

# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in schedule 1, subject to the conditions in schedules 2 to 4.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Frank Sartor MP  
Minister for Planning

Sydney

2007

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### SCHEDULE 1

<b>Application Number:</b>	06_0168
<b>Proponent:</b>	<a href="#">Cristal Mining Australia Limited</a>
<b>Approval Authority:</b>	Minister for Planning
<b>Land:</b>	See Appendix 1
<b>Project:</b>	Snapper Mineral Sands Project

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Red type – June 2009 modification

Blue type – December 2009 modification

Green type – October 2010 modification

Orange type – October 2014 modification

Light Blue type – December 2014 Modification

Purple type – February 2015 Modification

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## DEFINITIONS

Annual Review	The review required by condition 5 of schedule 4
BCA	Building Code of Australia
Council	Wentworth Shire Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning & Environment
Crown Lands	Division of Crown Lands within the NSW Department of Trade & Investment, Regional Infrastructure and Services
DRE	Division of Resources and Energy within NSW Trade and Investment, Regional Infrastructure and Services
EA	The report titled <i>Snapper Mineral Sands Project – Environmental Assessment</i> dated March 2007, and associated <i>Responses to Submissions</i> dated 22 June 2007
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>
ETL	Electricity Transmission Line
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
Ginkgo Mine	The mineral sands mine the subject of DA 251-09-01 and described in the <i>Environmental Impact Statement</i> titled <i>Ginkgo Mineral Sands Mine Environmental Impact Statement</i> dated September 2001
ha	Hectares
Haulage Route	The route shown in Appendix 2
Mining operations	The extraction and processing of ore on site
Minister	Minister for Planning, or delegate
MSP	Cristal Mining Australia Limited's Mineral Separation Plant located on the south-western outskirts of Broken Hill
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
Non-Proponent held land	Land that is not held by the Proponent
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
Offset Area	The land shown as "Snapper Mine Biodiversity Offset Area" in Appendix 3
Project	The Snapper Mineral Sands Project described in the EA
Proponent	Cristal Mining Australia Limited, or its successors
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
RMS	Roads and Maritime Services
Secretary	Secretary of the Department of Planning & Environment, or nominee
Site	The land bounded by the red line (MLA 1621) plus the ETL from the Ginkgo Mine and access road extensions, shown in Appendix 5
Statement of Commitments	The Proponent's commitments in Appendix 4

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

### Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) statement of commitments
  - (c) modification application 06\_0168 Mod 1 and accompanying Environmental Assessment titled *Bemax Resources Limited Snapper Mineral Sands Mine Offset Modification Environmental Assessment* dated April 2009;
  - (d) modification application 06\_0168 Mod 2 and accompanying Environmental Assessment titled *Bemax Resources Limited Ginkgo Mineral Sands Mine and Snapper Mineral Sands Mine November 2009 Modification Environmental Assessment* dated November 2009;
  - (e) modification application 06\_0168 Mod 3 and accompanying Environmental Assessment titled *Snapper Mineral Sands Mine and Ginkgo Mineral Sands Mine April 2010 Modification Environmental Assessment*, dated April 2010;
  - (f) modification application 06\_0168 Mod 4 and accompanying Environmental Assessment titled *Murray Darling Basin Operations Modification Environmental Assessment November 2013*, dated November 2013;
  - (g) modification application 06\_0168 Mod 6 and accompanying letter titled *Snapper Mineral Sands Mine - Ore Production and Mineral Concentrate Transport Limit Modification*, dated 2 December 2014;
  - (h) modification application 06\_0168 Mod 5 and accompanying Environmental Assessment titled *Snapper Mine Production Increase Modification Environmental Assessment*, dated August 2014; and
  - (i) conditions of this approval.

#### Notes:

- The general layout of the project is shown in Appendix 5; and
- The statement of commitments is included in Appendix 4 (excluding the commitments which are reflected in, or inconsistent with, this approval).

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable and feasible requirements of the Secretary arising from the Department's assessment of:
  - (a) any reports, plans or correspondence that are submitted in accordance with the conditions of this approval; and
  - (b) the implementation of any actions or measures contained in these reports, plans or correspondence.

### Limits on Approval

5. The Proponent may undertake mining operations on the site until 10 July 2026.

*Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Secretary and DRE. Consequently, this approval will continue to apply in all other respects other than the right to conduct mining operations until the site has been properly rehabilitated.*
6. The Proponent shall not:
  - (a) extract more than 14 million tonnes of ore from the site in a calendar year;
  - (b) produce more than 621,000 tonnes of mineral concentrate from ore extracted from the site per calendar year; and
  - (c) transport more than 975,000 tonnes of mineral concentrate from the site and the Ginkgo Mine combined in a calendar year.
7. The Proponent may only transport mineral concentrate off-site via the haulage route, using RMS approved vehicles.

- 7A. The Proponent may transport up to 4 million tonnes of unprocessed mineral sands ore to the Ginkgo Mine until 31 December 2011, unless otherwise agreed by the Secretary, limited to a maximum of 2 laden and 2 unladen vehicle movements per hour. All vehicle loads must be covered during transport.
- 7B. A maximum of 300,000 tonnes per annum of processed waste material may be transported to the Ginkgo and Snapper Mines from the Broken Hill Mineral Separation Plant.

#### Updating and Staging Strategies, Plans or Programs

8. With the approval of the Secretary, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis.

To ensure the strategies, plans or programs under the conditions of this approval are updated on a regular basis, the Proponent may at any time submit revised strategies, plans or programs to the Secretary for approval.

With the agreement of the Secretary, the Proponent may prepare any revised strategy, plan or program without consultation with all parties under the applicable condition of approval.

*Note:*

- While any strategy, plan or program may be submitted on a progressive basis, the Proponent must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

#### Structural Adequacy

9. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

*Notes:*

- Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.

