



***ECONOMICS AND INDUSTRY  
STANDING COMMITTEE***

**INQUIRY INTO VANADIUM  
RESOURCES AT WINDIMURRA**

**Report No. 10**

**2004**

**Published by the Legislative Assembly, Parliament of Western Australia, Perth, November 2004.**

Printed by the Government Printer, State Law Publisher, Western Australia.



Economics and Industry Standing Committee

Inquiry into Vanadium Resources at Windimurra

ISBN: 1 920830 43 x

(Series: Western Australia. Parliament. Legislative Assembly. Committees.  
Economics and Industry Standing Committee. Report 10)

328.365

Copies available from:

State Law Publisher  
10 William Street  
PERTH WA 6000

Telephone:

(08) 9321 7688

Facsimile:

(08) 9321 7536

Email:

[sales@mpc.wa.gov.au](mailto:sales@mpc.wa.gov.au)

Copies available on-line:

[www.parliament.wa.gov.au](http://www.parliament.wa.gov.au)



***ECONOMICS AND INDUSTRY  
STANDING COMMITTEE***

**INQUIRY INTO VANADIUM  
RESOURCES AT WINDIMURRA**

**Report No. 10**

Presented by:

**Mr A.D. McRae, MLA**

Laid on the Table of the Legislative Assembly  
on 11 November 2004



## COMMITTEE MEMBERS

<b>Chair</b>	Mr A.D. McRae, MLA Member for Riverton
<b>Deputy Chair</b>	Mr J.H.D. Day, MLA Member for Darling Range
<b>Members</b>	Mr J.J.M. Bowler, MLA Member for Eyre
	Mr B.K. Masters, MLA Member for Vasse
	Mr M.P. Murray, MLA Member for Collie

## COMMITTEE STAFF

<b>Principal Research Officer</b>	Mr Simon Kennedy, BA (Hons) (from 02.08.2004) Dr Ray Wills BSc (Hons) PhD (to 11.07.2004)
<b>Research Officer</b>	Ms Jovita Hogan, BA (Hons)

## COMMITTEE ADDRESS

Economics and Industry Standing Committee  
Legislative Assembly  
Parliament House  
Harvest Terrace  
PERTH WA 6000

Tel: (08) 9222 7494  
Fax: (08) 9222 7804  
Email: [laeisc@parliament.wa.gov.au](mailto:laeisc@parliament.wa.gov.au)  
Website: [www.parliament.wa.gov.au](http://www.parliament.wa.gov.au)



# TABLE OF CONTENTS

COMMITTEE MEMBERS.....	I
COMMITTEE STAFF .....	I
COMMITTEE ADDRESS .....	I
COMMITTEE’S FUNCTIONS AND POWERS.....	V
INQUIRY TERMS OF REFERENCE .....	VII
CHAIR’S FOREWORD.....	IX
ABBREVIATIONS AND ACRONYMS.....	XI
EXECUTIVE SUMMARY .....	XIII
FINDINGS .....	XIX
RECOMMENDATIONS .....	XXV
MINISTERIAL RESPONSE.....	XXIX
<b>CHAPTER 1 INTRODUCTION .....</b>	<b>1</b>
1.1 BACKGROUND.....	1
1.2 WESTERN AUSTRALIA’S RESOURCES SECTOR.....	1
1.3 VANADIUM.....	2
1.4 WINDIMURRA VANADIUM MINE .....	2
<b>CHAPTER 2 INFRASTRUCTURE FOR THE MINE.....</b>	<b>5</b>
2.1 DEVELOPING THE WINDIMURRA MINE .....	5
(a) Precious Metals Australia pegs Windimurra, 1985.....	5
(b) PMA Joint Venture with Xstrata, 1997.....	5
(c) Xstrata takes over, 2000.....	6
2.2 PUBLIC INFRASTRUCTURE AND SUPPORT.....	7
(a) Power supply - gas pipeline and power station.....	7
(b) Department of Industry and Resources.....	10
(c) Road upgrade.....	10
(d) Mt Magnet airstrip .....	10
(e) Commonwealth Industry Research and Development Grant.....	11
<b>CHAPTER 3 OPERATION OF THE VANADIUM MINE .....</b>	<b>13</b>
3.1 THE MINE’S PERFORMANCE .....	13
(a) Distinctive ore.....	13
(b) Magnetite recovery .....	14
(c) Plant performance.....	15
(d) Power generators .....	15
(e) Operating costs .....	16
3.2 VANADIUM PRICES .....	17
3.3 THE AUSTRALIAN DOLLAR.....	19
3.4 LEVELS OF PRODUCTION .....	20
<b>CHAPTER 4 CLOSURE OF THE MINE .....</b>	<b>23</b>
4.1 CONDITIONS PRIOR TO CLOSURE .....	23
4.2 XSTRATA’S DECISION: CARE AND MAINTENANCE .....	25
4.3 FURTHER INVESTMENT TO IMPROVE VIABILITY .....	25
4.4 PERMANENT CLOSURE .....	27
4.5 IMPACT ON INVESTMENT.....	28
(a) Local Government .....	28
(b) State Government and Western Power .....	29
(c) Private sector .....	30
<b>CHAPTER 5 DECOMMISSIONING THE MINE .....</b>	<b>31</b>
5.1 XSTRATA’S DECISION TO DECOMMISSION .....	31
5.2 OPPORTUNITY FOR SALE.....	32
5.3 CURRENT STATUS OF THE MINE .....	35

<b>CHAPTER 6</b>	<b>PROTECTING WESTERN AUSTRALIAN INTERESTS .....</b>	<b>37</b>
6.1	LOCAL COMMUNITIES .....	37
6.2	PROTECTING THE PUBLIC INTEREST .....	40
	(a) Sovereign risk .....	40
	(b) Balancing public interest with certainty for investors .....	40
6.3	LEGISLATION .....	41
	(a) Other jurisdictions .....	42
6.4	REFORM OF WESTERN AUSTRALIAN LEGISLATION .....	44
	(a) Financial compensation to the Government .....	47
	(b) State Agreement Acts .....	48
APPENDIX One.....		51
	BRIEFINGS .....	51
APPENDIX Two.....		53
	SUBMISSIONS .....	53
APPENDIX Three.....		55
	PUBLIC HEARINGS .....	55
APPENDIX Four.....		57
	LEGISLATION.....	57
REFERENCES.....		59



## **COMMITTEE'S FUNCTIONS AND POWERS**

The functions of the Committee are to review and report to the Assembly on: -

- (a) the outcomes and administration of the departments within the Committee's portfolio responsibilities;
- (b) annual reports of government departments laid on the Table of the House;
- (c) the adequacy of legislation and regulations within its jurisdiction; and
- (d) any matters referred to it by the assembly including a bill, motion, petition, vote or expenditure, other financial matter, report or paper.

At the commencement of each Parliament and as often thereafter as the Speaker considers necessary, the Speaker will determine and table a schedule showing the portfolio responsibilities for each committee. Annual reports of government departments and authorities tabled in the Assembly will stand referred to the relevant committee for any inquiry the committee may make.

Whenever a committee receives or determines for itself fresh or amended terms of reference, the committee will forward them to each standing and select committee of the Assembly and Joint Committee of the Assembly and Council. The Speaker will announce them to the Assembly at the next opportunity and arrange for them to be placed on the notice boards of the Assembly.



## INQUIRY TERMS OF REFERENCE

At its meeting on 30 June 2004, the Economics and Industry Standing Committee resolved to inquire into:

- a) the scale and type of public and private infrastructure investment into vanadium mining at Windimurra;
- b) operations of the mine and plant since establishment;
- c) the conditions leading to mine and plant closure;
- d) the arrangements by Xstrata Alloys for the decommissioning of the mine and dismantling and sale of the plant;
- e) statutory or policy reform to protect the State's mineral resources and their development potential; and
- f) any other matters considered relevant by the Committee.



## CHAIR'S FOREWORD

An increasingly centralised and global mining industry presents a number of challenges to regions such as Western Australia, with its rich natural resources and attractiveness to mining investors. Circumstances surrounding the closure of the Windimurra vanadium mine have provided an opportunity to assess the capacity of Western Australia's Government to protect the public interest in its dealings with the mining industry.

Windimurra has illustrated the potential for major international companies to place their shareholders' interests above the public interest of Western Australia and, at present, the State Government has only a limited capacity to act in such a case. The circumstances of the Windimurra vanadium mine's closure and subsequent allegations levelled at its international owners are cause for concern for Western Australia. For the most part, the Committee has declined to draw its own conclusions in this dispute due to ongoing legal action related to the mine's closure.

The development of the Windimurra project was facilitated by millions of dollars of infrastructure provided by local and state governments, but the mine was permanently closed in May 2004, just three years after it began operating. The closure has left the State with a significant and long-term financial burden and expensive but underutilised infrastructure in the Mid West region. In completing this Inquiry, the Committee has focussed on legislative improvements to better protect Government investment in the future while maintaining Western Australia's excellent comparative advantages as a destination for significant mining investment.

I would like to acknowledge the Committee's former Principal Research Officer, Dr Ray Wills for his assistance in establishing this inquiry and his previous contribution to the Committee's functions. His successor as Principal Research Officer, Simon Kennedy, and Research Officer, Jovita Hogan, have admirably pursued the Committee's wishes during this inquiry and I thank them for their industry.

I particularly wish to acknowledge Committee members for their contributions to this inquiry: Deputy Chair Hon John Day (Member for Darling Range), Mr John Bowler (Member for Eyre), Mr Bernie Masters (Member for Vasse) and Mr Mick Murray (Member for Collie). Despite differing views at times and occasionally vigorous debate during Committee deliberations, it is a great tribute to Committee members that we have maintained our record of consensus. It has been a pleasure to Chair this Committee and I believe we can be proud of our solid program of work undertaken during the course of the 36<sup>th</sup> Parliament.

MR A.D. McRAE, MLA  
CHAIR



## ABBREVIATIONS AND ACRONYMS

“AGL”	Australian Gas Light Company
“APA”	Australian Pipeline Trust
“Committee”	Economics and Industry Standing Committee
“Fabcon”	Fabcon Constructions Pty Ltd
“Government”	Government of Western Australia
“GSP”	Gross State Product
“NSW”	New South Wales
“PMA”	Precious Metals Australia Limited
“Power Purchase Agreement”	PPA
“State”	State of Western Australia
“V2O5”	Vanadium pentoxide
“Western Power”	Western Power Corporation
“Xstrata”	Xstrata plc
“Xwin”	Xstrata Windimurra Pty Ltd





## EXECUTIVE SUMMARY

The permanent closure of the Windimurra vanadium mine in May 2004 has raised questions about the way in which Western Australia interacts with an increasingly globalised resource industry. In the case of Windimurra, the State Government provided assistance for the development of significant infrastructure to facilitate the mine's operation, but has been left with a considerable burden following the mine's demise.

Major international companies increasingly dominate the mining industry. As a result, these companies potentially have the ability to use their global assets in order to favour the company's overall result. Naturally, companies may choose to pursue their own interests rather than those of regional or national governments and their citizens.

The Committee has made recommendations to improve Western Australia's capacity to protect its own interests in light of this trend towards globalisation. In doing so, the Committee is mindful of the State economy's dependence on the resource industry. Amendments to legislation governing the industry must preserve Western Australia's status as a premium location for resource investment, while protecting taxpayer investment in resource projects. Potential investors are drawn to the State's low sovereign risk, which must be maintained as an advantage.

The Windimurra minesite is located 85 kilometres from Mt Magnet, some 550 kilometres north east of Perth. Following more than a decade of research and development, construction of the mine was undertaken in 1998-1999. Its official opening in May 2000 was accompanied by considerable optimism for a 30-year project to provide significant returns for its operators and Western Australia generally.

As explained in Chapter 2 of this Report, the proposed mine was a catalyst for the Court Government to support construction of a gas pipeline and power station. The Government hoped to achieve cheaper and more environmentally friendly energy production in the region, while catering for future demand and additional resource development. Western Power Corporation entered into joint venture arrangements with private sector companies to undertake construction of the pipeline and power station.

The State of Western Australia invested over \$30 million for infrastructure development in support of the mine, including contributions from the State Government and Western Power Corporation. The Shire of Mt Magnet also committed significant funds to enhance local infrastructure for the mine.

The mine's actual performance from 2000-2002 was far below the project's feasibility assessments. Hopes for a successful 30-year project were dashed with the announcement of the mine's permanent closure just over three years after it began operating.

The closure has left the State with the burden of maintaining underutilised infrastructure. In addition, the State is likely to bear an ongoing expense of servicing a \$14 million loan to Western Power at a cost of \$832,000 per annum for up to 10 years, with a possible extension to 20 years and beyond. The Shire of Mt Magnet now considers its contribution to local infrastructure to have been an unnecessary encumbrance for local ratepayers.

The inquiry has generated recommendations to address the State's capacity to protect its own interests in the face of an increasingly globalised mining industry. While the Committee has recommended a number of changes to Western Australia's mining legislation, the Committee emphasises from the outset that the Government should have the authority to require certain conditions in cases where it has facilitated mining projects by providing significant infrastructure and/or other support:

- Disclosure to the Government of financial and technical information relating to the project's operation;
- Government discretion to call for expressions of interest to purchase a mine and its infrastructure, should the existing leaseholder no longer wish to operate at the site;
- The State Government assumes the status of first mortgagee over assets that may be sold or otherwise disposed of by the operator; and/or
- A proportion of the State's financial investment in supporting infrastructure to a project could be provided as a conditional loan convertible to a grant after a specified period and subject to agreed performance criteria for the project.

Since pegging the Windimurra site in 1985, Perth company Precious Metals Australia Limited (PMA) was principally responsible for the mine's development. In 1997, PMA relinquished its controlling interest to Swiss-based company, Xstrata plc (Xstrata), although PMA retained a significant influence in carrying the project to its realisation. However, soon after the mine's official opening in 2000, Xstrata acquired full management of the project, with PMA retaining a share of profit or an annual payment, whichever was greater.

There has been considerable speculation regarding the Windimurra mine's operation and eventual closure. The Committee has not made definitive judgements on some issues raised, in part because matters relating to the Windimurra mine are currently before the New South Wales Supreme Court. The focus of Chapter 3 is the mine's actual operation between 2000 and 2003, examining a number of factors put forward to explain the mine's unexpectedly poor performance. Windimurra's short period of operation was hampered by a number of challenges, including a downturn in world vanadium prices, an increase in the Australian dollar and difficulties in the performance of the mine itself.

Chapters 4 and 5 of this Report address the eventual decisions to permanently close and decommission the Windimurra mine. Xstrata has maintained that the mine's cumulative problems required decisive action which, along with external pricing pressures, rendered the operation uneconomic. Xstrata considered the project's lack of profitability to be unsustainable and undertook assessments to determine whether additional capital should be used to boost the mine's viability. The company concluded that such investment would not be justified.

The Committee has noted that since the mine's closure vanadium prices have increased to such an extent that the mine would be substantially profitable if operating in the current climate. At the time of this inquiry, the mineral processing infrastructure has been partially dismantled, with significant components removed from the site. The partial dismantling of the mine lessened its attractiveness to potential buyers and severely decreased the likelihood of serious bids to purchase the Windimurra operation.

In Chapter 6, the Committee addresses possible changes to Western Australia's mining legislation to improve the State's capacity to protect its own interests. The closure of the Windimurra mine represented a major setback for the Shire of Mt Magnet. The Committee believes that mining operations can bring many benefits to local communities through the establishment of some facilities in townships. Upon closure, mine site resources could be made available to local communities. Greater consultation between state and local government regarding mining developments would improve the level of information available to local councils regarding events in their communities.

