ASX ANNOUNCEMENT 12 August 2013

LOS CALATOS – OPTIMISATION WORK CONFIRMS LARGER OPEN PIT OPERATION, INCREASED PRODUCTION RATES AND SIGNIFICANTLY IMPROVED PROJECT ECONOMICS

Metminco Limited ("Metminco" or the "Company") (ASX : MNC; AIM : MNC) is pleased to announce the results of further optimisation work undertaken by the independent consultants RungePincockMinarco ("RPM") at its 100% owned Los Calatos Project (the "Optimised L3_Model").

The Optimised L3_Model projects average annual production rates of 100,100tpa of copper and 5,000tpa of molybdenum in concentrate over a mine life of 34 years, representing a 20% and 35% increase in copper and molybdenum production per annum respectively when compared to the prior Scoping Study (March 2013).

Total tonnes mined have increased by 24% to 811 million tonnes due to higher conversion ratios of the current mineral resource estimate. Further, due to the increase in the life of the open pit from 7 to 14 years, the planned underground development and associated capital costs have been delayed until after the commencement of production from the open pit operation. This has contributed to a reduction in pre-production capital costs of 12%.

Significant results for the Optimised L3_Model include the following:

Open Pit Operation

- Total tonnes treated of 362mt at 0.39% Cu and 0.026% Mo at a strip ratio of 3.36:1 (cut-off grade 0.15% CuEq).
- Sustainable production rate of 75ktpd.
- Life of the open pit increased to 14-years.

Underground Block Cave Operation

- Total tonnes treated of 449mt at 0.56% Cu and 0.035% Mo (cut-off grade 0.35% CuEq).
- At an average drawpoint extraction rate of 120tpd, a sustained production rate of 70ktpd, can be achieved.
- Detailed underground mine design and planning required to ensure targeted production rate.
- Exploration drilling, geotechnical and hydrological work required in support of deepest mining level (Level 1300).

Life of Mine

- Total tonnes treated of 811mt at 0.48% copper and 0.03% molybdenum.
- Life of mine metal production of 3.4mt copper; 169kt molybdenum; 547koz gold; 18.4moz silver and 405t rhenium.
- Cash operating costs of US$1.06/lb after by-product credits.
- Pre-production capital of US$1,320 million.

William Howe, Managing Director, said "Following the completion of the Scoping Study on Los Calatos, the Company has completed further optimisation work, which supports the opportunity to increase production rates for both the open pit and the underground mining operations.

With the higher mineral resource conversion, improved production rates, and reduction in pre-production capital, the project economics improve considerably".

LOS CALATOS PROJECT

Introduction

In March 2013 Metminco announced the results of an independent Scoping Study conducted by NCL Ingeniería y Construcción Ltda ("NCL") on Los Calatos located in southern Peru (Appendix 1).

The mining scenario evaluated as part of the Scoping Study provided for an open pit with a life of 7-years, and a subsequent underground block cave operation with a life of 24-years, at an average life of mine production rate of 60ktpd.

The Scoping Study confirmed the potential of Los Calatos as a long-life (+31 years), low cost (US$1.15/lb)[1] mining operation producing approximately 83kt (184mm lbs) of copper in concentrate per annum.

Since the completion of the Scoping Study, additional work has been completed on the optimisation of the open pit, as well as the life of mine production schedule for the combined open pit and underground mining operation, in an endeavour to evaluate the opportunity to increase the production rate. The recent pit optimisation work completed by the Company, in conjunction with the underground production schedule previously modelled by NCL, was reviewed by RungePincockMinarco ("RPM"), who confirmed the potential to increase the mining rate for the open pit and underground block cave operations to 75ktpd and 70ktpd respectively (the "Optimised L3_Model").

Optimised L3_Model

Open Pit Operation

Metminco conducted a series of pit optimisation runs using Whittle 4D Lerchs-Grossman software to determine the approximate shape of a near-optimal pit shell based on applied cut-off grade criteria and pit slopes, with the objective of deepening the open pit within acceptable pit slope angles and strip ratios. Table 1 below summarises the results of this work.

Table 1: Open pit key results - Scoping Study and Optimised L3_Model.

Subject	Units	Scoping Study	Optimised L3_Model
Material treated			
Tonnes	Mt	194	362
Head grade	CuEq (%)	0.443	0.475
Contained Cu	mlbs	1,561	3,104
Total waste	Mt	434	1,217
Strip Ratio	Ratio	2.23:1	3.36:1
Pit Slopes	Degrees	41 to 47	41 to 47
Final Pit Depth	metres below surface	±500	±700
Life of Pit	Years	7	14

[1] Based on updated long term consensus commodity prices (Appendix 8).

RPM reviewed the results of the optimised pit, and resultant mining schedule, with the objective of determining whether the open pit could deliver a production rate of 75ktpd run-of-mine. In particular, RPM evaluated the ability to:

- Maximise mineable resource extraction;
- Minimise waste material movement;
- Minimise bench turnover; and
- Minimise fleet size.

A terrace mining method was adopted to allow for simultaneous access to multiple benches (up to 5 benches), and hence provide for flexibility in blending. Furthermore, provision was made for maintaining a minimum mining width of 100 metres on a 15 metre high bench.

The resultant mine schedule, which represents a balance between the delivery of product specification, mining practicality and compliance with key constraints established for the project, supports the achievability of a production rate of 75ktpd without any material issues.

Underground Block Cave

As is the case for the optimised open pit mining schedule, RPM also reviewed the production schedule developed by NCL for the underground block cave operation with the objective of achieving a production rate of 70ktpd, and to minimise up-front development in order to reduce capital expenditure – particularly in terms of pre-production underground development.

In order to achieve this, RPM endeavoured to optimise the mining schedule as it relates to the drawpoint, undercut and extraction sequence, albeit that a more detailed mine design and layout is ultimately required to facilitate this. Several assumptions were hence made:

- Development target per drift: 125 metres per month;
- Undercut drilling density: 4.5 dm per m^2;
- Undercutting rate: 6,700 dm per month per radial drill;
- Maximum undercutting rate: 3,250 dm per drift per month (50% drilling and 50% drill and blast);
- Maximum loading per drawpoint: 120tpd
- Drawbell and drawpoint establishment: 60 days after development of extraction drift is complete; and
- 5 drawbells opened up per month

Based on the work completed by RPM, a total of 449 million tonnes was scheduled over the life of the underground block cave operation of 21-years, with an average drawpoint extraction rate of 120tpd and a sustained underground production rate of 70ktpd. Tables 2 and 3 below summarise the key differences between the Scoping Study and the Optimised L3_Model.

