South32 Limited
(Incorporated in Australia under the Corporations Act 2001 (Cth))
(ACN 093 732 597)
ASX / LSE / JSE Share Code: S32; ADR: SOUHY
ISIN: AU000000S320
south32.net

SIERRA GORDA COPPER MINE – ORE RESERVE DECLARATION AND MINERAL RESOURCE UPDATE

South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) (South32) reports the following in relation to the Sierra Gorda copper mine:

- **A first time Ore Reserve estimate in accordance with the JORC Code (2012)[1] guidelines at 782 million tonnes, averaging 0.38% total copper, 0.020% total molybdenum and 0.06 g/t gold, at a total copper equivalent grade of 0.44% (Table A).**

- An update to the Mineral Resource estimate, to reflect the first time reporting of a 51 million tonne sulphide stockpile averaging 0.28% total copper, 0.013% total molybdenum and 0.05 g/t gold, at a total copper equivalent grade of 0.32% (Table B).

The first time Ore Reserve represents an initial reserve life[3] of 16 years, with significant growth potential expected to be unlocked as infill drilling programs further test the Mineral Resource, which remains open at depth.

Alongside our joint venture partner, we continue to invest to grow future copper production from Sierra Gorda, executing the capital efficient plant de-bottlenecking project and progressing the feasibility study for the fourth grinding line expansion to support an expected final investment decision in H1 FY25. The fourth grinding line has the potential to increase plant throughput by approximately 20% to ~58Mtpa[4], sustainably lifting copper output and reducing Operating unit costs.

Separately, an exploration drilling campaign is underway at the priority Catabela Northeast copper porphyry prospect, located approximately three kilometres from Sierra Gorda's current operations.

We are also studying options to unlock value from oxide material[5] that is stockpiled at surface.

Full details of the Ore Reserve and Mineral Resource updates are contained in this announcement.

About Sierra Gorda

South32 acquired a 45% interest in Sierra Gorda in February 2022 and has joint control alongside 55% joint venture partner KGHM Polska Miedź.

Sierra Gorda is a large, conventional, open pit copper mine located in the Antofagasta region of northern Chile. Sierra Gorda benefits from high quality, modern processing equipment, with significant historical capital investment. The operation is serviced by established infrastructure, including renewable power and a seawater pipeline, with freight rail and a national highway connecting it to the ports of Antofagasta and Angamos. The copper concentrate produced at the operation is transported by truck and rail to the ports of Antofagasta and Angamos for international export to end markets.

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[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 edition. Mineral Resource and Ore Reserve estimates are reported on a 100% basis.

[2] CuEq (%) is copper equivalent which accounts for combined grade of copper, molybdenum, and gold. Metals are converted to CuEq via unit value calculations using long term metal price assumptions and relative metallurgical recovery assumptions. The metal price is commercially sensitive and is not disclosed here. The metallurgical recovery formulas for copper (Cu), and molybdenum (Mo) are included in Annexure 1 of this announcement. The average metallurgical recoveries are 83% for Cu, 54% for Mo and 47% for Au. The formula used for calculation of copper equivalent is CuEq = Cu (%) + 2.16 * Mo (%) + 0.33 * Au (g/t).

[3] Scheduled extraction period in years for the total Ore Reserves in the approved LOM Plan at 48Mt of ore per year.

[4] On a 100% basis

[5] The stockpiled oxide material referred to in this announcement is not included as Mineral Resource and South32 cannot confirm whether the estimate has been compiled using an appropriate foreign reporting code.

Table A: Ore Reserve estimate for the Sierra Gorda deposit as at 30 June 2024 in 100% terms[1,2]

Ore Type	Proved Ore Reserves				Probable Ore Reserves				Total Ore Reserves			
	Mt[3]	% TCu	% Mo	g/t Au	Mt[3]	% TCu	% Mo	g/t Au	Mt[3]	% TCu	% Mo	g/t Au
Sulphide	344	0.41	0.025	0.07	387	0.37	0.014	0.06	731	0.39	0.020	0.06
Stockpile					51	0.28	0.013	0.05	51	0.28	0.013	0.05

Million dry metric tonnes[3], % TCu- per cent total copper; % Mo- per cent total molybdenum; g/t Au- grams/tonne of gold; Mt - Million tonnes;

Notes:
1. Cut-off grade: Net smelter return (NSR) of >0 US$/t. Input parameters for the NSR calculation are based on long term price forecasts for copper, molybdenum and gold; mining, haulage, processing, shipping, handling and G&A charges. Metallurgical recovery assumptions differ for geological domains with an average of 83% copper, 54% for molybdenum and 47% for gold.
2. All tonnes and grade information have been rounded to reflect the relative uncertainty of the estimate, hence small differences may be present in the totals.
3. All volumes are reported as dry metric tonnes.

Table B: Mineral Resource estimate for the Sierra Gorda Deposit as at 30 June 2024 in 100% terms[1,2]

Ore Type	Measured Mineral Resources				Indicated Mineral Resources				Inferred Mineral Resources				Total Mineral Resources			
	Mt3	% TCu	% Mo	g/t Au	Mt3	% TCu	% Mo	g/t Au	Mt3	% TCu	% Mo	g/t Au	Mt3	% TCu	% Mo	g/t Au
Sulphide	377	0.40	0.025	0.07	534	0.34	0.013	0.06	906	0.37	0.013	0.06	1820	0.36	0.016	0.06
Stockpile[4]					51	0.28	0.013	0.05					51	0.28	0.013	0.05

Million dry metric tonnes[3], % TCu - per cent total copper; % Mo - per cent total molybdenum; g/t Au - grams/tonne of gold; Mt - Million tonnes;

Notes:
1. Cut-off grade: NSR of >0 US$/t. Input parameters for the NSR calculation are based on long term price forecasts for copper, molybdenum and gold; mining, haulage, processing, shipping, handling and G&A charges. Metallurgical recovery assumptions differ for geological domains with an average of 83% copper, 54% for molybdenum and 47% for gold.
2. All tonnes and grade information have been rounded to reflect the relative uncertainty of the estimate, hence small differences may be present in the totals.
3. All volumes are reported as dry metric tonnes.
4. First time reporting of sulphide stockpile Mineral Resource estimate.

Competent Person Statement

The information in this announcement that relates to Mineral Resource estimate for the Sierra Gorda deposit, presented on a 100% basis, represents an estimate as at 30 June 2024 and is based on information compiled by Ian Glacken and Omar Enrique Cortes Castro. Mr Glacken is a full-time employee of Snowden Optiro and Mr Cortes is a full-time employee of Sierra Gorda SCM. Mr Glacken is a Fellow and Mr Cortes is a Member of the Australasian Institute of Mining and Metallurgy. Mr Glacken and Mr Cortes each have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken, to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). The Competent Persons consent to the inclusion in this announcement of the matters based on their information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserve estimate for the Sierra Gorda deposit, presented on a 100% basis, represents an estimate as at 30 June 2024 and is based on information compiled by Paola Alejandra Villagran Cardenas. Ms Villagran is a full-time employee of Sierra Gorda SCM. Ms Villagran is a registered member of Chilean Mining Commission (Recognised Professional Organisation as included in a list posted on the ASX website). Ms Villagran has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken, to qualify as Competent Person as defined in the 2012 Edition of the *Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code). Ms Villagran consents to the inclusion in this announcement of the matters based on their information in the form and context in which it appears.

About us

South32 is a globally diversified mining and metals company. Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come. We are trusted by our owners and partners to realise the potential of their resources. We produce commodities including bauxite, alumina, aluminium, copper, zinc, lead, silver, nickel, manganese and

metallurgical coal from our operations in Australia, Southern Africa and South America. We also have a portfolio of high-quality development projects and options, and exploration prospects, consistent with our strategy to reshape our portfolio towards commodities critical for a low-carbon future.

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Further information on South32 can be found at www.south32.net.

Approved for release to the market by Graham Kerr, Chief Executive Officer
JSE Sponsor: The Standard Bank of South Africa Limited
29 August 2024

UPDATE OF MINERAL RESOURCE ESTIMATE

South32 confirms the first time reporting of a sulphide stockpile Mineral Resource estimate for the Sierra Gorda copper deposit as at 30 June 2024 (Table B).

The estimate of Mineral Resource is reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 edition (JORC Code) and the Australian Securities Exchange Listing (ASX) Rules. The breakdown of the estimate of Mineral Resources into the specific JORC Code categories is contained in Table B. This report summarises the information contained in the JORC Code Table 1, which is included as Annexure 1**.**

Geology and geological interpretation

The Sierra Gorda deposit is in the plain of the intermediate valleys between the Cordillera de la Costa and the source of the Cordillera de Los Andes. Exploration and research identified three metallogenic belts from different ages related to hydrothermal systems, with copper, molybdenum and gold mineralisation. Most of the world-class copper porphyries that exist in northern Chile are located within the three belts. Sierra Gorda is located in the central belt.

Regionally, a sequence of Early Cretaceous volcanic rocks that was intruded by a granitic complex of Palaeocene age and a series of smaller younger intrusions have served as host rock for numerous hydrothermal mineralisation systems of copper, molybdenum and gold. The main structural systems are defined by regional faults in north-south and northwest directions, which control and serve as flow channels for systems of alteration and economic mineralisation.

Drilling techniques

The Mineral Resource estimate for the Sierra Gorda deposit was completed using a total of 403 diamond drill holes (DD) (151,243m) with HQ (core diameter-63.5mm), 1,366 reverse circulation (RC) drill holes (261,147m) with a hole diameter of 139.7mm and 366 holes with RC pre-collar to cover the supergene zone, followed by diamond drilling (173,185m). Most of the drill holes were orientated in the east-west direction, with variable dips. A small number of holes were drilled in an east-northeast direction and some of the shallower drill holes in the active open pit area have a radial pattern.

The grade control model provides input to the grade of the sulphide stockpile and is estimated using samples from blast hole drilling. The spacing of blast hole drilling is contingent on design of the blast. The average blast hole pattern is 7m X 7m. All blast holes are sampled in the operational areas and every second hole is sampled at the margin beyond identified mineralisation.

Sampling and sub-sampling techniques

Logging data from 2,135 drill holes were used for geological interpretation and assay results from 1,750 drill holes were used for Resource estimation.

Until 2021, drill half cores were sampled at 2m intervals. Between 2021 and 2023, the practice was to sample quarter core. Since August 2023, the sampling of half core was re-initiated. For RC drilling, a 2m sample (up to 80kg) is reduced to 10kg using three-stage splitting with a riffle splitter before being sent to the laboratory. Historically, different laboratories were used for sample preparation and chemical analysis. Since 2018, GeoAssay in Antofagasta, an ISO 9001:2000 certified external laboratory, has been engaged for sample preparation and chemical analysis. Preparation for both DD and RC involves crushing to 90% passing 1.65mm. The crushed samples are reduced using a riffle splitter to 1,000g and then pulverised to 95% passing 100μm. All logging was verified by geologists throughout each drilling program and reviewed independently against core photos or RC chips by an alternate geologist prior to geological interpretation.