#### Demolition

10. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

#### Operation of Plant and Equipment

11. The Proponent shall ensure that all plant and equipment used on site is:
- (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.
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## SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

### SOIL AND WATER

#### Discharges

1. Except as may be expressly provided for by an EPL, the Proponent shall not discharge any water from the site.

#### Water Management Plan

2. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
  - (a) be prepared in consultation with the **EPA** and **NOW** by suitably qualified expert/s whose appointment/s have been approved by the Director-General;
  - (b) be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - (c) include:
    - Erosion and Sediment Control Measures;
    - Surface Water Management Measures; and
    - Borefield Management Measures.

#### Erosion and Sediment Control Measures

3. The Erosion and Sediment Control Measures must:
  - (a) be consistent with the *Managing Urban Stormwater: Soils and Construction* manual (Landcom, 2004 or its latest version);
  - (b) identify activities that could cause soil erosion and generate sediment;
  - (c) describe measures to minimise soil erosion and the potential for the transport of sediment;
  - (d) describe the location, function, and capacity of erosion and sediment control structures; and
  - (e) describe what measures would be implemented to monitor and maintain the integrity of the structures over time.

#### Surface Water Management Measures

4. The Surface Water Management Measures must:
  - (a) describe the salinity management measures on site including the design measures proposed to be used to minimise any lateral seepage of brackish water from the initial water dam, initial emplacement containing the overburden slurry, and initial sand residue dam which could contaminate adjacent soils and cause vegetation dieback;
  - (b) describe measures to manage dust suppression water along the **hauling route between the Silver City Highway and the site**;
  - (c) include a program to monitor the effectiveness of these measures, with specific reference to vegetation and soil performance criteria; and
  - (d) describe the measures that would be implemented if any exceedances of the performance criteria are detected.

#### Borefield Management Measures

5. The Borefield Management Measures must include:
  - (a) a site water balance;
  - (b) data to benchmark the natural variation in groundwater levels and quality prior to any development on site within the predicted drawdown impact zone (identified in the EA);
  - (c) groundwater impact trigger levels for relevant landholder bores (e.g. Chalky Well);
  - (d) a program to monitor the groundwater impacts of the project;
  - (e) the procedures that would be implemented if the groundwater impact trigger levels are exceeded; and
  - (f) measures to mitigate and/or compensate landholders who are adversely affected by the groundwater impacts of the project, including the provision of alternative water.

## WASTE MANAGEMENT

### Waste Management Plan

6. The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the **EPA** by suitably qualified expert/s whose appointment/s have been approved by the **Secretary**,
  - (b) be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - (c) include:
    - Landfill Management Measures; and
    - Waste Minimisation Measures.

### Landfill Management Measures

7. The Landfill Management Measures must:
- (a) generally meet the environmental goals listed in *Environmental Guidelines: Solid Waste Landfills* (DEC, 1996 or its latest version) and;
  - (b) include:
    - design and operation details of waste disposal areas;
    - a management program for backloaded MSP process waste;
    - a system to monitor the movement of backloaded MSP waste; and
    - disposal techniques and handling practices consistent with the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing* (ARPANSA, 2005 or its latest version).

### Waste Minimisation Measures

8. The Waste Minimisation Measures must:
- (a) identify the various waste streams of the project;
  - (b) describe what measures would be implemented to reuse, recycle or minimise the waste generated by the project; and
  - (c) include a program to monitor the effectiveness of these measures.

*Note: The waste minimisation measures are not relevant to backloaded MSP process waste, overburden or sand residues.*

## RADIATION MANAGEMENT

### Radiation Management Plan

9. The Proponent shall prepare and implement a Radiation Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the **EPA** by suitably qualified expert/s whose appointment/s have been approved by the **Secretary**;
  - (b) be submitted to the **Secretary** for approval prior to carrying out any development on the site;
  - (c) be consistent with the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in mining and Mineral Processing* (ARPANSA, 2005); and
  - (d) include:
    - a description of operation and control measures;
    - a description of waste generating processes and waste;
    - demonstration of access to professional expertise;
    - details of radiation monitoring;
    - details of appropriate equipment, staff, facilities and operational procedures;
    - a description of induction and training courses;
    - reporting and periodic review procedures;
    - emergency plans;
    - baseline radiological information;
    - description of the waste management system;
    - radioactive waste monitoring; and
    - a conceptual decommissioning plan.

## NOISE

### Noise Impact Assessment Criteria

10. The Proponent shall ensure that the noise generated by the project does not exceed 35dB(A)  $L_{Aeq(15\text{ minute})}$  at any residence on non-Proponent held land.

*Notes:*

- To determine compliance with the  $L_{Aeq(15\text{ minute})}$  limit, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- The noise limit above applies under the following meteorological conditions:
  - wind speeds of up to 3 m/s at 10 metres above ground level; or
  - temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2 m/s at 10 metres above ground level.
- These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

### Traffic Noise Criteria

11. The Proponent shall ensure that traffic noise generated by the project does not exceed the following noise goals at any residence on non-Proponent held land along the [haulage route between the Silver City Highway and the site](#):
- $L_{Aeq(1\text{ hour})}$  50 dB(A) for 7:00 am to 10:00 pm; and
  - $L_{Aeq(1\text{ hour})}$  45 dB(A) for 10:00 pm to 7:00 am.

### Noise Monitoring

12. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the [Secretary](#). This program must:
- be prepared in consultation with the [EPA](#);
  - be submitted to the [Secretary](#) for approval prior to carrying out any development on the site; and
  - use a combination of attended and unattended monitoring measures to monitor the performance of the project.

## AIR QUALITY

### Air Quality Impact Assessment Criteria

13. The Proponent shall ensure that dust generated by the project does not cause additional exceedances of the criteria listed in Tables 1 to 3 at any residence on non-Proponent-held land.

