 2013, the Company, and at the time, JV partner Lundin Mining Corporation (TSE: LUN, "Lundin") had completed significant work, including mapping, geochemical sampling, geophysics (IP at 200 m and magnetics at 100 m line spacing), drilling and three resource estimations, with the Project at a stage at which development studies could be considered.
- Lundin exited to focus their team on the new, large Candelaria copper mine acquisition.

Drilling

- Drilling during 2011 to 2013 included:
  - 188 RC holes (including 25 precollars) for 33,732.20 m; and,
  - 59 DD holes for 20,787.60 m.
- This work was largely concentrated on the Central, Cerro De Oro and Ferrocarril deposits, with only 14 RC holes being drilled outside of these areas -this has resulted in the current resource being of a high confidence.
- The drilling returned several significant intersections, with some examples shown in Table 1, which also includes examples from the latest drilling (discussed later), including two of the three holes thus far drilled into the Southern Porphyry Target.

Table 1: Significant drill intersection selection

Significant drill intersection selection						
Hole ID	**From**	**To**	**Width m**	**CuEq %**	**Prospect**	**Notes**
21LHRC003	0	90	90	0.62%	Central	
21LHRC009	0	69	69	0.47%	Cerro	
DDHLLA021	2	440	438	0.75%	Central	
Incl	182	288	106	1.69%	Central	Higher grade at depth
DDHLLA025	102	468	366	0.63%	Central	
DDHLLA026	168	422	254	0.52%	Central	
DDHLLA027	70	396	326	0.56%	Central	
DDHLLA043	416	450	34	1.49%	Central	Higher grade at depth
23LHRC027	0	156	156	0.51%	Cerro	
Incl	46	128	82	0.67%	Cerro	
23LHRC028	32	168	136	0.47%	Cerro	
23LHRC038	2	166	164	0.16%	Southern	
23LHRC039	28	134	106	0.13%	Southern	
23LHRC042	0	48	48	0.45%	Ferro	

Source: Southern Hemisphere - "CuEq" figures are as per the company releases.

Mineral Resource Estimations

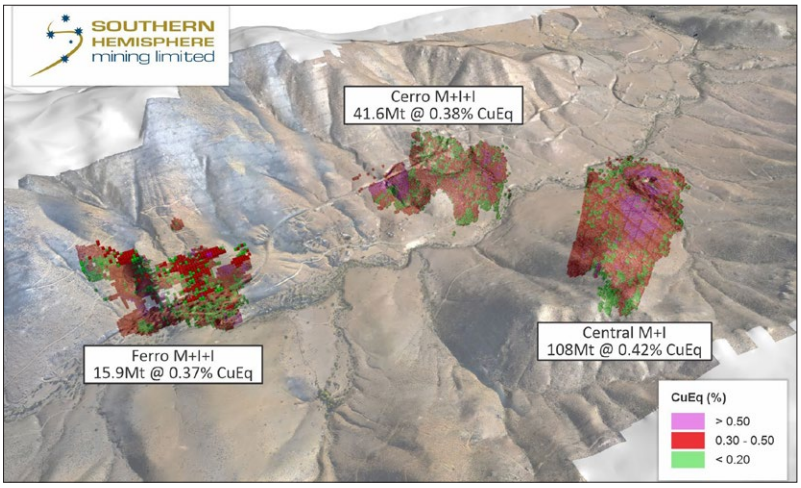
- As mentioned, three MREs have been published, with these as follows:
  - April 2012 - Total resources of 118.4 Mt @ 0.30% Cu and 0.09 g/t Au, Central Zone, using a 0.24% Cu cutoff - 54.8% Measured, 34.9% Indicated and 10.3% Inferred, with Mo only estimated for Measured and Inferred Resources,
  - October 2012 - Total resources of 161.6 Mt @ 0.30% Cu, 0.10 g/t Au and 0.004% Mo, using a 0.28% CuEq cutoff over all deposits - 55% Measured, 35.7% Indicated and 9.3% Inferred; and,
  - August 2013 - Total resources of 168.8 Mt @ 0.277% Cu, 0.132 g/t Au and 70 ppm Mo, using a 0.28% Cu cutoff over all deposits - 66.4% Measured, 21.9% Indicated and 11.7% Inferred.
- The initial upgrade largely increased resources and included Cerro and Ferro, with the latest incrementally increasing resources and upgrading a further proportion to Measured.
- The latest MRE is shown in Table 2, with the block models shown in Figure 7.
- Figure 8 shows a section through the Central block model, highlighting the higher grade core zone - note that resources are not constrained by the optimised pit as shown in the figure.

Table 2: Llahuin JORC 2012-compliant Mineral Resource Estimate

Llahuin JORC 2012-compliant Mineral Resource Estimate						
Resource Category	**Cut-Off (% CuEq)**	**Tonnes (Mt)**	**CuEq (%)**	**CuT (%)**	**Au (g/t)**	**Mo (%)**
Measured Resource						
Central Porphyry	0.28	101.21	0.425	0.308	0.112	0.008
Cerro De Oro	0.28	10.79	0.387	0.219	0.199	0.004
Ferrocarril	0.28	-	-	-	-	-
Total Measured Resource		**112**	**0.422**	**0.307**	**0.12**	**0.008**
Indicated Resource						
Central Porphyry	0.28	7.25	0.344	0.197	0.14	0.01
Cerro De Oro	0.28	15.21	0.38	0.211	0.2	0.004
Ferrocarril	0.28	14.44	0.37	0.273	0.074	0.01
Total Indicated Resource		**36.91**	**0.369**	**0.232**	**0.139**	**0.007**
Total Measured & Indicated		**148.91**	**0.408**	**0.288**	**0.125**	**0.007**
Inferred Resource						
Central Porphyry	0.28	2.76	0.323	0.158	0.154	0.012
Cerro De Oro	0.28	15.68	0.371	0.198	0.204	0.004
Ferrocarril	0.28	1.49	0.337	0.286	0.056	0.002
Total Inferred Resource		**19.93**	**0.362**	**0.199**	**0.186**	**0.005**

