

RIO TINTO'S ADOPTION OF THE JORC CODE AS A WORLD REPORTING STANDARD

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ABSTRACT

Rio Tinto is a global mining company, headquartered in the UK but with strong historical roots in Australia. It has operations in around 16 countries and interests through exploration, marketing or processing in many others. The estimation and reporting of mineral resources and ore reserves is of particular relevance given the geographical, cultural and product diversity of the Group.

transparency in all public Rio Tinto set out several years ago to standardise its approach to resource and reserve reporting, and to ensure that the numbers that it reported were backed by the highest quality estimation procedures. This was done against a background of developing international pressure for companies to conform to an 'International System' that provided clear and consistent definitions of terminology and increasing reporting.

In the longer term it is the quality of the estimates as well as the reporting style that matters. Good estimates and poor reporting will at worst bring confusion, criticism and some lack of credibility whereas a good report based on a poor estimate could mean the downfall of a company. Companies that achieve both (good estimating and good reporting) will be well placed to meet the demands of regulatory bodies and financiers.

This paper describes Rio Tinto experiences in the past few years in attempting to achieve both good estimation and good reporting, while responding to developments in international reporting Codes.

THE PAST – WHY A REPORTING SYSTEM WAS NECESSARY

Rio Tinto is a global mining company, headquartered in the UK but with strong historical roots in Australia. It has operations in around 16 countries and interests through exploration, marketing or processing in many others (Figure 1). This diversity of countries, commodities and cultures provides many challenges as well as opportunities, not least when it comes to establishing Group wide systems.

Several years ago, the author became involved in collating reserve reports from around the Group for inclusion in the Rio Tinto Annual Report. The main focus at this time was the production of a Form 20-F statement for the Securities and Exchange Commission (SEC) in the USA. Reporting to the 'home' stock exchange in London is also important but has traditionally been less so in the ore reserves area. The merger of CRA and RTZ in 1995 to form RTZ-CRA and later Rio Tinto, broadened reporting responsibilities to include direct reporting to the Australian Stock Exchange (ASX) as well as the SEC. This highlighted differences between SEC and ASX requirements, with the former tending to take a rigid 'do it by the rule book' approach, and the latter more inclined towards increased transparency with more information being made available to shareholders.

As might be expected from the range of operations and the types of commodities involved, reserve reports at the time were quite variable. Without specific guidelines, the quantity of information provided ranged from fairly comprehensive reports to brief summaries of the actual numbers. No details were provided of the methods applied to the estimates and no endorsement was required directly from the 'Competent Persons' involved.

It was recognised that a more standardised approach to reporting could be beneficial both for external Company reporting and as a contribution towards creating a clear trail of information from the raw data through to the final reports, whether these were internal or external.

The Annual Report was seen as the tip of the iceberg, with an intermediate stage of more detailed reporting for management information and business decision-making overlying the far greater estimation process itself. This is illustrated schematically in Figure 2. The Annual Report became a means to an end; if it was to be right then everything leading up to it also needed to be right, not least the resource and reserve estimates themselves.

In 1996, Rio Tinto set out to achieve reporting standardisation with the view that changes would be made progressively rather than instantaneously. Action was also begun to set up systems that would ensure that the numbers that it reported were backed by the highest quality estimation procedures. This was done against a background of developing international pressure for companies to conform to an 'International System' that provided clear and consistent definitions of terminology and increasing transparency in all public reporting.

Many people in the Company were familiar with the JORC Code through working or having worked in Australia. As this was clearly setting the pace in reporting standards and backed by the endorsement of the ASX, it seemed natural to adopt the JORC Code as Rio Tinto's reporting standard pending the development of the preferred option of a truly International Code.

In Rio Tinto's opinion, adoption of the JORC Code had the following advantages:

- It was tried and tested in Australasia, having been developed by the industry and adopted by regulatory authorities;
- Mineral resource and ore reserve terminology was relatively simple and straightforward;
- The company had some experience of working with the Code through its activities in Australasia;
- The JORC members offered help and advice when approached by Rio Tinto and were open to representations from Rio Tinto in developing the 1999 revision of the Code.

It was also hoped that support for the JORC Code from Rio Tinto would encourage other international mining companies to take similar actions and work towards what would effectively be world-wide industry self regulation on reporting standards.

Actual and perceived difficulties included:

- Lack of a credible alternative, in particular an accepted International Code or national codes with similar stock exchange links;
- Cultural differences of opinion;
- Reluctance to accept something Australian;
- Resistance to change;
- Language barriers in understanding the spirit and intent of the Code;
- Compliance, in particular the requirement for membership of AusIMM/AIG in order to qualify as a Competent Person.

