

# METALS EXPLORATION PLC

## OPERATIONAL UPDATE TO 31 JULY 2013

Metals Exploration plc (AIM: MTL) (“Metals Exploration” or “the Company”), the natural resources exploration and development company with assets in the Pacific Rim region, is pleased to provide an operations update on matters relating to its Runruno gold-molybdenum project (“the Project”) and exploration activities in the Philippines.

### **AIM Code : MTL**

At: 31 July 2013

Shares in Issue: 1,158,469,436

Options in Issue: 14,275,000

Warrants in Issue: 2,500,000

### **Directors:**

Ian Holzberger, Executive Chairman

Timothy Dean

Guy Walker

Christopher Whitehouse

Julian Wilson

### **Management:**

Ian Holzberger, Executive Chairman

Liam Ruddy, Company Secretary

John Stubbs, CFO

Craig Watkins, GM Runruno Project

Chevy Albo, Finance & Administration

Rosalie Soriano, Legal Counsel

Agnes Goze, Environment & Permitting

Tommy Alfonso, Financial Controller

Peter Clark, GM Mining

Larry McGeechan, GM Process Plant  
Construction

Kevin Oxenham, GM Maintenance

Jeff Jardine, Process Engineering Mgr.

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### **Highlights**

- Shareholders approve a three tranche US\$57.7 million share placing resulting in funds that allow the commencement of full construction at Runruno.
- The build duration is forecast to take approximately 15 months from July 2013 with first gold pour anticipated in Q4 2014.
- Funds received totalling US\$37.7 million from the initial two tranches – a third tranche totalling US\$22.9 million is due to be completed on 15 October.
- Completion of a successful Open Offer to shareholders raises a further £366,711.
- Early infrastructure and site construction works near completion.
- Completion of stage 1 overhead power line from Maddiangat to Runruno. Stage 2 from Bayambong to Maddiangat to commence during Q3 2013.
- Completion and commissioning of Runruno potable water system.
- Access to the mine starter pits established for large mining fleet
- Delivery of new mining fleet to site, Komatsu complete machinery assembly and commence operator training.
- Development and operational team is significantly strengthened through a number of senior hires.
- Dialogue continues with various Resource Banks with the aim of finalising a US\$70 million debt package to provide sufficient funding to take Runruno through to commercial production.
- MTL's subsidiary, FCF, defends its position and rights in the Supreme Court of the Philippines through the Court Of Appeals, and on 24 May 2013 and the petition for the issuance of the Writ of Kalikasan and the Writ of Continuing Mandamus was dismissed.
- Two diamond rigs committed to regional exploration continue work within the FTAA.

## About Runruno Gold Project,

**Location:** Central Luzon, Philippines, 320km north of Manila.

**Status:** Development ready, Feasibility study completed May 2010.

**Mine life:** 10.3 years.

**Payable Au:** 1 million ozs.

**Annual Production:**

Year 1-5: 101,800 ozs Au ave.

Years 6-10: 92,700ozs Au ave.

**Capital Cost**<sup>1</sup>: US\$182.8 m

**Operating Cost**<sup>2</sup>: US\$ 442/oz Au

**Mining:** Open pit, truck and shovel operation.

**Operational Strip Ratio:** 5.2:1 waste to ore.

**Processing:** gravity, BIOX® oxidation and CIL to recover gold as doré bullion.

**2P Reserves**<sup>3</sup>: 15mt @ 1.85g/t Au and 603 ppm Mo.

**Mineral Resource**<sup>3</sup>:

Runruno Main - 26mt @1.69 g/t Au and 453ppm Mo, including reserves.