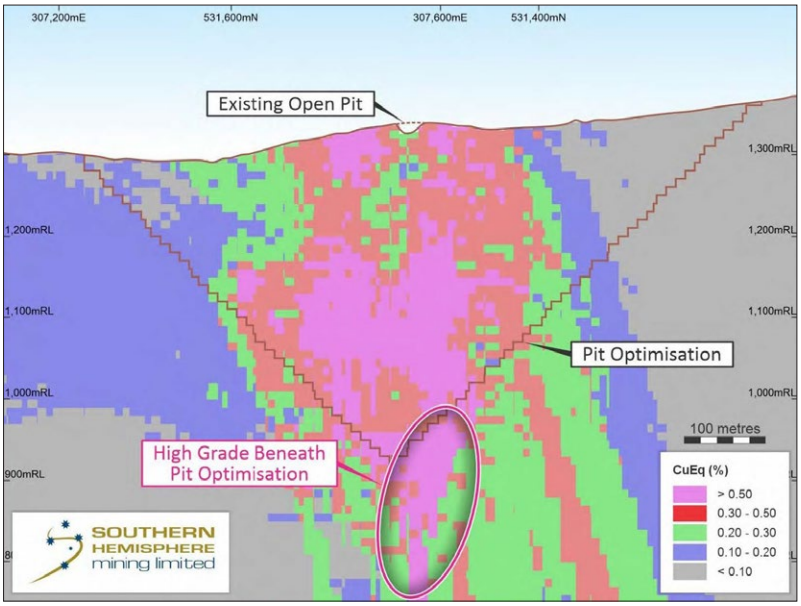
Source: Southern Hemisphere - note that the CuEq calculation was at the time of the MRE.

Figure 7: Block model orthogonal view to NW



Source: Southern Hemisphere Mining

Figure 8: Oblique section through the Central block model, highlighting the high grade core



Source: Southern Hemisphere Mining

Metallurgy

- The Project has seen first-pass metallurgical testwork, demonstrating excellent metallurgical properties, with good potential for improvement through optimisation work - nevertheless, porphyry mineralisation is generally "well-behaved" metallurgically.
- This work included testing the work index and flotation characteristics, with the latter including rougher and cleaner cells, and closed loop flotation.
- The work index tests on six samples indicated power consumption of between 11.74 kWh/t and 14.84 kWh/t, with the majority below 12.49 kWh/t, indicating a low to moderate consumption.
- A summary of results of the flotation testwork is shown in Table 3, with the resource weighted average showing a copper recovery of 84% to a high grade 28% concentrate, and 47% Au recovery to 4.9 g/t in the concentrate.
- Further work has shown a constant tail for gold in the flotation, hence higher grade mineralisation will result in higher recoveries.
- Deleterious elements are low, and thus these results are considered to be very positive, particularly that they are preliminary only, with mineralisation yet to be subject to optimisation work.
- In addition, test work needs to be undertaken on molybdenum mineralisation, which is a common by-product of similar mineralised systems.

Table 3: Metallurgical flotation testwork results

Metallurgical flotation testwork results							
Sample	% of Resource	Feed Grade % Cu	Feed Grade g/t Au	Cu Recovery %	Au Recovery %	Concentrate Grade % Cu	Concentrate grade g/t Au
UGM-01	37	0.46	0.142	85	47	32	6.1
UGM-02	11	0.44	0.15	91	57	31	8.8
UGM-03/06	11	0.28	0.067	75	52	16	2.6
UGM-04	13	0.33	0.046	81	41	28	2.3
UGM-09	16	0.33	0.066	88	41	26	3.4
TOTAL/WT AV.	88	0.39	0.106	84	47	28	4.9

