

# Development Consent

## Section 89E of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning, the Planning Assessment Commission approves the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

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

Member of the Commission

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2015

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### SCHEDULE 1

**Application Number:**

SSD-6464

**Applicant:**

Warkworth Mining Limited

**Consent Authority:**

Minister for Planning

**Land:**

See Appendix 1

**Development:**

Warkworth Continuation Project

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## DEFINITIONS

Aboriginal stakeholders	Cultural Heritage Working Group and any Aboriginal groups registered for cultural heritage consultation for the development
Annual review	The review required by condition 3 of schedule 5
Applicant	Warkworth Mining Limited, or any person who seeks to carry out the development approved under this consent
BCA	Building Code of Australia
Blast misfire	The failure of one or more holes in a blast pattern to initiate
CCC	Community Consultative Committee
CHAG	Coal & Allied Community Heritage Advisory Group
Conditions of this consent	Conditions contained in schedules 1 to 5 inclusive
Council	Singleton Council
CMA	Hunter-Central Rivers Catchment Management Authority
CPI	Australian Bureau of Statistics Consumer Price Index
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development as described in the EIS
DRE	Division of Resources and Energy within the NSW Department of Trade & Investment
EIS	Environmental Impact Statement titled <i>Warkworth Continuation 2014 Environmental Impact Statement</i> (6 volumes) dated June 2014 and associated response to submissions titled <i>Warkworth Continuation 2014 Response to Submissions</i> (2 volumes) dated 10 November 2014
EEC	Endangered ecological community, as defined under the <i>Threatened Species Conservation Act 1995</i>
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 issued under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or implement
Heritage item	An item as defined under the <i>Heritage Act 1977</i> and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i>
Incident	A set of circumstances that: <ul style="list-style-type: none"> <li>• causes or threatens to cause material harm to the environment; and/or</li> <li>• breaches or exceeds the limits or performance measures/criteria in this consent.</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 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 to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mine water	Water that accumulates within active mining and infrastructure areas
Mining company	Mining, extractive industry or petroleum company
Mining operations	Includes the removal of overburden and extraction, processing, handling, storage and transportation of coal on site
Minister	Minister for Planning, or delegate
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development
MSB	Mine Subsidence Board
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NOW	NSW Office of Water within the Department of Primary Industries
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>

Privately-owned land	Land that is not owned by the Crown or a mining company (or its subsidiaries)
Public infrastructure	Linear and related infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
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 restoration of land disturbed by the development to a good condition, and ensure it is safe, stable and non-polluting
RFS	Rural Fire Service
RMS	Roads and Maritime Services
ROM coal	Run-of-mine coal
Secretary	Secretary of the Department, or nominee
Site	The land listed in Appendix 1
TSC Act	<i>Threatened Species Conservation Act 1995</i>
VPA	Voluntary Planning Agreement
Wollombi Brook Aboriginal Cultural Heritage Conservation Area	The area depicted on Figure 14 in Appendix 5

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## 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) the conditions of this consent.

*Note: The general layout of the development is shown in Appendix 2.*
3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from:
  - (a) any reports, strategies, plans, programs, reviews, audits 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; and
  - (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 for 21 years from the date of commencement of development under this consent.

*Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of the Secretary and the DRE. 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.*

#### Coal Extraction

6. The Applicant shall not extract more than 18 million tonnes of ROM coal from the Warkworth mine in a calendar year.

#### Coal Transport

7. The Applicant shall:
  - (a) not transport any coal produced at the development by public road; and
  - (b) ensure that the coal produced on site is only sent to the Mt Thorley Coal Loader for transport by rail to export and/or domestic markets.

### COMMENCEMENT OF DEVELOPMENT UNDER THIS CONSENT

8. The Applicant shall:
  - (a) notify the Secretary in writing of the date of commencement of development under this consent; and
  - (b) may only commence development under this consent once the Secretary has agreed in writing that all prerequisites to the commencement of development under this consent have been met.

### SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. By the end January 2017, unless the Secretary agrees otherwise, the Applicant shall surrender the existing development consent (DA-300-9-2002-i) for the Warkworth mine in accordance with Section 104A of the EP&A Act.

Following the commencement of development under this consent, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of DA-300-9-2002-i.

## STRUCTURAL ADEQUACY

10. 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 and MSB.

### Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates (where applicable) for the proposed building works;
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development; and
- The development is located in the Patrick Plains Mine Subsidence District, and under Section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the MSB's approval before constructing any improvements on the site.