Malilibeg South – 7.55mt @1.4 g/t Au and 1,200 ppm Mo

**Upside:** by-product molybdenum, mine life extension, highly prospective mineralised system.

### Notes:

1. Capital Cost updated October 2011 - estimated in Q3 2011 US\$, at US\$167.8 million increased by the cost of the acquisition of the mining fleet at US\$15 million
2. May 2010 Feasibility Study - estimated in Q4 2009 US\$ reduced by US\$ 35 per ounce attributed to the removal of the mining fleet operation lease in favour of outright purchase.
3. Refer to the Company website, [www.metalsexploration.com](http://www.metalsexploration.com) for

### ***Ian Holzberger, Executive Chairman, commented:***

“It has been another very positive period in which the company has made great strides on both the operational and corporate fronts. The financial backing shown by our shareholders provided further endorsement for the company’s Runruno project and allowed us to move into the full construction phase on 1 July. A key milestone now is to agree a suitable debt facility before the end of 2013 to move us through to project completion in Q4 2014.

“The visible signs of progress made on-site are moving apace. The arrival of our new mining fleet together with the near completion of the early infrastructure and site works shows just how close we are to realising our objective of gold production, which in turn should generate shareholder value. I would also like to take this opportunity to welcome a number of significant senior hires to the company, their experience and expertise through the development and operational phases will be invaluable.

Finally, working with The Department of Environment and Natural Resources, The Mines and Geosciences Bureau and the National Commission on Indigenous Peoples, the Company was successful in defending its position and rights in the Supreme Court of the Philippines through the Court of Appeals resulting in the dismissal of both writs. This lays down a strong marker for future as the Company will always vigorously defend its stance as a leader in observing environmental laws and obligations.”

### ***Development of the Runruno Gold Project***

The Runruno Gold project transitioned into full development on 1 July 2013 with first gold expected in Q4 2014. Project activities have ramped up rapidly and a number of highly qualified senior employees have been retained to execute the development and operational phases of the Project including the General Manager Process Plant Construction, General Manager Maintenance, Process Engineering Manager, General Manager Technical Services and a Procurement and Contracts Manager. These new additions to the Project team strengthen and compliment the pre-existing well experienced and Filipino and Expatriate team. The Project is advancing strongly.

Step out drilling activities to further test the potential of the Runruno Financial or Technical Assistance Agreement (“FTAA”) for gold and copper mineralisation continued with promising results.

### *Funding Package*

On 23 April 2013 the first of three tranches of a Share Placing announced on 26 March 2013 completed successfully and resulted in gross contributions equivalent of US\$14.7m and after commission equivalent to US\$14.4m being raised. In return 139,090,690 new ordinary 1p shares were issued.

The second tranche completed successfully on 18 June 2013 resulting in gross contributions equivalent of US\$20.1m and after commission equivalent to US\$19.7m being raised. In return 189,439,765 new ordinary 1p shares were issued.

The third tranche is due to be completed on 15 October 2013 and should result in gross contributions equivalent of US\$22.9m and after commission equivalent to US\$22.5m being raised. In return 216,502,589 new ordinary 1p shares will be issued.

In total this Share Placing is planned to raise an equivalent of \$57.7m in gross contributions and US\$56.6 after commission. A total of 545,033,044 new ordinary shares of 1 pence each in the Company will be issued in total for these contributions.

On 10 May 2013 the Company announced an Open Offer to all of its shareholders other than those principal shareholders who participated in the \$57.7m Share Placing, having received waivers from participation from these principal shareholders. The Open Offer was made on principally the same commercial terms as the Share Placing with the intention of allowing all shareholders the chance to participate in the issuing of new shares at the same price. In particular the offer would provide for 65 new shares for every 100 shares held at a share price of 7pence for each new share issued. This offer had the potential to increase the shares in issue by 54,294,052 new shares, and raise a maximum gross capital contribution of £3,800,584.

The offer completed on 31 May 2013 and the Company announced on 5 June 2013 that a total of 5,195,877 new ordinary shares were issued and a total of £363,711 in gross contributions were received.

At the time of the announcement the Chairman commented "I am delighted by the support shown by our shareholders and their endorsement of the Runruno project. There is still a funding gap which we are working to fill, but the strength of our Balance Sheet through this additional equity capital will make this a less risky project to finance. We are in an enviable position relative to many other junior mining stockholding companies, and it will be most welcoming in future news releases to be updating our shareholders on progress with the construction of the processing plant. The whole team have worked diligently for several years to achieve this position and I can assure our shareholders that management will not be complacent and our full efforts will be to bring the company into commercial production at the earliest opportunity. There have been some new large yellow trucks, dozers and excavators recently delivered to site and a full training program has commenced involving local personnel. All of a sudden the excitement factor has risen and this has enthused and energised the local workforce."