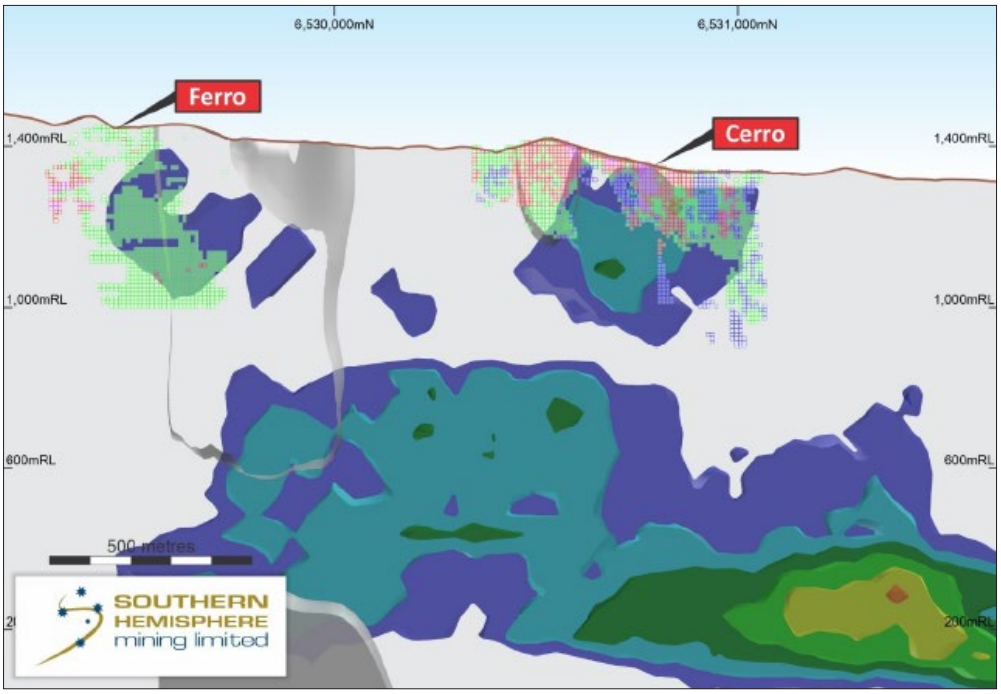
Source: Southern Hemisphere Mining

Activities - 2021 to Present

- Activities since 2021 have included a consolidation/standardisation of previous work and new data collection, including drilling, drone magnetics, rock chip and soil geochemistry, and the Fathom Geochemical Footprint exercise - a holistic approach has been taken to the Project.
- This has included a standardised relogging of historical drillcore, which, amongst other things, has recognised a mineralised breccia zone at Central, as well as multi-element reassaying of some of the core.
- This has resulted in a much better understanding of the asset as it stands, delivering a new geological model that is being used to guide upcoming activities, which will be used in the planned updated MRE.
- The Company is continually adding to the knowledge of the Project, with this including site visits and input from global experts on Chilean porphyries.
- Drilling has comprised 43 holes for 5,764.75 m, including 30 RC holes (3,461 m), two orientated diamond holes (190.9 m) and 11 pre-collared diamond holes (2,112.75 m).
- Although largely concentrated on the three recognised deposits, three holes were drilled into the Southern Porphyry Target, targeted on soil geochemical anomalies generated by Southern Hemisphere's sampling programmes.
- As shown in Table 1, two of the holes drilled into the Southern Porphyry delivered long intersections of mineralisation (with a third also hitting mineralisation), albeit relatively low grade, from surface; given the nature of porphyry exploration these are considered significant, and point towards the potential of this hosting relatively shallow potentially economic mineralisation, in addition to the deep targets as outlined by the Fathom work.
- Several rock chip sampling programmes have been undertaken, including selective sampling of veins and surface mineralisation, grid based sampling, and detailed sampling around the Santa Maria adit.

- The tenement wide sampling has returned high grade copper, gold and silver both over and away from the defined mineralisation, with that at Santa Maria confirming the high sulphidation epithermal nature of that system.
- As discussed previously, data has been used for targeting using the Fathom Geochemical Footprint technique, with targets shown in Figures 2 and 5, along with the magnetic inversion modelling.
- This is also shown in Figure 9, which highlights the close correlation of the anomalies with the existing Cerro and Ferro block models and the potential at deeper levels.

Figure 9: Detail of the Fathom modelling and magnetics on block models in the Cerro/Ferro area.

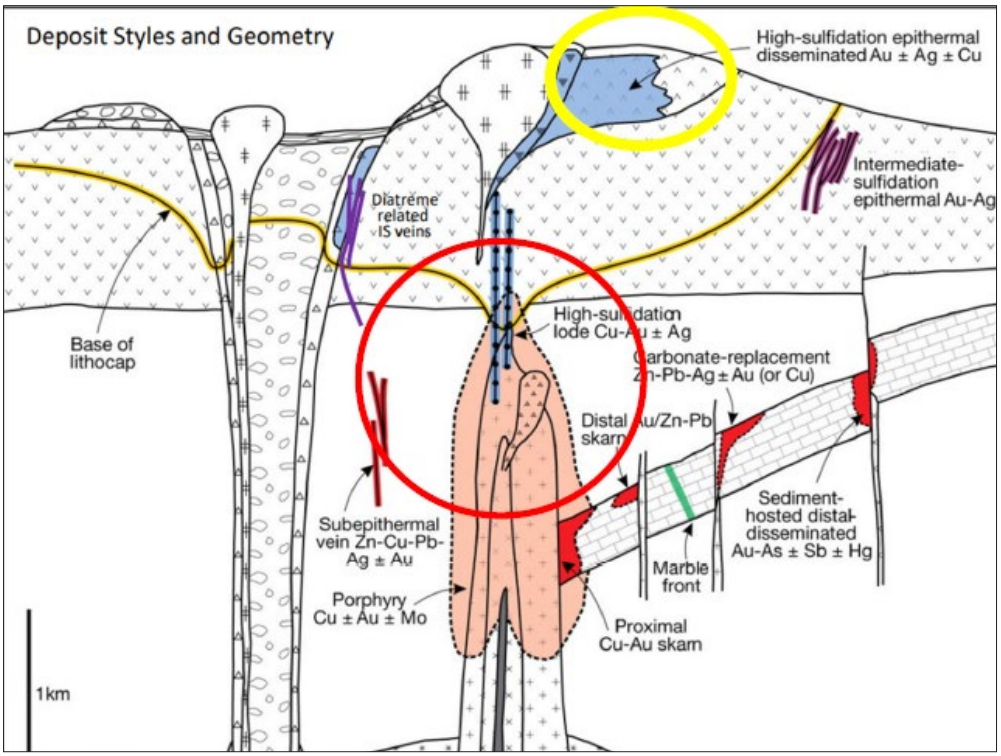


Source: Southern Hemisphere Mining

UPSIDE POTENTIAL

- The geology, structural setting and mineralisation defined to date points towards significant upside at Llahuin, at all levels in the system(s).
- Immediate drill targets are the shallow ones, with the recent targeting exercise highlighting areas outside of the drilled resources that have the potential to host significant porphyry mineralisation - the key targets are shown in Figure 5.
- Areas for shallow mineralisation that stand out include the Cerro-Ferro link, and the Southern Porphyry Target - both areas have had only a few drill holes, however these have returned porphyry-style mineralisation with tantalising grades and have been highlighted as prospective in the targeting.
- One untested area is highlighted by a magnetic zone to the north of Central (Figure 6) - this area is under colluvial cover, and hence has seen no work except for the magnetics.
- Hole DDHLLA021 (Table 1, 106 m @ 1.69% CuEq) highlights the potential for higher grade cores to these systems, that can significantly improve project economics.
- One thing that needs to be considered when drilling porphyries is that they are generally large systems (with very extensive alteration zones), with a relatively restricted high grade core - it is not often that this core is intersected in the first hole, with finding this being an iterative process, with significant drilling commonly required.
- There is also the potential for discovering deeper mineralisation below the defined resources, including in faulted off blocks, else associated with different mineralising intrusions (including from possibly two entirely separate mineralising events and ages) - the larger and high grade porphyry systems are commonly developed from several overprinting mineralisation events.
- The potential for deeper mineralisation is also supported by the results of the Fathom work, and the presence of the epithermal mineralisation - these shallow systems are commonly genetically and spatially associated with a deeper porphyry system, as shown diagrammatically in Figure 10.