## DEMOLITION

11. The Applicant shall ensure that all demolition work on site is carried out in accordance with AS 2601-2001: *The Demolition of Structures*, or its latest version.

## PROTECTION OF PUBLIC INFRASTRUCTURE

12. Unless the Applicant and the applicable authority agree otherwise, the Applicant shall:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
  - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

*Note: This condition does not apply to any damage to public infrastructure subject to compensation payable under the Mine Subsidence Compensation Act 1961, or to damage to roads caused as a result of general road usage.*

## OPERATION OF PLANT AND EQUIPMENT

13. The Applicant shall ensure that all plant and equipment used on site, or to monitor the performance of the development, is maintained and operated in a proper and efficient manner.

## UPDATING & STAGING STRATEGIES, PLANS OR PROGRAMS

14. With the approval of the Secretary, the Applicant may:
- (a) submit any strategy, plan or program required by this consent on a progressive basis; and
  - (b) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required for the Mt Thorley mine.

To ensure these strategies, plans or programs are updated on a regular basis, 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 prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent.

### Notes:

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

## COMMUNITY ENHANCEMENT

15. TBC
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## SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

### ACQUISITION UPON REQUEST

1. Upon receiving a written request for acquisition from an owner of the land listed in Table 1, the Applicant shall acquire the land in accordance with the procedures in conditions 5 and 6 of schedule 4.

Table 1: Land subject to acquisition upon request

Acquisition Basis	Land
Noise & Air	77
Noise	34
Air	TBC

Note: To interpret the land referred to in Table 1, see the applicable figures in Appendix 3.

2. The Applicant is only required to acquire property 77 if the owner of this land no longer has voluntary land acquisition rights under the planning approvals for the Wambo mine and/or its associated rail facilities.

### ADDITIONAL MITIGATION UPON REQUEST

3. Upon receiving a written request from the owner of any residence on the land listed in Table 1 or Table 2, the Applicant shall implement additional noise and/or air quality mitigation measures at or in the vicinity of the residence in consultation with the landowner. These measures must be consistent with the measures outlined in the *Voluntary Land Acquisition and Mitigation Policy*. They must also be reasonable and feasible and proportionate with the level of predicted impact.

If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

Table 2: Land subject to additional mitigation upon request

Mitigation Basis	Characterisation of Impact	Land
Noise	Moderate	12, 14, 15, 29, 126, 128, 130, 139, 152, 183, 191, 192, 217, 262, 263
Air Quality	N/A	TBC

Notes:

- To interpret the land referred to in Table 2, see the applicable figures in Appendix 3.
- Definitions of marginal and moderate mitigation are given in the *Voluntary Land Acquisition and Mitigation Policy*.

### NOISE

#### Noise Criteria – Before 1 January 2017

4. Before 1 January 2017, except for the land in Table 1, the Applicant shall ensure that the noise generated by the development does not exceed the noise criteria in condition 18 of DA-300-9-2002-i.

#### Noise Criteria – From 1 January 2017

5. From 1 January 2017, except for the land in Table 1, the Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land.

Table 3: Noise Criteria dB(A)

Location	Land	Day ( $L_{Aeq}$ (15min))	Evening ( $L_{Aeq}$ (15min))	Night ( $L_{Aeq}$ (15min))	Night ( $L_{A1}$ (1 min))
Bulga	13, 17, 19, 29	40	40	40	50
	32, 37, 43, 52, 62, 63, 64, 65, 66, 71, 72, 73, 75, 82, 210, 211, 236, 252, 920	39	39	39	49
	12, 14, 15, 16, 18, 20, 21, 22, 23, 24, 26, 28, 30, 31, 35, 36,	38	38	38	48