Among the recommendations addressing local communities, the Committee considers that funds allocated by local governments to facilitate mining developments should be provided as a loan that converts to a grant after an agreed period of time. The funds might be repayable to local government in the event a project fails to meet certain performance criteria.

At present, Western Australia's legislation has insufficient power to protect the public interest in mining development projects. It is the Committee's view that recommendations in this Report will not adversely impact on the State's sovereign risk or capacity to attract mining industry investment. The Committee has approached potential changes to the *Mining Act 1978* with the view that an open process must be maintained to provide fairness and certainty in Western Australia's minerals industry.

As stated previously, the Committee considers that a Government decision to significantly assist a mining development should be linked with additional authority to protect its interests. The Government should have access to certain technical and operational information relating to a project and discretion to call for expressions of interest to purchase a mine when an existing leaseholder no longer wants to operate. The Committee has also suggested that the State Government could assume the status of first mortgagee over project assets that may be sold or otherwise disposed of by the operator. The Committee considers that a proportion of State Government funds for

infrastructure or other support for a resource project, could be provided as a conditional loan that converts to a grant after a specified period, on the basis that the project meets agreed performance criteria.

Legislative change must be considered to bolster the capacity of the State's mining legislation to protect the State's interests. It must be noted that many factors can influence expected returns from a mining project. The Committee emphasises that any extension of the Government's powers to change the status of leases should be coupled with a reasonable opportunity for leaseholders to make representations regarding cancellation.

Circumstances surrounding the closure of the Windimurra mine have illustrated the potential for leaseholders to hamper future operations at a mine site. Evidence presented to the Committee included allegations that Xstrata knowingly set out to limit competitors' abilities to take over Windimurra by dismantling parts of the mineral processing infrastructure and declining to enter a genuine process to sell the operation. The possibility of this occurring is of great concern to the Committee.

The State's legislation should be amended so that future mining leases are subject to the condition that the holder of the lease will not suspend mining operations without prior written notice being given to the Minister. In addition, leases must be subject to the condition that the leaseholder will not be free to obstruct future mining or mineral processing at the site by dismantling or removing equipment or infrastructure, except with the prior written consent of the Minister.

The Committee considers these recommendations for change to be relatively moderate, but should involve consultation with relevant industry stakeholders, including the Minerals Council of Australia and the WA Chamber of Minerals and Energy.

The use of State Agreement Acts for mining developments in Western Australia has also been considered in this Report. Currently, there are 67 State Agreements in Western Australia, generally used for major project developments requiring long term certainty, land tenure or complex approvals. Often these developments are in remote areas of the State. Agreements can only be changed by mutual consent, thereby providing security of tenure and a reduction in sovereign risk for both the developer and the Government itself.

A State Agreement Act was considered unnecessary at the time the Court Government committed to supporting the Windimurra mine, but had an Act been implemented, the State may have reduced its exposure to the economic burden resulting from the mine's closure.

The vanadium mine at Windimurra was a project that failed to meet expectations. Commitments to facilitate the mine's development have left both the State of Western Australia and the Shire of Magnet with considerable burdens. Western Power and its private sector joint venture partners have been forced to write down the value of assets

in the Mid West. At the time of writing, the mine's original proponent, PMA, is pursuing legal action against Xstrata over matters related to the decision to close and decommission the mine.

PMA's anticipated returns from the mine have never eventuated and Xstrata itself has been forced to justify to its shareholders an expenditure of \$186 million for a project that failed to deliver profitability.

From the Committee's point of view, it has been timely to consider the ability of large international mining company to manipulate a local resource development operation to favour the company's overall results or its place in the worldwide market. Windimurra's closure may well have proceeded even if recommendations made in this report had been implemented beforehand. However, the decommissioning and dismantling of the mine's infrastructure could have been deferred or avoided had the Government been able to intervene in the public interest.



## FINDINGS

Page 7

### **Finding 1**

The performance of the Windimurra mine between 2000-2002 fell short of the project's operational feasibility assessments and planning.

Page 9

### **Finding 2**

In total, the State of Western Australia invested over \$30 million for infrastructure development in support of Windimurra vanadium mine, including contributions from the State Government, Western Power Corporation and the Shire of Mt Magnet.

Page 9

### **Finding 3**

In 1999, the State Government committed to assisting Western Power Corporation in funding its share of Stage 1 of the Mid West gas pipeline. Western Power Corporation required a \$14 million loan to construct Stage 1, resulting in interest repayments of approximately \$832,000 per annum for 10 years to be met by the Government.

Page 9

### **Finding 4**

Interest repayments met by the State Government on a \$14 million loan required to construct Stage 1 of the Mid West gas pipeline may cost the State \$16.6 million over 20 years.

Page 10

### **Finding 5**

Upgrading the road running from Mt Magnet to Windimurra was completed following Local and State Government contributions totalling just over \$785,000.

Page 11

**Finding 6**

The decision to upgrade Mt Magnet airstrip was not directly attributable to the development of the Windimurra mine.

Page 16

**Finding 7**

The Windimurra vanadium mine's early operation was significantly hampered by a number of factors, including the nature of the ore deposit, magnetite recovery, performance of the plant and inefficiently configured power generators.

Page 16

**Finding 8**

The operating cost of producing vanadium pentoxide at Windimurra in 2002 was reported by Xwin as US\$1.60 per pound when the average world price for vanadium pentoxide was around US\$1.35 per pound, although PMA submitted to the Committee that the actual operating costs were as low as US\$1.13 per pound.

Page 18

**Finding 9**

The performance of vanadium prices over the last twenty years has been characterised by significant but short-lived peaks.

Page 18

**Finding 10**

On the basis of evidence presented to the Committee regarding vanadium prices, it is reasonable to believe that the Windimurra project could have been economically sustainable in the long term. The volatility of the vanadium price suggests that over an operating period of 30 years the project could be expected to experience highly profitable periods and periods of break even or loss.

Page 18

**Finding 11**

If the Windimurra vanadium mine had been operating at 2004 market prices the project is likely to have made a profit over the preceding 12 months.



Page 18

**Finding 12**

The history of vanadium prices suggests the current high price for vanadium may not be sustained but is likely to be repeated in future price cycles.

Page 20

**Finding 13**

The increasing value of the Australian Dollar against the US Dollar since 2000 has been similar to the increase in value of the South African Rand against the US Dollar. This movement in the Australian currency has not hampered Windimurra's competitiveness when compared with South African vanadium operations.

Page 22

**Finding 14**

The closure of the Windimurra project in May 2004 and the decommissioning that was already in progress signalled a permanent cessation of vanadium production at Windimurra and this is likely to have been responsible, at least in part, for the subsequent increase in world vanadium prices.

Page 33

**Finding 15**

The Committee finds that Xstrata's \$80 million asking price for the sale of the Windimurra project was inconsistent with the comparatively small return obtained through disposal of the project's infrastructure assets and the \$11 million cost to Xstrata for site rehabilitation.

Page 34

**Finding 16**

The Committee does not accept that adequate steps were taken by Xstrata to sell the project intact while it was on care and maintenance.

Page 34

**Finding 17**

The partial dismantling of Windimurra's plant lessened its overall attractiveness to potential buyers by adding the cost of re-installing the removed parts to the nominated purchase price for the mine (\$80 million), creating a new start up price that was very high and potentially uneconomic.

Page 34

**Finding 18**

Xstrata was unlikely to attract serious bids for the sale of the Windimurra operation once the mine's infrastructure was partially dismantled and with a sale price of \$80 million, as set by Xstrata.

Page 45

**Finding 19**

The Committee considers that legislative changes required to protect Western Australia's interests reflect some of the best practice provisions in other jurisdictions.

Page 46

**Finding 20**

The profitability of mining operations can be influenced by sudden changes in conditions in the world market and on the mine site itself.

Page 46

**Finding 21**

At present, Western Australia's *Mining Act 1978* does not provide sufficient power for the Government to protect the public interest in resource development projects.

Page 50

**Finding 22**

A State Agreement Act was considered unnecessary to protect the Government's interests arising from its decision to assist in providing infrastructure to facilitate the Windimurra mine.

Page 50

**Finding 23**

A State Agreement Act could have better protected the State's contribution to assist the Windimurra mine and reduced its exposure to an ongoing economic burden arising from its investment.



## RECOMMENDATIONS

Page 38

### **Recommendation 1**

There needs to be greater consultation between state and local governments regarding mining and mineral processing developments to ensure an appropriate level of involvement and information sharing to enhance opportunities for proponents and local communities.

Page 39

### **Recommendation 2**

Negotiations between the Government and mining companies for project developments (either as a State Agreement or through amendment to the *Mining Act 1978*) should include a full assessment of opportunities to base staff and contractors within the local community.

Page 39

### **Recommendation 3**

The Government should investigate incorporating into resource project agreements compensation to be paid by the operator to a local council, where that council has provided infrastructure support and the development ceases operations prematurely.

Page 39

### **Recommendation 4**

State and local governments should examine how funds allocated by local governments to assist with project infrastructure could be provided as a loan that converts to a grant after an agreed period of time. The funds could be repayable to local government if the project does not meet certain performance criteria.

Page 46

**Recommendation 5**

Any amendment to Western Australia's *Mining Act 1978* to extend the Minister's powers over leases should be accompanied by provisions requiring disclosure of Ministerial intent and associated reasons, and allowing operator representations and administrative appeal.

Page 46

**Recommendation 6**

Western Australia's *Mining Act 1978* requires amendment so that leases provided to mining companies are subject to the condition that the holder of the lease will not suspend mining operations without prior written notice being given to the Minister.

Page 47

**Recommendation 7**

Western Australia's *Mining Act 1978* requires amendment so that leases provided to mining companies are subject to the condition that the holder of the lease will not have freedom to inhibit future mineral processing at the site by dismantling or removing equipment or infrastructure, except with the prior written consent of the Minister.

Page 47

**Recommendation 8**

When the State Government facilitates a mining or mineral processing project by providing significant infrastructure and/or other support, the Government should have the authority to require:

- Additional information regarding the project's technical and financial operation;
- Discretion to call for expressions of interest to purchase a mine and associated infrastructure, should the existing leaseholder no longer want to operate at the site;
- The State Government assumes the status of first mortgagee over assets that may be sold or otherwise disposed of by the operator; and/or
- A proportion of the State's financial investment in supporting infrastructure to a project could be provided as a conditional loan convertible to a grant after a specified period and subject to agreed performance criteria for the project.

Page 50

**Recommendation 9**

In the event that the Western Australian *Mining Act 1978* does not provide adequate protection for the State's interests, the Government should consider the use of a State Agreement Act.





## **MINISTERIAL RESPONSE**

In accordance with Standing Order 277(1) of the Standing Orders of the Legislative Assembly, the Economics and Industry Standing Committee directs that the Minister for State Development report to the Assembly as to the action, if any, proposed to be taken by the Government with respect to the recommendations of the Committee.



## **CHAPTER 1 INTRODUCTION**

### **1.1 Background**

The Committee is concerned that an increasingly globalised mining industry can exploit State Government investments to favour the interests of private shareholders in international mining companies at the expense of Western Australians in general.

The recent demise of the vanadium mine at Windimurra, in the State's Mid West, highlights issues relating to security for public investment provided to facilitate private enterprises.

Numerous claims have been made relating to the motives of the mine's owner, a major Switzerland-based mining company, in making its eventual decision to close and decommission the mine. In turn, counter claims suggest the Windimurra vanadium mine was flawed from the start and should never have been developed. This Report addresses these issues in light of the significant impact the mine's closure has had on the local community of Mt Magnet and the implications for future public investment to facilitate mining industry projects in Western Australia.

While some issues raised in evidence are of serious concern, the Committee has not made definitive judgements on a number of matters, not least because matters relating to the Windimurra mine are currently before the New South Wales Supreme Court.<sup>1</sup>

### **1.2 Western Australia's resources sector**

Riding on Western Australia's vast natural assets, the resource sector is central to the State's economy and the largest single contributor to Gross State Product (GSP). In 2003, it accounted for a quarter of GSP and the direct employment of 45,000 people. With the inclusion of indirect employment, the total number of people employed in Western Australia's resource sector stands at 182,000 - around 19% of the State's total labour force.<sup>2</sup>

---

<sup>1</sup> Standing Order 91 refers to the Assembly's capacity to deal with matters currently under adjudication of the courts. The matter "may not be referred to in any motion, debate or question if it appears to the Speaker that there is a real and substantial danger of prejudice to the trial of the case." Standing Orders of the Legislative Assembly of the Parliament of Western Australia. Perth, Western Australia.

<sup>2</sup> Department of Industry and Resources, "Resource Sector Summary", available at: <http://www.mpr.wa.gov.au/documents/mineralsandpetroleum/resourcesectorsummary03.doc> (accessed 26 October 2004).

Mining investment in Western Australia is worth \$5 billion annually or 56% of total investment and produces more than 80% of the State's exports.<sup>3</sup> The industry plays an integral role in the State's remote and regional areas.

Evidence presented to the Committee has emphasised the comparative advantages enjoyed by Australia over other nations in attracting investors, particularly with respect to its low sovereign risk - defined by the State Government's Industry Policy as comprising "a strong legal system and stable democratic government."<sup>4</sup> Western Australia is viewed as a premium location for globally significant resource investments and the Committee is mindful of preserving the State's comparative advantages.

In Chapter 6, this Report outlines a number of options to address the increasing influence of major mining companies and improve protection of the public interest, while maintaining Australia's attractiveness to companies seeking to invest in the minerals industry.

### **1.3 Vanadium**

Vanadium is most commonly used in metal alloys with iron to produce high strength steel. Around 20% of the world's annual production of vanadium occurs through mine production, while the majority of world production is a by-product from reprocessing of steel slags, oil refining, and the uranium enrichment industry.<sup>5</sup>

A vast majority of the world's vanadium is produced in South Africa, Russia and China. While there are a number of vanadium deposits in Australia, the shortlived Windimurra mine has been Australia's only vanadium mining operation in recent times.<sup>6</sup>

### **1.4 Windimurra vanadium mine**

The Windimurra minesite is located 550 kilometres north east of Perth, Western Australia; some 85 kilometres south east of the nearest town, Mount Magnet. Mine construction was undertaken in 1998-1999, following more than a decade of research

---

<sup>3</sup> Department of Industry and Resources "Resource Sector Summary", available at: <http://www.mpr.wa.gov.au/documents/mineralsandpetroleum/resourcesectorsummary03.doc> (accessed 26 October 2004).

<sup>4</sup> As quoted in Chamber of Minerals and Energy Submission, p1.

<sup>5</sup> Available at: <http://www.australianminesatlas.gov.au/info/aimr/vanadium.jsp> (accessed 5 August 2004); R. Smith, PMA Transcript of Evidence, 11 August 2004, p18.

<sup>6</sup> Available at: <http://www.australianminesatlas.gov.au/info/aimr/vanadium.jsp> (accessed 5 August 2004).

and development and the mine was officially opened in May 2000 amid considerable optimism “because it was such a low-cost and long-term project.”<sup>7</sup>

The confidence extended to various entities in the public and private sectors that provided millions of dollars to facilitate the mine’s construction and operation. The Court Government was eager to assist the project through the construction of a gas pipeline and power station, amounting to an investment of \$30 million, including \$16.45 million contributed by Western Power Corporation. Added to this investment was work undertaken by the Shire of Mt Magnet, which contributed funds for local infrastructure.