Table 1: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 $\mu\text{g}/\text{m}^3$
Particulate matter < 10 $\mu\text{m}$ (PM <sub>10</sub> )	Annual	30 $\mu\text{g}/\text{m}^3$

Table 2: Short term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 $\mu\text{m}$ (PM <sub>10</sub> )	24 hour	50 $\mu\text{g}/\text{m}^3$

Table 3: Long term impact assessment criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS/NZS 3580.10.1-2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

## Monitoring

14. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the **Secretary**. This program must:
- be prepared in consultation with the **EPA**;
  - be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - use dust deposition gauges to monitor the performance of the project.

## METEOROLOGICAL MONITORING

15. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the *Approved Methods for Sampling of Air Pollutants in New South Wales* (DEC, 2007 or its latest version).

## FLORA AND FAUNA

### Flora and Fauna Management

16. The Proponent shall prepare and implement a Flora and Fauna Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- be prepared in consultation with the **OEH** by a suitably qualified expert(s) whose appointment(s) has been approved by the **Secretary**;
  - be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - include a:
    - vegetation clearance protocol which must include procedures for notifying **OEH** of any clearing activities outside of late summer to early autumn, including any additional mitigation measures to be implemented to minimise impacts on fauna;
    - threatened species management protocol;
    - description of the detailed measures that would be implemented to:
      - control weeds, feral pests, and access;
      - salvage and reuse material from the site for habitat enhancement;
      - collect and propagate seed;
      - manage grazing, fauna entrapment in the dredge pond, bushfires, and remnant vegetation on site; and
    - program to monitor the effectiveness of the protocols and management measures in the plan.

### Offset Management Plan

17. The Proponent must prepare and implement an Offset Management Plan to the satisfaction of the **Secretary**. This plan must:
- be prepared in consultation with the **OEH** by a suitably qualified expert(s) whose appointment(s) has been approved by the **Secretary**;
  - be submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - describe the measures to implement the flora and fauna offset (see statement of commitment 4 in Appendix 4 and the detailed description of this offset in the EA), including:
    - the objectives for the offset;
    - a description of the short, medium, and long term measures that would be implemented, including appropriate fencing to exclude grazing, incrementally de-stocking the offset area over three years, removal of unnecessary existing fences, erosion control, signage of the offset, revegetation of unnecessary access tracks, animal pest control, weed management, fire management and threatened species management;
    - detailed performance and completion criteria for the implementation of the offset;
    - a detailed description of how the performance of the offset would be monitored, using techniques such as photographic monitoring and permanent flora quadrats;
    - a description of how the offset would be protected in the long-term; and

- details of who would be responsible for monitoring, reviewing and implementing the plan.

### Offset Bond

18. After the first Independent Environmental Audit (see Schedule 4) after year 10 of the mining operations, the Proponent shall lodge a suitable offset bond with the **Secretary**. This bond must be determined by the audit team in consultation with the Proponent, and contain sufficient funds to ensure the remaining works in the Offset Management Plan are fully implemented. The Proponent shall revise this bond to the satisfaction of the **Secretary** after each subsequent audit.

*Notes:*

- (d) *Remaining works are those works required for areas for which completion criteria (as set out in the Offset Management Plan) have not been met, as determined by the Independent Environmental Audit.*
- (e) *Areas for which completion criteria have been met, as verified by the relevant Audit, will not require a bond.*
- (f) *Where offset completion criteria are met for a particular area, as verified by the Audit, the **Secretary** will release the bond for that area.*

## REHABILITATION

### Rehabilitation Objectives

19. The Proponent shall rehabilitate the site to the satisfaction of DRE. This rehabilitation must be generally consistent with the proposed rehabilitation strategy for the project, and comply with the objectives in Table 4.

*Table 4: Rehabilitation Objectives*

<b>Feature</b>	<b>Objective</b>
<ul style="list-style-type: none"> <li>• Mine site (as a whole).</li> </ul>	<ul style="list-style-type: none"> <li>• Safe, stable &amp; non-polluting</li> <li>• Final land use compatible with surrounding land uses</li> <li>• Final landforms designed to incorporate micro-relief, natural drainage lines and minimise visual prominence by integration with the surrounding landscape</li> <li>• Restore self-sustaining ecosystems, including establishing local native plant species</li> </ul>
<ul style="list-style-type: none"> <li>• Final Void</li> </ul>	<ul style="list-style-type: none"> <li>• Minimise the size and depth of the final voids as far as is reasonable and feasible</li> <li>• Minimise the drainage catchment of the final voids as far as reasonable and feasible</li> </ul>
<ul style="list-style-type: none"> <li>• Overburden Emplacement Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure that areas subject to slurried overburden emplacement are covered with a minimum of:               <ul style="list-style-type: none"> <li>- 1 metre of non-slurried overburden on the initial slurried sand storage dam;</li> <li>- 3 metres of non-slurried overburden for all other areas; in addition to at least 0.2 metres of topsoil and at least 0.2 metres of subsoil.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Surface infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>• To be decommissioned and removed, unless DRE agrees otherwise</li> </ul>
<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>	<ul style="list-style-type: none"> <li>• Reinstatement of the infrastructure areas to land suitable for light intensity grazing</li> </ul>
<ul style="list-style-type: none"> <li>• Community</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure public safety and minimise the adverse socio-economic effects associated with mine closure</li> </ul>

*Notes:*

- *These rehabilitation objectives apply to all environmental consequences caused by mining taking place after the date of this approval; and to all surface infrastructure sites and other disturbance which forms part of the project, whether constructed prior to or following the date of this approval.*
- *Rehabilitation of environmental impacts and consequences caused by mining which took place prior to the date of this approval may be subject to the requirements of other consents (e.g. under a mining lease).*

### Progressive Rehabilitation

- 19A. The Proponent shall rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

*Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.*

## Rehabilitation Management Plan

- 19B. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, in consultation with the Department, Council and Crown Lands, and to the satisfaction of DRE. This plan must:
- (a) be submitted to DRE, for approval within 6 months of the date of approval for MOD 5, or as otherwise agreed with the Secretary;
  - (b) be prepared in accordance with any relevant DRE guideline and be consistent with the rehabilitation objectives of the project and in Table 4;
  - (c) describe how the performance of the rehabilitation would be monitored and assessed against the objectives in Table 4;
  - (d) describe the process whereby additional measures would be identified and implemented to ensure the rehabilitation objectives are achieved;
  - (e) provide for detailed mine closure planning, including measures to minimise socio-economic effects due to mine closure, to be conducted prior to the site being placed on care and maintenance; and
  - (f) include a salinity monitoring program for the rehabilitated slurried overburden emplacement areas that describes:
    - soil salinity and vegetation health impact assessment criteria;
    - a program to monitor soil salinity and vegetation health; and
    - a contingency strategy for the investigation, notification and mitigation of identified exceedances of the impact assessment criteria; and
  - (g) be integrated with the other management plans required under this approval.