Blast hole samples were collected by pushing tubes perpendicular to the blast cone. The tube is pushed uniformly around the cone in eight locations to collect 15kg of sample. The same laboratory, GeoAssay, and same procedure as mentioned above was used for mechanical preparation and chemical analysis of blast hole samples.

Sample analysis method

Samples of 1g taken from 1,000g pulp were processed at the GeoAssay laboratory, where the samples were digested in a mixture of nitric (95%) and hydrochloric (5%) acid and the concentration of total molybdenum (Mo) and total copper (TCu) was measured using Atomic Absorption Spectroscopy (AAS). A 30g to 50g charge was used to determine gold grade using the fire assay method, followed by AAS. A range of certified reference materials (CRMs) was routinely submitted to monitor assay accuracy, with low failure rates within expected ranges for this deposit style, demonstrating reliable laboratory accuracy.

Results of routinely submitted field duplicates to monitor sample representativity, coarse crush precision and laboratory pulp duplicates to monitor quality control sample preparation homogeneity, and certified blank insertions to detect cross-contamination were all within an acceptable range for resource modelling.

Estimation methodology

Resource estimation was performed by ordinary kriging interpolation for the three elements of economic interest (TCu, Mo and Au). Search estimation criteria were consistent with geostatistical models developed for each estimation domain according to the appropriate geological controls. Validation included statistical analysis, swath plots and visual inspection. A discrete gaussian 'change of support' model was developed to analyse the level of smoothing after comparison with the resource model.

Specific gravity measurements from drill cores were used as the basis for calculating average densities for each estimation domain and oxidation style (i.e. oxide, supergene and hypogene). Average specific gravities from all samples from a domain were used for the domain tonnage conversion factors when calculating tonnage for both mineralised and non-mineralised material.

The grade control model is estimated using inverse distance method with a power of two. Search criteria use the surrounding samples to generate a local estimate. The ore tracking system is then used where the parcel of ore moved from pit to stockpile is assigned the grade of the respective block from the grade control model.

Mineral Resource classification

A multi-criteria approach was used to classify the Mineral Resource. The classification category outcome from complete assessment is as below.

- **Measured Mineral Resources: Applied to blocks where there is 90% confidence that the block grade is within 15% on a quarterly tonnage parcel and the average distance of the three nearest samples is less than 50m.**

- Indicated Mineral Resources: Applied to blocks where there is a 90% chance that the block grade is within 15% on an annual tonnage basis, the slope of regression from ordinary kriging is greater than 0.6 and the average distance of the three nearest samples is more than 50m.

- Inferred Mineral Resources: Blocks within the variogram range, but which failed the above criteria.

- Stockpile Mineral Resource considers the uncertainty associated with material mining, movement and tracking using equipment fitted with high precision GPS (HPGPS). All stockpile Mineral Resource is classified as Indicated Resource based on the above assessment.

Mining and metallurgical methods and parameters

A pit optimisation (using the Lerchs-Grossman algorithm) was completed to evaluate Reasonable Prospects for Eventual Economic Extraction (RPEEE) for constraining the resource boundary (both laterally and vertically) using the parameters in the Life of Mine (LOM) Plan and joint venture (JV) partner agreed price protocols.

Metallurgical recoveries were derived based on current operational performance and test work. The grade recovery curve was then derived from the inputs and has been incorporated in the resource model for all paying elements (TCu, Mo and Au). Metallurgical recovery assumptions differ between geological and weathering domains and vary considerably. Average process recovery for copper was 83%, for molybdenum was 54% and for gold was 47%.

Cut-off grade

Sierra Gorda is a copper deposit with molybdenum and gold which uses a NSR value as the grade descriptor.

Input parameters for the NSR calculation are based on long-term JV partner forecasts for Cu, Mo and Au pricing, after considering all costs related to mining, haulage, processing, shipping, handling and G&A charges.

As all costs are included in the NSR calculation, all blocks reporting a positive NSR value satisfied the assessment of reasonable prospects for eventual economic extraction and were reported as Mineral Resource.

Additional information is detailed in Annexure 1.

ESTIMATE OF ORE RESERVE

South32 confirms the first time reporting of an Ore Reserve estimate for the Sierra Gorda copper deposit as at 30 June 2024 (Table A).

The Ore Reserve estimate is reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and the Australian Securities Exchange Listing (ASX) Rules. The breakdown of the estimate of Ore Reserves into the specific JORC Code categories is contained in Table A. This report summarises the information contained in the JORC Code Table 1, which is included as Annexure 1.

Material and economic assumptions

Sierra Gorda is an open pit mine that produced first ore in 2015. An annual review of the LOM plan and production schedule is undertaken to confirm that the mine plan is technically extractable and economically viable. Relevant studies are undertaken to enable Mineral Resources to be converted to Ore Reserves based on current operating methods & practices.

Mining costs are calculated primarily from first principles using detailed labour rate calculations, equipment operating costs and actual expenditure for materials and consumables. Processing costs account for plant consumables and reagents, labour, power and maintenance materials and tailings storage facilities (TSF) costs. General and administrative (G&A) costs are based on current operating structures. Permitting and environmental estimates are based on current permitting timelines. Transportation charges have been estimated using information on rail costs, export locations, transload capabilities and transit time associated with moving concentrate from site to port to market. Treatment and refining charges are based on a long-term view of the refining costs and commodity prices for copper and molybdenum concentrate. Applicable royalties and property fees have been applied using current royalty agreements.

Capital costs are based on the expected future development of the mine, processing and sustaining capital requirements. The costs have been accounted for in the operation's valuation models. Other economic assumptions used for the valuation reflect internal views of demand, supply, volume forecasts and competitor analysis.

Mining factors and assumptions

An optimised pit shell is developed utilising appropriate mining, processing, metallurgical, infrastructure, economic, legal and ESG factors complying with the approved geo-mechanical configuration, such as inter-ramp angles, inter-ramp height, and berm widths. The global net dilution factor of 2.7% was used based on average dilution of 6.5% and mining recovery of 96.2%.

The optimised pit is designed using Whittle software; the operational pit is designed with Vulcan Software; strategic planning is developed in the Minemax Software and tactical planning is completed with SP2 software.

Open pit mining equipment used include Komatsu 930E trucks, Caterpillar 7495 and P&H 4100 XPC shovels, PC5500 hydraulic excavators. To support mining production, CAT D11T & Komatsu D475-A bulldozers, Komatsu WD900-3-wheel dozers and Komatsu GD825A motor graders.

Processing method and assumptions

The sulphide ore is crushed and ground to 194μm. The ground ore is floated to produce copper and molybdenum concentrate with a current throughput capacity of 135ktpd. Total payable copper, molybdenum and gold production from 2024 until 2040, the end of the project's reserve life, is estimated at 2,360kt of copper, 691koz of gold and 79kt of molybdenum, respectively.

Geo-metallurgical domains are defined based on mineralogy, lithology and alteration. The recovery formula for each geo-metallurgical domain is based on bond work index (BWI) and grades of total copper, soluble copper, iron and molybdenum. Metallurgical recovery was assessed based on current operational performance and test works. Recovery curve was then derived from the inputs and is incorporated in the resource model for all paying elements (copper, molybdenum and gold). Recovery formulae for copper and molybdenum are included in Annexure 1.

Material modifying factors

The Sierra Gorda community team maintain relations with the nearby community to ensure operational continuity. Meteorological variables and air quality are monitored on an ongoing basis and blasting is done to ensure no more than 270 blasts are carried out each year.

The mining areas are within existing mining leases with appropriate environmental studies and approvals in place until 2035. It is planned to update the environmental approval to extend the mine life beyond 2035. The approval process is planned to start by 2030 to complete the required work in time for approval through usual processes.

Estimation methodology

The Sierra Gorda Ore Reserve was estimated considering all modifying factors to define an optimised pit using a Lerchs-Grossmann algorithm. In optimisation to derive a final pit shell, Inferred Resources were deemed to add value. In developing final mine designs and the production schedule to achieve the annual ore production target (mill capacity) from Measured and Indicated Resources as an input to the valuation model, Inferred Resources have been deemed to be waste. This ensures appropriate definition of the ultimate pit with consideration for resource uncertainty related to Inferred Resources.

Cut-off parameters

Sierra Gorda uses an NSR value as the grade descriptor. Input parameters for the NSR calculation are based on long-term JV partner forecasts for copper, molybdenum and gold pricing, after considering all costs related to mining, haulage, processing, shipping, handling and G&A charges. As all costs are included in the NSR calculation, all blocks reporting a positive NSR value satisfied the assessment of reasonable prospects for eventual economic extraction and were reported as Ore Reserves.

Sensitivity analyses have been completed on metal prices, metallurgical recoveries, mine operating costs, capital costs and use of Inferred Mineral Resources to understand the value drivers and impact on valuation. The valuation remains robust under the tested conditions.

Ore Reserve classification

The following criteria were used for classification of Ore Reserves:

- **Sulphide and transition ore processed by flotation with a NSR value greater than zero Value attributed only from Measured and Indicated Mineral Resources.**
- Use of long-term base price and cost assumptions.
- Ore Reserve converted from a Measured Mineral Resource is reported as Proved Ore Reserve.
- Ore Reserve converted from an Indicated Mineral Resource is reported as Probable Ore Reserve.

The Competent Person considers that the classification of Ore Reserve reflects the risks and opportunities related to geological interpretation, level of study, appropriate assessment of the mining and processing factors, economic and infrastructure assumptions and environmental, social and governmental considerations.

Annexure 1: JORC Code Table 1 - Mineral Resource and Ore Reserve estimate for Sierra Gorda deposit

The following tables provide a summary of important assessment and reporting criteria used at the Sierra Gorda deposit for the reporting of Mineral Resources and Ore Reserves in accordance with the Table 1 checklist in the *Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (*The JORC Code*, 2012 Edition) on an 'if not, why not' basis.

Section 1 Sampling Techniques and Data
(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
Sampling techniques	• The Mineral Resource estimate for the Sierra Gorda copper deposit was completed using a total of 1,750 DD holes and RC drill holes. A total of 2,135 drill holes were used for geological interpretation.
	• A heterogeneity study, to determine the appropriate sample size, was undertaken by Sierra Gorda SCM in 2014. The sample reduction and preparation are in line with the study.
	• A quarter of the RC sample volume and quarter or half cores from diamond drilling were processed and analysed for every twentieth sample (duplicate) to assess sample representativity. The analytical results were within +/- 10% for more than 98% of the samples for 2,022 drilling results.
	• Samples from DD and RC drilling were collected at 2m intervals. For RC drilling, the samples collected from 2m intervals (up to 80kg) were reduced by riffle splitter to 10kg and sent to the laboratory. Blast hole samples are collected by pushing tubes perpendicular to the blast cone. The tube is pushed uniformly around the cone in 8 locations to collect ~15kg of sample.
	• At the laboratory, 10kg samples were crushed to 90% passing 1.65mm. The crushed samples were reduced to 1,000g using a lineal cutter (CRC, Crushing Robotic Cell) and the 1,000g samples were pulverised to 95% passing 100µm. For DD, prior to 2021, half cores were used for sub-sampling for chemical analysis. Since 2021, only quarter cores have been used; the other quarter is used for geo-metallurgical assessment. Between 2021 and 2023, the practice was to sample quarter core. Since August 2023, the sampling of half core was re-initiated. Half and quarter DD core samples from 2m intervals (approx. 3kg to 4kg) were crushed to 90% passing 1.65mm. The crushed samples were reduced to 1,000g using a riffle splitter and then pulverised to 95% passing 100µm. Finally, 1g pulp samples were subjected to chemical analysis using acid digestion (nitric acid at 95% concentration and hydrochloric acid) followed by Atomic Absorption Spectroscopy (AAS). A 30g to 50g charge was used to determine gold (Au) grade using the fire assay method, followed by AAS. The same laboratory (GeoAssay) and same procedure is used for preparation and chemical analysis of blast hole samples.
Drilling techniques	• A total of 403 DD holes (151,243m) with HQ core (hole diameter of 63.5mm), 1,366 RC drill holes (261,147m) with a hole diameter of 139.7mm and 366 holes with RC pre-collar to cover the supergene zone, followed by diamond drilling (173,185m) have been included in the reported resource estimation (Figure 3).
	• The spacing of blast hole drilling is contingent on design of the blast. The average blast hole pattern is 7m X 7m. All blast holes are sampled in the operational areas and every second hole is sampled at the margin.

