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The Australian Institute of Geoscientists

Supporting Geoscientists for 21 Years: 1981 – 2002

14 July 2002

SUBMISSION TO THE PARLIAMENTARY COMMITTEE INQUIRY INTO RESOURCES EXPLORATION IMPEDIMENTS IN AUSTRALIA

BY

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INTRODUCTION

The Australian Institute of Geoscientists (AIG) welcomes this opportunity to make a submission to the Parliamentary Committee Inquiry into Resources Exploration Impediments.

AIG is Australia's leading professional institute exclusively representing geoscientists (geologists, geophysicists and other earth scientists) employed in all sectors of industry, education and research, and government throughout Australia.

The inquiry coincides with the Australian Bureau of Statistics reporting of the lowest quarterly expenditure on mineral exploration in real terms for more than 10 years for the March quarter of 2002 (Figure 1).

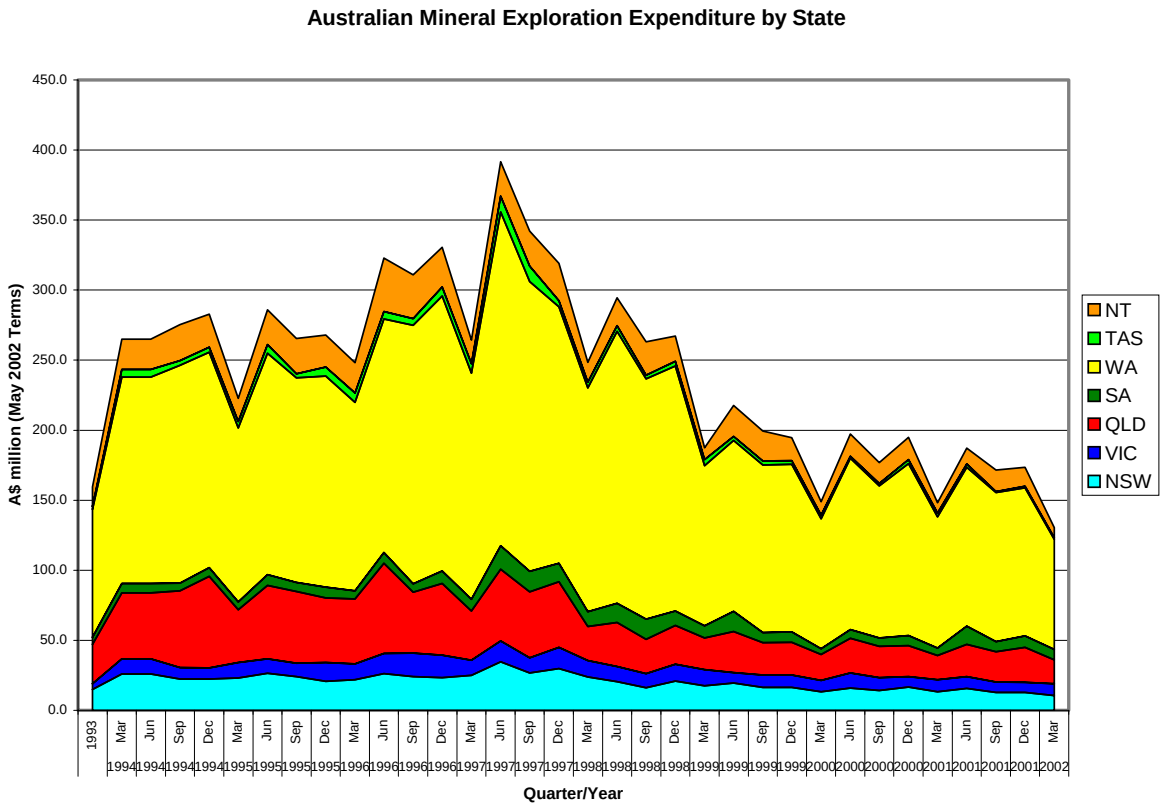

Figure 1. Quarterly Mineral Exploration Expenditure in Australia: 1994 to March 2002

Exploration expenditure during this period was AUD$129.5 million, a 21 percent decrease compared with the March quarter of 2001. Should expenditure patterns evident throughout 2001 be repeated this year, AIG predicts that national private mineral exploration expenditure could fall by as much as 25 percent compared to 2001.