### Notes:

- *The approved Mining Operations Plan may satisfy the requirements of this condition for a Rehabilitation Management Plan.*
- *The Rehabilitation Management Plan should address all land impacted by the project, and should be suitably integrated with the Rehabilitation Management Plans for the Ginkgo Mine.*

## HERITAGE

### Aboriginal Cultural Heritage Management Plan

20. The Proponent shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the **Secretary**. This plan must:
- (a) be prepared in consultation with the **OEH** and the registered Aboriginal stakeholders involved in the preparation of the EA;
  - (b) be submitted to the **Secretary** for approval prior to carrying out development on the site; and
  - (c) include a:
    - description of detailed management strategies outlined in statement of commitment 5 in Appendix 4;
    - description of the measures that would be implemented if any skeletal remains are discovered during the project; and
    - program to monitor the effectiveness of the proposed management strategies.

### Non-Indigenous Heritage

21. The Proponent shall protect non-Indigenous cultural heritage site SNH1 (see Appendix 6), and at a minimum erect temporary protective barriers around the site.

## TRANSPORT

### Monitoring of Mineral Concentrate Transport

- 21A. The Proponent shall:
- (a) keep accurate records of the amount of mineral concentrate transported from the site (on a monthly basis); and
  - (b) make these records publicly available on its website at the end of each calendar year.

## Road Works

22. Prior to carrying out any development on the site, the Proponent shall install appropriate truck warning signs at locations approximately 300 metres in advance of the haulage route intersection with the Silver City Highway and on both sides of the highway to the satisfaction of the RMS.
23. The Proponent shall:
- minimise the amount of dust and debris being carried onto the Silver City Highway by haul trucks from the project; and
  - regularly remove this dust and debris from the highway, to the satisfaction of the RMS.

## Transport Management

24. The Proponent shall prepare and implement a Transport Management Plan for the project to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA and RMS;
  - be submitted to the Secretary for approval within 6 months of the date of approval for MOD 5, unless otherwise agreed by the Secretary; and
  - include:
    - Transport of Hazardous Material Measures that would be implemented to address the relevant requirements in the *Code of Practice for the Safe Transport of Radioactive Materials* (ARPANSA, 2001 or its latest version);
    - Code of Conduct for all drivers transporting materials to and from the site including measures that would be implemented to prioritise the use of the haulage route and Nob Road; and
    - a description of the measures that would be implemented to comply with Condition 23.

24A. The Proponent may transport mineral concentrate between the Snapper Mine and the Ginkgo Mine, limited to a maximum of 4 vehicle movements per hour.

## Road Maintenance

- 24B. The Proponent shall maintain the haulage route between the Silver City Highway and the site (including the intersection of the haulage route and the Silver City Highway) to the satisfaction of the relevant roads authority.

*Note: In the event that there is a dispute between the Proponent and the relevant roads authority about this condition, then either party may refer the matter to the Secretary for resolution.*

## Independent Road Safety Audit

- 24C. Within 6 months of the date of approval for MOD 5, unless otherwise agreed with the Secretary, the Proponent shall commission an independent suitably qualified and experienced person endorsed by the Secretary to undertake a road safety audit of the haulage route between the Silver City Highway and the site (including the intersection of the haulage route and the Silver City Highway). This audit must:
- be undertaken in consultation with Council and RMS; and
  - recommend any necessary measures to ensure that the road complies with any relevant road safety requirements.
- 24D. Within 1 month of receiving the audit report, or as otherwise agreed with the Secretary, the Proponent shall submit a copy of the reports to the Secretary, with a detailed response to any of the recommendations contained in each of the reports, including a timetable for the implementation of any measures proposed to address the recommendations in each of the reports. Any road works recommended in the audit must be undertaken in accordance with this timetable to the satisfaction of the relevant road authority, unless otherwise agreed with the Secretary.

*Note: In the event that there is a dispute between the Proponent and the relevant roads authority about the implementation of these conditions, then either party may refer the matter to the Secretary for resolution.*

## GREENHOUSE GAS

### Energy Savings Action Plan

- The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Secretary. This plan must be:
  - be prepared in accordance with the *Guidelines for Energy Savings Action Plan* (DEUS, 2005 or its latest version);

- (b) submitted to the **Secretary** for approval prior to carrying out any development on the site; and
  - (c) include a program to monitor the effectiveness of the measures to reduce energy use on site.
-

## SCHEDULE 4

### ENVIRONMENTAL MANAGEMENT, MONITORING, REPORTING AND AUDITING

#### ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the **Secretary**. This strategy must be submitted to the **Secretary** for approval prior to carrying out any development on the site, and:
  - (a) provide the strategic context for environmental management of the project;
  - (b) identify the statutory requirements that apply to the project;
  - (c) describe in general how the environmental performance of the project would be monitored and managed;
  - (d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
    - receive, handle, respond to and record complaints;
    - resolve any disputes that may arise during the course of activities associated with the project;
    - respond to any non-compliance;
    - manage cumulative impacts; and
    - respond to emergencies; and
  - (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project.

#### ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare and implement an Environmental Monitoring Program for the project to the satisfaction of the **Secretary**. This program must consolidate the various monitoring requirements of this approval into a single document, and be submitted to the **Secretary** concurrently with the submission of the relevant monitoring programs.

#### INCIDENT REPORTING

3. Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval, or the occurrence of an incident that causes (or may cause) harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.
4. Within six days of notifying the **Secretary** and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that:
  - (a) describes the date, time and nature of the exceedance/incident;
  - (b) identifies the cause (or likely cause) of the exceedance/incident;
  - (c) describes what action has been taken to date; and
  - (d) describes the proposed measures to address the exceedance/incident.

#### ANNUAL REVIEW

5. By the end of December 2011, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the **Secretary**. This review must:
  - (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - monitoring results of previous years; and
    - relevant predictions in the EA;
  - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
  - (d) identify any trends in the monitoring data over the life of the project;
  - (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
  - (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

## INDEPENDENT ENVIRONMENTAL AUDIT

6. By the end of December 2011, and every 3 years thereafter, unless the **Secretary** directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
- (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the **Secretary**;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
  - (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

*Note: This audit team must include experts in any field specified by the **Secretary**.*

7. Within six weeks of completing this audit, or as otherwise agreed by the **Secretary**, the Proponent shall submit a copy of the audit report to the **Secretary**, with its response to any recommendations contained in the audit report.

## REVISION OF STRATEGIES, PLANS AND PROGRAMS

8. Within 3 months of:
- (a) submitting an annual review under condition 5 above;
  - (b) submitting an incident report under condition 4 above;
  - (c) submitting an audit report under condition 6 above; or
  - (d) any modification to the conditions of this approval;
- the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the **Secretary**.

*Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.*

## ACCESS TO INFORMATION

9. Within three months of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or **annual reviews** required under this approval, the Proponent shall:
- (a) provide a copy of the relevant document/s to the relevant agencies, and provide a copy to members of the general public upon request; and
  - (b) put a copy of the relevant document/s on the Proponent's website;
10. During the project, the Proponent shall:
- (a) make a summary of monitoring results required under this approval publicly available on its website; and
  - (b) update these results on a regular basis (at least every three months).
-

**APPENDIX 1  
SCHEDULE OF LAND**

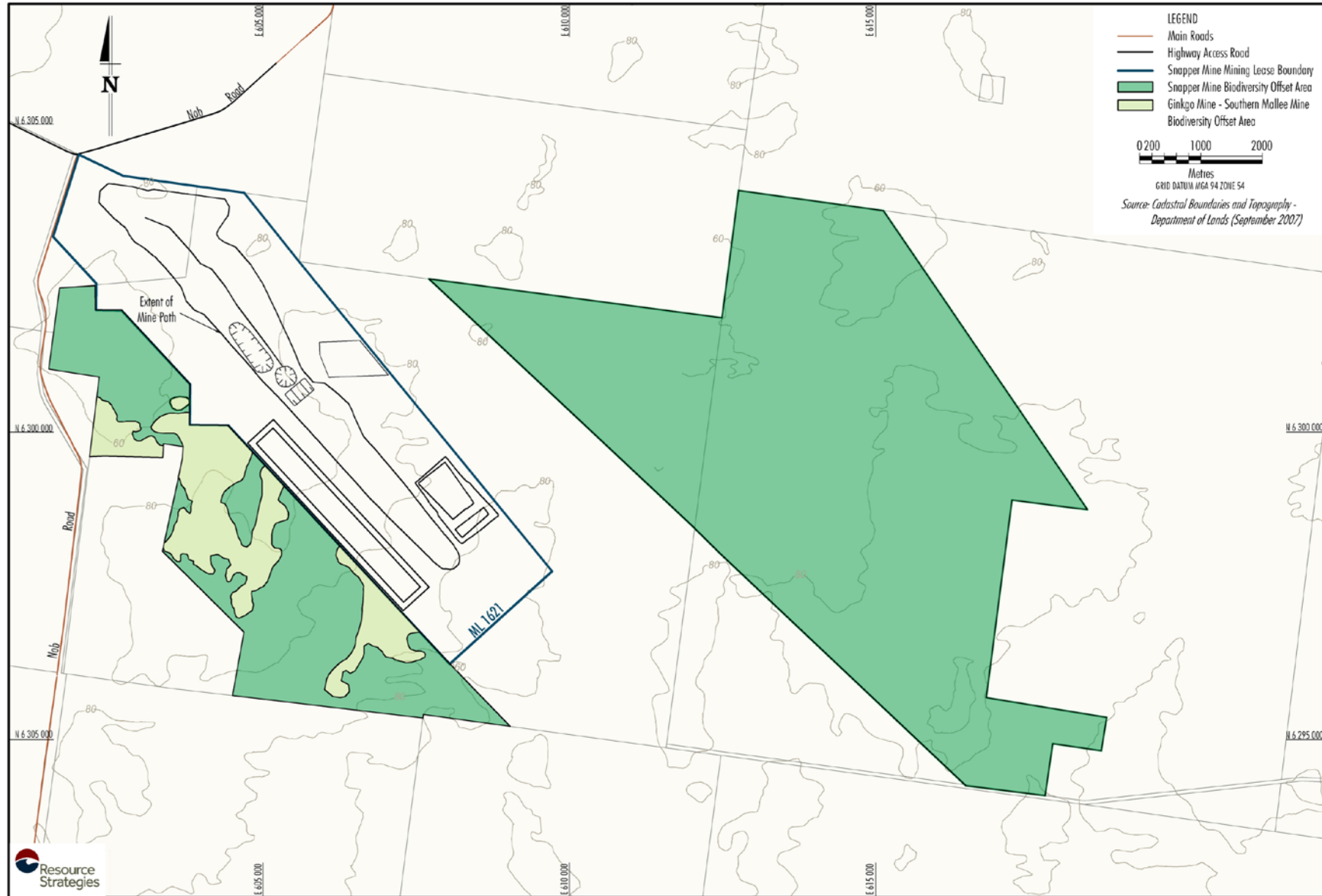
**Land Tenure Summary of the Site & Offset Area**