<b>Location</b>	<b>Land</b>	<b>Day (L<sub>Aeq</sub> (15min))</b>	<b>Evening (L<sub>Aeq</sub> (15min))</b>	<b>Night (L<sub>Aeq</sub> (15min))</b>	<b>Night (L<sub>A1</sub> (1 min))</b>
	38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 50, 53, 54, 55, 56, 57, 58, 60, 61, 67, 70, 74, 80, 84, 89, 215, 217, 229, 231, 234, 235, 237, 238, 243, 253, 254, 255, 903, 917, 918, 919, 921 929				
	8, 9, 33, 225, 226, 227, 228, 230, 266, 922	37	37	37	47
	4, 6, 7, 10, 221, 222, 223	36	36	36	46
	All other residences on privately owned land	35	35	35	45
Milbrodale	111	36	36	36	46
	All other residences on privately owned land	35	35	35	45
Warkworth	All other residences on privately owned land	38	38	38	48
Maison Dieu	118, 259	37	37	37	47
	117, 265	36	36	36	46
	All other residences on privately owned land	35	35	35	45
Gouldsville, Long Point	126, 262	41	41	41	51
	128	39	39	39	49
	130, 139	38	38	38	48
	All other residences on privately owned land	35	35	35	45
Hambledon Hill/ Wylies Flat	192	40	40	40	50
	152, 191, 263	39	39	39	49
	183	38	38	38	48
	181, 182, 184, 185, 186, 187, 937a, 937b	37	37	37	47
	155, 156, 157, 180, 937d, 937e	36	36	36	46
	All other residences on privately owned land	35	35	35	45
Mount Thorley	144 <sup>a</sup> , 915 <sup>a</sup>	43	43	43	53
	146 <sup>a</sup>	42	42	42	52
	153	37	37	37	47
	148, 188	36	36	36	46
	All other residences on privately owned land	35	35	35	45

**Notes:**

- To interpret the land referred to in Table 3, see the applicable figures in Appendix 3.
- a Noise limits developed relative to current acquisition criteria.

Noise generated by the development is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy* (as may be updated from time-to-time). Appendix 7 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

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

### Operating Conditions

6. The Applicant shall:
- (a) implement best management practice to minimise the operational, low frequency and road noise of the development;
  - (b) operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;
  - (c) minimise the noise impacts of the development during meteorological conditions when the noise limits in this consent do not apply (see Appendix 7); and
  - (a) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent and, if necessary, adjust the scale of operations on site to meet the criteria in this consent.
- to the satisfaction of the Secretary.

### Noise Management Plan

7. The Applicant shall prepare and implement a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to carrying out any development under this consent;
  - (b) describe the measures that would be implemented to ensure compliance with the relevant noise criteria and operating conditions of this consent;
  - (c) describe the proposed noise management system in detail;
  - (d) include a noise monitoring program that:
    - evaluates and reports on:
      - the effectiveness of the noise management system;
      - compliance against the noise criteria in this consent; and
      - compliance against the noise operating conditions;
    - includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a trigger for further attended monitoring where there is a risk of non-compliance with 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.

## BLASTING

### Blasting Criteria

8. The Applicant shall ensure that the blasting on the site does not cause exceedances of the criteria in Table 4.

Table 4: Blasting criteria

<b>Location</b>	<b>Airblast overpressure (dB(Lin Peak))</b>	<b>Ground vibration (mm/s)</b>	<b>Allowable exceedance</b>
Residence on privately owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months

However, these criteria do not apply if the Applicant has a written agreement with the relevant owner, and has advised the Department in writing of the terms of this agreement.

### Blasting Hours

9. The Applicant shall only carry out blasting on site between 7am and 5pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Secretary.

## Blasting Frequency

10. The Applicant may carry out a maximum of:
- (a) 3 blasts a day; and
  - (b) 12 blasts a week, averaged over a calendar year, at the site.

This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, blast misfires or blasts required to ensure the safety of the mine, its workers or the general public

### Notes:

- For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.
- For the avoidance of doubt, should an additional blast be required after a blast misfire, this additional blast and the blast misfire are counted as a single blast.
- In circumstances of recurring unfavourable weather conditions (following planned but not completed blast events), to avoid excess explosive sleep times and minimise any potential environmental impacts, the Applicant may seek agreement from the Secretary for additional blasts to be fired on a given day.

11. The Applicant shall not carry out more than 1 blast a day within 500 metres of the Putty Road and/or Golden Highway.

## Property Inspections

12. If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit/s on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:
    - establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and
    - identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and/or structures; and
  - (b) give the landowner a copy of the new or updated property inspection report.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.

## Property Investigations

13. If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this claim the Applicant shall:
- (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to investigate the claim; and
  - (b) give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant shall repair the damage to the satisfaction of the Secretary.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.

