



Approval Decision

Watermark Coal Project, NSW (EPBC 2011/6201)

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted Shenhua Watermark Coal Pty Limited

proponent's ABN ABN 21 133 264 230

proposed action To construct and operate an open cut coal mine – and associated infrastructure, including a coal handling and preparation plant and upgrades to transport infrastructure – approximately 3 km to the west of Breeza and 25 km south-east of Gunnedah, NSW.
[See EPBC Act referral 2011/6201].

Approval of decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved
Listed migratory species (sections 20 & 20A)	Approved
A water resource, in relation to coal seam gas development and large coal mining development (sections 24D & 24E)	Approved

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 30 June 2046.

Decision-maker

name and position The Hon Greg Hunt MP
Minister for the Environment

signature

date of decision

4: 7:2015

Conditions attached to the approval

Comply with NSW consent conditions

To minimise and compensate for impacts to **threatened species and ecological communities**, the **approval holder** must:

1. comply with **NSW consent conditions** 28, 29, 30, 33, 34, 37, 53, 54 and 55 (Schedule 3), and all **NSW consent conditions** in Schedule 5.

To minimise impacts to **water resources**, the **approval holder** must:

2. comply with **NSW consent conditions** 21, 22, 24, 25, 26, 27, 53, 54 and 55 (Schedule 3), and all **NSW consent conditions** in Schedule 5.

Biodiversity

To minimise impacts to **threatened species and ecological communities**, the **approval holder** must:

3. not disturb more than:
 - a. 738 ha of **Box Gum Woodland**
 - b. 30 ha of **Grey Box Woodland**
 - c. 3 ha of **Weeping Myall Woodlands**within the **project area**.
4. in addition to **NSW consent condition** 34 (Schedule 3), submit a Biodiversity Management Plan for the Minister's approval that must:
 - a. make particular reference to the **threatened species and ecological communities** protected by the Biodiversity Management Plan and demonstrate how the mitigation and management measures described in the Biodiversity Management Plan will protect **threatened species and ecological communities**;
 - b. include measures to be implemented to avoid, suppress and control the spread of plant pathogens that may degrade habitat for **threatened species and ecological communities**;
 - c. provide a detailed description of pre-clearance surveys to be undertaken by a **fauna survey expert**, no earlier than 48 hours prior to the removal of vegetation within the **project area**, in respect of individuals of the **Large-eared Pied Bat, South-eastern Long-eared Bat and Spotted-tailed Quoll**;
 - d. provide a detailed description of translocation procedures to be undertaken by a **fauna survey expert** to ensure any individuals of the **Large-eared Pied Bat, South-eastern Long-eared Bat and Spotted-tailed Quoll** found during pre-clearance surveys described in condition 2.c. are not present when vegetation removal commences within the **project area**; and
 - e. specify clear timeframes for the completion of all management and mitigation measures.

The **approval holder** must not **commence construction** before the Biodiversity Management Plan is approved in writing by the **Minister**. The approved Biodiversity Management Plan must be implemented.

Water resources

To minimise impacts to **water resources**, the **approval holder** must:

5. in addition to **NSW consent condition 26** (Schedule 3), prepare a Water Management Plan for the **Minister's** approval that must:
 - a. describe a surface water and groundwater monitoring programme consistent with the **National Water Quality Management Strategy** with spatial and temporal coverage sufficient to:
 - i. enable derivation of appropriate baseline data, performance measures and trigger values required by **NSW consent conditions 25 and 26** (Schedule 3). Details of, and justification for, the methodology used to meet this condition should be included in the Water Management Plan;
 - ii. determine any impacts of runoff from overburden emplacement areas to watercourses downstream of the **project area**;
 - iii. establish the flow regime and monitor any changes to flow and water quality as a result of the action in Watermark Gully, Native Dog Gully and the Mooki River;
 - iv. provide for detection of exceedance of early warning/investigation, mitigation/management and **cease-work** triggers to ensure that impacts can be adaptively managed before performance measures are exceeded;
 - v. determine exceedance of triggers as a result of the action in a manner that is quantifiable and robust (by comparison to baseline data, including data for **control sites**, and separating the impacts of the action from **other influences**);
 - vi. obtain the additional data needed to develop finer-scale **numerical groundwater model** predictions focussing on each mining area.
 - b. define an ongoing schedule of dates by which necessary information will be obtained to develop finer-scale **numerical groundwater model** predictions focussing on each mining area and update these predictions as mining progresses, including finer-scale investigation of:
 - i. **seasonal** variations in groundwater levels and surface water-groundwater interaction;
 - ii. the influence of **faults**;
 - iii. **strata definition**; and
 - iv. **hydraulic properties** of all major **hydrostratigraphic units**, particularly in the zone between the eastern, southern and western mining areas and the **Upper Namoi Alluvial Aquifer**.