The Company continues to work with a number of Resource Banks to raise approximately US\$70 million in debt with the intention that the debt facility will be available by the end of 2013

### *Infrastructure Site Works*

The early construction works previously reported is now near complete and with the Project now in full construction mode the infrastructure development crew has commenced constructing the remainder of the infrastructure components. The work completed to date has been completed within budget.

A synopsis of these works is as follows:

### *Early works*

- General site earthworks including site access roads, river crossings and the development of infrastructure pads - completed;
- Processing plant pad earthworks - complete;
- Construction of the camp and office facilities – stage 1 complete and commissioned;
- Installation of a construction power system – complete and energised;
- Construction of the permanent connection to the power grid – stage 1 complete;
- Establishment of the potable water system – complete and commissioned;
- Erection of a concrete batching plant to support construction activities – complete and commissioned;
- Rehabilitation of the Solano – Runruno access road – 95% complete;
- Development of the pit access and tailing storage facility haul roads, the run of mine pad area and the heavy equipment workshop pad - complete; and
- Acquisition of selected units of the mobile fleet – 90% complete.

### *Stage 2 works*

- Stage two of the mine camp – expand camp to 750 bed spaces;
- Emergency services building;
- General store;
- Heavy vehicle workshop;
- Mine office;
- Stage 2 of the 69kV power line to the Bayombong switchyard;
- General structures including new laundry and recreational facilities;
- Installation of fire fighting systems including the purchase of mobile plant;
- Process Plant workshop; and
- Construction of an aggregate crusher.

### *General site earthworks*

The batch plant, accommodation camp and office site pads and foundations have been completed and commissioned. The new mess which has the capacity to serve 1,000 personnel has been commissioned and is in full service.

A permanent road dedicated to project use has been constructed from the national Solano – Runruno road into the project site. The local access “Barangay” road has been rehabilitated for use by the local residents.



*Image 1. Mess hall*

### *Processing plant earthworks*

The processing plant earthworks are complete and civil works for the construction of the processing plant will commence late in August.



*Image 2. Processing plant pad viewed from the mine "starter pit" area*



### *Construction camp and site office*

The General Office facilities have been completed and occupied. The upper story is used for administration with the ground floor accommodating the construction group.



*Image 3. Two storey office block*

Stage one of the construction camp has been completed and 576 bed spaces commissioned in five buildings. Stage two of the camp has commenced which will add a further 168 bed spaces in two buildings, a new laundry facility and recreation facilities. Stage two is forecast to be completed in Q4 2013.



*Image 4. Construction camp - ablutions, accommodation and messing facilities (central building)*

The potable water plant has been commissioned and is now delivering water to the accommodation complex.



*Image 5. Accommodation Area Potable Water Header Tank*

A package sewage plant has been installed to service the camp and office facilities. It is currently being commissioned.

### *Site power system*

Power has been reticulated to all of the infrastructure sites including the general office and associated buildings, accommodation and mess, batch plant, mine office, heavy vehicle workshop and the process plant areas. The power network distributes power from the permanent switchyard located in the processing plant area where two 1,000kVA generator sets have been installed and commissioned and the 69kV power line connecting the site to the main 230 kV grid at the Bayombong switch yard terminates.



*Image 6. Power Reticulation Network*

### *Power Supply – Off Site*

Permanent power will be supplied to the project from the Philippine National Grid via a connection at the Bayambong switch yard. The 69kV overhead power line connecting the switchyard to the mine site is being constructed in two stages, stage one from Maddingat to Runruno over a distance of 22 kilometres and stage two Bayambong to Maddingat distance of 15 kilometres. Stage one to Maddingat has been completed and energised at 13.8 kV. Power is being drawn from the local distributor during the construction phase of the project. Construction of stage two of the line will commence during the Q3 and continue for around 6 months. Once complete the line will provide a direct connection to the national grid at the Bayambong switchyard. The Project will commence drawing power from the direct connection once plant commissioning commences.