Rio Tinto took the view that many of these issues would be resolved only with practice and experience and so in 1996 the JORC Code was adopted as Rio Tinto's reporting standard.

THE PRESENT – HOW HAS IT ALL WORKED OUT?

Selection of the JORC Code as a reporting standard was not done blindly or without appreciation of the difficulties as well as the advantages. In addition to contributing the Company's views during the development of the 1999 edition of the JORC Code, Rio Tinto also submitted representations to the Mining Standards Task Force of the Toronto Stock Exchange and Ontario Securities Commission (MSTF). The author has also been involved for the last two years through the Council of Mining and Metallurgical Institutions (CMMI) in discussions with the United Nations Economic Commission for Europe (UNECE) on its Framework Classification. Development of 'JORC clone' Codes and

Guidelines in the USA, Canada and South Africa have been monitored and there is ongoing participation in a revision of the IMM reporting Code in the UK. Rio Tinto has even talked to several competitor companies about achieving an industry standard reporting system, believing as we do that it is better for the industry to self-regulate than to have legislation imposed. Their response has been universally supportive.

Figure 3 is an extract from the 1998 Rio Tinto Annual Report. Although the tables themselves contain relatively little information about an individual operation, and are largely used by analysts and major shareholders rather than the casual reader, they are based on a great amount of thought on what information should be provided and how. The full current year tables can be obtained from the Company Web site at <http://www.riotinto.com>.

Over the last three years Rio Tinto has gradually moved towards simplifying its reports while expanding the range of information provided. All of the information required for the Form 20-F is now available in the more extensive report that is produced for the Australian Stock Exchange. The 1998 Annual Report removed the problem of parallel reporting of reserves, or reserves plus resources, to different regulatory authorities. The 1999 Annual Report for the first time contains all of the Company's reserve and resource information in a single set of tables in one volume.

The JORC philosophy of transparency and materiality (JORC Code, 1999, Clause 4) provides a useful guide in deciding what information to report. In fact this underpins another serious consideration for any company's public reporting. What does the company itself want from a reporting system? Rio Tinto takes the view that more information is better than less and that this in turn will yield benefits to the company including:

- Allowing shareholders a full appreciation of the extent and potential value of the Company's mineral assets;
- Publication of resources as well as reserves as an illustration of future potential;
- The same information is made available to all shareholders irrespective of country;
- Consistency in year on year reporting that demonstrates sound management of the resource assets;
- Support from financiers, stock exchanges and analysts who are increasingly becoming aware of and in fact demanding higher reporting standards.

Any resistance to the JORC Code within the Company has generally been overcome quite amicably, by ensuring that the Competent Persons are provided with a clear explanation of reporting requirements and more importantly a consistent response to resolving ambiguities that are still left open to the user to judge. For example, while there are still two schools of thought on whether or not to report resources as additional to reserves, this option has been adopted by Rio Tinto as the form more acceptable to analysts, who after all are one of the main targets of the Annual Report. This decision removed a source of confusion in previous reports where a mixture of both methods was being used.

Another example of a problem now largely resolved is the issue of full compliance with the requirements of the Competent Person. In general, Rio Tinto has found that qualifications and experience are not a problem, even though it has some fairly exotic commodities to deal with. Where on site experience is lacking, it can generally be supplemented through the resources of Rio Tinto Technical Services or other relevant Group companies.

The requirement for membership of the AusIMM or the AIG did cause many ripples, and in fact is still an issue that has not been fully accepted. While the Company has asked a number of its Competent Persons to become members of the AusIMM – something that has brought joy to the heart of the Membership Secretary – it is with the clear understanding that its preferred option is for global recognition of Competent Person status.

This is in fact now happening with the acceptance by the Australian Stock Exchange of the 'recognised mining professional' for reporting resources or reserves not located in Australia. It is also

implicit in the conclusions of the Canadian Mining Standards Task Force, although these have still to be translated into legislation.

In general Rio Tinto considers most of the developments in recent years to be sensible. It is interesting to note that whereas a few years ago the major reporting questions revolved around whether or not to adopt a reporting standard, nowadays this acceptance is hardly questioned. Instead, companies are increasingly faced with more difficult issues that result when real life problems have to be resolved without compromising the spirit and intent of the reporting Code.

Examples of issues that are currently 'hot' topics include how to discriminate between the resource classes on a consistent and reasonably scientific basis, and the closer links between geology and mining in establishing resource parameters.

