



Australian Government
Department of the Environment

Approval

Extension of Liddell Open Cut Coal Mining Operations – EPBC 2013/6908

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

proposed action To expand the existing Liddell open cut coal mine operations in the Hunter Valley region in New South Wales, located approximately 25 km north-west of Singleton. [See EPBC Act referral 2013/6908].

person to whom the approval is granted Liddell Coal Operations Pty Limited

proponent's ACN 058 857 882

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved subject to conditions
Listed migratory species (sections 20 & 20A)	Approved subject to conditions
Water resources/trigger (section 24D)	Approved subject to conditions

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 December 2044.

Decision-maker

name and position James Tregurtha
Assistant Secretary
South-Eastern Australia Environment Assessments

signature

date of decision 24 December 2014

Conditions of approval

Avoidance and mitigation of impacts

1. The **footprint** of the **action** must be no more than 185 ha and must be kept within the areas marked as "Referral Areas" in Figure 1.2 (Annexure C). The **approval holder** must not **clear** more than 121 ha of **native woodland**.
2. To protect **threatened species**, the **approval holder** must prepare and submit a Biodiversity Management Plan to the **Minister** for approval prior to **commencement** of the **action**. This Plan must contain detail of the following mitigation measures:
 - a. Fencing and access control;
 - b. Weed control;
 - c. Feral animal control;
 - d. Bushfire management;
 - e. Habitat enhancement measures;
 - f. Tree felling procedure;
 - g. Indirect impact mitigation measures; and
 - h. Adaptive management.

3. The **approval holder** must not **commence** the **action** until the Biodiversity Management required under Condition 2 has been approved by the **Minister**. The approved Plan must be implemented.

Note: if more convenient for the approval holder, the requirements of this plan may be met through revision and submission for approval by the **Minister** of the existing **Landscape Management Plan** that provides:

- a. a copy of the management plan, marked up to show the revisions, in both hard copy and electronic copy; and
 - b. A clear summary of all the revisions that have been made to the management plan, and the reasons for these revisions.
4. The Biodiversity Management Plan required under condition 2, must include the following information, which must be specific, measurable, realistic and time-bound in relation to each measure listed in condition 2:
 - a. environmental objectives;
 - b. performance criteria;
 - c. methodology;
 - d. duration and frequency of actions to be implemented;
 - e. monitoring and reporting of the effectiveness of the measures;
 - f. corrective actions
 - g. criteria for triggering corrective actions, should performance criteria not be met; and
 - h. responsibility for implementation.

5. To protect **threatened species** and **water resources**, the **approval holder** must progressively rehabilitate the areas marked as "Referral Areas" in Figure 1.2 (Annexure C) to achieve a **self-sustaining landform** consisting of **Central Hunter Grey Box-Ironbark Woodland** and two mine voids. The Central Hunter Grey Box-Ironbark Woodland must be established progressively, in accordance with the Rehabilitation and Environmental Management Plan required by Condition 39 of Schedule 3 of the **NSW Approval**, once the Plan is approved by the NSW Government. The approved Plan must be provided to the **Department**.

Offsetting of residual impacts

6. In order to compensate for residual significant impacts on **threatened species**, the **approval holder** must protect the **offset areas** through a legal instrument under relevant conservation legislation prior to 31 December 2015. The legal instrument must:
 - a. be registered on title of the **Offset site**, once the legal instrument is approved by the **Department**;
 - b. provide for the protection and ongoing conservation management of the **Offset site** in perpetuity;
 - c. prevent any future **development activities** or clearing of **native vegetation** on the **Offset site**; and
 - d. require the approval of a State Planning or Environment Minister to be changed or revoked.
7. The **approval holder** must provide the **Department** with details of the **offset areas**, including **offset attributes**, **shapefiles**, textual descriptions and maps to clearly define the location and boundaries of the **offset area**, to be submitted to the **Department** prior to **commencement** of the action.
8. To ensure management of the **offset areas**, the **approval holder** must submit an Offset Management Plan to the **Minister** for approval prior to 31 May 2015 to provide for the conservation and management in perpetuity of the **offset areas**. The Plan must include:
 - a. a detailed methodology, frequency, timing and duration of all **Offset area** management measures proposed. The management measures must include:
 - i. weed and pest control;
 - ii. fencing;
 - iii. ecological monitoring; and
 - iv. assisted regeneration.
 - b. key milestones, performance indicators, corrective actions and timeframes for the completion of all actions outlined in the Plan;
 - c. a detailed methodology, timing goals and corrective actions for revegetation of:
 - i. the Bowmans Creek Riparian Corridor, in accordance with Figure 8.3 (Annexure D)
 - ii. the Mountain Block Offset Site, in accordance with Figure 8.4 (Annexure E); and
 - iii. exotic grassland and derived grassland areas of the Mitchells Hills South Offset Area, as depicted in Figure 3.1 of the letter from David Foster to the **Department** dated 29 October 2014 (Annexure F), with native woodland or forest communities that occur on the site.
9. The approved Offset Management Plan required under Condition 8 must be implemented.
10. To compensate for residual significant impacts on the **Spotted-tailed Quoll**, the **approval holder** must provide an Indirect Offset Plan to the **Minister** for approval, prior to 30 June 2015. This Plan must specify how it will allocate \$243 000 over a period of not more than five years for recovery actions for the Spotted-tailed Quoll, as identified in either the *Draft National Recovery Plan for the Spotted-tailed Quoll – *Dasyurus maculatus** (K. Long and J. Nelson 2008) or in the NSW Office of Environment and Heritage's *Saving Our Species Project Species Action Statement*. The Plan must include:

- a. a detailed description of the actions funding, including location and timing of activities;
- b. demonstration of how the funded activities are additional to any offset requirements of any existing approval conditions and additional to existing practise or other requirements;
- c. an explanation of how the activities described in the Plan will contribute to conservation of the Spotted-tailed Quoll;
- d. provisions to ensure appropriate management of funds and that auditable financial records are kept and maintained;
- e. provision for publication of findings:
 - i. of a standard that would be acceptable for publication in an internationally-recognised peer-reviewed scientific journal; and
 - ii. together with methodologies and results, on the internet within twelve months of the collection of results and in a form that may be accessed by the public.

11. The approved Indirect Offset Plan must be implemented.

Water Resources

12. To protect **water resources** and **threatened species**, the **approval holder** must submit a Water Management Plan (WMP) for approval by the **Minister** prior to **commencement** of the **action** which provides for the avoidance and mitigation of impacts to **water resources** and **threatened species**. The plan must include the following:

- a. Management action, mitigation measures and practices designed to limit impacts of the proposal on surface and ground water resources. Management actions, mitigation measures and practices prescribed by the plan must be clear, measurable, auditable and time bound;
- b. Surface and groundwater monitoring program, that must be implemented for the life of the **action**, to monitor the success of the management actions in the WMP, define measurable targets of management actions and performance indicators, and provide an adaptive management framework for the duration of the **action's** impact on water resources. This program must include:
 - i. surface water quality, including pH, electrical conductivity, total suspended solids and total dissolved solids, in Bayswater Creek and Bowmans Creek each month, at each of the sites specified in Figure 9.11 of the **Preliminary Documentation**;
 - ii. groundwater quality at least every two months and groundwater pressures and levels at least monthly at each location depicted in figure 2-13 of the Groundwater Impact Assessment (Annexure A) and
 - iii. documentation of the reference value against which the 2 metre drawdown trigger for the Bowmans Creek alluvium will be assessed and a justification of this reference value.
- c. Clear objectives and performance indicators, timeframes for the completion of all actions outlined in the Plan as well as corrective actions for circumstances where a management action, mitigation measure or practice fails to meet its prescribed objective or performance indicator.

13. The approved Water Management Plan must be implemented.

14. The **approval holder** must only discharge water into the Hunter River or its tributaries in accordance with the Hunter River Salinity Trading Scheme.

15. If monitoring of surface water quality identifies an exceedance of the **Trigger Values** for surface water, the **approval holder** must:
- keep a written record of the exceedance;
 - report the exceedance to the **Department** within 5 business days of the monitored exceedance if the exceedance has the potential to result in environmental harm;
 - unless agreed otherwise by the **Department** in writing, complete an investigation into the potential for environmental harm for any exceedance described in condition 15b. and provide a written report to the **Department** within 30 calendar days of receiving the result, including:
 - a description of the investigations carried out;
 - a statement of the cause and extent of the exceedance;
 - an assessment of the potential for environmental harm;
 - actions taken to prevent environmental harm, if required; and
 - actions taken to prevent exceedance from re-occurring in the future.
16. If groundwater monitoring identifies groundwater drawdown in the alluvium of Bowmans Creek of more than 2 metres, the **approval holder** must:
- report this to the **Department** within 5 business days of the monitored exceedance;
 - unless agreed otherwise by the **Department** in writing, complete an investigation into the potential for environmental harm and provide a written report to the **Department** within 30 calendar days of receiving the result, including:
 - a description of the investigations carried out;
 - a statement of the cause and extent of the drawdown;
 - actions taken to prevent environmental harm; and
 - actions taken to prevent exceedance from re-occurring in the future.
17. Within 21 calendar days after the commencement of the **action**, the person taking the action must advise the **Department** in writing of the actual date of commencement.
18. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the Indirect Offset Plan (described in condition 10), Water Management Plan (described in condition 12) and Biodiversity Management Plan (described in condition 2) 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.
19. Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their 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 must be provided to the **Department** at the same time as the compliance report is published.
20. Potential or actual contraventions of the conditions of the approval must be reported to the **Department** in writing within 2 business days of the **approval holder** becoming aware of the actual or potential contravention. All contraventions must be included in the compliance reports.

21. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
22. If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans as specified in the conditions, the person taking the action must submit to the **Department** for the **Minister's** written approval a revised version of that plan. The varied activity shall not commence until the **Minister** has approved the varied plan in writing. The **Minister** will not approve a varied plan unless the revised plan would result in an equivalent or improved environmental outcome over time. If the **Minister** approves the revised plan that plan must be implemented in place of the plan originally approved.
23. If the **Minister** believes that it is necessary or convenient for the better protection of **threatened species** or **water resources** to do so, the **Minister** may request that the person taking the action make specified revisions to the plan specified in the conditions and submit the revised plan for the **Minister's** written approval. The person taking the action must comply with any such request. The revised approved plan must be implemented. Unless the **Minister** has approved the revised plan, then the person taking the action must continue to implement the plan originally approved, as specified in the conditions.
24. If, at any time after seven years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the **Minister**.
25. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all management plans referred to in these conditions of approval on its website. Each management plan must be published on the website within 1 month of being approved and remain published for the life of the approval.

Definitions:

Interpretation

In these conditions, unless contrary intention is expressed:

- (a) the singular includes the plural and vice versa, and a gender includes other genders;
- (b) another grammatical form of a defined word or expression has a corresponding meaning;
- (c) the meaning of general words is not limited by specific examples introduced by 'for example' or similar expressions;
- (d) a reference to a condition or annexure is a reference to a condition of or annexure to, the approval;
- (e) a reference to AUD, A\$, \$A, dollar or \$ is to Australian currency; and
- (f) a reference to time is to the time in the place where the obligation is to be performed.

Action – the expansion of the existing Liddell open cut coal mine operations in the Hunter Valley region in New South Wales, located approximately 25 km north-west of Singleton within the areas marked as "Referral Areas" in Figure 1.2 (Annexure C).

ANZECC Guidelines – The Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)

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

Central Hunter Grey Box-Ironbark Woodland in the NSW North Coast and Sydney Basin Bioregions – the ecological community Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions – profile listed as endangered under the *NSW Threatened Species Conservation Act 1995*

Commencement or commenced – **clearance** of any vegetation to undertake the **action**, with the exception of works and **clearance** undertaken within one area to the south of South Pit, marked as "pre-commencement area" at Annexure H

Clear or clearance – The cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation (excluding fire management for environmental management purposes)

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

EPBC Act – the *Environment Protection and Biodiversity Conservation Act 1999*

Footprint of the action – the area in which **clearing**, excavation or construction occur as part of the action

Landscape Management Plan – the document titled *LCO SD PLN 0034 – Landscape Management Plan*, version 1.0

Minister – The Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister

Native woodland – includes both woodland and forest and includes eucalypt-dominated woodland and forest and riparian woodland and forest, which includes Bullock forest

NSW Approval – Consolidated Consent for the Liddell Coal Mine Development, available at <https://majorprojects.affinitylive.com/public/8eda5fe9f7c93fc5c15da592a596c993/Liddell%20Coal%20Mine%20Mod%205%20-%20Consolidated%20Consent.pdf>

Offset areas – the Bowmans Creek Riparian Corridor, the Mountain Block Offset Site and the Mitchells Hills South Offset, as described in the **Preliminary Documentation** and letter to the **Department** dated 29 October 2014 and depicted in Figure 1.1 at **Annexure A**

Offset attributes – a spreadsheet capturing the relevant attributes of the offset area, including:

- a) the EPBC reference ID number;
- b) the physical address of the offset area (if available);
- c) coordinates of the boundary points of the offset area in decimal degrees;
- d) the EPBC protected matters that the offset compensates for;
- e) any additional EPBC protected matters that may benefit from the offset; and
- f) and the size of the offset area in hectares.

Preliminary documentation: – the assessment documents:

- a. titled *Preliminary Documentation – EPBC Act Referral 2013/6908 – Main Report*, dated June 2014;
- b. titled *Appendix A – Economic Assessment, Liddell Coal Operations Proposed Modification* (Gillespie Economics 2013);
- c. titled *Appendix B – Modification to Liddell Coal Mine (DA 305-11-01 Mod 5) NSW Office of Water Submission*;
- d. titled *Appendix C – Groundwater Impact Assessment, Liddell Coal Operations – Modification 5 to Development Consent DA 305-11-01 (SKM 2014)*;
- e. titled *Appendix D – Liddell Coal Operations Groundwater Impact Assessment – Peer Review* (HydroAlgorithmics 2014);
- f. titled *Appendix E – Submission on the Exhibitited EIS for the Liddell Mine Extension (DA 305-11-01 Mod 5) – OEH Submission and Umwelt Response*;
- g. titled *Appendix F – Review of Liddell Coal Project Environmental Impact Statement: Appendix T Economic Assessment – Economists at Large Submission and Gillespie Economics Response*;
- h. titled *Appendix G – Threatened Species Assessment* (Umwelt 2013) ;
- i. titled *Appendix H – Liddell Coal Mine Extension Aquatic Ecology and Groundwater*;
- j. titled *LCO SD PLN 0034 – Landscape Management Plan*;
- k. titled *Report – Liddell Coal Mine – Modification 5 – Surface water assessment* (Gilbert and Associates, June 2014) ;
- l. *Dependent Ecosystem Assessment* (Eco Logical Australia 2013) ;
- m. letter from David Foster to the **Department**, dated 29 August 2014;
- n. e-mail from Bret Jenkins to the **Department**, dated 7 October 2014; and
- o. letter from David Foster to the **Department**, dated 29 October 2014.

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

Self-sustaining landform – a landform that is not subject to erosion and does not require ongoing intervention to prevent erosion and which may include two final voids, as described in the **Preliminary Documentation**

Shapefile – an ESRI Shapefile containing ‘.shp’, ‘.shx’ and ‘.dbf’ files and other files capturing **Offset Attributes**, including the shape, EPBC reference ID number and EPBC protected matters present at the relevant site.

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

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

Threatened species – the *Swift Parrot*, *Spotted-tailed Quoll* and *Regent Honeyeater*

Trigger Values – the water quality parameters specified for Bayswater Creek and Bowmans Creek in Table 9.4 of the **Preliminary Documentation**, unless revised trigger values derived in accordance with the **ANZECC Guidelines** are agreed by the **Department** in writing, in which case the revised agreed trigger values apply