Criteria	Commentary
Drill sample recovery	• Core recovery was measured for each 3m run at the drill site for all DD holes. The average recovery exceeded 95%. • The recovery of RC drilling was determined by weighing a sample and comparing it with the theoretical weight determined from the hole diameter. The average recovery for all RC drilling was more than 93%. • Recovery drops when drilling encounter fault zones. Recovery was therefore maximised by managing speed of rotation and optimising drilling fluid density. • Given that the overall recovery was very high, correlation analysis between core recovery and grade was not performed.
Logging	• All DD cores were logged for lithology, alteration, mineralisation, veins and structures. Selected drill holes were logged for geotechnical data, which includes rock quality designation (RQD), fracture frequency (FF), type of fault and fill. Representative RC chips were collected from each RC drill interval in a sample tray and were logged for lithology, alteration and mineralisation. • The geological parameters required for developing a geology and mineralisation model are pre-defined in the logging software. For consistency, the pre-defined codes are used for logging when entering information in the centralised database. • Geological logging is both qualitative and quantitative in nature. The quantitative assessment reflected the prediction of the occurrence and abundance of mineralisation. • The DD cores were photographed in their entirety. • The geological description has the appropriate level of detail to properly support the development of a geology and mineralisation model.

Sub-sampling techniques and sample preparation	• The sampling interval of 2m was based on the nature of mineralisation and method of mining. No formal study was completed to support the sampling interval.
	
	• All DD cores for every 2m interval were longitudinally cut into equal halves. One half of each core was further sub-divided into two equal quarters; one to be used for chemical analysis and the other for geo-metallurgical testing. The other half was stored in the core library. The approximate weight of a 2m quarter core sample is between 3kg and 4kg. The whole quarter core samples were sent to an external laboratory for processing and chemical analysis. Since August 2023, half core was used for sampling.
	
	• Until 2021, DD cores were cut into two equal parts at intervals of 2m, with one half used for chemical analysis and the other stored in the core library.
	
	• A 2m RC interval weighs approximately 80kg. Samples are reduced to 10kg using a riffle splitter and sent to an external laboratory for processing.
	
	• Different laboratories have been used from time to time for preparation and chemical analysis of drill samples. Chemex was used in 2004 and in 2005 Acme and Andes Analytical Assay Ltda were used. Between 2006 and 2010 Andes prepared and analysed all drilling samples. Between 2010 and 2018, SGS (Société Génerale de Surveillance), AAA, (Andes Analytical Assay) and ALS (Laboratory Group) were used for sample preparation and analysis. Since 2018, GeoAssay has been engaged to do the preparation and chemical analysis of drilling samples. All laboratories used to date are ISO 9001:2000 certified.
	
	• Sample reduction and preparation for chemical analysis is summarised below.
	
	  o RC samples are weighted to confirm the weight received and then dried in an oven at 105°C ($\pm$5°C) for approximately 6 to 10 hours. For RC drilling, a 2m sample (up to 80kg) is reduced to 10kg with a riffle splitter and sent to the laboratory. At the laboratory, the 10kg samples are crushed to 90% passing 1.65mm and reduced to 1,000g using a lineal cutter (crushing robotic cell (CRC)). The 1,000g samples are pulverised to 95% passing 100μm.
	
	  o Core samples: For DD, prior to 2021, half cores were used for sample preparation and chemical analysis. Between 2021 and 2023, the practice was to sample quarter core. Since August 2023, the sampling of half core was re-initiated. Half core samples from 2m intervals (approx. 3kg to 4kg) are crushed to 90 passing 1.65mm. The samples are then dried in an oven at 105°C ($\pm$5°C) for approximately 6 to 10 hours. The crushed samples are reduced to 1,000g using a riffle splitter and then pulverised to 95% passing 100μm.
	
	  o The pulverised samples are passed through a rotary divider to obtain three pulps of 200g each. One of the portions is used for chemical analysis by AAS and the remaining two are stored as duplicates for future reference.
	
	  o At the secondary crushing stage, the laboratory inserts 5% duplicates and reports on them

Criteria	Commentary

| | in each report as part of its internal quality control process. The duplicate samples are processed and analysed. The results show that 98% of the duplicate samples are within 10% of the original samples. Sierra Gorda SCM (SGSCM) does not keep a formal account of the results. |
| | • Sub-sampling and sample preparation techniques are adequate for the declaration of Mineral Resources. |

Quality of assay data and laboratory tests	• A 1g pulp sample is digested using nitric acid and hydrochloric acid and thereafter quantified using AAS. This is considered appropriate for the type of mineralisation. The method is used to determine TCu and Mo percentages. A 30g to 50g charge is used to determine gold grade using the fire assay method followed by AAS.
	• Samples are analysed in batches of 25. A batch contains 20 samples, two certified reference material (CRM), one pulp duplicate, one field duplicate and one blank sample.
	• The analytical laboratory manages an internal quality control protocol that is performed on each batch analysed. The protocol includes analysis of three control samples one each of CRM, duplicate samples and blank samples per batch. The results from the laboratory's internal control samples are reported on each certificate of analysis delivered.
	• An analytical accuracy assessment is performed by the SGSCM team in accordance with the 'Westgard' control rules (control/reject/warning). A maximum of 30% relative error (RE) is accepted for the sample duplicate, a maximum of 20% RE for the laboratory duplicate and a maximum of 10% RE for the pulp duplicate. The acceptance limit for contamination is the equivalent of five times the lower detection limit (5 LDD) reported by the chemical analysis laboratory for the method and analyte of interest.
	• All QA/QC samples submitted by SGSCM are reviewed immediately on receipt of analytical results. Quality control standards are essentially defined for TCu and Mo. No significant bias in the data has been identified from the QA/QC results.
	• Currently, duplicate pulp samples are not sent to another independent laboratory (check or umpire analysis) to assess whether there is procedural bias at GeoAssay, the primary laboratory.
	• The Competent Persons consider that the nature and quality of the chemical analysis and laboratory procedures are appropriate to support estimation of the mineralisation grades of the Sierra Gorda deposit (Figure 5).

Verification of sampling and assaying	• All logging and chemical analysis is peer reviewed to confirm the geology (using core photographs) and mineralisation match with the analytical outcome. Once verification is complete, the data is authorised for inclusion in the central database.
	• Drill holes have not been twinned due to the disseminated nature of mineralisation and the low 'nugget' effect. The assessment is confirmed on review of semi-variogram models and provides confidence in the predictability of drilling results over short and long ranges.
	• The logging is performed on digital tablets, which are loaded as CSV files directly to the database. The results of chemical analyses are digitally recorded (in CSV files) and uploaded to a database in the SQL server.
	• SGSCM has procedures in place for periodic back up of all information, including storing periodic backup offsite.
	• No adjustment has been made to the analytical data. For estimation purposes, values reported as less than the detection limit by the laboratory were assigned a value of half of the detection limit.

Location of data points	• The mining concessions allow mining exploitation and exploration in Chile and are regulated by the Mining Code, which establishes the UTM coordinate system in Datum PSAD56 to be used as the official coordinate system. The local coordinate system developed by the mine is linked to the official coordinate system. The location of drill hole collars is surveyed by the survey department, using Trimble R12i equipment (global navigation satellite system), with a real-time kinematic accuracy of 8mm (horizontal) and 15mm (vertical).
	• Geodetic satellite positioning equipment (GPS) (TOPCON brand - GR3 model, double frequency, with accuracy of 5 mm) is used for geographical location and planimetry. A Total Topcon Station model 7501 is used to determine surface distances and an electronic LEICA level, model DNA3, is used to define precision elevations in the mining area.
	• Downhole surveys are performed with a gyroscope (model STO Gyro Master). The measurement is taken at downhole intervals between 20m and 50m from the end of the hole. The company conducting the downhole survey (Datawell) provides the data for each hole,

Criteria	Commentary
	which is then lodged in the database. SGSCM is in the process of preparing a procedure to validate all survey and depth information.
	• Surveying procedures and practices are adequate and can be used for mine planning purposes.
Data spacing and distribution	• No exploration results are reported.
	• Due to the variable orientations of the drill holes, data spacing may vary with depth. In general, drill hole collars are spaced between 50m and 100m. Infill drilling is spaced between 30m and 60m (Figure 3).
	• The scheduling of twin drilling will be considered by the Project team during future campaigns.
	• All samples are composited to 8m along the drill hole. The composite length is appropriate for panel grade estimation with a block height of 16m.
	• Drill spacing is considered sufficient by the Competent Persons to establish geological and grade continuity necessary to support a reliable resource estimate.
Orientation of data in relation to geological structure	• Most of the drill holes are orientated in the east-west direction, with variable dip. However, there are also a small number of east-northeast orientated drill holes, and some of the shallower drill holes in the active open pit area have a radial pattern.
	• The general orientation of mineralisation within the hypogene zone is sub-vertical, with a north-northeast orientation in plan view. The drill holes are planned with an orientation that allows lateral recognition of the main body, to enable edge variability to be controlled. Within the mineralised body drilling confirms the mineralised zones and provides reasonable confidence in defining the mineralisation
	• Even though the mineralisation is structurally controlled, the structures radiate in all directions, which means that drill cores are not generally oriented.
Sample security	• Each sample generated is assigned a number by an automated numbering system which allows traceability at all stages of the process.
	• The samples are sent to the GeoAssay laboratory in Antofagasta for preparation and chemical analysis according to a defined procedure as described above. Transport is adequate to maintain the integrity and safety of the samples. The results are received and are verified for storage in a custom SQL server database.
	• The SQL database has user-level security and there are periodic backups of the server according to SGSCM procedure.
	• Half cores are kept in a safe place before being processed. After sampling, crushed cores and duplicate samples are stored in a dedicated facility with controlled access.
Audits or reviews	• Between 6 and 10 March 2023, Snowden Optiro was commissioned by South32 to conduct an independent audit of the Mineral Resource estimate. The review identified a requirement to collect additional density data and minor improvements to QA/QC processes. Soon after the audit, SGSCM have put processes in place to measure density at site.

