

Maiden Ore Reserve for Miraflores

Metminco Limited (ASX: MNC, AIM: MNC) (“Metminco” or the “Company”) is pleased to announce a maiden NI 43-101 and JORC 2012-compliant Ore Reserve for its 100%-owned Miraflores Gold Project in Colombia. This announcement replaces that made on 18 October 2017. The Company notes that the total contained tonnes, grade and metal content remain unchanged from the announcement of 18 October 2017, however the previously advised “Planned dilution” has been incorporated into the Proved and Probable categories of the Ore Reserve estimate as required by the JORC Code (2012).

The Ore Reserve has been estimated using a gold price assumption of US\$1,200/oz and a cut-off grade of 1.53g/t Au. It is contained entirely within the Miraflores Deposit constrained Mineral Resource Estimate and is based entirely on the Measured and Indicated Resources.

The estimate represents a conversion rate of approximately 50% of Measured and Indicated Resources and has been based on information derived from the Miraflores Feasibility Study (FS) released on October 18th, 2017 with a further update on October 30, 2017.

Miraflores Mineral Reserve Estimate as at October 2017 (100% basis)

Reserve Classification	Tonnes (Mt)	Gold (g/t)	Silver (g/t)	Contained Metal (Koz Au)	Contained Metal (Koz Ag)
Proved	1.70	2.75	2.20	150	120
Probable	2.62	3.64	3.13	307	264
Total	4.32	3.29	2.77	457	385

Rounding-off of numbers may result in minor computational errors, which are not deemed to be significant. Source: Ausenco, 2017

The Company’s Ore Reserve estimate for the Miraflores Gold Project has been independently reviewed and signed off by Mr Boris Caro who is a Member of the Australasian Institute of Mining and Metallurgy and a Registered Member of the Chilean Mining Commission. Mr Caro is an independent consultant contracted by Ausenco to review and sign off the Ore Reserve estimate.

The information communicated in this announcement includes inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014.

Mr William Howe, Managing Director, said: “The release of the maiden Ore Reserve for the Miraflores Gold Project marks a significant step towards our goal of near-term production in South America and the culmination of many months of dedicated work by our team. It also cements our confidence in the projects location on the prolific Western Cordillera Andean Cauca trend.”



William Howe
Managing Director

Miraflores Gold Project

Mineral Resources

The Miraflores Measured and Indicated Mineral Resources are reported at a gold cut-off grade (CoG) of 1.20 g/t Au. The resources are based on 25,884m of drilling in 73 diamond drill holes and 236m of underground channel samples. This includes 3,624m in 10 holes carried out by AngloGold Ashanti and B2Gold in 2006-2007.

Miraflores is a gold-silver rich, magmatic-hydrothermal breccia pipe, located within a fertile hypabyssal porphyry cluster, whose genesis is intimately related to the evolution and cooling of magmatic and hydrothermal fluids emanating from the porphyry cluster's parent magma chamber.

At the porphyry-district scale certain geological, mineralogical and geochemical features are characteristic of peripheral breccias in the porphyry environment: the presence of altered and mineralised porphyry stocks in relative proximity to the breccia system.

Miraflores is located within 2 km of intense porphyry-style mineralisation, and at the property scale it cuts porphyry dykes.

Mineralisation at Miraflores is contained within the Miraflores magmatic-hydrothermal breccia body and in the basalts close to the contact. The prospect is well known for free native gold and silver occurring in vugs and cavities in the carbonate and quartz cement of



the breccia. Drilling has shown that gold mineralisation occurs in all types of breccias in the cement and matrix.

Statistical and visual checks were performed by Metal Mining Consultants of the estimated block model to ensure there were no discrepancies in the grade estimation routines and to ensure the geometry of mineralisation meets the configuration that the geologists expected for estimated mineralisation. The Mineral Resources are reported inclusive of the Ore Reserves.

Measured Mineral Resources; 2.96Mt @ 2.98g/t Au and 2.48g/t Ag

Indicated Mineral Resources; 6.31Mt @ 2.74g/t Au and 2.90g/t Ag

Measured and Indicated Mineral Resources; 9.27Mt @ 2.82g/t Au and 2.77g/t Ag

Inferred Mineral Resources; 0.49Mt @ 2.36g/t Au and 3.64g/t Ag

Competent Persons

Mineral Resources

The information provided in this ASX Release as it relates to Exploration Results and Mineral Resources of the Miraflores Gold Project is based on information compiled by Scott Wilson, President of Metal Mining Consultants Inc. in Colorado, USA. Mr Wilson, a Competent Person for JORC (2012 Edition) compliant statements, reviewed the technical information presented in this document. Mr Wilson 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 Wilson has consented to be named in this announcement and inclusion of information attributed to him in the form and context in which it appears herein.

The full details of Mineral Resources are contained in ASX announcement of 14 March 2017 "MIRAFLORES MINE DEVELOPMENT UPDATED JORC 2012 MINERAL RESOURCE STATEMENT".

Ore Reserves

The Company's Ore Reserve estimates for the Miraflores Gold Project have been independently reviewed and signed off by Mr Boris Caro who is a Member of the Australasian Institute of Mining and Metallurgy and a Registered Member of the Chilean Mining Commission. Mr Caro is an independent consultant contracted by Ausenco to review and sign off the Ore Reserve estimate. Mr Caro has a broad international experience leading mining projects in several countries and he was a Qualified Person of Fortuna Silver Mines in 2014 and 2015. Mr Caro has over five years' experience 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 Caro visited the site in August 2017 for 3 days as part of



the study team to review all aspects of the study including an investigation of the mine, plant and site layouts. Mr Caro has consented to be named in this announcement and inclusion of information attributed to him in the form and context in which it appears herein.

Type of Study Completed

A feasibility study has been completed for the Miraflores Project. Metminco engaged GR Engineering Services to complete the processing, infrastructure and feasibility study management aspects of the feasibility study. Ausenco Chile were engaged to complete all aspects of the mine design, mine scheduling, geotechnical analysis and ventilation system design to support the mine design, including capital and operating costs for the mine. Surface geotechnical design for the plant, infrastructure and tailings facility was undertaken by Dynami Geo Consulting (a Medellin based consulting company) and Grana y Montero Engineering, a Lima, Peru based engineering and contracting group assisted in the design of the Tailings Storage Facility. This study provided sufficient technical and economic support to back up the Ore Reserve estimate.

Further analysis and test work is recommended for the stope filling sequence and stability analysis prior to any decision to commence with the project construction.

Cut-off grade determination

An underground CoG of 1.53 g/t for gold was applied to underground diluted resources constrained by the final underground design. This grade delineated the Ore Reserve estimate. The CoG was utilised for the stope optimisation and the mining schedule.

- Reserves are based on a gold price of US\$1,200/oz;
- Reserves are defined within an underground mine plan generated from diluted Measured and Indicated Mineral Resources;
- An underground CoG of 1.53 g/t Au was applied to underground resources constrained by a final underground design;
- Underground reserves assume a total dilution of 31%;
- In-situ Au ounces disregard metallurgical recovery of 92%;
- 28% of the mined out stopes and drifts will use backfill including waste and filtered tailings material. Backfilling operations will commence in the 2nd year of operation;
- Detailed ventilation designs were applied; and
- Reserves are based on topography received from Metminco on January 26, 2017.

Ore Reserve Estimation Factors

For stope optimisation, Stope Optimizer from Vulcan™ mine planning software was used. A post analysis of the optimisation confirms that for a life of mine of around 10 years, ore to plant of 1,300 tpd producing 4,000 oz Au per month. The stopes were requested to achieve a minimum average grade of 1.75 g/t-Au in the optimisation algorithm.



The mining method selected for the Miraflores deposit is the retreat longhole open stope method with partial backfill. The decision of which stopes require to be backfilled was made taking into consideration the geotechnical analysis and the mining sequence.

Only the underground resources contained within the mining stopes or underground development drives were included in the Ore Reserve estimate.