Water resource – has the same meaning as in the *Water Act 2007*

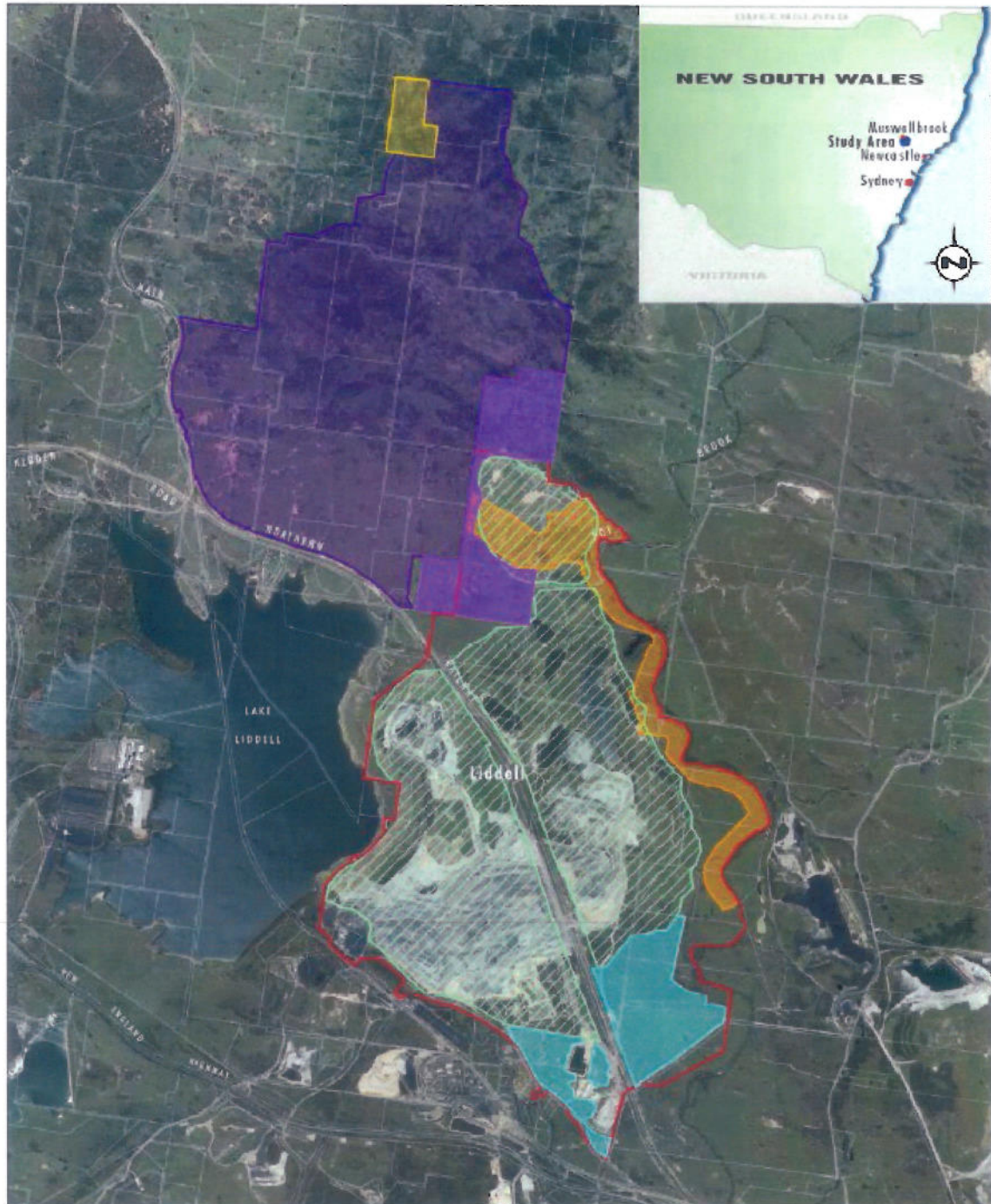


Image Source: AAM (2012)
Data Source: Gloucester (2014), Department of Lands (2009)

0 1.0 2.0 3.0 km
1:60,000

Legend

- Mitchell's Hills South Offset
- Liddell Coal Operations Approved DA Boundary
- Liddell Coal Operations Approved Mining Footprint
- Referral Area
- Mountain Block Offset Site
- Bomboon Creek Riparian Corridor