Table 2: Underground Block Cave – Variance in extracted tonnes scheduled (Scoping Study and Optimised L3_Model).

Scenario	Level 2005		Level 1795		Level 1300		Total	
	No. Stopes	kt	No. Stopes	kt	No. Stopes	kt	No. Stopes	kt
Scoping Study	1	85,273	6	240,091	3	136,393	**10**	**461,756**
Optimised L3_Model	1	59,292	6	230,643	3	159,509	**10**	**449,443**
Variance	0	25,981	0	9,448	0	-23,116	**0**	**12,314**

Note:

i) Level 2005: Reduction in the tonnes scheduled by RPM largely attributable to the deepening of the open pit;
ii) Levels 1795 and 1300: Variance relates to the mining sequence and is within acceptable limits for a Scoping Study;
iii) RPM schedule is based on the mine design as per the NCL Scoping Study (El Teniente extraction layout).

Table 3: Block cave key parameters - Scoping Study and Optimised L3_Model.

Subject	Units	Scoping Study	Optimised L3_Model
Material treated			
Tonnes	Mt	462	449
Head grade	CuEq (%)	0.612	0.675
Contained Cu	mmlbs	4,988	5,529
Mining Levels	No.	2005, 1795 & 1300	2005, 1795 & 1300
Block Cave Stopes	No.	10	10
Life of Underground Block Cave	Years	24	21

Note:

i) Reduction in tonnes treated in the Optimised L3_Model largely relates to the fact that portion of Level 2005 is extracted via the deepened open pit.

However, from the work completed by RPM it is clear that further refinement of the production schedule is required, which necessitates detailed mine design and planning, that will be the subject of work undertaken during a pre-feasibility study. In addition, further exploration drilling, geotechnical and hydrological work is required to review the full potential of Level 1300.

Comparison: Life of Mine – Scoping Study and Optimised L3_Model

The development and production schedules for the Scoping Study and Optimised L3_Model are graphically depicted in Appendix 2 and 3.

The key results for the two life of mine studies are summarised in Table 4 below. Of significance is the fact that, due to an increased production rate for the Optimised L3_Model (75ktpd for the open pit and 70ktpd for the underground block cave), the life of mine average annual tonnes milled increases to 23.9 million tonnes with a consequential 20% increase per annum in payable copper, and a 35% increase in payable molybdenum.

Further, one of the primary objectives of the optimisation work was to establish whether it is feasible to delay the commencement of the underground development as provided for in the Scoping Study, and thereby reduce the pre-production capital expenditure. With the deepening of the open pit, and hence increase in the life of the open pit from 7 to 14 years, the need to initiate underground development prior to the commencement of production from the open pit is negated. Accordingly, there is an estimated reduction in the pre-production capital of US$186 million or 12% from the Scoping Study (Appendix 4).

Table 4: Comparison – Life of Mine - Scoping Study and Optimised L3_Model.

Parameter	Life of Mine	
	Scoping Study	Optimised L3_Model
Total tonnes milled (millions)	656	811
Average annual tonnes milled (millions)	21.9	23.9
Average annual copper in concentrate (kt)	83.3	100.1
Average annual payable molybdenum (kt)	3.1	4.2
Strip Ratio (open pit)	2.23:1	3.36:1
Mining costs (US$/t)	7.11	7.54
Processing costs (US$/t)	4.55	4.58
G & A costs (US$/t)	0.59	0.51
By - product credit (US$/lb payable Cu)	0.73	0.74
Cash operating costs *net of credits (*US$/lb copper)	1.15	1.06
Pre-production capital (US$ millions)	1,506	1,320

Note:

i) *Cash operating costs exclude government royalties, but include all other costs and royalties.*
ii) *By-product credits based on commodity prices summarised in Appendix 5.*
iii) *Revised commodity prices result in an increase in the C1 Cash Operating Costs from US$1.09/lb to US$1.15/lb in the case of the Scoping Study.*

The envisaged development schedule for the Optimised L3_Model can be summarised as follows:

The project development schedule allows for construction of the surface infrastructure and the metallurgical plant to be undertaken simultaneously with the development of the open pit operation.

The life of the open pit is estimated to be 14-years, during which time a high grade stockpile will be established, which will supplement production from the underground operation during the underground ramp-up stage (Years 11 to 19).

The annual contained copper and molybdenum metal in concentrate is expected to average 100.1kt and 5.0kt respectively over the life of mine.

Cash operating costs, net of by-product credits, are expected to average US$1.06/lb of copper over the life of mine, and compares favourably with global cash costs, ranking in the lowest quartile of global producers. The projected mining costs have increased slightly from the Scoping Study due to the increase in strip ratio in the open pit. The revised commodity prices used in the derivation of the by-product credits are summarised in Appendix 5.

The initial capital requirement for the establishment of the open pit, surface infrastructure and metallurgical plant is estimated at US$1,320 million, which includes a contingency of 25% by virtue of the current developmental status of the project (Appendix 4). Hence, the maximum drawdown on capital pre-production from the open pit is estimated at US$1.32 billion. Sustaining capital as well as the development of the underground mining operation will be funded from cashflow.

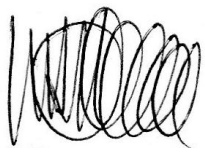
The underground mine infrastructure will consist of a twin decline system, one for personnel and equipment, and an adjacent conveyor system for ore extraction. Four vertical raise-bored ventilation shafts will support the underground operations. Ore will be crushed through a primary crusher to be located underground.

Future Work

The Company continues with detailed investigations that are a pre-requisite for the commencement of a pre-feasibility study. To this end the Company is currently undertaking the following:

- Design of an in-fill drilling program for the identified supergene zone, as well as the sterilisation drilling required for the establishment of the requisite mining infrastructure;
- Geotechnical studies in support of the optimised pit and underground block cave operation (Optimised L3_Model);
- Follow-up on recommendations made by RPM in their Mine Production Study (09 August 2013) (Appendix 6);
- Phase 2, detailed, metallurgical, testwork;
- Oceanographic studies for the positioning of loading facilities at the coast;
- Positioning of an infrastructure corridor to the coast; and
- Identifying the optimal location for the planned tailings dam.

