

**ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979**

**INTEGRATED STATE SIGNIFICANT DEVELOPMENT**

**DETERMINATION OF DEVELOPMENT APPLICATION PURSUANT TO SECTIONS 76(A)9 & 80**

I, the Minister for Planning, pursuant to Sections 76(A)9 & 80 of the Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the Application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are to:

- (i) minimise the adverse impact the development may cause through water and air pollution, noise, and visual disturbance;
- (ii) provide for environmental monitoring and reporting; and
- (iii) set requirements for mine infrastructure provision.

Andrew Refshauge MP  
Minister for Planning

Sydney, 30 January 2002

File No. S00/01704

Blue type represents March 2015 modification (Nb. This modification replaced all conditions of consent)

Green type represents October 2015 modification

Orange type represents April 2016 modification

Purple Type represents December 2017 modification

Red Type represents March 2021 modification

Dark Green Type represents July 2022 modification

**Schedule 1**

Application made by: **Tronox** Mining Australia Limited

To: The Minister for Urban Affairs and Planning  
(DA 251-09-01)

In respect of: Land described in Appendix "1".

For the following: Development of a mineral sands mine, and construction and operation of associated surface facilities ("the Development").

BCA Classification:

Class 3	Accommodation camp
Class 5	Mine, administration, construction, contractor, engineering, processing and control room offices
Class 7	Store(s)
Class 8	Workshop(s)
Class 9	Laboratory
Class 10	Change house(s), fuel storage(s), pump house(s) and compound(s), communication tower(s), dredge, primary mineral separation plant

**NOTE:** 1) To ascertain the date upon which the consent becomes effective, refer to section 83 of the Act.

## CONSOLIDATED CONSENT

- 2) To ascertain the date upon which the consent is liable to lapse, refer to section 95 of the

*The Department has prepared a consolidated version of the consent which is intended to include all modifications to the original determination instrument.*

*The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.*

Act.

- 3) Section 97 of the Act confers on an Applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

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## DEFINITIONS

Annual Review	The review required by Condition 4 of Schedule 5
Applicant	Tronox Mining Australia Limited, or any other person who seeks to carry out the development approved under this consent
BCA	Building Code of Australia
BC Act	Biodiversity Conservation Act 2016
BCS	Biodiversity, Conservation and Science Directorate within the Department
Conditions of this consent	Conditions contained in Schedules 2 to 5 inclusive
Construction relating to the construction of road works and surface facilities	Construction of road works and surface facilities, and clearing of vegetation
Council	Wentworth Shire Council
Crayfish Deposit	The development as described in EA MOD 9 and as depicted in Appendix 3
Department	Department of Planning and Environment
DPE Crown Lands	Crown Lands Group, within the Department
DPE Water	Water Group, within the Department
Development	The development as described in the EIS
EIS	Environmental Impact Statement, titled <i>Ginkgo Mineral Sands Project Environmental Impact Statement</i> , dated September 2001, and prepared by Resource Strategies, including the associated additional information regarding the <i>Neobatrachus pictus</i> assessment, additional information dated 25 October 2001, 22 October 2001 and associated response to submissions, as modified by: <ul style="list-style-type: none"> <li>(a) modification application MOD 14-3-2003 and accompanying Statement of Environmental Effects, dated February 2003, and prepared by Resource Strategies Pty Ltd (<i>referred to as EA MOD 1</i>);</li> <li>(b) Statement of Environmental Effects in support of a Section 96(2) application for the Ginkgo Mineral Sands Project, dated January 2005, and prepared by Resource Strategies Pty Ltd (<i>referred to as EA MOD 2</i>);</li> <li>(c) Statement of Environmental Effects in support of a Section 96(1A) application for the Ginkgo Mineral Sands Project, dated 21 December 2005, and prepared by Resource Strategies Pty Ltd (<i>referred to as EA MOD 3</i>);</li> <li>(d) modification application MOD 148-12-2006-I and supporting Statement of Environmental Effects, dated December 2006, and prepared by Resource Strategies Pty Ltd (<i>referred to as EA MOD 4</i>);</li> <li>(e) modification application DA 251-09-01 MOD 5, and supporting letter, dated 8 September 2008, and prepared by Bemax Resources Ltd (<i>referred to as EA MOD 5</i>);</li> <li>(f) modification application DA 251-09-01 MOD 6, and supporting letters, dated 14 October 2008 and 23 February 2009, and prepared by Bemax Resources Ltd (<i>referred to as EA MOD 6</i>);</li> <li>(g) modification application DA 251-09-01 MOD 7, and supporting letter and Environmental Assessment, dated 19 November 2009, and prepared by Bemax Resources Ltd (<i>referred to as EA MOD 7</i>);</li> <li>(h) modification application DA 251-09-01 MOD 8, and supporting letter and Environmental Assessment, dated 27 April 2010, and prepared by Bemax Resources Ltd (<i>referred to as EA MOD 8</i>);</li> <li>(i) Environmental Assessment titled <i>Ginkgo Mineral Sands Mine November 2012 (Crayfish Deposit) Modification</i>, dated November 2012, including the associated response to submissions and modified request dated September 2013, and prepared by Cristal Mining Australia Limited (<i>referred to as EA MOD 9</i>);</li> <li>(j) Environmental Assessment titled <i>Murray Darling Basin Operations Modification Environmental Assessment</i>, dated November 2013, including the associated response to submissions and prepared by Cristal Mining Australia Limited (<i>referred to as EA MOD 10</i>);</li> <li>(k) Environmental Assessment titled <i>Ginkgo Mineral Sands Mine Waste Management Modification</i>, dated August 2015, including the associated response to submissions and prepared by Cristal Mining Australia Limited (<i>referred to as EA MOD 11</i>);</li> <li>(l) Environmental Assessment titled <i>Ginkgo Mineral Sands Mine Southern Extension Modification</i>, dated January 2016, including the associated responses to submissions prepared by Cristal Mining Australia Limited (<i>referred to as EA MOD 12</i>);</li> <li>(m) Environmental Assessment titled <i>Ginkgo Mineral Sands Mine Extension Modification</i>, dated October 2017, including the associated response to submissions letter prepared by Cristal Mining Australia Limited (<i>referred to as EA MOD 13</i>);</li> <li>(n) Environmental Assessment titled <i>Ginkgo Mineral Sands Mine</i></li> </ul>

# CONSOLIDATED CONSENT

Extension Modification prepared by Tronox Mining Australia Limited, dated November 2020, associated Submissions Report, dated February 2021, and supporting letter dated 16 February 2021; and

- (o) Modification Report titled *Murray-Darling Basin Operations Short-Term Ore Transport and Processing Modifications* dated April 2022

EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issues under the POEO Act
Feasible to implement	Feasible relates to engineering considerations and what is practical to build or
Heritage NSW Incident	Heritage Branch of the Department of Premier and Cabinet <ul style="list-style-type: none"> <li>An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance</li> </ul>
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this development consent where it is defined to mean the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm	Is harm that: <ul style="list-style-type: none"> <li>involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or</li> <li>results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)</li> </ul>
Haulage route	The route identified in Appendix 2
Mining operations	The extraction and processing of ore on site, including vegetation removal, soil stripping, overburden removal and mineral sands extraction
Minister	Minister for Planning, or delegate
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the development
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
MOP	Mining Operations Plan
MSP	Tronox Mining Australia Limited's Mineral Separation Plant located in Broken Hill
Negligible	Small and unimportant, such as to be not worth considering
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval but is not an incident
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency (with the exception of Western Lands Leases held by the Crown Lands Directorate (Catchment and Lands Division), or a mining company (or its subsidiary)
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
Rehabilitation	The treatment or management of land disturbed by the development for the purpose of establishing a safe, stable and non-polluting environment
Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the development or controlling the environmental consequences of this impact
Resources Regulator	NSW Resources Regulator within the Department of Regional NSW
Secretary	Secretary of the Department, or nominee
Site	The land referred to in Schedule 1, listed in Appendix 1, and depicted in Appendix 3
Snapper Mine	The mineral sands mine the subject of project approval 06_0168 and described in the Environmental Assessment titled <i>Snapper Mineral Sands Project Environmental Assessment</i> dated March 2007
Surface facilities	Overburden emplacement, overland conveyor system, soil stockpiles, dredge and floating plant, heavy mineral concentrate treatment facility, pre-concentrator, borefield, initial water treatment dam, initial sand residue dam, process water dam, administration, workshop and accommodation camp buildings, electricity transmission lines, roads, potable water reticulation and treatment, sewerage treatment plant, fuel and consumables storage facilities, on-site landfill, and leachate holding dam
TfNSW	Transport for NSW

**SCHEDULE 2  
ADMINISTRATIVE CONDITIONS**

**OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT**

1. In addition to meeting the specific performance criteria established under this consent, the Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

**TERMS OF CONSENT**

2. The Applicant shall:
  - (a) carry out the development generally in accordance with the EIS; and
  - (b) comply with the conditions of this consent.