The Project has now been licenced for a direct connection to the grid with the Commission finding in favour of the Project's application during the quarter. Negotiations with the Independent Power Producers to secure a power supply contract and to determine bulk pricing have been initiated.

The early connection to the 13.8 kV grid has cut the cost of power to the project by around 40%.

An aerial fibre optic cable is being strung along the top of the power poles to connect the project to the National fibre network at Solano. This will significantly improve external site communications.





*Image 7. Stage One – 69kV powerline Runruno to Maddiangat showing Fibre Optic Cable (top of poles)*

### *Potable water system*

The potable water system drawing water from the Lintugan River has been completed and commissioned. The 3.2 kilometre pipeline from the weir and pump house has been laid, and the weir, pump house and processing facilities are operating. In addition to supplying the project requirements potable water will be made available to the Runruno town residents to replace the current raw water sources used for domestic supply.



*Image 8. Potable Water Processing Plant at the Lintugan River*

### *Concrete Batch Plant*

The concrete batch plant has been commissioned and is currently producing concrete for the infrastructure works. Around 14,000 cubic metres of concrete will be used in the construction of the project.

### *Solano – Runruno Access Road*

The Solano to Runruno access road has now been extensively upgraded through the combined work of the Department of Public works and Highways (DWPH) and the Company. These include the concreting a further four kilometres of the roadway, replacement of two bridges, realignment of a number of tight curves and resurfacing of the remaining unsealed section of the roadway. Only eight kilometres of the 27 kilometre roadway remains unsealed but has now been rehabilitated to support all weather use. These works are now 97% completed and will be finalised during September following the Company handing over a newly constructed box culvert on the last section of road alignment works.

The Solano – Runruno road is now established as a sound all weather road suitable which will satisfactorily support the local communities and the project during development and operations.



*Image 9. Box Culvert, Solano – Runruno Road*





*Image 10. Road Rehabilitation\_Solano – Runruno Road – Concrete Surfacing by DWPH, Solano*

### ***Mine Area***

Access to the mine starter pits has now been established to a production ready standard. Two roads access the commencement of the stage one pit a haul road from the run of mine ore (ROM) pad adjacent to the processing plant crusher site. The second road connects the stage one pit to the tailing storage facility dam wall site. Waste Rock from the stage one pit area will be mined during the construction period to build the tailing storage facility dam wall. The roads have been constructed with a high safety factor to support the safe operation of the large mining equipment in wet and dry conditions.



*Image 11. Stage 1 pit to ROM Pad Haul Road showing 100 tonne dump trucks passing*

## *Mine Fleet*

The new mining fleet was delivered to site by Komatsu late in quarter 1 (reported in Operational Update to 31 March 2013). Komatsu has now fully assembled, commissioned and handed over the entire fleet to the Company.

Operator training has commenced following a very structured and comprehensive training program which is overseen by highly qualified and extensively experienced Company personnel teamed with Komatsu trainers. The majority of the operators have been employed from the local community, most of whom had no or little previous heavy vehicle experience. The program has progressed very well with all operators having graduated from training in flat conditions to training in mining conditions within the pit area. Training will continue throughout Q3 with production expected to commencing in Q4.



*Image 12. In pit mining fleet training*





*Image 13. The Extremes*

Additional support fleet has been purchased and is being modified for propose. This equipment will be progressively commissioned at site during the coming six month period.

### *Heavy Vehicle Workshop and Mine Office*

Work has commenced on the construction of a heavy vehicle workshop to maintain the mine fleet and a mine office to support the mine production staff adjacent to the ROM Pad in an area which will eventually include bulk fuel storage, a warehouse / store compound and truck washing bay. These facilities will be progressively developed and commissioned during the next six month period.



*Image 14. Layout of Heavy Vehicle Workshop and Mine Office Area*

### *Tailing Storage Facility*

Access from the mine is across the Sulong River and into the tailing storage facility dam wall into the site to construct the dam wall.