A detailed metallurgical testwork program has been planned using 9 geo-metallurgical samples that have been selected for the various ore-types identified at Los Calatos. This program will include both grinding and flotation testwork, and will confirm the relevant test metallurgical parameters for the planned Pre-Feasibility Study. All of the proposed metallurgical tests will be carried out using sea water, as this will be the fluid medium of choice for the extraction process in the main commercial plant.



William Howe

Managing Director

Company Background

Metminco is a dual ASX and AIM listed company with a portfolio of copper, molybdenum and gold projects in Peru and Chile.

Premier project - Los Calatos copper-molybdenum project

Two studies have recently been completed at Los Calatos by external consultants, namely NCL (March 2013), and RPM (August 2013). Both studies have focussed on the preferred mining scenario, which incorporates the estimated mineral resources identifies for Targets 1 and 2 at Los Calatos, confirming the potential of the project as a long-life, low cost, copper producer.

The prospectivity of the broader tenement holding position remains largely untested, and as such has the potential to contribute additional material to any future mining operation developed in context of the preferred mining scenario. That is, the Company has only drill tested two of the eight targets identified to-date over a total project area of 224 km², where the latter is located in a recognised mining district characterised by the development of porphyry clusters.

Peru is proving to be an investment friendly jurisdiction, in which the Government is actively encouraging responsible mine development with a projected, significant, increase in long term copper production supported by competitive power costs. Mining investment in Peru over the period 2012 to 2020 is estimated to be US$53 billion, of which 70% relates to new copper mines, and extensions to existing mines. Los Calatos remains highly deliverable, being located on State-owned land in a desert environment without competing land usage, its status as Project of National Interest, and its proximity to existing infrastructure and the coast. Metminco's strategy to access seawater for metallurgical processing purposes has been widely accepted by both local and regional authorities.

From a commodity perspective, the long-term fundamentals of the copper market remain sound, and it is anticipated that global copper production will struggle to keep pace with demand growth. With the support of a funding partner, Los Calatos has the ability to deliver copper into the global market at a time when incremental supply-demand dynamics will be dictated by production emanating from new 'possible' projects, the success of which will be heavily influenced by factors such as socio-political issues, restrictive legislation and technical issues (e.g. unit operating costs). Against the global backdrop of diminishing long life copper projects in mining friendly jurisdictions, and with the benefit of low unit operating costs, Los Calatos is well placed to command significant strategic interest.

Projects and mineral resources

The Los Calatos Project, located in southern Peru, has an open pittable mineral resource of 304 million tonnes at 0.44% CuEq (at cut-off grade of 0.15% CuEq) to a vertical depth of 500 metres below surface and an underground bulk mining mineral resource of 1,058 million tonnes at 0.61% CuEq (at a cut-off grade of 0.35% CuEq) commencing at an elevation of 2,500 metres (approximately 500 metres below surface).

The Chilean assets include the Mollacas Project with a mineral resource of 34.3 million tonnes consisting of a measured resource of 19.4 million tonnes at 0.45% Cu and 0.16g/t Au, an indicated resource of 9.4 million tonnes at 0.34% Cu and 0.16g/t Au, and an inferred resource of 5.5 million tonnes at 0.26% Cu and 0.15g/t Au (at a 0.2% copper cut-off); and the Vallecillo Project with a mineral resource of 8.9 million tonnes consisting of a measured resource of 5.5 million tonnes at 0.84g/t Au, 9.99g/t Ag, 1.12% Zn and 0.32% Pb, an indicated resource of 2.6 million tonnes at 0.80g/t Au, 10.23g/t Ag, 0.94% Zn and 0.35% Pb and an inferred resource of 0.8 million tonnes at 0.50g/t Au, 8.62g/t Ag, 0.48% Zn and 0.17% Pb (at a cut-off grade of 0.2g/t Au).

The Company also has a number of early stage exploration projects where initial exploration activities have identified anomalous copper, molybdenum and gold values.

Competent Persons Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Colin Sinclair, BSc, MSc, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of the Company as Executive General Manager.

Colin Sinclair has sufficient experience (over 30 years) which is relevant to the style of mineralisation, type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as

defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results'. Mr Sinclair, as Competent Person for this announcement, has consented to the inclusion of the information in the form and context in which it appears herein.

SRK Consulting (Chile) S.A.

Metminco supplied SRK with a geological model and the drill data. Copper and molybdenum grades were estimated into a block model using ordinary kriging with GEMCOM software.

The information provided in this ASX Release as it relates to Exploration Results and Mineral Resources is based on information compiled by George G. Even, Principal Geologist of SRK Consulting in Santiago, Chile. Mr Even, a Qualified Person for JORC compliant statements, reviewed the technical information presented in this document. Mr Ernesto Jaramillo, Principal Resource Geologist with SRK Santiago, performed the resource estimation. Mr Even has sufficient experience that is relevant to the style of mineralisation and type of mineral deposit under consideration, and to the activity which was undertaken, to make the statements found in this report in the form and context in which they appear.

Mr Even and Mr Jaramillo have consented to be named in this announcement, and have approved of the inclusion of the information attributed to them in the form and context in which it appears herein.

NCL Ingeniería y Construcción Ltda

NCL, an engineering company with 30 years of experience in the development of mining projects, both open pit and underground, was commissioned by Minera Hampton Peru SAC ("Hampton") to develop a conceptual mining study for the Los Calatos copper - molybdenum project.

In accordance with Metminco's requirements, the work developed by NCL consisted of analysing different alternatives for the exploitation of the deposit and to carry out, at a conceptual level, the design and mine planning of the selected option. Moreover, NCL calculated the operating costs and capital cost of the mining works, in addition to the capital costs for the process plant and infrastructure, using an estimation model of CAPEX and OPEX for flotation plants.

The study was based on the block model and economic information provided by Hampton, as well as NCL data from similar projects in the region. In the calculation of the economic resources, measured, indicated and inferred mineral resources were considered, with 23% of mineralised material reporting into the mining plan having been derived from inferred mineral resources.

NCL certify that the results reported by Hampton correspond to those obtained by NCL in the conduct of the study.