*Notes: The general layout of the development is shown on the figures in Appendix 3.*

3. If there is any inconsistency between the above documents, the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
  - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
  - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
  - (c) the implementation of any actions or measures contained in these documents.

**LIMITS ON CONSENT**

**Mining Operations**

5. The Applicant may carry out mining operations on site until **31 December 2025**.

*Notes:*

- *Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of **the Secretary and Resources Regulator**. Consequently this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.*

**Ore Extraction**

6. The Applicant shall not extract more than 19.9 million tonnes of ore from the site in any calendar year.

**Mineral Concentrate Production**

7. The Applicant shall not produce more than 576,000 tonnes of mineral concentrate in any calendar year.

**Transportation Limits**

8. The Applicant shall not transport more than 975,000 tonnes of mineral concentrate from the site and the Snapper Mine combined in a calendar year.
9. The Applicant may only transport mineral concentrate off-site via the haulage route (see Appendix 2) using **TNSW** approved vehicles.
10. The Applicant may transport heavy mineral concentrate between the Snapper Mine and the Ginkgo Mine, limited to a maximum of 4 vehicle movements per hour.
11. 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.

**Hours of Operation**

12. The Applicant may operate the site 24 hours a day, 7 days per week.

**STRUCTURAL ADEQUACY**

13. The Applicant 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 Applicant 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 development.*

**DEMOLITION**

14. The Applicant 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**

15. The Applicant shall ensure that all plant and equipment used at the site, or any equipment used for monitoring the performance of the development is:
- (a) maintained in a proper and efficient condition; and
  - (b) operated in a proper and efficient manner.

**STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS**

16. To ensure the strategies, plans or programs under this consent are updated on a regular basis, and that they incorporate any appropriate mitigation measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant may revise any strategy, plan or program approved under this consent without consulting with all the parties nominated under the applicable conditions of consent.

*Notes:*

- *While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and*
- *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.*

**IDENTIFICATION OF APPROVED EXTRACTION LIMITS**

17. By 31 March 2022, unless otherwise agreed with the Secretary, the Applicant must provide the Department a survey plan of the approved surface development area (including surface infrastructure and extraction limits).
18. While mining operations are being carried out, the Applicant shall ensure that these boundaries are clearly marked for the life of the development.

*Notes:*

- *The approved surface development area is shown in the figures in Appendix 3.*
- *The survey plan and associated boundary marking may be undertaken in stages (in accordance with condition 16 of this Schedule) commensurate with the progress of the mine plan.*

**NOTIFICATION OF COMMENCEMENT**

19. The Applicant shall notify the Department and Council of its intention to commence mining operations at least two weeks prior to the commencement of mining operations at the Crayfish Deposit.

**PLANNING AGREEMENT**

20. If the Applicant and Council enter into a Planning Agreement in accordance with Division 6 of Part 4 of the EP&A Act that provides for the Applicant to contribute to the maintenance of the haulage route between the Silver City Highway and the Ginkgo Mine and the Auxiliary Roads outlined in Appendix 7, the Planning Agreement replaces Conditions 4, 7 and 8 of Schedule 2.



**SCHEDULE 3  
SPECIFIC ENVIRONMENTAL CONDITIONS**

**TRANSPORT**

1. The Applicant shall consult with relevant leaseholders and negotiate reimbursement at current market values for stock losses attributable to development traffic or other project-related activities.

**Monitoring of Mineral Concentrate Transport**

2. The Applicant 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.

**Traffic Management Plan**

3. The Applicant shall prepare and implement a Traffic Management Plan for the development, to the satisfaction of the Secretary. This plan must:
  - (a) be prepared in consultation with TfNSW and Council;
  - (b) be submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed by the Secretary;
  - (c) include transport of hazardous material measures that would be implemented to address the relevant requirements of the *Code of Practice for the Safe Transport of Radioactive Materials* (ARPANSA, 2001 or its latest version);
  - (d) include an annual Traffic Monitoring Program to determine the proportion of project-related vehicle use on the Auxiliary Roads as defined in Appendix 7; and
  - (e) include a Traffic Code of Conduct for all drivers transporting materials to and from the site and for employees, including the measures that would be implemented to prioritise the use of the haulage route and Nob Road.

The first annual Traffic Monitoring Program (and subsequent annual Traffic Monitoring Programs as directed by the Secretary) shall incorporate the following local roads within the Wentworth Local Government Area (in addition to those defined in Appendix 7) to determine the project-related use of these roads:

- Old Broken Hill Road (between the Silver City Highway and Roo Roo Road);
- Roo Roo Road (between Old Broken Hill Road and the Haulage Route);
- Nob Road (between the Haulage Route and Polia Road);
- Polia Road (between Nob Road and High Darling Road); and
- High Darling Road (between Polia Road and Pooncarie Road).

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

**Haulage Route**

4. The Applicant shall maintain the sections of the haulage route on public roads between the Silver City Highway and the Ginkgo Mine (including for the intersection of the haulage route and the Silver City Highway) to the satisfaction of the relevant road authority.
5. Within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary, the Applicant 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 Ginkgo Mine (including the private sections of the haulage route and the intersection of the haulage route with the Silver City Highway). This audit must:
  - a) be undertaken in consultation with Council and TfNSW; and
  - b) recommend any necessary measures to ensure that the road complies with any relevant road safety requirements.
6. Within 1 month of receiving the audit report, or as otherwise agreed with the Secretary, the Applicant shall submit a copy of the report to the Secretary, with a detailed response to any of the recommendations contained in the audit report, including a timetable for the implementation of any reasonable and feasible measures proposed to address the recommendations in the audit report. Any road works recommended in the Independent Road Safety 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 Applicant and the relevant road authority about the implementation of these conditions, then either party may refer the matter to the Secretary for resolution.*



## **Auxiliary Roads**

7. The Applicant shall make annual contributions for the maintenance of the Auxiliary Roads in accordance with Appendix 7.

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

8. If directed by the Secretary in accordance with condition 4 of schedule 2, the Applicant shall make contributions to Council for standard maintenance activities (as defined in Appendix 7) on the additional local roads listed in condition 3 of schedule 3. The contribution shall be calculated in accordance with the methodology in Appendix 7. In determining whether additional contributions are warranted, the Secretary must have regard to:
  - (a) the findings of the Traffic Monitoring Program (see condition 3 above); and
  - (b) the residential location of the Applicant's workforce using the additional local roads.

## **SOIL & WATER**

*Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development.*

### **Water Supply**

9. The Applicant shall ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply and licenced water entitlements, to the satisfaction of the Secretary.

### **Water Pollution**

10. Unless an EPL authorises otherwise, the Applicant shall comply with Section 120 of the *Protection of the Environment Operations Act 1997* during the carrying out of the development.