<b>Lot/DP</b>	<b>Leaseholder</b>	<b>Property Name</b>
1929/763907	BEMAX Resources Limited	Trelega
5536/768446	BEMAX Resources Limited	Trelega
57/760337	BEMAX Resources Limited	Trelega
1927/763905	G.C. and S.L. Cullinan	Carstairs
1925/763903	M.A. Withers	Manilla
1924/763902	K.D. Ingram	Aston

## APPENDIX 2 HAULAGE ROUTE



### APPENDIX 3 BIODIVERSITY OFFSETS



## APPENDIX 4 STATEMENT OF COMMITMENTS

### SOC 1 Emergency Response Plan (ERP)

An ERP will be prepared for the construction and operation of the Snapper Mine to detail responsibilities in the event of emergencies in and around the Snapper Mine area. Snapper Mine fire response will be co-ordinated with the local bushfire brigade.

### SOC 2 Community Consultation Plan (Ginkgo Mine CCP)

The *Ginkgo Mine CCP* (BEMAX, 2004a) will be revised to include the Snapper Mine. The CCP will provide for on-going consultation with local residents.

### SOC 3 Mining Operations Plan (MOP)

A MOP will be prepared for operation of the Snapper Mine in accordance with the Mining, Rehabilitation and Environmental Management Process (MREMP) guidelines (DPI-MR, 2006 or its latest version) and in consultation with various regulatory and advisory agencies.

The MOP will provide information in regard to mining, processing and rehabilitation operations, relevant lease and development conditions, licences and other approvals. The MOP will also describe:

- (a) area(s) to be disturbed;
- (b) mining and rehabilitation method(s) to be used and their sequence;
- (c) existing surface infrastructure;
- (d) progressive rehabilitation schedules;
- (e) areas of particular environmental sensitivity;
- (f) land and water management systems;
- (g) resource recovery;
- (h) objectives and process to develop criteria for mine closure;
- (i) options for the future use of the site, including the HAR and ETL;
- (j) measures that would be implemented to manage closure-related environmental effects of the project (including any adverse impacts associated with the two final voids associated with the final dredge pond and water disposal dam); and
- (k) describe how the performance of these measures would be monitored over time.

*Note: Rehabilitation aspects of the MOP will be progressively developed and implemented from the commencement of the life of the Snapper Mine. Further, the MOP will be revised periodically as well as prior to any significant alteration to mining and rehabilitation operations including cessation of mining.*

### SOC 4 Flora and Fauna Offset

A flora and fauna offset will be implemented in the offset area (see Appendix 3). This offset area will

- (a) include an enhancement area (see table below); and

Area	Description	Size (ha)
Offset Areas in Appendix 3	Enhancement of existing areas of native vegetation communities through natural regeneration and management for conservation.	5,471
<b>Total Minimum Area Conserved</b>		<b>5,471</b>

*Note: The offset shall be in addition to, and outside, the rehabilitated areas of the project disturbance area.*

- (b) contain the following vegetation communities:
- Black Box Woodland;
  - Black Oak-Rosewood-Wilga Woodland;
  - Chenopod Mallee Woodland/Shrubland
  - Irregular Dune Mallee Shrubland;
  - Bluebush Shrubland;
  - Linear Dune Mallee Shrubland; and
  - *Austrostipa* Grassland.

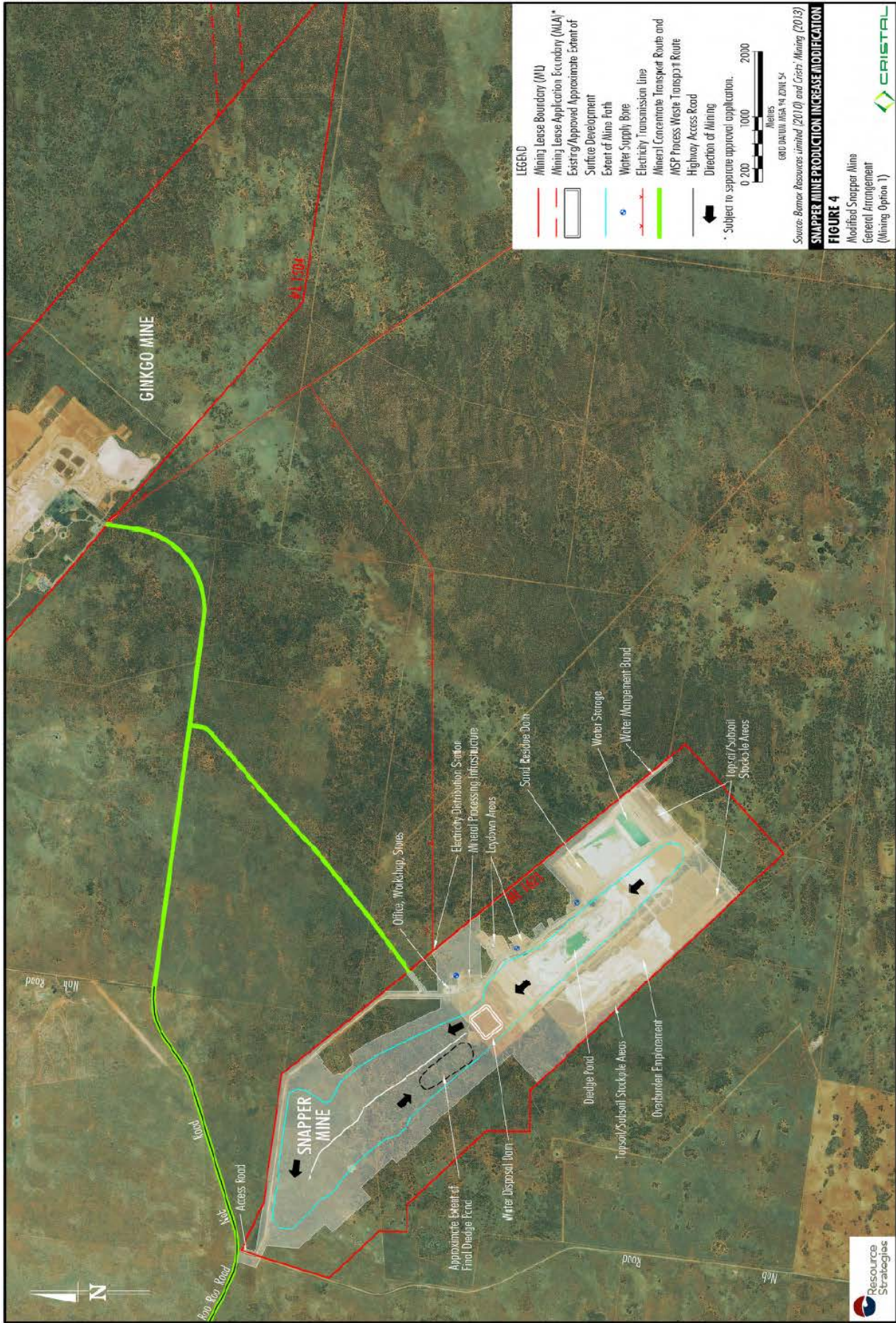
## SOC 5 Site Specific Cultural Heritage Management Strategies