Why is AIG Presenting this Submission?

The inquiry is of particular interest to AIG members, more than three quarters of whom work in the resources exploration sector and have been drastically affected by the decline in private mineral exploration expenditure over recent years. AIG research suggests over 55% of geoscientists have been forced to leave the mineral exploration and mining industry over the past four years.

AIG contends that the current low level of mineral exploration in Australia is also damaging Australia's geoscience capabilities and eventually the Australian economy. The lack of employment opportunities in mineral exploration has created an impression of poor career prospects for geoscientists in general, resulting in sharply reduced demand for geoscience places at Australian universities and a shortage of talented graduates with the skills required by other geoscientific fields such as water resources management, environmental remediation, soil science and sustainable landuse management, too name a few. For example, there is currently a pronounced shortage of qualified hydrogeologists to work on salinity mitigation.

The effects of the downturn in resources exploration has long term economic and social implications that extend far beyond the exploration and mining industries.

Past Warnings Have Gone Unheeded

AIG, in concert with other professional and industry bodies with an interest in the sustainability of Australia's resource industries, including the Australian Geoscience Council of which AIG is a member, have been consistently warning governments at both State and Federal levels for more than three years of the economic implications of failing to address declining resources exploration.

AIG commends the Minister for his initiative in establishing this inquiry. We wish to stress, however, that this inquiry must work quickly to reach its findings and advise the government of the urgent actions needed to address the current situation.

The timing of this inquiry is critical. New resources projects now take between seven and ten years to proceed from discovery to production. There have been few significant new resources discoveries in Australia for more than five years. In another five years, a large proportion of mines currently in production will have closed, or be nearing the end of their operational life, resulting in reduced exports, business activity, employment and opportunities for economic and infrastructure development, particularly in regional areas of Australia.

The most recent list of minerals and energy projects published by ABARE[1] includes only 12 new mining project commitments across Australia, and a further 8 advanced projects. This level of project development falls far short of that needed to sustain mining's contribution to the Australian economy and will continue to decrease unless resource exploration in Australia is revitalized.

WHERE ARE WE NOW?

- **Australia has just recorded the lowest level of private mineral exploration expenditure in real terms for ten years.**
- **Exports of major mineral commodities are falling.**
- **Existing resources, currently being mined, are not being replenished by exploration and new discoveries.**
- **Some State governments have already commenced increasing royalties for minerals and petroleum to offset lost income from declining production.**
- **While commodity prices are lower than historic levels, they are not so low as to deter exploration investment.**

[1] Minerals and Energy Major Development Projects, Australian Bureau of Agricultural and Resource Economics Project 2650, 2002.

- **World economic growth and industrial activity are increasing, with consequent benefits for the demand for minerals.**

- **Recent investment in exploration projects has failed to translate into expenditure on activities that contribute to the discovery of new resources. Rather, recent mineral exploration has focused upon near mine environments, which although providing incremental increases in ore reserves, generally fail to identify new mines.**

- **The mining industry is undergoing major structural change, which has already resulted in small to medium sized companies becoming the key to increased exploration activity in Australia.**

- **Mineral producers are under increasing pressure by shareholders to increase profitability and thus dividends, and reduce the risk of exploration. Recent mineral exploration by internally funded companies has focused upon near mine environments (brownfields exploration), which although providing incremental increases in ore reserves, generally fails to identify new mines.**

- **With takeovers and mergers of profitable mining companies, total expenditure on exploration is reduced (1 + 1 is not equal to 2), and many staff are laid off resulting in the loss of intellectual and research skills.**

- **As most of Australia has been lightly explored, greenfields exploration targets are now in remote areas, or are deep or hidden, requiring larger capital backing by explorers.**

- **The small exploration companies which are the effective explorers are currently starved for investment funds.**

Australia should currently be experiencing the level of resources exploration needed to sustain our resource industries. The mining industry recognizes the potential for improved markets for mineral products in coming years through improving world economic conditions. There are advantages in exploration remaining ahead of this upturn in order to maximize the opportunities provided by new discoveries.

