



A TALE OF TAILINGS

By

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In the most issue of *Groundwork* published by the Australian Minerals and Energy Environment Foundation (AMEER), Mr. Michael Rae a program leader with the World Wildlife Fund for Nature (WWF) presented a discussion on the disposal of waste rock and tailings in surface water systems, specifically large rivers. In his paper, Mr. Rae states that the practice of river disposal of tailings and waste rock is outdated and must cease for obvious environmental reasons. In support of this initiative, BHP and Western Mining Corporation (WMC) have both made corporate decisions to voluntarily adopt it in conjunction with future mine development. In the paper, Mr. Rae cited three examples of this environmentally unconscious practice. They include the Placer Dome Porgera Mine and the BHP Ok Tedi Mine both in Papua New Guinea, and the Grasberg Mine in Irian Jaya, Indonesia owned jointly by Rio Tinto and Freeport McMoRan. Interestingly, all three of these mines are located in developing and emerging nations, which historically were considered part of the Third World.

There should not be any technical argument that this waste disposal practice has devastating and long lasting environmental consequences. All of these mining companies, with the exception of Freeport McMoRan, are signatories of the Code of Environmental Management originally developed by the Minerals Council of Australia. There are seven basic principles associated with the code including accepting environmental responsibility, strengthening community relationships, integrating environmental concerns with production practices, minimizing environmental impacts, encouraging responsible production and use of products, and improving and reporting environmental performance. These principles are to be applied by the signatories regardless of where in the world their mines are operating.

In a recent article entitled “Freeport’s Commitment to Remediation” written by Scott Shuey and published in the *Engineering and Mining Journal*, a discussion of the environmental and remediation activities at the 25 year old Grasberg Mine was presented. The company indicated it had adopted by label of “sustainable development” and Bruce Marsh, Vice President of Environmental Affairs, is quoted as saying “More and more mining companies must do more than just re-green land after mining is completed. They need to find ways to reclaim lands as soon as possible and not wait until the end of the mine, and they also have to find ways to restore and make the land productive to support sustainable development”. Mr. Marsh goes on to say “While the reclamation has been very successful to date, it has really only been able to have a big impact on people who have gone to Timika and seen the tailings deposition area and then also see the reclamation area. Therefore, Freeport which understands long-range planning, knows that successful reclamation projects are critical to the success of the entire mining enterprise”.

As noted by Mr. Rae in his article, the consulting firm of Montgomery Watson conducted an independent environmental audit of the Grasberg Mine in 1999 and reported that Freeport McMoRan and Rio Tinto have competent environmental management systems in place. Mr. Rae commented that such systems seemed exceptionally marginal in light of the 200,000 metric tons of tailings discharged a day into the local river and eventually the ocean.

In contrast, Mr. Rae states that the waste rock and tailings disposal techniques at Grasberg are substantially exceed the assimilative capacity of the receiving environment. He indicates that the mine is burying a large area of tropical lowland rainforest and mangroves and its potential impacts on the larger marine environment and coastal areas have yet to be properly assessed. While the company and government have initiated environmental studies, it is regrettable that the research was not undertaken prior to approval and operation of the mine.

Curiously, a review of the annual corporate Environmental Report for Rio Tinto contains no mention of their partnership with Freeport McMoRan and this particular mine. Clearly, there is a contradiction between emerging corporate philosophy and historical practices. When measured against the principles of the code, the practice of river disposal of tailings and waste rock does not make the grade. Regardless of the number of mining companies supporting an initiative or code, one disaster negates the entire effort. The examples range from Bre-X to Baia Mare. The mining industry is aware that signing onto an initiative or a code that is violated by even one signatory reflects negatively on the industry as a whole, and eliminates all pretenses of credibility. Sub-aqueous deposition and ocean disposal of tailings and waste rock can be environmentally acceptable approaches in very specific situations after extensive studies and planning have been undertaken.

At present, Mr. Rae and representatives from Rio Tinto, WMC, and other mining companies are engaged in developing an international code of practice for cyanide management in conjunction with the United Nations Environmental Program (UNEP). Let us make a commitment to establishing codes and initiatives that we will actually live up to and not just live with in the name of “sustainable development”. Related to these issues are the lending institutions such as the International Monetary Fund (IMF) and the World Bank.

These institutions lend out billions of dollars each year, with their primary contributor being the United States government and ultimately its taxpayers. Although mining activity has declined dramatically in the United States due in large part to industry miscalculation, environmental extremism, and governmental regulation, the demand for minerals and metals steadily increases. Should the public not expect then that mining operations funded outside the United States by these institutions be held to the same environmental standards. The existence of such standards as represented by ISO 14001 is not a concept, but a contract with local and global communities.

One should be kept in mind, the gold and copper production from the three mines mentioned in the article of Mr. Rae amounts to only a very small percentage of the their respective totals globally. One alternative approach is for citizens in well-developed westernized countries to markedly curtail their consumption of non-renewable resources, while allowing emerging nations the luxury of increased environmental degradation in the name of progress.

The global warming issue and power shortages in California underscore the complexity of the discussion of sustainable development. The key to resolving these conflicting themes is to honestly and rationally discuss the issues, and to strike an "ecolibrum" between everyone, economics, and the environment. The people of the world must demand the products of mining but desire protection of the environment. Each side on this issue must seek common ground while at the same time recognizing the need to relinquish some of it.