The reader is cautioned that the mining study, which is an integral part of this report, is of a preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorised as mineral reserves. There is no certainty that the preliminary economic assessment will be realised. No mineral reserves have been estimated.

NCL's experience from a consultancy perspective has included block cave mining projects in Chile, Colombia, Papua New Guinea and Australia. The nature of the work conducted by them includes aspects such as mine design and planning, mining methods, material handling and infrastructure and has been conducted at levels varying from Conceptual Studies, through Scoping Studies to Pre-Feasibility Studies, and where required, detailed engineering design. Recent work undertaken by NCL has involved mining operations such as La Colosa (AngloGold Ashanti Colombia S.A.), Golpu (Newcest Mining Ltd.), El Teniente (Codelco) and Rosario Oeste (Cía Minera Doña de Collahuasi SCM), with historical involvement in projects the size of Chuquicamata (Codelco).

RungePincockMinarco

RungePincockMinarco ("RPM") is the world's largest publicly listed independent group of mining technical experts, with a history going back to 1968.

Listed on the Australian Securities Exchange on 27 May 2008 (ASX: RUL), RPM is a global leader in the provision of advisory consulting, technology and professional development solutions to the mining industry.

The RPM global team of more than 200 specialist advisors and mining consultants is regarded as one of the most experienced and trusted teams in the industry, with wide-ranging operational and technical expertise across commodities, continents and mining methods.

Further, the RPM global team's knowledge base has been gained through the conduct of work in over 118 countries, and their approach to the business of mining is strongly grounded in economic principles.

The company's cutting-edge mining software technology has been at the forefront for more than 30 years and continues to be sought after globally for mine planning including scheduling, simulation and financial analysis solutions. Their software continues to be used by miners, mining contractors, financial institutions and other service providers to the mining sector.

At present, RPM operate offices in 18 locations across 12 countries on five continents.

In accordance with Metminco's requirements, RPM conducted a high level review of the life of mine production schedule developed for Los Calatos by NCL and Metminco. This included a review, and refinement, of key inputs relating to the production schedule as well as associated costs (operating costs and capital expenditure) and a financial analysis, in order to confirm that the planned increase in production to 75ktpd for the open pit operation and 70ktpd for the underground operation is technically achievable, economically viable, and is legally compliant.

The review was conducted under the direction of Mr David Pires, Bsc,Msc,GCert. Mr Pires is a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of RPM as Regional Consulting Manager – Latin America.

RPM certify that the results reported by Hampton correspond to those obtained by RPM in the conduct of their study on Los Calatos entitled "Los Calatos Mine Production Study" dated 05 August 2013.

The reader is cautioned that the actual operating costs, production and economic returns may differ materially from those anticipated by the Mine Production Study, and depend on a variety of factors, some of which are outside the control of RPM.

Forward Looking Statement

All statements other than statements of historical fact included in this announcement including, without limitation, statements regarding future plans and objectives of Metminco are forward-looking statements. When used in this announcement, forward-looking statements can be identified by words such as ''anticipate", "believe", "could", "estimate", "expect", "future", "intend", "may", "opportunity", "plan", "potential", "project", "seek", "will" and other similar words that involve risks and uncertainties.

These statements are based on an assessment of present economic and operating conditions, and on a number of assumptions regarding future events and actions that, as at the date of this announcement, are expected to take place. Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, its directors and management of Metminco that could cause Metminco's actual results to differ materially from the results expressed or anticipated in these statements.

The Company cannot and does not give any assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this announcement will actually occur and investors are cautioned not to place undue reliance on these forward-looking statements. Metminco does not undertake to update or revise forward-looking statements, or to publish prospective financial information in the future, regardless of whether new information, future events or any other factors affect the information contained in this announcement, except where required by applicable law and stock exchange listing requirements.

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APPENDIX 1

Locality Plan – Los Calatos Copper Project

APPENDIX 2

Scoping Study - Preferred Mining Scenario

Figure 1a: Schematic section looking northwest showing the open pit, underground bulk stopes and the associated development.

