

**MMSD Draft Report**  
**Comments From Rio Tinto**  
**Relating to Matters of Accuracy**  
**For consideration by the MMSD Project Team**

**Chapter 2: Producing and Selling Minerals**

- Paragraph 3 on page 2-13:

Text states that ~120,000 people were employed in Australia (minerals, smelting, refining and petroleum) in 1999/2000. However, figure 2-7 on the same page shows nearly 400,000 people.

- Page 2-8, figure 2-5 shows Japan producing between 10 – 100 m tpy iron ore. This figure appears out-of-date, as Japan's production of iron ore has declined from about 230Kt in 1991 to zero in 1998.

**Chapter 3: A Profile of the Minerals Sector**

- Final paragraph of page 3-3:

The text says that

“the top 150 international minerals companies had a combined market capitalisation of only US\$320 billion at the end of 1999. This global total is lower than a number of individual companies such as General Electric and Exxon Mobil. (See Figure 3-1).”

However Figure 3-1 shows only the capitalisation of the top 10 mining companies (at US\$92 billion) and shows Exxon Mobil capitalisation at US\$289 billion.

The capitalisation value of Exxon Mobil needs to be clarified and corrected.

- Table 3-2 on page 3-5:

The ‘ranking’ of companies appears incorrect. For example:

- Under Iron Ore, BHP is ranked 2 with 6.2% market share and Rio Tinto ranked 3 – but with a greater market share (8.8%).
- Under Coal, BHP is ranked 3 with 4.1% market share and Rio Tinto ranked 4 – but with a greater market share (4.7%).
- Under Copper, BHP is ranked 4 with 7.0% market share while Rio Tinto is ranked 3 – but with a smaller market share (6.2%).
- Under Gold, Barrick is ranked 4 with 7.6% market share while Newmont (6.7% market share) and Gold Fields Ltd (4.7% market share) are ranked 2 and 3 respectively.

**Chapter 5: Case Studies on Minerals**

- Paragraph 2 on page 5-13 states:

*“Secondary smelting uses a process that is similar in principle to primary smelting.”*

This is incorrect.

Primary smelting is designed to transform low-grade (normally less than 50% copper) concentrated minerals (in their natural mineralogical state) through an exothermic reaction that physically separates sulfur gas and molten liquid phases of blister copper and ferro-silicate slags. Secondary smelting is an endothermic reaction with little gas handling to worry about, and little slag generation. It is completely different in the technology, equipment, etc.

While some secondary copper can be processed in some primary smelting equipment, the two are often not completely compatible.

The reader is incorrectly given the notion that because many mining companies operate primary smelters they are physically capable of economically processing secondary copper. This would be incorrect, and lead the reader to the wrong conclusion regarding the economic ability to manage recycling of secondary copper.

- Paragraph 3 on page 5-13 states:

*"In many cases, the higher cost smelters can be the most profitable because they buy low grade and complex scrap at cheap prices and are able to extract not only copper but also other metals (such as tin, zinc, or precious metals)."*

This is incorrect and also misleading.

Recycling of the very impure copper scrap materials (generally referred to as #2 copper scrap) containing large amounts of tin, zinc or precious metals is expensive and complex.

- Paragraph 4 on page 5-17 states:

*"The alternative raw material is direct reduced iron (DRI), which is used in electric arc furnaces only when the steelmaker has its own source of DRI production. All other EAF steelmakers use a charge (raw material feed) that is composed principally or exclusively of scrap."*

Depending upon what % you interpret "Principally" to mean, this implies that there is little metallics trade, which is incorrect.

There is significant trade in DRI, HBI and Pig Iron, all of which are used as iron sources for EAF production and are produced from iron ore. Only few EAF producers use exclusively scrap as the trace metals (Cu, Ni, Cr, Mo levels in particular) build up and they can't meet the steel specifications. So DRI, HBI and Pig Iron are used to dilute these metals.

- Paragraph 4 on page 5-17 states:

*"EAF steelmaking has been growing as a percentage of total steelmaking capacity and is expected to continue, as it has the advantages of lower capital costs and operating costs, compared with the blast furnace and basic oxygen converter route."*

The advantage of operating costs is not always true, as it depends upon several factors, in particular the price of electricity and the scale of the operation. For example, operating costs for EAFs in Japan and South Korea are higher than for the big blast furnace operations.