Underground reserves assume a total dilution of 31%.

Ore loss has been accounted for by removing areas that will not be mined as they are either too remote from other potential ore to pay for additional development, or the potential value has been diluted to a point where the material is eliminated from consideration. No other ore loss has been considered.

Mine development and stope production were scheduled using Vulcan Gantt Scheduler™. The scheduler package developed the schedule following a logic sequence of development drives with a maximum monthly rate of 270m per horizontal development drill jumbo.

Ramps; 4.5 x 4.5 metres
Drifts and cross-cuts; 4 x 4 metres
Stoping minimum width; 2.5 metres
Stoping average width; 7 metres

Production will start in year 1, focusing on high-grade areas and the early level development from the secondary ramps. The production will ramp up relatively quickly, allowing the processing of 1,300 tonnes per day during the first year of the mine schedule.

The mine operating and capital cost estimate was also constructed using first principles and an Excel™ cost model.

The geotechnical study included the data collection through drilling and mapping, rock mass classification, structural analysis, stability analysis and ground support recommendations.

The mine operation includes in-fill drilling activities for stope delineation and ore control purposes.

The dilution material will contain a small amount of Inferred Mineral Resources¹, However, this material contributes less than 3% of the total material included in the mine plan. The

¹ Cautionary Statement

There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or the production target itself will be realised. The dilution material is considered as non-economical material, however, the mining method selected by Miraflores Feasibility Study does not allow to avoid the blend between the ore reserve and the dilution material.



mining method does not allow to avoid the extraction of dilution material mainly due to poor selectivity within the stope boundaries or mining development drifts and cross-cuts. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

The mining production schedule developed by Ausenco requires approximately 20% of the process tailings and all waste material mined for stope backfill purposes. Further backfill material (up to 50% of the total tailings), will be placed underground for cost and environmental benefit. Conceptually, Ausenco considers this strategy as adequate to improve either the stability of the stopes and for reducing the size of the tailing storage facility. However, it will be necessary to revisit the mining production schedule to achieve the proposed stope backfill targets prior to mining commencing.

Metallurgical Factors

The feasibility study metallurgical testwork program was conducted by Inspectorate Exploration and Mining Services of Vancouver, Canada, and ALS Laboratories and was designed to evaluate a process flowsheet that included:

- Three-stage crushing;
- Grinding;
- Gravity concentration of the coarse gold;
- Gold flotation of the gravity tailing;
- Cyanide leaching of the gold flotation concentrate;
- Cyanide detoxification of the cyanidation residue; and
- Tailing thickening and filtration.

This flow sheet as tested has resulted in a gold recovery of 92% and silver recovery of 60% being utilised in the process plant design.

The process facility is designed to treat 474,500 tonnes of ore per annum (1,300 tonnes per day). The wet plant is scheduled to operate seven days per week at a nominal treatment rate of 59 dry t/h.

Environmental Studies

Baseline environmental studies were initiated by the previous owner in order to advance the development and preparation of an Environmental Impact Assessment (EIA) study needed for regulatory permitting in Colombia. Given the current revision to the mine plan, some additional studies may be required for the areas to which the mine facilities have been relocated. This will be determined once the final mine plan is developed and the aforementioned gap analysis has been completed but some of this information has already been gathered to date.



As of July 2017, Baseline Study and Environmental Impact Assessment programs have recommenced. The bulk of the Baseline activities previously completed will be used as background information, however, local regulations requires all environmental and social baseline data to be no older than 12 months since its collection, thus new monitoring programs are underway starting Q3 of 2017.

The monitoring and environmental inventories consist of:

- Fauna and flora characterisation;
- Underground and surface water characterisation;
- Noise, vibration and air pollution; and
- Potential contaminants from extracted minerals and stored tailings.

This data along with the mineralogical, geological, social and economic aspects of the new project will be used to complete the Environmental Impact Assessment, as per the Terms of Reference received by Miraflores from the local environmental agency Corporacion Autonoma Del Risaralda (CARDER) in July 2017.

The Environmental Management Plan will be drafted once the environmental impacts are completed and finalised in late 2017.

Acid rock drainage characterisation data obtained to date includes ABA, multi-element analyses, and mineralogical analyses. Column testing was conducted for waste rock and low-grade stockpile materials. Geochemical evaluation of flotation tailings and cyanide leach tailings was also conducted. Preliminary results indicate that the flotation tailings and the majority of waste rock are non-PAG (non-potentially acid generating); whereas the low-grade stockpiles and cyanide leach tailings are PAG (potentially acid generating). Potential for metal leaching is indicated in the static test data, but further evaluation is in progress to acquire kinetic data for use in geochemical modelling.

The current mine plan does not include low grade stockpiling on surface. The cyanide leach tailings will be placed underground as part of the mine backfilling requirements.

The current environmental strategy includes the use of a large fraction of the expected tailings flow as underground backfill material. The remaining filtered tailings will be sent to the tailings management facility where they will be spread and mechanically compacted to achieve an unsaturated, dense and stable tailings deposit. No pond or water impoundment will exist so there is no potential for infiltration to native soils from the tailings materials.

Miraflores has received a mine development permit from the CARDER for the development of 2,000m of underground exploration development which includes 2 permanent waste dumps and water discharge licence (Resolution 1505 of 7 September 2017).



Infrastructure

The area is well serviced with respect to roads. The site is located approximately 7km from the Panamerican highway that runs along the Cauca River. The road connecting the Panamerican Highway with the town of Quinchia passes within a few kilometres of the site and is currently being upgraded with 4 of the 7km of road now newly sealed and with the remaining portion of the road expected to be completed prior to construction commencing. From the newly sealed road access to the site is via an unsealed road which will require upgrading to allow access for large bulk loads. The feasibility capital estimate allows for the upgrade to this access road, the mine haul roads and other proposed internal roads for the operation.

Sufficient labour is readily available throughout the region but specifically in Quinchia and in communities immediately surrounding the site. Professional and experience labour will be sourced from both within and outside of Colombia. The town of Quinchia and surrounding towns have an adequate supply of suitable accommodation for any labour brought into the area. It is Miraflores's intention to employ labour locally and where labour is brought into the area from outside, the Company will require that labour to relocate to Quinchia.

Power Supply to the site will be via a new overhead power line from Quinchia. The incoming supply voltage will be 33 kV, with step-down transformers to the site distribution voltage of 13.8 kV. A medium voltage distribution board installed at the incoming HV switchyard will distribute power to the outgoing feeders. The new power line will be approximately 8km in length and will be a dedicated line.

Water supply needs for the Project (processing plant and camp) have been assessed and the water balance summary has been carried out. The processing plant will require a total of 500 m³/day of water to operate.

The accommodation camp will require 30 m³/day of freshwater which will be trucked to site from the local community water supply. The surplus water from mine dewatering operations will be used for construction works, dust suppression and drilling and/or will be sent to the water treatment plant.

Capital and Operating Costs

The capital and operating cost estimates produced for the establishment of the mine is considered to be an AACE class 3 estimate with a level of accuracy within -10% and +15%. Costs are presented in United States dollars (US\$) and are based on prices in effect during the second quarter of 2017; no escalation factors have been applied.

The exchange rate applied for the operating and capital cost estimates are:

- US\$1.00 = A\$0.80 (Australian Dollar);
- US\$1.00 = €0.86 (Euro); and
- US\$1.00 = 3,000 COP (Colombian Pesos).



The FS delivered a total estimated Initial Capital cost of bringing the project into production of US\$71.8 million excluding all contingency. This cost is based upon an EPCM approach whereby Miraflores assumes general risk. Contingencies of US\$6.2 million was estimated for the project development. Contingencies have been estimated at 7.67% of initial capital.

Sustaining capital requirements associated with the mine and owner cost of US\$18.5 million were included into the financial model.

The Operating cost was based on a high productivity operation, this will demand a high efficient environment for productivity and cost controls. No contingency was embedded into the operating cost.