Figure 10: Conceptual model of porphyry and related mineral systems



Source: Southern Hemisphere Mining, adapted from Sillitoe (2010)

- At the Southern Target prospect, it is interpreted that there is a porphyry target at ~550 m to 2,000 m depth with a diameter of 2 km, supported as well by the magnetic data (Figure 6); there are similar targets in the interpreted stock below the Cerro/Ferro area.
- It is also not unknown to have porphyries at different levels in the same complex, part in due to telescoping, else moderate grade mineralisation at higher levels, with a higher grade core at depth.
- Although these deeper targets will be relatively expensive to drill, given that the Project is in elephant country, there is every chance to find an elephant.
- A case in point is TSX-V listed ATEX Resources (TSX-V: ATX, market capitalisation of C$300 million), owner of the Valerianos Project, in the high Andes of Northern Chile on the Chilean/Argentinean border.
- The main porphyry, with an MRE of 1.4 Bt @ 0.50% Cu and 0.20% Au, sits at around 750 m to 1500 m depth below a surficial oxidised high-sulphidation epithermal system with an MRE of 32.1 Mt @ 0.54 g/t Au and 2.43 g/t Ag.
- High grade porphyry deposits make compelling block-cave targets by virtue of their large size, and generally consistent grades.
- Another deep deposit is Solgold's (TSX: SOLG, market capitalisation of C$555 million) Cascabel Project in Ecuador, and, closer to home, the Ridgeway deposit at Cadia, which is the deepest and highest grade deposit in a globally significant complex that includes four main deposits at various grades and depths.
- Last, but not least, there is the potential for a significant molybdenum credit.

LOS PUMAS MANGANESE PROJECT

BACKGROUND

- The Company was listed on the back of Los Pumas, which was the focus of activities from 2009 to 2011, after which the focus moved to Llahuin.
- A positive PEA/PFS, based on producing ~300,000 tpa of concentrate for export, was delivered in 2011, however further work was not undertaken until 2021, with Southern Hemisphere then looking at the potential to produce battery grade HPMSM.
- As mentioned previously, the Company is considering options for Los Pumas, including those required for funding a development, else a sale, or, when the time is right, a spin-out.

LOCATION, GEOGRAPHY AND TENURE

- Los Pumas is located in the extreme north of Chile, close to the Peruvian border, and 175 km by Ruta 11 and A-23 from the port city of Arica (Figure 11, pop. 300,000), and also adjacent to the recently reopened La Paz to Arica railway line.

Figure 11: Los Pumas location

Source: Southern Hemisphere Mining

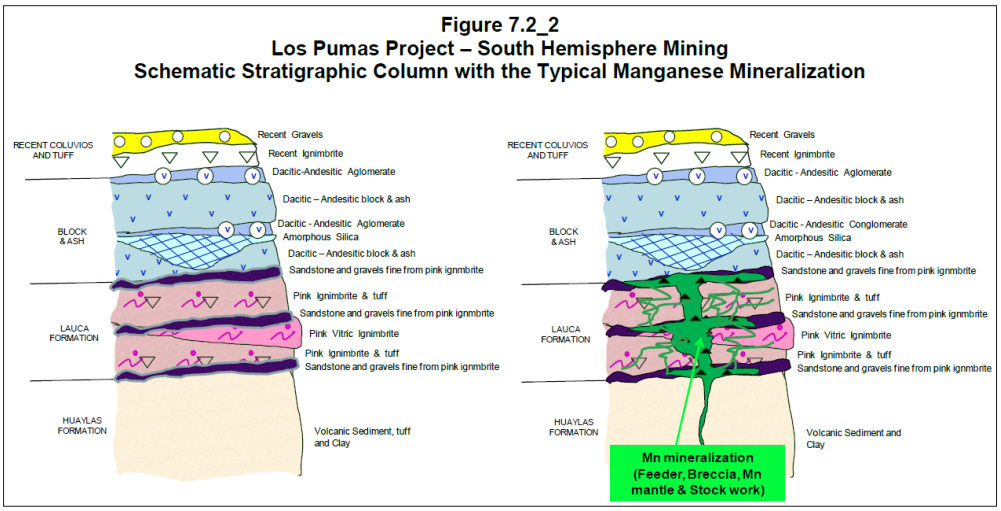
- The nearest town is Putre (pop. 2,500, 35 km), the capital of the Parinacota Province of the Arica-Parinacota Region.
- Geographically Los Pumas is located in the Altiplano of the High Andes, at an altitude of 3,800 m, on the eastern bank of the ~250 m deep Rio Lluta valley, and within 10s of km of six volcanic complexes, including the 5,800 m Holocene aged Taapaca volcano.
- The climate at Putre is cold semi-arid, with average annual precipitation of 376 mm.
- The Project is located 55 km from the 10.2 MW Chapiquina hydroelectric power station, which feeds into the ~4,500 MW "Sistema Interconectado del Norte Grande" grid system.
- The main industries include tourism, and grazing and farming on areas irrigated from the Rio Lluta and Rio Putra, fed largely by snow melt from the Andean Cordillera.
- The tenements include seven 100% exploitation and exploration tenements, and one tenement application, with a total area of 1,209 ha.

GEOLOGY AND MINERALISATION

Regional and Project Geology

- The regional (and project) geology is characterised by volcano-sedimentary rocks of Oligocene to Quaternary age, related to the latest episodes of Andean volcanism.
- Volcanics include flat-lying to gently dipping flows and pyroclastics, with compositions ranging from basaltic to rhyolitic, and related to the strato-volcanos in the region.
- There are also some intercalated sedimentary sequences sourced from the volcanics.
- The Project geology is dominated by volcanic rocks of the Upper Miocene Huaylas Formation, and the overlying Upper Pliocene Lauca Ignimbrite (Figure 12) - these are overlain by Pleistocene intermediate to acid volcanic and volcanic-derived units.
- Another unit is a dacitic-andesitic flow sourced from the Taapaca volcano, which bisects the main Los Pumas manto mineralisation.