- Page 5-23, Table 5-5, which shows the output of the top 15 gold-producing companies, should be modified to show the units of gold production for 1999 and 2000 (i.e., tonnes?).

## Chapter 6: Viability of the Minerals Industry

- Page 6-3, figure 6-1 is titled '*Mining and Global Price Indices*'. A definition of the Indices presented is required. Does the figure graph *share price* or *total shareholder return*? If the former, it is not a true reflection of the industry's financial performance as it excludes dividend payments.
- Paragraph 1 on page 6-13, with reference to Bougainville, states: '*But the mine had to be prematurely abandoned in the face of a local rebellion, which began when landowners complained about the social and environmental impact of the mine and which escalated into a full-blown conflict in response to the national government's heavy-handed treatment of these complaints.*'

Tony Regan, Australian academic lawyer has said: '*in the complex political economic and cultural situation of Bougainville, it is naïve and misleading to attempt to analyze the origins of the conflict in terms of single causes... Each factor tended to reinforce the importance of other factors at different times.*' To suggest that the conflict at Bougainville was caused only by landowners' complaints about the environmental and social impact of the mine, grossly oversimplifies the case.

## Chapter 7: The Control, Use and Management of Land

- There is duplicated paragraph on either side of Box 7-1, on page 7-8
- Paragraph 8 on page 7-22, refers to:

*"... Hammersly Iron Pty ..."* in relation to the Yandi Land Use Agreement.

This is incorrectly spelt and should be "Hamersley Iron (100% Rio Tinto)"

- Box 7-3 on page 7-26 refers to resettlement and human rights issues at Rio Tinto's PT Kelian Equitorial Mine in Indonesia.

It is misleading to include this report without saying what is being done about the issues raised.

The company is diligently pursuing resolution of both the land claims and human rights claims and this progress should be included in the Box.

## Chapter 9: Local Communities and Mines

- The last paragraph on page 9-14 states: '*In Bougainville, for example, matrilineal principles of land inheritance gave women positions of importance within traditional society. But mining development resulted in increasing contradiction between the traditionally dominant matrilineal system of the Naisioi-speaking people and the patrilineal values embedded in the mining company.*'

We refer to the general principles regarding matrilineal land inheritance mentioned below, with reference to Lihir. We also note the research of Eugene Ogan (1996) in his article, 'Copra Came Before Copper: The Nasioi of Bougainville and Plantation Colonialism, 1902-1964' in *Pacific Studies* vol 19, no 1, pp. 31-51. In this paper Ogan clearly shows that the Bougainville mine was but the most recent of a continuous succession of outside influences that had an effect on the social organisation and livelihoods of the Nasioi.

- Paragraph 3 on page 9-15, states:

*“an independent inquiry into employees at a Rio Tinto mine in Borneo found ‘numerous cases where local Dayak women and girls had been raped or coerced into having sex’.”*

This quote does not provide sufficient context and is misleading.

The use of the word ‘numerous’ vastly overstates the extent of cases identified.

The chapter does not state the steps taken by Rio Tinto to address these allegations and to deal with them in a just and transparent manner. Rio Tinto has treated these allegations very seriously and has worked with a local NGO and the Indonesian Human Rights Commission (Komnasham) to determine the facts of the matter in an open and genuine forum. Rio Tinto has also engaged Komnasham to help raise awareness of Human Rights issues on site, acting in what it believes to be the manner of a fair and responsible company.

The quote and associated sections also unfairly infers that the mining industry should be accountable for individual and societal behaviour, including:

- Fair treatment within marital partnerships;
- Infidelity;
- Prostitution;
- Sexually transmitted diseases; and
- Sexual abuse.

- Paragraph 1 on page 9-15, states:

*“In Lihir, PNG, where families have been relocated and land awarded in the men's names, women have been effectively stripped of their status, identity, and assets and have become financially dependant on their husbands”*

This section infers that the Lihir Mining Company (LMC) has been responsible for this, which is misleading and, we suggest, should either be removed from the MMSD text or clarified as a broader social phenomenon.

The section fails to acknowledge the complex issues associated with integrating the equitable distribution of relocation housing and land within existing social and matrilineal systems. Furthermore, it ignores the significant efforts carried out by LMC in working to address the issue raised.