The FS delivered the following results for the operating costs:

- Mining cost of US\$27.94 /processed t;
- Processing cost of 20.54/processed t;
- Tailing cost of US\$0.62 /processed t; and
- G&A cost of US\$4.36 / processed t.

The total site operating cost is US\$53.46 /processed t.

Government Royalty of US\$52.18 / payable ounce.

Refining charges, transport and insurance of US\$4.50 / payable ounce.

Total Cash Costs of US\$599 / payable ounce.

The operating cost estimate did not include Corporate overheads and exploration activities.

Revenue Factors

The revenue estimate was conducted as per industry standards taking into consideration the annual metal production, commercial terms and predicted metal prices.

The revenue estimate utilised the following assumptions:

- A gold and silver prices of US\$1,300/oz and US\$18 /oz respectively (Within the range of industry expectations and Broker and Bank predictions. The gold price used is close to the moving 5 year average gold price);
- The average processed head grade of 3.29 g/t and 2.56 g/t for gold and silver respectively (from the mine and processing schedules);
- Metallurgical recoveries of 92 % and 60 % for gold and silver production respectively (determined from metallurgical testwork);
- Metal payability factors of 96.6 % and 99.0 % for gold and silver respectively (from historical figures and discussions with refiners);
- Refinery and transport and insurance charges of US\$4.50/ payable ounce (based on previous study estimates); and



- Royalty of 4 % of the net smelter return (based on the Miraflores licence and Existing Aporte contract expiry (2019) prior to commencement of production in late 2019 when the licence will revert to the normal system of concession contracts which are subject to a 4% royalty only).

Economic Analysis

Metminco developed a comprehensive financial model for the economic evaluation of the Miraflores Gold Project. The financial model incorporates the modifying factors delivered by the FS.

The key assumptions utilised in the financial model are listed as follows:

- Gold and silver prices of US\$1,300 /oz and US\$18 /oz respectively;
- Net smelter return as per the Revenue estimate;
- Operating and capital costs as per industry standards;
- Working capital and inventory management as per industry standards;
- Debt and financing activities are excluded from the net present cost estimate;
- All cash flows were treated in real terms, therefore, no inflation or escalation factors were applied;
- Discount Rate of 8%;
- Site operating cost of US\$ 53,46 /processed t; and
- Income tax of 33%.

The FS delivered a Net Present Value of US\$72.3 million after tax and an Internal Rate of Return of 25%.

Social Licence

According to the social base line information for the project carried out in 2013, there were 289 families in the direct influence area, with a total population of 1,152 inhabitants. The village that has the largest number of inhabitants was Miraflores with 410 inhabitants.

Community base line studies, social impact assessments and community development plans will be complete by the end of 2017.

The Company has an existing agreement with the artisanal miners at Miraflores that will provide education, training and jobs for some of the certified miners while others will receive compensation when the project enters construction and artisanal mining ceases.

The Company maintains excellent relations with the local community, municipality and government agencies.

Project Risks and Operating Licences

The main risks for the development of the Miraflores Gold Project identified by the FS are described as follows:

- Social disruptions or community unacceptance of the project;
- Gold price;
- Increase of the predicted capital or operating cost;
- Not achieving the target production because of mining or processing issues. E.g. reduced ore grade, not achieving the design processing throughput or gold recovery, etc.
- Existing Miraflores licence contract is not renewed or the licence does not revert to the normal system of concession contracts which are subject to a 4% royalty only);
- Geotechnical instability; and
- Unpredicted water levels in the underground mine.

Other than the Aporte contract for the Miraflores licence no other material agreement is in effect at this time.

The Miraflores Project Environmental Impact Assessment Study (2013) did not previously have an official Terms of Reference (ToR), instead, the baseline data collection and impact assessment development was progressed under a generic ToR for open pit mining. This generic ToR was issued by National Authority of Environmental Licenses (ANLA) in 2012. In July 2016, a new ToR was issued by ANLA. The Project submitted a request to CARDER for an official ToR for the new underground Project concept. The new ToR was obtained in August 2017 and is being used as the basis for the ongoing environmental and social work.

The Environmental Impact Assessment Study is expected to be submitted in Q1 of 2018.

Plan de Trabajos y Obras or (PTO); The PTO licence is issued by the Ministry Of Mines and Energy and must comply with the Terms of Reference set out by the ministry for non seabed minerals and materials.

All projects must obtain an EIA and PTO prior to commencing development of the project. Approvals are expected to take between 4 and 6 months from submission depending on the requirement to provide further data requested by the authorities.

Ore Reserve Estimate

The Ore Reserve estimate of the Miraflores Project is reported as at the effective day of 18 October, 2017.

The Ore Reserve estimate is inclusive of Mineral Resources.

The reference point of the Ore Reserve is the run of mine stock pile area where the material will be fed into the process plant.

The reserve estimate is supported by the FS complying with the JORC Code standards.



The Ore Reserve estimate provided appropriately reflects the Competent Person's view of the opportunity for Metminco to develop the Miraflores Gold Project based on the modifying factors derived from the FS work and the updated Mineral Resource model.

The key modifying factors of the Ore Reserve estimate are described as follows:

- Reserves are based on a gold price of US\$1,200/oz and silver price of US\$18/oz;
- An underground CoG of 1.53 g/t-Au was applied to underground resources constrained by a final underground design;
- Reserves are defined within an underground mine plan generated from diluted Mineral Resources;
- Underground reserves assume a total dilution of 31%;
- Mining and processing production schedules were developed for assessing the technical viability of the project;
- Revenue estimates were developed as per industry standards;
- Operating and capital cost estimates were executed as per industry standards; and
- The construction and production schedules formed the basis for a financial model delivering a positive outcome for the economic evaluation.

Proved: 1.70Mt @ 2.75g/t Au and 2.20g/t Ag
Probable: 2.62Mt @ 3.64g/t Au and 3.13g/t Ag
Proved and Probable: 4.32Mt @ 3.29g/t Au and 2.77g/t Ag

Statement of Accuracy

The Competent Person has recommended that further work be conducted prior to commencement of construction of the Miraflores Project on the following topics:

- Geotechnical stability analysis for the underground mine, especially in the areas containing non-backfilled stopes;
- Stope Backfilling sequence;
- Develop a detailed mining construction schedule;
- Understand the predicted underground water levels; and
- Update the environmental and social costs as per the granted permit –still to be granted.

This further work may result in some changes to the modifying factors representing a high risk for the achievement of the technical and economic outcome of the Miraflores Gold Project delivered by the FS.

GLOSSARY OF TECHNICAL TERMS

"basalt"	A dark-coloured, fine-grained extrusive igneous rock composed of plagioclase feldspar, pyroxene, and magnetite, with or without olivine and not more than 53 per cent. SiO ₂ .
"breccia"	Breccia is a rock classification, comprises millimetre to metre-scale rock fragments cemented together in a matrix, there are many sub-classifications of breccias.
"cut-off"	the grade threshold above which a mineral material is considered potentially economic
"concentrate"	Metal ore once it has been through milling and concentration so that it is ready for chemical processing or smelting.
"grade"	The proportion of a mineral within a rock or other material. For gold mineralisation this is usually reported as grams of gold per tonne of rock (g/t).
"g/t"	grams per tonne; equivalent to parts per million ('ppm').
"hypabyssal"	intermediate in texture between coarse-grained intrusive rocks and fine-grained extrusive rocks.
"Indicated Resource"	An "Indicated Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
"Inferred Resource"	An "Inferred Mineral Resource" is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
"JORC Code"	The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 edition), published by The Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia ("JORC").
"Measured Resource"	A "Measured Mineral Resource" is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate 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 that are spaced closely enough to confirm both geological and grade continuity.
"Mineral Reserve"	That part of a Mineral Resource that has been demonstrated to be economically extractable.
"Mineral Resource"	A "Mineral Resource" is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for 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.
"Mineralisation"	The process by which minerals are introduced into a rock. More generally, a