Figure 12: Los Pumas and regional stratigraphy

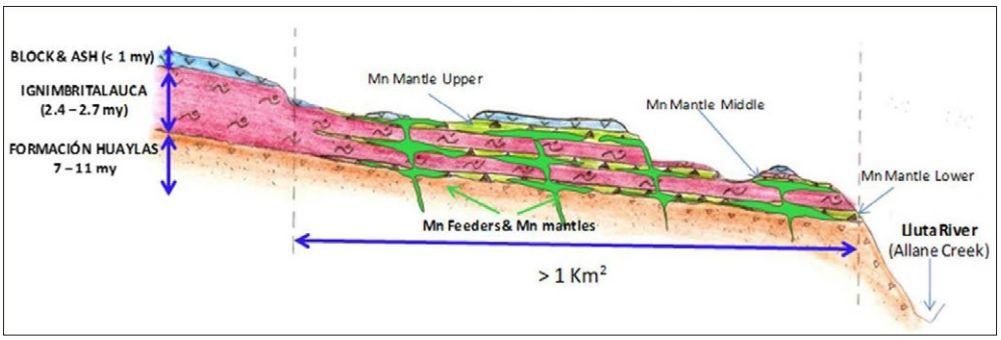


Source: Southern Hemisphere Mining

Mineralisation

- Mineralisation is manto in style (Figures 12 and 13), with the main manganese mineral being cryptomelane ($K(Mn^{4+}, Mn^{2+})_8O_{16}$).
- Mineralisation has been defined in four lithologic units, each with different characteristics, including metallurgical performance:
  - UG1 - block and ash,
  - UG 2/3 - ignimbrite - Lauca Formation; and,
  - UG 4 - volcanic sediment - Huaylas Formation.
- The main sub-horizontal, stratabound mineralisation is between 3 m and 15 m in thickness, is largely hosted in the Lauca Ignimbrite, and forms two targets - the northern which covers an area of 1.7 km x 0.6 km, and the southern covering 1 km x 0.2 km - as mentioned these are separated by a later, but still pre-mineralisation lava flow.
- Mineralisation has been defined to an average depth of ~30 m - drilling was undertaken to a depth of ~ 5 m below the base of the ignimbrite.
- The bisecting flow, and more ductile footwall contain narrow veinlets and stockworks of high grade mineralisation.
- The hydrothermal mineralisation has been introduced into the flat ignimbrite layer through sub-vertical feeders - given that all drilling has been vertical these feeders have not been adequately tested.
- The feeders, located within both the Huaylas and Lauca Formations, have the potential to host higher grade mineralisation, and thus provide upside.
- Mineralisation is visual, with the dark cryptomelane contrasting with the light-coloured host rocks, with there also being a distinct density difference between host and mineralisation.

Figure 13: Los Pumas mineralisation



Source: Southern Hemisphere Mining

EXPLORATION HISTORY AND RESOURCES

- Significant work, which we will describe briefly, has been undertaken on the Project, initially from 2008 to 2010 (the Company's IPO was based on Los Pumas), with this culminating on a Preliminary Economic Assessment - the Project was revisited in 2022-2023.
- Exploration work undertaken up until the 2010 PEA included:
  - Geological mapping,
  - Rock chip grab sampling,
  - Drilling of 32 DD holes for 651 m,
  - Drilling of 487 RC holes for 14,204 m (largely on 50 m x 50 m centres); and,
  - Sinking of four winzes (bulk metallurgical sampling) for 62 metres.
- Other work included metallurgical testwork, with further work completed recently, and the estimation of an MRE, with this also recently updated.

Resource Estimations

- The initial MRE of 13.21 Mt @ 8.24% Mn was released in May 2010, with this upgraded in October 2010 (14.30 Mt @ 7.89% Mn) and March 2011 (23.73 Mt @ 7.85% Mn).
- This was updated in May 2023 to 30.26 Mt @ 6.24% Mn, largely through decreasing the cutoff grade from 4% Mn to 2.5% Mn - 2.5% Mn was the economic cutoff grade in the March 2023 estimation.
- The JORC 2004-compliant 2010 MRE included a significantly larger, but lower grade resource of 264 Mt @ 2.40% Mn.
- The current MRE is presented in Table 4, which updated the previous JORC 2004-compliant MRE to JORC 2012-compliance.
- There is significant upside to this - logging was done on a meter by metre basis, and not to geological boundaries (which are clear with this style of mineralisation), which should increase grade, and as well, the feeders have not been adequately tested.

Table 4: Los Pumas JORC 2012-compliant MRE

Los Pumas JORC 2012-compliant MRE								
Resource	**Tonnes**	**Mn %**	**Al %**	**Fe2O3 %**	**K %**	**P%**	**SiO2 %**	**SG**
Indicated	23,324,038	6.21	5.71	2.78	2.98	0.05	57.07	2.15
Inferred	6,940,715	6.34	5.85	3.05	2.83	0.05	54.61	2.14
Total	30,264,753	6.24	5.74	2.84	2.95	0.05	56.50	2.15

Source: Southern Hemisphere Mining

Metallurgical Testwork

- Two phases of metallurgical testwork have been completed - an initial dense media separation ("DMS") programme completed for the PEA, and leaching testwork undertaken in 2023, looking at the potential for on-site chemical production for the EV battery market.
- The DMS work was positive, highlighting the potential to produce a high Mn grade concentrate - results are presented in Table 5.
- However, one recommendation from the PEA was that the flow-sheet be optimised to increase the recovery of Mn units.
- We have seen no results for the deleterious or other elements in the concentrate, however the PEA raised the potential that the concentrate would be suitable for the production of silica-manganese, given a high silica content.

Table 5: Los Pumas DMS testwork results

Los Pumas DMS testwork results			
Lithology	**% of Resource**	**Recovery %**	**Conc. Grade % Mn**
UG1	29.0	60.0	38.0
UG2/3	49.0	63.0	41.5
UG4	22.0	55.0	30.0
Total	100	60.4	38.0

Source: Southern Hemisphere Mining

- More recent work has concentrated on investigating the on site production of high purity manganese sulphate monohydrate ("HPMSM", $MnSO_4.H_2O$, 32.5% Mn) for use in the battery industry.
- Initial investigations looked at the conventional production route, which includes an initial reducing roast stage and several hydro metallurgical stages - this is a relatively complex, energy intensive process, however has the potential to produce by-products, including electro-manganese metal, agricultural manganese sulphate ("MSM") and agricultural sulphate of potash ("SOP").
- However, several reagents are required, including coal (or another reducing agent), limestone, hydrated lime and ammonium sulphide.
- More recently the Company has undertaken first stage leach testwork on Los Pumas concentrate, teaming up with Mn Energy Limited ("Mn Energy") using a patented SO_2 leach process, that has several fewer steps than the standard roast/leach path , particularly the roasting.
- Initial work has shown that the leaching the concentrate can produce a 80 g/L Mn solution.
- This recovered 99% of Mn under "standard" conditions, although "standard" is not defined in the release - we assume that this is at room temperature and pressure.
- A benefit of the leach, rather than the concentrate route, is that there is the potential to economically treat the broad zones of lower grade mineralisation.