## Operating Conditions

14. During mining operations on site, the Applicant shall:
- (a) implement best management practice to:
    - protect the safety of people and livestock in the surrounding area;
    - protect public or private infrastructure/property in the surrounding area from any damage; and
    - minimise the dust and fume emissions of any blasting;
  - (b) ensure that blasting on the site does not damage the Wambo Homestead, Bulga Bridge, St Phillips Church or the following Aboriginal grinding groove sites:
    - MTW-266~WSW-09-22;
    - MTW-267~WSW-09-22;
    - MTW-268~WSW-209-23; and

- Aboriginal grinding groove site Mt Thorley M 37-6-0163 (prior to its relocation);
- (c) minimise the frequency and duration of any road closures; and
- (d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site, to the satisfaction of the Secretary.

*Note: To identify the Aboriginal grinding grooves and historic heritage sites referred to in this condition, see the applicable figures in Appendix 5.*

15. The Applicant shall not undertake blasting on site within 500 metres of:
- (a) any public road; or
  - (b) any land outside the site that is not owned by the Applicant,
- unless:
- the Applicant has a written agreement with the applicable infrastructure authority or landowner to allow blasting to be carried out closer to the infrastructure or land, and the Applicant has advised the Department in writing of the terms of this agreement; or
  - the Applicant has:
    - o demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the infrastructure or land without compromising the safety of people or livestock, or damaging buildings and/or structures; and
    - o updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the road or land.

### Blast Management Plan

16. The Applicant shall prepare and implement a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to carrying out any development under this consent;
  - (b) describe the measures that would be implemented to ensure compliance with the blasting criteria and operating conditions of this consent;
  - (c) include a road closure management plan for blasting within 500 metres of a public road, that has been prepared in consultation with the RMS and Council;
  - (d) include a monitoring program for evaluating the performance of the development, including:
    - compliance with the applicable criteria;
    - avoiding any blasting impacts on the heritage items specified in condition 14 above; and
    - minimising the fume emissions from the site.

## AIR QUALITY

### Air Quality Impact Assessment Criteria

17. Except for the land in Table 1, the Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Tables 5, 6 and 7 at any residence on privately owned land.

*Table 5: Long term impact assessment criteria for particulate matter*

<b>Pollutant</b>	<b>Averaging period</b>	<b><sup>d</sup> Criterion</b>
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 6: Short term impact assessment criterion for particulate matter*

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

*Table 7: Long term impact assessment criteria for deposited dust*

<b>Pollutant</b>	<b>Averaging period</b>	<b>Maximum increase<sup>2</sup> in deposited dust level</b>	<b>Maximum total<sup>1</sup> deposited dust level</b>
<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 5-7*

<sup>a</sup> Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);

<sup>b</sup> Incremental impact (i.e. 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, sea fog, fire incidents or any other activity agreed by the Secretary.

### **Mine-owned Land**

18. The Applicant shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria listed in Tables 5,6 and 7 at any occupied residence on mine-owned land (including land owned by another mining company), unless and to the extent that:
- (a) the tenant and landowner (if the residence is owned by another mining or gas company) have been notified of any health risks associated with such exceedances in accordance with the notification requirements under schedule 4 of this consent;
  - (b) the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice and cause;
  - (c) air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining or gas company) of the particulate emissions at the residence; and
  - (d) data from this monitoring is presented to the tenant and landowner in an appropriate format for a medical practitioner to assist the tenant and landowner in making informed decisions on the health risks associated with occupying the property,
- to the satisfaction of the Secretary.

### **Operating Conditions**

19. The Applicant shall:
- (a) implement all reasonable and feasible measures to minimise the:
    - odour, fume and dust emissions of the development; and
    - release of greenhouse gas emissions from the development;
  - (b) operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting and real-time air quality monitoring data to guide the day to day planning of mining operations and the implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
  - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d to Tables 5-7 above); and
  - (d) co-ordinate the air quality management on site with the air quality management at nearby mines (including the Mt Thorley, Bulga, Wambo and Hunter Valley Operations mines) to minimise any cumulative air quality impacts,
- to the satisfaction of the Secretary.

### **Air Quality Management Plan**

20. The Applicant shall prepare and implement a detailed Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, and be submitted to the Secretary for approval prior to carrying out any development under this consent;
  - (b) describe the measures that would be implemented to ensure compliance with relevant air quality criteria and operating conditions of this consent;
  - (c) describe the proposed air quality management system; and
  - (d) include an air quality monitoring program that:
    - adequately supports the proactive and reactive air quality management system;
    - evaluates and reports on:
      - the effectiveness of the air quality management system; and
      - compliance with the air quality operating conditions; 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; and
  - (e) include a protocol that has been prepared in consultation with the owners of nearby mines (including the Mt Thorley, Bulga, Wambo and Hunter Valley Operations mines) to minimise cumulative air quality impacts.