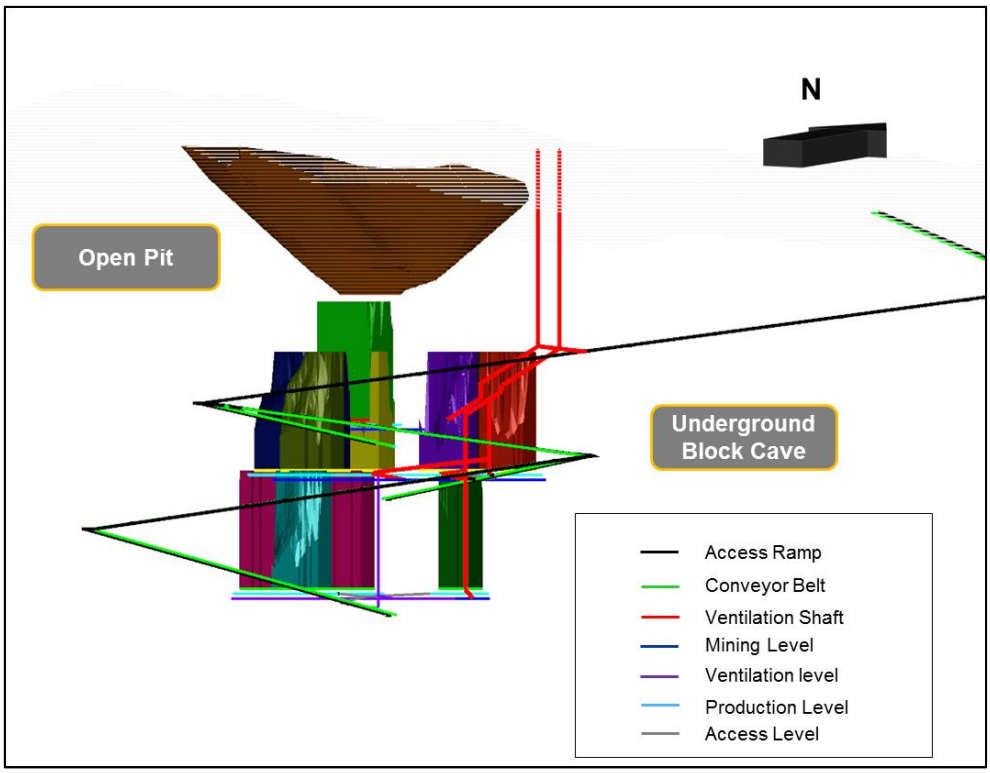
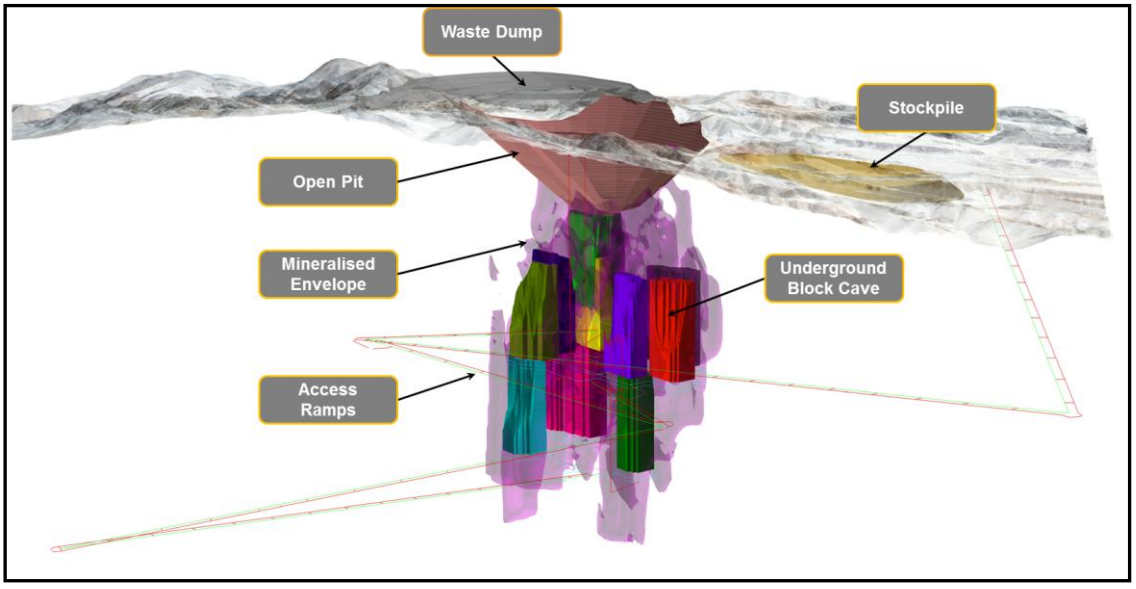


Figure 1b: Schematic section looking northwest showing the surface DTM, open pit, underground bulk stopes and the mineralised envelope at a 0.35% CuEq cut-off (purple) constraining the bulk mining stopes.



Optimised L3_Model - Preferred Mining Scenario

Figure 2a: Period Plot – Optimised L3_Model Open Pit.