As noted in evidence provided to the Committee by Mr Roderick Smith, Executive Director of Precious Metals Australia (PMA),

*...it is very hard to provide infrastructure for the usual project, which is a small gold project with a three or five-year mine life.*<sup>8</sup>

By contrast, the Windimurra vanadium mine was claimed to have a proven reserve life of 21 years and, understandably, significant funds were allocated to assist the project’s establishment.<sup>9</sup> Such investment was made with the expectation of significant long-term benefits for the Western Australian community as a whole and particularly the Mid West region. At the time of the mine’s official opening in May 2000, the then Minister for Regional Development looked forward to the subsequent benefits:

*With a project life of 30 years, and an annual production of \$60 million at capacity, Windimurra will continue to provide an enormous boost to the regional and State economies.*<sup>10</sup>

In addition to public investment for infrastructure, private companies foresaw commercial benefits through involvement in the project. Private companies, Australian Gas Light Company (AGL) and Australian Pipeline Trust (APA), invested in the gas pipeline, with returns to be gathered over future years according to the volume of use of the pipeline.

Expectations that the mine might enjoy a lifespan of up to 30 years were never met.<sup>11</sup> Just three years after opening in February 2003, the mine was placed on care and maintenance; its permanent closure was announced in May 2004. The Windimurra

---

<sup>7</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p14.

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

<sup>10</sup> Hon C Barnett, Minister for Regional Development, *Windimurra mine opening*, Media Release, 8 May 2000.

<sup>11</sup> The Windimurra Royalty Agreement of October 2000 estimated the life of the project to be 30 years, as stated in PMA Submission, p11.

mine closed before it provided a profitable return. Xstrata will receive little return for \$186 million invested in the project, nor will PMA receive a return on its \$30 million investment.

Xstrata has stated repeatedly its conviction that closing the mine was its only remaining alternative, based primarily on the mine's uneconomic nature. Evidence before the Committee, however, suggests that the mine is likely to have become profitable if Xstrata had continued to operate it. The Committee draws this conclusion from the sustained high vanadium prices of the past 18 months. At the time of this inquiry, Windimurra's mineral processing infrastructure stands partially disassembled, with significant components sold and removed from the site.

There seems little prospect of the mine reopening in the short term, leaving the State of Western Australia to maintain some \$30 million worth of underutilised infrastructure. In addition, the State is likely to bear an ongoing cost of servicing a \$14 million loan for 10 or 20 years.

## CHAPTER 2 INFRASTRUCTURE FOR THE MINE

### 2.1 Developing the Windimurra mine

#### (a) Precious Metals Australia pegs Windimurra, 1985

Perth company Precious Metals Australia Limited (PMA) pegged the original mining tenement in 1985, which included part of a vast mafic deposit considered similar in character to a successful South African site of vanadium, chrome and platinum.<sup>12</sup>

PMA undertook significant exploration and research over the ensuing twelve years, before a 1997 feasibility study showed that:

*the Windimurra project had a life of 30 years and was financially very robust provided a competitively priced source of gas could be found.*<sup>13</sup>

#### (b) PMA Joint Venture with Xstrata, 1997

By international standards PMA was a small company that struggled at times to raise sufficient funds to continue the mine's development. By 1997, the project had attracted the attention of major Swiss-based company, Xstrata plc, which provided \$35 million to meet development costs and acquire a 51% interest in the project, now to be run as a joint venture with PMA.<sup>14</sup> Xstrata's interest in the project was held in Xstrata Windimurra Pty Ltd (Xwin).

Xstrata has a strong background in vanadium production through its ownership of a number of operations in South Africa. According to PMA, Xstrata added credibility to the Windimurra project due to the company's strong presence in the vanadium market.<sup>15</sup> Since becoming involved in the Windimurra mine, Xstrata has expanded rapidly to become a major international mining group with principal operations in Australia, Argentina, Spain and South Africa. In 2003, Xstrata successfully took control of Queensland's MIM Holdings at a cost of \$3.4 billion and, during the course of this inquiry, launched a takeover bid for Australian mining company WMC Resources. Aside from the former mine at Windimurra, Xstrata's Australian assets

---

<sup>12</sup> PMA Submission, p8.

<sup>13</sup> *Ibid.* p15.

<sup>14</sup> Xstrata AG was known as Südelektra Holdings AG at the time of purchasing the 51% Windimurra interest, - its name changed soon after. The joint venture project was managed by Vanadium Australia Pty Ltd, as in Xstrata Submission, p4; R. Smith, PMA Transcript of Evidence, 11 August 2004, p2; PMA Submission, p3.

<sup>15</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p2.

currently include seventeen coal mines in New South Wales and Queensland, together with copper and zinc-lead operations in Queensland and the Northern Territory.<sup>16</sup>

Construction of the Windimurra project commenced in 1998 under PMA's management and the mine was commissioned on 24 December 1999. Vanadium was first transported from the mine in February 2000.<sup>17</sup> The project comprises an open cut mine followed by a processing plant employing crushing, semi-autogenous grinding, magnetic beneficiation, concentrate roasting, leaching, desilication, precipitation, deammoniation, fusion and flaking to produce 98% pure vanadium pentoxide.<sup>18</sup>

Approximately \$121 million was allocated to installing plant for the project, with the Government providing significant financial support to facilitate development of infrastructure to support the mine's operation.<sup>19</sup>

### (c) Xstrata takes over, 2000

The Windimurra mine began operating in December 1999 amid considerable optimism. It was constructed following extensive research and boasted a number of innovations. The mine promised low operating costs and unique advantages associated with the particular nature of its ore deposit. At full production, it was anticipated that around 10% of the world's vanadium would be produced at Windimurra.<sup>20</sup>

PMA repeatedly confronted financial pressures during the mine's construction and advised the inquiry that it sold its remaining interest to Xstrata in Windimurra in October 2000 for \$1.<sup>21</sup> PMA retained an annual royalty payment equal to 15% of the mine's profit or a minimum payment of \$500,000 per annum, whichever was greater. Xstrata maintained the controlling interest in the mine since this time.<sup>22</sup>

The actual performance of the mine between 2000 and 2002 fell short of the project's feasibility assessments and planning, as discussed in Section 3.1 of this Report.

<sup>16</sup> Xstrata news release, "Xstrata offer for WMC Resources confirmed", 28 October 2004, available at: <http://www.xstrata.com/news/200410281.en.pdf> (accessed 28 October 2004); and Xstrata Submission p2.

<sup>17</sup> PMA Submission, p10 and 19; Xstrata Submission, p5.

<sup>18</sup> PMA Submission, p10.

<sup>19</sup> Xstrata Submission, p4; PMA Submission, p10.

<sup>20</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p6-7; PMA Submission, p9.

<sup>21</sup> PMA Submission, p10.

<sup>22</sup> *Ibid.*, p10-11; Xstrata Submission, p5; Xstrata *Annual Report 2001*, p17; Xstrata website, available at: <http://www.xstrata.com/corporate.php?id=about> (accessed 17 September 2004).



**Finding 1**

The performance of the Windimurra mine between 2000-2002 fell short of the project's operational feasibility assessments and planning.

**2.2 Public infrastructure and support**

Each level of Australian government provided significant contributions to the development of the Windimurra project.

The State Government was keen to facilitate the Windimurra project as a means to provide significant long-term benefits to the State, particularly the Mid West region. A feasibility study completed in 1997 asserted the mine had a life of 30 years and was likely to have particularly strong financial returns, provided a competitively priced source of gas could be utilised.<sup>23</sup>

**(a) Power supply - gas pipeline and power station**

In the early stages of its development, the proposed Windimurra vanadium mine conceded one significant disadvantage to its South African competitors - the cost of energy. The options of coal or gas were prohibitively expensive for the project and PMA approached the Government to seek support to overcome this obstacle.<sup>24</sup>

The apparent potential and longevity of the Windimurra mine provided a catalyst for the Government to support development of a proposed 530-kilometre gas pipeline, which would address infrastructure concerns in the State's Mid West in addition to assisting the mine. At the time, Western Power operated four remote diesel-fired power stations at Cue, Meekatharra, Mount Magnet and Yalgoo at a combined loss of \$3 million per annum. It was thought that providing gas to the region would allow diesel-powered electricity generators to be converted to more economical and environmentally friendly gas engines. The pipeline might also provide sufficient capacity for future users in the region and be an incentive for further resource development.<sup>25</sup>

The Committee believes the Government was also motivated by a desire to create a more competitive gas supply market in the eastern goldfields, which at that time had

<sup>23</sup> PMA Submission, p15.

<sup>24</sup> *Ibid.*

<sup>25</sup> Hon C. Barnett, Western Australia. Parliamentary Debates (Hansard). 19 August 1998, p495; Western Power Corporation *Annual Report 2000* (Perth 2000) p7, 24; G. Stokes, A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004.

only one private gas pipeline servicing the region's mining industry. It was the Court Government's expressed hope that establishing a second gas service would improve competition and enhance security of supply.<sup>26</sup>

Funding for the pipeline was to be provided to Western Power in 3 tranches - \$14 million for Stage 1 (Geraldton to Mt Magnet / Windimurra) and \$3 million each for Stage 2 (Mt Magnet to Cue) and Stage 3 (Cue to Meekatharra).<sup>27</sup>

In 1999, Western Power and the Australian Gas Light Company (AGL) completed Stage 1 by constructing a 360 kilometre gas pipeline and a power station to supply gas and electricity to the Windimurra vanadium project. Western Power's share of the pipeline and power station assets is held in unincorporated and separate joint ventures for power generation, gas trading and pipeline ownership. The Government provided financial support to Western Power to carry out work on Stage 1 of the pipeline.<sup>28</sup>

Western Power and AGL each controlled a 50% share in construction, ownership and operation of the pipeline. The lateral pipeline that provided gas to the Windimurra mine did not receive direct financial support from the State Government.<sup>29</sup>

The Government assisted Western Power by meeting interest repayments on a \$14 million loan required to construct Stage 1. This amounted to a cost to the State of approximately \$832,000 per annum. Depending on the pipeline's usage, the yearly payment will continue for 10 years, with the possibility of an additional 10 years.<sup>30</sup>

Western Power itself contributed a further \$10.3 million to the pipeline's construction.<sup>31</sup>

The Windimurra Power Station was constructed at a cost of \$12.3 million with the cost borne equally between AGL and Western Power - a cost of \$6.15 million each.<sup>32</sup>

---

<sup>26</sup> Hon C. Barnett, Western Australia. Parliamentary Debates (Hansard). 19 August 1998, p495.

<sup>27</sup> Provision of funding beyond Stage 1 was reliant upon the viability of the subsequent stages, which have not proceeded at this time. R.Griffin, Manager, Corporate and Strategic Services, Western Power Corporation, Correspondence, 19 October 2004.

<sup>28</sup> Western Australia. Parliament. Legislative Assembly Estimates A & B, *Parliamentary Debates (Hansard)*, Tuesday 20 May 2003 to Friday 23 May 2003, Supplementary Information request No A47, pE690.

<sup>29</sup> G. Stokes, A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004.

<sup>30</sup> Hon K. Travers, Western Australia. Parliament. Legislative Council, *Parliamentary Debates (Hansard)*, 14 May 2003, p7651-7652; G. Stokes, A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004. Cabinet can review the loan arrangements after 20 years if the repayments are continuing at that time.

<sup>31</sup> R. Griffin, Manager Corporate and Strategic Services, Western Power Corporation, Correspondence, 19 October 2004; T. Iannello, Managing Director, Western Power Corporation, Correspondence, 1 October 2004.

The eventual announcement of the Windimurra mine's closure in May 2004 had serious implications for the State and other infrastructure providers and operators in the area. As will be discussed in detail in Chapter 4, the mine's closure resulted in the following:

- Infrastructure provided to facilitate development of the Windimurra mine has been left with very low usage;
- Western Power was forced to write down the value of its investment by more than \$18 million;
- Road upgrades by the Shire of Mt Magnet are now severely underutilised; and
- Private sector investors were forced to write down the value of investment in the region.

### **Finding 2**

In total, the State of Western Australia invested over \$30 million for infrastructure development in support of Windimurra vanadium mine, including contributions from the State Government, Western Power Corporation and the Shire of Mt Magnet.

### **Finding 3**

In 1999, the State Government committed to assisting Western Power Corporation in funding its share of Stage 1 of the Mid West gas pipeline. Western Power Corporation required a \$14 million loan to construct Stage 1, resulting in interest repayments of approximately \$832,000 per annum for 10 years to be met by the Government.

### **Finding 4**

Interest repayments met by the State Government on a \$14 million loan required to construct Stage 1 of the Mid West gas pipeline may cost the State \$16.6 million over 20 years.

## (b) Department of Industry and Resources

Western Australia's Department of Industry and Resources did not provide direct financial assistance to the Windimurra mine. The Department facilitated the State Government project approvals process and, in doing so, incurred a cost that was:

*...consistent with that incurred under the Department's normal business practices for any project of this size and complexity.<sup>33</sup>*

## (c) Road upgrade

Coinciding with Windimurra's commencement of operations, mine management met with the Shire of Mount Magnet to discuss the upgrade of the road running from Mt Magnet to Windimurra. The Shire undertook to complete the work over the next four years, with assistance from the State Government and the Windimurra mine's operators.

In total, upgrading the road required expenditure of \$945,547, comprising \$645,938 from the Shire of Mt Magnet, \$14,542 in road maintenance costs, \$125,067 from the State Government's Regional Road Scheme and a \$160,000 grant from the mine's operators.<sup>34</sup>

Following the mine's closure, the upgraded road now services a single pastoral property.<sup>35</sup>

### **Finding 5**

Upgrading the road running from Mt Magnet to Windimurra was completed following Local and State Government contributions totalling just over \$785,000.

## (d) Mt Magnet airstrip

According to evidence from the Shire of Mt Magnet, the upgrade of Mt Magnet airport from a gravel strip to a sealed strip was likely to have proceeded with or without the

<sup>33</sup> G. Stokes A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004.

<sup>34</sup> P. Webster, Chief Executive Officer, Shire of Mt Magnet, Correspondence, 5 October 2004; Note that work undertaken in 1999 to upgrade the Mt Magnet to Sandstone Road was not related to the Windimurra mine. For details see Hon H. Cowan, Western Australia. Parliament, Legislative Assembly. Parliamentary Debates (Hansard), 16 March 2000, p5183.

<sup>35</sup> Shire of Mount Magnet Submission, p1.

presence of the new mine. As such, finances allocated to improve the airport should not be attributed directly to providing infrastructure for the mine's operations.<sup>36</sup>

The sealed strip was completed in 2000 and the total project cost was \$505,984, of which \$250,000 was provided by the Department for Planning and Infrastructure's Regional Airports Development Scheme.<sup>37</sup>

**Finding 6**

The decision to upgrade Mt Magnet airstrip was not directly attributable to the development of the Windimurra mine.

**(e) Commonwealth Industry Research and Development Grant**

In 1987 the Commonwealth Government provided PMA with a \$2 million Industry Research and Development Grant, which was used to research methods to recover vanadium from ore. Resulting from research completed with this Grant, PMA was awarded patents for using sodium oxalate for the recovery of vanadium.<sup>38</sup>

---

<sup>36</sup> *Ibid.*

<sup>37</sup> Information available at: <http://www.dpi.wa.gov.au/aviation/rads.html#mtmag> (accessed 1 October 2004). An airstrip would have been built at the mine had the Mt Magnet airstrip not been upgraded. The company's agreement to make use of the Shire's airstrip was "quid pro quo" for the Shire's assistance with roads. See A. Simpson, Xstrata Transcript of Evidence, 24 August 2004, p37.

<sup>38</sup> PMA Submission, p8.



## CHAPTER 3 OPERATION OF THE VANADIUM MINE

Vanadium was first produced at the Windimurra mine in February 2000, but the mine's profitability was below expectation from the start. A number of factors contributed to this, including an extended downturn in world vanadium prices, a significant appreciation in the value of the Australian dollar and unforeseen difficulties in the performance of the mine itself.