### **Water Management Plan**

11. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with **DPE Water**, by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary, and submitted to the Secretary for approval by **31 March 2016**, unless otherwise agreed with the Secretary. This plan must include:
  - (a) a water balance for the development that includes details of:
    - sources and security of water supply;
    - water licences;
    - water make/use; and
    - any water discharges; and
  - (b) management plans for the surface facilities, that include:
    - a detailed description of water management systems for each site;
    - measures to reuse and recycle water;
    - measures to manage the quality and quantity of surface and ground water;
    - salinity management measures including design measures to minimise any lateral seepage of brackish water from the water dams, emplacements areas and/or sand residue dams;
    - contingency plans to deal with any lateral salt water seepage and/or leachate seepage or breakdown in the dam linings; and
    - monitoring and reporting procedures, including:
      - the volume of pumped leachate; and
      - the holding dam water; and
  - (c) erosion and sediment control measures that must:
    - be consistent with the requirements of *Managing Urban Stormwater, Soils and Construction Volume 2E Mines and Quarries*, (DECC 2008), or the latest edition;
    - describe measures to minimise soil erosion and the potential for the transport of sediment offsite;
    - describe the location, function, and capacity of erosion and sediment control structures; and
    - describe what measures would be implemented to maintain these structures over time, and
  - (d) a Borefield Impact Management Plan that includes:
    - data to benchmark the natural variation in groundwater levels and quality;
    - a detailed program to monitor the groundwater impacts of the development;
    - groundwater impact trigger levels for relevant landholder bores; and
    - a protocol for the investigation, notification and mitigation of any identified exceedances of the groundwater impact assessment criteria.

## NOISE

### Noise Impact Assessment Criteria

12. The Applicant shall ensure that the noise generated by the development does not exceed 35dB(A)  $L_{Aeq}(15 \text{ minute})$  at any residence on privately-owned land.

*Note: Noise generated by the development is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy. Appendix 5 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.*

However, these noise criteria do not apply if the Applicant has an agreement with the relevant landowner to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

### Noise Monitoring Program

13. The Applicant shall prepare and implement a Noise Monitoring Program for the development to the satisfaction of the Secretary. This plan must:
- be submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary;
  - describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this consent;
  - include a monitoring program that:
    - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent; and
    - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

## AIR QUALITY

### Air Quality Criteria

14. The Applicant shall implement all reasonable and feasible mitigation measures to ensure that the particulate emissions generated by the development do not exceed the criteria listed in Tables 1, 2 and 3 at any residence on privately-owned land.

Table 1: Long-term criteria for particulate matter

Pollutant	Averaging period	<sup>d</sup> Criterion
Total suspended particulate (TSP) matter	Annual	<sup>a</sup> 90 µg/m <sup>3</sup>
Particulate matter < 10 µm (PM <sub>10</sub> )	Annual	<sup>a</sup> 30 µg/m <sup>3</sup>

Table 2: Short-term criterion for particulate matter

Pollutant	Averaging period	<sup>d</sup> Criterion
Particulate matter < 10 µm (PM <sub>10</sub> )	24 hour	<sup>a</sup> 50 µg/m <sup>3</sup>

Table 3: Long-term criteria for deposited dust

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

Notes to Tables 1-3:

- <sup>a</sup> Total impact (ie incremental increase in concentrations due to the development plus background concentrations due to other sources);
- <sup>b</sup> Incremental impact (ie incremental increase in concentrations due to the development on its own);
- <sup>c</sup> Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and
- <sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities by other parties or any other activity agreed to by the Secretary.

## Operating Conditions

15. The Applicant shall:
- implement all reasonable and feasible measures to minimise odour and dust emissions generated by the development;
  - ensure all loaded vehicles entering or leaving the site (with the exception of vehicles transporting heavy mineral concentrate between Snapper Mine and Ginkgo Mine) have their loads covered;
  - minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d to Tables 1-3 above);
  - co-ordinate the air quality management on site with the air quality management of the Snapper Mine, to minimise cumulative air quality impacts; and
  - implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site,
- to the satisfaction of the Secretary.

## Air Quality Monitoring Program

16. The Applicant shall prepare and implement an Air Quality Monitoring Program for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with EPA, and submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary;
  - describe the reasonable and feasible measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this consent;
  - describe the proposed air quality management system; and
  - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

## METEOROLOGICAL MONITORING

17. During the life of the development, the Applicant shall ensure that there is a suitable meteorological station operating in the vicinity of the site.

## BIODIVERSITY

### Biodiversity Offset Strategy

18. The Applicant shall implement a Biodiversity Offset Strategy as summarised in Table 4 and shown in Appendix 6, to the satisfaction of the Secretary.

*Table 4: Biodiversity Offset Strategy*

<b>Area</b>	<b>Minimum Size/Amount</b>
Southern Mallee Offset	521 hectares of Southern Mallee vegetation communities, including at least 4 hectares of Chenopod Mallee vegetation communities
Crayfish Deposit Offset	2,082 hectares
MOD 12 Offset Areas	1,671 hectares
MOD 13 Offset Areas	759 hectares

*Notes:*

- The Applicant may release 230 hectares of the Southern Mallee Offset if it can demonstrate the long-term success of woodland rehabilitation on the northern initial overburden emplacement, and those areas of the mine path subject to capping of less than five metres of non-slurried overburden, to the satisfaction of the Secretary. The success of native vegetation rehabilitation shall be based on agreed rehabilitation criteria to be included within the MOP and Flora and Fauna Management Plan. Criteria shall include vegetation condition and salinity.

- 18A. By 31 March 2023, unless otherwise agreed by the Secretary, the Applicant must retire the biodiversity credits specified in Table 5 below. The retirement of credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme of the BC Act.

Table 5: Ecosystem Credit Requirements

Vegetation Type	Credits Required
PCT 58 Black Oak - Western Rosewood Open Woodland	275
PCT 143 Narrow-leaved Hopbush – Scrub Turpentine Shrubland	250

- 18B. At the time of determination of MOD 14, the Applicant retains 45 credits of PCT 170 Chenopod Mallee Sandplain woodland and 29 credits of PCT 16 Black Box woodland and 4,462 surplus species credits under the former *Threatened Species Conservation Act 1995*, which may be used for future offsetting purposes in relation to the Ginkgo (including Crayfish Deposit) and Snapper Mines only.

## Long Term Security of Offset

19. By 30 June 2016, unless otherwise agreed with Secretary, the Applicant shall make suitable arrangements to provide appropriate long term security for the biodiversity offset area identified in Table 4 and Appendix 6, to the satisfaction of the Secretary.
- 19A. By 30 June 2018, unless otherwise agreed with the Secretary, the Applicant shall make suitable arrangements to provide appropriate long term security for the biodiversity offset area identified as Biodiversity Offset Areas 7 and 8 in Appendix 6, to the satisfaction of the Secretary.

## Offset Management Plan

20. The Applicant must prepare and implement an Offset Management Plan to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the BCS by a suitably qualified expert whose appointment has been endorsed by the Secretary;
  - be submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary;
  - establish baseline data for the existing habitat in the biodiversity offset areas;
  - describe the short, medium, and long term measures that would be implemented to:
    - manage the vegetation and habitat in the biodiversity offset areas; and
    - implement the biodiversity offset strategy, including detailed performance and completion criteria;
  - include a program to monitor and report on the effectiveness of these measures, and progress against detailed performance and completion criteria;
  - include fire management prescriptions for ecological outcomes in conjunction with other local and regional fire management planning;
  - include a description of how artificial watering points would be closed;
  - include a description of how the offset would be protected in the long-term;
  - identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and the contingency measures that would be implemented to mitigate these risks; and
  - include details of who would be responsible for monitoring, reviewing, and implementing the plan.

## Conservation Bond

21. Within 12 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary, the Applicant shall lodge a conservation bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria described in the Offset Management Plan. The sum of the bond shall be determined by:
- calculating the full cost of implementing the offset strategy (other than land acquisition costs); and
  - employing a suitably qualified quantity surveyor to verify the calculated costs.

If the offset strategy is completed generally in accordance with the completion criteria in the Offset Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Offset Management Plan, the Secretary will call in all or part of the conservation bond, and arrange for the satisfactory completion of the relevant works.

### Notes:

- Alternative funding arrangements for long-term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by BCS as part of a Biobanking Agreement or transfer to conservation reserve estate can be used to reduce the liability of the conservation and biodiversity bond.