Section 2 Reporting of Exploration Results
(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• SGSCM is owned by KGHM Polska Miedź SA (55%) and South32 Ltd (45%).
	• The Sierra Gorda deposit is backed by mining tenure, granted through 249 mining concessions. Exploration of minerals is allowed across the effective area covered by the mining concessions, which is a total of 17,560.99 hectares. The Mining Code, which regulates mining concession activity in Chile, establishes that mining concessions grant the right to explore and exploit metallic and non-metallic mineral substances. The concessions are perpetual and are maintained indefinitely through the annual payment of the mining patent to the General Treasury of the Republic of Chile. Until the date of verification, their validity extends until 28 February 2025 (Figure 1). Seven mining easements have also been established, which grant the right to occupy the surface and establish infrastructure necessary for the extraction and processing of minerals, covering a total area of 33,748.94 hectares and including the water pipeline. A corresponding payment has been made for the mining easements and renewal of two of them will take place on 31 December 2024, with the remaining five to be renewed before 5 January 2025. The annual payment of the mining easement keeps the right to occupy surface

Criteria	Commentary
	land belonging to the State of Chile in force. Currently, there are five mining easements granted for an indefinite term, while the remaining two have definite expiry dates: a) Rol 2837-2013 expires 22 March 2034; and b) Rol 3123-2010 expires 12 July 2025. For the latter easement, the renewal process has already been initiated. • Operations are carried out in compliance with the regulations and payments established to guarantee the viability and continuity of mining activities. • Royalties Law 20,026 of 2005, modified by Law 20,469 of 2010, establishes the regime under which mining companies must pay a royalty to the State of Chile, with variable rates on their mining operating income of from 5% to 34.5%, progressive by sections as mining operating margin increases.
Exploration done by other parties	• The historical drilling of the Sierra Gorda deposit began in 1966 with the first surveys by ITT, Cimma Mines and Chevron. The companies drilled 108 drill holes (95RC-13DD) before 1987. Between 1991 and 1996, Outokumpu began the first formal exploration campaign, completing 238 drill holes (109RC-48DD-81 mixed). Between 1997 and 2003, RTZ drilled 61 holes (53RC-8DD). Two companies, Teck-Cominco and SOQUIMICH, drilled 61 holes (44RC-8DD-17 mixed) between 1997 and 2011 on the Pampa Lina property. In parallel, Quadra drilled 1,069 holes between 2004 and 2012. Finally, SGSCM drilled 589 holes between 2013 and 2022.
Geology	• The Sierra Gorda deposit is located in the plain of the Intermediate Depression or the Intermediate Valleys located between the Cordillera de la Costa and the headwaters of the Cordillera de Los Andes. • Exploration and research associated with Andean metallogenesis identified three metallogenic belts from different ages related to hydrothermal systems, with copper, molybdenum and gold mineralisation, between 20° and 27° south latitude. Metallogenic belts are differentiated by an area to the west located in the coastal zone of Cretaceous age (130Ma), a central zone of Paleocene-Early Eocene age (66Ma to 55Ma) and an eastern belt of Upper Oligocene age (42Ma to 31Ma). All the world-class copper porphyry deposits that exist in northern Chile are located at the source of the Cordillera de Domeyko and its continuation to the north. • Sierra Gorda is located in the Palaeocene-Early Eocene metallogenic belt, located at the western edge of the Domeyko range in the second region of northern Chile. • Regionally, a sequence of Early Cretaceous volcanic rocks that was intruded by a granitic complex of Palaeocene age and a series of smaller, younger intrusions, have served as host rocks for numerous hydrothermal mineralisation systems of copper, molybdenum and gold (Figure 2). • The main structural systems are defined by regional faults of north-south and northwest direction, which control and serve as conduits for fluid for alteration of the host rock and for deposition of economic mineralisation. • Figure 4 shows a cross section of the chalcopyrite mineralisation main body and drilling information used for the modelling and estimation processes.
Drill hole information	• Exploration results are not reported as part of the Mineral Resource estimate. • Figure 3 shows the collar location of the drilling information used to develop the Mineral Resource estimate. • A metal equivalent has been used for reporting the Mineral Resource estimate.
Data aggregation methods	• Data is not aggregated, other than being composited to 8m using a length weighted average for geostatistical analysis and estimation. • The composite length of 8m is considered appropriate based on the nature of mineralisation and the method of mining (including bench height).
Relationship between mineralisation widths and intercept lengths	• The main ore body is vertical and the dominant drilling orientation is east-west, with variable dips (vertical to 65°) depending on the location of the drill hole collar. Where mineralisation is disseminated or stockwork in nature, drilling also uses a variety of dip angles (vertical to 65°).
Diagrams	• Relevant maps and sections are appended to this document.
Balanced reporting	• Exploration results are not specifically reported as part of the Mineral Resource estimate.
Other substantive	• SGSCM is currently conducting a geological survey (lithology, alteration and structural system)

Criteria	Commentary
exploration data	of the entire mining property and geophysics studies (IP-MIMDAS and magnetometry).
Further work	• SGSCM is completing annual infill drilling programs to improve confidence in the Mineral Resource estimate within the Catabela Pit and to identify potential extensions to the deposit. In parallel, exploration is ongoing outside the existing pit shell to assess the continuity of mineralisation laterally, with emphasis on known structural trends and other potential satellite deposits.

Section 3 Estimation and Reporting of Mineral Resources
(Criteria listed in section 1 and where relevant in section 2, also apply to this section.)

Criteria	Comment
Database integrity	• The analytical results, once received, are verified and stored in a custom SQL server database. Since the start of mining in 2014, data on collars, downhole surveys, geological logging and analytical results have been loaded from CSV files as it becomes available. The upload process includes validation checks for consistency, including assessment of anomalous values. • As part of updating the geological model, all records are reviewed by experienced geologists against core photos in the context of the surrounding geological interpretation. • Measures are taken to ensure that data has not been modified, for example, due to transcription or typing errors, between initial collection and use for Mineral Resource estimation purposes. The process of validation is repeated annually.
Site visits	• Mr Ian Glacken from Snowden Optiro visited the Sierra Gorda mine from 1 to 6 March 2023 and reviewed geology and mineralisation in drill cores. Mr Glacken visited the open pit, the active DD site and the core logging facility. Discussions on site included review of QA/QC information, geological model, domain definition, database procedures, Mineral Resource modelling and model validation. Review of the GeoAssay laboratory in La Negra, Antofagasta was also completed. • Mr Omar Cortes, an employee of SGSCM, regularly visits all facilities and reviews all informing data and conducts regular assessments to ensure that relevant procedures are followed when collecting, assessing and interpreting data. • The findings of site visits indicate that data and procedures are of sufficient quality for Mineral Resource estimation and reporting.

Geological interpretation	• The geological model has been developed using lithology, mineralisation and alteration. Leapfrog software is used in developing 3-D volumes for geology and mineralisation.
	• The interpretation criteria considered for the lithological units is based on the conceptual model of the deposit, which considers a volcanic sequence (Quebrada Mala Formation, Maastrichtian; 73Ma to 65Ma), which is in contact with the Sierra Gorda intrusive complex (71Ma to 65Ma). Both units host porphyry bodies (Figure 2).
	• The alteration considers the interpretation of four main units (biotite, propylitic, sericite quartz and argillic), with biotite alteration being dominant. Biotite alteration is mainly characterised by pervasive replacement of mafic minerals by secondary biotite. The propylitic alteration is located in the periphery of the deposit. The sericite quartz alteration corresponds to the main hydrothermal alteration, presenting a wide spatial distribution affecting intrusives, volcanic rocks and intra-mineral porphyries. The argillic alteration is identified in the most supergene zone of the deposit and has a close genetic relationship with the secondary processes of sulphide leaching.
	• Copper mineralisation is defined on the basis of consideration of the following criteria.
	    o A hypogene zone is defined, which corresponds to the mineralisation of primary sulphides formed by the zones of primary pyrite and primary chalcopyrite.
	    o The supergene zone is formed by a process of rebalancing from hypogenic (hydrothermal) mineralogy to oxidising conditions near the earth's surface. The supergene event has generated three zones; leached, oxides and secondary enrichment.
	• Hypogene sulphide mineralisation forms most of the mineralisation, both in terms of volume and metal content. Hypogene copper sulphides consist predominantly of chalcopyrite.
	• Visual checks were made in 3D, plan and section views and interpretation anomalies were reviewed and modified as appropriate.

Criteria	Comment
	• The geology is well understood due to the long history of exploration and mining in the area and alternate interpretations were therefore not considered.
Dimensions	• The morphology and extent of the Mineral Resource of the Sierra Gorda deposit is a sub-vertical body with a diameter varying between 1,600m and 2,000m. Currently, the mineralised system has been extended to a depth of 1,800m. • The stockpile resource covers an area of over 260ha and is located adjacent to the Catabela pit.

Estimation and modelling techniques	• Mineralisation domains were developed for each element of economic interest (TCu, Mo and Au). Seven copper domains, six molybdenum domains and three gold domains were defined based on mineral composition, alteration, lithology and grade cut-off. The domains were validated by exploratory data analysis (EDA).
	
	• Outlier assessment resulted in capping of high-grade values. Probability plots were generated to identify outliers. Composited data for Mo and Au were capped, while no capping was applied to TCu data.
	
	• Datamine's Supervisor Software was used for EDA, variography, Quantitative Kriging Neighbourhood Analysis (QKNA) and validation of the resource model. Maptek's Vulcan software was used for resource estimation and reporting.
	
	• QKNA was used to optimise estimation block size and search neighbourhood (i.e., minimum and maximum samples, number of samples per drill hole, octant definition). The parameters reviewed in the optimisation process were the slope of regression and kriging efficiency. A parent block size of 15m in the X direction by 15m in the Y direction by 16m in the Z direction was used for estimation. No sub-blocking was considered due to the bulk scale of mining.
	
	• Ordinary kriging was used as the estimation method, with search ellipses defined as the full range of the respective variogram model. Three estimation passes were used by varying the minimum number of samples, with the first search representing the outcome from QKNA. The minimum number of samples was reduced in subsequent passes, indicating reduced confidence in the remaining two passes of estimation. Finally, a fourth pass was defined for estimation by considering ten times the original search ellipse to identify potential for future exploration, using current understanding of the behaviour of mineralisation.
	
	• Kriging efficiency and slope of regression were recorded for each estimation run and for each element, to quantify estimation confidence.
	
	• The estimate was validated by:
	  o visual comparison of the block model with informing data in vertical sections and plans (Figure 6).
	  o scatter plots to compare estimated block with the nearest neighbour estimate.
	  o swath plots in three orthogonal directions (X, Y and Z) with a defined window to compare estimation with informing composited data (Figure 7).
	  o a discrete Gaussian change of support assessment to assess the level of smoothing and potential under- or over-estimation of grade.
	  o comparison of the Mineral Resource estimate with a previous estimate which used a different estimation method and reconciliation with production data, indicating a reasonable correlation on a global and local scale.
	
