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OF MINING AND METALLURGY  
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## **Employment: Increasing participation in paid work**

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### **Submission by The Australasian Institute of Mining and Metallurgy to the House of Representatives Standing Committee on Employment and Workplace Relations**

The Australasian Institute of Mining and Metallurgy welcomes the opportunity to make representations to the House of Representatives Standing Committee on Employment and Workplace Relations Inquiry into increasing participation in paid employment and to make personal representations if appropriate at subsequent dates.

#### **1. The Australasian Institute of Mining & Metallurgy**

The Australasian Institute of Mining and Metallurgy (The AusIMM) has been in existence for 110 years and throughout that time has been the pre-eminent body representing the professionals in the Australasian minerals and supportive industries. Mining Engineers, Geologists and Metallurgists make up the majority of the 7,500 members although there is a growing number of Environmental Scientists and other tertiary qualified professionals. Mining companies, government, research institutes and universities with an ever-increasing number of contractors and consultants based throughout Australia, New Zealand and other overseas countries employ AusIMM members.

Under The AusIMM Code of Ethics members are committed to take responsibility for the welfare, health and safety of the community at all times before their responsibility to the profession, sectional and private interests or to other members. As a consequence, the members are committed to sustainability of our resources and to enhancing their professional excellence and their industry.

#### **2. The Ever-changing External Environment**

Attached is a speech prepared by the CEO of the Institute and presented to the MCA Conference on Sustainability held in Newcastle on November 2002. It outlines the significant impact of the changing external environment on the professionals in the minerals industry and their institute.

#### **3. The Significance of the Minerals Industry**

“Mineral and energy exports have contributed more than \$500 billion to Australia’s wealth over the past 20 years. In 2000–01 these exports were worth \$55.6 billion (up 27% over the previous years). They currently constitute 47 percent of Australia’s merchandise exports and 37 percent of total exports including services. They comprise eight of Australia’s “top 10” commodity exports.

As well, roughly \$2 billion is earned from the export of high technology mining products and services, and the mineral industry pays around \$5 billion in taxes, royalties and transport levies annually to government”.<sup>1</sup>

The Federal Government acknowledged in 1999, “that the resources industries are the backbone of the Australian economy. Without their contribution of \$40 billion to exports, we would be a different country.”<sup>2</sup>

The Australian Mining Industry in 2001 directly employed 75,165 people.<sup>3</sup> Directly and indirectly the broader mining sector employs approximately twice that amount, and generates a further 327,000 manufacturing jobs downstream.<sup>4</sup> While this number is comparatively small the revenue contribution to Australia is substantial. Employing less than 2% of the Australian labour force direct and indirect employment combined, the Australian Mining Industry contributed 33.8 billion dollars to the Australian GDP in 2002. In the same year, the Australian Agriculture Industry contributed 21.2 billion dollars to the Australian GDP, but employed 404,800 people.<sup>5</sup>

In 2000, Australia was among the top three producers for 10 of the world’s most important minerals. Exports have grown from \$7 billion AUD in 1980-81 to \$55.6 billion in 2000-01. The Minerals Industry accounts for just under half of all merchandise exports, which is of enormous significance for an economy often running an international current account deficit. Additionally, we export our professionals’ intellectual property. For example, we lead the world in the development of mine planning software now used by at least 70% of all large mines in the world.

The very nature of the Mining Industry means that the majority of its workforce is based in regional communities and remote site locations. Regional Australia, in particular continues to benefit from the resources industry. Mining companies have built 25 towns, 12 ports and 20 airfields since the 1960’s. In many cases regional and rural communities have developed around these mining operations. Numerous employment opportunities have been created in serving the needs of these communities.

### **3. Employment Trends in the Industry!**

Despite the mining sector experiencing growth in outputs and exports, the labour force is declining. Although, mineral industry real growth in output is increasing at 4.2% per annum, employment in the mining sector has continued to decrease at a rate of 1.9% per annum since 1994/95 (DISR, 2001). This is due in part to the introduction of new technologies and rationalization and consolidation of companies, to improve their international competitiveness. Mergers and takeovers result in relocations and redundancies, contributing to a declining employment market. In addition, many corporate activities are now being outsourced to consultants and contractors.