- The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy.
- With the agreement of the Secretary and BCS, the bond may be released progressively in accordance with the progress of the Biodiversity Offset Strategy.

21A. Within 6 months of the date of consent for MOD 13, unless otherwise agreed with the Secretary, the Applicant shall:

- (a) revise the sum of the conservation bond required by condition 21 above to account for the additional offset areas; and
- (b) lodge the additional bond amount with the Department.

### Flora and Fauna Management

22. The Applicant shall prepare and implement a Flora and Fauna Management Plan for the development to the satisfaction of the Secretary. This plan must:

- (a) be prepared in consultation with BCS by a suitably qualified expert whose appointment has been endorsed by the Secretary;
- (b) be submitted to the Secretary for approval prior to any vegetation clearing at the Crayfish Deposit, unless otherwise agreed with the Secretary; and
- (c) describe:
  - vegetation clearance protocols, including quantification of the amount of *Swainsona flavicarinata* and *Swainsona adenophylla*;
  - methods for re-establishment of native vegetation and habitat;
  - threatened species management measures with particular reference to *Swainsona flavicarinata*, *Swainsona adenophylla*, Western Blue-tongue lizard, Bolam's Mouse and Marble-faced Delma, including any proposed translocation protocols and additional surveys;
  - the specific management measures for the Marble-faced Delma;
  - the specific management measures for the Bolam's Mouse, including additional surveys on site and in the biodiversity offset areas;
  - 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 and remnant vegetation on site; and
    - prevent fauna entrapment in the dredge pond;
  - a program to monitor the effectiveness of the protocols and management measures in the plan.

### HERITAGE

#### Aboriginal Cultural Heritage Management Plan

23. The Applicant shall prepare and implement an Aboriginal Cultural Heritage Management Plan for the development, to the satisfaction of the Secretary. This plan must:

- (a) be prepared in consultation with Heritage NSW and the Aboriginal community;
- (b) be submitted to the Secretary for approval prior to any disturbance at the Crayfish Deposit, unless otherwise agreed with the Secretary;
- (c) include a description of the measures that would be implemented for:
  - protecting, monitoring and managing Aboriginal cultural heritage sites, and the discovery of any new Aboriginal cultural heritage sites, objects or skeletal remains; and
  - maintaining consultation with, and the involvement of, the Aboriginal community in the conservation and management of Aboriginal heritage sites, and managing access for the Aboriginal community to Aboriginal heritage sites and culturally significant areas.

### WASTE MANAGEMENT

24. The Applicant shall:

- (a) minimise and monitor the waste generated by the development;
- (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of in accordance with the POEO Act, *Protection of the Environment Operations (Waste) Regulation 2014* and the *Waste Classification Guideline*;
- (c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and
- (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

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

24a. Prior to commissioning of the on-site landfill, the Applicant shall provide a report verifying that construction of the on-site landfill and leachate holding dam is generally in accordance with *Draft Environmental Guidelines: Solid Waste Landfills (EPA, 2015)*. This report must be prepared in consultation with the EPA by a suitably qualified and experienced engineer that has been endorsed by the Secretary.



25. Any waste disposed of at the Pooncarie Waste Landfill shall be disposed of in accordance with **Tronox Mining's Waste to Landfill Standard Operating Procedure** dated 1 October 2013 (Appendix 4), unless otherwise agreed with the Secretary.
26. In the event that the Pooncarie Waste Landfill is converted to a Waste Transfer Station and the Applicant uses the Waste Transfer Station, then the Applicant shall provide a financial contribution of \$50,000 to Council for the development of the Waste Transfer Station, and also pay applicable fees for the use of the Waste Transfer Station.

## RADIATION MANAGEMENT

### Operating Conditions

27. The Applicant shall ensure that wastes are landfilled in a manner to ensure:
- the average concentration of radioactive material in landfill at the site would not exceed the average concentration of radioactive material in the original orebody;
  - the radiation level of any material deposited to land is no greater than 0.7 microGray per hour measured 1 metre vertically above the surface of the material being deposited;
  - that the topsoil of the landfilled area has an average salinity level no greater than the average salinity level of topsoil in other part of the site; and
  - there is no detectable change from the original natural background radiation level measured at the ground surface.

### Radiation Management Plan

28. The Applicant shall prepare and implement a Radiation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA by suitably qualified expert whose appointment have been endorsed by the Secretary;
  - be submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary;
  - generally meet the environmental goals listed in *Environmental Guidelines: Solid Waste Landfills* (DEC, 1996 or its latest version);
  - be consistent with the *Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing* (ARPANSA, 2005);
  - include:
    - a description of operation and control measures;
    - design and operation details of waste disposal areas;
    - a management program for back loaded MSP process waste;
    - a system to monitor the movement of back loaded MSP waste;
    - a description of waste generating processes and waste;
    - 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.

## DANGEROUS GOODS

29. The Applicant shall ensure that the storage, handling, and transport of dangerous goods is done in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

## VISUAL

### Visual Amenity and Lighting

30. The Applicant shall implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary.

## BUSHFIRE

31. The Applicant shall:
- ensure that the development is suitably equipped to respond to fires on site; and
  - assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.



## REHABILITATION

### Rehabilitation Objectives

32. The Applicant shall rehabilitate the site to the satisfaction of **Resources Regulator**. This rehabilitation must be generally consistent with the proposed rehabilitation strategy for the development, and comply with the objectives in Table 6.

Table 6: Rehabilitation Objectives

Feature	Objective
<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 is 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;</li> </ul>                             in addition to at least 0.2 metres of topsoil and at least 0.2 metres of subsoil.                         </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 <b>Resources Regulator</b> 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 consent; and to all surface infrastructure sites and other disturbance which forms part of the development, whether constructed prior to or following the date of this consent.
- Rehabilitation of environmental impacts and consequences caused by mining which took place prior to the date of this consent may be subject to the requirements of other consents (e.g. under a mining lease).

### Progressive Rehabilitation

33. The Applicant 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

34. The Applicant shall prepare and implement a Rehabilitation Management Plan for the development, in consultation with the Department, Council and **DPE Crown Lands**, in accordance with the conditions imposed on the mining lease(s) associated with the development under the *Mining Act 1992*. This plan must:
- be submitted to **Resources Regulator**, for approval;
  - be prepared in accordance with any relevant **Resources Regulator** guideline and be consistent with the rehabilitation objectives of the development and in Table 6;
  - describe how the performance of the rehabilitation would be monitored and assessed against the objectives in Table 6;
  - describe the process whereby additional measures would be identified and implemented to ensure the rehabilitation objectives are achieved;
  - 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
  - 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 consent.

*Notes:*

- *The approved MOP may satisfy the requirements of this condition for a Rehabilitation Management Plan.*
- *The Rehabilitation Management Plan should address all land impacted by the development, and should be suitably integrated with the Rehabilitation Management Plans for the Snapper Mine.*
- *From 14 April 2009, the Applicant shall not undertake any overburden emplacement using slurring methods, unless otherwise agreed with the Secretary and **Resources Regulator**.*

**SCHEDULE 4  
ADDITIONAL PROCEDURES****NOTIFICATION OF LANDOWNERS**

1. As soon as practicable after obtaining monitoring results which show an exceedance of any relevant criteria in Schedule 3, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the Applicant is again complying with the relevant criteria.