Pre-Feasibility Study/PEA

- In short, the 2011 study produced positive results, based on a 2.5 Mtpa mining operation, producing 300,000 tpa of a 38% Mn concentrate over a seven year mine life.
- This was based on a FOB Arica Port price of US$7.40/dmtu, operating costs of US$3.50/dmtu and up-front capital costs of US$74.3 million.
- The current price of 38% Mn FOB South Africa is ~US$4.50/dmtu.

BENCHMARKING AND PEER GROUP COMPARISON

BENCHMARKING

- Southern Hemisphere is one of several listed companies, mainly on the ASX and TSX, looking at large tonnage, relatively low grade styles of deposits, including porphyry and IOCG mineralisation.
- Investors at the junior end are generally cautious of deposits with grades of below say around 0.8% CuEq, however there are several deposits globally that operate at lower grades (Table 6), and several exploration/evaluation companies with significantly higher valuations than Southern Hemisphere that have deposits with similar or lower global grades than that of Llahuin (Table 7).
- Such deposits require large tonnages to allow for the combination of throughput and mine life that can take advantage of economies of scale and pay back the significant capital,
- Several factors can allow for a relatively lower grade hurdle for a potentially viable operation through decreased costs and hence higher margins, including, amongst others:
  - Close to infrastructure, including utilities and transport,
  - Reasonable electricity costs,
  - Good metallurgy (higher grade concentrates result, amongst others, in lower overall transport and smelter costs, and higher recoveries result in higher revenue),
  - Potential for a higher grade starter pit; and,
  - Low strip ratio.
- Given relatively low operating and AISC margins, even incremental decreases in costs, and/or increases in revenue can have a significant effect on overall project economics.
- Table 6 presents a summary list of a selection of generally large-scale, low-grade copper mines producing concentrates, highlighting that lower grades are manageable and can deliver a reasonable operating margin - costs are for Q3, 2023.
- Here we have presented metrics in terms of CuEq grades, with this based on US metals prices of $8,500/t Cu, $2,000/oz Au, $40/kg Mo and $25/oz Ag - we have also applied a generalised recovery of 85% to the CuEq Reserve grade, to get recovered grade to compare to the C1 operating costs presented in terms of CuEq.

- That being said, some, but not all, of these are old operations, and had paid off capital with higher grade starter mineralisation, however, one exception is Gibraltar, for which Taseko spent ~C$800 million refurbishing the as then mothballed operation.

Table 6: Global examples of low-grade copper mining operations

Global examples of low-grade copper mining operations							
Operation	**Owner**	**Location**	**Mill T'put Mtpa**	**C1 Opex USD**	**C1 Opex CuEq @ $8,500/t**	**CuEq Grade - Reserves**	**CuEq Grade Recovered @ 85%**
Gibraltar	Taseko	BC	27	$9.70	0.11%	0.29%	0.24%
Constancia	Hudbay	Peru	29	$11.85	0.14%	0.34%	0.29%
Mount Milligan	Centerra	BC	22	$12.90	0.15%	0.43%	0.37%
Copper Mountain	Hudbay	BC	17	$13.58	0.16%	0.37%	0.32%
Highland Valley	Teck	BC	38	$14.00	0.16%	0.32%	0.28%
Sierra Gorda	KGHM/S32	Chile	47	$15.40	0.18%	0.56%	0.47%
Mina Ministro Hales	Codelco	Chile	19	$20.45	0.24%	1.05%	0.89%
Red Chris	Newmont	BC	6.5	$25.96	0.31%	0.71%	0.60%
Salobo	Vale	Brazil	32	$32.07	0.38%	0.83%	0.70%

Source: C1 costs are Q3-23 from Taseko April 2024 presentation, other data from company reports and presentations

- We have also undertaken a review of development studies for several porphyry projects globally with throughputs of between 20 Mtpa and 52 Mtpa, with the following outcomes:
  - Average net revenue of US$25.72/tonne milled (0.30% CuEq recovered grade, assumed 5% Ad Valorem royalty, not accounting for smelter costs),
  - Average site operating costs of US$11.17/tonne milled,
  - Average strip ratio of 1.45: 1; and,
  - Average site operating margin of US$14.56/tonne milled.
- Amortisation of capex (including up-front, expansion, sustaining and closing) is in the order of US$4/RoM tonne for a normalised 20 year operation, thus overall margins, excluding head office and financing is in the order of US$11/tonne milled.
- These projects are all well situated with regards to infrastructure, so in these respects we consider them similar to Llahuin.
- A near development project included in the above is Zafranal in Peru, owned 80% by Teck and 20% by Mitsubishi - applicable figures, largely from the 2016 Pre-Feasibility Study include:
  - Open pit Reserves of 440 Mt, with a 19 year mine life and average throughput of 21.5 Mtpa,
  - Strip ratio of 1.46: 1,
  - LoM grades of 0.38% Cu and 0.07% Au (0.43% CuEq), with grades of 0.63% Cu for the first five years,
  - Variable metallurgical recoveries of up to 89.5% for Cu and 56% for Au - our calculations from LoM production figures indicate average recoveries of ~85% for Cu and ~48% for Au,
  - LoM C1 costs of US$10.50/tonne milled,
  - Pre-start capex of US$1,157 million (more recent news has suggested that this could reach US$2,000 million), sustaining capex of US$236 million and closure costs of US$136 million; and,
  - 150 km by road to port, 96 km to grid power and 35 km to an aquifer.
- Another example, although not included in the above due to lack of published data, is El Espino, with the last publicly released resource of 240 Mt @ 0.59% CuEq, although we would expect that this may have changed considerably since Explorator's 2010 estimate.

- Pucobre completed a friendly takeover of Explorator in May 2011, acquiring the ~83% of Explorator which it didn't already own for ~C$55 million.
- Assuming that El Espino made up the majority of the valuation, this equates to a sale price of around C$0.02/lb CuEq, at a time when the copper price was similar to now, and with a project just at the resource stage.
- Pucobre have subsequently spent significant capital on El Espino (~$US250 million), with, as mentioned previously, RCF investing development capital of US$90 million for 23.68%, given El Espino an value of US$390 million at the time of the investment.