It has been claimed that difficulties associated with the performance of the mine were not unusual in the early stages and simply required ongoing adjustments to suit conditions at Windimurra - a standard approach in many new mines.<sup>39</sup>

However, Xstrata maintains that the mine's cumulative problems required significant correction and, along with external pricing pressures, rendered Windimurra uneconomic. Xstrata submitted to the Inquiry that the increasing financial pressure to continue operating the mine was considered by them to be unsustainable and was the reason for closure. However, Xstrata's details of operating costs and production capacity, in combination with the world price for vanadium pentoxide over the past two years raises questions as to whether this assessment was accurate.

### 3.1 The mine's performance

The Windimurra mine was officially opened on 8 May 2000 and production steadily increased throughout the year. Xstrata has claimed the mine was hindered by a number of issues not foreseen in the feasibility study, including inefficiency in the mine's operation, higher than expected costs and a rate of increase in production that was slower than anticipated.<sup>40</sup>

The mine's first six months to June 2000 resulted in 6 million pounds of vanadium pentoxide production; 10.5 million pounds in 2001 and 12 million pounds in 2002. The mine briefly reached its operating target in August 2001, producing 16 million pounds, before the production level was reduced.<sup>41</sup>

#### (a) Distinctive ore

The ore at Windimurra was weathered and soft compared to other deposits mined by Xstrata, which provided advantages in extraction:

---

<sup>39</sup> PMA Submission, p19; R. Smith, PMA Transcript of Evidence, 22 September 2004, p5.

<sup>40</sup> Xstrata Submission, p5.

<sup>41</sup> *Ibid.*, p5; Note that the mine had a capacity of 20 million pounds, PMA Submission, p19.

*The open-cut mine at Windimurra was particularly straightforward... There is no overburden removal or blasting required. It is mined from a face with one bulldozer and a truck, so to extract that ore is very cheap.*<sup>42</sup>

While the distinctive softness of Windimurra's ore body provided advantages for mining, it was problematic at the milling stage because the softness of the haematite over the ore created excessive fines and hindered magnetic recovery.<sup>43</sup>

### **(b) Magnetite recovery**

Windimurra faced a number of flaws in its design and operation of this section of the plant. A major determinant of cost in vanadium production is the level of magnetite throughput at the mineral processing stage. The operator's inability to recover an adequate level of magnetite from the ore became a fundamental shortcoming, according to Xwin's Tony Simpson:

*If we could have got the unit throughput, our cost structure might have looked different, but we never recovered the magnetite. It does not matter how many tonnes of ore I was able to put through the mill, we were unable to recover 20 tonnes per day of magnetite for sale... (W)e were getting only around 19 to 20 per cent recovery of the magnetic particles. The designs we did were fundamentally flawed and needed to be reinvestigated.*<sup>44</sup>

Mr Simpson also asserted that Windimurra performed poorly in this respect compared to one of Xstrata's vanadium mines in South Africa:

*Rhovan has a different type of ore body. It is a non-weathered ore body and is very magnetically susceptible. That means that the magnet can pick up the magnetite particles very easily; in fact, they get over 96 to 97 per cent recovery of the magnetite which contains the vanadium.*<sup>45</sup>

The 1997 feasibility study anticipated that Windimurra's vanadium pentoxide recovery rates from ore to concentrate would be between 70 and 80%, but actual recovery rates were closer to 50%. This was explained by a number of factors, including problems with the physical friability of the ore, the performance of the magnetite separators and over-milling.<sup>46</sup>

<sup>42</sup> R. Smith PMA Transcript of Evidence, 11 August 2004, p6.

<sup>43</sup> By contrast, Rhovan is at a disadvantage in terms of extraction but recovers 100% of its magnetite. A.Simpson, Xstrata Transcript of Evidence, 24 August 2004, p9.

<sup>44</sup> A.Simpson, Xstrata Transcript of Evidence, 24 August 2004, p8-9.

<sup>45</sup> *Ibid.*

<sup>46</sup> Xstrata Submission, p5.



Evidence was put to the Committee that the Windimurra feasibility study indicated an ore to final product recovery rate of 70-80%, in contrast with PMA's advice that the actual overall recovery was 53%.

The Committee also notes that Xstrata wrote to the Government on 16 October 2002 saying:

*The project has been largely successful in terms of measuring against the bankable feasibility study, however, the sustained low vanadium prices were not envisaged.*<sup>47</sup>

The Committee notes the apparent variance between Xstrata's oral evidence to the Committee indicating a largely successful project compared with evidence of a substantially lower overall recovery rate.

### **(c) Plant performance**

Despite difficulties in obtaining vanadium from the ore, the processing plant's performance was encouraging once vanadium was recovered:

*From the kiln to the bag the plant had performed, if not equal to, better than what we had expected in the bankable feasibility study... from the kiln forward, where most of the expenditure was incurred, the plant had performed, and performed well.*<sup>48</sup>

The mine also enjoyed advantages that enabled it to produce the "highest quality of vanadium of any mine in the world" that attracted a premium price.<sup>49</sup> In large part, this high quality was due to the use of gas, rather than coal for the kiln phase of production. According to Mr Smith, Windimurra's vanadium was "more pure":

*...the ore body contains less of the contaminants contained in other ore bodies. Gas rather than pulverised coal was used to fire the kiln. That is the best, cleanest fuel there is.*<sup>50</sup>

### **(d) Power generators**

Compounding the general difficulties in magnetite recovery, the power ratings of the individual power generators within the mine were incorrectly configured and could not operate according to optimum design efficiencies. Windimurra was not able to

<sup>47</sup> *Ibid.*, Appendix 10, Correspondence to Hon C. Brown, Minister for State Development, dated 16 October 2002.

<sup>48</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p36.

<sup>49</sup> PMA Submission, p19; R. Smith, PMA Transcript of Evidence, 11 August 2004, p7.

<sup>50</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p7.

maximise cost efficiencies by matching power generation to needs and, as a result, actual power costs exceeded those predicted in the feasibility study.<sup>51</sup>

### (e) Operating costs

Xstrata wrote to the Government a number of times seeking royalty relief and other assistance for the project. These letters and Xstrata's Annual Reports disclosed the budgeted and achieved level of production costs at Windimurra.

A letter to the Minister for State Development from Xwin, shortly after suspending operations at Windimurra, said:

*If the project could receive capital relief of \$360,000 per month, this would help move our (2002) cash costs down by \$0.22 from approximately \$US1.60/lb to approximately US\$1.38/lb.<sup>52</sup>*

PMA submitted that Xstrata's audited annual reports showed that the operating costs achieved at Windimurra in 2002 were \$US1.41 per pound falling to US \$1.13 per pound by year-end.<sup>53</sup>

#### **Finding 7**

The Windimurra vanadium mine's early operation was significantly hampered by a number of factors, including the nature of the ore deposit, magnetite recovery, performance of the plant and inefficiently configured power generators.

#### **Finding 8**

The operating cost of producing vanadium pentoxide at Windimurra in 2002 was reported by Xwin as US\$1.60 per pound when the average world price for vanadium pentoxide was around US\$1.35 per pound, although PMA submitted to the Committee that the actual operating costs were as low as US\$1.13 per pound.

<sup>51</sup> Xstrata Submission, p5.

<sup>52</sup> Xstrata Submission, Appendix 11, Correspondence to Hon C. Brown, Minister for State Development, dated 25 February 2003.

<sup>53</sup> PMA Submission, p23.

## 3.2 Vanadium prices

The nature of the vanadium market is both cyclical and volatile. The performance of vanadium prices over the last twenty years has been characterised by significant but short-lived peaks. While the Windimurra mine was developed during a period of relatively high prices, vanadium's international price had fallen dramatically by the time the mine was commissioned in late 1999.

The commencement of operations during a slump in world vanadium prices provided an additional challenge to the operators. The feasibility study conducted for PMA in 1997 had assumed a long-run vanadium price of US\$3.50, which was significantly higher than Xstrata's longer run price analysis:

*The long-run price we have used at Xstrata, for our vanadium investments - not just in Windimurra, but also elsewhere - has been \$2.80.<sup>54</sup>*

When the mine first produced vanadium in February 2000, the price was just US\$1.80 per pound. It did not reach US\$3.50 during the mine's operation from January 2000 to February 2003.

Conditions during 2002 were crucial to Xstrata's considerations regarding the Windimurra mine's future. As disclosed in Xstrata's evidence, Windimurra's average cost of production in 2002 was well above the average price of vanadium.<sup>55</sup> The Committee notes a high point in the price cycle in 2004 and, if operating at this time, Windimurra would have had capacity to make substantial returns. In fact, vanadium prices have continued to rise during the course of this inquiry, reaching US\$7 per pound at the end of October 2004.<sup>56</sup> However, the volatility of the market is undisputed and there is no certainty that prices will remain at current levels.

Xstrata's letter to the Government shortly after suspension of production in February 2003 suggested that Xstrata would reopen Windimurra if prices exceeded US\$2.50 per pound.

*Without wanting to pre-empt any decision by my Board, I would anticipate they would be looking for a vanadium price sustained above US\$2.50/lb for sufficiently long enough to convince us of a market change before a green*

<sup>54</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p12; The 1997 feasibility study's price assumption of US\$3.50 was based on the average price from the previous 15 years. See PMA Submission, p27; R. Smith, PMA Transcript of Evidence, 11 August 2004, p23-24.

<sup>55</sup> Xstrata requested actual cash figures remain confidential. M Gonsalves, Executive General Manager Corporate Affairs, Xstrata, Correspondence, 23 August 2004 p1; Xstrata Submission, p6.

<sup>56</sup> Metal Bulletin "MB Prices and Archive: Vanadium", available at: <http://www.metalbulletin.com> (accessed 29 October 2004).

*light would be given to reopen the mine. As of today, the vanadium price is at US\$2.22/lb, having started the year at US\$1.60/lb.<sup>57</sup>*

The average price of vanadium in 2004 (to October) was US\$5.50 per pound. At a cash cost of \$1.60 per pound the mine would have had an operating margin of 245%.

The average price of vanadium in May 2004 when closure was announced was \$US6.13 per pound - a substantial margin over the costs actually experienced at Windimurra. The mine is likely to have been profitable at the time it was permanently closed.

**Finding 9**

The performance of vanadium prices over the last twenty years has been characterised by significant but short-lived peaks.

**Finding 10**

On the basis of evidence presented to the Committee regarding vanadium prices, it is reasonable to believe that the Windimurra project could have been economically sustainable in the long term. The volatility of the vanadium price suggests that over an operating period of 30 years the project could be expected to experience highly profitable periods and periods of break even or loss.

**Finding 11**

If the Windimurra vanadium mine had been operating at 2004 market prices the project is likely to have made a profit over the preceding 12 months.

**Finding 12**

The history of vanadium prices suggests the current high price for vanadium may not be sustained but is likely to be repeated in future price cycles.

<sup>57</sup> Xstrata Submission, Appendix 11, Correspondence to Hon C. Brown, Minister for State Development, dated 25 February 2003.

### 3.3 The Australian dollar

Changes in value of the Australian dollar since 2000 have impacted on the profitability of the Windimurra mine. The dollar's value was slightly above US\$0.50 when the mine was commissioned in late 1999, but appreciated rapidly while the mine was in operation. In February 2003, following the mine's placement into care and maintenance, the value of the Australian dollar was close to US\$0.60 and, by April 2004, when Xstrata decided to permanently close the mine, the Australian dollar was nearing US\$0.80. As can be seen in Figure 3.1 below, the value of the dollar has declined in recent months.<sup>58</sup>

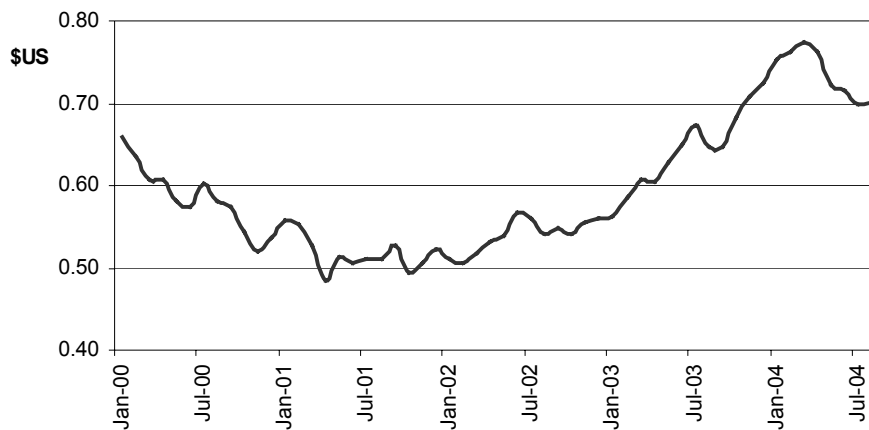


Figure 3.1 Australian exchange rate against the US Dollar, January 2000 - July 2004

Xstrata's efforts to obtain favourable returns from the mine would have become more difficult as the Australian dollar appreciated, thereby making Windimurra's vanadium more expensive for overseas buyers. It is apparent that the mine was struggling even when the Australian dollar was approaching its lowest value in 2000-01.

There have been broadly similar trends in the value of the South African Rand against the US Dollar during this period, which impacted on the relative profitability of Xstrata's vanadium operations in South Africa.<sup>59</sup>

On 4 November 2004, Xstrata announced the permanent closure of Vantech, one of its South African vanadium operations, but the Committee notes that this was due to

<sup>58</sup> Graph based on data from the Reserve Bank of Australia. Available at <http://www.rba.gov.au/Statistics/HistoricalExchangeRates/1999to2004.xls> (accessed 5 October 2004).

<sup>59</sup> See the USA's Federal Reserve, "Foreign exchange rates: South Africa historical rates", available at: [http://www.federalreserve.gov/releases/H10/hist/dat00\\_sf.htm](http://www.federalreserve.gov/releases/H10/hist/dat00_sf.htm) (accessed 29 October 2004).

depletion of the mine's ore reserve, rather than pressures associated to the appreciating Rand.<sup>60</sup>

### **Finding 13**

The increasing value of the Australian Dollar against the US Dollar since 2000 has been similar to the increase in value of the South African Rand against the US Dollar. This movement in the Australian currency has not hampered Windimurra's competitiveness when compared with South African vanadium operations.

## **3.4 Levels of production**

The Committee acknowledges divergent information presented to this Inquiry to account for Windimurra's levels of production from 2000 to 2004 and events leading to the decision to close the mine.

While noting the differing explanations, the Committee does not wish to provide comment other than to acknowledge that Xstrata was not prevented by the WA *Mining Act 1978*, or by the conditions of mining leases pursuant to that Act, in setting production at any level it considered appropriate to its interests. Some submissions reflected concerns that Western Australia's interests were being foregone as a result of Xstrata's decision-making.