The mining sector in 1999 relied on a higher proportion of highly skilled workers, than low skilled workers, and to a lesser amount on middle skill level workers, whilst experiencing an overall declining workforce (DISR, 2001). Whilst the mining sector still relies on highly skilled workers, there are changes occurring within the employment structure. For example, many companies are relying on more technically qualified people with TAFE certificates in practical computer training to operate their systems rather than degree qualified professionals. In addition, land access issues and a bottom-line driven industry, are decreasing the number of geoscientists employed in exploration in favour of increasing shareholder return. This decrease

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<sup>1</sup> Jacques, L and Huleatt, M – 2002  
AusGeo News 64: 3-7

<sup>2</sup> Senator Minchin 1999

<sup>3</sup> The 2001 Australian Census

<sup>4</sup> The Australian Bureau Statistics, Australian Mining Industry 1998-1999, 8414.0, 2000

<sup>5</sup> The Department of Industry, Tourism and Resources, Key Facts Australian Industry 2002

in geoscience employment in exploration has been evidenced in AusIMM analysis of The 1996 and 2001 Australian Censuses to be as much as 57%.

A surplus of degree qualified professionals, means more competition for the reducing number of jobs in the industry, forcing qualified minerals industry professionals to retrain and enter other industries. This loss of qualified people is further exacerbated by other industries such as the IT industry poaching top students with incentives such as on-the-job retraining, guaranteed employment, high salaried, and a perceived more attractive lifestyle. For example, many qualified minerals industry professionals such as mining engineers are attracted to other subsidiary careers such as finance/banking rather than on site positions. This is attributable to the many factors reducing the overall attractiveness of the industry to qualified graduates such as an increase in Long Distance operations.

Another trend is the increasing number of Environmental, Social or Community Affairs, Public Relations professionals employed by the minerals industry. This is related to the increasing pressure from the community for social and environmental responsibility of mining companies and to hence maintain a "licence to operate." This negative public image constrains its capacity to influence government, community and attract high calibre graduates (Dept of Education, Training and Youth Affairs, 2001).

#### **4. The Challenges of a Global industry and the Sustainability of Human Capital**

The two big and fundamental changes now impacting on our industry and its professionals (our members) are the drive for sustainability and the move to consolidation and Globalisation. The AusIMM has constructively addressed the former, by redefining its basic ethical responsibilities and called for an action agenda for exploration to address sustainability. We must now work to reposition and empower these wealth-generating professionals in a globalising industry. The differentiating characteristic of the Institute in the minerals sector is that it is about people and expertise ---intellectual capital--- at a time when this is especially valued by government and community but is not necessarily valued by shareholders. It is in the interest of Australia and the professionals employed within the minerals industry that the human capital of the industry is cultivated and Australia positioned as the mining technology, expertise and services capital of the world. For example, exports of Australian mining related intellectual property totalled over \$1 billion in 1999-2000. Other world-class processes include advance electronic blasting, Atomic Absorption Spectrometry, aluminium smelter innovations, Becher process, bioheap bacterial leaching, HISmelt, SIROMELT, Jameson Flotation Cell, P9 Project, robotics processes etc. etc. etc.

However, the human capital in the industry is faced with uncertainty as to the place that the Mineral Sector will hold in the future economic development of Australia and whether their experience, skills and talents will be a sought after commodity either locally or internationally.

The rate of consolidations, mergers and acquisitions will not slow down; neither will the calls for sustainability of every part of the Industry in order to get and continue to have a license to operate. A burgeoning and exciting Minerals Industry through excellence in mining services, expertise and technology has the power to sustain the regional and rural communities that once relied on mining operations. Only by encouraging the wealth of knowledge and human capital that is inherent to the mining sector can employment in the sector be maintained and cultivated.

#### **5. Attraction, Retention and Fostering of the Mining Sector Workforce**

In the last half of the year 2000, the AusIMM took the lead in a study funded by DETYA and several major mining corporations to address the question – Are we confident that the minerals industry has the professional staff capability to appropriately position it to meet the demands of

tomorrow?<sup>6</sup> Unfortunately, the outcomes did not pick up the many good things, which are occurring in the industry, such as technological developments, environmental performance and emphasis on sustainability and a desired engagement with external stakeholders.

A consensus of observations, however, was distilled into 8 principal findings:

- i) The negative image of the industry constrains its capacity to effectively influence community and government.
- ii) A major repositioning of professional staff competencies is required.
- iii) Existing organizational arrangements and capabilities are under pressure to change.
- iv) It will be difficult to access professional staff of the required capability.
- v) The industry is facing significant external challenges with a real concern about capacity to address them.
- vi) The prevailing culture is not suited to the needs of the future
- vii) The fragmentation of the industry leads to a lack of shared vision/voice, and
- viii) There is a need for change.