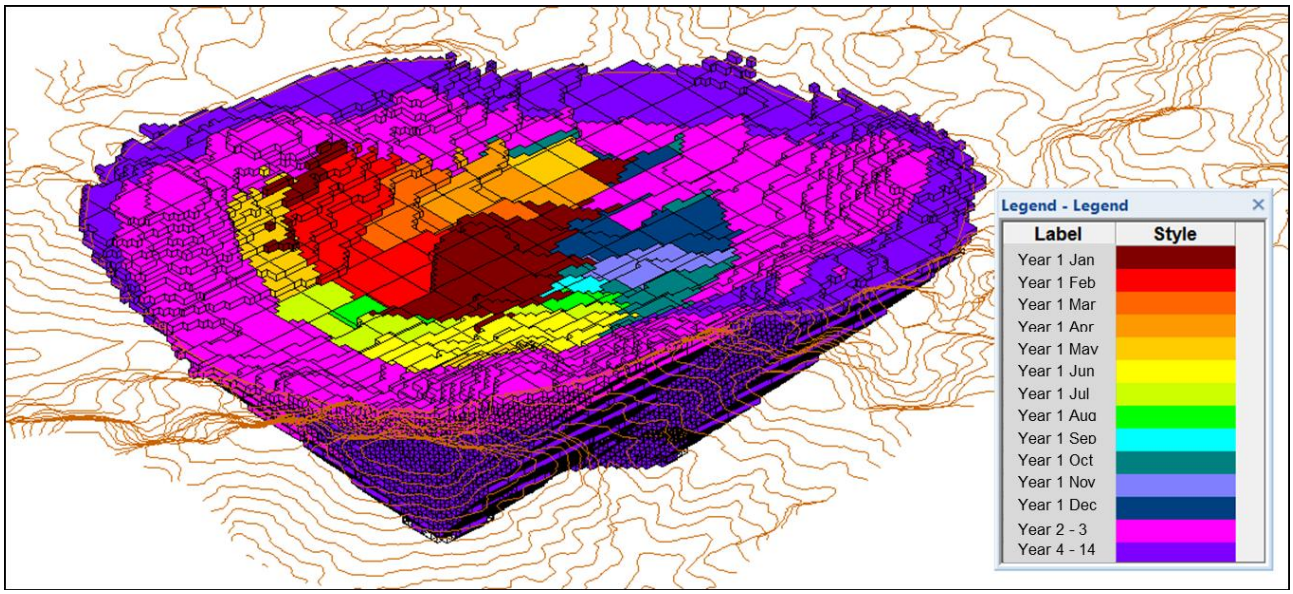
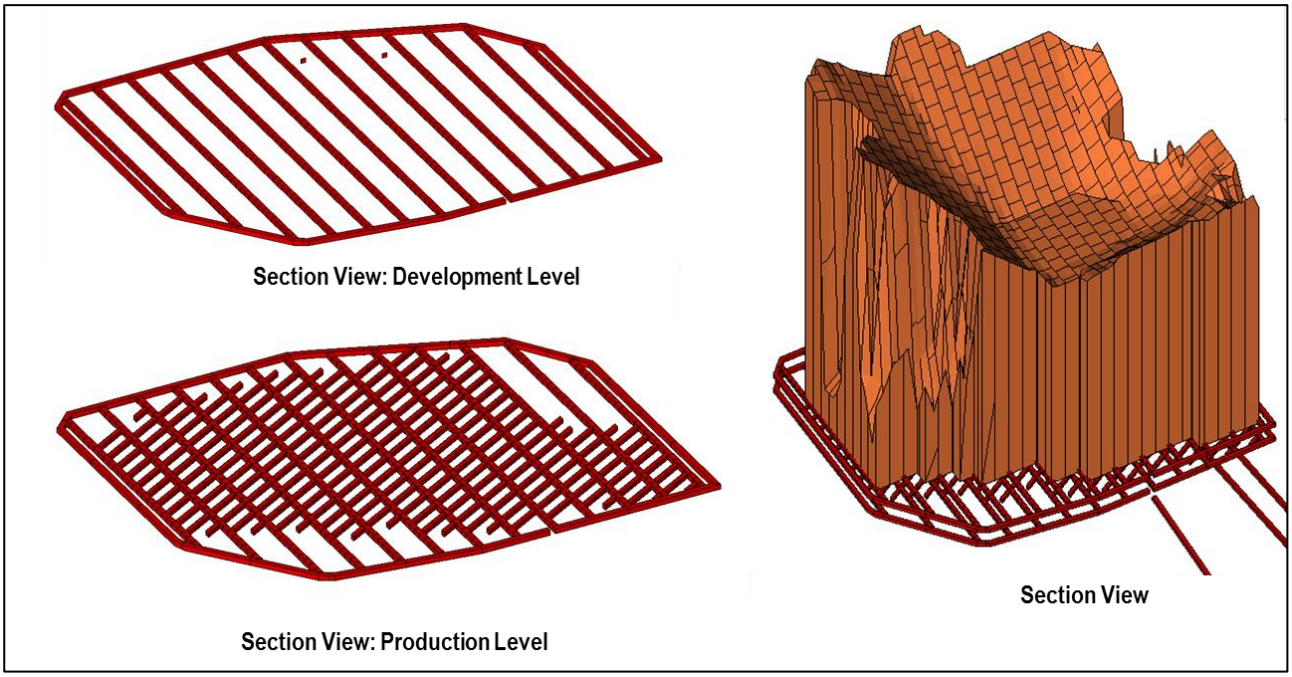
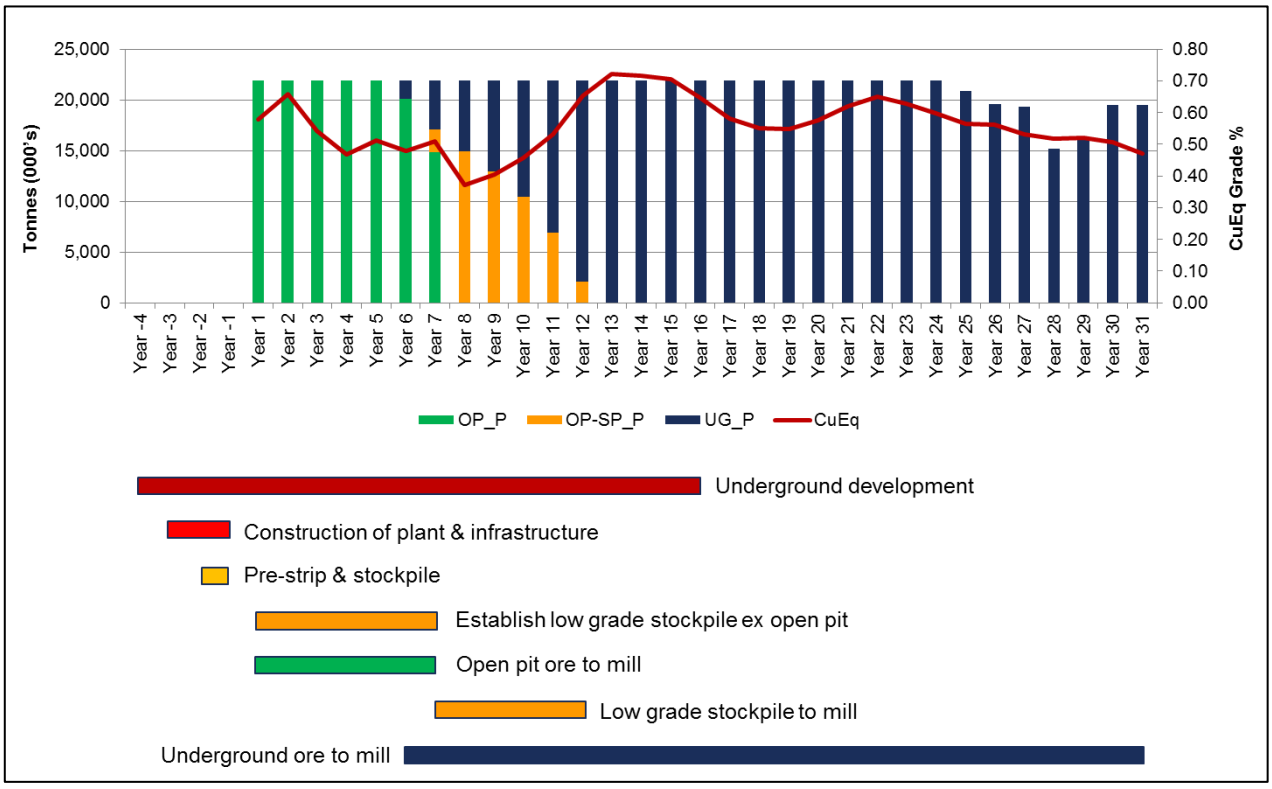


Figure2b: Block Cave layout and design – Level 2000.