	• Metallurgical recovery was derived for each block using the metallurgical recovery curve generated from metallurgical test work at different grade intervals (Tables 3 & 4).
	
	• No deleterious elements were considered for estimation.
	
	• Correlation between different grade elements was not considered in the estimation process. A correlation study will be completed, and the outcome of the study will be implemented in the next resource update.
	
	• The grade control model, used as an input to stockpile grades, has been estimated using inverse distance method with a power of two. Search criteria include the surrounding samples to generate a local estimate. The ore tracking system is then used where the parcel of ore moved from pit to stockpile is assigned the grade of the respective block. The volume is assigned to the stockpile material based on the ore tracking system. The stockpiles are classified into four categories, namely low, medium and high grade based on TCu grades, and the transitional material is stored separately.

Moisture	• Based on experience of neighbouring deposits and preliminary assessment of drill cores, the moisture content appears to be minimal.

Criteria	Comment
	• To date, the laboratory does not record sample weights before or after drying. A moisture study will be completed to verify the moisture content and to validate the dry bulk density assumption.
Cut-off parameters	• The Mineral Resource is defined by calculating a NSR (US$/tonne) and considering revenue using the JV partner agreed price protocol after accounting for metallurgical recovery and deducting mining, processing, transportation and G&A costs. The NSR formula is provided below. NSR (US$/t) = (Cu Price-Freight Cu Conc.) (US$/lb) * Tcu * RecCu * (2205 * lb/t) + (Mo Price – Freight Mo Conc.) (US$/lb) * Mo * RecMo * (2205 * lb/t) + (Au Price – Freight Au Conc.) (US$/Oz) * Au * RecAu / (31.1035gm / Oz) - ((Process + G&A) (US$/t) – (Mining (US$/t)) t – tonnes Cu Conc. – copper in concentrate RecCu – metallurgical recovery of copper Mo Conc. – molybdenum in concentrate RecMo- metallurgical recovery of molybdenum Au Conc. = gold in concentrate
Mining factors or assumptions	• A pit optimisation (using the Lerchs-Grossman algorithm) was completed to determine RPEEE for defining the optimised resource boundary (both laterally and vertically) using the parameters in the LOM Plan and JV agreed price protocol. Measured, Indicated and Inferred Resources were all considered as value contributors in the optimisation process.
Metallurgical factors or assumptions	• Metallurgical recovery was assessed based on current operational performance and test work. The grade recovery curve was then derived from the inputs and is incorporated in the resource model for all paying elements (Tcu, Mo and Au).
Environmental factors or assumptions	• SGSCM follows a strict guideline of mitigating environmental risks inherent to operations. Some aspects considered in developing the strategic plan include energy and water efficiency, waste reduction, emissions reduction, control of particulate matter and promoting recycling and reuse of materials. There are defined targets which will result in minimising environmental impacts on the operation and within the community. • The tailings disposal has appropriate permits in place. • The waste dumps are designed to ensure slope stability.
Bulk density	• A total of 6,407 density measurements were completed by collecting samples from diamond drill cores. Outlier values (<2.1t/m^3 and >3.3t/m^3) were removed before deriving average values for each lithology and alteration zone. No major variation is observed in density within each lithology. • Samples of 15cm to 20cm in size are selected from drill cores for density measurement. The sample is dried and coated with paraffin. Density is calculated by weighing the sample in air with and without paraffin and in water with paraffin, assuming the specific gravity of water to be 1 t/m^3. Average density is assigned per lithology in the resource model. • Density in the stockpile resource is assigned as 1.8t/m^3 based on the average density of broken rock typical of this type of deposit.

Classification	• A multi-criteria approach was used to classify the Mineral Resource. Initially an assessment of confidence was completed using the '90:15' method, in which the first number demonstrates confidence and the second number provides accuracy (e.g. a Measured Resource is defined using +/-15% accuracy with 90% confidence over a quarterly production volume). A second phase of assessment was conducted to consider the impacts of data quality, data density and geological uncertainty. Consequently, a combination of modelling criteria was used to refine the classification scheme, including the estimation pass, equivalent sample distance of the closest three samples and the slope of regression. The classification category outcome from complete assessment is as below.
	
	  o Measured: applied to blocks where there is 90% confidence that the block grade is within 15% on a quarterly tonnage parcel and the average distance of the three nearest samples is less than 50m.
	
	  o Indicated: applied to blocks where there is a 90% chance that the block grade is within 15% on an annual tonnage basis, the slope of regression is greater than 0.6 and the

Criteria	Comment
	average distance of the three nearest samples is more than 50m.
	o Inferred: blocks within the variogram range, but which failed the above criteria.
	• Classification of the stockpile Mineral Resource considers the uncertainty associated with material mining, movement and tracking using equipment fitted with HPGPS (high precision GPS). All stockpile Mineral Resource is classified as Indicated based on the above assessment.
	• The Competent Person is satisfied that the Mineral Resource classification (Figure 8) reflects the geological interpretation and the constraints of the deposit.
Audits or reviews	• In March 2023, Snowden Optiro was commissioned by South32 to conduct an audit of the Mineral Resource estimate. The audit did not identify any major shortcomings, and it was concluded that, in general terms, the process of generating the resource model has followed industry standards and the supporting documentation is adequate.
	• The audit identified possibility of further sub-domaining of Mo and Au domains and also suggested to implement more robust validation processes.
Discussion of relative accuracy/confidence	• An assessment of confidence was conducted using a conditional simulation study. For each domain at the block dimension (15m X 15m X 16m), 70 realisations were generated for TCu grades and were validated against the sample information. The realisations were re-blocked to reflect quarterly and annual production tonnage. The block dimensions were oriented to be laterally extensive, to mimic the mining technique at Sierra Gorda. A default average density for sulphide material was applied. The 90% confidence interval was compared to the mean grade of the realisations to derive accuracy +/-15%.
	o annual tonnage assumption - 47Mt
	o quarterly tonnage assumption - 12Mt
	• The Competent Person is satisfied that the accuracy and confidence of Mineral Resource estimation is well established and reasonable for the deposit.

Section 4: Estimation and reporting of Ore Reserves
(Criteria listed in section 1; and where relevant in section 2 and 3; also apply to this section.)

Criteria	Comment
Mineral Resource estimate for conversion to Ore Reserves	• The Ore Reserve estimation is based on the estimate of Mineral Resource included in this announcement. The Mineral Resource estimate input to the Ore Reserve estimate was updated as at 30 June 2024 as per Table B of this announcement.
	• Mineral Resources are inclusive of Ore Reserves. The location map with mining lease boundary is provided in Figure 1.
Site visits	• The Competent Person, Ms Paola Alejandra Villagran Cardenas, is a full-time employee of Sierra Gorda SCM (SGSCM) and works as Technical Services Manager at the mine. The Competent Person regularly visits all facilities at the mine and processing plant. The Competent Person is responsible for the long-term plan and reviewing all informing data and conducts regular assessments to ensure that relevant procedures for estimation of Ore Reserves are followed.
Study status	• SGSCM, an open pit mine with an onsite processing facility, has been in commercial production since 2015 following completion of a feasibility study. An annual assessment is undertaken to review all modifying factors and update the LOM Plan to ensure that the updated plan continues to be technically achievable and economically viable.
Cut-off parameters	• SGSCM is a polymetallic deposit which uses an equivalent NSR as grade descriptor to determine the value of each block. The NSR considers the remaining gross value after deducting all costs related to mining, processing, transporting and refining.
	• Copper, molybdenum, and gold are elements of economic interest.
	• The cut-off strategy at SGSCM considers all costs when calculating the remaining value (NSR). An NSR cut-off grade greater than US$ 0/tonne is therefore considered economic. The NSR formula (US$/t) is provided in Section 3 (Estimation and Reporting of Mineral Resources) of this report under cut-off parameters.
Mining factors or assumptions	• Open pit mining is appropriate for the geometry of the deposit and style of mineralisation. An optimised pit shell is developed using appropriate mining, processing, metallurgical, infrastructure, economic, legal and ESG factors. The main considerations

Criteria	Comment

when designing the final pit include:

- o Maximising recovery of economically extractable ore and minimising increase in waste material.
- o Location of key infrastructure, such as processing plant, waste dumps and stockpiles.
- o Mitigating risks in areas in the pit affected by structures (faults).
- o Complying with the approved geo-mechanical configuration, such as inter-ramp angles, inter-ramp height, and berm widths. The Design parameters are shown in Table 1.

- The optimised pit is designed using Whittle software. The operational pit is designed with Vulcan software. Strategic planning is developed in Minemax Software. Tactical planning is completed with SP2 software.
- Pit design parameters including minimum mining width are provided in Table 2.
- The global net dilution of 2.7% was considered based on average dilution of 6.5% and mining recovery of 96.2%.
- In optimisation to derive a final pit shell, Inferred Resources were deemed to add value. In developing final mine designs and the production schedule to achieve the annual ore production target (mill capacity) from Measured and Indicated resources as an input to the valuation model, Inferred Resources have been deemed to be waste.
- Open pit mining equipment used includes Komatsu 930E trucks, Caterpillar 7495 and P&H Shovels and PC5500 hydraulic excavators. Equipment to support mining production includes CAT D11T and Komatsu D475-A bulldozers, Komatsu WD900-3-wheel dozers and Komatsu GD825A motor graders.
- A vertical section of the ore body with the final designed pit is included in Figure 9.
- The quality and quantity of ore sent to stockpile is tracked. Regular surveys are conducted, and the quantity is reconciled on monthly basis. Most of the ore in the stockpile is scheduled to be processed towards the end of mine life.

Metallurgical factors or assumptions

- SGSCM has a crushing and grinding circuit followed by two stage floatation to develop a copper and a molybdenum concentrate. The copper concentrate contains gold and silver.
- SGSCM has developed a geo-metallurgical model which enabled development of metallurgical parameters for designing and sizing the concentrator, the ability to understand the ore characteristics and the metallurgical response and behaviour of the concentrator when in operation through the life of the deposit. Geo-metallurgical sampling is reviewed for representativity on a periodic basis to confirm the recovery models for copper and molybdenum.
- Samples are logged by a team of geologists from a geological and metallurgical perspective (lithology, alteration, mineralogy, RQD, etc.). The samples are sent to a laboratory for chemical analysis and, in many cases, half of the core, is sent for metallurgical testing. Metallurgical and mineralogical characteristics of the samples, such as hardness, metallurgical recovery in flotation, settling and filtration characteristics are measured. The parameters were used in the initial design and sizing of the concentrator and for assumption in the ongoing operation.
- SGSCM has defined several geo-metallurgical domains or UGM's (Figure 10) based on mineralogy, lithology and alteration, which were the basis for the construction of the geo-metallurgical models. A minor revision to the original geo-metallurgical model developed in 2018 was completed in 2021 following completion of 2021-2022 geo-metallurgical sampling campaign.
- The identification of the main geological factors controlling hardness and copper and molybdenum recoveries was an important scope for SGSCM. It was concluded that:
  - o The main factors controlling copper recovery are lithology and alteration, followed by mineralogy (mineral zone).
  - o Lithology, alteration and mineralogy (mineral zone) are not always important factors in molybdenum recovery.
  - o The principal factor controlling hardness (bond work index) is the lithology.
  - o The geo-metallurgical domains defined for SGSCM are defined by sulphide mineralogy and rock type. Alteration is not considered an important control variable. For all previous analysis in geo-metallurgical models the original domains were used with modification as required.
- There are no material deleterious elements to copper or molybdenum recovery.
- The generation of the LOM model for estimating the overall metallurgical recovery of

Criteria	Comment

copyright and molybdenum is based on multivariate modelling.