In the first example, we need to consider what we are trying to achieve by resource classification. There are no hard and fast rules and geological variability alone allows a wide range of interpretations. However, there are some worthwhile guidelines, the best of which is to apply common sense (Stephenson and Vann, 1999). For example, if a Measured Resource is to represent the 'ultimate' geological estimate on which mining is to be based, it makes sense to consider the total geological and mining context. Depending on the style of mineralisation, the Measured Resource might include large blocks of mineralisation equivalent to say an annual production increment. Alternatively, the confidence required of a Measured Resource might only be achievable with more closely spaced information applied to smaller production units, say of one month. Finally, in complex deposits, often applying highly selective mining methods, it may never be possible to achieve Measured Resource status. These facts of life have to be recognised.

There is a disturbing trend developing towards attempting to prescribe the methods and the mathematics of resource classification, which must be resisted. It is very important not to lose sight of geology, and to make full use of the experience and judgement of project geologists. A good description of the technical aspects of resource classification is given in Stephenson and Stoker (1999).

The mineral resource described in terms of its eventual 'mineability' is also relevant but fairly contentious. Geologists by nature hate to exclude anything that might be mineable, whereas the mining engineer is only interested in what is 'definite'. It is up to the individual practitioners to talk to each other and reach an understanding. The mine geologist needs to be aware of the impact on the resource of minimum mining width or dilution, just as the mining engineer needs to understand the often drastic changes to orebody geometry caused by changes in cut off grade.

Issues such as these recur at regular intervals at Rio Tinto operations and elsewhere. Looked at positively, they promote the sort of debate and discussion that eventually strengthen both the understanding and application of resource and reserve classification.

THE FUTURE – WHERE ARE WE HEADING?

In the last two years, the pace of change in resource and reserves reporting has accelerated considerably. The JORC Code has been accepted as de facto 'best practice' however reluctantly in some quarters. As a result other professional bodies have taken steps to develop or update their own Codes to a similar format. The CMMI is also to be congratulated for bringing together representatives of all the major professional bodies with the objective of establishing International standards.

A couple of years ago, the JORC/ASX link was unique, and there was no universal acceptance even of the need for an International Code. Now we have a number of national Codes and Guidelines that vary only slightly from JORC, and therefore provide the basis for an International Code. In addition, regulatory bodies in other countries are becoming increasingly involved in working with the code developers to ensure that there is a mutual understanding and endorsement of the codes in some form.

There are encouraging moves in South Africa, where the Johannesburg Stock Exchange has been involved in the development of the SAMREC Code. In Canada, the Mining Standards Task Force recommended that the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Code should be

adopted by the Canadian Securities Administrators (CSA) and also that the CSA should recognise foreign reporting systems such as JORC. In the USA the Code is available in the form of the Society of Mining, Metallurgy and Exploration (SME) Guide for Reporting Exploration Information, Mineral Resources and Ore Reserves and efforts are being made to have the SEC accept it. Preliminary discussions have taken place with the London Stock Exchange which is receptive to endorsing the new Institute of Mining and Metallurgy (IMM) Code, due to be produced in 2000. Outside the main mining countries, the UNECE Framework Classification provides the mechanism for aligning the countries of the Former Soviet Union, Eastern Europe and China with the stock exchanges and investors of the West. Rendu (2000) provides a good summary of the current status of international reporting codes and the next steps towards internationalisation.

All in all, things are moving in the right direction, and it is to be hoped that the increasing momentum for change continues. What is conspicuously lacking is the direct involvement of the parties most affected by reporting regulations, the mining companies. Companies either in their own right or through industry representative bodies such as the Minerals Council of Australia can influence both the code developers and the regulatory authorities, and in Rio Tinto's view it is entirely to the Company's advantage to exercise this responsibility.

Uniform international reporting is largely established in those countries participating in the CMMI initiative. The recognition of mining professionals across international boundaries should follow swiftly, backed by the codes of practice and sanction capabilities of the professional institutions and regulatory authorities.

So what next? As noted earlier in this paper, Rio Tinto while being entirely supportive of efforts to unify reporting codes has always had the broader aim of establishing 'best practice' in its resource and reserve estimation methods. Others are also thinking along the same lines, for example the MSTF in Canada and the AusIMM through the Towards 2000 initiative in Australia.

Rio Tinto has recently developed a set of Current Best Practice Guidelines in Resource Estimation, which will hopefully be developed in time to include reserve estimation. This Web based product takes the form of an information resource where practitioners can find relevant comments on all aspects of the estimation process, learn of others experiences and find sources of information on topics of interest. It was made clear from the outset that this would not be a manual of resource estimation, but a set of guidelines that could be used to develop project or commodity specific procedures.