Llahuin Advantages

- Below we discuss key positive parameters that could have a positive effect on revenue and costs as they relate to Llahuin - just to reiterate, at current, parameters relating to Llahuin are:
  - MRE of 169 Mt @ 0.42% CuEq,
  - Near surface, low strip ratio, with potential for higher grade starter pits,
  - Good metallurgy including a low to moderate bond work index, an average of - 84% Cu recovery to a 28% Cu concentrate, 47% Au recovery to 4.9 g/t in the Cu concentrate; and,
  - At low altitude and well served by infrastructure.

Infrastructure

- Installing, and/or connecting to the necessary infrastructure (predominantly power, water, transport) has the potential to add up to many $100's of millions to the capital cost of a major mining project, having a significant affect on investment hurdles and the ability to obtain financing.
- This can also significantly affect operating costs, including amongst others power (site generated vs grid, running a desalination plant and water pumping) and, if remote, transport costs for consumables, products, equipment and materials during construction for example.
- Power is a critical cost, commonly comprising over 30% of the total operating cost of a mine; and, in Chile water is critical, particularly in the Atacama, where water is commonly piped from coastal desalination plants, which themselves need considerable power to operate.
- As mentioned earlier Llahuin is well placed with respect to infrastructure (as is Los Pumas), with the potential positive effect on costs.

Metallurgy

- The predominant effects of metallurgy are on revenue, however can also affect capital and operating costs.
- On the revenue side, good recoveries to a high grade concentrate increase direct revenue through more metal being recovered, as well as obviating smelter penalties and higher costs per unit of metal from lower grade concentrates.
- Higher grade concentrates also result in lower transport costs (operating and capital) as well as the potential for lower mine site capital, should metal output rather than RoM throughput, be the key design parameter.
- Softer ore (as is the case at Llahuin), can also result in lower operating (electricity, wear and tear) and capital (mill size) costs, as can mineralisation that is amenable to coarser grinding.

Higher Grade Starter Pit

- A higher grade starter pit has the benefits of increasing revenue at the critical pay-back period of an operation, as well as, with a low strip ratio, having decreased costs.
- Higher grade near surface mineralisation may also lend itself to a staged operation, with lower up front capital and overall costs, with higher revenue.

Strip Ratio

- The strip ratio of an open cut operation has a major effect on costs, both capital and operating - resources are commonly defined by their "break-even strip ratio", which defines whether a block of mineralisation is economic or not with all other factors being equal.

- On the operating cost side, given that a ball-park figure for moving a tonne of dirt is in the order of US$2.00 to US$3.00, an operation with a strip ratio of say 1: 1 (Waste: Ore) has up to a US$3.00/ROM tonne cost (and hence EBITDA) advantage over one with a strip ratio of 2: 1 - this is significant given potential margins as discussed above.
- This can also affect capital costs, with, for owner operated mining, a larger fleet being required for a higher strip ratio, and also on the capital front, the requirement for pre-stripping or cut-backs will add capital.

General Comments

- Given a dearth of higher grade discoveries, will we see more market acceptance, including risk funding for exploration/evaluation through to development funding, of the lower grade deposits to meet forecast shortfalls in supply?
- On the development side, these will generally give lower returns than higher grade operations, however porphyries have the potential, with proper cost management, to give acceptable and steady returns over many years.

PEERS

- Table 7 and Figure 14 presents a selected group of Southern Hemispheres peers, ranked on enterprise value ("EV") per tonne of CuEq metal in equity resources.
- We have used this to present the relative value between the different companies, however this figure will be affected by numerous factors, both technical and market, and should be used with caution, and as a guide only.
- The EV is the undiluted market capitalisation, less cash, plus debt - in the case of Solgold debt includes the current value of royalty sales that have been entered into.
- All figures have been converted to Australian Dollars at current exchange rates.

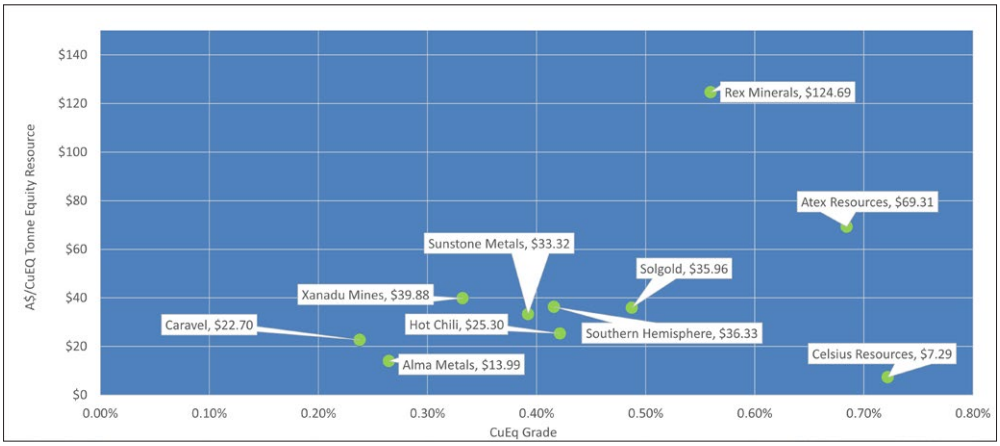
Table 7: Southern Hemisphere peer group comparison