The AusIMM through its Women in Mining Network has also identified challenges associated with employment practices in the Minerals industry such as diversity issues and long working hours.<sup>7</sup> The 2001 Australian census showed the mining industry has the longest average working hours (Financial Review 18/6/03). Long working hours, in the form of regular long shifts and/or long working weeks, limit the pool of potential employees to those without family or cultural/religious commitments. Many mining sites, particularly Long Distance Commute (LDC) sites, incorporate long working hours as a standard employment practice, generally rewarding employees for the long hours through better pay. While in many cases this cannot be avoided without great economic cost, employers should consider that there would also be a cost in limiting the pool of willing employees. There will also be a cost if trained, skilled employees are lost, whether through burn out, changed preferences or changed circumstances, quite apart from the costs and safety issues associated with overtired and stressed employees.

Kathryn Heiler recently raised some of these points in her report on the impact of extended shiftwork in the Tasmanian mining industry<sup>8</sup>. A personal view of the effects of long working hours, in particular 12 hour shifts on long LDC rosters, has also been given recently by Potts & Potts (2003).<sup>9</sup> Serious consideration should be given to reducing standard weekly working hours where possible, and ensuring that overtime is so far as possible completely voluntary. This will encourage a win-win situation for employer and employee – those that want the financial benefits that come with longer hours can choose to do so, whilst others may choose not to. In addition, the costs of losing skilled employees should be weighed against the costs of a strategy of a longer working week.

Where it is not practical to reduce standard working hours, strategies that may broaden the appeal of working conditions on site include:

- Flexible rosters, especially on LDC sites. Potts & Potts (op cit) suggest a shorter 5 days on 2 days off than the standard 14on/7off. Where possible employees should be given a choice of roster length (other options include 10 days on 4 days off, or the 'part time' option of, for example 7 days on 7 days off). In addition employers should be

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<sup>6</sup> Rising to the Challenge – Building professional staff capability in the Australian Minerals industry for the new century. Report prepared by World Competitive Practices Pty Ltd for DETYA and The AusIMM

<sup>7</sup> The AusIMM WIMNet "Increasing The Diversity Of The Mining Industry Workforce – Strategies For Employers."

<sup>8</sup> Heiler, K. (2002). The Struggle for Time: A review of extended shifts in the Tasmanian mining industry, ACIRRT, University of Sydney.

<sup>9</sup> Potts, T & Potts, S. 2003 FIFO – Flying into Family Obstacles – A Personal View. AusIMM Bulletin Jan/Feb 2003.

sympathetic to requests for short-term roster changes to accommodate personal circumstances.

- Job sharing/part-time work options. Two employees each working 30 hours per week may be far more effective than one working 55 hours per week, and the cost differential may be negligible.
- Minimising the number of employees on regular 12-hour shifts (eg do all maintenance staff need to be on the same 12 hour shifts as operators?).

The common theme to these suggestions is that to encourage attraction and retention of employees, it may be necessary to offer a diversity of working hours and roster patterns.

In many mining towns a major recruitment cost is relocating new employees and their families, and there is an associated cost where an employee leaves because the family does not settle into the new environment. Local recruitment is expected to reduce these costs and to increase workforce stability. In some locations this may increase aboriginal participation in the workforce. Local recruitment should be encouraged, even where this may involve organising additional training for new employees. Initial local advertising (local press, community notice boards) together with internal advertising of vacancies could promote diversity, reduce recruitment and staff turnover costs, and above all provide the industry with a stable workforce.

Many employers in the mining and exploration industry are keenly aware of these issues and are implementing strategies to improve attraction and retention issues in their workforces. People in the wider community are influenced by negative portrayals of the industry in the media and by recollections of past practices. Inevitably, there will be a time lapse between change in the industry and public perception. This is a complex issue, which affects not only the pool of applicants to mining and exploration companies but also the pool of applicants to tertiary and TAFE courses related to the industry.

How does a “traditionally learned” Institute react to the challenges and opportunities created by:

- Globalisation and concentration of the Industry
- The ever increasing calls for sustainable development
- The ever increasing calls for self regulation and ethical behaviour on a world wide scale
- The challenges of greater technical innovation and change
- Changing employment practices by international corporations (use of consultants, contractors, level of commitment to employees CPD, International flexibility and recognition of qualifications, FIFO, duty of care, etc)
- The need for more appropriate and effective risk, environment and OH&S management
- Other cost and regulatory pressures.
- Declining commodity prices.