*Image 15. Access in to Tailing Storage Facility Dam Wall Site (from Stage 1 pit)*

### *Process Plant*

The Company is now managing all aspects of the design and construction of the processing plant using its own personnel, well experienced consultants and contractors and specialist service providers. Contronation Energy Services (CES) who have provided engineering design services to the Project over the last 15 month period have been retained to complete the detailed design. Design of the processing plant has advanced substantially and it is expected that the first of the major civil works including the pouring of the first slab will commence early in September. Site work will advance rapidly from that point on.

Procurement of long lead time equipment has progressed well with deliveries secured which will support the Company's target of producing first gold in Q4 2014. The nine key packages have been placed including the SAG mill, agitators, flotation cells, thickener and CCDs. Five additional packages are currently under assessment and will be awarded during Q3.

### *Environment*

The Company continues to maintain a high environmental standard with a commitment to rehabilitation, reforestation and green stabilisation of cut face. Routine on-going environment and social monitoring programs continue. The Company is an active participant in the Mining Forest Program and the Greening Philippines program. At Runruno, the Company is working with property

owners to re-establish previously logged forests by planting large stands of trees endemic to the area. To date the project has planted in excess of 1.08 million trees and coffee seedlings in its various programs.

## *Safety*

Safety remains a key priority of the Company. However, unfortunately during the quarter a fatality was recorded after a contractor retained to erect the high voltage power lines to site perished as well as one of its linesmen being electrocuted. No other lost time accidents were recorded in the quarter.

The accident has caused the Company to review its sub-contractor's safety procedures and implementation and is in the process of further strengthening its safety capabilities.

## *Government*

The Company continues to work with the Government to resolve the contents of the Philippines Bureau of Internal Revenue (BIR) of a Revenue Memorandum Circular No 17-2013 (RMC17) which casts doubt upon the Company's ability to avail any fiscal exemptions expressly provided for in its FTAA to the extent it states FTAA Contractors are liable to pay the taxes due under the National Internal Revenue Code (reported in the Operational Update to March 31).

## *Writ of Kalikasan*

On 24 May 2013 the Court of Appeals delivered its resolution on (i) a petition for the issuance of the Writ of Kalikasan, and a Writ of Continuing Mandamus against FCF Minerals Corporation (FCF) in the Barangay of Runruno, Nueva Vizcaya, and (ii) FCF's request to deny these writs on the basis they were designed as a Strategic Lawsuit Against Public Participation ('SLAPP') and effectively nothing more than harassment actions against FCF wherein FCF had lodged a claim for damages and costs. The resolution dismissed both writs and upheld our petition of SLAPP but was silent on the award of damages and costs.

At the time Mr Ian Holzberger, Chairman of the Company commented "as responsible miners and proud winners and holders of several prestigious mining environmental awards in the Philippines, FCF will always vigorously defend its position as a leader in observing environmental laws and obligations. This lawsuit was vexatious and devious from its inception but FCF, together with the DENR, MGB and NCIP were resolute in defending its entitlement to mine in the contract area provided it in its Financial or Technical Assistance Agreement with the Philippine Government. Our focus had been marginally diverted whilst we sought to dismiss these writs and now we have successfully achieved this we can continue the important work of putting Runruno into production, and always mindful of our duty of care to the environment as we progress'.

The resolution did not award damages or costs and we are advised this is most probably due to the value of damages included which would be customarily associated with corporations rather than individuals. However, FCF has reluctantly agreed to dispense with its damages claim but will seek to recover costs associated with its defence. There was sufficient independent material provided to the courts to support the vexatious nature of these writs by the petitioners. The judge ruled on the suit brought by the petitioners as follows:

- i. it was unsubstantiated and the petitioners showed a 'clear lack of interest in prosecuting',
- ii. it wasn't motivated by a concern for the protection of the environment, and
- iii. it was a frivolous action as FCF is not and had not been 'committing acts inimical to the observance of environmental laws'.