There are still bad things to be wary of. There are many people in the industry that would like to see the process of resource estimation prescribed in some form of rulebook. There are already examples of proposed Codes where the requirements for resource classification are both nonsensical and impossible to achieve. Financiers are beginning to look for certainty in their mining investments – two terms that are virtually contradictory. Is the industry in a position to give them what they want? If banks or investors are to be given such certainty, will estimates become increasingly conservative and the pool of developing projects shrink as a result?

The last thing that is wanted is for the professional judgement of the Competent Person to be devalued. Quite the reverse, the role of the CP should become increasingly more highly regarded and their value to companies such as Rio Tinto recognised.

CONCLUSIONS

Achievements to date on the reporting of resource and reserve estimates have been commendable, and in recent years the pace of change has accelerated. They have however been driven largely by agencies that are not part of the mining industry as such.

There are benefits for mining companies in achieving clear and consistent reporting standards and these should be more widely recognised, with the industry becoming more pro-active in promoting what is in effect self regulation.

In the longer term it is the quality of the estimates as well as the reporting style that matters. Good estimates and poor reporting will bring criticism and some lack of credibility, whereas a good report

based on a poor estimate could mean the downfall of the company. Companies that achieve both (good estimating and good reporting) will be well placed to meet the demands of regulatory bodies and financiers.

Just as importantly, they will be well placed to make business decisions that optimise the value of their resource and reserve assets in the increasingly difficult and competitive mining industry.

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FIGURE 1 RIO TINTO MINES AND MINING PROJECTS

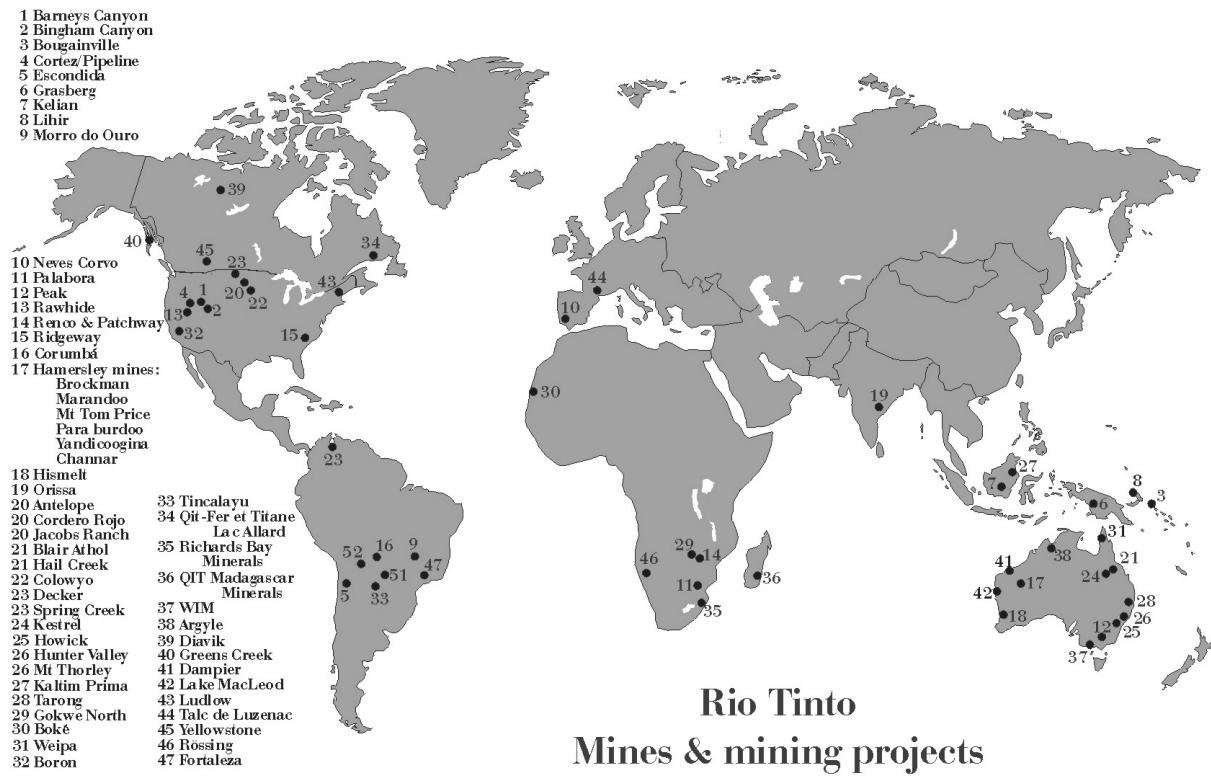


FIGURE 2 A RESOURCE ESTIMATION AND REPORTING HIERARCHY



