

Reporting industrial minerals and indicated resources

News that trading in ASX-listed Volt Resources shares was halted hours after the company released an announcement pertaining to its Namangale graphite project prefeasibility study in Tanzania sent ripples through the junior mining community earlier this month. But how do listed companies avoid making the same mistake? *Andrew Scogings* and *Ivy Chen** outline how to understand the JORC Code.

Industrial minerals such as graphite, and more recently lithium, have become the focus of attention for listed exploration and mining companies mainly due to developments in rechargeable battery technologies related to the emerging electric vehicle (EV) market.

Consequently, the race has been on to acquire tenure, to report larger exploration targets and resources and to tell the market why one project has merits above and beyond a competitor's. Additionally, the competition for scarce investment dollars across the entire resources sector has inspired innovative exploration approaches as well as creative ways to tell the story of exploration success. The requirements for public reporting, however, remain clear, and adherence to the JORC Code is essential.

Misunderstandings of code and its interaction with corporations' law have led to recent issues with public reporting by industrial minerals companies. Industrial mineral resources or ore

Volt Resources

Trading of Volt Resources' shares was halted after the ASX expressed concern that an announcement made by the company amounted to the reporting of a production target or forecast that was not in accordance with listing rules on forward-looking statements.

Volt outlined production scenarios ranging from 60,000 tpa to 240,000 tpa graphite concentrate over a 20-year mine life for Namangale.

Following the halt, executive chairperson Stephen Hunt said: "The company wishes to clarify that this was not its intention and in an effort to avoid any potential confusion or further conjecture, it has decided to withdraw the announcement."

reserves must be reported in terms of mineral specifications; it is not only about tonnes and grade. Further ramifications apply to the classification of mineral resources and the use of modifying factors during technical and economic studies.

Ripples in the market

The Australian Securities and Investment Commission (ASIC) recently released guidelines clarifying reporting on the economic potential of a mining project. These guidelines take the form of information sheet 214. This development caused some consternation, particularly in the junior exploration sector, with the Association of Mining and Exploration Companies (AMEC) raising the issue with the regulatory authorities and the Federal Minister for Resources.

The release of 214 was the culmination of a two-year process, with industry having expressed a need for clarification as to what was – and was not – acceptable in public releases involving results of scoping and prefeasibility studies, production targets and other company forward-looking financial statements.

Information sheet 214 was compiled to draw together and explain existing rules and reference sources in the style of a 'one-stop shop' guide, referencing the Australian Corporations Act 2001, industry codes (JORC and VALMIN), listing rules, guidelines and FAQs from the Australian Stock Exchange, as well as existing ASIC regulatory guides.

A perception has emerged that requirements have changed, or goalposts have shifted following the release of this information paper, however the regulators have indicated that the law has not changed. This perception of change may be driven however by an apparent increased amount of action in the regulated space, coinciding with the first uptick in a long while, in market and fundraising activity particularly in junior exploration.

Fundraising by companies via lodgements with the corporate regulator have always been reviewed using the rationale detailed in information sheet 214. Often, background scans of the company's public releases relevant to the transaction are also reviewed. In circumstances where public releases may have breached the requirements of the law, corrective disclosure is required. In some circumstances, this leads to complications that may hinder the smooth progression of fundraising.

Proactive voluntary action by a company ahead of planned fundraising, to either clarify existing public disclosure or to ensure public releases observe the guidelines in information sheet 214, is most likely to minimise these delays.

Economic studies and forward looking statements

One of the recent issues in play has been the sufficiency of a reasonable basis to support forward projections of production and income by companies at different stages of project maturity. Under Australian corporation law, forward looking statements must be supported by a reasonable basis, which is predicated on the different classification categories as defined in the JORC Code.

For example, inferred resources have a low level of certainty, and are defined in the code as being of sufficient certainty only to imply, but not verify, geological or grade continuity, and are not suitable for conversion to ore reserves. Only indicated and measured mineral resources can be converted to probable and proved ore reserves by the application of appropriate modifying factors. This conversion process is via studies of appropriate levels, commensurate with project maturity. These levels of study are defined in the JORC Code (Clauses 37-40), as scoping, prefeasibility and feasibility studies.

A scoping study can be executed at an early stage of the project. The intended outcome of this level of study is mainly to determine whether, at the time of reporting, progression to a prefeasibility study can reasonably be justified.

At this stage, several very different scenarios may be considered as future development paths. Inputs include appropriate assessments of realistically assumed modifying factors and therefore may not provide a reasonable basis to support a detailed, public, forward-looking financial statement.

A company electing to publish forward looking financial statements based on scoping

studies may need to prepare a clear case, to explain why this preliminary level of study can be considered a reasonable basis for any financial projections. It is also critical to ensure that there is no implication that ore reserves have been established nor that development will proceed.