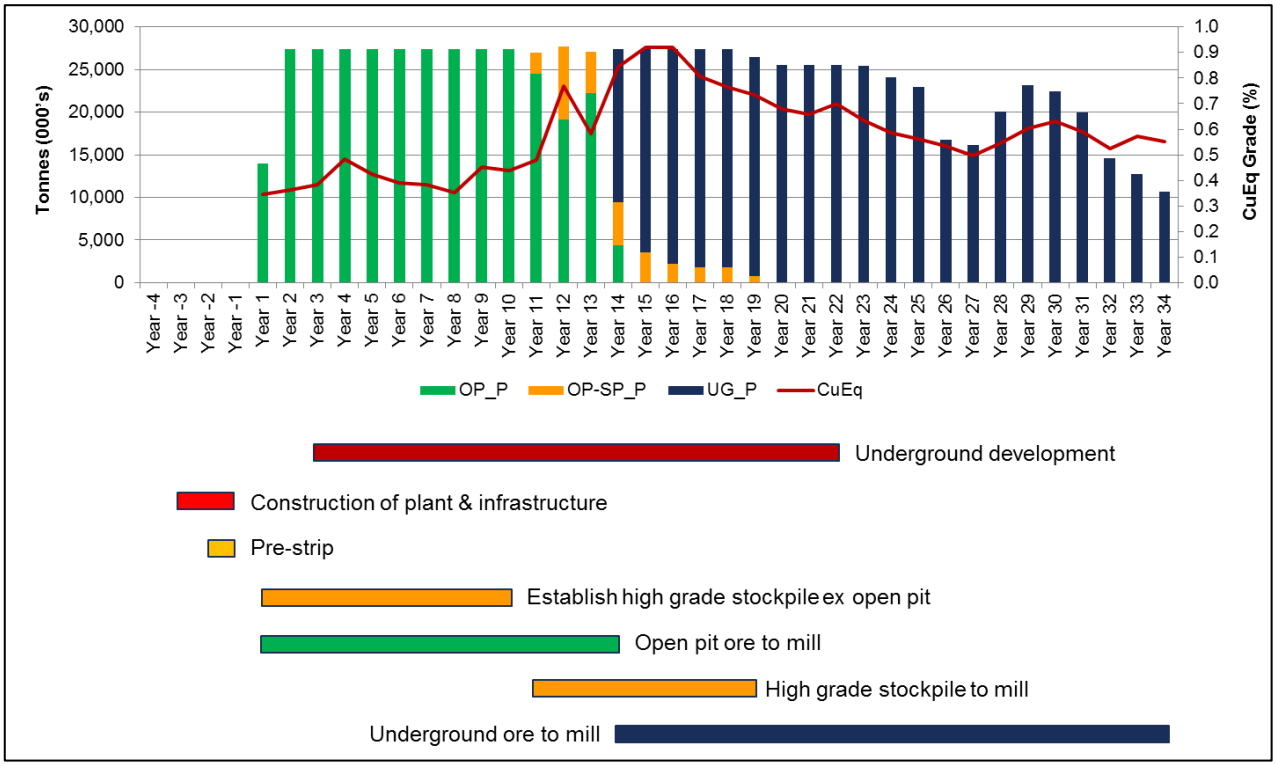


APPENDIX 3

Production & Development Schedule – Scoping Study.



Production & Development Schedule – Optimised L3_Model.



APPENDIX 4

Pre-production capital expenditure.

	US$ (millions)	
Pre-production capital	**Scoping Study**	**Optimised L3_Model**
Flotation plant, tailings dam & water and concentrate pipelines	814	842
Open pit including pre-strip and equipment	255	217
Underground mine including development and equipment	167	0
Infrastructure including power supply, port, access, site facilities, workshop & osmosis plant	227	230
Owners costs	43	31
Total	**1,506**	**1,320**

Note:

i) Average contingency of 25% used on all capital in Optimised L3_Model.

APPENDIX 5

Commodity Prices Used.

Commodity	Unit	Price in US$	
		Scoping Study (March 2013)	Optimised L3_Model (August 2013)
Copper	$/lb	2.75	2.95
Molybdenum	$/lb	15.00	12.78
Gold	$/oz	1,500	1,349
Silver	$/oz	25	25
Rhenium	$/kg	4,408	5,773

Note: Commodity prices for comparative study based on long-term consensus as at 07 August 2013.

APPENDIX 6

RPM – Recommendation for further work.

OPEN PIT

Production

- Detailed m design to allow for optimal layout, safe pit walls, practical mining widths and multiple benches in order to maximise production.
- Marginal cut-off grade analysis for stockpile contingency.

UNDERGROUND

Production

- Detailed mine design and layouts to facilitate optimum mine planning and scheduling.
- Investigate maximum drawpoint tonnage per day possible based on the geometry of the Los Calatos deposit., and requisite number of drawpoints to open at any one point in time. Complete further geotechnical work to confirm extent of pre-conditioning required.

Investigate rate of undercutting and design

- Rate of undercutting, and design thereof, to be assessed, as this will impact on how far in advance development is required to achieve desired build-up from available drawpoints.

Phasing

- Phasing to be assessed to ensure sustained production rate from different levels. The lower the daily drawpoint tonnage, the larger the active footprint, the more difficult it is to achieve a schedule which accesses Level 1300 at the correct time and thereby sustain the daily production rate.

ECONOMIC EVALUATION

- Unit rates and equipment quotations recommended for pre-feasibility study.
- Analysis of contractor options for open pit and undeground mine development.

STUDIES

- Requirement for ventilation, geotechnical and hydrological studies.
- Exploration drilling for additional ‘orebody’ knowledge.
- Options study on application of sublevel caving as an adjunct to block caving.

APPENDIX 8

Copper Equivalent (CuEq) Calculations.

The copper equivalents are calculated according to the following formula and assumed metal prices and recoveries:

CuEq% = Cu% + [((PMo x RecMo) / (PCu x RecCu)) x Mo%]

Cu Price (PCu)= US$2.95/lb

Mo Price (PMo) = US$12.78/lb

Cu Recovery (RecCu) = 87%

Mo Recovery (RecMo) = 68%

Thus, the formula used is: ***CuEq% = Cu% + [3.38609 x Mo%]***

ABBREVIATED GLOSSARY

Assay
An analysis to determine the presence, absence or quantity of one or more chemical components.

Base Metal
A metal, such as copper, lead, nickel, zinc or cobalt.

Block caving
A method of underground mining in which large blocks of ore are undercut, causing the ore to break or cave under its own weight enabling extraction of the ore at a relatively low cost.

Breccia
Rock fragmented into angular components.

Cash operating costs / lb copper (net of credits)
Cash operating costs include a 2% net smelter return payable to a third party less by-product credits received from the sale of molybdenum, gold, silver and rhenium, divided by the copper produced over the defined period.

CIM N1 43-101 Code
The Canadian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Ore Reserves.

Circuit
A processing facility for removing valuable minerals from the ore so that it can be processed and sold.