This schedule must include installation of additional multi-level (nested) monitoring wells to the north and south of the **Eastern mining area**, followed by installation of additional multi-level (nested) monitoring wells to the south of the **Southern mining area**;

- c. include early warning/investigation, mitigation/management and **cease work** triggers, and:
 - i. detail measures to report and verify any exceedance of these triggers to the Department;
 - ii. detail mitigation and management measures including corrective actions when these triggers are exceeded;
 - iii. demonstrate how these measures will protect **water resources**; and,
 - iv. detail a recommencement procedure following a **cease work** trigger being reached, where exceedances have been reduced below cease work trigger levels.

Note: **Cease work** triggers must consider the potential for impacts on all relevant **water-related assets**, and should be established at levels that will not interfere with the adaptive management approach set out in the **NSW consent conditions**.

- d. describe how the water management performance measures identified in Table 11 of **NSW consent condition 25** (Schedule 3) will be achieved; and
- e. demonstrate a systematic and detailed approach to **groundwater dependent ecosystem** identification and mapping within the **project area**, **on-site offsets** and the **riparian zone** of Native Dog Gully and the Mooki River. Where identified, water requirements of **groundwater dependent ecosystems** must be determined, and monitoring, management and mitigation measures must be included in the Water Management Plan; and
- f. outline how community consultation mechanisms consistent with **NSW consent condition 6** (Schedule 5) will identify potential impacts to **water resources**.

The **approval holder** must not **commence construction** before the Water Management Plan is approved in writing by the **Minister**. The approved Water Management Plan must be implemented.

- 6. revise and update the approved Water Management Plan based on the results of ongoing monitoring in accordance with **NSW consent condition 5** (Schedule 5). Updates must include:
 - a. any changes to the surface water and groundwater monitoring networks;
 - b. a description of any changes to the **conceptual groundwater model** or **numerical groundwater model**, including additional data gathered from field investigations; and
 - c. a description of any changes to predictions from the site water balance, salt balance, flood and numerical groundwater models during validation updates as required by **NSW consent condition 26** (Schedule 3), and a summary of how these impacts have been addressed in updating the Water Management Plan.
- 7. submit the **Water Impact Verification Report** required by **NSW consent condition 27** (Schedule 3) for the **Minister's** approval. The **Water Impact Verification Report** must:
 - a. demonstrate that recalibrated modelling utilises hydrological and geological data obtained from the water monitoring program to inform:

- i. **seasonal** variations in groundwater levels and surface water-groundwater interaction;
 - ii. the influence of **faults**;
 - iii. **strata definition**; and
 - iv. **hydraulic properties** of all major **hydrostratigraphic units**, particularly in the zone between the eastern, southern and western mining areas and the **Upper Namoi Alluvial Aquifer**.
- b. demonstrate that cumulative impacts have been considered and that the owners of any nearby mines likely to have an impact on zones 3,7 or 8 of the **Upper Namoi Alluvial Aquifer** have been consulted in preparation of the report;
 - c. be prepared with reference to a Commonwealth-endorsed methodology to assess the cumulative water-related impacts of coal mines; and
 - d. demonstrate that recalibrated modelling predictions associated with the **Southern mining area** are no greater than the impacts approved under the **NSW Consent** of 28 January 2015.

The **approval holder** must not **commence construction** in the **Southern mining area** before the Water Impact Verification Report is approved in writing by the **Minister**.

Rehabilitation

To compensate for residual significant impacts on **threatened species and ecological communities** and to minimise impacts to **water resources**, the **approval holder** must:

- 8. in addition to **NSW consent condition 55** (Schedule 3), prepare a Rehabilitation Management Plan for the Minister's approval that must:
 - a. specify how the rehabilitation objectives identified in Table 15 of **NSW consent condition 53** (Schedule 3) will be achieved;
 - b. consider possible worst case scenarios associated with the **final void** and outline management responses;
 - c. include a surface water and groundwater monitoring programme consistent with the **National Water Quality Management Strategy** with spatial and temporal coverage sufficient to manage potential impacts to water resources associated with the final landform; and
 - d. describe how refined hydrological modelling that takes into account information gathered during mining has been used to inform the final landform design. This information must include:
 - i. characterisation of the spatial extent and **hydraulic properties** of the **hydrostratigraphic units**, including Quaternary sediments, which may intersect the western edge of the **final void**; and
 - ii. uncertainty analysis that incorporates the potential influence of climate variability.

The approved Rehabilitation Management Plan must be implemented.

