# **METALS EXPLORATION PLC**

## **OPERATIONAL UPDATE TO 25 NOVEMBER 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:25 November 2013 Shares in Issue: 1,374,972,024 Options in Issue: 7,275,000 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 Larry McGeechan, GM Process Plant Construction Kevin Oxenham, GM Maintenance Jeff Jardine, Process Engineer.

# For further Information please contact:

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#### **Highlights**

- The third and final tranche of the Share Placing announced 26 March 2013 successfully completed on 15 October 2013.
- An International Resource Bank has been mandated to provide a US\$70 million debt package to provide sufficient funding to take Runruno through to production.
- Banking due diligence has commenced with the agreed objective of finalising the funding package towards the end of the first quarter 2014
- The construction program continues to ramp to support the objective of commencing operations in Q4 2014.
- On-site and off-site supporting infrastructure is largely complete and continues to progress well.
- Early works proceeding on the Residual Storage Impoundment while detailed design is being finalised.
- Engineering of the Process Plant now at 70% complete.
- All long lead time equipment packages for the construction of the process plant have been awarded and are within budget.
- A screw piling contractor has commenced work on the plant site installing footings for the pipe rack.
- Stage 2 of the 69kV overhead power line from Bayambong to Maddiangat has commenced.
- The forecast project costs to completion remain within budget.
- Drilling south of the Runruno pit continued to extend the Malilibeg South Mineral zone.
- Exploration hole TUD51 reported 5 metres @ 27.07 g/t Au and 8,303 ppm Mo in new mineralised zone adjacent to the Malilibeg South Mineral zone.
- MTL's subsidiary, FCF, defends its position and rights in the Supreme Court of the Philippines through the Court Of Appeals, a second time against a petition to have the Writ of Kalikasan readmitted after having been dismissed.

#### 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:

- 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
- 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 for complete Mining Reserve and Mineral

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

"Since the Company was able to move the Runruno gold project into full mine construction mode in July, all long lead time equipment packages for the construction of the process plant have been awarded and we continue to see impressive progress. I am pleased to report that all construction work completed to date has been finished to a high standard and within budget, and ongoing cost control is a key constituent of this period for the company.

"The key corporate focus for management is to work with a major resource bank and agree terms to secure the necessary debt finance to take the company through to first gold pour in Q4 2014. Significant progress has been made in this area."

"The continued success in the exploration activities to the south of the Runruno deposit augurs well for the long-term future of the Project."

## Runruno Gold Project

The ramp up of the construction phase of the Runruno gold project has gained pace with the addition of further highly experienced construction personnel and an increase in the number of active work fronts and significant progress has been made in the ordering of critical long lead time equipment for the plant. The construction project is being self-managed by the Company through a team of directly hired experienced Filipino and Expatriate personnel and specialist technical consultants and contractors.

Management's focus is to complete the construction project at the earliest opportunity without compromising safety and quality, with the objective of commencing operations in Q4 2014 for the benefit of our shareholders who have supported the Company in its endeavours to attain this goal. To the end of October US\$64.9 million had been expended on the project against a budget of US\$182.8 million. Commitments totalling US\$15.7 million have been made against work in progress and plant and equipment in manufacture. The project remains within budget for the work completed.

Limited step out drilling activities to further test the potential of the Runruno Financial or Technical Assistance Agreement ("FTAA") for gold and copper mineralisation continued to return promising results.

## Funding Package

On 15 October 2013 the third and final tranche of the Share Placing announced 26 March 2013 was successfully completed providing the Company with gross cash contributions equivalent of US\$22.9m and after commission equivalent to US\$22.5m. In return 216,502,589 new ordinary 1p shares were issued.

A summary of the 2013 Share Placing and Open Offer issues showing the cash generated, the new shares issued and the open and closing shares and cash positions is shown below:

	SHARES IN ISSUE	NET CASH - \$USD
Opening - Jan 2013	824,743,103	\$42,040,035
Share placing tranche 1	139,090,690	\$15,254,461
Open offer	5,195,877	\$557,938
Share placing tranche 2	189,439,766	\$20,792,909
Share placing tranche 3	216,502,588	\$23,763,323
Expended in 2013		(\$36,877,464)
Closing - Nov 2013	1,374,972,024	\$65,531,202

(Note: cash balances have been translated at \$USD1.60 = £GBP1.00)

The Company, through its wholly owned operating subsidiary FCF Minerals Corporation has mandated an International Resource Bank to provide a US\$70m debt financing facility and therefore secure sufficient funding to complete construction and commissioning of the process plant at Runruno. Banking due diligence has commenced with the agreed objective of finalising the funding package towards the end of the first quarter 2014.

