



Statement No.

000557

MINISTER FOR THE ENVIRONMENT;
LABOUR RELATIONS

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)

COOLJARLOO MINERAL SANDS PROJECT
MINING OF TITANIUM MINERALS, OREBODIES 27 200 & 28 000
SHIRE OF DANDARAGAN

Proposal: Mining of titanium minerals from orebodies 27 200 and 28 000, adjacent to the southern mining operations of the existing Cooljarloo Mineral Sands Mine, located 10 kilometres north-west of Cataby, Shire of Dandaragan, as documented in schedule 1 of this statement. (See note at foot of this statement).

Proponent: Tiwest Pty Ltd

Proponent Address: 1 Brodie-Hall Drive, Bentley WA 6152

Assessment Number: 1272

Report of the Environmental Protection Authority: Bulletin 990

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures:

Procedures

1 Implementation

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Published on

10 NOV 2000

2 Proponent Commitments

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

3 Proponent

- 3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 3-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

4 Commencement

- 4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.
- 4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.
- 4-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.
- 4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

5 Compliance Auditing

- 5-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

- 5-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.
- 5-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Conditions

6 Environmental Management System

- 6-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to ground-disturbing activity, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:
- 1 An environmental policy and corporate commitment to it.
 - 2 Mechanisms and processes to ensure:
 - (1) planning to meet environmental requirements;
 - (2) implementation and operation of actions to meet environmental requirements; and
 - (3) measurement and evaluation of environmental performance, and
 - 3 Review and improvement of environmental outcomes.
- 6-2 The proponent shall implement the environmental management system referred to in condition 6-1.

7 Surface Water and Groundwater Management Plan

- 7-1 Prior to commencement of ground-disturbing activities, the proponent shall develop a Surface Water and Groundwater Management Plan to the requirements of the Environmental Protection Authority on advice of the Water and Rivers Commission and the Department of Environmental Protection.

The objectives of this Plan are to:

- protect wetland systems linked to Minyulo Brook, including Emu Lakes wetlands; and
- ensure that drawdown from dredge mining does not significantly impact on native vegetation and wetland ecosystems.

This Plan shall address:

1. offsite movement of dieback, sediment and pollutants in surface waters;
2. recovery if spillage or leakage of an environmentally hazardous substance occurs;
3. the potential impacts of dredge mining and groundwater abstraction on vegetation, and the management of these impacts, and assess the relationship between the perched, superficial and Yarragadee aquifers;

4. the installation of groundwater monitoring bores to determine the effect of the proposal on seasonal and permanent wetlands;
5. assessment of the depth to groundwater for vegetation in the proposal area;
6. gaining an understanding of the extent to which wetlands in the proposal area are sustained by perched aquifers by the drilling of shallow bores; and
7. the provision for contingency plans if monitoring indicates vegetation or wetland impacts.

7-2 The proponent shall implement the Surface Water and Groundwater Management Plan required by condition 7-1.

7-3 The proponent shall make the Surface Water and Groundwater Management Plan required by condition 7-1 publicly available, to the requirements of the Environmental Protection Authority.

8 Rare Flora Management Plan

8-1 Prior to ground-disturbing activities and in consultation with the Department of Conservation and Land Management, the proponent shall prepare a Rare Flora Management Plan to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and the Department of Conservation and Land Management.

This Plan shall address:

- 1 the impacts on Declared Rare and Priority flora within the project area;
- 2 reporting of flora survey results to the Department of Conservation and Land Management;
- 3 offsite surveys to prove up numbers and extent of rare flora species;
- 4 planning to avoid any disturbance to rare flora where possible;
- 5 immediate fencing of rare flora populations to be protected;
- 6 consideration of relocating rare flora species;
- 7 the propagation and return of rare flora into rehabilitation areas; and
- 8 the process for applying to 'take' Declared Rare Flora under the provisions of the Wildlife Conservation Act 1950.

8-2 The proponent shall implement the Rare Flora Management Plan required by condition 8-1.

8-3 The proponent shall make the Rare Flora Management Plan required by condition 8-1 publicly available, to the requirements of the Environmental Protection Authority.