- Information used for fitting the LOM metallurgical recovery model corresponds to scaling simulation information obtained from laboratory results. The Integrated geo-metallurgical Simulator (IGS) model, obtained in the geo-metallurgical program incorporates the following independent variables for multiple linear regression:
  - Geo-metallurgical unit of the sample.
  - Head grades: TCu, Mo, Fe, CuS.
  - Solubility ratio: TCu/CuS.
  - Ratio: Fe/TCu.
    Where TCu- total copper grade; Fe- total iron grade; Mo- total molybdenum grade; CuS- soluble copper grade.
- All the information used for developing the multiple linear regression which corresponds to the selection of independent variables is considered in the current block model.
- The copper recovery formula is provided in Table 3 and the molybdenum recovery formula is included in Table 4.

Environmental factors or assumptions

- The mining areas are within existing mining leases which have appropriate environmental studies and approvals in place.
- After the Antofagasta Environmental Assessment Commission approved the environmental impact study for "Updating of the tailings deposit and associated facilities" project, SGSCM has been working to address all the actions to comply with the requirements laid out by the commission.
- SGSCM has environmental permits that allow it to operate until 2035. It is planned to update the environmental approval to extend the mine life beyond 2035. The approval process is planned to start by 2030 to complete the required work in time for approval in 2035.

Infrastructure

- SGSCM is a mature operation with all major infrastructure required for ongoing operations at planned production levels in place.
- The following key infrastructure and supply agreements are in place:
  - Electric power supply: SGSCM has a contract in place to be supplied with 100% renewable electric power until December 2039. The contract covers both the current and projected capacity of SGSCM.
  - Seawater supply: SGSCM has a seawater supply contract with ENGIE, which ensures a flow of 1,500 litres per second from the Mejillones 1 and 2 thermal power plants until 2034. ENGIE is currently managing the change of the seawater supply point in its facilities with an objective to provide a longer-term supply proposal.

Costs

- Capital costs are reviewed periodically for operation, maintenance, and general & administrative (G&A). While the capital expenditure for G&A is defined for a period of two years, the operation and maintenance team provide input for the life of operation. Five strategic pillars underpin project design:
  - green copper;
  - business as usual;
  - excellence and growth;
  - unique culture; and
  - compliance and risks.
- The capital expenditure for TSFs is aligned to the Mine Metal Plan.
- Deferred stripping is updated according to the Mine Metal Plan.
- The operational costs have been modelled using XERAS 2.5 software and with consideration for correlation with productive indicators from the main business units.
- The operational areas provide their assumptions which correspond to the main cost indicators such as maintenance plans and strategies, consumption rates and external services.
- Mining costs are calculated primarily from first principles using detailed labour rate calculations, equipment operating costs and actual expenditure for materials and consumables.
- Processing costs account for plant consumables and reagents, labour, power and maintenance materials and TSF costs.
- G&A costs are based on current operating structures. Permitting and environmental estimates are based on current permitting timelines.
- Transportation charges have been estimated using information on rail costs, export locations, transload capabilities and transit time associated with moving concentrate from

Criteria	Comment
	site to port to market.
	• Treatment and refining charges used for valuation are based on a long-term view of the refining costs and commodity prices for copper and molybdenum concentrate.
	• Applicable royalties and property fees have been applied using current royalty agreements.
Revenue factors	• The LOM Plan provides the mining and processing physicals such as volume, tonnes and grades to support valuation.
	• Sales strategy is the responsibility of the JV partners in conjunction with operation, finance and logistics areas. The sales strategy is designed to ensure expected results for the JV partners.
	• Revenue is calculated by applying forecast metal prices and foreign exchange rates to the scheduled payable metal. Metal payabilities are based on contracted payability terms, typical for copper and molybdenum concentrate markets. Payability terms will not be detailed as the information is commercially sensitive.
	• The long-term price protocol reflects view of demand, supply, volume forecasts and competitor analysis.
	• Every commodity produced by SGSCM has its own revenue, even though gold and silver are included in the copper concentrate. As copper concentrate is not the final product, the treatment and refinery costs (TC/RC) are incorporated into revenues estimation by subtracting the value from the initial revenue.
Market assessment	• Currently, the main product from SGSCM is copper concentrate with an average concentrate grade of 23.1% of fine copper for calendar year 2023 (based on actual value) and a LOM average content of 24.6%.
	• Gold and silver are by-product in the copper concentrate. Molybdenum concentrate is roasted to convert to molybdenum oxide and marketed.
	• SGSCM clients include smelters and traders, both local and foreign. Since the copper concentrate forms part of a process prior to converting the raw material, the conversion, treatment, and refinery costs are included in the process of negotiation with each client. Depending on the market being commercialised, the costs incurred, will be values that will be assigned as reductions in revenue from copper concentrate sales.
	• Sales strategies and customer diversification are generated by JV partners and managed by KGHM marketing department.
Economic	• Economic inputs are described in the cost, revenue, and metallurgical factors sections of this report.
	• Net present value (NPV) determination includes all relevant cost, price, taxes and royalty inputs.
	• Sensitivity analyses have been completed on metal prices, metallurgical recoveries, mine operating costs, growth capital costs and use of Inferred Mineral Resources to understand the value drivers and impact on valuation. The valuation remains robust under the tested conditions.
Social	• General Counsel, Sustainability and Corporate Affairs identify critical issues for the operation including eventual environmental and social risks and establishes action plans and maintain relation with each interest group.
	• The community team maintain relations with the nearby community to ensure operational continuity.
Other	• Meteorological variables and air quality are pivotal to the Company's environmental management. To that end, all variables are monitored on an ongoing basis and blasts are done according to a blasting protocol that is regulated to ensure no more than 270 blasts are carried out each year.
	• Ensuring a permanent dialogue with the community, including open communication channels and feedback processes, is one of the requirements for SGSCM to maintain its operational licence.
	• The main monitoring and control activities pertaining to air quality, including exhaustive maintenance of the SGSCM's air quality monitoring network, are aimed at controlling the level of annual PM10 emissions.
Classification	The following criteria were used when reporting Ore Reserves:
	• Value attributed from only Measured and Indicated Resources.
	• Ore Reserve converted from Measured Mineral Resource is reported as Proved Ore

Criteria	Comment

Reserve

- Ore Reserve converted from Indicated Mineral Resource is reported as Probable Ore Reserve.
- Sulphide and transition ore processed by flotation with a NSR value greater than or equal to zero.
- Use of long-term commodity price and cost assumptions.
- Cut-off calculated considering value contribution from recovery of copper, molybdenum, and gold.
- Reserves must be within the mine phase designs developed from the optimised pit shell.

Criteria	Comment
Audits or reviews	- In March 2023, an independent consulting firm was commissioned by South32 to review the planning process leading into Ore Reserve estimation. The planning process was found to be appropriate for estimation of Ore Reserves. Minor gaps identified relate to sensitivity assessment of technical and economic assumptions and having a clear path to extend the environmental approval to extend the life of operation beyond 2035. These gaps have been resolved or actions put in place to the satisfaction of the auditor.
Discussion of relative accuracy/ confidence	- Ore Reserve estimation techniques are robust and well understood. The estimates are global with a local estimation plan achieved through grade control drilling during execution. - Sensitivity assessment was completed to validate the use of appropriate modifying factors and their impact. This included varying cost and price when deriving the NPV for the operation. - Regular reconciliation is performed, and actions are taken to address material deviations. - Sufficient studies, reviews, and audits have been conducted both internally and externally to confirm the modifying factors used. - The Competent Person has determined that the relative accuracy and confidence in the Ore Reserve estimate is appropriate to declare a reserve.

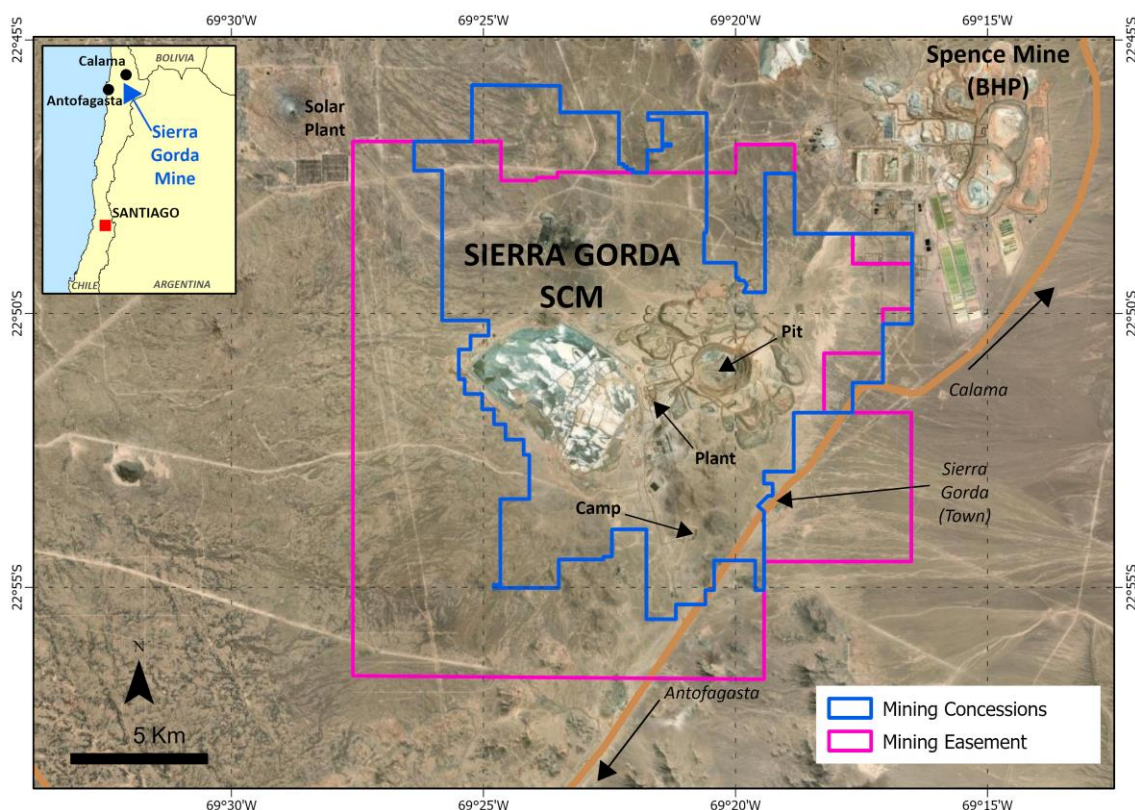**Figure 1: Sierra Gorda SCM location map with tenement boundary**
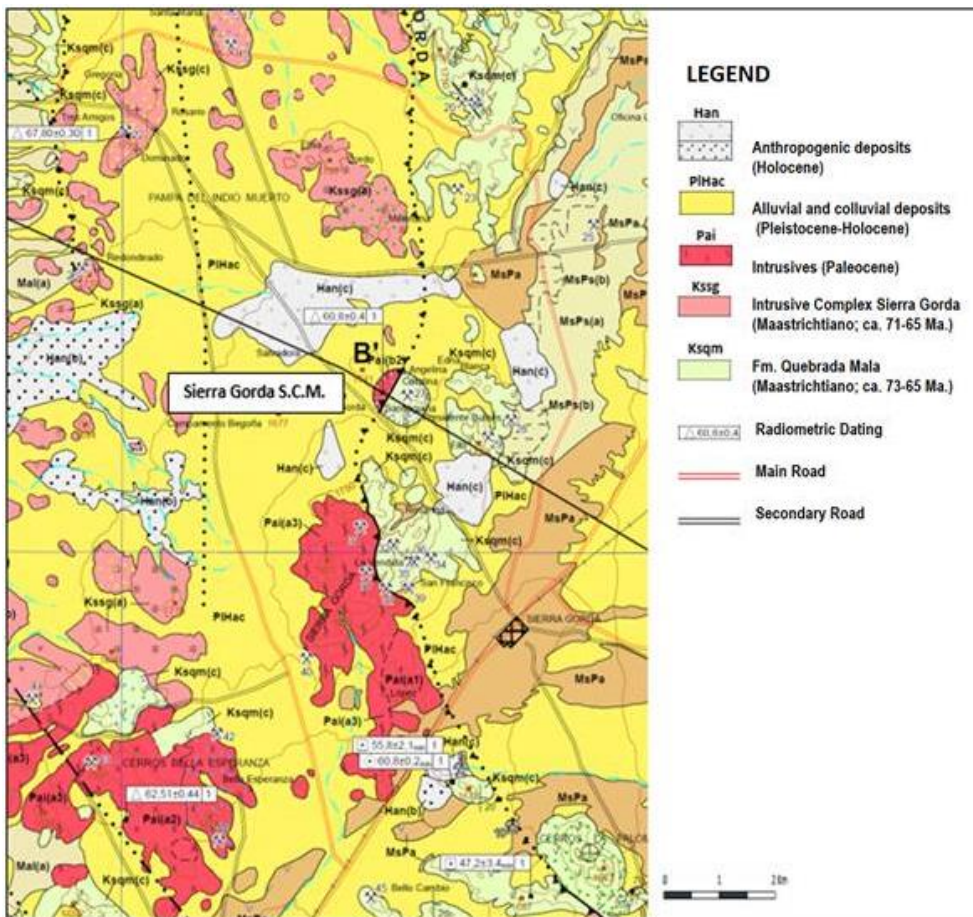