Copper
A ductile, malleable base metal with a myriad of uses in construction (piping, wire) and electronics due to its high electrical and thermal conductivity and good resistance to corrosion.

Copper equivalent
Copper equivalent is based on the recovered value of the non-copper by-products (gold and molybdenum) relative to the recovered value of copper. For example, at a long term copper price of US$2.95/lb with Cu recovery of 87% and a molybdenum price of US$12.78/lb with recovery of 68%, 1 pound of molybdenum is equivalent to 4.2633 pounds of copper (Cu:Mo ratio of 1:3.38609).

Diamond drilling / drill hole
A method of obtaining a cylindrical core of rock by drilling with a diamond impregnated bit.

Diatreme
A diatreme is a breccia-filled volcanic pipe that was formed by a gaseous explosion. Diatremes often breach the surface and produce a tuff cone, a filled relatively shallow crater known as a Maar, or other volcanic pipes.

Drill core
The long cylindrical piece of rock brought to surface by diamond drilling.

Environmental impact study (EIS)
A written report, compiled prior to a production decision that examines the effects proposed mining activities will have on the natural surroundings.

Exploration
Prospecting, sampling, mapping, diamond drilling and other work involved in searching for ore.

Feasibility Study
A feasibility study is an evaluation of a mineral resource to determine whether it can be mined effectively and profitably. It includes the detailed study of reserve estimation, mining methods evaluation, processing technique analysis, capital and operating cost determination and the process effect on the environment and community. This detailed study forms the basis for capital estimation, and provides budget figures for the development of the project. It requires a significant amount of formal engineering work and an accuracy within 10 to 15%.

Geo-domain
Homogeneous geological domains within a deposit identified on the basis of spatial continuity of grades and geological features such as lithology, mineralogy and alteration.

Gold
A heavy, soft, ductile, malleable precious metal used in jewellery, dentistry, electronics and as an investment.

Grade
The amount of valuable metal in each tonne or ore, expressed as grams per tonne for precious metals and percent in the case of copper and parts per million (ppm) in the case of molybdenum. *Cut-off grade* – is the minimum metal grade at which a tonne of rock can be processed on an economic basis. *Recovered grade* – is the actual metal grade realised by the metallurgical process and treatment of ore, based on actual experience or laboratory testing.

ICP
Inductively Coupled Plasma. Analytical technique used for the detection of trace elements in soils.

Isograde
Line of equal grade, often used to delineate a material change in grade across a geological boundary.

Indicated Mineral Resource
An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

Inferred Mineral Resource
An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.

JORC Code
The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves.

Los Calatos Mining Study (the "Study")
The Mining Study completed by NCL has been conducted at a scoping level with a level of accuracy of ±35%.

Leachable (soluble) copper
Total acid and cyanide soluble copper.

Leaching
A chemical process for the extraction of valuable minerals from ore.

Measured Mineral Resource
A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

Metallurgy
The science and technology of extraction of metals from their ores and the refining of metals.

Mineralisation
The concentration of metals and their chemical compounds within a body of rock.

Mineralised envelope
The boundary constraining the extent of the identified mineralisation, as delineated by a nominated grade or cut-off.

Mineral Resource
A concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological

evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.

Molybdenum
Molybdenum is commonly a by-product of copper mining. It has the ability to withstand extreme temperatures and has a high resistance to corrosion. Molybdenum is widely used as an alloy agent in stainless steel. It is also used to manufacture aircraft parts and industrial motors.

NPV
Net present value is the difference between the present value of a future cash flow from an investment and the amount of investment, where the present value of the expected cash flow is computed by discounting the cash flow at the required rate of return.

Open Pit
A mine that is entirely on surface. Also referred to as open-cut or open-cast mine.

Ore
Rock containing mineral(s) or metals that can be economically extracted to produce a profit.

Ordinary Kriging
A geostatistical approach to estimating grades. Instead of weighting nearby data points by some power of their inverted distance, ordinary kriging relies on the spatial correlation structure of the data to determine the weighting values. This is a more rigorous approach to modelling, as correlation between data points determines the estimated value at an unsampled point.

Orebody
Generally, a solid and fairly continuous mass of ore, which may include low-grade ore and waste as well as pay ore, but is individualised by form or character from adjoining country rock.

Oz
Troy ounce (31.1035 grams).

Pit optimisation study
Pit optimisation studies are used for open pit mine planning to determine those pit limits and mining sequences that yield maximum financial returns based on defined technical parameters, operating costs and commodity prices.

Porphyry
A rock consisting of larger crystals embedded in a more compact finer grained groundmass.

Porphyry copper deposit
A copper deposit which is associated with porphyritic intrusive rocks and the fluids that accompany them during the transition and cooling from magma to rock. Porphyry copper deposits are typically mined by open-pit methods.

PPM
Parts per million, also grams/tonne

Pre-feasibility study
A preliminary assessment of the technical and economic viability of a proposed project. Alternative approaches to various elements of the project are compared, and the most suitable alternative for each element is recommended for further analysis. Costs of development and operations are estimated. Anticipated benefits are assessed such that some preliminary economic criteria for evaluation can be calculated. Preliminary feasibility studies are completed by a small group of multi-disciplined technical individuals and have an accuracy within 20 to 30%.

Recovery
A term used in process metallurgy to indicate the proportion of valuable material obtained in the processing of an ore. It is generally stated as a percentage of valuable metal in the ore that is recovered compared to the total valuable metal present in the ore.

Reverse circulation drilling (RC drilling)
Percussion drilling method using a rotating bit and high pressure air to sample sub-surface material through the recovery of broken rock fragments (‘rock chips’).

Solvent extraction and electrowinning (SX-EW)
A metallurgical technique, so far applied only to copper ores, in which metal is dissolved from the rock by organic solvents and recovered from solution by electrolysis.

Strip ratio
The ratio of tonnes removed as waste relative to the number of tonnes of ore removed from an open-pit mine.

Abbreviations

Commodities

Cu	Copper
Mo	Molybdenum
Au	Gold
Ag	Silver
Re	Rhenium
CuEq	Copper Equivalent

Units

lb	pound
mmlb	million pounds
oz	ounce
koz	thousand ounces
moz	million ounces
t	tonnes
kt	thousand tonnes
mt	million tonnes
tpd	tonnes per day
ktpd	thousand tonnes per day