## Infrastructure Works

The ongoing program of on-site infrastructure works is nearing completion which has allowed initial construction works of the main gold process plant to commence with confidence. Over 1 million tonnes of earthworks has been shifted to date. Under the guidance of the General Manager for Infrastructure the full range of competed infrastructure works are now operational and complementary to the Processing Plant construction program. Various site road access, river crossings, earthworks for providing a fully prepared processing plant area, and on site power have provided the Processing Plant construction team with a highly developed site well advanced and ready for construction

activities. A fully functional 750 bed permanent camp for personnel and senior management with messing and ablution facilities is now up and running, and additional accommodation modules are being added as required. The potable water plant has been commissioned and is delivering water to the entire accomodation and office complex. A package sewage plant has been installed and is operational servicing the camp and office facilities. A laundry and camp office complex has recently been finished. An emergency services building has been commissioned and stores warehouse is advanced construction.



Image 1. Site panorama showing process plant pad (centre rear), heavy vehicle workshop and mine office (front right) and main office complex (right centre)

The site is now a self-contained unit supporting construction and mining activities without interruptions or serious malfunctions. This is a testimony to the Filipino workforce and local Filipino contractors who have been engaged on the project to date. FCF Minerals Corporation has developed a successful project management team with demonstrated planning and execution capabilities which augurs well for the construction months ahead.



Image 2. Construction camp - ablutions (far left), accommodation and messing facilities (central building)



Image 3. Laundry and Camp Office Complex



Image 4. Store and warehouse - in construction

During operations permanent power will be supplied to the project from the Philippine national grid via a connection at the Bayambong switch yard, located 37 kilometres from the site. The 69kV overhead power line which will connect the switchyard to the mine site is being constructed in two stages, stage one from Maddiangat to Runruno over a distance of 22 kilometres and stage two Bayambong to Maddiangat over a distance of 15 kilometres. Stage one to Maddiangat has been completed and energised at 13.8 kV which is being drawn from the local provincial distributer. This connection will support the project during the construction phase, significantly reducing the reliance on local diesel generated power. Construction of stage two of the line commenced during Q3 2013 and will continue for 6 months. Once complete the line will provide a direct connection to the national grid at the

Bayombong 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 Independent Power Producers to secure a power supply contract and to determine bulk pricing have been initiated.

Power has been reticulated to all of the infrastructure sites including the general office and associated buildings, accommodation, mess, batch plant, mine office, heavy vehicle workshop and the process plant areas. The on-site 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 as a back-up power source and the 69kV power line connecting the site to the main 230 kV grid at the Bayombong switch yard terminates. Work has commenced on the installation of additional back-up power and the construction of a switchyard which will support the entire site during operations.



Image5. Back- up power, 2kVA installed, preparations for a further 4 kVA in progress

An aggregate crusher is being installed to provide raw materials to the concrete batch plant located at the site. The batch plant is fully operational and supplying the concrete requirements of the construction phase.



Image6. Aggregate crusher construction

Road connections feeding the site from the national road network at Solano have been significantly upgraded providing more reliable and safer travel for employees, equipment and the wider communities bordering the 30km Runruno to Solano route. This work has been undertaken by the Company and the Department of Works and Highways and has involved re-alignment of dangerous corners, bridge and culvert works, additional concreting of the surface and a complete refurbishment of the unsealed portion of the road; only 8km of the 30km link now remains unsealed.

The onsite maintenance function has been significantly enhanced in line with the acquisition of the mining fleet and additional service, earthmoving, construction and light vehicles. It is now under the direction of an experienced General Manager. The light vehicle workshop has been refurbished and the construction of the heavy vehicle workshop is well advanced to ensure that the site fleet is maintained to a high standard. The heavy vehicle workshop is forecast for completion in February 2014.



Image 7. Heavy vehicle workshop and mine office construction activities

The onsite mobile and fixed equipment fleet has expanded considerably, already comprising the Komatsu mining equipment, a fleet of mobile earthmoving support equipment, light vehicles, heavy duty cranes, specialist equipment and various items of fixed plant including the batch plant, crusher unit and generators. An on-site fuel storage and dispensing facility has been constructed to include two 62,300 litre diesel fuel tanks. A three year diesel fuel supply contract has been negotiated with Pilipinas Shell Petroleum Corporation.



Image 8. Two diesel fuel storage tanks in situ, each with a holding capacity of 62,300 litres

## Mining

The mine haul road from the ROM pad to mining stage 1 has been completed, and work has commenced on establishing the road network within the pit area to provide access for stage 3 and stage 4 of the life of mine pit. In addition a haul road has been established into the residual Storage Impoundment dam site to support construction of the dam. An overtopping causeway has been established on the road to cross the Sulong river. This has been a joint effort of a local Filipino contractor and our own personnel using the new Komatsu mining fleet with excellent results to date.