### **METEOROLOGICAL MONITORING**

21. For the life of the development, the Applicant shall ensure that there is a meteorological station in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and

- (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*, unless a suitable alternative is approved by the Secretary following consultation with the EPA.

## **WATER**

### **Water Supply**

22. 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.

*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.*

### **Compensatory Water Supply**

23. The Applicant shall provide a compensatory water supply to the owner of any privately-owned land whose basic landholder water rights (as defined in the *Water Management Act 2000*) are adversely and directly impacted as a result of the development. This supply must be provided in consultation with NOW, and to the satisfaction of the Secretary.

The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributable to the development. Equivalent water supply should be provided (at least on an interim basis) as soon as practicable from the loss being identified, unless otherwise agreed with the landowner.

If the Applicant and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant shall provide alternative compensation to the satisfaction of the Secretary.

*Note: The Water Management Plan (see condition 27) is required to include trigger levels for investigating potentially adverse impacts on water supplies.*

### **Water Discharges**

24. Unless an EPL or the EPA authorises otherwise, the Applicant shall ensure that all surface water discharges from the site comply with the:
- discharge limits (both volume and quality) set for the development in any EPL; and
  - relevant provisions of the POEO Act or *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

*Note: For the avoidance of doubt, it is noted that the EPA will determine the cumulative allowable salinity discharges to the Hunter River catchment, according to rules of the Hunter River Salinity Trading Scheme and the respective quantities of tradeable salinity credits held by participants in the scheme (including the Bulga mine and other nearby mining operations).*

### **Water Transfers**

25. The Applicant may receive water from, and transfer water to, the Mt Thorley mine, Hunter Valley Operations mine, Bulga mine and Redbank Power Station.

### **Water Management Performance Measures**

26. The Applicant shall comply with the performance measures in Table 8 to the satisfaction of the Secretary.

*Table 8: Water management performance measures*

<b>Feature</b>	<b>Performance Measure</b>
Water management – General	Minimise the use of clean water (i.e. water not in contact with disturbed areas) on site Minimise the need for make-up water from external supplies
Wollombi Brook Alluvial Aquifer	Negligible environmental consequences to the alluvial aquifer beyond those predicted in the EIS
Construction and operation of	Design, install and maintain erosion and sediment controls generally in accordance with the series <i>Managing Urban Stormwater: Soils and</i>

<b>Feature</b>	<b>Performance Measure</b>
infrastructure	<p><i>Construction</i> including <i>Volume 1, Volume 2A – Installation of Services and Volume 2C – Unsealed Roads</i></p> <p>Design, install and maintain the infrastructure within 40 m of watercourses generally in accordance with the <i>Guidelines for Controlled Activities on Waterfront Land (DPI 2007)</i>, or its latest version</p> <p>Design, install and maintain any creek crossings generally in accordance with the <i>Policy and Guidelines for Fish Habitat Conservation and Management (DPI, 2013)</i> and <i>Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries 2003)</i>, or their latest versions</p>
Clean water diversion & storage infrastructure	<p>Design, install and maintain the clean water system to capture and convey the 100 year ARI flood.</p> <p>Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site</p>
Sediment dams	<p>Design, install and/or maintain the dams generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2E Mines and Quarries</i></p>
Mine water storages	<p>Design, install and/or maintain mine water storage infrastructure to ensure no discharge of mine water off-site (except in accordance with condition 23)</p> <p>On-site storages (including mine infrastructure dams and treatment dams) are suitably designed, installed and/or maintained to minimise permeability, where practicable</p> <p>Maintain adequate freeboard within the pit void at all times to minimise the risk of discharge to surface waters</p>
Flood mitigation measures	<p>Design, install and maintain flood mitigation measures along the western side of the development, to ensure there is adequate freeboard between the Probable Maximum Flood level in Wollombi Brook and the crest levee or peak of the flood mitigation infrastructure.</p> <p>Residual impacts downstream must be managed in an appropriate manner.</p>
Overburden emplacements	<p>Design, install and maintain emplacements to encapsulate and prevent any off-site migration of tailings, acid forming and potentially acid forming materials, and saline and sodic material</p> <p>Design, install and maintain emplacements to prevent off-site migration of saline groundwater seepage</p>
Chemical and hydrocarbon storage	<p>Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards</p>