In this regard, the following facts need to be taken into account by the MMSD team:

- Within social systems on Lihir, although each lineage is defined matrilineally (that is as descendents of a single female ancestor) political authority on Lihir is vested in the senior men of a lineage. This is common in many 'matrilineal' systems and was in place long before the mine.
- On Lihir men can acquire land from their father's clan through strategic payment of mortuary gifts. Men often 'own' land belonging to both their mother's and their father's clan. Women rarely do.
- Women do not control the transmission of land traditionally and are only acknowledged as 'owners' in the absence of a male relative in the senior generation.
- Attempts by LMC to include women in negotiations were dismissed by men as 'against custom'. Women were reluctant to participate for the same reason.
- Attempts by LMC to include women as executives of 'blocks' that were in the Special Mining Lease area were vehemently opposed by Lihirian men.

- LMC have continued to vigorously pursue a thorough understanding of the social dynamics in which the mine operates, and where appropriate, provide input to the community to address a variety of social issues.

To this end, LMC are the only mining operation in PNG with a full time social research & monitoring section staffed with experienced social anthropologists to guide the company's activities in dealing with such complex social issues.

LMC have also been proactive in improving the social status and skills of women by providing skills training and education programs, improved maternal and child health facilities, as well as being instrumental in the promotion of a village based law and order system.

- The second to last paragraph on page 9-18 states that: *'And in Bougainville, local communities believe that an increase in malaria throughout the province was caused by an increase in the area of marshland that was created by mine tailings blocking river tributaries.'*

It is noted from the MMSD Workshop in July 2001 on 'Armed Conflict and Natural Resources: the case study of the minerals sector' that infant mortality dropped dramatically and life expectancy increased greatly in the post-war years.

## Chapter 10: Mining Minerals and the Environment

- Box 10 - 14 (on page 10 – 42 and 10 – 43) discusses QIT Madagascar Minerals S.A. (QMM) activities in addressing issues associated with biodiversity conservation and economic development as part of a proposed mining development in south-eastern Madagascar.

- a) The text gives the incorrect impression of significant opposition to the project and that the project has been heavily criticised.

Locally most interested parties support the project. The regional planning process, involving all key actors in the region, has unanimously supported the project as a critical component of the economic development of the region. The Regional Development Committee has even said that if QMM does not proceed with the project, it will seek another mining company to do so.

Internationally, QMM has been working over several years with numerous social and environmental experts and organisations, which are very supportive of the project. Conservation International did question the assumption that the forest would disappear without mining, but did not 'heavily criticise' the assumption as inferred in the MMDSD report.

Accordingly, Rio Tinto suggests the following modifications to the text for the consideration of the MMSD workgroup:

Page 10-43, paragraph 2:

- Remove the last part of sentence 2 which currently reads "although there is concern that this lacks the depth of the baseline studies"; and
- Remove sentence 3 completely, which currently reads "Some of the basic assumptions in the SEIA have also been heavily criticized – such as the speed at which forests will be depleted.

- b) The text also gives the impression that the efforts by QMM to manage biodiversity issues as part of the proposed project are likely to be unsuccessful.

Rio Tinto does not believe this to be a fair or balanced view.

Accordingly, Rio Tinto suggests the following modifications to the text for the consideration of the MMSD WorkGroup:

Page 10-43, paragraph 3:

- Sentence 6 be changed from:

*“These are encouraging steps, but while the plantations are likely to offset some of the demands it is unlikely that, given the intense pressure, they can offset them all.”*

To:

“These are encouraging steps, but while the plantations are likely to offset some of the demands, additional plantations may be required to meet them all.”

- Sentence 7 is deleted as it assumes that the forest would be conserved in the no-mining case and the majority of parties agree that without the mine, the forests will not survive.

Page 10 – 43, paragraph 4:

- Sentence 2, 3 and 4 be changed from:

*“The social and environmental plans are ambitious and the constraining factors great. If the mine goes ahead – currently it is in the feasibility stage – there is no guarantee that they can be overcome. QMM intends to invest in a Regional Planning Process, but these are notoriously difficult to get right, and practical outcomes of such processes are rarely experienced on the ground. ”*

To:

“The social and environmental plans are ambitious and QMM intends to invest in a Regional Planning Process to try and get it right. ”