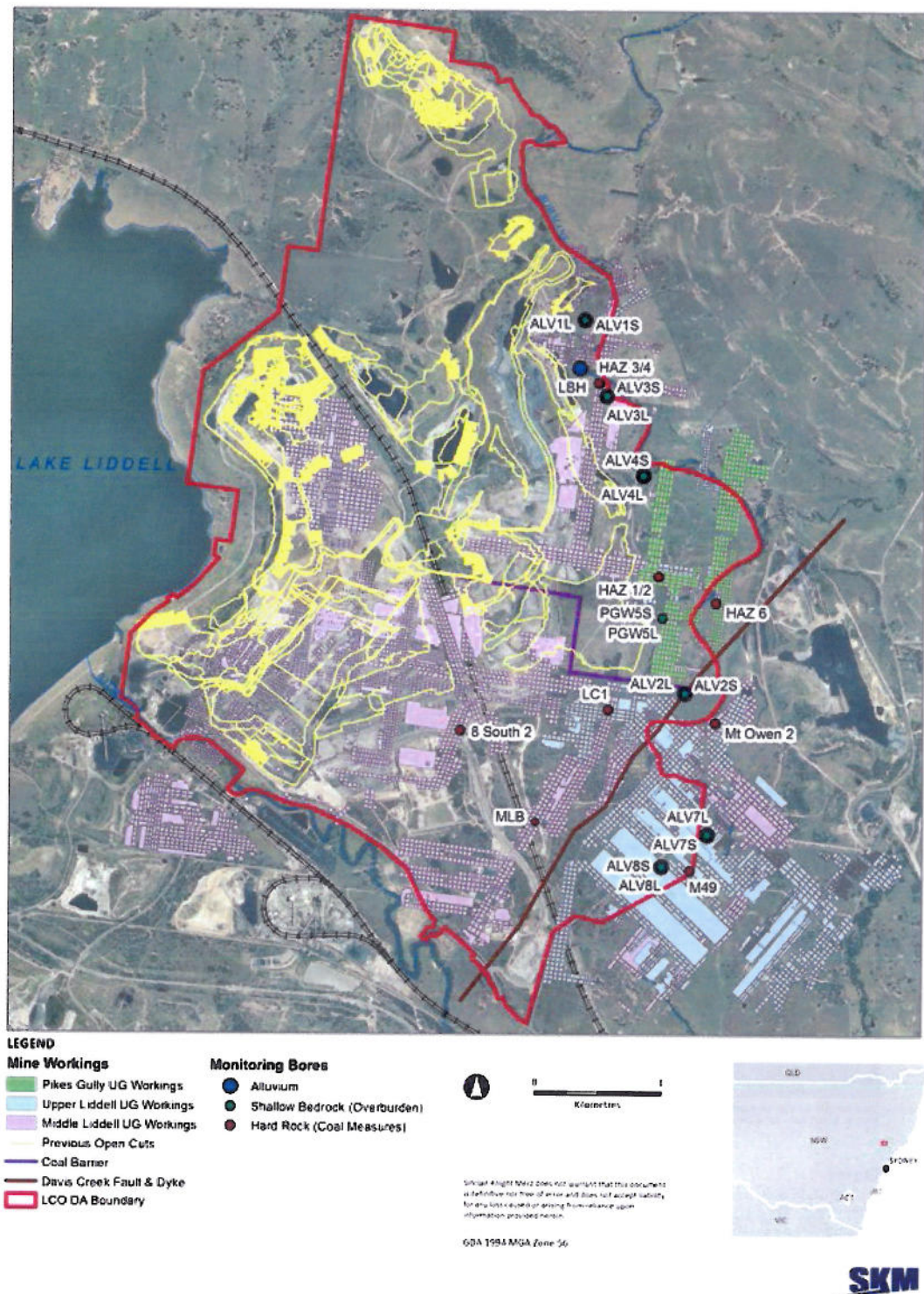
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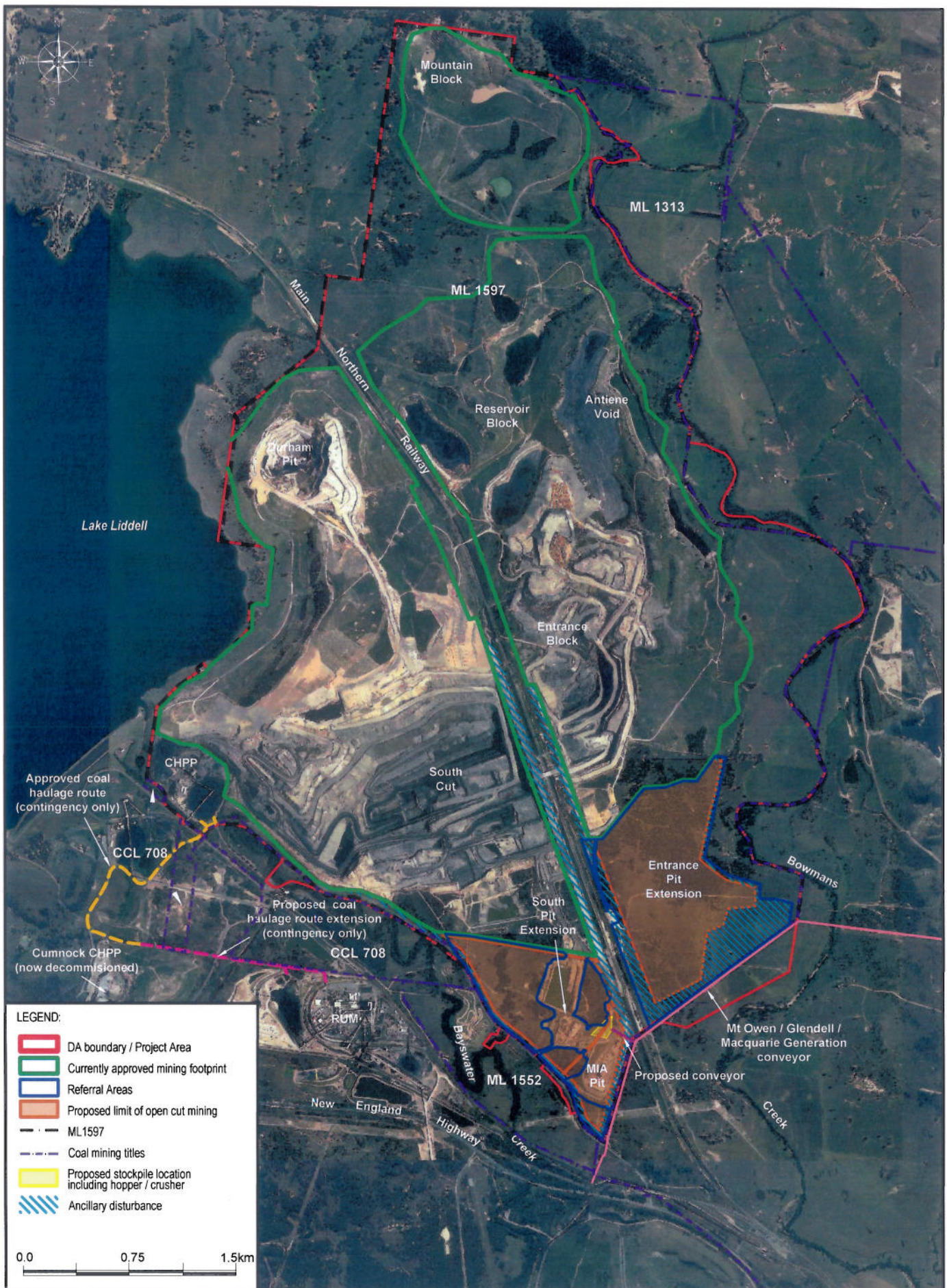
FIGURE 1.1

Location Plan



Figure 2-13 – Groundwater Monitoring Locations, Mine Workings and Structural Features at LCO





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Image Source: Xstrata (2013), Google Earth (2008)
Data Source: Xstrata (2012)