**INDEPENDENT REVIEW**

2. If an owner of privately-owned land considers that the Applicant is exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant shall:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
  - (i) consult with the landowner to determine his/her concerns;
  - (ii) conduct monitoring to determine whether the Applicant is complying with the relevant criteria in Schedule 3; and
  - (iii) if the Applicant is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

**SCHEDULE 5  
ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING**

**ENVIRONMENTAL MANAGEMENT**

**Environmental Management Strategy**

1. The Applicant shall prepare and implement an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
  - (a) be submitted to the Secretary for approval within 6 months of the date of consent for MOD 9, unless otherwise agreed with the Secretary;
  - (b) provide the strategic framework for environmental management of the development;
  - (c) identify the statutory approvals that apply to the development;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
  - (e) describe the procedures that would be implemented to:
    - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the development;
    - (ii) receive, handle, respond to, and record complaints;
    - (iii) resolve any disputes that may arise during the course of the development;
    - (iv) respond to any non-compliance;
    - (v) respond to emergencies; and
  - (f) include:
    - (i) copies of any strategies, plans and programs approved under the conditions of this consent; and
    - (ii) a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

**Management Plan Requirements**

2. The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
  - (a) detailed baseline data;
  - (b) a description of:
    - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
    - (ii) any relevant limits or performance measures/criteria;
    - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
  - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
  - (d) a program to monitor and report on the:
    - (i) impacts and environmental performance of the development;
    - (ii) effectiveness of any management measures (see c above);
  - (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
  - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
  - (g) a protocol for managing and reporting any:
    - (i) incidents;
    - (ii) complaints;
    - (iii) non-compliances with statutory requirements; and
    - (iv) exceedances of the impact assessment criteria and/or performance criteria; and
  - (h) a protocol for periodic review of the plan.

*Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

**Adaptive Management**

3. The Applicant must assess and manage project-related risks to ensure that there are no exceedances of the criteria in Schedule 3. Any exceedance of these criteria constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

**Annual Review**

4. By the end of March each year, or as otherwise agreed with the Secretary, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:
- (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the:
    - (i) relevant statutory requirements, limits or performance measures/criteria;
    - (ii) requirements of any plan or program required under this consent;
    - (iii) monitoring results of previous years; and
  - (c) relevant predictions in the EIS and associated modifications;
  - (d) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;
  - (e) identify any trends in the monitoring data over the life of the development;
  - (f) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - (g) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.

**Revision of Strategies, Plans and Programs**

5. Within 3 months of:
- (a) the submission of an annual review under Condition 4 above;
  - (b) the submission of a non-compliance or incident notification under Condition 6 or 7 below;
  - (c) the submission of an audit report under Condition 8 below; or
  - (d) any modification to the conditions of this consent (unless the conditions require otherwise),
- the Applicant shall review the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 2 months of the review the revised document must be submitted for the approval of the Secretary.

*Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.*

**REPORTING AND AUDITING****Incident Notification**

6. The Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident.

**Non-Compliance Notification**

- 6A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

*Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

**Compliance Reporting**

7. The Applicant must provide regular compliance reporting to the Department on the development in accordance with the *Compliance Reporting Post Approval Requirements* (2020 or as amended from time to time).

**INDEPENDENT ENVIRONMENTAL AUDIT**

8. By the end of December 2015 and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be prepared in accordance with the *Independent Audit Post Approval Requirements* (2020 or as amended from time to time);
  - (b) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
  - (c) be carried out in consultation with the relevant agencies;
  - (d) assess whether the project complies with the relevant requirements in this approval, and any strategy, plan or program required under this approval; and
  - (e) recommend appropriate measures or actions to improve the environmental performance of the project and any strategy, plan or program required under this approval.

9. Deleted.

ACCESS TO INFORMATION

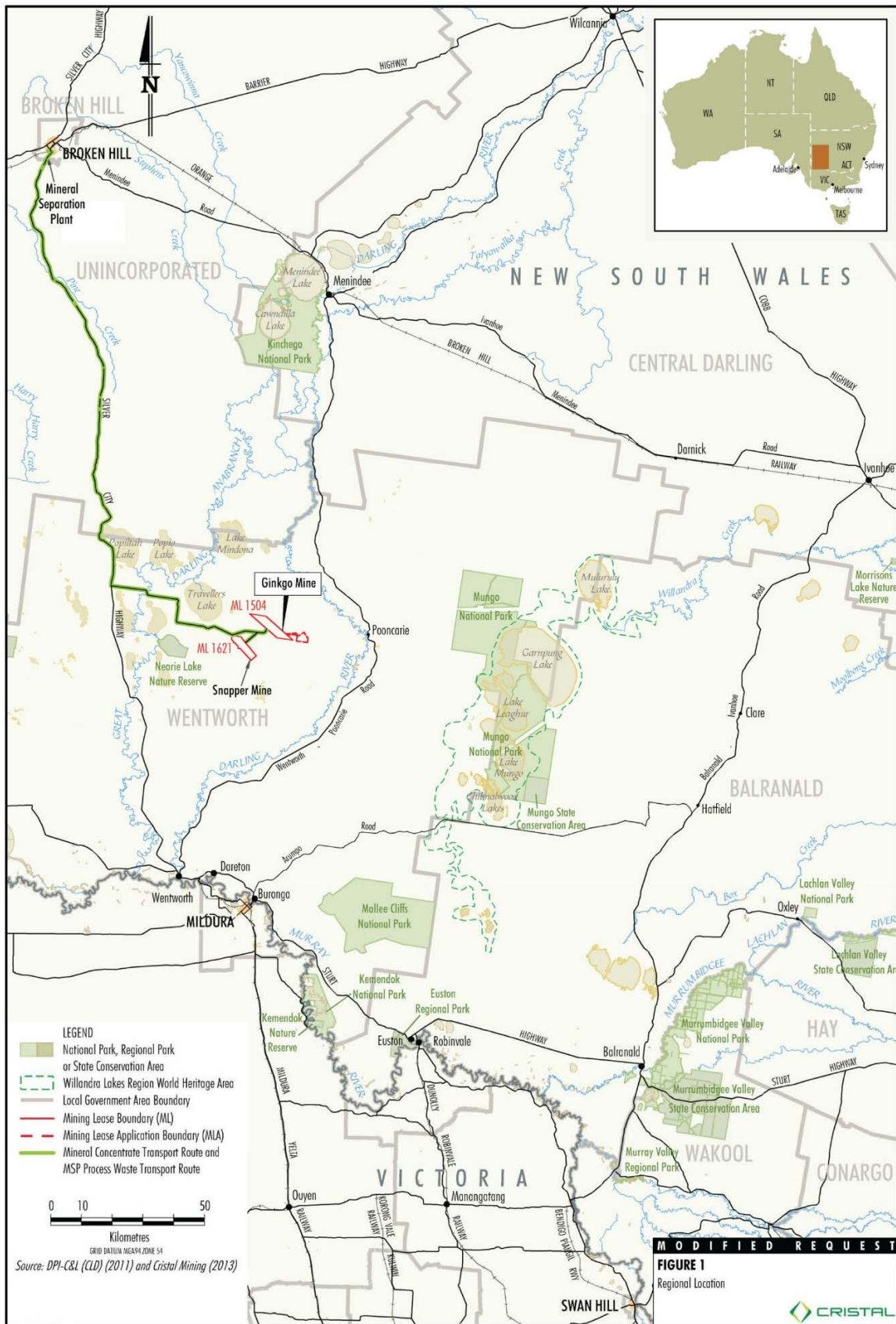
10. Within 6 months of the date of consent for MOD 9, the Applicant shall:
- (a) make copies of the following publicly available on its website:
    - the EIS;
    - all current relevant statutory approvals for the development;
    - approved strategies, plans and programs required under the conditions of this consent;
    - a comprehensive summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
    - a complaints register (updated monthly);
    - the Annual Reviews of the development;
    - any Independent Environmental Audit, and the Applicant's response to the recommendations in any audit;
    - any other matter required by the Secretary; and
  - (b) keep this information up-to-date, to the satisfaction of the Secretary.