	term applied to accumulations of economic or related minerals in quantities ranging from weakly anomalous to economically recoverable.
"open pit mining"	A method of extracting minerals from the earth by excavating downwards from the surface such that the ore is extracted in the open air (as opposed to underground mining).
"porphyry"	A medium to coarse-grained intrusive, felsic, igneous rock which is conspicuously porphyritic, containing more than 25 per cent phenocrysts by volume. The phenocryst mineral is usually alkali feldspar.
"Probable Reserve"	according to the JORC Code, the economically mineable part of a Measured and/or Indicated Mineral Resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and government factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.
"Proved Reserve"	according to the JORC Code, the economically mineable part of a Measured Mineral Resource. It is estimated with a high level of confidence. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and government factors. These assessments demonstrate at the time of extraction is reasonably justified.
"underground mining"	extraction of minerals from the Earth's crust using a system of underground mine workings.
"vugs"	a cavity in rock, lined with mineral crystals.
Abbreviations	
AACE	Association for the Advancement of Cost Engineering International
ABA	Acid Base Accounting
Ag	Silver
Au	Gold
Cu	Copper
CoG	Cut off Grade
h	hour(s)
km	Kilometres
l	Litres
M	million(s)
Mt/a	Million tonnes per annum
m	Metres
t	Tonnes
t/a	tonnes per annum
t/d or tpd	tonnes per day
t/h	tonnes per hour

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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

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code Explanation	Commentary	Responsible to Complete and/or Review the Comments
<p>Mineral Resource estimate review for conversion to Ore Reserves</p>	<p><i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i></p> <p><i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</i></p>	<p>Miraflores is a gold-silver rich, magmatic-hydrothermal breccia pipe, located within a fertile hypabyssal porphyry cluster, whose genesis is intimately related to the evolution and cooling of magmatic and hydrothermal fluids emanating from the porphyry cluster's parent magma chamber.</p> <p>At the porphyry-district scale certain geological, mineralogical and geochemical features are characteristic of peripheral breccias in the porphyry environment: the presence of altered and mineralised porphyry stocks in relative proximity to the breccia system.</p> <p>Miraflores is located within 2 km of intense porphyry-style mineralisation, and at the property scale it cuts porphyry dykes.</p> <p>Alteration is dominated by lower temperature phyllic, argillic and propylitic varieties, forming peripheral to or above the higher temperature potassic core zones associated with the porphyries themselves. Alteration at Miraflores is strongly propylitic.</p> <p>The increased values of base and trace metals (Zn, Pb, Sb, As)</p>	<p>Metminco</p>

		<p>as seen at Miraflores occur peripheral to the core porphyry zones containing Au, Cu and Mo.</p> <p>The Miraflores occurrence conforms to that of a magmatic-hydrothermal breccia. It is the only type of potentially economic precious metal mineralisation presently known to be contained within the Miraflores property. The above outlined features support its genesis in direct relation to the emplacement and cooling of mineralised hypabyssal Au-Cu-rich porphyry bodies in the Quinchía district. It is important to note that no significant porphyry-style mineralisation or hypabyssal porphyry bodies have been detected within the Miraflores property.</p> <p>Sillitoe (2006) notes that the prevalence of epidote and carbonate in the Miraflores breccia is uncommon for magmatic-hydrothermal breccias. He interprets their abundance, along with the lack of alteration in the basalt clasts, as an indication of the buffering effect exerted by the abundant calcium rich basalt clasts upon the hydrothermal solutions circulating throughout the breccia. In the case of the white breccia, the polymictic breccia was moved, broken and invaded by the quartz-calcite infill, which in the porphyry veinlet classifications belong to the 'E' stage (Tobey, 2012).</p> <p>Younger sub-vertical</p>	
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		<p>mineralised faults (veins) SSE - NNW and SE - NW, dipping from 75° to 90° that cross cut the breccia, represent a late event that are characterised by a high content of sulfides (chalcopyrite, pyrite, galena and sphalerite), and high gold grades. These structures could have acted as the feeders of the mineralisation to the breccia where the pre-existing porosity and permeability have played an important role in the mineralization control.</p> <p>At 200 to 300 m depth, high gold grade mineralisation in the cement and matrix of the breccia is found, possibly associated with a boiling zone. This is an irregular zone of 60 m width.</p> <p>Mineralisation at Miraflores is contained within the Miraflores magmatic-hydrothermal breccia body and in the basalts close to the contact. At surface, the breccia is exposed on a 30° slope, which has been worked by informal miners using artisanal methods in small excavations and irregular tunnels.</p> <p>The prospect is well known for free native gold and silver occurring in vugs and cavities in the carbonate and quartz cement of the breccia. Drilling has shown that gold mineralisation occurs in all types of breccias in the cement and matrix.</p> <p>At least two mineralising events before formation of the</p>	
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		<p>epithermal breccia have been observed in the fragments of the breccia. Locally, basalt clasts with veinlets of 'B' style (comb quartz without alteration halo) cut by pyrite-epidote cracks are evidence of a possible porphyry style mineralisation preceding the breccia formation. In the case of the white breccia, the polymictic breccia was moved, broken and invaded by the quartz-calcite infill, which in the porphyry veinlet classifications belong to the 'E' stage (Tobey, 2012).</p> <p>In the White Breccias sulfide minerals occur throughout the quartz and calcite stages, and are often concentrated on epidote at the start of the quartz phase, and are also commonly euhedral in quartz vugs. The sulfides are euhedral and coarse grained (2 to 4 mm). The percentage of sulfides is low. The sulphides seen are pyrite, chalcopyrite, molybdenite, galena and sphalerite (honey-colored, Zn- rich). Rare visible gold can occur in vugs.</p> <p>Low grade gold mineralisation is found in a halo around the breccia pipe in the basalts, and is characterised by quartz-calcite veinlets with low content of sulfides (pyrite, galena, sphalerite) controlled by the density of fracturing created by the formation of the breccia.</p> <p>The mineralisation in breccias and in the basalt is characterised by low contents of</p>	
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		<p>chalcopyrite, sphalerite and galena, occurring as fine grains (<100 µm).</p> <p>The younger sub-vertical veins SSE - NNW and NW - SE, dipping from 75° to 90° that cross cut the breccia, are characterised by argillized material that contain important quantities of sulfides pyrite, chalcopyrite, sphalerite and galena. Some visible gold has been observed. The sulfides are present as coarse particles ranging from 100 to 200 µm and greater than 200 µm. The persistence of the SSE- NNW structures is important and is clearly recognised in the exploitation workings of the AMM where high gold grade mineralisation can be followed by more than 150 m in horizontal and more than 80 m in vertical, with almost no displacement of the structures. Crossing of structures (veins) are forming high gold grade shoots of variable dimensions that can be observed in the AMM workings.</p> <p>The Mineral Resource estimate for the Miraflores deposit reported on 14 March 2017 was used as the basis for the conversion to an Ore Reserve.</p> <p>The Mineral Resource model was delivered to Ausenco through a data file The resource model for Miraflores was constructed with Vulcan software using a block model. All of the required information about the deposit is stored in</p>	
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		<p>each individual block. This includes estimated characteristics of gold and silver and statistical characteristics such as number of samples used in an estimate, distances to the nearest sample, number of drill holes used, etc., are stored in each individual block. Geologic triangulations were also used to identify the rock type of each block, and these structures also controlled the sub-blocking in Vulcan along their boundaries. Geologic codes stored in the block model were also used to assign the density within specific geologic boundaries.</p> <p>Final geologic codes were applied to the block model using indicator kriging. Indicator kriging provides a very good check against the implicit models derived with Leapfrog. This methodology estimates the probability that any block is a certain rock type based on the geologic information identified in drill hole logging. The volumes derived from the indicator kriging were nearly identical to the volumes identified with Leapfrog. So in keeping with generally accepted practices rock units were applied using indicator kriging.</p> <p>Blocks identified as breccia, basalt and saprolite were estimated only using samples also identified as the same. Samples within the modelled veins were not used to estimate grade within the breccia, basalt or saprolite. Samples within the veins were limited to the vein the samples correlated with and</p>	
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		<p>only used to estimate grades within that specific vein. Samples within the breccia, basalt and saprolite but outside the veins were not used to estimate grade within the veins. For example: only samples flagged in vein 800 were used to estimate blocks within vein 800 and only samples flagged as breccia were used to estimate blocks within the breccia boundary.</p> <p>Inverse distanced cubed grade estimation methodology was used to estimate gold and silver grades for Miraflores. For the breccia, basalt and saprolite variography was done to determine proper search ellipsoid orientation and search distances.</p> <p>The Miraflores Measured and Indicated Mineral Resources are reported at a gold cut-off grade of 1.20 g/t Au. The resources are based on 25,884m of drilling in 73 diamond drill holes and 236m of underground channel samples. This includes 3,624m in 10 holes carried out by AngloGold Ashanti and B2Gold in 2006-2007.</p> <p>Statistical and visual checks were performed by Metal Mining Consultants of the estimated block model to ensure there were no discrepancies in the grade estimation routines and to ensure the geometry of mineralisation meets the configuration that the geologists expected for estimated mineralisation.</p>
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<p>Site visits</p>	<p><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></p> <p><i>If no site visits have been undertaken indicate why this is the case.</i></p>	<p>Mr Boris Caro visited the site in August 2017 for 3 days as part of the study team to review all aspects of the study including an investigation of the mine, plant and site layouts.</p> <p>The site visit involved field work on the project footprint area including an inspection of the underground tunnels and artisanal miners workings.</p> <p>Consultants involved in the mining study, metallurgical testwork, geotechnical and geological mapping, infrastructure study, social and environmental studies all visited the site during this time.</p>	<p>CPs</p>