0 0.5 1.0 1.25 km
1:25 000

Legend

- Liddell Coal Operations Approved DA Boundary
- Approved Mining Footprint
- Referral Area
- Central Hunter Box - Ironbark - Angophora Dominated - Rehabilitation
- Central Hunter Box - Ironbark - Ironbark Dominated - Rehabilitation
- Central Hunter Box - Ironbark Woodland
- Dam
- Disturbed Land
- Hunter Valley River Oak Forest

- Hunter Valley River Oak Forest - Revegetation
- Narrow-leaved Ironbark - Spotted Gum Woodland
- Narrow-leaved Ironbark - Spotted Gum Woodland - Rehabilitation
- Narrow-leaved Ironbark - Spotted Gum Woodland DNG
- Rehabilitation
- Water Body
- Unchanged Vegetation

FIGURE 8.3

Post Rehabilitation of Bowman's
Creek Riparian Corridor

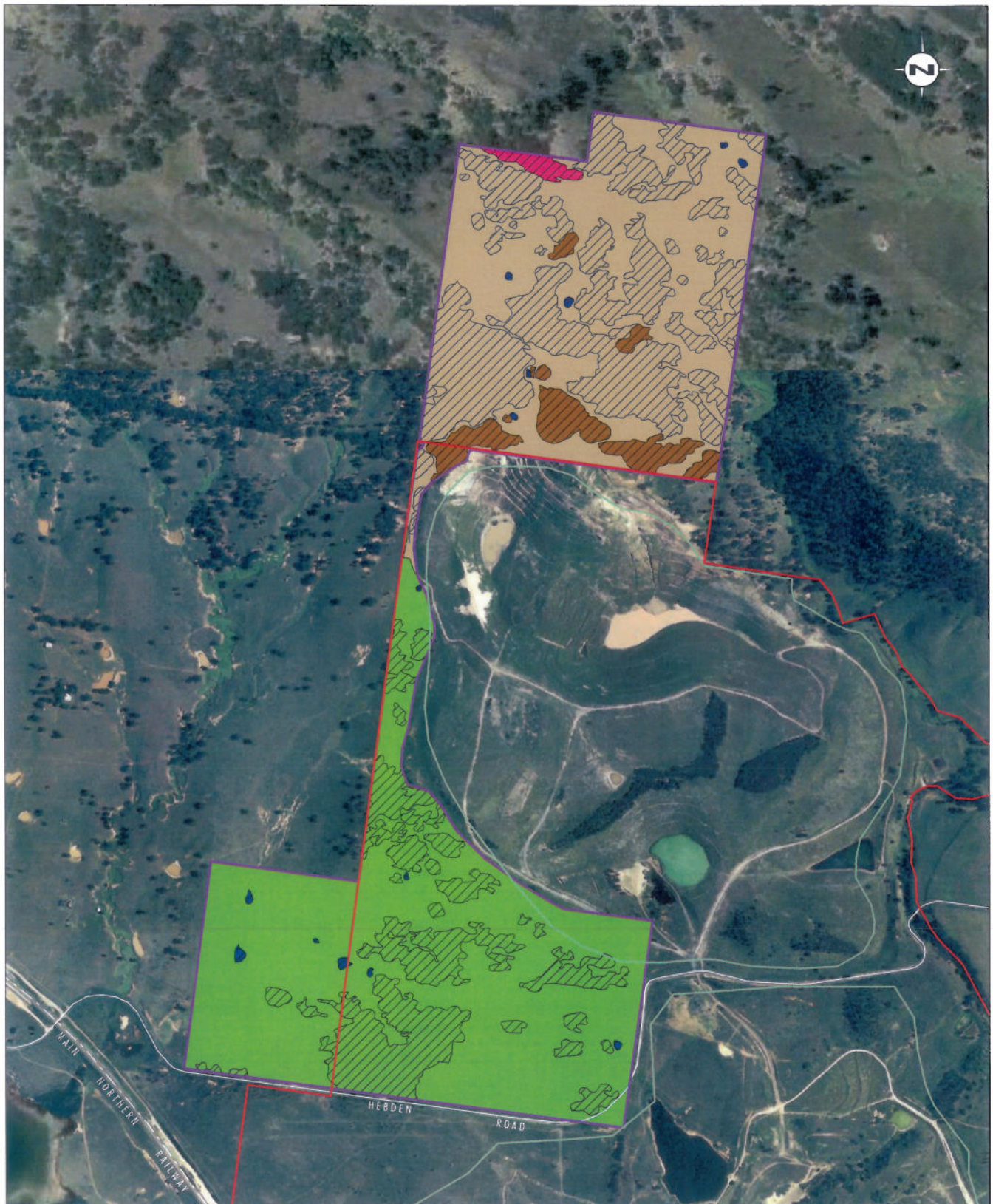


Image Source: Liddell Coal Operations (2013), Google Earth (2008)
 Data Source: Liddell Coal Operations (2012), Umwelt (2013), ELA (2012)