The Australian economy depends on the sustainability of our resource industries:

- Exploration and mining provide either direct or indirect employment for 356 000 Australians;
- For every job in mining, more than four other jobs are created in the wider community;
- 88 percent of all income received by the mining industry is spent on goods, services, wages, salaries and payments to government;
- Mineral exports were worth more than A$33.5 billion in 1999-2000;
- Resource exports account for 80 percent of outbound cargoes from Australian ports on a tonnage basis; and
- Governments received A$8.4 billion in taxation, royalties and other payments to government agencies in 1999-2000.

Unsustainably low levels of resource exploration put all this at immediate risk.

Historically, short term declines in commodity prices do not themselves contribute to long term declines in exploration activity. New mineral discoveries benefit from being brought into production

during a time of increasing commodity prices, and explorers recognize the advantage of developing discoveries ahead of any upturn in commodity prices.

There is a dangerous perception, in some quarters of the Australian Government, that the mineral resources industry is based on depleting assets, leading to the image of an "old, less-than-smart" economy.

Nothing could be further from the truth. These views hark back to the flawed thinking of the 1970 Club of Rome doctrine that said the world will run out of metals by the advent of the 21 century.

This view is flawed on two grounds:

- The record of discovery in Australia in the 1990s during the era of the State Exploration initiatives demonstrate that money spent on geoscientific data can stimulate exploration and does lead to discovery. (There were at least 12 new major mineral discoveries in the 1990s, but sadly none in NT).

- The concept of resources is generally not understood whereby tonnes/grade curves of gold and base metal deposits have big tonnage "tails" at lower grades. Therefore it is possible (almost a guarantee) that with mine site exploration, increased operational efficiencies, and capital amortisation, more mining reserves (and longer lives) will flow from the same set of assets. Major mineral deposits are dynamic and not dying assets.

Exploration activity has not declined because Australia is considered to be "fully explored". New ideas and geoscientific theories continuously refocus attention on previously explored and even previously mined areas. Recent discoveries such as Newcrest's Cadia Hill and Ridgeway mines in New South Wales, extensive new reserves at the Telfer Mine in Western Australia demonstrate the manner in which new ideas can contribute to the revitalisation of old mining fields. Exploration "in the shadow of the headframe" has contributed to the continued extension of reserves at many mines, including Broken Hill in NSW and Kalgoorlie in Western Australia. Much of Australia is covered by relatively young, unmineralised rocks and poorly consolidated surficial cover. These areas have received little or no exploration attention in the past. New geophysical technologies are, however, beginning to enable geoscientists to see beneath this cover, resulting in major discoveries including Olympic Dam in South Australia, and the Cannington and Ernest Henry mines in Queensland.

The exploration industry has become the province of small to medium sized companies, as opposed to large, global companies, as a consequence of extensive restructuring of Australia's resource industries in recent years. Large companies have shifted focus from "growth by exploration" to "growth by acquisition" where their financial resources are used to obtain access discoveries made by smaller companies. The exploration focus of some larger companies has become specific, usually high risk but potentially high reward aspects of exploration that smaller groups could not be expected to undertake. This change in focus has contributed to exploration remaining largely the province of Australian owned and managed enterprises.

The ability of small to medium sized companies to finance innovative and technically sound exploration projects in Australia is directly related to their ability to attract investment. Favourable provisions are required to attract and sustain investor interest in our resource industries.

Australian explorers have demonstrated not only their ability but willingness to comply with and exceed community expectations for consultation with stakeholders in exploration projects and respect of the natural environment.

The contribution of our resource industries to national research and development continue to be largely unacknowledged. More than 20 percent of private funds for research and development are

provided by exploration and mining companies. This effort helps to sustain mining technology exports worth A$1.9 billion annually. Australian export earnings from mining and exploration technology exceed the total exports of the entire wine industry. Australia leads the world in the field of mine planning software, with Australian software packages in use at more than 70 percent of the world's mines. These exports depend, however, on a vital, local industry contributing the ideas and experience needed to continuously improve these products.