### Water Management Plan

27. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, NOW and OEHL and submitted to the Secretary for approval prior to carrying out any development under this consent;
  - (b) in addition to the standard requirements for management plans (see condition 3 of schedule 5), include a:
    - (i) Site Water Balance that:
      - includes details of:
        - sources and security of water supply, including contingency planning for future reporting periods;
        - water use and management on site, including details of water sharing between neighbouring mining operations;
        - any off-site water transfers and discharges;
        - reporting procedures, including the preparation of a site water balance for each calendar year; and
      - investigates and implements all reasonable and feasible measures to minimise water use on site;
    - (ii) Surface Water Management Plan, that includes:
      - detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the development;
      - a detailed description of the water management system on site, including the:

- clean water diversion systems;
  - erosion and sediment controls (mine water system); and
  - mine water management systems including irrigation areas;
  - detailed plans, including design objectives and performance criteria, for:
    - design and management of final voids;
    - design and management for the emplacement of coal reject materials;
    - reinstatement of drainage lines on the rehabilitated areas of the site; and
    - control of any potential water pollution from the rehabilitated areas of the site;
  - performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the development:
    - mine water management system;
    - surface water quality of Wollombi Brook; and
    - channel stability, stream and riparian vegetation health of Wollombi Brook;
  - a program to monitor and report on:
    - the effectiveness of the mine water management system; and
    - surface water flows and quality, stream and riparian vegetation health in Wollombi Brook potentially affected by the development;
  - a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development; and
- (iii) Groundwater Management Plan, which includes:
- detailed baseline data on groundwater levels, yield and quality in the region, and privately-owned groundwater bores, that could be affected by the development;
  - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
  - a program to monitor and report on:
    - groundwater inflows to the open cut pits;
    - the seepage/leachate from water storages, emplacements, backfilled voids, and final voids;
    - the impacts of the development on:
      - regional and local (including alluvial) aquifers;
      - groundwater supply of potentially affected landowners;
      - groundwater dependent ecosystems and riparian vegetation;
      - base flows to Wollombi Brook;
  - a plan to respond to any exceedances of the groundwater assessment criteria; and
  - a program to validate the groundwater model for the development, including an independent review of the model with every independent environmental audit, and compare the monitoring results with modelled predictions.

## BIODIVERSITY

### Retirement of Credits

28. Within 3 years of the date of commencement of development under this consent, the Applicant shall retire biodiversity credits of a number and class specified in Tables 9 and 10 below to the satisfaction of OEH.

The retirement of these credits must be carried out in accordance with the *NSW Biodiversity Offsets Policy for Major Projects* and can be achieved by:

- (a) acquiring or retiring credits under the Biobanking Scheme in the TSC Act;
- (b) making payments into an offset fund that has been developed by the NSW Government; or
- (c) providing supplementary measures.

Table 9: Ecosystem Credit Requirements

Vegetation Community	Code (BVT)	Biometric Vegetation Type	Area (ha)	Endangered Ecological Community (EEC)	Credits required
Warkworth Sands Woodland	HU872	Rough-barked Apple - Narrow-leaved Ironbark - Blakely's Red Gum - Bull Oak - Coast Banksia woodland on sands of the Warkworth area	72.12	Warkworth Sands Woodland in the Sydney Basin Bioregion EEC	3,043
Warkworth Sands Grassland	HU872	Rough-barked Apple - Narrow-leaved Ironbark - Blakely's Red Gum - Bull Oak - Coast Banksia woodland on sands of the Warkworth area	0.67	N/A	16

Central Hunter Grey Box - Ironbark Woodland	HU817	Narrow-leaved Ironbark - Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter	614.64	Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC	12,180 <sup>1</sup>
Regenerating Central Hunter Grey Box - Ironbark Woodland	HU817	Narrow-leaved Ironbark - Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter	6.43	Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC	108
Central Hunter Grey Box - Ironbark Derived Grassland	HU817	Narrow-leaved Ironbark - Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter	378.6	N/A	4,516
Central Hunter Ironbark - Spotted Gum - Grey Box Forest	HU818	Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the central and lower Hunter	16.61	Central Hunter Ironbark-Spotted Gum-Grey Box Forest in the New South Wales North Coast and Sydney Basin Bioregions EEC	633

Note: <sup>1</sup>This must be read in conjunction with the similar figure in Table 11. It reflects the fact that some of these credits may be retired through mine rehabilitation.