PMA and others claimed that Xstrata held back Windimurra's production not just in response to the depressed market price for vanadium, but also to maximise profits for its South African operations.<sup>61</sup> The Committee notes comments made in Xstrata's annual reports of 2002 and 2003 relating to the positive impact on prices following the eventual decision to suspend production at Windimurra in February 2003. However, the Committee also notes that in some cases this impact is mentioned alongside other

---

<sup>60</sup> Xstrata Media Release "Closure of Vantech vanadium operation" 4 November 2004, available at [www.xstrata.com/press\\_release.php](http://www.xstrata.com/press_release.php) (accessed 5 November 2004)

<sup>61</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p8; PMA Submission, p19; S.Douglas Acting CEO Mid West Development Commission Submission, p1; and see, for example, J.Phacaes 'Reynolds weighs in to Windimurra fight' *The West Australian* 14 May 2004; AAP "Business Big Shot" *The Australian* p26 23 September 2004.

factors, such as demand from China and disruptions in vanadium supply from Russia.<sup>62</sup>

The connection between the vanadium price and Xstrata's decision to vary production at Windimurra was drawn in at least one Xstrata document:

*As a result of the ongoing depressed price of vanadium, production was wound back to 15 tonnes per day during 2002. In December 2003 the company decided to further reduce production levels and retrench 50% of its workforce.*<sup>63</sup>

PMA submitted that Xstrata's parent Glencore International AG held a substantial stockpile (40 million pounds) of vanadium pentoxide and that this, and their exclusive marketing arrangements with Xstrata, could have been the motive for closing Windimurra.<sup>64</sup> This submission was not countered by Xstrata, however no further conclusions could be drawn.

In a hearing before the Committee, PMA's Roderick Smith considered Xstrata's reasons for controlling Windimurra's output in the way it did:

*...I do not doubt that the motive, as set out in (Xstrata's) formal documents, was to see the price go up. Having said that, I believe that in part it is mistaken. I think it is very hard to control the world price of any commodity....*<sup>65</sup>

Xstrata advised the Committee that it did not believe that it could significantly influence the market beyond the short term. While there is evidence that Xstrata's South African operations increased vanadium production while Windimurra's decreased, Xstrata's Marc Gonsalves stated:

*Xstrata does not believe that it, or indeed any vanadium producer, can manipulate the price of vanadium, and we have never tried to do so... When Windimurra's production was suspended in February 2003, Metal Bulletin's price per pound for vanadium pentoxide was approximately \$US1.90. The price spiked briefly to around \$US2.65 a pound in April 2003, before returning to about \$US1.83 a pound in June... The withdrawal of Windimurra's production from the market clearly did not move the price to*

---

<sup>62</sup> For example, "The supply/demand balance in vanadium improved substantially from the beginning of 2003 due to cut backs in primary vanadium production at Xstrata's Windimurra and Vantech plants, disruptions in Russian supply, and improved demand in China, curtailing their exports of vanadium" Xstrata *Annual Report 2003*, p39; and see Xstrata *Annual Report 2002*, p32.

<sup>63</sup> PMA Submission, Appendix 17, Xstrata Windimurra Pty Ltd Annual Financial Report for the year ended 31 December 2003, p2.

<sup>64</sup> PMA Submission, p26.

<sup>65</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p5.

*any great extent... I hate to shoot down a good conspiracy theory, but, in fact, the whole plot to manipulate world prices simply does not hang together. No vanadium producer has that capability, given the structure of the industry.*<sup>66</sup>

Xstrata asserted that Windimurra's production levels were related to limitations in both the mine's performance and the capacity to recover magnetite from the ore. Xstrata also claimed that the crushing and milling plant ran at close to its full capacity throughout the mine's operation, but was limited by the availability of water and a range of operational matters.<sup>67</sup> The Committee has concluded however, that at the prices prevailing at the time of permanent closure the project is likely to have been profitable.

#### **Finding 14**

The closure of the Windimurra project in May 2004 and the decommissioning that was already in progress signalled a permanent cessation of vanadium production at Windimurra and this is likely to have been responsible, at least in part, for the subsequent increase in world vanadium prices.

---

<sup>66</sup> Mr Gonsalves noted up to 90 million pounds was held annually in idled capacity - more than 50% of estimated world production. Also, two-thirds of global output is generated as a steel by-product and will be produced regardless of the market. See M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p3.

<sup>67</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p5.



## CHAPTER 4 CLOSURE OF THE MINE

### 4.1 Conditions prior to closure

In Xstrata's *Annual Report 2002*, Chief Executive Michael Davis acknowledged the efforts of management at the Windimurra mine to reduce costs by 56% in the previous two years. However, this "outstanding achievement" could not compete against the pressures of a strengthening Australian dollar, an oversupplied market and low prices for vanadium.<sup>68</sup> The Windimurra vanadium mine was soon closed down and placed on care and maintenance. By May 2004, it would be decommissioned.

Xstrata maintains that the decision to close Windimurra was based solely on the economics of Windimurra itself, on the ongoing financial viability of the mine and whether the further investment required to reopen the facility could be justified. Mr Gonsalves told the committee:

*I wish to state to the committee in the strongest possible way that the decision to close Windimurra rested absolutely on an assessment of the project's ongoing financial viability and on whether further investment required to reopen the facility could be justified.*<sup>69</sup>

The Committee was told that the Windimurra vanadium mine lost money from the first day of production and keeping the mine in production for three years cost Xstrata nearly \$40 million.<sup>70</sup> Precious Metals Australia, although now the junior partner in the project, had also lost revenue:

*The situation was that Australian investors had made up their minds long ago on Windimurra. At every opportunity...PMA had to raise money to enable it to keep an interest in this project, people declined to put money into it... PMA had put money into it and had nearly lost its shirt.*<sup>71</sup>

Recovery rates from ore to concentrate were below the initial feasibility study estimates, resulting in lower than expected volumes and higher costs of production. The Committee is satisfied that vanadium production was never sustained at its 20 tonnes per day target.<sup>72</sup> To recover more magnetite, additional capital expenditure was required to improve the magnetic separation circuit, the regrind circuit and to pay

---

<sup>68</sup> Xstrata *Annual Report 2002*, p13.

<sup>69</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p2.

<sup>70</sup> *Ibid.*, p5.

<sup>71</sup> *Ibid.*, p33.

<sup>72</sup> The nameplate capacity was 7200 tonnes of vanadium pentoxide per year (20 tonnes per day). In August 2001 and April 2002, the plant did achieve 600 tonnes, but this was said to have resulted from inventory built up in the system. M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p5.

for the additional water needed. This restriction on capital expenditure prevented the progressive production improvements which are normal for operations of Windimurra's complexity and is likely to have contributed to the failure to reach full production and reduce operating costs:

*Tony Simpson pushed hard internally to get the capital, which he thought could secure the 20 tonnes per day production. As members of the committee may appreciate, given the loss-making position that Windimurra was in and the fact that the increase from 15 to 20 tonnes per day would not make Windimurra profitable at the prevailing vanadium price, this capital exchange application was not approved. As a consequence, production could not be sustained at 20 tonnes per day and production targets were reduced to the actual figure of 15.6 tonnes per day.<sup>73</sup>*

In the lead up to the suspension of production, Xstrata attempted to stem its losses by restricting capital expenditure and seeking royalty relief from the State Government. To reduce expenditure, the company had also approached power providers to obtain relief from fixed charges. As Mr Gonsalves explained:

*...perhaps it is worth indicating that what we have sought was royalty relief for the period when it was unprofitable. We had also hoped in discussions with the power and gas suppliers to defer a portion, which was really the capital portion, of the repayment.... That was the nature of the assistance that was being sought and some suppliers did indeed assist.<sup>74</sup>*

The State Government assisted by granting royalty relief. However supply costs in relation to gas and power were considered a more significant factor in determining the financial capacity to remain open:

*The issue really related to the supplier costs of the project, particularly the gas and power. I think those were probably more critical to determining whether the plant could have stayed open in the environment of 2003.<sup>75</sup>*

Xstrata advised the Committee that it sought State Government assistance in its negotiations with Western Power and Australian Gas Light Company (AGL) and further notified the Government at the time that the plant would be placed on care and maintenance in 2003 seeking energy price relief.<sup>76</sup> Assistance sought from AGL and Western Power was not forthcoming.<sup>77</sup> Xstrata advised the Minister in late February

<sup>73</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p5.

<sup>74</sup> *Ibid.*, p20.

<sup>75</sup> *Ibid.*, p21.

<sup>76</sup> Xstrata Submission, p6.

<sup>77</sup> Western Power and AGL each have a 50% share in ownership and operation of the pipeline in their joint venture agreement. G. Stokes, A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004.

that it had approached Western Power and AGL seeking energy cost reductions, which if agreed to, would decrease the cost of producing vanadium at Windimurra from the current US\$1.60 per pound to US\$1.38 per pound and hence improve viability.<sup>78</sup>

## 4.2 Xstrata's decision: care and maintenance

Xstrata informed the State Government in October 2001 that the project had been downsized and labour levels reduced in an attempt to keep the project from going into care and maintenance. The State Government was again advised, more specifically, that the project would go into care and maintenance in January 2003 if the cash flow could not be stemmed.<sup>79</sup> Further, if costs could not be maintained below those likely during care and maintenance, then permanent closure would be the next step.<sup>80</sup>

The decision to suspend production was explained in Xstrata's *Annual Report 2002*:

*The profitability of Xstrata's Australian operation, Windimurra, is strongly affected by two factors: the United States Dollar/Australian Dollar exchange rate and the price of V2O5. Notwithstanding an impressive year-on-year cost reduction of some 39% in Australian Dollar terms (30% in US Dollar terms), Windimurra was not profitable in 2002...The outlook for the plant remains poor due to the growing strength of the Australian Dollar and the on-going weakness in the vanadium price, which remains depressed by the structural oversupply within the industry. Given these factors, and Xstrata's commitment to respond rationally to supply-side excess in its markets, the decision has been taken to stop production and suspend operations at the Windimurra plant as soon as possible, and to assess options, which include permanent closure.<sup>81</sup>*

On 10 February 2003, production was suspended at Windimurra and the plant placed on a care and maintenance schedule.

## 4.3 Further investment to improve viability

According to Xstrata, the decision to permanently close Windimurra rested on whether Xstrata believed that the operation was profitable in its current configuration and whether further investment to improve plant operation could be justified to Xstrata shareholders. Three issues were critical in this determination:

---

<sup>78</sup> Xstrata Submission, Appendix 11, Correspondence to Hon C. Brown, Minister for State Development, dated 25 February 2003.

<sup>79</sup> Letter to Hon C. Brown, Minister for State Development; Tourism, 16 October 2002.

<sup>80</sup> Letter to Hon E. Ripper, Deputy Premier, Treasurer, Minister for Energy, 2 October 2001.

<sup>81</sup> Xstrata *Annual Report 2002*, p34.

- An estimate of the plant's likely cost of production and sustaining capital against assumptions on long-term average prices and exchange rates;
- The estimated cost of bringing the plant back into production; and
- The cost of permanent, responsible closure.<sup>82</sup>

Xstrata explored two options in relation to restarting the operation at Windimurra. The first entailed treating vanadium slag from another source - a scenario predicted to cost \$15 million. The company decided that this proposal was uneconomic:

*It could not deliver a cost to production that realised value against our long-run price in exchange rate assumptions.*<sup>83</sup>

The second option involved the continued processing of Windimurra ore and changes to a number of critical factors that had prevented the plant from achieving the cost profile set out in the original feasibility study.<sup>84</sup>

Xstrata received preliminary verbal advice from consultant, Mr Thomas Heaton, that restarting the mine would cost \$40 to \$50 million. Mr Heaton was considered suitable to undertake the analysis due to his involvement in the original set-up of the plant and awareness of the project's flaws.<sup>85</sup> A written report was provided expanding his assessment. The report confirmed the costs to be \$50 million and would include an extensive ramp-up period.

The Committee noted that Mr Heaton's report was prepared in May 2004, after the formal decision to close Windimurra was made and announced by Xstrata.

The Committee heard that this second option took into account impediments that had resulted in the plant not achieving the cost profile set out in the original study. This was said to include work in relation to the magnetite recovery plant; the installation of a salt-recovery unit; the reconfiguration of the power station and the addition of a ferro-vanadium plant.<sup>86</sup>

PMA submitted that most of the expenditure comprising the \$50 million estimate was not required to reopen Windimurra, nor was it in relation to the magnetite recovery plant.

---

<sup>82</sup> Xstrata Submission, p7.

<sup>83</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p6.

<sup>84</sup> *Ibid.*

<sup>85</sup> *Ibid.*, p10.

<sup>86</sup> *Ibid.*, p6.

*...none of the expenditures identified are “start up” costs at all. These are all new projects that would further reduce costs or create new revenue streams. Windimurra has already operated and incontrovertibly produced 12 million pounds in 2002, at a cost well below current vanadium prices and would be very profitable if run now at the same levels, without any new capital expenditure.<sup>87</sup>*

PMA also gave evidence that it had been advised by Mr Simpson in early 2004 that the total cost of reopening Windimurra, including modifications to the magnetite recovery plant, working capital and recruitment costs would be \$16 million.<sup>88</sup>

#### 4.4 Permanent Closure

Despite a positive spike on the vanadium prices at the time, Xstrata maintains that it was not prepared to extend the company’s exposure at Windimurra by investing the amount of capital required to bring the plant back into production:

*As we set out in our submission, the committee members have in front of them a graph of the vanadium price for 20 years. What is striking about that is to see that this is a highly volatile pricing environment characterised by short but very steep pricing spikes and then long troughs. What is critical when you are dealing with a commodity like that is that you make a correct assumption of what would be your average or long-run price. I note that there is not a huge disagreement between anyone really on what that long-run price may settle at. Xstrata has used \$2.80 per pound; the average over 20 years I think has been something like \$2.89 per pound; Metal Bulletin continues to use \$2 as a long-run price for vanadium, so it is even more conservative....Xstrata concluded that the \$A50 million expenditure could not be justified based on our long-run assumptions.<sup>89</sup>*

As Xstrata did not consider the pricing environment for vanadium had changed, it decided not to commit further funds to the project. The justification to close the mine was announced by Xstrata Alloys by way of news release on 10 May 2004, which reads in part:

*While there is an understandable perception that it would be attractive to restart Windimurra to capitalise on the current high vanadium prices, it would be irresponsible to our shareholders and other stakeholders, particularly any new workforce, to do so without confidence in the operation’s long term future....Regrettably, therefore we have come to the*

<sup>87</sup> PMA Supplementary Submission, 14 September 2004, p1.

<sup>88</sup> R. Smith, Transcript of Evidence, 22 September 2004. p6.

<sup>89</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p 6-8.

*conclusion that Windimurra is not an economically viable operation and a decision to invest capital and restart the operation cannot be justified.*<sup>90</sup>

Xstrata has assumed closure costs of \$11 million.<sup>91</sup>

Concern at the prospect of this decision was expressed in a letter to the company by Hon Colin Barnett, MLA, Leader of the Opposition and former Minister for Regional Development:

*In February 2003, Xstrata announced that operations at the mine would be suspended due to the collapse in world vanadium prices. You advised me at the time that there was a very real prospect of the mine returning to full production once the price of vanadium had recovered.*

*Given the price of vanadium is now approximately five times higher than it was when the decision to suspend operations was made, I am concerned at reports that Xstrata believes the mine is "sub-economic." In particular, I am alarmed that the company may not be treating the mine on its true economic merit.*

*The people of Western Australia own the vanadium resource and Xstrata has been granted the right to develop this resource by the Government on behalf of the people of Western Australia.*

*As a company of international standing and one with considerable investments in the Australian resources sector, I believe Xstrata has an obligation to explain the reasons for this decision.*<sup>92</sup>

## **4.5 Impact on investment**

### **(a) Local Government**

Infrastructure provided in the area to facilitate the Windimurra mine is now significantly underutilised.

The Shire of Mount Magnet considers that the mine's premature closure relegated its investment to being a totally inappropriate and unnecessary burden to local ratepayers. This seems particularly true for Youanmi Road, in which:

*...the now unwarranted cost that has been invested into a road which is utilised by only one pastoral property.*<sup>93</sup>

<sup>90</sup> Xstrata press release 'Closure of Windimurra vanadium operation', 10 May 2004. Available at: [http://www.xstrata.com/press\\_release.php](http://www.xstrata.com/press_release.php) (accessed 3 August 2004).