0 250 500 750m
 1:15 000

Legend

Liddell Coal Operations Approved DA Boundary

Approved Mining Footprint

Mountain Block Offset Site

Dam

Grey Myrtle - Kangaroo Vine Dry Rainforest

Narrow-leaved Ironbark - Bullock Open Forest

Narrow-leaved Ironbark - Bullock Open Forest

Narrow-leaved Ironbark - Spotted Gum Woodland

Rusty Fig Dry Rainforest

Unchanged Vegetation

FIGURE 8.4

Post-Rehabilitation of
 Mountain Block Offset Area



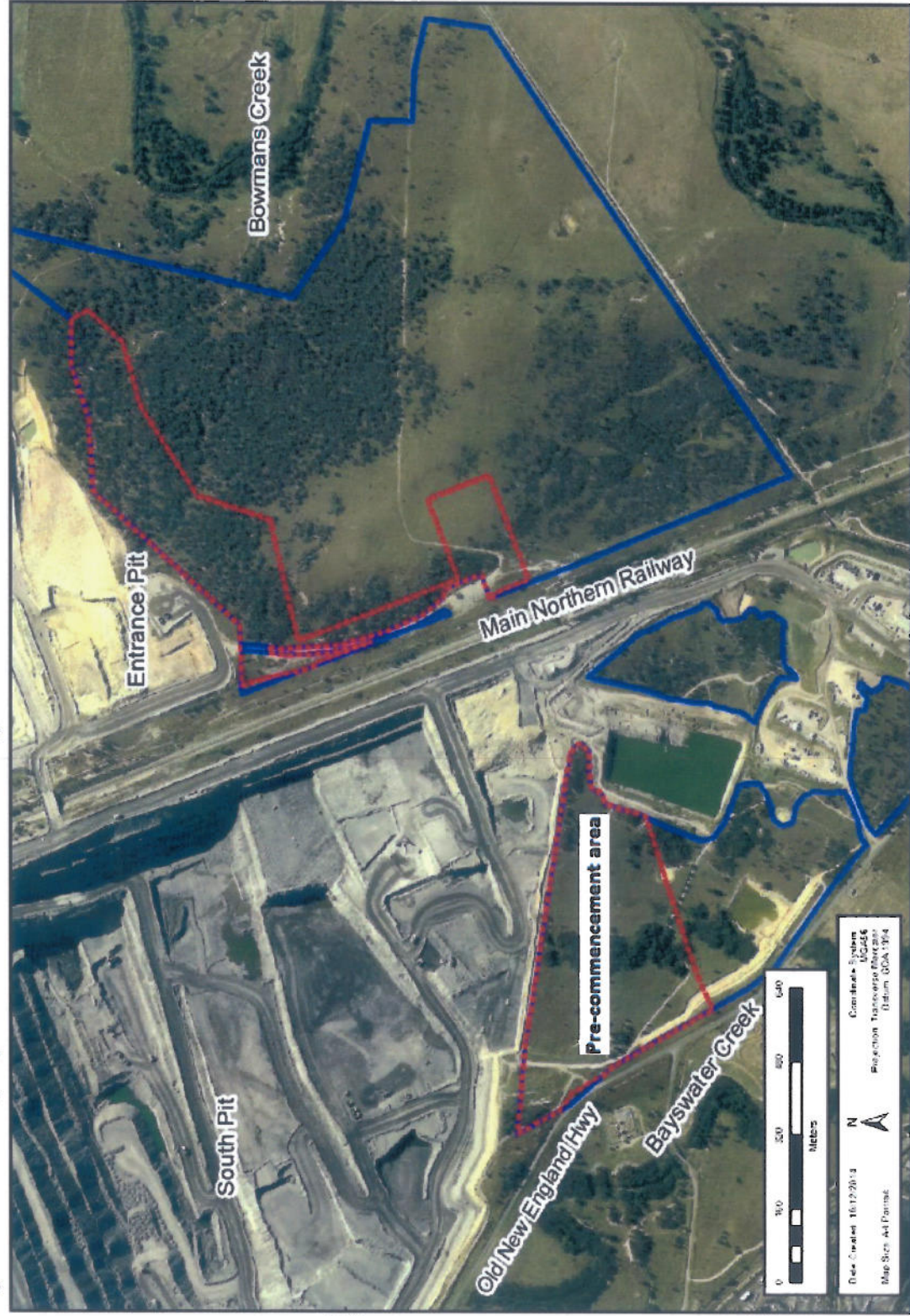


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Surface Water Monitoring Sites
FIGURE 9.11

Liddell Coal Operations

Figure 1. Initial Mining Impacts within Referral Area during 2015



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Legend

- 2015 Disturbance Area
- EPBC 2013/0908 Referral Boundary
- EPBC 2013/0908 Referral Boundary

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