9 Integrated Mining and Rehabilitation Plan

9-1 To ensure that rehabilitation is optimised, prior to ground-disturbing activities, the proponent shall develop an Integrated Mining and Rehabilitation Plan, to the requirements of the Environmental Protection Authority (including any requirement of the Environmental Protection Authority for independent expert advice) on advice of the Department of Environmental Protection, the Department of Minerals and Energy, and the Department of Conservation and Land Management.

This Plan shall address:

1. baseline vegetation survey;
2. optimal clearing techniques;
3. a mining strategy integrating the mining and rehabilitation schedules, including a reconciliation of voids, tailings and overburden; promptly re-establishing the soil profile; and systematically reducing the area of land awaiting rehabilitation;
4. achievement of "best practice" rehabilitation;
5. comparison with industry benchmarking study, should such data be available;
6. reporting of clearing and rehabilitation rates;
7. weed management;
8. dieback management;
9. propagation strategy, including seed collection, maximising the direct return of topsoil, direct seeding, planting of seedlings, smoke treatment and translocation;
10. development of specific rehabilitation performance criteria;
11. a monitoring programme to determine rehabilitation success;
12. contingency plans in the event that rehabilitation is not likely to meet, or does not meet performance criteria;
13. decommissioning of the mining areas and final voids, and removal of any mine infrastructure; and
14. allocation of resources (equipment, appropriately trained and experienced personnel and independent expert advice).

Components 1 to 9 of this Plan shall be prepared prior to ground-disturbing activities. The remaining components shall be prepared within 12 months following commencement of ground-disturbing activities.

- 9-2 The proponent shall implement the Integrated Mining and Rehabilitation Plan required by condition 9-1 to achieve the rehabilitation performance criteria referred to in condition 9-1 (10) to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.
- 9-3 The proponent shall make the Integrated Mining and Rehabilitation Plan, required by condition 9-1, publicly available to the requirements of the Environmental Protection Authority.

10 Performance Review

- 10-1 Each six years following the commencement of construction, the proponent shall submit a Performance Review Report to the Department of Environmental Protection:
 - to document the outcomes, beneficial or otherwise;
 - to review the success of goals, objectives and targets; and
 - to evaluate the environmental performance over the six years;

relevant to the following:

- 1 environmental objectives reported on in Environmental Protection Authority Bulletin 990;

- 2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;
- 3 environmental management system environmental performance targets;
- 4 environmental management programs and plans; and/or
- 5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review Report.

Note:

- 1 Statement No. 037 for the Cooljarloo Minerals Sands Project (Assessment No. 033) was published on 3 October 1988.



CHERYL EDWARDES (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

Schedule 1

The Proposal (1272)

Tiwest Pty Ltd ('the proponent') operates the Cooljarloo Mineral Sands Project, located 10 kilometres north-west of Cataby, within Mining Lease M268SA. The original proposal for the Cooljarloo Mine, which proposed the mining of the then known areas of mineralisation within the project area, was given environmental approval by the Minister for the Environment in October 1988.

The proponent is proposing to mine orebodies '27 200' and '28 000', which are located adjacent to the southern mining operations of the Cooljarloo Mine, at a rate of between 4.4 and 19.1 million tonnes per annum (approximately). Orebody 27 200 will be dredge mined, and orebody 28 000 will be either dredge or dry mined. The mining will largely utilise equipment and infrastructure in use at the existing Cooljarloo Mine.