Image 9: Mine haul road into Residual Storage Impoundment site



Image 10: Causeway across the Sulong River looking into Residual Storage Impoundment site - river in high flow

A block of gold mineralisation has been exposed in the haul road development to the Residual Storage Impoundment (RSI) Gold mineralisation. This block lies at the very southern end of the pit and is the first clear exposure of an ore block forming part of the gold reserve. The block which was outlined visually was sample and mapped in detail to assist the Company's knowledge of the habit and characteristics of the ore. The block correlated positively to the geological block model. Going forward, any ore intersected in the development of the pit will be stockpiled and at a later stage will be treated in the processing plant to be utilised to provide fill for the Residual Storage Impoundment dam wall.



Image 11: ore zone intersected in the RSI haul road

In conjunction with Resource Development Consultants Ltd, the work on the Residual Storage Impoundment has concentrated on the detailed design of the facility, the design of a coffer dam and related water diversions, and a confirmation of material suitability and availability for embankment construction and scheduling of the general fill. Currently the project is awaiting the issue of a programmatic tree cutting permit to commence work on the construction of the dam wall. It is expected that the permit will be issued during the month of December.

## Process Plant Construction

The processing plant is being constructed under a "self-manage" strategy by assembling an owner's construction team to manage the activities and using specialised contractors and sub-contractors to execute the works. Process & Infrastructure Engineering Pty (PIE), a specialist engineering firm who has supplied specialist services to the Project over the last eighteen months, has been retained to assist the Company with managing this process and to assist in assembling the expert team required to support the activities. This process has proceeded well to date, with most of the team recruited.

Engineering including detailed engineering is being undertaken by Contromation Energy Services (CES), a specialist design engineer based in Jakarta, under the direct management of PIE as the "owner's representative". Some specialised areas of the design are being outsourced by CES to engineering firms with the experience and expertise to provide the design standard required by the Company. The engineering has advanced satisfactorily and now stands at around 70% complete, including the detailed engineering phase.



Image 12: Design model of the milling, classification and gravity areas of the processing plant

Procuring the long lead time items has been successful to date with a plethora of tenders and quotes being systematically pursued and packages ultimately awarded to successful vendors. To date 34

packages have been awarded which cover mainly the major and long lead time equipment. These packages include the mill, mill reliner, large and small agitators, mineral sizer, and gravity circuit including an intensive leach reactor, CCDs, flotation cells, Biox blowers, limestone mill, elution circuit, flocculant plant, reinforcing steel supply and cooling towers. In addition, a large number of smaller packages have been awarded. Several smaller equipment packages remain work in progress. At the point of writing, costs for these packages are tracking within budget.

An independent third party inspection consultant has been engaged to inspect the manufacture of all equipment at the vendors' premises both during fabrication and before shipping.

The first two major equipment shipments which include the CCDs and part of the agitator are scheduled to be shipped by the manufacturer before the end of December 2013.

An important part of the procurement strategy is to contract in the domestic currency of the vendor and also where possible in the vendor's purchasing currency if this is not its domestic currency. Wherever possible, foreign currency translation risk is minimised as much as possible. It is the Company's policy to purchase 100% of its foreign currency requirements at the point it becomes known with certainty the quantum and currency each contract is awarded in. The Company does not enter into forward currency purchase contracts for procuring any of the equipment or construction packages.

A screw piling contractor mobilised on site late October 2013 and commenced installing piles as footings for the overhead pipe rack which is the backbone of the processing plant running from one end of the circuit to the other carrying pipes, power, control loops and services. Work has commenced on the plant workshop and return water tank areas of the site. Discussions and negotiations with civil, fabrication and construction contractors are now well advanced. Award of the various packages will commence during the next quarter which will facilitate work proceeding on multiple work fronts.



Image 13: Screw piling works

The expatriate construction management team has been largely assembled and is active on the project.

#### Safety

Safety remains a key priority of the Company. No loss time accidents were recorded during the quarter. The Company continues to strengthen its safety performance and culture as the plant construction activities ramp up and additional contractors are introduced to the site.

#### General Activities

General operations environmental programs continue including rehabilitation, reforestation, environmental monitoring, waste management, submission of environmental reports, application and renewal of permits. Recently the Company was awarded 2013 Best Mining Forest Award by the Philippine Mine Safety and Environment Association. This is a prestigious award which acknowledges the Company's standing with respect to its environmental and re-afforestation programs. The Company has previously been runner up for this award for the last four years and this is a welcome advancement and an excellent achievement by the environmental team.