Auditing and reporting

9. The **approval holder** must provide the **Department** with details of each **offset area**, including written evidence that a **protection mechanism** is in place, **offset attributes**, **shapefiles**, textual descriptions and maps to clearly define the location and boundaries of each **offset area** within 30 calendar days of securing each **offset area** in accordance with **NSW consent condition 33** (Schedule 3).
10. Within 10 calendar days after the **commencement** of the action, the **approval holder** must advise the **Department** in writing of the actual date of **commencement**.
11. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans and strategies required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.
12. Within three months of every 12 month anniversary of the **commencement** of the action, the **approval holder** must publish a report on its website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. Non-compliance with any of the conditions of this approval must be reported to the **Department** within 2 business days of becoming aware of the non-compliance.
13. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The audit must not commence until the independent auditor and audit criteria have been approved by the **Minister**. The audit report must address the criteria to the satisfaction of the **Minister**.
14. If the **approval holder** wishes to carry out any activity other than in accordance with the management plan, package or strategy, as specified in the conditions, the **approval holder** must submit to the **Department** for the **Minister's** written approval a revised version of that management plan. The **approval holder** must not commence the varied activity until the **Minister** has approved the varied management plan in writing. If the **Minister** approves the revised management plan that management plan, package, or strategy, agreement, must be implemented in place of the management plan, package or strategy previously approved.

Note: The **Minister** will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time.
15. The **Minister** may determine that a plan, strategy or program approved by the NSW Government satisfies a plan, strategy or program required under these conditions. Furthermore, the **Minister** may determine that separate Commonwealth approval is not required for a plan, strategy or program approved by the NSW Government.
16. If the **Minister** believes that it is necessary or convenient for the better protection of listed **threatened species and ecological communities**, listed migratory species or a **water resource** in relation to coal seam gas development and large coal mining development, to

do so, the **Minister** may request that the **approval holder** make specified revisions to the management plans specified in the conditions and submit the revised management plan for the **Minister's** written approval. The **approval holder** must comply with any such request. The revised approved management plan must be implemented. Unless the **Minister** has approved the revised management plan, then the **approval holder** must continue to implement the management plan previously approved, as specified in the conditions.

17. If, at any time after five years from the date of this approval, the **approval holder** has not commenced the action, then the **approval holder** must not **commence** the action without the written agreement of the **Minister**.

18. Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish all management plans and strategies, referred to in these conditions of approval on its website within 28 calendar days of being approved. Approved plans and strategies must remain on the website until the **approval holder** receives written agreement from the Minister that the publication of the plans may cease.

Definitions

Approval holder - the person to whom the approval is granted, or to whom the approval is transferred under s145B of the **EPBC Act**.

Box Gum Woodland - the threatened ecological community, White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, listed under the **EPBC Act**.

Cease work - cessation of activities that will have a potentially adverse impact on **water-related assets**, or any other activities as directed by the **Minister**.

Conceptual groundwater model - the understanding of groundwater systems as described in the **Environmental Impact Statement**.

Control sites - groundwater monitoring bores located outside of the zone of predicted impacts to groundwater described in the **Environmental Impact Statement** as a result of the action.

Commencement or commence/d construction - the date that on-ground preparatory works are first undertaken for the action, including but not limited to clearing of vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for infrastructure or earthworks, excluding fences, signs and environmental surveys.

Department - the Australian Government Department administering the **EPBC Act**.

Department's Offsets Policy - the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy, dated October 2012.

Eastern mining area - the open-cut mining area represented on the figure at Annexure 2 shaded in grey and labelled as 'Eastern Mining Area'.

Environmental Impact Statement - has the same meaning as in the **NSW consent**.

EPBC Act - the *Environment Protection and Biodiversity Conservation Act 1999*.

Fauna survey expert - a person with at least five years' experience in undertaking fauna surveys in New South Wales including at least four years' experience in locating tree-dwelling bat species and the **Spotted-tailed Quoll**.

Faults are discontinuities in rock formations, marked by the relative displacement and discontinuity of strata on either side of a particular plane, including, but not limited to, those mapped within the exploration lease in the **Environmental Impact Statement**.

Final void - the part of the **Western mining area** that will not be backfilled, as represented on the figure at Annexure 7 shaded in grey and labelled as 'Final Void'.

Groundwater dependent ecosystem - natural ecosystems that require access to groundwater to meet all or some of their water requirements on a permanent or intermittent basis so as to maintain their communities of plants and animals, ecological processes and ecosystem services.

Grey Box Woodland – the threatened ecological community Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia, listed under the **EPBC Act**.

Hydraulic properties are the factors controlling the movement of water through rock or sediment, including vertical hydraulic conductivity, horizontal hydraulic conductivity and storativity.

Hydrostratigraphic unit is the part of a body of rock or sediment that forms a distinct hydrologic unit with respect to the flow of groundwater within the **numerical groundwater model** domain. These units are represented on page 105 of the **Environmental Impact Statement** and include, but are not limited to, the Narrabri Formation, Gunnedah Formation, and Clare Sandstone.

Large-eared Pied Bat - the species *Chalinolobus dwyeri*, listed as a threatened species under the **EPBC Act**.

Minister - The Minister administering the **EPBC Act** or a delegate of the Minister.