<p>Study status</p>	<p><i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</i></p> <p><i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></p>	<p>A feasibility study has been completed for the Miraflores Project. Metminco engaged GE Engineering Services to complete the processing, infrastructure and feasibility study management aspects of the feasibility study. Ausenco Chile were engaged to complete all aspects of the mine design, mine scheduling, geotechnical analysis and ventilation system design to support the mine design, including capital and operating costs for the mine. Surface geotechnical design for the plant, infrastructure and tailings facility was undertaken by Dynami Geo Consulting (a Medellin based consulting company) and Grana y Montero Engineering, a Lima, Peru based engineering and contracting group assisted in the design of the Tailings Storage Facility. This study provided sufficient technical and economic support to back up the Ore Reserve estimate.</p> <p>Further analysis and test work is recommended for the stope filling sequence and stability analysis prior to any decision to commence with the project construction.</p>	<p>Metminco</p>
<p>Cut-off parameters</p>	<p><i>The basis of the cut-off grade(s) or quality parameters applied.</i></p>	<p>An underground cut-off grade (CoG) of 1.53 g/t for gold was applied to underground diluted resources constrained by the final underground design. This grade delineated the Ore Reserve estimate.</p> <ul style="list-style-type: none"> • Reserves are based on a gold price of US\$1,200/oz; • Reserves are defined 	<p>AUSENCO</p>

		<p>within an underground mine plan generated from diluted Measured and Indicated Mineral Resources;</p> <ul style="list-style-type: none"> • An underground CoG of 1.53 g/t Au was applied to underground resources constrained by a final underground design; • Underground reserves assume 20% planned and 11% unplanned dilution; • In-situ Au ounces disregard metallurgical recovery of 92%; • 28% of the mined out stopes and drifts will use backfill including waste and filtered tailings material. Backfilling operations will commence in the 2nd year of operation; • Detailed ventilation designs were applied; and • Reserves are based on topography received from Metminco on January 26, 2017. <p>The cut-off grade was utilised for the stope optimisation and the mining schedule.</p> <p>There are approximately 7,000 ounces of gold contained in material with a gold grade between 0.60 and 1.53 g/t. This material is not part of the Ore Reserve but it may deliver a positive economic value, therefore, it will be kept in a stock pile for potential feed to the processing plant.</p>	
Mining factor or assumptions	<i>The method and assumptions used as</i>	For stope optimisation, Stope Optimizer from Vulcan™ mine	AUSENCO

	<p><i>reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></p> <p><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></p> <p><i>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.</i></p> <p><i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></p> <p><i>The mining dilution factors used.</i></p> <p><i>The mining recovery factors used.</i></p> <p><i>Any minimum mining widths used.</i></p> <p><i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome</i></p>	<p>planning software was used. A post analysis of the optimisation confirms that for a life of mine of around 10 years, ore to plant of 1,300 tpd producing 4,000 oz Au per month. The stopes were requested to achieve a minimum average grade of 1.75 g/t Au in the optimisation algorithm.</p> <p>The mining method selected for the Miraflores deposit is the retreat longhole open stope method with partial backfill. The decision of which stopes require to be backfilled was made taking into consideration the geotechnical analysis and the mining sequence.</p> <p>The quantity and shape of the stopes were optimised with the Vulcan™ software. This process defined the total amount of Mineral Resources above the cut-off grade. Subsequently, a manual check to eliminate the stopes isolated or difficult to mine reduced the material selected for the Ore Reserve estimate. For example the stopes located between surface and a vertical distance of 80m were eliminated from the Ore Reserve estimate due to geotechnical stability considerations.</p> <p>The Mineral Resource Model used was developed by Metal Mining Consultants of Denver, USA who provided the block model to Ausenco.</p> <p>Only the underground resources contained within the mining stopes or underground development drives were included in the Ore Reserve</p>	
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	<p><i>to their inclusion.</i></p>	<p>estimate.</p> <p>Underground reserves assume total dilution of 31%.</p> <p>Ore loss has been accounted for by removing areas that will not be mined as they are either too remote from other potential ore to pay for additional development, or the potential value has been diluted to a point where the material is eliminated from consideration. No other ore loss has been considered.</p> <p>The mine layout was developed to obtain quick access to several mining areas by utilising three mine access portals. The ventilation circuit was designed to use the mine portals, ramps and three 3.1m diameter raise bored shafts for air intake and one large extraction raise (5m x 5m) was designed to extract the contaminated air.</p> <p>The stope design included an assessment of the crown pillar, sill pillars, dip pillars and rib pillars. The mine development design includes the main ramp and secondary ramps, drifts, cross cuts, passing bays, muck loading bays, refugee stations, dewatering bays, electrical substation bays and ventilation drifts. Details of the dimensions for the stope and mine development designs are listed below and described in the Miraflores Feasibility Study Report.</p> <p>Mine development and stope production were scheduled using Vulcan Gantt Scheduler™. The</p>	
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		<p>scheduler package developed the schedule following a logic sequence of development drives with a maximum monthly rate of 270m per horizontal development drill jumbo.</p> <p>Ramps; 4.5 x 4.5 metres Drifts and cross-cuts; 4 x 4 metres</p> <p>Stoping minimum width; 2.5 metres Stoping average width; 7 metres</p> <p>Production will start in year 1, focusing on high-grade areas and the early level development from the secondary ramps. The production will ramp up relatively quickly, allowing the processing of 1,300 tonnes per day during the first year of the mine schedule.</p> <p>The mine development and production schedule included an estimate of the mine mobile equipment and workforce required to achieve the production targets. Ausenco created an Excel™ model for this purpose taking into consideration productivity and maintenance factors.</p> <p>The mine operating and capital cost estimate was also constructed using first principles and an Excel™ cost model.</p> <p>The geotechnical study included the data collection through drilling and mapping, rock mass classification, structural analysis, stability analysis and ground support recommendations. An extensive section describing</p>	
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		<p>further details for these topics are detailed in of the Miraflores Feasibility Study Report.</p> <p>The mine operation includes in-fill drilling activities for stope delineation and ore control purposes.</p> <p>The dilution material will contain a small amount of Inferred Mineral Resources¹, However, this material contributes less than 3% of the total material included in the mine plan. The mining method does not allow to avoid the extraction of this material mainly due to the poor selectivity within the stope boundaries or mining development drifts and cross-cuts.</p> <p>The mining production schedule developed by Ausenco requires approximately 20% of the process tailings and all waste material mined for stope backfill purposes. Further backfill material (up to 50% of the total tailings), will be placed underground for cost and environmental benefit. Conceptually, Ausenco considers this strategy as adequate to improve either the stability of the stopes and for reducing the size of the tailing storage facility. However, it will be necessary to revisit the mining production schedule to achieve the proposed stope backfill targets prior to mining commencing.</p> <p>(1) Cautionary Statement There is a low level of</p>	
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		<p>geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or the production target itself will be realised. The dilution material is considered as non-economical material, however, the mining method selected by Miraflores Feasibility Study does not allow to avoid the blend between the ore reserve and the dilution material.</p>	
<p>Metallurgical factors or assumptions</p>	<p><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></p> <p><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></p> <p><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></p> <p><i>Any assumptions or allowances made for deleterious elements.</i></p> <p><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></p>	<p>The Feasibility Study metallurgical testwork program was conducted by Inspectorate Exploration and Mining Services (Inspectorate) of Vancouver, Canada, and ALS Laboratories (ALS) and was designed to evaluate a process flowsheet that included:</p> <ul style="list-style-type: none"> • Three-stage crushing; • Ball mill grinding; • Gravity concentration of the coarse gold; • Gold flotation of the gravity tailing; • Cyanide leaching of the gold flotation concentrate; • Cyanide detoxification of the cyanidation residue; and • Tailing thickening and filtration. <p>This flow sheet as tested has resulted in a gold recovery of 92% and silver recovery of 60% being utilised in the process plant design.</p> <p>Three testwork programs using Miraflores diamond drill core</p>	<p>GRES</p>