Reporting terminology

The key takeaway from Clause 12 is that modifying factors are considerations used to convert mineral resources to ore reserves. These include mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

Graphite and spodumene are commonly priced according to size or purity specifications. For example flake graphite may range from \$500/tonne (-100 mesh, minimum 90% C, FCL European port) to \$815/tonne (+80 mesh, minimum 94% C, FCL European port). Spodumene for industrial applications such as ceramics and glass is graded according to iron or lithium content and prices between petalite and spodumene have seen huge variations depending on the grade.

It is clear that such price variations could have a significant impact on the economics of an industrial minerals project. But even before pricing consideration, it is first necessary to be able to define a saleable product to be able to start deriving the economic modifying factors.

Modifying factors

In the case of a graphite project, mineral resource tonnes and total graphitic carbon (TGC) are key metrics, but graphite projects also require attributes such as flake size and purity to be evaluated, all of which drive the value in a graphite project, with the larger and purer flakes typically being more valuable.

According to Clause 49, for minerals that are defined by a specification, the mineral resource or ore reserve estimation must be reported in

Mineral resource classification criteria based on the JORC Code (2012)

Criteria	Inferred resource	Indicated resource	Measured resource
Does the resource estimate support the application of modifying factors?	Must not be converted to an ore reserve	Supports mine planning and economic evaluation. Can be converted to probable ore reserve	Supports detailed mine planning and final economic evaluation. Can be converted to a proved or probable ore reserve
Quality of information	Limited geological and sampling evidence	Adequately detailed and reliable geological and sampling evidence	Detailed and reliable geological and sampling evidence
Geological, grade and quality continuity* between points	Sufficient to imply but not verify	Sufficient to assume	Sufficient to confirm

*Note that 'continuity' for a flake graphite project includes 1) graphite assays; 2) in situ flake and lithological characteristics; and 3) product quality as demonstrated by representative extractive metallurgical (process) tests

Source: Jacqui Coombes, Coombes Capability

terms of the minerals and their specifications – such as liberated flake size, distribution and purity – on which the project is to be based. To do otherwise could be misleading to investors, as without product information it is not possible to estimate the so-called basket price and hence apply economic modifying factors.

Reporting of exploration results

An exploration company may wish to publish exploration results, for which there are very clear guidelines in the JORC Code Clause 19: "Public reports of exploration results must contain sufficient information to allow a considered and balanced judgement of their significance." The clause adds that results must not unreasonably imply that potentially economic mineralisation has been discovered.

Diagrams and maps representing geological context – such as a plan view of drill hole collar locations and sectional views – must also be included, as the reader must appreciate the risk associated with uncertainty at an early stage of project development.

Reporting of mineral resources

Clause 24 deals with mineral resource categories, which depend on "quantity, distribution and quality of data available and the level of confidence that attaches to those data". Indicated resources are "estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit", the clause outlines.

Inferred resources may be included in technical and economic studies, but if a project viability relies on inferred material to make its case, it is unlikely that an acceptable reasonable basis can be established. However, issues with public releases may occur at this stage if inferred resources are used as the primary support for technical and economic studies.

Conclusions

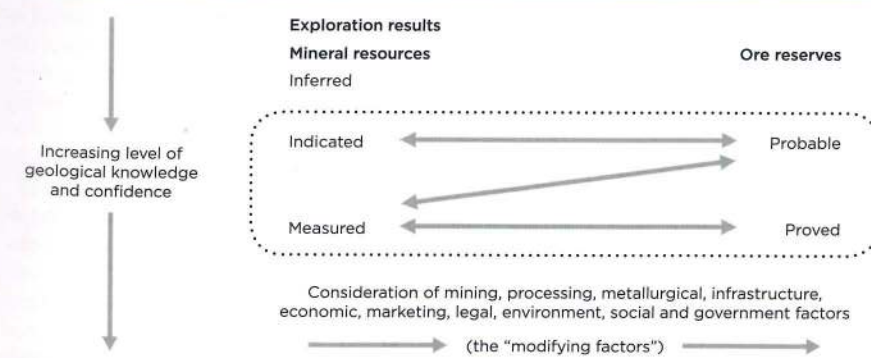
Care must be taken to avoid the possibility of misleading investors. It should be noted that mineral resources are classified on the quality of information – which can be limited, adequate or detailed – and geological factors, grade and quality continuity – implied, assumed or confirmed.

Mineral resource estimates must always be in terms of the JORC Code, which sets out a framework to reflect different levels of geological confidence and varying degrees of technical and economic evaluation.

The most important consideration is context; to ensure that the risks associated with the project are understood and not overplayed or undercooked, while reasonable basis for any forward looking attachments in a public announcement must be clearly set out.

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Figure 1 General relationship between exploration results, mineral resources and ore reserves



Source: The JORC Code 2012 (Clause 12, Figure 1)