Image 14: Rehabilitation works in progress

The Land Acquisition Program continues to be successful in the area of negotiations for the entry into and acquisition of lands within the areas important for the construction and operational phases of the project. The voluntary dismantling and clearing of structures in the acquired areas so as not to hamper the earth works is being undertaken by the mining department.

## 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). No resolution has been reached to date.

#### Second Writ of Kalikasan

The Company's wholly owned subsidiary, operating company and owner of the Runruno gold project in the Philippines, FCF Minerals Corporation (FCF), has been served with a second Writ of Kalikasan and an Application for a Temporary Environment Protection Order. It has been requested to appear before the Court of Appeals to respond to the petition raised against it. In addition to FCF, the petition has been served upon a government body, The Department of Environment and Natural Resources and a presiding Judge. This is a second attempt of a writ of Kalikasan after a first writ was dismissed by the courts on 17 October 2013.

A Writ of Kalikasan (literally, a Nature Writ) is a remedy under the 2010 Rules of Procedure for Environmental Cases that seeks protection of one's constitutional right to a balanced and healthful ecology. FCF believes the basis of the writ is flawed. Once again, FCF believe these claims are driven by vexatious intent, are entirely unfounded and the petition is based on a series of materially inaccurate facts.

FCF working in conjunction with the relevant Government agencies (that have provided FCF with all appropriate licences, along with numerous environmental and community support awards) will vigorously defend its position and rights in the Court of Appeals. FCF has lodged a resolute and formidable response within the time period provided for a reply.

FCF will consider all appropriate remedies against the counterparties to the writ as it considers necessary, given the inaccurate allegations and claims made in the writ. At this point, FCF does not believe that the writ will be successful, and therefore no quantitative value of its impact has been made.

#### 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. Due to access difficulties in the south of the FTAA as a consequence of the wet season diamond drilling activities were reduced during the quarter. Diamond drilling activities were carried out to the south of the pit area targeting resource extension connected to the main Runruno deposit and IP chargeability anomalies.

## 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). Four additional drill holes were completed three of which confirmed the continuity of the mineralisation within the previously outline mineralised zone.

The fourth hole TUD051 was drilled to test the eastern margin of the Malilibeg South Mineral zone at the southern end of the known zone. The hole intersected seven gold bearing zones, reported in the table below, with one of the lower zones recording a very significant intercept for both gold and molybdenum. From the information provided from this single drill hole this intersection is being interpreted as a new deeper zone of mineralisation which has potential to continue up dip to the east and along strike to the south. Further drilling is required to determine the full significance and the potential of this intersection

Hole ID & Collar Coordinates UTM	From	То	Width	Au g/t	Mo ppm
TUD051 321525.33 E 1813695.59 N 531.32 RL 88.7 <sup>0</sup> Az -48.5 <sup>0</sup> dip	73.0	74.0	1.0	0.35	2,308
	81.0	82.0	1.0	0.26	1,934
	109.0	110.0	1.0	1.33	1,729
	112.0	113.0	1.0	1.59	3,340
	116.0	118.0	2.0	1.26	2,386

Hole ID & Collar Coordinates UTM	From	То	Width	Au g/t	Mo ppm
	300.0	305.4	5.4	27.07	8,303
	309.0	310.0	1.0	1.22	979

## Runruno Deep Drilling

A consultant petrologist has examined core samples from hole MXD860 (reported in the Company's last Operational Update) which was drilled below the main Runruno deposit in the Tayab area to test for the possibility of copper-gold porphyry deposits at depth. Below a depth of 460m the petrologist recognised intense sericitic alteration characterized by quartz, pyrite and anhydrite. This change in alteration style suggests that the lower part of the drill hole may be above or peripheral to the core of a porphyry-style alteration system.

The petrologist reported the sericitic alteration to be "remarkable" in intensity as the original texture and mineralogy of the volcaniclastic host rocks has been virtually eliminated which is indicative of a very powerful hydrothermal system. The textures observed could represent transitions to deeper, higher temperature styles of alteration and mineralization further indicating the possibility of a coppergold porphyry system at depth or peripheral to the hole.

To further assess this potential, deep drilling beyond the capacity of the Company's own drill rigs will be required. Further geological and geophysical studies are being investigated as an aid to targeting the centre of the system and justifying such drilling.

## 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-monzodoirite"

	A course 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 particl
	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 u of ore.
"Syenite"	A course grained intrusive igneous rock belonging to the alkali series
"t"	tonne (= 1 million grammes)