The Institute can react, by supporting and assisting the professionals in the Minerals and related industries, to:

- keep abreast of the latest technological developments and opportunities
- manage and develop their careers whilst successfully managing all compartments of their lives (social, religious, family, health, etc)
- be flexible, transferable and accountable whilst their qualifications, competencies and experiences are recognized world wide
- acquire the broader range of skills to cope with and be successful in the ever-changing environment, particularly to address their emotional intelligence
- accept opportunities to network with fellow professionals in the minerals industry to their mutual advantage
- understand and accept the advantages of embracing diversity

- be aware of issues which may impact on their current and future employment and careers
- take pride in themselves, their profession, their industry, and their employer, to be informed and to speak out in support of all of these
- adhere to codes of conduct supported by ethical processes wherever they practice in the world
- lead passionate and fulfilling lives.

The Institute is addressing these challenges so that we can provide career support for professionals in the Minerals Industry who are committed to continuing professional development of both themselves and in the broader community in which they work and play. For example, through the provision of International Conferences, Proceedings and Transactions, International reciprocal recognition of qualifications and competencies, and the AusIMM National Mentoring Programme. Both The AusIMM and employers have a role to play in encouraging people from diverse backgrounds to join the industry and supporting those professionals already a crucial part of it. Existing AusIMM initiatives such as the Australian Student Mineral Venture, the Young Leaders Conference, the Youth Congress, etc may help to attract a wider range of people to the industry and should be more strongly supported by all in the industry. New ideas and initiatives should also be encouraged.

These opportunities must also be addressed by the Tertiary Education sector as they endeavour to provide graduates, which will meet the needs of the Global Corporations wherever they practice. Australia has the opportunity to continue to be the source of professionals for the worldwide Minerals Industry. The AusIMM will play its part in supporting and nurturing its members to ensure they are equipped to fill the expectations of those who seek fully qualified Professionals.

## **6. Recommendations**

In addressing the level of participation in paid work in both Australia and specifically in the Australian Mineral Sector we encourage the support of the following recommendations;

- Take action to unify the Mining Technology Services (MTS) sector and to raise international awareness of Australia's MTS products and services
- Take action to improve the access of the Mining sector to R&D services and commercialisation mechanisms
- Implement actions to raise the profile of the Mining and MTS sectors with the financial community and to assist the sector to become more knowledgeable about investor options
- Take action to identify and promote existing e-Business initiatives and assistance programs for industry. Initiate an industry awareness campaign, including greater dissemination of information on e-Business related issues
- Take action to increase the awareness and attractiveness of the Mining sector to Science, Engineering and Technology graduates and minerals industry personnel, including greater involvement of the sector in existing minerals education initiatives.
- Take action to raise the level of awareness and understanding of intellectual property, to assist in exploiting the wealth of innovation within the Australian Minerals Sector, ensuring global recognition of innovative Australian Minerals Sector products and services.
- Develop regional template agreements for native title and heritage protection approvals processes that will reduce the backlog of tenement applications, improve relationships between miners and indigenous interests.
- Encourage the use of expedited procedure included under the *Native Title Act*

- Amend the Aboriginal Land Rights (NT) Act 1976 to facilitate the application, assessment and decision-making processes
- Develop a coordinated approach to resolve impediments to land access.
- Introduce a flow through share in order to stimulate exploration and subsequently employment opportunities in the minerals industry
- Introduce a general tax deduction uplift factor for greenfields exploration expenditure
- Implement the full taxation deductibility of all costs associated with Native Title requirements
- Fund a major pre-competitive geoscience survey program to achieve complete national coverage to modern standards of basic geoscience datasets.
- Develop national standards for the acquisition, digital conversion, storage, manipulation and online retrieval of all exploration related data
- Launch and support a "50 early career geoscientist" scheme for new graduates and doctorates
- Increase higher education funding for Science, Engineering and Technology
- Establish a deep ore discovery and research and development program

## 7. Conclusions

Globalisation of the Minerals Industry with centralisation and rationalisation of ownership have impacted on the employment of skilled professionals and the range of skills that are required to run a successful operation. The challenge for the Federal Government is to go beyond getting the macro economic settings right and to attract the major International Corporations to invest in the Australian minerals industry and its people so that Australia provides the research, skills and expertise for their companies world wide. This can be done through the recommendations and suggestions outlined in this submission as well as through the National Research Priorities, the National Geoscience Strategy and the Inquiry into Increasing Business Investment in Research and Development recommendations. Unless we seize this opportunity the globalisation of the industry could see decisions made outside Australia in favour of these skills and professional staff being supplied from other overseas providers. We have a great opportunity to establish Australia as the global centre for excellence in Mining Technology, Expertise and Services and to attract the global corporations to invest in Australia. The multiplier effect on smaller companies and thus employment will then be significant. We must therefore remove the impediments and use incentives to foster increased participation in paid work in Australia.

Regards,



Don Larkin  
CEO – The AusIMM