<sup>91</sup> Xstrata Submission, p10.

<sup>92</sup> Hon C Barnett, Leader of the Opposition, Correspondence, 10 November 2004, enclosing copy of letter to Mr T Simpson, Vanadium Australia.

The Mid West Development Commission believes local shires are entitled to partial compensation for improvements in roads and infrastructure when mining projects are closed prematurely. They say that the Murchison shires are negatively impacted by the fly in - fly out operations but are still expected to provide roads, airport services and medical services.<sup>94</sup> The Shire of Mount Magnet has a similar view and also suggests there be some mechanism to recoup infrastructure investment when the project life is cut short.<sup>95</sup>

### **(b) State Government and Western Power**

The State confronts long-term ongoing costs through its commitment to meet interest repayments for a loan enabling Western Power to construct Stage 1 of the Mid West gas pipeline. As detailed in Chapter 2, the Government will continue payments of \$832,000 per annum to service a \$14 million loan that enabled Western Power to construct its share of the pipeline. This yearly payment will continue for 10 years, with the possibility of an additional 10 years depending on the level of the pipeline's usage. Cabinet can review these arrangements after 20 years if the repayments are continuing at that time.<sup>96</sup>

The gas supply agreement to Windimurra is a "take-if-operating" arrangement. Gas sales and subsequent revenue ceased with the suspension of operations at the mine.<sup>97</sup>

Western Power and AGL also supply gas to Statewest Power Pty Ltd at a power station near Mt Magnet for delivery of electricity to the Hill 50 Gold Mine. Gas sales to Statewest Power Pty Ltd are a "take or pay" arrangement and, while this arrangement will continue for another 10 years, the gas pipeline has been left underutilised.<sup>98</sup>

As a result of the Windimurra mine's closure and the limited gas market prospects in the region, assessments of Western Power's investment in the Mid West Joint Venture have concluded the recoverable amount is \$8.1 million, representing a reduction of \$18.1 million in the joint venture assets.<sup>99</sup>

---

<sup>93</sup> Shire of Mount Magnet Submission, p1.

<sup>94</sup> Mid West Development Commission Submission, p3.

<sup>95</sup> Shire of Mount Magnet Submission, p1.

<sup>96</sup> G. Stokes, A/Director General, Department of Industry and Resources, Correspondence, 7 September 2004.

<sup>97</sup> Western Australia. Parliament. Legislative Assembly Estimates A & B, *Parliamentary Debates (Hansard)*, Tuesday 20 May 2003 to Friday 23 May 2003, Supplementary Information request No A47, pE690.

<sup>98</sup> *Ibid.*

<sup>99</sup> Western Power Corporation *Annual Report 2004* (Perth 2004) p117.

Western Power's Power Purchase Agreement (PPA) with the Windimurra mine required payment of both a fixed charge and a charge for electricity consumption. The fixed charge component is payable for 12 months following issue of a suspension notice by the Windimurra operators. A suspension notice was issued in March 2003, following the decision to place the mine on care and maintenance, reinforcing the prospect of a long term shut down.<sup>100</sup>

**(c) Private sector**

Western Power's joint venture partners have also responded to the cessation of operations at the Windimurra mine. In March 2004, Australian Pipeline Trust (previously AGL Pipelines Pty Ltd) announced it had written down the value of its share of the pipeline from \$23 million to \$3 million following the closure of the mine.<sup>101</sup> In the Australian Gas Light Company's *Annual Report 2004*, a write-down was announced of \$4.2 million of its share the Windimurra power plant.<sup>102</sup>

---

<sup>100</sup> Western Australia. Parliament. Legislative Assembly Estimates A & B, *op cit*.

<sup>101</sup> Australian Pipeline Trust, "Announcement to the Australian Stock Exchange: Impact of Xstrata mine shutdown on Midwest Pipeline", 24 March 2004. Available at: <http://www.asx.com.au/asx/statistics/announcementSearch.do> (accessed 22 October 2004).

<sup>102</sup> Australian Gas Light Company, *Annual Report 2004*. Available at: <http://www.agl.com.au> (accessed 22 October 2004).



## CHAPTER 5 DECOMMISSIONING THE MINE

### 5.1 Xstrata's decision to decommission

In making the decision to place Windimurra on care and maintenance, Xstrata asserted that it was concerned at the mine's viability, due in large part to increases in the value of the Australian dollar and uncertainty over the price of vanadium. The prospect of the mine's permanent closure was flagged when operations were suspended in February 2003.<sup>103</sup>

As early as July 2003, Xstrata had received interest from Fabcon Constructions Pty Ltd (Fabcon) to purchase and dispose of the mine's assets. At the end of September 2003, Xstrata partially accepted Fabcon's offer, giving approval for Fabcon to proceed with the disposal of redundant and surplus equipment. In the event the mine was permanently closed at a later stage, Xstrata agreed to Fabcon's offer to purchase and dispose of remaining assets. Should the mine have reopened, Fabcon was to be paid a commission from Xstrata in relation to any sales of equipment already completed by Fabcon.<sup>104</sup>

Fabcon was subsequently awarded the exclusive rights to dismantle and dispose of equipment associated with the Windimurra project, with the formal signing of a sales agreement. Specifically, the contract between Xstrata and Fabcon explicitly precluded the sale of any equipment to an existing or potential vanadium producer.<sup>105</sup> This proviso would have limited the opportunity for any parties interested in entering the vanadium industry from acquiring the plant. The Committee was advised that this clause was inserted because Xstrata's interests, and those of its shareholders, would not be served by selling the assets:

*...to a vanadium producer or potential vanadium producer that would then be involved in the industry with operating assets and with a fundamentally non-commercial, skewed and unfair advantage.*<sup>106</sup>

There was implicit understanding between the parties that this agreement was subject to final approval from Xstrata, which confirmed the mine's closure on

---

<sup>103</sup> Xstrata Submission p6; Xstrata *Annual Report 2002*, p34.

<sup>104</sup> Xstrata Submission, Appendix 15, Correspondence from Fabcon Constructions to Xstrata, dated 9 July 2003 and Xstrata's response, dated 30 September 2003.

<sup>105</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p4.

<sup>106</sup> *Ibid.*, p31.

21 April 2004.<sup>107</sup> The decision to permanently close the Windimurra mine was publicly announced on 10 May 2004.<sup>108</sup>

The Committee was also told by Mr Roderick Smith, Executive Director, Precious Metals Australia, that some of the equipment used in the Windimurra operation was sent to Xstrata's Rhovan operation in South Africa whilst the plant was on care and maintenance. Mr Smith estimated the value of equipment he believed to have been moved exceeded the \$1 million value Xstrata had placed on it, and was nearer to \$2 million.<sup>109</sup>

## 5.2 Opportunity for sale

No evidence was presented to the Committee to indicate that any formal and genuine offers to purchase the Windimurra mine were made to Xstrata while it was under care and maintenance. Xstrata claims the general vanadium industry was well aware of the situation at Windimurra:

*...we said that the fact that we had written it off - we had put it in care and maintenance - meant that closure was a real option... It was not surprising to us that not a huge number of people within the industry were coming to us. In the industry, people are aware when an operation like that is closed. I can assure you that elsewhere in our business we get approaches from people who want to buy specific assets; they are quite attuned to that. No-one came forward to express an interest in buying Windimurra from the time it was suspended in February 2003 until we received a letter from PMA in March 2004 saying that it wanted to buy the whole of our vanadium business.<sup>110</sup>*

There was, however, concern at Government level that the company's decision to close the plant was not circulated widely enough. The Minister for State Development, Hon Clive Brown, wrote to Xstrata on 13 May 2004 requesting that the mine's decommissioning be placed on hold pending further bids for the plant as an ongoing concern.<sup>111</sup> Xstrata refused this request, citing the fact that they had received no formal offers for the plant and suggesting that any market participant could assess the future prospects for a vanadium operation at Windimurra. The Minister had no capacity to influence Xstrata's compliance with the request.

---

<sup>107</sup> Xstrata Submission, p11.

<sup>108</sup> Xstrata press release 'Closure of Windimurra vanadium operation', 10 May 2004. Available at: [http://www.xstrata.com/press\\_release.php](http://www.xstrata.com/press_release.php) (accessed 3 August 2004).

<sup>109</sup> R. Smith, PMA Xstrata Transcript of Evidence, 11 August 2004, p10.

<sup>110</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p17.

<sup>111</sup> Xstrata Submission, Appendix 2, Correspondence from the Minister for State Development to Xstrata, dated 13 May 2004.

Another factor in Xstrata's decision to proceed with decommissioning was its desire to bring to an end its cost obligations to the State.<sup>112</sup> In addition, Xstrata is required to continue regular payments to PMA for as long as it controls Windimurra, as explained by Mr Marc Gonsalves:

*...there is only one partner here who is incensed about this, to drag this out, and that is the fact that we will continue to pay PMA half a million Australian dollars until such time as the entire environmental rehabilitation is concluded. There is no incentive for us (Xstrata) to hold on to those project tenements one second longer than we have to.<sup>113</sup>*

During the decommissioning process, Xstrata asserted it was prepared to accept fully funded commercial offers for what was left of the plant and, on 28 May 2004, wrote to four parties that had expressed an interest in either part or full purchase. The letters provided details on the status of environmental rehabilitation at that time, as well as equipment that had been sold or moved.<sup>114</sup>

### **Finding 15**

The Committee finds that Xstrata's \$80 million asking price for the sale of the Windimurra project was inconsistent with the comparatively small return obtained through disposal of the project's infrastructure assets and the \$11 million cost to Xstrata for site rehabilitation.

Xstrata stipulated in the letter that offers would not be entertained unless they approached the capital cost of the major items at the site, nominated by Xstrata at around AUD\$80 million. The letter requested that interested parties provide documentation of their financial capabilities by 4 June 2004.

Xstrata has rejected allegations that this letter demanded full payment for the mine in an unreasonably short period of 5 days, asserting that this deadline referred only to prospective buyers providing evidence of their financial capacity.<sup>115</sup> Xstrata's letter included the following:

*If you are interested in purchasing the remaining elements of the Windimurra Plant, please complete the enclosed Confidentiality Deed Poll. In addition,*

<sup>112</sup> Xstrata Submission, p11.

<sup>113</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p18.

<sup>114</sup> *Ibid.*, p6.

<sup>115</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p6.

*please attach recent financial statements demonstrating your financial capacity to effect the acquisition and assume all residual responsibilities.*<sup>116</sup>

One prospective buyer visited the mine site but concluded that the relevant equipment was unsuitable and the sale did not proceed.<sup>117</sup>

Precious Metals Australia conceded that the cost of purchasing the mine at the original historical price would be beyond its capacity.<sup>118</sup> While PMA expressed an interest in March 2004 to purchase Xstrata's entire vanadium division, including a number of mines in South Africa, the Committee concludes that PMA did not make a formal and genuine offer to purchase the Windimurra mine itself.

#### **Finding 16**

The Committee does not accept that adequate steps were taken by Xstrata to sell the project intact while it was on care and maintenance.

#### **Finding 17**

The partial dismantling of Windimurra's plant lessened its overall attractiveness to potential buyers by adding the cost of re-installing the removed parts to the nominated purchase price for the mine (\$80 million), creating a new start up price that was very high and potentially uneconomic.

#### **Finding 18**

Xstrata was unlikely to attract serious bids for the sale of the Windimurra operation once the mine's infrastructure was partially dismantled and with a sale price of \$80 million, as set by Xstrata.

<sup>116</sup> Xstrata Submission, Appendix 16, Correspondence from Xstrata to parties expressing an interest in Windimurra plant and equipment, dated 28 May 2004.

<sup>117</sup> *Ibid.*, p11.

<sup>118</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p4.

### 5.3 Current status of the mine

Xstrata has advised the Government that it will surrender the project's leases as soon as rehabilitation commitments are completed or waived and its environmental bonds are returned.<sup>119</sup> With respect to the leases, Mr Marc Gonsalves told the Committee:

*The Government can release us now from holding those. The only reason we are holding those is because we are rehabilitating the site. If the Government were to release us tomorrow from doing that, we would as soon as possible hand those over to any other person who wanted to come in and see if they believed that the resources at Windimurra married with the investment required to exploit those resources, made for a profitable project.*<sup>120</sup>

The Committee visited the Windimurra mine site on 10 August 2004, by which time a significant portion of equipment had been removed from the site and the decommissioning process was nearing completion. Fabcon had complete access to the site from 13 April 2004 and was expected to vacate the site by August 2004.<sup>121</sup> The Committee understands that most of the equipment had been sold to the Nifty copper mine in the East Pilbara. The Committee is also aware that some equipment not covered by the contract with Fabcon has been donated to the Shire of Mount Magnet, such as a water tank for the town's oval, access to bores and various pipes and poles.<sup>122</sup>

---

<sup>119</sup> Xstrata Submission, Appendix 2, letter dated 14 May 2004.

<sup>120</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p17-18.

<sup>121</sup> Xstrata Submission, Appendix 15, letter dated 7 April 2004; letter dated 13 April 2004.

<sup>122</sup> A. Simpson, Xstrata Transcript of Evidence, 24 August 2004 p37; R. Smith, PMA Transcript of Evidence, 11 August 2004, p23; Mid West Development Commission Submission, p1.



## CHAPTER 6 PROTECTING WESTERN AUSTRALIAN INTERESTS

### 6.1 Local communities

The mining industry plays an integral role in remote and regional areas of Western Australia, the fortunes of which often follow those of individual mining companies. The Shire of Mt Magnet allocated significant funds to provide infrastructure for the Windimurra mine and suffered a major setback when the mine ceased operating, with the realisation that years of anticipated economic activity and benefits, such as potential employment for locals, would not be forthcoming. The Shire received little in return for its investment.<sup>123</sup>

In recent decades mining companies have tended to avoid housing workforces in nearby communities, preferring long distance commuting, or “fly-in-fly-out”, which can impact greatly on economic growth in regional centres.<sup>124</sup> Long distance commuting generally represents a cost-effective way for mining companies to conduct their operations.

However, larger mining operations can maximise benefits for local communities, including establishing aspects of company operations in townships wherever possible and, in the event of a mine’s closure, making available recreational and other resources to local communities.

The Committee concurs with views presented by the Shire of Mt Magnet that promote positive outcomes for local communities when significant mining operations are developed nearby:

*Council believes that every effort should be made by the companies to establish, where appropriate, administration centres within the communities that the mine exists. This resource would then remain available to the community once the mining operation had closed.*<sup>125</sup>

The Shire of Mt Magnet also provided an innovative suggestion to make former mine sites available for tourism. In the case of Windimurra, this would be consistent with the Murchison region’s attraction as a long established mining area. The Council noted:

<sup>123</sup> The Committee notes Xstrata’s immediate efforts to divert minor resources to the community following the mine’s closure, including a water tank for the town’s oval and access to bores. A.Simpson, Xstrata Transcript of Evidence, 24 August 2004, p37.

<sup>124</sup> Fly in-fly out refers to the system by which employees live in established major centres and travel to the mine site on a rotational system. See L. Hogan and P. Berry, “Mining and regional Australia”, in *Australian Commodities* Vol 7, No 4 December quarter 2000, p657.

<sup>125</sup> Shire of Mt Magnet Submission, p2.

*A number of these mines have adequate sporting / recreational facilities and camping areas... and mine sites should be retained for tourist inspection and development at a later date. This could be done in cooperation with the mine, the Shire and the Department (of Industry and Resources).<sup>126</sup>*

Globalisation of the mining industry has increased the likelihood that local communities are further removed than ever from the decision-making processes of international mining companies. The Committee draws particular attention to the local community's sense of helplessness and distance from Xstrata's eventual decision to permanently close the mine and considers that local government should have more involvement in the development of mining projects within its jurisdiction.