FCF will seek to recover its costs by filing a 'Motion for the Partial Reconsideration of the Judgment' only insofar as it has been denied a claim for actual costs. The request for reconsideration will be isolated, focused solely on damages (actual costs) that FCF has already established with receipts

which have been confirmed and authenticated through the testimony of our company attorney. If the appellate court denies FCF's motion it will have recourse to the Supreme Court for a petition for review.

### ***Regional Exploration***

Exploration work for the period was designed to continuously and systematically assess the FTAA for additional Runruno style gold mineralisation and also for porphyry copper-gold mineralisation. Diamond drilling activities were carried out beneath the main Runruno deposit and also to the south of the pit area targeting resource extension connected to the main Runruno deposit and IP chargeability anomalies. Two diamond drill rigs were committed to the program.

### ***Runruno Mineral Resource Extension***

Resource extension drilling continued to extend the limits of the known mineralisation both south and east from the current Malilibeg South Mineral Resource Estimate (March 2013). Three additional drill holes have been completed which extends the potential of the zone a further 150m to the south and 40 metres to the east of the previously known mineralisation.

### ***Runruno Deeps Drilling***

The presence of anhydrite-biotite-sulphide veins in the deeper part of hole MXD18 (previously drilled to 200mbelow the main Runruno deposit in the Tayab area has been highlighted as of interest by geological consultants. These zones of anhydrite/gypsum veining show brecciation textures and may represent transitions to deeper, higher temperature styles of alteration and mineralisation suggesting the possibility of copper-gold porphyry deposits at depth.

To test this potential, a new hole MXD860 was drilled as an extension of hole MXD18 to a depth of 562 meters. The hole intersects alteration and sulphide mineralisation consisting of predominately pyrite over a wide interval. Steeply dipping gypsum veining was present throughout the bottom 150 m of the hole. No significant gold or copper assays were reported from the hole, but hole is considered significant due to the alteration and mineral assemblages. After petrographic examination of the core further follow-up drilling will be designed.

### ***Regional Exploration***

Regional exploration activities in the southern part of the project area included geological mapping, trenching and geochemical sampling.

Follow up trenching activities continued to evaluate the soil geochemistry results from the 500m long northerly-trending zone of coincident gold, molybdenum and arsenic anomalism that was discovered following a geochemical sampling program in the Malong/Burnt Tree area in the south east of the FTAA. Channel cut samples are being collected at 5m intervals if bedrock is encountered above a trenching depth of 2m and auger samples at 10m intervals in zones of deeper weathering.

Encouraging anomalous gold assays have been returned from some of the trench and auger work. Once complete the results will be reviewed and interpreted and follow up work planned.

Follow up work with the objective of delineating potential drill targets will commence after a thorough review of data is completed.



## **Approval**

Mr Ian Holzberger, a director of the Company, who has been involved in the mining industry for more than 40 years, is a Member of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists, has compiled, read and approved the technical disclosure in this regulatory announcement.

## **Forward Looking Statements**

*Statements relating to the estimated or expected future production, operating results, cash flows and costs and financial condition of Metals Explorations, planned work at the Company's projects and the expected results of such work are forward-looking statements. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by words such as the following: expects, plans, anticipates, forecasts, believes, intends, estimates, projects, assumes, potential and similar expressions. Forward-looking statements also include reference to events or conditions that will, would, may, could or should occur. Information concerning exploration results and mineral reserve and resource estimates may also be deemed to be forward-looking statements, as it constitutes a prediction of what might be found to be present when and if a project is actually developed.*

*These forward-looking statements are necessarily based upon a number of estimates and assumptions that, while considered reasonable at the time they are made, are inherently subject to a variety of risks and uncertainties which could cause actual events or results to differ materially from those reflected in the forward-looking statements, including, without limitation: uncertainties related to raising sufficient financing to fund the planned work in a timely manner and on acceptable terms; changes in planned work resulting from logistical, technical or other factors; the possibility that results of work will not fulfil projections/expectations and realize the perceived potential of the Company's projects; uncertainties involved in the interpretation of drilling results and other tests and the estimation of gold reserves and resources; risk of accidents, equipment breakdowns and labour disputes or other unanticipated difficulties or interruptions; the possibility of environmental issues at the Company's projects; the possibility of cost overruns or unanticipated expenses in work programs; the need to obtain permits and comply with environmental laws and regulations and other government requirements; fluctuations in the price of gold and other risks and uncertainties.*