Figure 2: Regional geology map

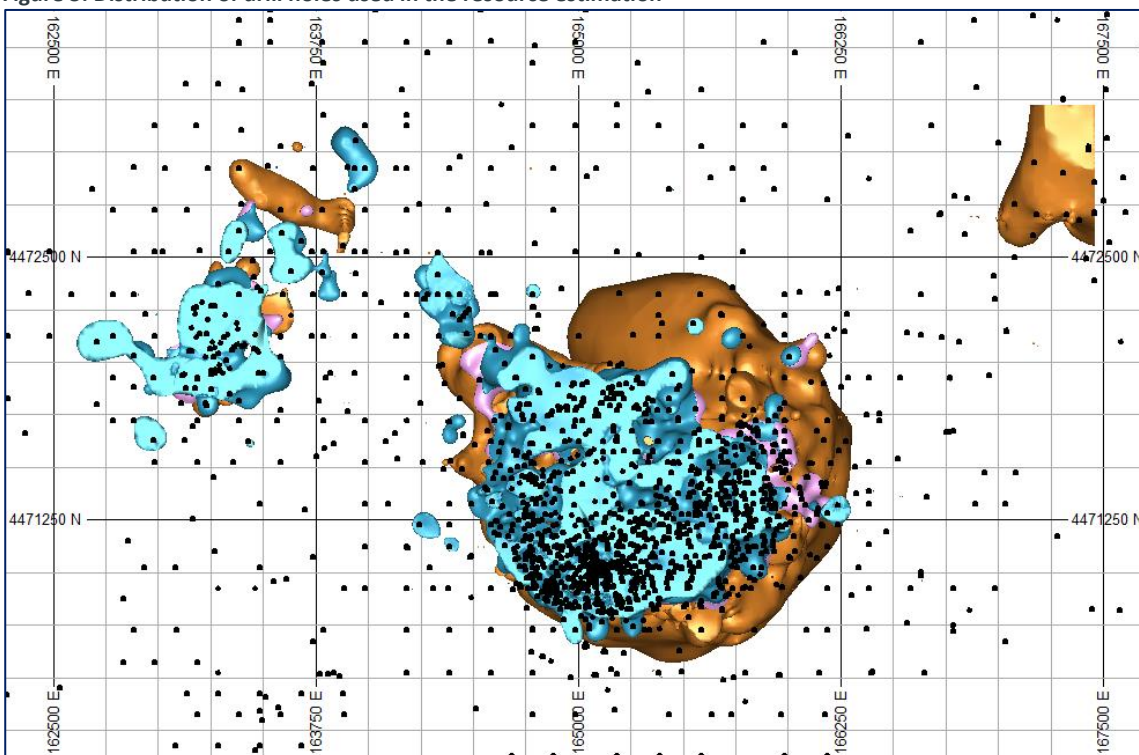**Figure 3: Distribution of drill holes used in the resource estimation**

Figure 4: Distribution of drill holes and the chalcopyrite mineralisation zone
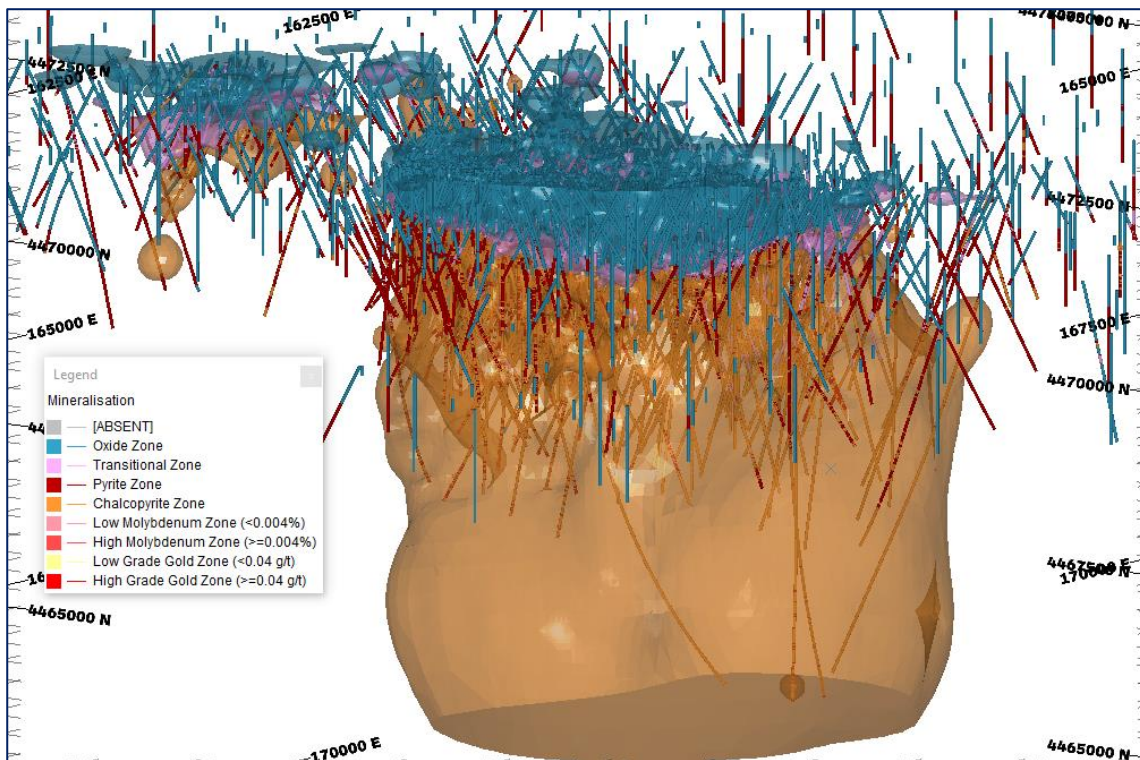
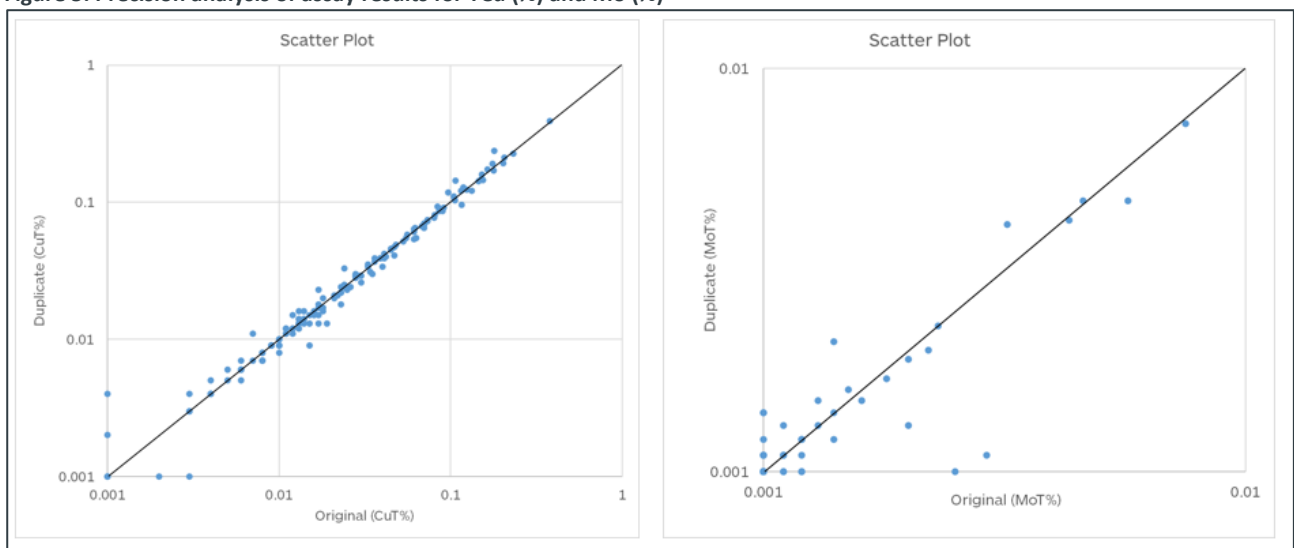**Figure 5. Precision analysis of assay results for TCu (%) and Mo (%)**