The value of exploration itself as a research and development activity has also been largely unrecognized. Few realize that effectively all data acquired during private exploration for new resources eventually becomes available to the public through the open file reporting systems managed by State mineral resources and energy departments, geological surveys and other agencies. This data has widespread applications in water resource and land management that extend well beyond the mining industry and constitutes a valuable technical resource.

Employment of geoscientists has suffered dramatically as a consequence of the downturn in Australian resources exploration. In 1996 there were 5600 geoscientists employed in Australia[2]. Today, AIG estimates there are 2600, a fall of more than 50 percent in six years[3]. Amongst those remaining in the profession, the national unemployment rate was 14.1 percent – more than double that of the unemployment rate in the broader Australian community and an unacceptably high rate for any professional group. Some 37 percent of geoscientists in current employment also felt that their positions were not secure for the next 12 months. The exploration industry has also become increasingly reliant on short term contract professional labour, arguably as a consequence of uncertainty affecting exploration in Australia. The above figures arguably mask a very high level of underemployment.

The loss of more than 3 000 jobs in the geoscience professions, principally in mineral exploration, corresponds with the loss of a further 10 000 jobs in the broader community due to the high employment multiplier (3.1) associated with mineral exploration in the Australian economy.

WHERE DO WE WANT TO BE?

Australia needs to maintain a sustainable level of mineral exploration to ensure that:

- Existing mines are replaced by new discoveries as they reach the end of their operating lives;

- Ensure the contribution of resource industries to the Australian economy is maintained to guarantee a significant component of state and local government income streams, support employment and facilitate infrastructure maintenance and development, particularly in regional areas; and,

- Promote the development of new businesses, initially based on servicing a strong locally based industry, with the potential to become exporters of goods and services as they develop;

- Maintain the high standard of living available to all Australians; and,

[2] Australian Geoscience Council survey results.
[3] Directory of Australian Geoscientists statistical data, June 2002. The Directory of Australian Geoscientists is an ongoing project of AIG in conjunction with the Australian Geoscience Council and other Australian geoscience organizations.

- Promote development of industries in a manner that balances demands for production with respect for the natural environment.

Australia is viewed very favourably as a location for exploration investment. Our stable political culture, excellent prospectivity and highly skilled industry personnel are major competitive assets. Australia is currently ranked the fourth most favourable country for exploration investment by North American exploration managers, although our position has slipped from first place in the previous year[4]. Australia must use this favourable perception to advantage to promote exploration investment.

Sustainable development is a key objective of both industry and government, and an expectation of a growing number of stakeholders. Sustainable development of the resources industry involves ensuring economic, social and environmental sustainability, the latter two areas especially being ones in which the resources industry has made enormous progress. Exploration and mining are, however, ultimately commercial activities where economic sustainability is a prerequisite for social and environmental sustainability. In other words, an industry that is not economically viable cannot contribute to social and environmental initiatives.

Australia requires a resources industry that is able to contribute to social and environmental initiatives by virtue of its sound economic position.

HOW DO WE GET THERE?

All levels of Government in Australia need to foster initiatives required to promote resources exploration. Key initiatives include:

- Ensure the equity and certainty of access to land for exploration
- Fund gathering and compilation of pre-competitive geoscientific data used in exploration; and,
- Provide incentives to attract investment in exploration projects.

Access to land is clearly the single, most significant obstacle to increased mineral exploration in Australia. No actions to re-invigorate resources exploration will be effective unless this fundamental issue is resolved by restoring certainty to land access processes. Once addressed, other supporting measures will be necessary to promote necessary private exploration investment.

AIG proposes the following measures to effectively implement these initiatives.

Recommendation 1. Exemption of Exploration Activities from Native Title Act "Right to Negotiate" Provisions.

AIG respects and supports the right of all community stakeholders, including indigenous people, to be involved in the development of resource industry projects, and the need for them to be comprehensively involved in ensuring the protection of the environment and culturally significant sites.