	<p><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></p>	<p>have been completed by Miraflores, all using the services of Inspectorate Exploration and Mining Services (Inspectorate) based in Vancouver, Canada. Similar results have been achieved in all three programs.</p> <p>The metallurgical process is well tested and is utilised in the extraction of gold in many parts of the world and is well proven for this type of mineralisation. No part of the process design is novel in nature. The metallurgical testwork has successfully demonstrated that recovery of gold at Miraflores by gravity and flotation concentrating is very effective with demonstrated recoveries for gold of 92%.</p> <p>Although small amounts of base metals are evident, testwork has indicated that these are not concentrated to deleterious levels in the concentrate and have no effect in gold recovery at Miraflores.</p> <p>Historical mining and processing by previous owners Asociación de Mineros de Miraflores (AMM) demonstrated the effectiveness of processing ore from the Miraflores breccia. Stopping over a vertical distance of 80m and strike of 200m demonstrated grade continuity and extraction of gold using cyanide processes.</p> <p>The mineralogy of the orebody at Miraflores is best presented by the investigation of three panned concentrates from</p>
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		<p>Knelson concentrate test work that determined that the primary gold-bearing mineral present is native gold with only minor amounts present as electrum. Minor amounts of Au/Ag telluride minerals were also observed being primarily composed of petzite, having a higher gold content, and subordinate amounts of hessite and stuetzite. These tellurides are often closely association with native gold, but not exclusively. Native gold was mainly liberated with finer grains attached or included in sulphide minerals, which include pyrite, sphalerite and galena in minor amounts. Mineralogical work has shown that greater than 97% of gold at Miraflores occurs as free gold with the rest made up mostly of electrum. This fact supports the testwork which has demonstrated that gravity gold recovery using Knelson concentrators achieves high gold recoveries into a gravity concentrate. (>60%).</p> <p>At the completion of the feasibility study the only testwork remaining to be completed was filtration testwork on the flotation tailings and concentrate leach residue both of which are currently in progress.</p> <p>The process facility is designed to treat 474,500 tonnes of ore per annum (1,300 tonnes per day). The wet plant is scheduled to operate seven days per week at a nominal treatment rate of 59 dry t/h.</p>
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<p>Environmental</p>	<p><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></p>	<p>Baseline environmental studies were initiated by the previous owner in order to advance the development and preparation of an Environmental Impact Assessment study needed for regulatory permitting in Colombia. Given the current revision to the mine plan, some additional studies may be required for the areas to which the mine facilities have been relocated. This will be determined once the final mine plan is developed and the aforementioned gap analysis has been completed but some of this information has already been gathered to date.</p> <p>As of July 2017, Baseline Study and Environmental Impact Assessment programs have recommenced. The bulk of the Baseline activities previously completed will be used as background information, however, local regulations requires all environmental and social baseline data to be no older than 12 months since its collection, thus new monitoring programs are underway starting Q3 of 2017.</p> <p>The monitoring and environmental inventories consist of:</p> <ul style="list-style-type: none"> • Fauna and flora characterisation; • Underground and surface water characterisation; • Noise, vibration and air pollution; and • Potential contaminants from extracted minerals and stored tailings. 	<p>DYNAMI</p>
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		<p>This data along with the mineralogical, geological, social and economic aspects of the new project will be used to complete the Environmental Impact Assessment, as per the Terms of Reference received by Miraflores from the local environmental agency Corporacion Autonoma Del Risaralda (CARDER) in July 2017.</p> <p>The Environmental Management Plan (EMP) will be drafted once the environmental impacts are completed and finalised in late 2017.</p> <p>Acid rock drainage characterisation data obtained to date includes ABA, multi-element analyses, and mineralogical analyses. Column testing was conducted for waste rock and low-grade stockpile materials. Geochemical evaluation of flotation tailings and cyanide leach tailings was also conducted. Preliminary results indicate that the flotation tailings and the majority of waste rock are non-PAG (non-potentially acid generating); whereas the low-grade stockpiles and cyanide leach tailings are PAG (potentially acid generating). Potential for metal leaching is indicated in the static test data, but further evaluation is in progress to acquire kinetic data for use in geochemical modelling.</p> <p>The current mine plan does not include low grade stockpiling on surface. The cyanide leach tailings will be placed</p>
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		<p>underground as part of the mine backfilling requirements.</p> <p>The current environmental strategy includes the use of a large fraction of the expected tailings flow as underground backfill material. The remaining filtered tailings will be sent to the tailings management facility where they will be spread and mechanically compacted to achieve an unsaturated, dense and stable tailings deposit. No pond or water impoundment will exist so there is no potential for infiltration to native soils from the tailings materials.</p> <p>Laboratory testing completed by ACZ Laboratories in 2012 resulted in Acid Generation Potentials between 0 and 34 and Acid Neutralization Potential between 9 and 140. The potentially acid generating samples were identified as low grade ore and cyanide leach tailings. Sulphur contents range from 0 to 1.4%. Paste pH ranges from 7.7 to 9.4 with an average of 8.6. It is Miraflores' intention to place the cyanide leach tailings underground. Any low grade material mined will either be placed back underground or be processed depending on the grade of the material</p> <p>The proposed filtered stacked tailings storage facility will be permitted as part of the EIA application. Any waste dumps permitted in the EIA will be temporary dumps as the plan is to use all of the waste mined for planned backfilling operations in the mine.</p>	
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<p>Infrastructure</p>	<p><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></p>	<p>The Project is a greenfield site, the facilities that will be required to be installed on site include:</p> <ul style="list-style-type: none"> • Construction accommodation facilities; • Kitchen and messing facilities; • Main office; • First aid and ambulance post; • Fuel Handling Facilities; • Mine change house; • Power supply (overhead power line); • Stores and workshops; and Sewage treatment facilities. • Access roads linking the tailing dam and construction camp with the process plant; • Mining haul roads; • Mining and maintenance workshops; • Warehouse and store; • Administration buildings; • Laboratory; • Reagents storage building; • Communications upgrade; • Security facilities; • Sewage and water treatment facilities; • Emergency response facilities including fire fighting building and equipment; and • Dedicated overhead power line. 	<p>DYNAMI GRES</p>