**APPENDIX 1  
SCHEDULE OF LAND**

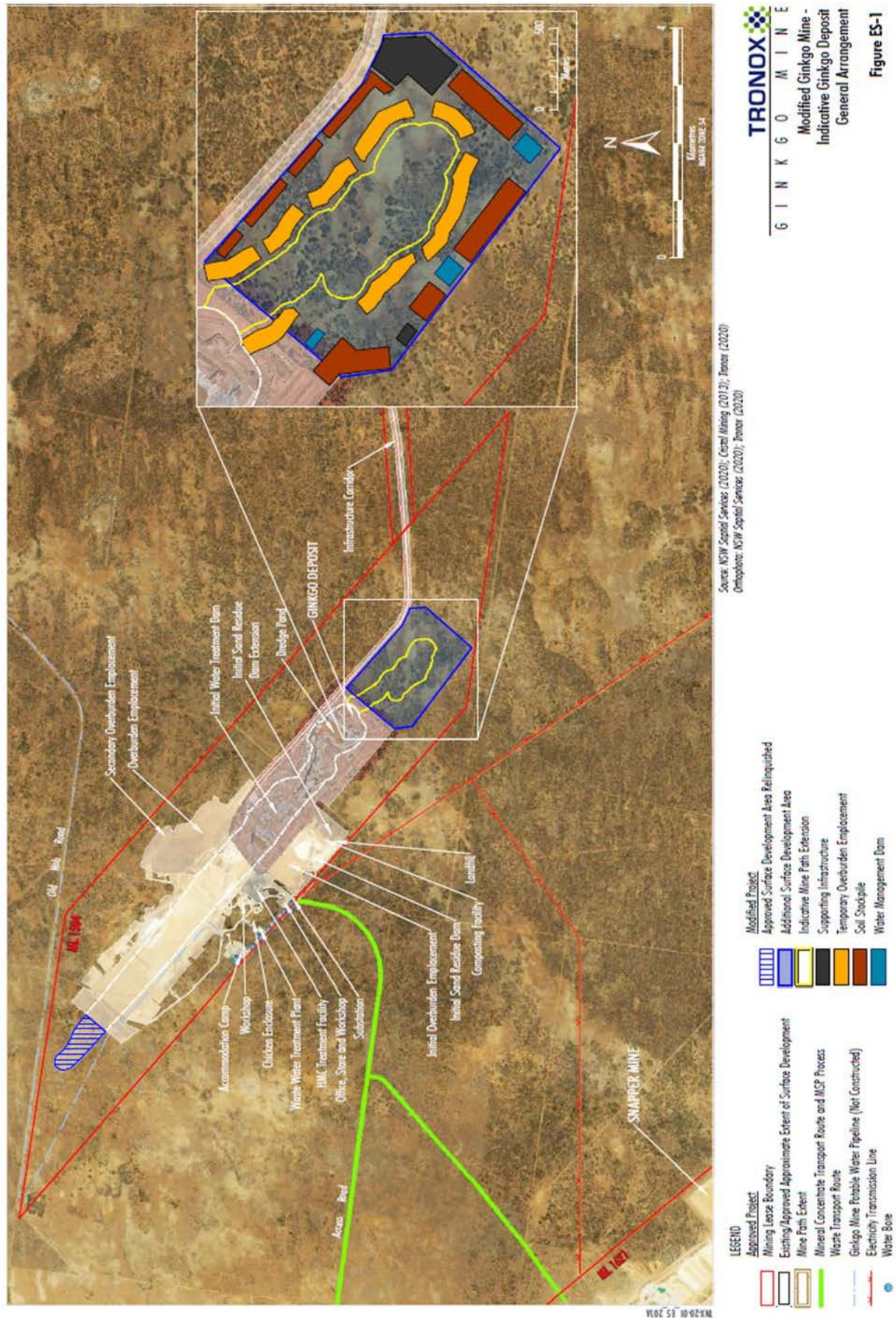
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5305	768220
5285	768200
4288	767036
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1930	763908
1926	763904
1925	763908
1927	7639057
5537	768447
5538	768448
1924	763902
51	760425
4735	767963
2	757144
5529	768439
10	756937
3	756937
1923	763901
1933	763911
452	761280
20	757147
453	761281
58	760338
5707	768607
5708	768608
8	756943

## APPENDIX 2 HAULAGE ROUTE





## APPENDIX 3 PROJECT LAYOUT







Source: NSW Spatial Services (2020); Ginkgo Mining (2013); Tronox (2020)  
Orthophoto: NSW Spatial Services (2020); Tronox (2020)

- LEGEND**
- Mining Lease Boundary
  - Existing/Approved Approximate Extent of Surface Development (Processing Option 1)
  - Mine Pit Extent
  - Mining Concentration Transport Route and MSP Process
  - Waste Transport Route
  - Electricity Transmission Line
  - Water Bore
  - Ginkgo Mine Potable Water Pipeline (Not Constructed)

**TRONOX**  
G I N K G O M I N E

Existing/Approved Ginkgo Mine -  
General Arrangement  
(Processing Option 1)

**Figure 2a**





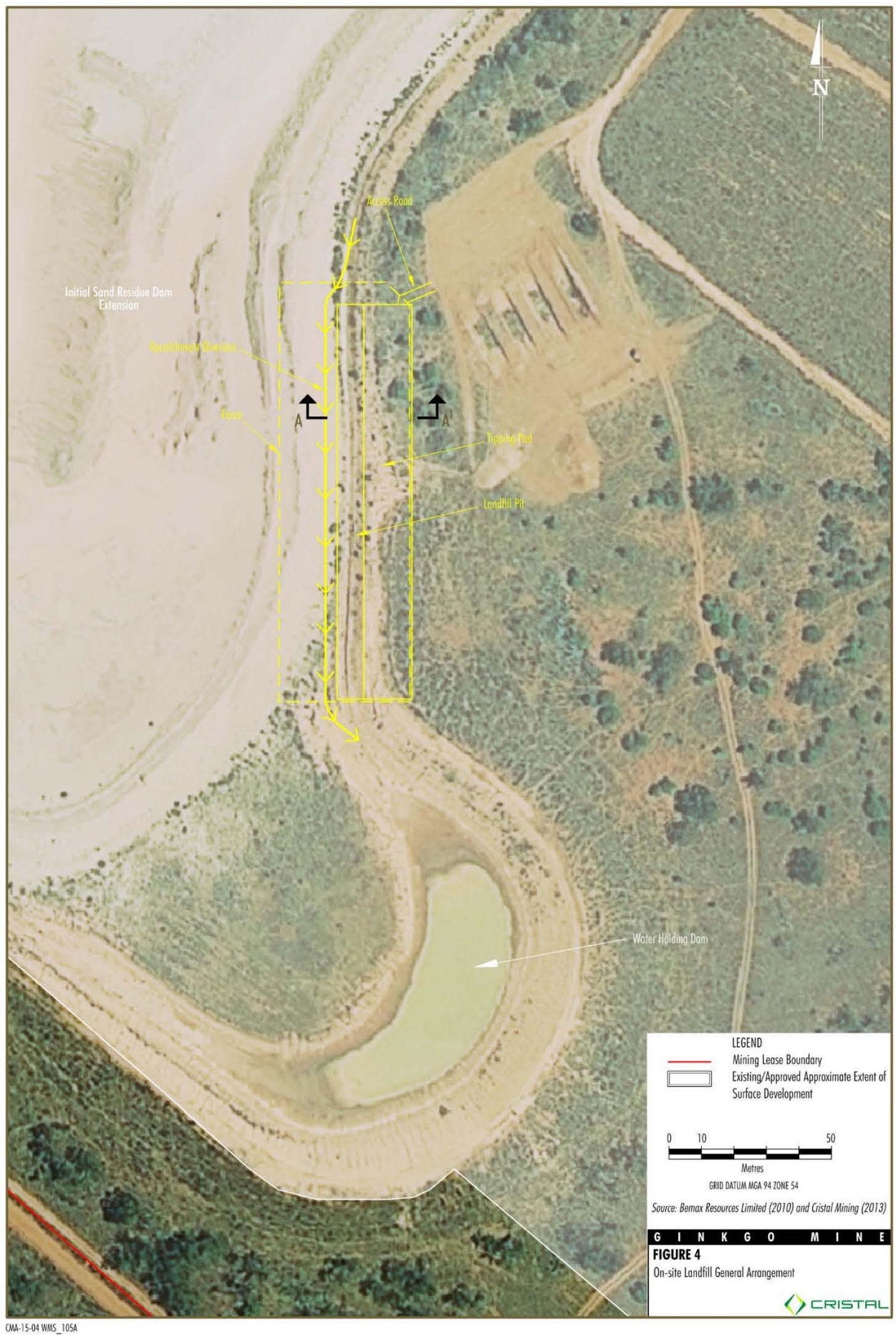
Source: NSW Spatial Services (2020); Coal Mining (2013); Janox (2020)  
 Orthophoto: NSW Spatial Services (2020); Janox (2020)