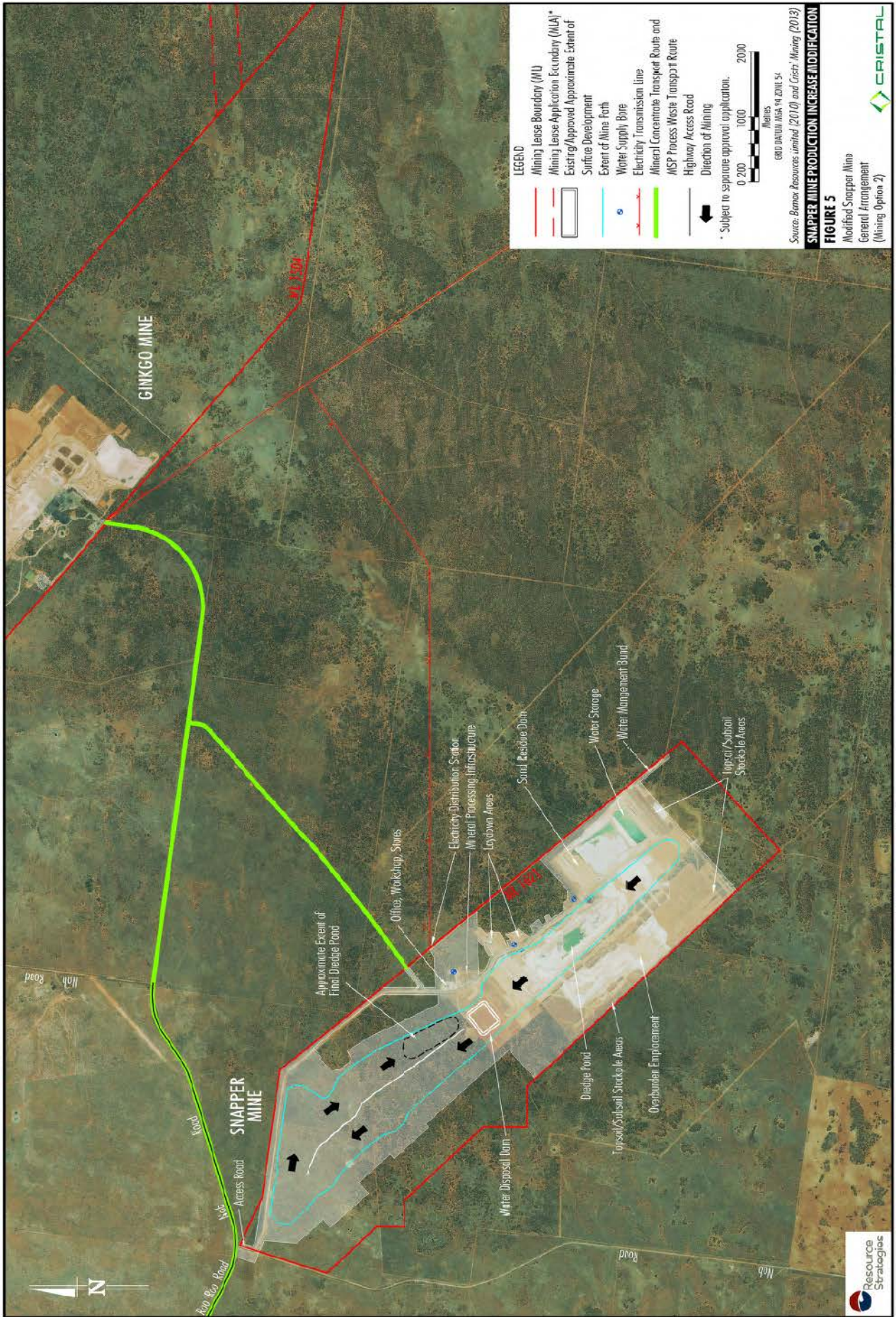
The following site specific management strategies for the cultural heritage sites will be implemented:

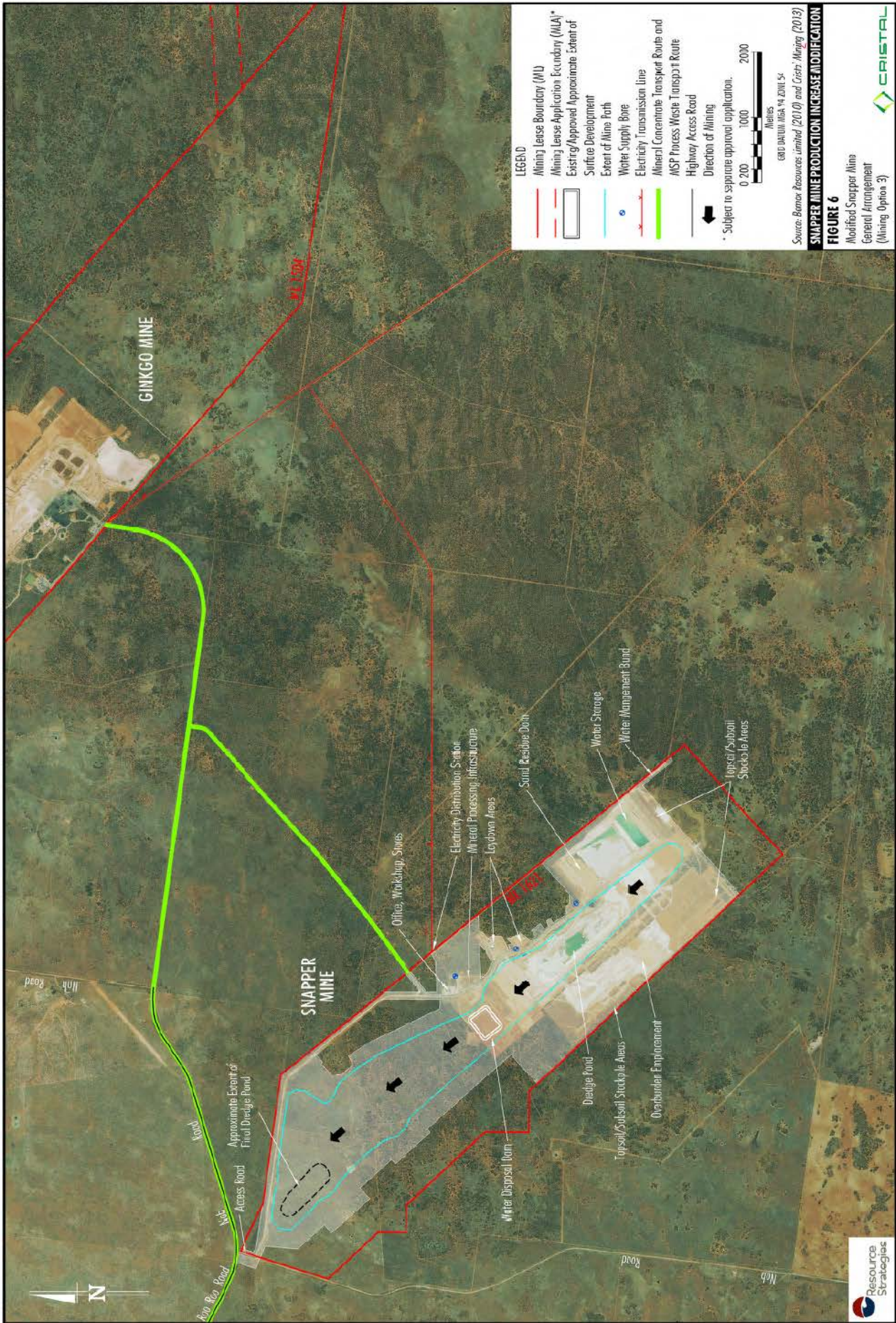
Site name	Type	Summary Significance	Potential impacts	Proposed Management Measures
SN01, SN11	Stone quarry, stone artefact scatter	Low-moderate	Direct	<p>Representative sample of stone artefacts shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The representative sample shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a>.</p> <p>Lithic technologies and reduction strategies adopted at the stone quarry sites and the relationship of these sites to other sites within the disturbance area shall be investigated.</p>
SN02	Stone artefact scatter, hearth	Low-moderate	Direct	<p>Stone artefacts and heat retainers shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The artefacts and heat retainers shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a>.</p> <p>Hearths shall be excavated by an archaeologist and representatives of the local Aboriginal community. Radiocarbon and/or luminescence dating shall be used to determine the ages of the hearths.</p>
SN03	Stone artefact	Low	Direct	<p>The stone artefact shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The artefact shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a>.</p>
SN04, SN06	Hearth	Low	Direct	<p>The heat retainers shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The heat retainers shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a>.</p>
SN05	Stone artefact	Low	Indirect	<p>Avoid disturbing the site by erecting a temporary protective barrier around it.</p>
SN07	Stone artefact scatter, hearth	Low	Direct	<p>Stone artefacts and heat retainers shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The artefacts and heat retainers shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a>.</p>

SN08,SN13, SN17	Stone artefact scatter	Low	Direct	Stone artefacts shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The artefacts shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a> .
SN09, SN16	Stone artefacts	Low	Direct	Stone artefacts shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The artefacts shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a> .
SN10,SN12, SN14, SN15, SN18, SN19, SN21	Stone artefact scatter	Low and Low- moderate	Direct/ indirect	Representative sample of stone artefacts shall be recorded, collected, curated and stored at the 'Keeping Place' at BEMAX's Ginkgo Mine by an archaeologist and representatives of the local Aboriginal community. The collected artefacts shall be recorded in sufficient detail to allow a description of the lithic technologies and reduction strategies adopted. The regional and local contexts of the artefacts shall also be analysed and described. The representative sample shall be replaced within rehabilitated areas in consultation with the local Aboriginal community and the <a href="#">OEH</a> .
SN20, SN22	Stone quarry, stone artefact scatter	Moderate-high	Indirect	Temporary protective barriers shall be erected around the sites. BEMAX shall engage an archaeologist and representatives of the local Aboriginal community to supervise the erection of the barriers and monitoring of their maintenance.
SNH1	Kertne Nob outstation and stockyard ruin	Low-moderate	Indirect	Avoid disturbing the site by erecting a temporary protective barrier around it.

## APPENDIX 5 PROJECT LAYOUT







## APPENDIX 6 CULTURAL HERITAGE SITES