		<p>A new overhead power line will be constructed for the process plant, mine, water supply, tailings area, administration and infrastructure. Power requirements will be as follows:</p> <ul style="list-style-type: none"> • Process plant 4 x 2,250 kVA; • Mining 1 x 2,000 kVA; • Accommodation 1 x 300 kVA; • Tailings Area 1 x 50 kVA; and • Water Supply 1 x 50 kVA. <p>Each area will have a dedicated transformer and power supply motor control centre.</p> <p>Power Supply to the site will be via a new overhead power line from Quinchia. The incoming supply voltage will be 33 kV, with step-down transformers to the site distribution voltage of 13.8 kV. A medium voltage distribution board installed at the incoming HV switchyard will distribute power to the outgoing feeders. The new power line will be approximately 8km in length and will be a dedicated line.</p> <p>Water supply needs for the Project (processing plant and camp) have been assessed and the water balance summary has been carried out.</p> <p>The processing plant will require a total of 500 m³/day of water to operate.</p> <p>The accommodation camp will require 30 m³/day of freshwater which will be trucked to site from the local community water</p>	
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		<p>supply.</p> <p>The surplus water from mine dewatering operations will be used for construction works, dust suppression and drilling and/or will be sent to the water treatment plant.</p> <p>Miraflores have purchased 28 ha of land and intend to purchase a further 100ha as part of the development plan. Suitable sites for mine portals, haul roads, processing facilities and infrastructure to support those operations has been identified, geotechnical assessments of the ground conditions made and facility layouts completed as part of the feasibility study.</p> <p>The area is well serviced with respect to roads. The site is located approximately 7km from the Panamerican highway that runs along the Cauca River. The road connecting the Panamerican Highway with the town of Quinchia passes within a few kilometres of the site and is currently being upgraded with 4 of the 7km of road now newly sealed and with the remaining portion of the road expected to be completed prior to construction commencing. From the newly sealed road access to the site is via an unsealed road which will require upgrading to allow access for large bulk loads. The feasibility capital estimate allows for the upgrade to this access road, the mine haul roads and other proposed internal roads for the operation.</p> <p>Sufficient labour is readily</p>	
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		<p>available throughout the region but specifically in Quinchia and in communities immediately surrounding the site. Professional and experience labour will be sourced from both within and outside of Colombia. The town of Quinchia and surrounding towns have an adequate supply of suitable accommodation for any labour brought into the area. It is Miraflores's intention to employ labour locally and where labour is brought into the area from outside, the Company will require that labour to relocate to Quinchia.</p> <p>Dynami Geo Consulting have completed preliminary basic engineering on the tailings storage facility (TSF). The dry stack tailings storage facility will receive filtered tailings for spreading and compaction. The final TSF configuration allows for 50% of final tailings to be used as backfill in the underground mine which includes 100% of the concentrate leach residue tailings.</p>	
<p>Cost</p>	<p><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></p> <p><i>The methodology used to estimate operating costs.</i></p> <p><i>Allowances made for the content of deleterious elements.</i></p> <p><i>The source of exchange rates used in the study.</i></p>	<p>Capital and operating cost estimates have been developed for a mining operation treating 466,628 tonne per annum of gold and silver bearing ore and includes:</p> <ul style="list-style-type: none"> • An underground operating mine; and • A gold / silver processing plant recovering these metals, utilising a flow sheet comprising crushing, grinding, gravity separation, conventional 	<p>AUSENCO</p> <p>GRES</p> <p>DYNAMI</p>

	<p><i>Derivation of transportation charges.</i></p> <p><i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></p> <p><i>The allowances made for royalties payable, both Government and private</i></p>	<p>flotation, cyanide leach circuit for the concentrates, concentrate leach residue washing with Merrill Crowe for recovery of the precious metals, concentrate leach tailings detoxification and filtration for mine back fill, flotation tailings filtration for mine backfill and dry stack tailings storage and support infrastructure and utilities.</p> <p>The capital and operating cost estimates produced for the establishment of the mine is considered to be an AACE class 3 estimate with a level of accuracy within -10% and +15%. Costs are presented in United States dollars (US\$) and are based on prices in effect during the second quarter of 2017; no escalation factors have been applied.</p> <p>The exchange rate applied for the operating and capital cost estimates are:</p> <ul style="list-style-type: none"> • US\$1.00 = A\$0.80 (Australian Dollar); • US\$1.00 = €0.85 (Euro); and • US\$1.00 = 3,000 COP (Colombian Pesos). <p>Transportation charges were derived from an international freight forwarder allocating individual equipment and fabricated transport charges included overseas freight to port of Buenaventura where applicable and in country freight from port/ fabrication shop to site.</p>	
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		<p>Refining charges; from discussions with potential refiners and from previous studies by SRK; Gold Payability – 99.6% Silver Payability – 99.0% Refining, transport and Insurance costs – US\$4.50/ payable ounce.</p> <p>Miraflores will determine quality prior to completing an offtake agreement. No deleterious elements are expected based on the metallurgical testwork completed.</p> <p>The feasibility study delivered a total estimated Initial Capital cost of bringing the project into production of US\$71.8 million excluding all contingency. This cost is based upon an EPCM approach whereby Miraflores assumes general risk. Contingencies of US\$6.2 million was estimated for the project development. Contingencies have been estimated at 7.67% of initial capital.</p> <p>Sustaining capital requirements associated with the mine and owner cost of US\$18.5 million were included into the financial model.</p> <p>The Operating cost was based on a high productivity operation, this will demand a high efficient environment for productivity and cost controls. No contingency was embedded into the operating cost.</p> <p>During the first year of</p>	
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		<p>operation, allowances for the employment of experienced expatriate personnel were incorporated but it is expected that this personnel will be replaced progressively by local workforce.</p> <p>The main consumables and labour wages were benchmarked against other similar operations.</p> <p>The feasibility study delivered the following results for the operating costs:</p> <ul style="list-style-type: none"> • Mining cost of US\$27.94 /processed t; • Processing cost of 20.54/processed t; • Tailing cost of US\$0.62 /processed t; and • G&A cost of US\$4.36 / processed t. <p>The total site operating cost is US\$53.46 /processed t.</p> <p>Government Royalty of US\$52.18 / payable ounce and Refining charges, transport and insurance of US\$4.50 / payable ounce.</p> <p>Total Cash Costs of US\$599 / payable ounce.</p> <p>The operating cost estimate did not include Corporate overheads and exploration activities.</p> <p>The Miraflores Feasibility Study assumed that the salvage value of the remaining assets at the end of the operating mine life will off-set the closure and remediation cost.</p>	
Revenue factors	<i>The derivation of, or assumptions made</i>	The revenue estimate was conducted as per industry	Metminco

	<p><i>regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></p> <p><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></p>	<p>standards taking into consideration the annual metal production, commercial terms and predicted metal prices.</p> <p>The revenue estimate utilised the following assumptions:</p> <ul style="list-style-type: none"> • A gold and silver prices of US\$1,300/oz and US\$18 /oz respectively (Within the range of industry expectations and Broker and Bank predictions. The gold price used is close to the moving 5 year average gold price); • The average processed head grade of 3.29 g/t and 2.56 g/t for gold and silver respectively (from the mine and processing schedules); • Metallurgical recoveries of 92 % and 60 % for gold and silver production respectively (determined from metallurgical testwork); • Metal payability factors of 96.6 % and 99.0 % for gold and silver respectively (from historical figures and discussions with refiners); • Refinery and transport and insurance charges of US\$4.50/ payable ounce (based on previous study estimates); and • Royalty of 4 % of the net smelter return (based on the Miraflores licence and Existing Aporte contract expiry (2019) prior to commencement of production in late 2019 when the licence will revert to the normal system of concession contracts which are subject to a 4% royalty 	
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		only).	
Market assessment	<p><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></p> <p><i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></p> <p><i>Price and volume forecasts and the basis for these forecasts.</i></p> <p><i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></p>	<p>Metminco has been actively monitoring the market trends for the gold industry. Modifying factors such as gold price, payable metal factors, and transport and refining costs are within the ranges predicted by the industry analysts.</p> <p>Gold and silver are readily traded around the world. These markets are considered mature and with reputable smelters and refiners located throughout the world.</p>	Metminco
Economic	<p><i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></p> <p><i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></p>	<p>Metminco developed a comprehensive financial model for the economic evaluation of the Miraflores Gold Project. The financial model incorporates the modifying factors delivered by the Miraflores Feasibility Study.</p> <p>The key assumptions utilised in the financial model are listed as follows:</p> <ul style="list-style-type: none"> • Gold and silver prices of US\$1,300 /oz and US\$18 /oz respectively; • Net smelter return as per the Revenue estimate; • Operating and capital costs as per industry standards; • Working capital and 	Metminco