Key Characteristics Table

Element	Description	
	Orebody 27 200	Orebody 28 000 (theoretical)
Extension to mine-life	Approximately 20 months	Approximately 2 months
Period of ore extraction	April 2002 – 1 st Quarter 2004	June 2001 – June 2002
Method of ore extraction	Dredge	Dredge or dry
Size of ore-body (tonnes of Heavy Mineral Concentrate (HMC))	852,000	150,000
Area of Disturbance (hectares)	105	115
Depth of pit (metres)		
Maximum	50	35
Typical	46	30
Infrastructure	Dredge pit, access and exit channels.	Dredge pit, access roads, overburden dump, shore-based pumping facility.
Ore Mining Rate (tonnes/hour)	Cooljarloo I Dredge – 1680 Cooljarloo II Dredge – 500	Cooljarloo II Dredge – 500
Nominal hours of operation	24 hours per day, 7 days per week	24 hours per day, 7 days per week
Overburden (cubic metres)	19 million	9 million
Water Supply		
• Licensed Annual Abstraction Limit (kilolitres), Superficial and Yarragadee aquifers	8,780,000	8,780,000
• Rate of abstraction (kilolitres)	1,750,000	1,750,000
Fuel Storage Capacity (litres)	Proponent – 138,800 Contract – 100,000	Proponent – 138,800 Contract – 100,000
HMC transport to Chandala processing plant - truck movements		
Maximum	40 return trips a day @ mean load 70 tonne	40 return trips a day @ mean load 70 tonne
Mean	27 return trips a day @ mean load 70 tonne	27 return trips a day @ mean load 70 tonne
Rehabilitation	Stable self-sustaining ecosystems compatible with adjacent undisturbed areas.	Stable self-sustaining ecosystems compatible with adjacent undisturbed areas.

Figures

Figure 1. Location Plan, Cooljarloo Mineral Sands Mine.

Figure 2. Location of Orebodies 27 200 and 28 000.