- LEGEND**
- Mining Lease Boundary
  - Existing/Approved Approximate Extent of Surface Development (Processing Option 2)
  - Mine Path Extent
  - Mineral Concentrate Transport Route and MSP Process
  - Waste Transport Route
  - Electricity Transmission Line
  - Water Bore
  - Ginkgo Mine Potable Water Pipeline (Not Constructed)

**TRONOX**  
 G I N K G O M I N E  
 Existing/Approved Ginkgo Mine -  
 General Arrangement  
 (Processing Option 2)

**Figure 2b**





**Figure 1: On-site Landfill**



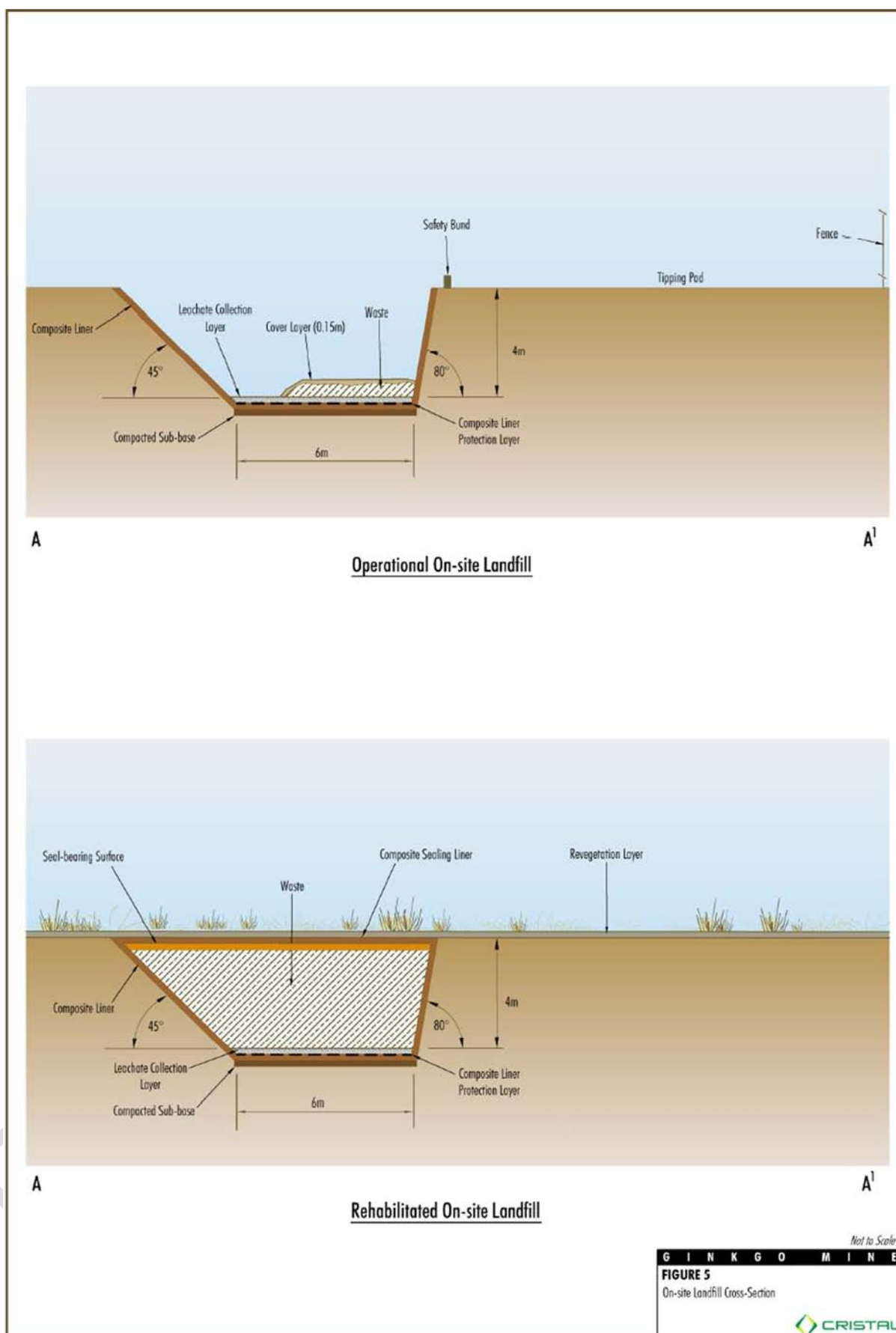


Figure 2: On-site landfill Cross Section



### Waste to Landfill Standard Operating Procedure

**IF WORK METHODS OR JOB STEPS DEVIATE FROM THIS PROCEDURE A JHA  
MUST BE COMPLETED AND AUTHORISED PRIOR TO UNDERTAKING THE  
ADDITIONAL WORK.**

#### PURPOSE

TO ENSURE PERSONNEL AND CONTRACTORS ARE AWARE OF THE PROCESS OF THE SAFE OPERATION OF REFUSE COLLECTION AND DISPOSAL BETWEEN CRISTAL MINE SITES AND THE WENTWORTH SHIRE COUNCIL POONCARIE LANDFILL.

#### REFERENCES

- **CIVIL ANCILLARY WORKS SPECIFICATION**  
CAS03 – Refuse Collection and Disposal
- **ENVIRONMENTAL GUIDELINES**  
NSW EPA Environmental Guidelines for Waste

#### PROCEDURE INDEX

Introduction General  
Hazards  
Safety Considerations  
Environmental Consideration  
Information

#### INTRODUCTION

This Standard Operating Procedure is for general waste removal across Cristal Mine-Sites to be disposed of in the Wentworth Shire Council Pooncarie Landfill. General waste (defined as solid, non-hazardous waste) produced at Cristal's Ginkgo and Snapper operations is collected, transported, and disposed of by a suitably equipped and qualified contractor, in a manner consistent with Australian legislation and Australian Standards.

This SOP outlines the procedures and agreements currently in place.

#### GENERAL HAZARDS

Operation of the rubbish truck. The rubbish truck is operated as per the contractor's Standard Operating Procedure.

Possible mixing of waste stream, i.e. incorporation of excluded materials into general waste.

## **SAFETY CONSIDERATIONS/EQUIPMENT**

Vehicle interactions with Pooncarie residents during weekly Pooncarie Township rubbish collection.

Safety concerns regarding operation of the rubbish truck are covered by the Contractor's SOP.

## **ENVIRONMENTAL CONSIDERATIONS**

Possible windblown rubbish during collection and transport. Rubbish must not leave the truck, except at the Pooncarie Landfill. Any windblown rubbish must be collected and disposed of properly.

## **INFORMATION**

Identification of waste stream:

- Only solid, non-hazardous waste to be disposed of at the Pooncarie Landfill.
- Waste excluded from the landfill includes liquid waste and hazardous waste, as defined in the NSW EPA Environmental Guidelines for Waste.
  - Were possible Cristal and site contractors recycle waste (e.g. paper, cardboard, tyres, metals etc).

On-site waste producers:

- Cristal – administration areas, crib rooms, workshops.
- Site camp.
- Contractors - administration areas, crib rooms, workshops.
- Pooncarie township residents (collected once per week).

Volumes:

- Three loads per week.
- Approximately 5-6 m<sup>3</sup> of waste per load.

The rubbish collection contract is held by a suitably qualified and equipped contractor. The contractor is required to operate in accordance with the Refuse Collection and Disposal Civil Ancillary Works Specification.

Ancillary works supplied via Cristal include landfill management to compact waste in the landfill. This is provided historically twice per year, following communication with Wentworth Shire Council.