National Water Quality Management Strategy - is the joint national approach to improving water quality in Australian and New Zealand waterways.

NSW consent / NSW consent conditions - the conditions and requirements of approval specified in the New South Wales Government's decision document, titled "Development Consent", that grants approval to the Watermark Coal Project under section 89E of the *Environmental Planning & Assessment Act 1979*, dated 28 January 2015.

Numerical groundwater model is the MODFLOW model described in the **Environmental Impact Statement**.

Offset Areas - the Mt Watermark Offset Area, Offset Area 6, Barraba Offset Area, and Mt Erin and Glendowda Offset Area, as listed in Annexure 1 and depicted in the maps at Annexures 3 to 6 and the offset area for **Grey Box Woodland** obtained in accordance with **NSW consent condition 29** (Schedule 3).

Offset attributes is an '.xls' file capturing relevant attributes of the offset site, including the EPBC reference ID number, the physical address of the offset site, coordinates of the boundary points in decimal degrees, the EPBC protected matters that the offset compensates for, any additional EPBC protected matters that are benefiting from the offset, and the size of the offset in hectares.

Other influences are influences that may change the availability of water in a **water resource**, including the take of water by third parties and the environment and climatic conditions.

Project area - the area contained within the Project Boundary, identified by a red line on the figure at Annexure 2.

Protection mechanism means an in perpetuity covenant or agreement on title protecting the land for conservation purposes.

Riparian zone means any land that adjoins, directly influences, or is influenced by a surface water body.

Regent Honeyeater - the species *Anthochaera phrygia*, listed as a threatened species under the EPBC Act.

Seasonal - fluctuating or restricted according to the time of year.

Shapefile is an ESRI Shapefile containing '.shp', '.shx' and '.dbf' files and other files capturing attributes including at least the EPBC reference ID number and EPBC protected matters present at the relevant site. Attributes should also be captured in '.xls' format. A geographically referenced raster 'img' file/s must be provided to provide context for the shapefiles.

South-eastern Long-eared Bat - the species *Nyctophilus corbeni*, listed as a threatened species under the EPBC Act.

Southern mining area - the open-cut mining area represented on the figure at Annexure 2 shaded in grey and labelled as 'Southern Mining Area'.

Spotted-tailed Quoll - the species *Dasyurus maculatus maculatus*, listed as a threatened species under the EPBC Act.

Strata definition is the better representation of the parts of bodies of rock or sediment that form distinct hydrologic units with respect to the flow of groundwater within the **numerical groundwater model** domain, including the creation of sub-units, to better represent the movement of groundwater.

Swift Parrot - the species *Lathamus discolor*, listed as a threatened species under the EPBC Act.

Threatened species and ecological communities - Box Gum Woodland, Grey Box Woodland, Weeping Myall Woodlands, the Regent Honeyeater, the South-eastern Long-eared Bat, the Large-eared Pied Bat, the Spotted-tailed Quoll, and the Swift Parrot.

Water Impact Verification Report - has the same meaning as in the NSW consent.

Water-related assets - assets related to **water resources**, including but not limited to groundwater bores, surface water pump sites, and **Groundwater Dependent Ecosystems**.

Water resource - has the same meaning as in the *Water Act 2007*.

Weeping Myall Woodlands - the threatened ecological community, Weeping Myall Woodlands, listed under the EPBC Act.

Upper Namoi Alluvial Aquifer - has the same meaning as in the NSW consent.

Western mining area - the open-cut mining area represented on the figure at Annexure 2 shaded in grey and labelled as 'Western Mining Area'.

Annexure 1

Area	Offset Name	Size (ha)
On-site Offsets	Mt Watermark Offset Area	296
	Offset Area 6	2,003
Off-site Offsets	Barraba Offset Area	2,878
	Mt Erin and Glendowda-Currajong Offset Area	3,581
Total Area		8,758