		<p>inventory management as per industry standards;</p> <ul style="list-style-type: none"> • Debt and financing activities are excluded from the net present cost estimate; • All cash flows were treated in real terms, therefore, no inflation or escalation factors were applied; • Discount Rate of 8%; • Site operating cost of US\$ 53.46 /processed t; and • Income tax of 33%. <p>The Miraflores Feasibility Study delivered a Net Present Value of US\$72.3 million after tax and an Internal Rate of Return of 25%.</p>	
<p>Social</p>	<p><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></p>	<p>The Miraflores Gold Project is located in the municipality of Quinchía. The municipality obtained its name from the fortresses in Guadua that were called "Quinchos". In 1966, Quinchía became part of the Risaralda Department.</p> <p>The basic economy of the region can be divided in two activities: agricultural and mining activities. Quinchía is characterised by being a municipality with an agricultural vocation, with small land divisions and with mining potential. However, there is a lack of attention to land uses and environmental regulations within the agricultural sector.</p> <p>For the primary information, the results of the surveys undertaken in 2013 were used. This information will be updated when the new social baseline study is completed at the end of</p>	<p>PORTEX</p>

		<p>2017. For the study undertaken in 2013, the direct influence area of the project included the villages of Miraflores, Guerrero, Aguas Claras, Veracruz, Agua Salada, La Esmeralda and Los Medios.</p> <p>According to the social base line information for the project carried out in 2013, there were 289 families in the direct influence area, with a total population of 1,152 inhabitants. The village that has the largest number of inhabitants was Miraflores with 410 inhabitants.</p> <p>Community base line studies, social impact assessments and community development plans will be complete by the end of 2017.</p>	
<p>Other</p>	<p><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></p> <p><i>Any identified material naturally occurring risks.</i></p> <p><i>The status of material legal agreements and marketing arrangements.</i></p> <p><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all</i></p>	<p>The main risks for the development of the Miraflores Gold Project identified by the feasibility study are described as follows:</p> <ul style="list-style-type: none"> • Social disruptions or community unacceptance of the project; • Gold price; • Increase of the predicted capital or operating cost; • Not achieving the target production because of mining or processing issues. E.g. reduced ore grade, not achieving the design processing throughput or gold recovery, etc. • Existing Miraflores licence contract is not renewed or the licence does not revert to the normal system of concession contracts which 	<p>Metminco CPs</p>

	<p><i>necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></p>	<p>are subject to a 4% royalty only);</p> <ul style="list-style-type: none"> • Geotechnical instability; • Unpredicted water levels in the underground mine. <p>Other than the Aporte contract for the Miraflores licence no other material agreement is in effect at this time.</p> <p>The Miraflores Project Environmental Impact Assessment Study (2013) did not previously have an official Terms of Reference (ToR), instead, the baseline data collection and impact assessment development was progressed under a generic ToR for open pit mining. This generic ToR was issued by National Authority of Environmental Licenses (ANLA) in 2012. In July 2016, a new ToR was issued by ANLA. The Project submitted a request to CARDER for an official ToR for the new underground Project concept. The new ToR was obtained in August 2017 and is being used as the basis for the ongoing environmental and social work.</p> <p>The Environmental Impact Assessment Study is expected to be submitted in Q1 of 2018.</p> <p>Plan de Trabajos y Obras or (PTO); The PTO licence is issued by the Ministry Of Mines and Energy and must comply with the Terms of Reference set out by the ministry for non seabed minerals and materials.</p> <p>All projects must obtain an EIA</p>	
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		<p>and PTO prior to commencing development of the project. Approvals are expected to take between 4 and 6 months from submission depending on the requirement to provide further data requested by the authorities.</p>	
<p>Classification</p>	<p><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></p> <p><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></p> <p><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></p>	<p>The Measured and Indicated Mineral Resources were classified as Proved and Probable Ore Reserves respectively.</p> <p>The Ore Reserve estimate of the Miraflores Project is reported as at the effective day of 18 October 2017.</p> <p>The Ore Reserves estimate is inclusive of Mineral Resources.</p> <p>The reference point of the Ore Reserve is the run of mine (ROM) stock pile area where the material will be fed into the process plant.</p> <p>The reserve estimate is supported by the Miraflores Feasibility Study complying with the JORC Code standards.</p> <p>The Ore Reserve estimate provided appropriately reflects the Competent Person's view of the opportunity for Metminco to develop the Miraflores Gold Project based on the modifying factors derived from the Feasibility Study work and the updated Mineral Resource model.</p> <p>The key modifying factors of the</p>	<p>AUSENCO</p>

		<p>Ore Reserve estimate are described as follows:</p> <ul style="list-style-type: none"> • Reserves are based on a gold price of US\$1,200/oz and silver price of US\$18/oz; • An underground cut-off grade (CoG) of 1.53 g/t-Au was applied to underground resources constrained by a final underground design; • Reserves are defined within an underground mine plan generated from diluted Mineral Resources; • Underground reserves assume total dilution of 31% ; • Mining and processing production schedules were developed for assessing the technical viability of the project; • Revenue estimates were developed as per industry standards; • Operating and capital cost estimates were executed as per industry standards; and • The construction and production schedules formed the basis for a financial model delivering a positive outcome for the economic evaluation. <p>As can be appreciated from the information in Table 1, the Ore Reserve gold cut-off grade utilised a gold price, site operating costs and gold recovery values which have small differences from the figures used in the financial model. This is due to the Ore</p>	
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		<p>Reserve cut-off grade being estimated for the stope optimisation analysis prior to development of the financial model, being the first activity executed during the Miraflores Feasibility Study. The cut-off grade delineated the material to be included in the Ore Reserve estimate but subsequent activities such as the metallurgical test work, mine and processing production schedule and operating cost estimate provided the final values for the modifying factors which have been included into the financial model. The Competent Person assessed these small discrepancies and concluded that no material impact on the final technical and economic outcome of the Miraflores Feasibility Study is evident.</p> <p>Ore Reserves Proved: 1.70Mt @ 2.75g/t Au and 2.20g/t Ag Probable: 2.62Mt @ 3.64g/t Au and 3.13g/t Ag Proved and Probable: 4.32Mt @ 3.29g/t Au and 2.77g/t Ag</p>	
Audit or reviews	<i>The results of any audits or reviews of Ore Reserve estimates.</i>	No formal audits have been conducted on the Mineral Reserve estimate	Metminco
Discussions of relative accuracy/confidence	<i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the</i>	<p>The Competent Person has recommended that further work be conducted prior to commencement of construction of the Miraflores Project on the following topics:</p> <ul style="list-style-type: none"> • Geotechnical stability analysis for the underground mine, 	Metminco CPs

	<p><i>application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></p> <p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <p><i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></p> <p><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where</i></p>	<p>especially in the areas containing non-backfilled stopes;</p> <ul style="list-style-type: none"> • Stope Backfilling sequence; • Develop a detailed mining construction schedule; • Understand the predicted underground water levels; and • Update the environmental and social costs as per the granted permit – still to be granted. <p>This further work may result in some changes to the modifying factors representing a high risk for the achievement of the technical and economic outcome of the Miraflores Gold Project delivered by the feasibility study.</p>	
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