Cristal access to the Pooncarie Landfill has been the result of a “handshake” agreement with Wentworth Shire Council, on the basis that Cristal would provide a waste management service to the Pooncarie township.

## **REVISION INFORMATION:**

### **Revision History**

<b>Rev. #</b>	<b>Date</b>	<b>Owner</b>	<b>Detail of Change</b>
Draft	1/10/2013	J Foster	

## APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

### Applicable Meteorological Conditions

1. The noise criteria in Condition 12, Schedule 3 are to apply under all meteorological conditions except the following:
  - (a) average wind speed at microphone height exceeds 5 m/s;
  - (b) wind speeds greater than 3 m/s measured at 10 m above ground level; or
  - (c) temperature inversion conditions greater than 3°C/100 m.

### Determination of Meteorological Conditions

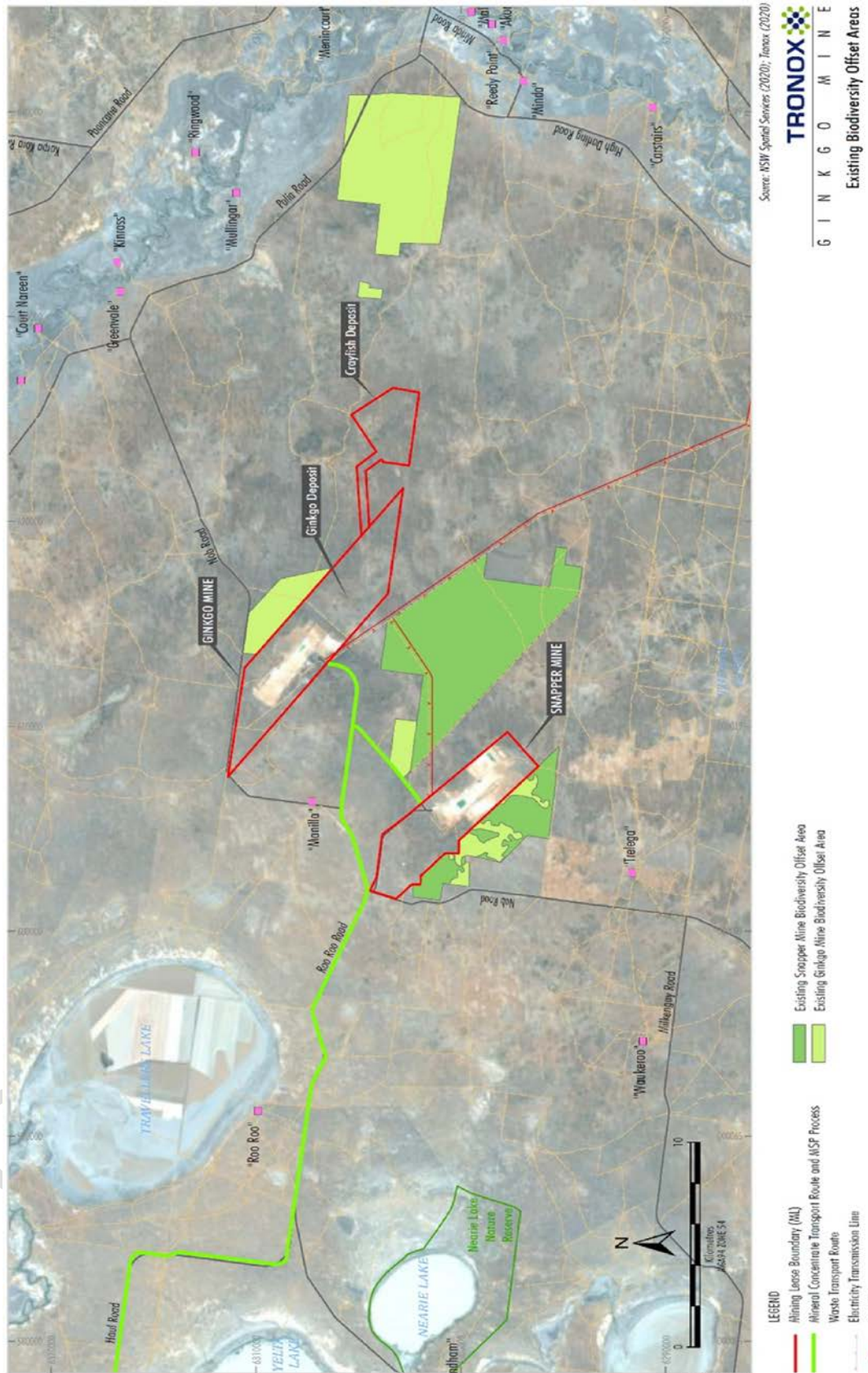
2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station on or in the vicinity of the site.

### Compliance Monitoring

3. Unless directed otherwise by the Secretary, attended monitoring every 6 months is to be used to evaluate compliance with the relevant conditions of consent.

*Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.*
4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
  - (a) monitoring locations for the collection of representative noise data;
  - (b) meteorological conditions during which collection of noise data is not appropriate;
  - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
  - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

## APPENDIX 6 BIODIVERSITY OFFSET STRATEGY





## APPENDIX 7 AUXILIARY ROAD MAINTENANCE CONTRIBUTIONS

The Applicant shall make annual contributions to Council towards the maintenance of the following Auxiliary Roads (see Figure A7.1):

- Low Darling Road (between Silver City Highway and Garston Road);
- Garston Road (between Low Darling Road and High Darling Road);
- High Darling Road (between Garston Road and Nob Road); and
- Nob Road (between High Darling Road and the Haulage Route).

The first annual contribution is to be made within 12 months of the date of consent of MOD 9, and additional contributions on each following anniversary of the date of this consent, until the cessation of rehabilitation activities on the site in accordance with this development consent.

The Applicant and Council are to agree on the annual maintenance monitoring program for the Auxiliary Roads prior to implementation and review this program every year.

Each contribution is to be calculated as follows:

### ***Applicant's Annual Ongoing Maintenance Contribution (\$) =***

$$\begin{aligned}
 & VM\%_{\text{Low Darling Road}} \times \text{Annual Expenditure}_{\text{Low Darling Road}} + \\
 & VM\%_{\text{Garston Road}} \times \text{Annual Expenditure}_{\text{Garston Road}} + \\
 & VM\%_{\text{High Darling Road}} \times \text{Annual Expenditure}_{\text{High Darling Road}} + \\
 & VM\%_{\text{Nob Road}} \times \text{Annual Expenditure}_{\text{Nob Road}}
 \end{aligned}$$

#### ***Notes:***

- Annual Expenditure is the total annual road maintenance expenditure carried out by Council on Auxiliary Roads listed above under this arrangement as evidenced by Council records.
- The road maintenance expenditure on unsealed sections of road must be associated with standard maintenance activities comprising (unless otherwise agreed between the Applicant and Council):
  - reforming and reshaping existing road material;
  - resheeting (as required) using imported gravel subsequent to reforming and reshaping using existing road materials;
  - regular maintenance grading (as required);
  - roadside slashing and vegetation management;
  - replacement of grids and associated signage.
- The road maintenance expenditure on sealed sections of road must be associated with standard maintenance activities comprising (unless otherwise agreed between the Applicant and Council):
  - light patching;
  - heavy patching;
  - resealing;
  - shoulder grading;
  - edge break repairs; and
  - crack sealing.
- VM% = percentage of **Tronox** Mining vehicle axle counts to the total number of vehicle axle counts on the relevant Auxiliary Road in the relevant 12 month period.
- The annual road contributions are to be based on the total annual standard road maintenance expenditure carried out by Council as listed above.
- The Applicant shall prepare and implement a Traffic Monitoring Program, as required by Condition 31(d) of Schedule 3, in consultation with Council and to the satisfaction of the Secretary, which contains suitable monitoring measures to accurately determine both the annual VM% and total annual vehicle axle counts on relevant Auxiliary Roads.
- In the event that there is a dispute between the Applicant and Council about the implementation of the auxiliary road maintenance contributions, then either party may refer the matter to the Secretary for resolution.