Annexure 2

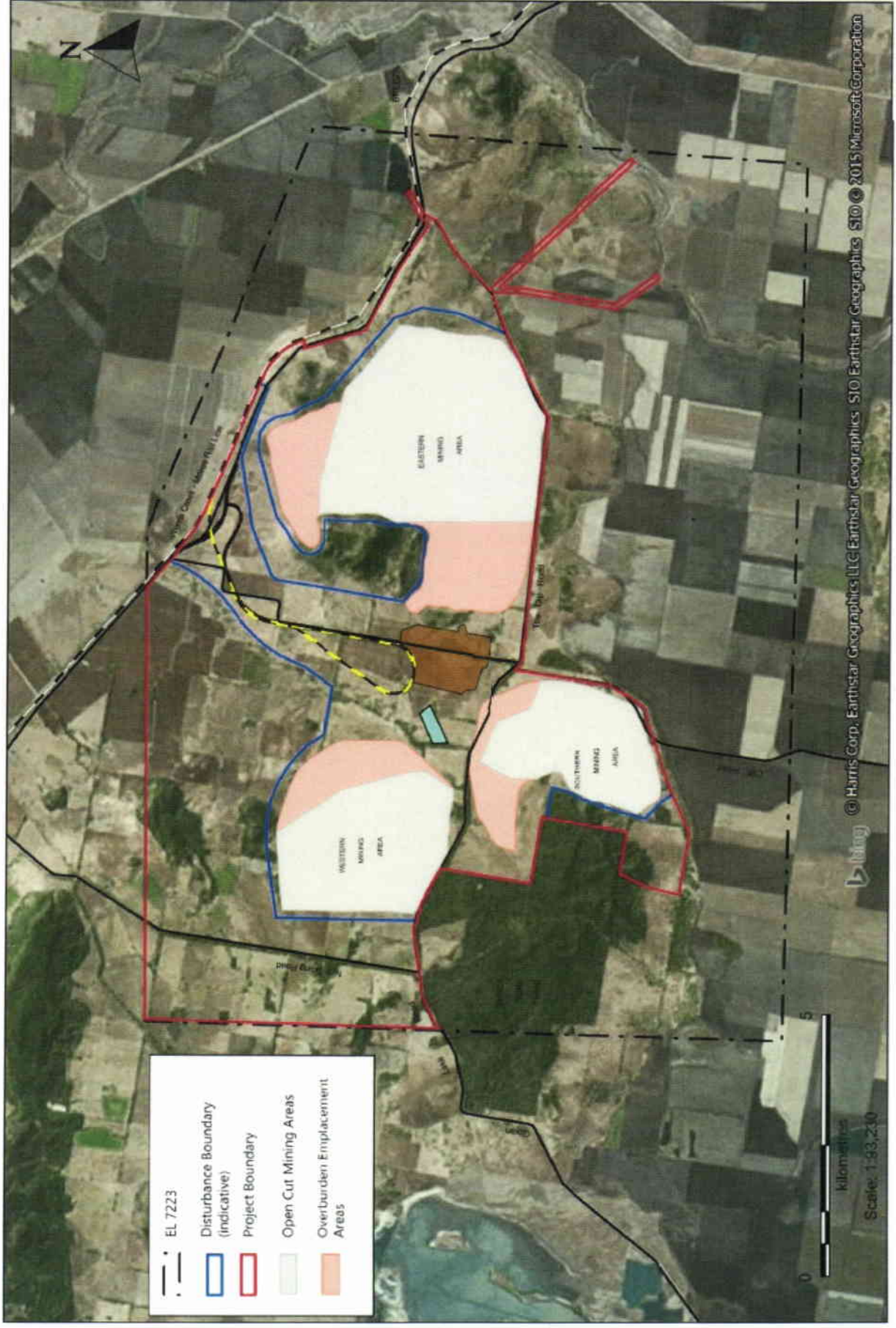
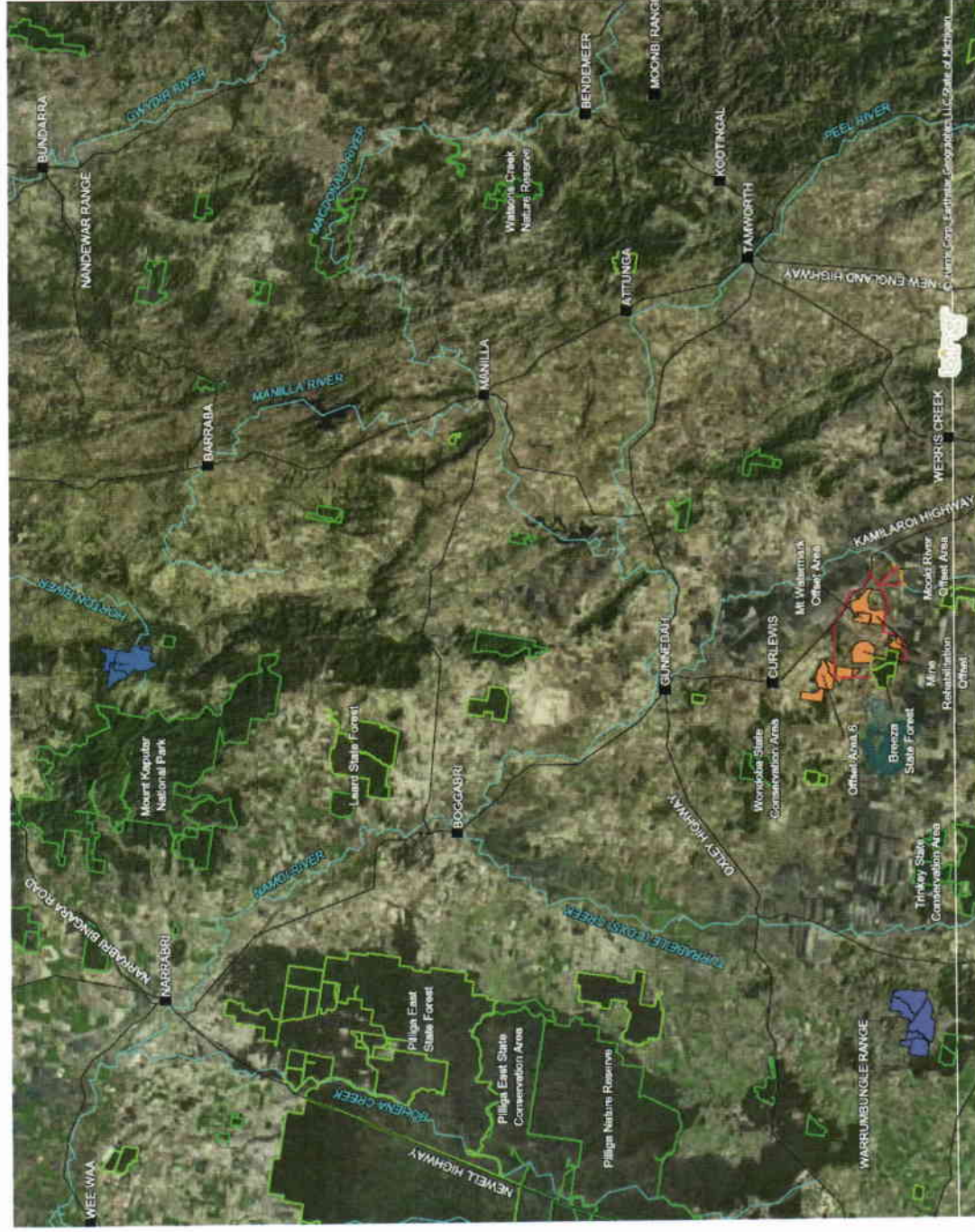