Table 10: Species Credit Requirements

Species	Credits Required
Regent Honeyeater	18,929
Southern Myotis	18,222
Large-eared Pied Bat	139

29. Within 10 years of the completion of mining operations under this consent, the Applicant shall retire ecosystem credits of a number and class specified in Table 11 to the satisfaction of OEH.

Table 11: Ecosystem Credit Requirements

Vegetation Community	Code (BVT)	Biometric Vegetation Type	Area (ha)	Endangered Ecological Community (EEC)	Credits required
Central Hunter Grey Box - Ironbark Woodland	HU817	Narrow-leaved Ironbark - Bull Oak - Grey Box shrub - grass open forest of the central and lower Hunter	614.64	Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions EEC	11,204

The retirement of these credits must be carried out in accordance with the *NSW Biodiversity Offsets Policy for Major Projects* and can be achieved by:

- retiring credits generated by mine rehabilitation;
- acquiring or retiring credits under the Biobanking Scheme in the TSC Act;
- making payments into an offset fund that has been developed by the NSW Government; or
- providing supplementary measures.

## Direct Land-Based Offsets

30. Within 3 years of the date of commencement of the development under this consent, the Applicant shall secure offset areas listed in Table 12 under an in perpetuity conservation mechanism such as entering into a biobank agreement, in accordance with the relevant provisions of the TSC Act.

Table 12: Direct Land-based Offsets

Offset Area	Minimum Size (hectares)
Northern Biodiversity Area	705
Southern Biodiversity Area	303
Goulburn River Biodiversity Area	1,299
Bowditch Biodiversity Area	520
Putty Road Biodiversity Area	94
2003 Warkworth Sands Woodland Area	159.8

Note: To identify the areas referred to in Table 12 see the applicable figures in Appendix 4.

31. The Applicant may use the ecosystem and species credits generated by the establishment of an in perpetuity conservation mechanism such as a biobank agreement for all of these offset areas, apart from those credits generated for Putty Road Biodiversity Area and 2003 Warkworth Sands Woodland Area, to retire the biodiversity credit requirements of the development under condition 28. All ecosystem and species credits generated by the establishment of an in perpetuity conservation mechanism for the Putty Road Biodiversity Area and 2003 Warkworth Sands Woodland Area shall be retired permanently upon the establishment of an in perpetuity conservation mechanism for these areas, and may not be used sold or used to retire any other credit requirements.

## Additional Warkworth Sands Woodland Measures

32. Prior to the clearing of any Warkworth Sands Woodland EEC to the west of Wallaby Scrub Road under this consent, the Applicant:
- identify an additional land-based offset of equal or greater biodiversity to the 72 ha of Warkworth Sands Woodland EEC<sup>1</sup> to the satisfaction of the Chief Executive of OEH;
  - secure this land-based offset in an in perpetuity conservation mechanism such as a biobank agreement, in accordance with the relevant provisions of the TSC Act; and
  - retire any credits generated by the in perpetuity conservation of the land-based offset permanently upon the establishment of the in perpetuity conservation mechanism.

Note: This is the Warkworth Sand Woodland EEC that would be cleared by the Warkworth Continuation Project to the west of Wallaby Scrub Road.

33. Within 6 months of the commencement of development under this consent, the Applicant shall:
- develop suitable performance criteria to the satisfaction of OEH for determining the successful regeneration of the Warkworth Sands Woodland EEC in the Northern and Southern Biodiversity Offset Areas 15 years from the commencement of development of under this consent; and
  - lodge a bond of \$1 million with OEH.

34. If, at the end of 15 years from the commencement of development of under this consent, the regeneration of the Warkworth Sands Woodland EEC in the Northern and Southern Biodiversity Offset Areas Meets the performance criteria to the satisfaction of OEH, then OEH shall refund the bond to the Applicant.

If, however, the regeneration does not meet the performance criteria to the satisfaction of OEH, then the Applicant will forfeit the bond to OEH for use by OEH on strategic conservation initiatives in the region.

35. Within 12 months of the commencement of development under this consent, the Applicant shall prepare an Integrated Management Plan for the Warkworth Sands Woodland EEC to the satisfaction of OEH. This plan must be prepared in consultation with the owners of the Wambo and Bulga mines, and outline the measures that would be implemented to co-ordinate management and recovery efforts for the EEC.