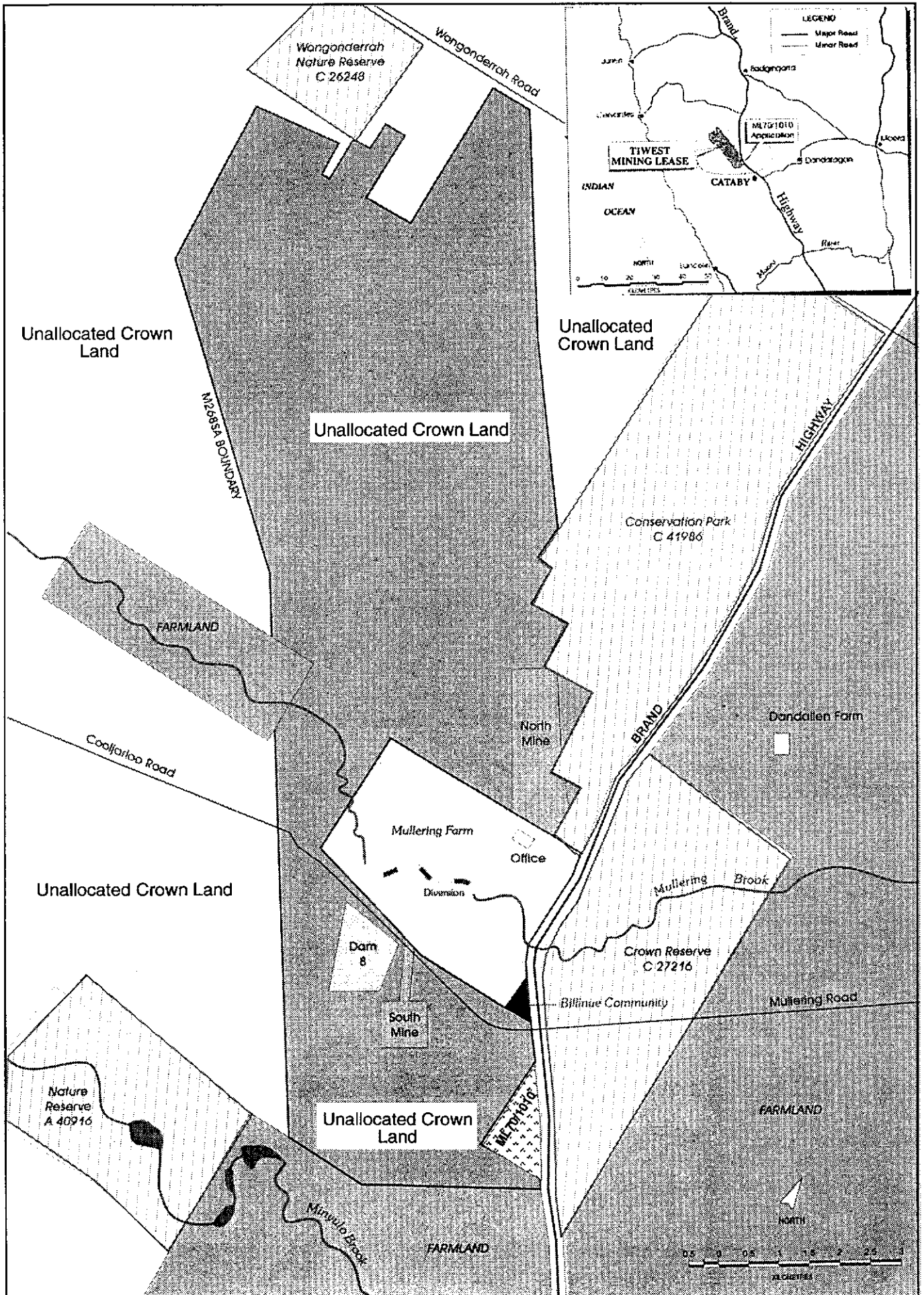


Figure 1. Location Plan, Cooljarloo Mineral Sands Mine.