Figure showing general layout of the action, including three proposed mining areas and the 'project area'.

Annexure 3



DATA SOURCES:
 NSW GOVERNMENT
 February 2012
 Copyright Commonwealth of Australia
 Geoscience Australia, 2006



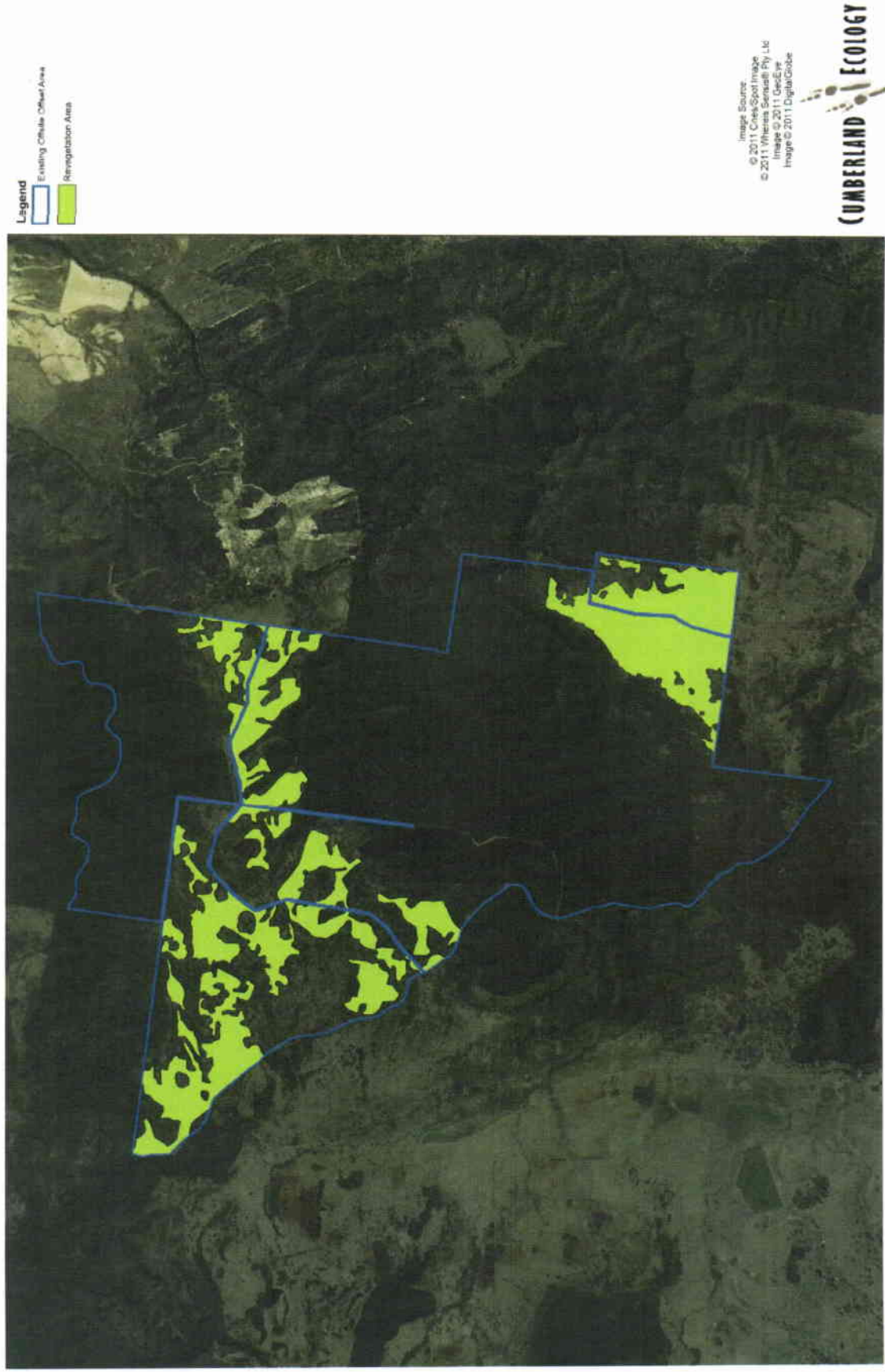
Contextual map showing all offset areas. Note: 'Additional Offsite Offset Area' refers to the 'Mt Erin and Glendowda-Currajong Offset Area; the 'Existing Offsite Offset Area' refers to the 'Barraba Offset Area'.