## **Technical Notes and Glossary of Technical Terms**

"assay"	qualitative or quantitative analysis of a metal or ore to determine its components
"Au"	chemical symbol for gold
"block model"	a computer based representation of a deposit in which geological zones are defined and filled with blocks which are assigned estimated values of grade and other attributes. The purpose of the block model (BM) is to associate grades with the volume model. The blocks in the BM are basically cubes with the size defined according to certain parameters.
"bulk density"	the dry in-situ tonnage factor used to convert volumes to tonnage. Bulk density testwork is carried out on site and is relatively comprehensive, although samples of the more friable and broken portions of the mineralised zones are often unable to be measured with any degree of confidence, therefore caution is used when using the data. Bulk density measurements are carried out on selected representative samples of whole drill core wherever possible. The samples are dried and bulk density measured using the classical wax-coating and water immersion method. The average bulk density for the mineralisation has been estimated at 2.5 using more than 3,000 measurements on drill core.
"cut-off grade"	the lowest grade value that is included in a resource statement. Must comply with JORC requirement 19: "reasonable prospects for eventual economic extraction" the lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit. May be defined on the basis of economic

- evaluation, or on physical or chemical attributes that define an acceptable product specification.
- “g/t” grammes per tonne, equivalent to parts per million
- “g/t Au” grammes of gold per tonne
- “grade cap” the maximum value assigned to individual informing sample composites to reduce bias in the resource estimate. They are capped to prevent over estimation of the total resource as they exert an undue statistical weight. Capped samples may represent “outliers” or a small high-grade portion that is volumetrically too small to be separately domained.
- “JORC” or “JORC 2012”  
 The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (the “JORC Code” or “the Code”). The Code sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves.  
 The definitions in the JORC Code are either identical to, or not materially different from, those similar codes, guidelines and standards published and adopted by the relevant professional bodies in Australia, Canada (NI43-101), South Africa, USA, UK, Ireland and many countries in Europe.
- “JORC Inferred Resource”  
 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 drillholes which may be limited or of uncertain quality and reliability.
- “JORC Indicated Resource”  
 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.
- “JORC Measured Resource”  
 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.
- “JORC Proven Reserve”  
 is the economically mineable part of a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.
- “JORC Probable Reserve”  
 is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified.  
 A Probable Ore Reserve has a lower level of confidence than a Proved Ore Reserve but is of sufficient quality to serve as the basis for a decision on the development of the deposit.
- “kriging neighbourhood analysis, or KNA”

The methodology for quantitatively assessing the suitability of a kriging neighbourhood involves some simple tests. It has been argued that KNA is a mandatory step in setting up any kriging estimate. Kriging is commonly described as a "minimum variance estimator" but this is only true when the block size and neighbourhood are properly defined. The objective of KNA is to determine the combination of search neighbourhood and block size that will result in conditional unbiasedness.

"Km"	Kilometres
"lb"	Avoirdupois pound (= 453.59237 grammes). Mlb = million avoirdupois pounds
"M"	Metres
"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 when reporting under JORC.
"micron ( $\mu$ )"	a unit of length (= one thousandth of a millimetre or one millionth of a metre).
"Mining Reserve"	the part of a mineral resource which is economically and technically feasible to extract.
"2P Mining Reserve"	Proven and Probable Reserves.
"Mo"	chemical symbol for molybdenum
"Monzonite-monzodiorite"	A coarse grained intrusive igneous rock intermediate between syenite and diorite
"oz"	Troy ounce (= 31.103477 grammes). Moz = million troy ounces
"ROM"	Run of mine
"screen fire assay"	a method of analysing gold through separating the coarse and fine grained particles then assaying them to produce a weighted average.
"strip ratio"	the ratio of the amount of waste which needs to be extracted in order to remove 1 unit of ore.
"Syenite"	A coarse grained intrusive igneous rock belonging to the alkali series
"t"	tonne (= 1 million grammes)