Globalised companies can now manage their affairs from a centralised head office anywhere in the world, but risk losing sight of local factors.<sup>127</sup> However, the Committee notes Xstrata's sentiments as expressed by Mr Gonsalves:

*I believe we take those community relationships seriously... I would like to think the investments we have made and the good neighbour that we have been to the shire have been documented... Obviously, we will look carefully at what was done and not done, and whether we could have done it better. I am sure in many of these instances, we could have done better.<sup>128</sup>*

Evidence from the Mid West Development Commission reflected concerns over perceived shortcomings in Xstrata's dealings with the local community, particularly Xstrata's poor consultation regarding the mine's plight. The Shire of Mt Magnet itself did not raise this issue specifically, instead focussing on the poor return for investments made in support of the mine.<sup>129</sup>

### **Recommendation 1**

There needs to be greater consultation between state and local governments regarding mining and mineral processing developments to ensure an appropriate level of involvement and information sharing to enhance opportunities for proponents and local communities.

<sup>126</sup> *Ibid.*

<sup>127</sup> See, for example, Alcoa's Wagerup refinery as referred to in T. Treadgold "Out of town and out of touch" *Business Review Weekly* June 27- July 3, 2002, p61-64. Note the Mid West Development Commission's evidence, "There is nothing wrong or compelling about the Xstrata strategy except to say that no courtesy was extended to any of the Murchison development agencies, State or local." Mid West Development Commission Submission, p2.

<sup>128</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p36.

<sup>129</sup> Mid West Development Commission Submission, p1-3; Shire of Mt Magnet Submission, p1-2.



**Recommendation 2**

Negotiations between the Government and mining companies for project developments (either as a State Agreement or through amendment to the *Mining Act 1978*) should include a full assessment of opportunities to base staff and contractors within the local community.

The Mid West Development Commission raised the issue of possible compensation for local councils that provide infrastructure for mines that cease operations prematurely.<sup>130</sup> Given the schedule of this inquiry, the Committee has not fully investigated this issue, but considers that it warrants further investigation by the Department of Industry and Resources.

The Committee has also considered the merits of local government contributions for infrastructure being provided to a company as a loan that converts to a grant after an agreed period of time. In the event the project does not meet certain performance criteria, the money may be required to be repaid.

**Recommendation 3**

The Government should investigate incorporating into resource project agreements compensation to be paid by the operator to a local council, where that council has provided infrastructure support and the development ceases operations prematurely.

**Recommendation 4**

State and local governments should examine how funds allocated by local governments to assist with project infrastructure could be provided as a loan that converts to a grant after an agreed period of time. The funds could be repayable to local government if the project does not meet certain performance criteria.

---

<sup>130</sup> Mid West Development Commission Submission, p3.

## 6.2 Protecting the public interest

The debate surrounding the Windimurra mine's closure illustrates the potential for large international companies to relegate Western Australian interests behind those of mining company shareholders. Discussion in this chapter is not based solely on specific conclusions regarding the Windimurra case, but from consideration of issues that have been raised during the course of this Inquiry.

The Committee considers it unacceptable that the Minister for State Development has little power to intervene when there are questions over the behaviour of leaseholders, other than to make requests for leaseholders to reconsider their actions. In this Chapter, the Committee examines the impact that increasingly powerful and centralised international companies can have on local interests, comparisons with legislation of similar jurisdictions and recommended changes to Western Australian legislation.

In considering any legislative changes, the Committee considers it crucial to avoid penalising mining proponents that defer progress at a mine site because it may be considered uneconomic to proceed.<sup>131</sup> The Committee favours an open and transparent process to provide consistency in decisions regarding mining leases.

### (a) Sovereign risk

Australia enjoys advantages over other nations in attracting investors in the mining industry, particularly with respect to its low sovereign risk. The State Government's Industry Policy identifies low sovereign risk as comprising "a strong legal system and stable democratic government."<sup>132</sup> It is one of Western Australia's competitive strengths and the Committee acknowledges that security of tenure for leaseholders must be maintained.

Recommendations are made in this chapter to preserve Western Australia's place as a premium location for investment, while providing Government with capacity to protect the State's interests whenever necessary.

### (b) Balancing public interest with certainty for investors

Mining companies will inevitably base decisions on the likely benefits to shareholders. In the case of the Windimurra mine, Xstrata has maintained it was an uneconomic venture and has stated that overall returns to shareholders provided the principal motivation in permanently closing the mine in 2004:

---

<sup>131</sup> Minerals Council of Australia Submission, p7.

<sup>132</sup> As quoted in Chamber of Minerals and Energy Submission, p1.

*Once again, the decision to risk shareholders' funds is Xstrata's alone, and the company has the right to decline to invest if it believes it will not make a return on that investment.*<sup>133</sup>

It cannot be assumed that the motives of mining companies will coincide with those of the State of Western Australia. There have been numerous claims that Xstrata's actions at Windimurra have worked directly against local and state interests.<sup>134</sup>

The Committee acknowledges the perception held by some that:

*...mining companies whatever their standing, will of their very nature, exploit the weakness or goodwill of governments or the defects in their legislative supervision, to their own advantage irrespective of public interest.*<sup>135</sup>

Windimurra is not the only case where it might be claimed the motivations of large mining companies appear in conflict with the public interest. The Committee has considered a number of examples in which public interest suffered to the point where Government intervention may have been necessary.<sup>136</sup>

With the trend to a globalised mining industry, it is likely the Western Australian Government will increasingly require powers to protect the public interest. At present, however, it has limited capacity to do so. Changes recommended by the Committee are intended to provide further protection for Western Australia's interests while maintaining overall stability and attractiveness for potential investors.

### 6.3 Legislation

The *Mining Act 1978* has limitations in providing protection to the interests of the Western Australian community. Should a mining company decide to limit production at a mine to suit its own ends, or decommission a project that would otherwise be an economic enterprise, then it is possible the Western Australian public interest will not be served. At present, mining companies are well within their rights to take actions that solely benefit their interests rather than those of local communities. In fact, as noted by Xstrata:

*Xstrata's Mission requires it to be single-minded in its pursuit of value for shareholders...*<sup>137</sup>

<sup>133</sup> M. Gonsalves, Xstrata Transcript of Evidence, 24 August 2004, p3.

<sup>134</sup> MidWest Development Commission Submission, p1; Hon N. Moore, Parliament of Western Australia, Legislative Council. *Parliamentary Debates (Hansard)*, 14 May 2004, p3001-3003; Hon A. Cadby, Submission, p2.

<sup>135</sup> N. Crichton-Browne, Submission, p8.

<sup>136</sup> A number of examples were provided in evidence to the Committee, such as Allendale Field. *Ibid.*, p2-8.

<sup>137</sup> Xstrata Submission, p2.

The Committee has considered a range of possible measures to protect the public interest in Western Australia and acknowledges the need for an open and consistent process to maintain the confidence of the mining industry.

A comprehensive submission to the inquiry by Hunt and Humphry provided the Committee with a useful comparison of mining and resource law in other jurisdictions.<sup>138</sup> This analysis was confirmed by the Committee's work in preparing this Report.

## **(a) Other jurisdictions**

### **(i) Queensland**

In the event that a holder of a mining lease has not undertaken genuine activities according to the purposes for which the lease was granted, Queensland's *Mineral Resources Act 1989* provides the power to cancel leases or impose fines on leaseholders.<sup>139</sup>

The Committee considers it may be appropriate for similar powers to be installed in Western Australia and is confident the impact on sovereign risk will be negligible. It is also instructive that the Queensland Government has taken significant and unusual steps earlier this year to act against an international mining company considered unreasonably neglectful of local interests while pursuing its own aims and declining to surrender its lease.

French company, Pechiney, failed to construct an alumina refinery in Cape York despite holding a lease on considerable mineral deposits since 1975. Earlier this year the Queensland Government introduced the *Aurukun Associates Agreement Repeal Act 2004*, which repealed the original 1975 Act that provided the lease to Pechiney. According to Queensland's Minister for Natural Resources, Mining and Energy, Hon Stephen Robertson, Pechiney had been:

*...in breach of the agreement for at least the last fifteen years and has been parking this valuable mineral resource to suit itself while it invested in new refining facilities elsewhere in the world.<sup>140</sup>*

The Queensland Government concluded that the mineral deposits would be attractive to other mining companies and should be made available to prospective buyers. The Minister explained that cancelling the lease was necessary because:

<sup>138</sup> Hunt and Humphry Project Lawyers, Submission.

<sup>139</sup> *Ibid.*, p7; see Section 308 of the *Mineral Resources Act 1989* (Queensland).

<sup>140</sup> Hon S. Robertson, Queensland Parliament. *Parliamentary Debates (Hansard)*. 20 April 2004 p135.

*Queensland has foregone a significant contribution to the economy from potential export income, new industrial opportunities for downstream processing and jobs flowing from development of this resource.*<sup>141</sup>

Following cancellation of the lease, the Government reimbursed Pechiney the cost of mining lease rentals from 1989 to 2003 plus interest. The State was not liable for any claim of compensation arising from the lease cancellation.

The Minister noted these changes might provoke concerns over sovereign risk in Queensland:

*I want to stress that the government's action today is in no way indicative of sovereign risk and the mining industry can be assured that this is a special case related only to the Aurukun Associates Agreement 1975.*<sup>142</sup>

**(ii) New South Wales**

Section 125 of the *Mining Act 1992 NSW* prescribes the power to cancel an authority if the holder has failed to use the land in good faith for the purposes for which the land has been granted.<sup>143</sup>

According to Section 126, the relevant Minister must provide written notice of the proposed cancellation to the holder of the authority, including the grounds on which the cancellation will be made. The holder of the authority must be allowed reasonable opportunity for to make representations with respect to the proposed cancellation and the Minister must consider any representations made. The company is not entitled to compensation unless the lease was cancelled because the land was needed for public purposes.<sup>144</sup>

Section 70 of the *NSW Mining Act 1992* is also notable. It states:

(1) *A mining lease is subject to:*

(a) *a condition that the holder of the lease will not suspend mining operations in the mining area otherwise than in accordance with the written consent of the Minister, and*

(b) *such other conditions as the Minister may, when granting the lease, impose.*<sup>145</sup>

---

<sup>141</sup> *Ibid.*

<sup>142</sup> *Ibid.*

<sup>143</sup> Section 125 *Mining Act 1992* (New South Wales); Hunt and Humphry Project Lawyers Submission, p8.

<sup>144</sup> Section 126 *Mining Act 1992* (New South Wales).

<sup>145</sup> Section 70, *Ibid.*; Hunt and Humphry Project Lawyers Submission, p8.

**(iii) South Africa**

The Committee has compared Western Australia's mining legislation with that of South Africa, where Xstrata undertakes significant operations. It is useful to consider the level of sovereign risk for companies operating in South Africa, which appears far greater than in Australia generally, and especially Western Australia.

South Africa's legislation provides that the relevant South African Minister is to be advised by the Minerals and Mining Development Board regarding the application of the *Mineral and Petroleum Resources Development Act 2002*. The Board's members are drawn largely from government departments, trade unions and the business sector.<sup>146</sup>

According to the Act, the Minister has powers to suspend or cancel rights for a number of reasons. The Committee particularly notes powers that allow lease cancellation on the basis that the land is not being used optimally by the mining company. In such a case the Board can recommend that the Minister direct the holder of a mining right to take corrective measures if it is established that the minerals are not being mined in accordance with the mining work program. Before making any recommendation, the Board must consider whether the recommendation is justified in light of the technical or financial resources of the holder of the mining right and prevailing market conditions.<sup>147</sup>

If the Minister concurs with the Board's view, the mining right holder must be notified in writing to take corrective measures within a prescribed timeframe. The mining right holder is given 60 days to make representations following the Minister's notice.<sup>148</sup>

At present, legislative requirements on mining companies operating in South Africa, including those mentioned above, appear significantly more demanding than requirements in Australia.

**6.4 Reform of Western Australian Legislation**

In the event that the State Government provides significant infrastructure or other support to facilitate a mining development, the Committee considers it crucial for the Government to be entitled to set protective conditions on tenement or project approvals granted to mining or mineral processing proponents. It is the Committee's view that four conditions should be available to the Government:

<sup>146</sup> Sections 57-59 *Mineral and Petroleum Resources Development Act 2002* (South Africa).

<sup>147</sup> Sections 51, *Ibid.*

<sup>148</sup> *Ibid.*; Hunt and Humphry Project Lawyers Submission, p11.

- (i) Mine operators must accept a duty of disclosure to the Government, detailing technical and financial information relating to the project, either on a regular basis or on request;
- (ii) In the event that a company no longer wants to operate a resource project, the State Government should have discretion to call for expressions of interest to purchase the project before the established lease is relinquished;
- (iii) The State Government assumes the status of first mortgagee over assets that may be sold or otherwise disposed of by the operator; and/or
- (iv) A proportion of the State's financial investment in supporting infrastructure to a project should be considered to be a conditional loan convertible to a grant after a specified period and subject to agreed performance criteria.

The requirement for these conditions to apply should be based on the value of infrastructure or other assistance provided by the Government, taking into account that the infrastructure may provide multi-user access or be a part of provision of general infrastructure to the geographic region. For the purposes of discussion the Committee considers it may be worthwhile assessing the use of these conditions where the State Government has provided assistance equating to more than 5% of the project's total capital investment or \$10 million.

#### **Finding 19**

The Committee considers that legislative changes required to protect Western Australia's interests reflect some of the best practice provisions in other jurisdictions.

There has been significant concern expressed in evidence to the Committee regarding mining companies' unfettered power to manipulate levels of production, including ceasing production altogether, in their interests alone. In particular, the Committee considers it unacceptable that a mining company maintains the power to dismantle a mining operation, to the extent that it precludes other mining interests from operating the project.

Xstrata's decision to sell and remove certain items of equipment from the Windimurra project has drawn criticism from a number of quarters. In particular, there is concern that Xstrata deliberately set about dismantling the mine's infrastructure so as to prevent potential operators from taking over the project.<sup>149</sup> While acknowledging that the equipment remains the property of the mining company, the Committee considers that companies should only be allowed to pursue such action in future with the written consent of the Minister.

---

<sup>149</sup> For example, see N. Crichton-Browne Submission, p1.

It should be noted that any number of factors can impact on expected returns from mining operations and that the mining operations themselves are susceptible to sudden changes in operations or the world market that influence viability.

The Committee considers that resource development law requires that ground held under a mining tenement is worked, surrendered or retained for a valid purpose.

**Finding 20**

The profitability of mining operations can be influenced by sudden changes in conditions in the world market and on the mine site itself.

**Finding 21**

At present, Western Australia's *Mining Act 1978* does not provide sufficient power for the Government to protect the public interest in resource development projects.

**Recommendation 5**

Any amendment to Western Australia's *Mining Act 1978* to extend the Minister's powers over leases should be accompanied by provisions requiring disclosure of Ministerial intent and associated reasons, and allowing operator representations and administrative appeal.

**Recommendation 6**

Western Australia's *Mining Act 1978* requires amendment so that leases provided to mining companies are subject to the condition that the holder of the lease will not suspend mining operations without prior written notice being given to the Minister.



**Recommendation 7**

Western Australia's *Mining Act 1978* requires amendment so that leases provided to mining companies are subject to the condition that the holder of the lease will not have freedom to inhibit future mineral processing at the site by dismantling or removing equipment or infrastructure, except with the prior written consent of the Minister.