Southern Hemisphere Peer Group Comparison							
Company	**Project**	**EV Undiluted (A$m)**	**Global Resource (kt)**	**Global CuEq Grade**	**Contained CuEq kT, Equity Share**	**EV/T CuEq% equity share**	**Project Stage**
Marimaca	Marimaca, Chile	$422.0	237,601	0.44%	1,041	$405.57	DFS Underway, Studies for Open Cut SXEW
Rex Minerals	Hillside SA, Hog Ranch Nevada	$349.9	501,500	0.56%	2,806	$124.69	Pre-Development, In Scheme of Arrangement - A$0.47/share
Atex Resources	Valeriano, Chile	$335.8	1,445,100	0.68%	4,845	$69.31	Resource Expansion Drilling, Near Surface Epithermal, Deep Porphyry
Xanadu Mines	Kharmatgai, Mongolia	$111.5	2,200,000	0.33%	2,795	$39.88	Development Studies, Open Cut
Southern Hemisphere	Llahuin, Chile	$25.53	169,000	0.42%	703	$36.33	Drilling, exploration, Shallow Mineralisation to Date
Solgold	Cascabel, Porvenir, Ecuador	$817.0	4,662,800	0.49%	22,723	$35.95	Development Studies, Underground
Sunstone Metals	Bramaderos, El Palmar, Ecuador	$24.1	220,000	0.39%	722	$33.32	Drilling, Development Studies, Open Cut
Hot Chili	Costa Fuego, Chile	$94.2	1,001,000	0.42%	3,722	$25.30	Development Studies, Open Cut and Underground
Caravel	Caravel, WA	$68.9	1,277,000	0.24%	3,038	$22.70	Development Studies, Open Cut
Alma Metals	Briggs, Qld	$7.8	415,000	0.26%	560	$13.99	Drilling, Resource Expansion, Shallow Mineralisation to Date
Celsius Resources	MCB - Philippines, Opuwa, Namibia	$29.1	563,500	0.72%	3,986	$7.29	Permitted, Detailed Design - Philippines, Looking to Dispose of Namibia, Open Cut

Source: Excel Stock Data, Company reports, IIR analysis , EV as at COB October 23, 2024. Non-AUD figures converted to AUD using current exchange rates.

- The CuEq metal content has been calculated using the same prices as those used in Table 6 - again, metallurgical recoveries have not been taken into account.
- The contained metal includes that for all deposits - in the case of Rex Minerals, Hog Ranch is included, and for Celsius, the Opuwa Project in Namibia is included, although Celsius is looking to dispose of the asset - should Opuwa not be included, the metal inventory will decrease by ~40% and the EV/T CuEq will increase accordingly.
- Companies presented include those with large, relatively low grade deposits, including porphyry and IOCG, with all generally having reasonable access to infrastructure, and in known mining jurisdictions.
- Figure 14 shows a general positive correlation between grade and EV/tonne CuEq in resources.
- We would expect the metric to increase with in an increase in the resource tonnage to a size that would be considered to support a viable operation - as mentioned before something in the order of 300 Mt may meet this criteria - in addition to the multiple increasing it would also apply to more tonnes of contained copper.
- The one outlier here is Marimaca (not shown in Figure 14) - one key technical difference is that it is looking at a potentially lower cost heap leach, SXEW IOCG operation, with over half of the copper content being acid soluble, and with the project being within 50 km of all required utilities and infrastructure.
- Also, the value for Rex is that for a current Scheme of Arrangement - this was priced at around a 100% premium to the then prevailing share price, with Rex also holding the Hog Ranch Gold Project.

Figure 14: Peer group comparison



Source: Excel Stock Data, Company reports, IIR analysis , EV as at COB October 23, 2024. Non-AUD figures converted to AUD using current exchange rates. Marimaca not shown.

BOARD AND MANAGEMENT

- **Mr Mark Stowell – Chartered Accountant - Chairman** - Mr Stowell has over 20 years of corporate finance and resource business management experience. He served as manager in the corporate division of Arthur Anderson and subsequently in the establishment and management of a number of successful ventures as principal, including resource companies operating in Australia and internationally.

  Mr Stowell was a founder director of Anvil Mining Ltd (Democratic Republic of Congo), a copper explorer and developer, for seven years until 2000. He was a founder and Non-Executive Director of Incremental Petroleum Limited, an oil and gas producer with operations in Turkey and the USA, until its takeover by a USA operator. He was Chairman and founder of Mawson West Ltd, a copper producer and explorer which completed an IPO on the Toronto Stock Exchange in one of the largest base metal IPO's of 2011.

- **Mr David Frances - BSc (Geol) – Director -** Mr Frances is an international mining executive with a track record of developing and or transacting on assets in multiple countries. Most recently he was Executive Chairman at Tiger Resources (Democratic Republic of Congo) where he completed the restructure of both the corporate and operational teams.

  Mr Frances also led Mawson West (TSX: MWE) from 2006 – 2012. He developed MWE from a Western Australian gold hopeful into a significant international copper producer, developer and explorer in the DRC. After delisting the Company from the ASX when it

had a market capitalisation of approximately $3 million then successfully completing a transaction with Anvil Mining and subsequently recommissioning and restarting the Dikulushi copper-silver mine as an unlisted public company. MWE then listed on the TSX in one of the largest base metals IPO's in the world for 2011 with a market capitalisation of approximately $250 million.

Mr Frances also managed the South Australian office for Dominion Mining during the development of the structurally complex, high-grade Challenger gold mine.

- **Mr Richard Caldwell - Bachelor of Laws, Bachelor of Economics and Post Grad-Diploma in Finance – Director** - Mr Caldwell has a strong background in advising many successful natural resources and high-tech Australian companies and assisting with public listing, equity capital markets and project development financing.

  Mr Caldwell was formerly Head of Corporate Finance and Equity Capital Markets at Stone Bridge, Head of Equity Capital Markets at Burdett Buckeridge and Young and held a number of senior management positions at Citibank in Sydney and JP Morgan in London.

  Mr Caldwell holds a Bachelor of Laws and a Bachelor of Economics from Sydney University. Until recently he was a Fellow of Macquarie University where he conceived and taught the Masters subject of Equity Capital Markets. He also has a Post Graduate Diploma in Finance from Finsia, In 2012, he was appointed as Chairman of the Ascham School Foundation, an unlisted public company. He retired from that role in 2019.

  Mr Caldwell has also chaired and managed Greatcell Solar Limited, a high-tech solar company, from 2005 to 2018 in both executive and non-executive capabilities.

- **Mrs Natalie Dawson – Bachelor of Commerce, MBA, CPA - Director -** Mrs Dawson has significant Australian and international experience as a director / CFO / commercial director.

  Mrs Dawson's experience includes boots on the ground experience at the West Papua Grasberg copper / gold mine, multi-national publicly listed companies (Rio Tinto ASX50, BlueScope ASX50, Whitehaven ASX100, Macmahon ASX100 & Clough ASX200), large scale complex JV projects (including Chevron Gorgon LNG JV $50b & UBS REST JV $750m Renewable Energy) & unlisted public companies Nippon Steel BlueScope ASEAN & Port of Brisbane.

  Mrs Dawson currently provides corporate advisory services to high-net-worth clients & pre-IPO SME's.

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