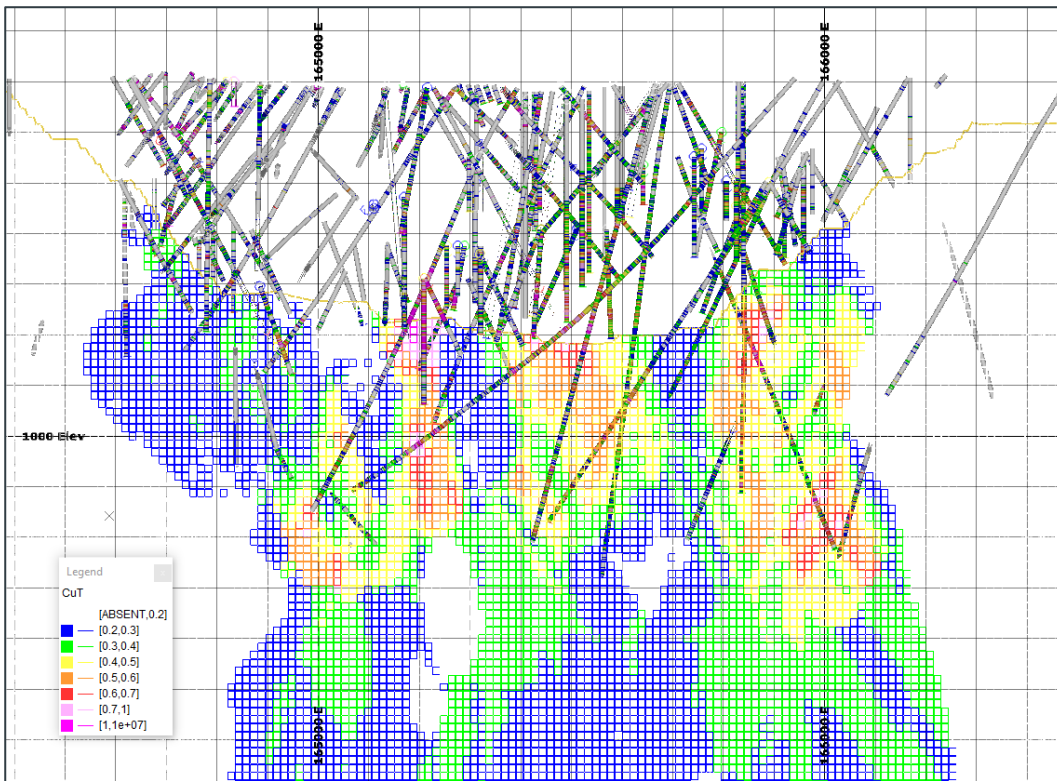**Figure 6: Vertical Section comparing estimation with drilling for TCu (%) at Northing (Y) = 4471210m**

Figure 7: Swath Plots for Mo (%), TCu (%) and Au (g/t): in three orthogonal directions
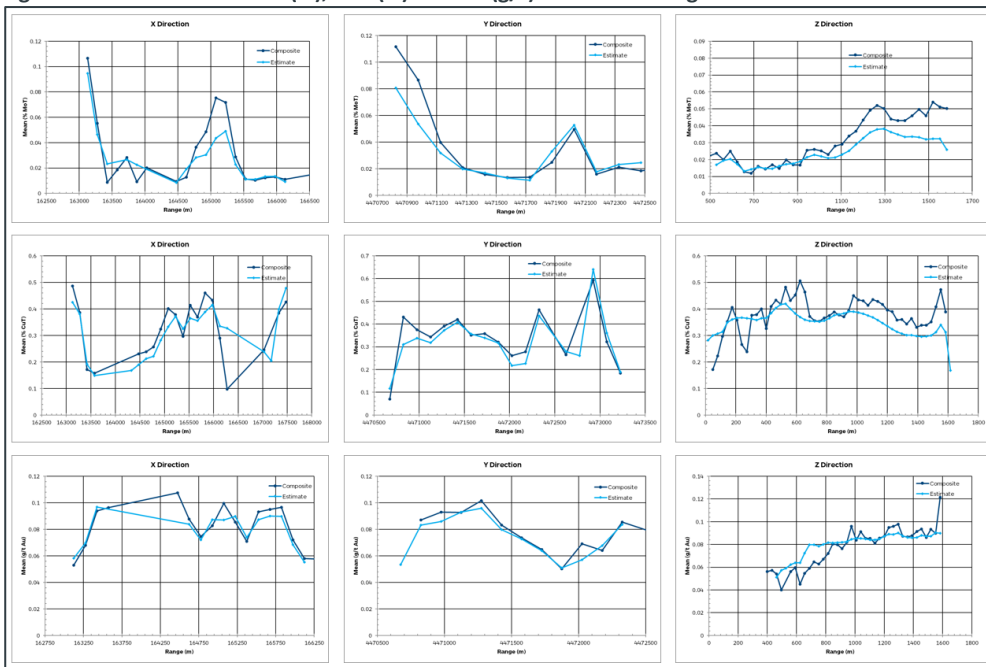

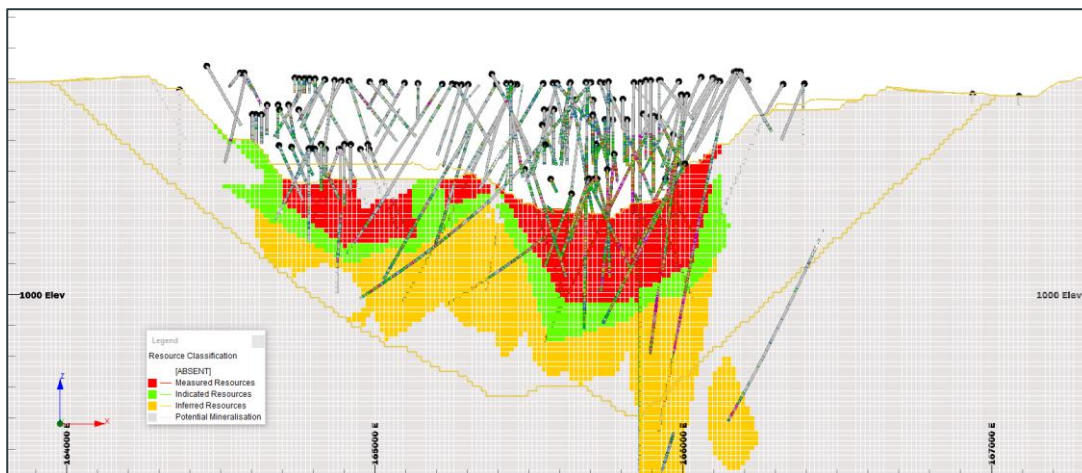**Figure 8: Mineral Resource classification with drilling at Northing (Y) = 4471445m at NSR>US$0/t**

Figure 9: Vertical section (Northing = 4471500m) with the designed ultimate pit (red) and topography (1 July 2024) (Blocks coloured on total copper grade)
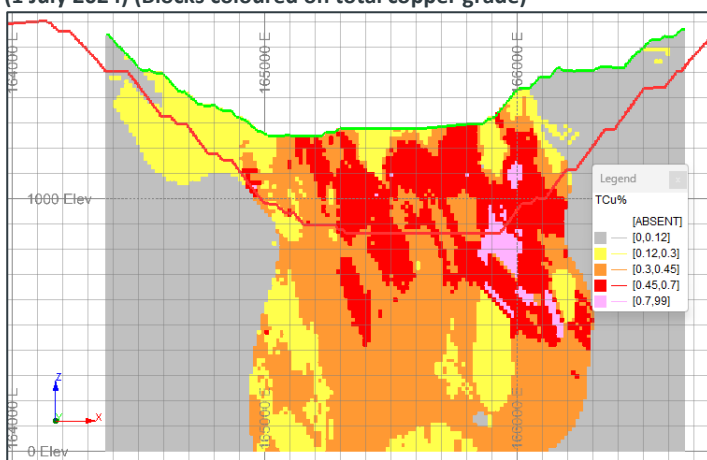

Figure 10: Geo-metallurgical domains considering lithology, mineralisation and alteration.

Table 1: Geo-mechanical pit design parameters

Material type	B (m)	hB (m)	α b (°)	α IR(°)
Gravel	13.2	16	70°	40°
Oxide	9.1	16	70°	47°
Transition αIR=50°	10.6	16	80°	50°
Transition αIR=52°	9.7	16	80°	52°
Sulphide	8.8	16	80°	54°

B (m): berm; hB (m): bench height; αb (°): bench phase angle; αIR(°): inter-ramp angle

Table 2: Pit design parameters

Parameters	Unit	Value

Bench height	(m)	16
Berm	(m)	>8.8 and <13.2
Bench face angle	(°)	>70 and <80
Minimum phase width	(m)	100
Ramp width	(m)	40
Ramp slope	(%)	10
Decouplings	(m)	25
Maximum inter-ramp height	(m)	192
Phase connection angle	(°)	< 35

Table 3: Global copper recovery models

UGM	Global Copper Recovery Models
830	$(65.30 + 1.185 * BWI + 20.42 * TCu\% - 2.235 * Fe\% - 86 * CuS\% - 0.0611 * BWI^2 + 0.1573 * BWI * Fe\% + 24.1 * BWI * CuS\% - 458 * CuS\%) * (1.1632 - 0.00084 * P80) * 0.998$
834	$(76.93 + 1.185 * BWI + 9.77 * TCu\% - 4.422 * Fe\% + 318 * CuS\% - 0.0611 * BWI^2 + 0.1573 * BWI * Fe\% + 24.1 * BWI * CuS\% - 458 * CuS\%) * (1.1632 - 0.00084 * P80) * 0.998$
840	$(81.31 + 1.185 * BWI + 8.55 * TCu\% - 1.981 * Fe\% - 3.71 * CuS\% - 0.0611 * BWI^2 + 0.1573 * BWI * Fe\% + 24.1 * BWI * CuS\% - 458 * CuS\%) * (1.1632 - 0.00084 * P80) * 0.998$

TCu%- grade of total copper; Fe%- grade of total iron; Mo%- grade of total molybdenum; CuS%- grade of soluble copper; BWI- Bond Work Index; P80= 174μm

Table 4: Global molybdenum recovery models

UGM	Models for Global Mo Recovery
830	$\left(99.16 - \left(\dfrac{0.01642}{Mo\%}\right) + 5.06 * Ln(Mo\%)\right) * (1.2231 * 0.0013 * P80) * 0.794$
834	$\left(174.8 - 7.99 * Ln\left(\dfrac{TCu\%}{CuS\%}\right) - 13.01 * Ln\left(\dfrac{Fe\%}{Mo\%}\right)\right) * (1.2231 * 0.0013 * P80) * 0.794$
840	$\left(63.75 - \left(\dfrac{1.678}{TCu\%}\right) + 2.582 * Ln(Mo\%) - 4.34 * Ln\left(\dfrac{CuS\%}{TCu\%}\right)\right) * (1.2231 * 0.0013 * P80) * 0.794$

TCu%- grade of total copper; Fe%- grade of total iron; Mo%- grade of total molybdenum; CuS%- grade of soluble copper; BWI- Bond Work Index; P80= 174μm