**Recommendation 8**

When the State Government facilitates a mining or mineral processing project by providing significant infrastructure and/or other support, the Government should have the authority to require:

- Additional information regarding the project's technical and financial operation;
- Discretion to call for expressions of interest to purchase a mine and associated infrastructure, should the existing leaseholder no longer want to operate at the site;
- The State Government assumes the status of first mortgagee over assets that may be sold or otherwise disposed of by the operator; and/or
- A proportion of the State's financial investment in supporting infrastructure to a project could be provided as a conditional loan convertible to a grant after a specified period and subject to agreed performance criteria for the project.

**(a) Financial compensation to the Government**

As noted in the recommendation above, funds allocated by the State Government to assist with infrastructure to facilitate mining developments could be provided as a loan that converts to a grant after a specified period of time. The funds should be repayable to the Government if the project fails to meet certain performance criteria.

The Committee considers that this change will assist in protecting Western Australia's interests and will require further consultation between Government and mining industry groups.

## (b) State Agreement Acts

State Agreement Acts are agreements entered into voluntarily by Government and a proponent to facilitate developments in the natural resource sector - once enacted, they have the force of law. The Agreements are ratified by Parliament and outline the obligations of both parties during the life of a significant development project. Currently, there are 67 State Agreements in WA.<sup>150</sup>

Major project developments are often established under State Agreements when requiring long term certainty, land tenure and complex approvals, usually in remote areas. Agreements provide greater security to the project because Agreement provisions can only be changed by mutual consent and parliamentary approval. They provide security of tenure and reduce sovereign risk for both the developer and the Government itself.

Agreements are binding on both parties for their duration, which can vary according to the characteristics of each development. Flexibility is a key attraction in using Agreements, given the range of conditions that can be included, provided both parties are agreeable and Parliament subsequently ratifies the Act.

All Agreements contain a provision that they cannot be amended without the consent of the parties. For Parliament to act unilaterally could be seen as a breach of good faith and detrimental to the State's reputation and interest. Ultimately, however, Parliament's authority to amend or repudiate its legislation is not restricted.

The following clauses are typically included in State Agreements:

*(1) The parties to this Agreement may from time to time, by agreement in writing, add to, substitute for, cancel or vary all or any of the provisions of this Agreement or of any lease, licence or easement, granted under or pursuant to this Agreement for the purpose of more efficiently or satisfactorily implementing or facilitating any of the subject matter of this Agreement.*

*(2) The Minister shall cause any agreement made pursuant to subclause (1) in respect of any addition, substitution, cancellation or variation of the provisions of this Agreement to be laid on the Table of each House of Parliament within 12 sitting days next following its execution.*

*(3) Either House may, within 12 sitting days of that House after the agreement has been laid before it, pass a resolution disallowing the agreement, but if after the last day on which the agreement might have been disallowed neither*

<sup>150</sup> Auditor General for Western Australia *Developing the State: the Management of State Agreement Acts*, Report 5, June 2004, p9; Department of Industry and Resources, "State Agreement Acts", available at: <http://www.doir.wa.gov.au> (accessed 28 October 2004).

*House has passed such a resolution the agreement shall have effect from and after that last day.*<sup>151</sup>

A number of obligations are commonly accepted by companies in Agreements, such as the following:

- develop the project as proposed within a reasonable timeframe;
- deliver wider economic benefits by:
  - seeking to establish value added ‘further processing’ industries within Western Australia, if commercially viable; and
  - agreeing to maximise the use of local content for labour, services and materials.<sup>152</sup>

For its part, the Government commonly provides a number of concessions to private companies in State Agreements, such as:

- lower royalty rates than imposed under the *Mining Act 1978*;
- land leases at reduced rental; and
- assistance with infrastructure provision.<sup>153</sup>

In many State Agreement Acts, companies may commit to develop the mine and proceed to downstream value adding, which was not needed for the Windimurra mine, because it already was a value-added mineral project.<sup>154</sup>

In the late 1990s, PMA’s Roderick Smith was involved in negotiations with the State Government regarding the Windimurra development. He recalled that a State Agreement Act was not considered necessary, as it was believed that there was sufficient certainty in a mining lease and that establishing an Agreement Act was a lengthy and expensive process.<sup>155</sup>

---

<sup>151</sup> See, for example, Section 32, *Iron and Steel (Mid West) Agreement Act 1997* (Western Australia).

<sup>152</sup> Auditor General for Western Australia *Developing the State: the Management of State Agreement Acts*, Report 5, June 2004, Appendix 1 - Typical Obligations and Concessions.

<sup>153</sup> *Ibid.*

<sup>154</sup> R. Smith, PMA Transcript of Evidence, 11 August 2004, p13-14.

<sup>155</sup> PMA Submission, p10.

**Finding 22**

A State Agreement Act was considered unnecessary to protect the Government's interests arising from its decision to assist in providing infrastructure to facilitate the Windimurra mine.

**Finding 23**

A State Agreement Act could have better protected the State's contribution to assist the Windimurra mine and reduced its exposure to an ongoing economic burden arising from its investment.

**Recommendation 9**

In the event that the Western Australian *Mining Act 1978* does not provide adequate protection for the State's interests, the Government should consider the use of a State Agreement Act.

# APPENDIX ONE

## *BRIEFINGS*

<b>Date</b>	<b>Name</b>	<b>Position</b>	<b>Organisation</b>	<b>Location</b>
10.08.2004	Mr Geoff Pilkington	President	Shire of Mount Magnet	Mount Magnet
	Mr Peter Webster	Chief Executive Officer	Shire of Mount Magnet	Mount Magnet
10.08.2004	Mr Alan Murray	Partner	Mallesons Stephen Jaques	Windimurra
	Mr Andre Stasikowski		Stass Environmental	Windimurra
	Mr Patrick Quirk	Project Manager	Fabcon	Windimurra



## APPENDIX TWO

### SUBMISSIONS

<b>Date</b>	<b>Name</b>	<b>Position</b>	<b>Organisation</b>
02.08.2004	Mr Peter Webster	Chief Executive Officer	Shire of Mount Magnet
02.08.2004	Hon Alan Cadby, MLC	Member, North Metropolitan Region	Legislative Council of Western Australia
02.08.2004	Mr Michael Hunt		Hunt & Humphry Project Lawyers
02.08.2004	Mr Roderick Smith	Executive Director	Precious Metals Australia Limited
02.08.2004	Mr Peet Nienaber	Director	Xstrata Windimurra Pty Limited
02.08.2004	Mr Noel Crichton-Browne		
03.08.2004	Mr Alan Layton	Research & Policy Officer	Association of Mining & Exploration Companies
03.08.2004	Hon John Fischer, MLC	Member, Mining and Pastoral Region	Legislative Council of Western Australia
03.08.2004	Mr Steve Douglas	A/Chief Executive Officer	Mid West Development Commission
04.08.2004	Mr Tim Shanahan	Chief Executive	Chamber of Minerals & Energy
15.10.2004	Mr Kevin Reynolds	Secretary	Construction, Forestry, Mining, Energy Union
29.10.2004	Mr Graeme Rowley	Executive Director Operations	Fortescue Metals Group Ltd





## APPENDIX THREE

### *PUBLIC HEARINGS*

<b>Date</b>	<b>Name</b>	<b>Position</b>	<b>Organisation</b>
11.08.2004	Mr Roderick Smith	Executive Director	Precious Metals Australia Limited
24.08.2004	Mr Mark Gonsalves	Executive General Manager, Corporate Affairs	Xstrata plc
	Mr Tony Simpson	Chief Executive Officer	Xstrata Windimurra
	Mr Benny Levene	Chief Legal Advisor	Xstrata plc
23.09.2004	Mr Roderick Smith	Executive Director	Precious Metals Australia Limited



## APPENDIX FOUR

### LEGISLATION

<b>Legislation</b>	<b>State (or Country)</b>
<i>Mining Act 1978</i>	Western Australia
<i>Mining Regulations 1981</i>	Western Australia
<i>Iron and Steel (Mid West) Agreement Act 1997</i>	Western Australia
<i>Mining Act NSW</i>	New South Wales
<i>Mineral Resources 1989</i>	Queensland
<i>Aurukun Associates Agreement Act 1975</i>	Queensland
<i>Aurukun Associates Agreement Repeal Act 2004</i>	Queensland
<i>Mineral and Petroleum Resources Development Act 2002</i>	South Africa



## REFERENCES

- AAP “Business big shot” *The Australian* 23 September 2004.
- Andrusiak, K. “Foreign speculative mining under fire” *Kalgoorlie Miner*, 22 May 2004
- Auditor General for Western Australia *Developing the State: the Management of State Agreement Acts*, Report 5, June 2004
- Australian Joint Ore Reserves Committee “JORC Code and Guidelines”. Available at <http://www.jorc.org/main.php> (accessed 20 September 2004).
- Australian Atlas of Mineral Resources, Mines and Processing Centres, “Vanadium”. Available at <http://www.australianminesatlas.gov.au/info/aimr/vanadium.jsp> (accessed 5 August 2004)
- Australian Pipeline Trust “Impact of Xstrata mine shutdown on Midwest Pipeline” Announcement to the Australian Stock Exchange, 24 March 2004
- Ball, Y “Campaign to keep WA mine open” *Australian Financial Review*, 13 May 2004.
- Ball, Y “Xstrata seeking \$80m for mothballed WA mine” *Australian Financial Review*, 2 June 2004.
- Bloomberg, “Queensland sues Pechiney over non-surrender of lease” *Sydney Morning Herald*, 25 October 2003.
- Bloomberg, “WA to regulate miners” *Australian Financial Review*, 20 May 2004.
- Clery, D. “Open vanadium papers: Ripper” *The West Australian*, 14 February 2003.
- Drummond, M. “WA probes Lib support of miner” *Australian Financial Review*, 30 April 2003.
- Drummond, M. “Xstrata shuts WA-backed mine” *Australian Financial Review*, 12 February 2003.
- Frith, D. “Pipeline spurs WA vanadium projects” *The Australian*, 11 Nov 1998.
- Hawtin, J. “Mine law change mooted” *WA Business News*, 8-14 July 2004.
- Hickman, B. “Miners prove ore right for the region” *The Australian*, 9 May 2000.
- Hickman, B. and Shine, K. “Barnett defends vanadium mine” *The Australian*, 13 February 2003.
- Hogan, L and Berry , P, “Mining and regional Australia”, in *Australian Commodities* Vol 7, No 4 December quarter 2000
- Klinger, P. “Perth millionaire hits out at former MD Newspaper” *The Australian*, 18 December 2001.
- Lampathakis, P. “Vanadium mine plan wins an extension.” *The West Australian*, 13 January 1998.

Local Government and Department of Industry and Resources, *Protocol for future state agreements and resource projects of significance to the State*, 28 July 2004. Available at [www.doir.wa.gov.au/documents/investment/Local-Gvt-protocol.pdf](http://www.doir.wa.gov.au/documents/investment/Local-Gvt-protocol.pdf) (accessed 26 August 2004)

Mallabone, M “\$14m power station unused: Barnett denies bad judgement on loan for mine project” *The West Australian*, 2 May 2003.

Parliament of Australia, Parliamentary Library Economic Indicators on the Internet. Available at <http://www.aph.gov.au/library/intguide/STATS/ecindicators.htm> (accessed 7 October 2004)

Phaceas, J. “Alcoa studies Guinea to speed up Wagerup talks” *The West Australian*, 15 May 2004.

Phaceas, J. “Campaign to save Windimurra goes national” *The West Australian*, 20 May 2004.

Phaceas, J. “Final hope call for Windimurra” *The West Australian*, 2 June 2004

Phaceas, J. “Law urged to tackle closures” *The West Australian*, 23 September 2004.

Phaceas, J. “New doubts over Xstrata's Windimurra sale” *The West Australian*, 3 June 2004.

Phaceas, J. “PMA claim without merit, says Xstrata: PMA mine action” *The West Australian*, 18 August 2004.

Phaceas, J. “PMA dares miner on project costs” *The West Australian*, 18 May 2004.

Phaceas, J. “PMA to Xstrata: we'll sue over deal” *The West Australian*, 24 May 2004.

Phaceas, J. “PMA tries to save vanadium operation” *The West Australian*, 8 May 2004.

Phaceas, J. “Reynolds weighs in to Windimurra fight” *The West Australian*, 14 May 2004.

Phaceas, J. “Roderick to the rescue” *The West Australian*, 31 March 2004.

Phaceas, J. “State eyes mine seizure powers” *The West Australian*, 19 May 2004.

Phaceas, J. “WA taxpayers in cold as mine fate is sealed” *The West Australian*, 25 March 2004.

Phaceas, J. “Xstrata accused over Windimurra” *The West Australian*, 12 August 2004.

Phaceas, J. “Xstrata goes to law over Windimurra” *The West Australian*, 20 October 2004.

Phaceas, J. “Xstrata's man 'partly to blame’” *The West Australian*, 25 August 2004.

PMAL Quarterly Report For the Quarter Ended March 31, 2004 Available at <http://www.pmal.com.au/Reports/quarterlyMar2004.pdf> (accessed 8 September 2004)

Prior, N. “Miner settles Buckeridge works claim” *The West Australian*, 8 Nov 2000.

Prior, N. and Ball, Y. “Battle is sad case of mine over matter” *Australian Financial Review*, 5 June 2004.

Queensland Government Mining Journal June 2004. Available at [http://www.nrm.qld.gov.au/mines/publications/qgmj/2004/jun/article\\_10.html](http://www.nrm.qld.gov.au/mines/publications/qgmj/2004/jun/article_10.html) (accessed 22 October 2004)

Shand, A. “Dream mothballed, but not hard feelings” *Australian Financial Review*, 21 July 2003.

- Smith, S. and Phaceas, J. "State knocks back Windimurra rescue" *The West Australian*, 12 March 2004.
- Southwell, M. "An ill wind pits station v mine" *The West Australian*, 7 October 2002.
- Southwell, M. "Toxic tests point to generator" *The West Australian*, 11 Sept 2002.
- Southwell, M. "Refinery health link raised" *The West Australian*, 6 Sept 2002.
- Southwell, M. "Health ruined by mine fumes, say stockmen" *The West Australian*, 5 Sept 2002.
- Standing Orders of the Legislative Assembly of the Parliament of Western Australia
- Treadgold, T. "Mine Games" *Business Review Weekly* 29 July - 4 August 2004, p 46-48
- Treadgold, T. "Out of town and out of touch" *Business Review Weekly* June 27- July 3, 2002
- Videnieks, M and Phaceas, J. "Finger pointing at closure" *The West Australian*, 13 May 2004.
- Weir, M. "Price fall halts vanadium mine" *The West Australian*, 12 February 2003.
- Weir, M. "Reed strikes titanium deal" *The West Australian*, 2 April 2004.
- Wellington, A. "Vanadium vision now reality" *The West Australian*, 9 May 2000.
- Western Power Corporation *Annual Report 2002* (Perth 2002)
- Western Power Corporation *Annual Report 2003* (Perth 2003)
- Western Power Corporation *Annual Report 2004* (Perth 2004)
- Williams, R. "Sale law call on Windimurra" *The West Australian*, 15 June 2004.
- Xstrata plc *Annual Report 2000* (London 2000)
- Xstrata plc *Annual Report 2001* (London 2001)
- Xstrata plc *Annual Report 2002* (London 2002)
- Xstrata plc *Annual Report 2003* (London 2003)
- Xstrata plc *Interim Report 2004*, available at <http://www.xstrata.com/publications.php> (accessed 22 October 2004)
- Xstrata Media Release 10 May 2004, available at [www.xstrata.com/press\\_release.php](http://www.xstrata.com/press_release.php) (accessed 3 August 2004)