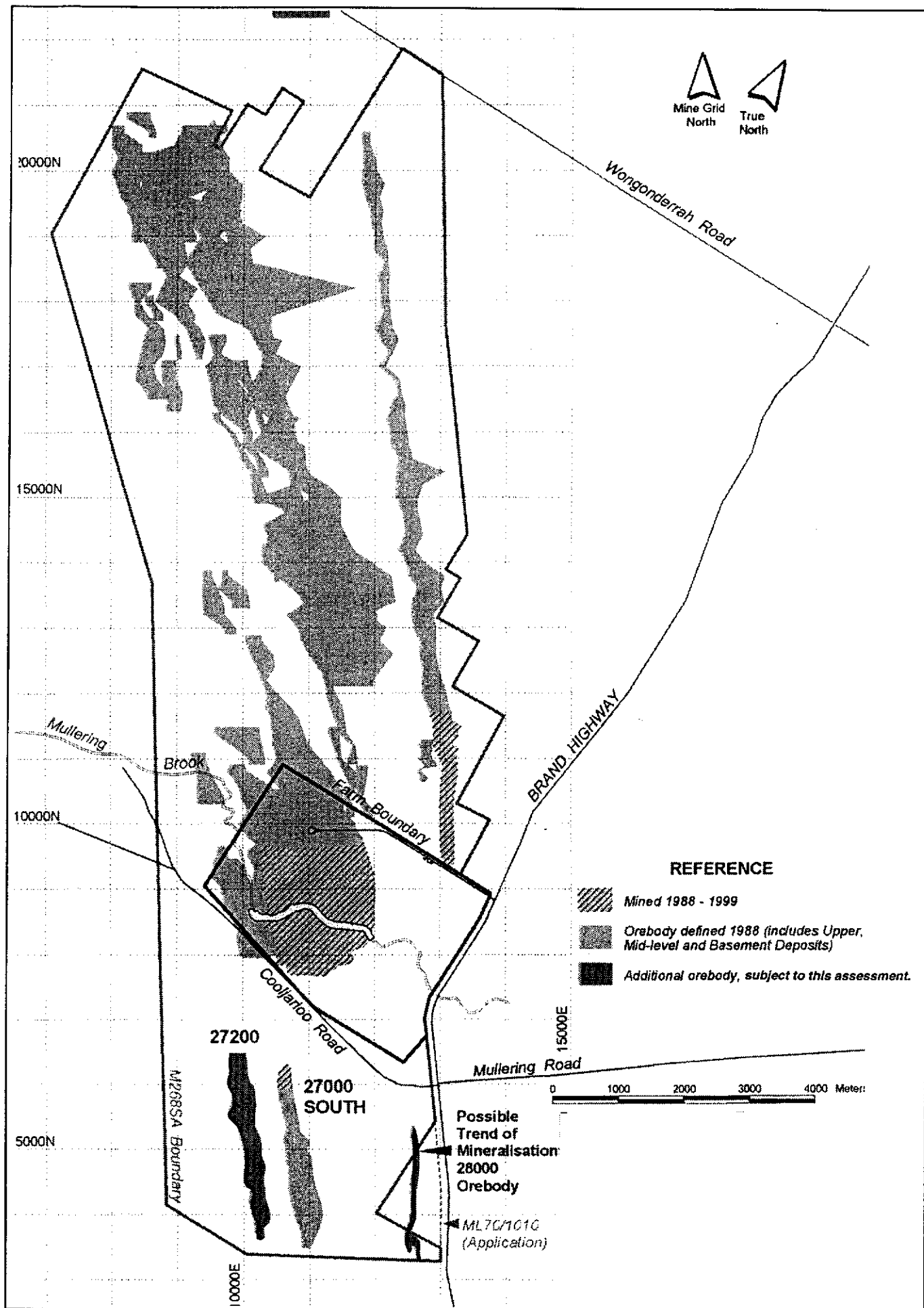


Figure 2. Location of Orebodies 27 200 and 28 000.

**Proponent's Consolidated Environmental
Management Commitments**

September 2000

**COOLJARLOO MINERAL SANDS PROJECT
MINING OF TITANIUM MINERALS,
OREBODIES 27 200 & 28 000
SHIRE OF DANDARAGAN
(ASSESSMENT NO. 1272)**

TIWEST PTY LTD

Proponent's Environmental Management Commitments

Cooljarloo Mine, Mining of Titanium Minerals, Orebodies 27 200 and 28 000 (1272)

No.	Topic	Objective(s)	Action	Timing	Advice
1.	Environmental Management Programme	Manage environmental impacts arising from the proposal.	Apply the existing Cooljarloo Environmental Management Programme (EMP) to the mining of the 27 200 and 28 000 orebodies as defined in the EMP and Cooljarloo Environmental Procedures Manual.	On an ongoing basis	DEP DME CALM WRC
2.	Environmental Management Programme	Improvement in environmental performance.	Review the Cooljarloo Environmental Management Programme and update as required.	Annually	DEP DRD CALM WRC DME
3.	Native vegetation	Minimise disturbance to native vegetation.	Limit clearing of native vegetation associated with mining the 27 200 and 28 000 orebodies to 220 hectares.	Overall	DME DEP
4.	Priority species	Improve knowledge of the abundance of Priority species present on M268SA and MLA 70/1010 in nearby conservation reserves.	Undertake specific surveys for Priority species (listed in Appendix C of the Public Environmental Review for the proposal to mine the 27 200 and 28 000 at Cooljarloo) in conservation reserves adjacent to tenements M268SA and ML 70/1010.	Spring	DEP CALM
5.	Priority species	Limit impact on the abundance of Priority species.	Develop specific management measures for particular Priority species in consultation with CALM as the results of flora surveys warrant.	Overall	CALM
6.	"Emu Lakes" wetlands	Improve knowledge of the ecological function and conservation status of the "Emu Lakes" wetlands.	Undertake flora, fauna and hydrological monitoring of the "Emu Lakes" wetlands located on private land immediately south-west of tenement M268SA. (subject to the agreement of the landholder).	Commencing in 2000	DEP
7.	Surface Water Quality	Minimise any impact on wetlands and drainage systems.	Direct turbid runoff from areas disturbed by mining activity through retention/settling basins and/or to the dredge pond.	Overall	WRC DEP
8.	Native vegetation	Minimise impacts on native vegetation caused by groundwater abstraction.	Adjust the depth and distribution of abstraction in the event of identifying adverse trends in vegetation health.	Operations phase	WRC DEP
9.	Rehabilitation	Ensure high standard of rehabilitation.	Maintain current practice of making full financial provision for the rehabilitation of disturbed areas.	Overall	DEP DME

CALM – Department of Conservation and Land Management; DEP – Department of Environmental Protection; DME – Department of Minerals and Energy; DRD – Department of Resources Development; WRC – Water and Rivers Commission