Annexure 4



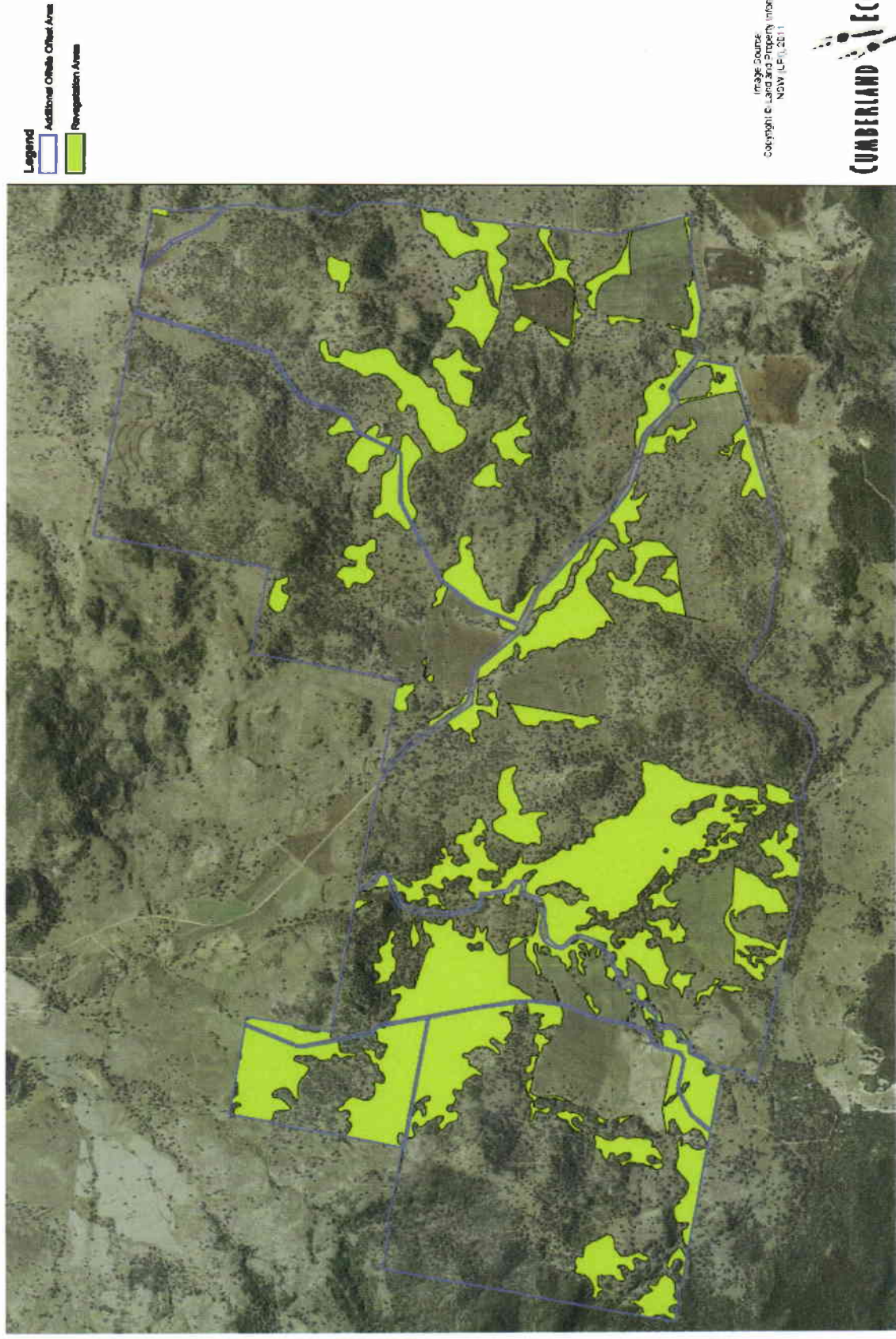
Map showing onsite offset areas ('Offset Area 6' and 'Mt Watermark Offset Area')