AIG recommends that "Right to Negotiate" provisions of current Native Title legislation should be applied during or upon positive completion of project feasibility studies where opportunities and risks created by a new project are adequately quantified and an appropriate frame work for negotiations can be established.

[4] Annual survey of North American exploration managers, 2002. Fraser Institute, Vancouver, Canada.

Explorers are already required to comply with measures to ensure protection of culturally significant sites and the environment.

Recommendation 2. Introduction of Nationally Uniform Land Access procedures.

Nationally uniform procedures would reduce overheads incurred by explorers and simplify compliance issues for both Australian and non-Australian based companies. Procedures should guarantee access to land within a guaranteed timeframe, upon compliance with specified conditions.

Recommendation 3. Removal of Any "Right of Veto" Affecting Exploration on Private (e.g. Freehold) Land That Exist in Some States.

All provisions that enable certain categories of landholder to veto access to land by explorers should be removed to reserve the notion that mineral resources remain the property of the State.

Recommendation 4. Renewal of Exploration Tenements and Partial Relinquishment of Tenure.

Procedures already existing in State legislation for the partial relinquishment of land held under exploration tenure should be implemented rigidly. Ministerial discretion to allow companies to retain land under exploration tenure when "in the ground" exploration expenditure commitments have not been met should only be exercised when this will clearly contribute to a project proceeding to a higher level of feasibility study or development within the forthcoming term of the exploration or mining tenure concerned.

AIG recognises that regulators in WA, NT, SA, and Qld do wish to follow the spirit of their respective Mining Acts, which encourages land to be turned over to willing explorers. But in many case they are reluctant to cancel granted tenements for non performance, because such action consigns the land immediately back into the Native Title log-jam.

Ensuring access to prospective land by as many groups as possible maximizes the potential for resource discovery and development

Recommendation 5. Implementation of Taxation Incentives to Promote Exploration Investment.

Many small exploration companies fail to realise their potential due to early exhaustion of limited funds, and shareholders receive no return on their investment. Continuing investment in private mineral exploration, especially by small to medium sized companies, needs to be promoted by measures such as;

- positive recognition of risk inherent in exploration investment through enhanced tax deductibility, , ensuring that shareholders receive some return on their investment;
- recognition of exploration as a valid research and development activity;
- implementation of an effective "Flow Through Share" scheme, along the lines of measures implemented in Canada;
- introduction of incentives whereby investments by individuals or companies in audited research and development by other groups can be fully deducted from taxable income, thereby reducing risk associated with start-up funding of research and development enterprises and promoting Australian innovation.

Recommendation 6. Investment in Pre-Competitive Geoscientific Data

AIG recommends that State Governments act immediately to provide effective, on-line access to all geological and regional geophysical mapping, exploration and mining land tenure information, open file company reports, and open file geoscientific databases by the end of 2005.

Provision of access to data already held by governments, collectively referred to as geoscience infrastructure, has been identified as one of the most effective means of promoting resources exploration activity[5].

Recommendation 7. Maintenance and Direction of Geoscience Australia Geoscientific Programs

AIG strongly supports Australian Geoscience Council recommendations for the formation of a board to direct Geoscience Australia geoscientific data acquisition and research programs to help ensure the relevance of these programs to the resources industry. AIG also urges the continued funding of these programs as the Commonwealth's contribution to enhancing Australia's geoscientific infrastructure.

CONCLUSIONS

The resources industry is a vital component of Australia's economy. Sustainable levels of exploration, where new discoveries continue to replace existing resources, are required to ensure the industry's future and Australia's economic strength.

The seven to ten year process of bringing new projects from discovery, through feasibility to development has effectively been severed for six years, placing the Australian geoscience professions in crisis, and threatening exports and employment in the broader economy.

This submission contains seven recommendations that must be urgently considered by government so that effective legislation and strategically directed funding can be put in place to urgently arrest declining resources exploration and re-invigorate this essential sector of the Australian economy.

AIG welcomes the opportunity to present this submission to the Committee for consideration.

[5] Annual survey of North American exploration managers, 2002. Fraser Institute, Vancouver, Canada.