Annexure 5



Map showing the Barraba Offset Area ('offsite offset area')

Annexure 6



Map showing the Mt Erin and Glendowda-Currajong Offset Area ('offsite offset area')

Annexure 7

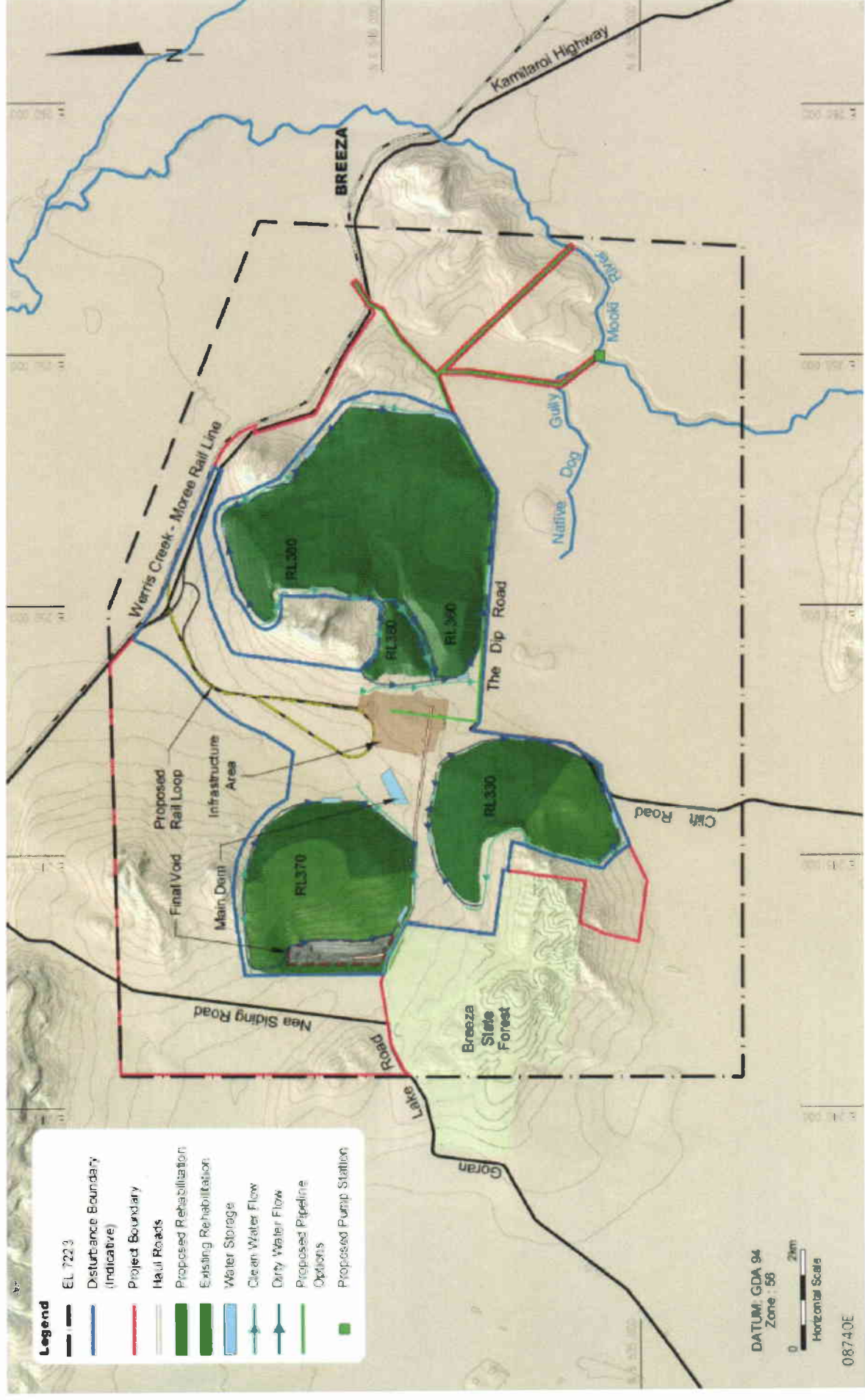


Figure showing 30-year mine plan with proposed 'final void'.