36. Within 6 months of the commencement of development under this consent, the Applicant shall contribute \$1 million to OEH's Saving Our Species – Regent Honeyeater conservation program

## Biodiversity Management Plan

37. The Applicant shall prepare and implement a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OE and submitted to the Secretary for approval prior to the commencement of any development under this consent;
  - (b) include a detailed description of the measures that would be implemented on site to:
    - protect vegetation and fauna habitat outside the approved disturbance area on-site;
    - enhance the quality of existing vegetation and fauna habitat on the site;
    - minimise clearing and avoid unnecessary disturbance;
    - maximise the salvage of resources within the approved disturbance area - including vegetative and soil resources – for beneficial reuse in the enhancement of any land-based offsets or the rehabilitation of the site;
    - collect and propagate seed;
    - minimise the impacts on fauna on site, including undertaking pre-clearance surveys;
    - manage salinity using best practice dryland salinity management revegetation measures;
    - control weeds and feral pests;
    - control erosion;
    - manage grazing and agriculture on site;
    - control access; and
    - bushfire management;
  - (c) include a program to monitor and report on the effectiveness of these measures.

## HERITAGE

### Wollombi Brook Aboriginal Cultural Heritage Conservation Area

38. The Applicant shall prepare and implement a conservation management plan for the Wollombi Brook Aboriginal Cultural Heritage Conservation Area to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH and Aboriginal stakeholders, and submitted to the Secretary for approval prior to carrying out any development to the west of Wallaby Scrub Road under this consent unless otherwise agreed by the Secretary;
  - (b) describe the measures that would be implemented to provide for the protection, conservation and enhancement of Aboriginal heritage values in the area;
  - (c) include a program/procedures for:
    - protection and management of Aboriginal sites, including protocols for the establishment of strictly controlled non-access zones and protocols around culturally sensitive areas;
    - maintaining and managing access to the area by the relevant Aboriginal stakeholders, including establishment of areas for active Aboriginal cultural heritage and landscape management; and
    - ongoing consultation and involvement of the relevant Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage in the area;
  - (d) investigate the potential for collaborative management of the Aboriginal heritage values of the land within the Southern Biodiversity Area and the adjoining Wambo-owned land adjacent to the conservation area, in consultation with the owner of the Wambo mine; and
  - (e) include an action plan for the implementation of the plan, including the establishment and role of the Wollombi Brook Aboriginal Cultural Heritage Conservation Area management committee in overseeing implementation of the plan.
39. Prior to carrying out any development to the west of Wallaby Scrub Road under this consent, unless the Secretary agrees otherwise, the Applicant shall enter into a conservation agreement or agreements pursuant to section 69B of the *National Parks and Wildlife Act 1974* relating to the Wollombi Brook Aboriginal Cultural Heritage Conservation Area, recording the obligations assumed by the Applicant under the conditions of this consent in relation to the conservation area, and register the agreement/s pursuant to section 69F of the *National Parks and Wildlife Act 1974*.

*Note: The location of the conservation area is shown in the figure in Appendix 5.*

## Human Remains

40. This consent does not allow the Applicant to disturb any human remains on site.

## Protection of Heritage Items

41. The Applicant shall protect the heritage items identified in Table 1 of Appendix 5.

## Salvage

42. Prior to carrying out any development on site that could affect the heritage items identified in Table 2 of Appendix 5, the Applicant shall salvage those items in accordance with the approved program under the Aboriginal Heritage Management Plan.

## Aboriginal Heritage Management Plan

43. The Applicant shall prepare and implement an Aboriginal Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH and Aboriginal stakeholders, and submitted to the Secretary for approval prior to carrying out any development under this consent;
  - (b) include a program to:
    - salvage, investigate and/or manage Aboriginal sites and potential archaeological deposits within the disturbance area;
    - assess and remove scarred trees within the disturbance area;
    - protect and monitor Aboriginal sites outside the disturbance areas;
    - manage the discovery of any new Aboriginal objects or skeletal remains during the development;
    - facilitate access to archaeological sites on site for Aboriginal stakeholders; and
    - Aboriginal stakeholders are consulted and involved in the conservation and management of Aboriginal cultural heritage on the site; and
  - (c) include a research program, that has been prepared by suitably qualified and experienced persons whose appointment has been approved by the Secretary, for locating and evaluating sand bodies of likely Pleistocene and early Holocene age that may contain evidence of Aboriginal habitation in the Upper Hunter Valley.

## Mount Thorley Warkworth Historic Heritage Conservation Fund

44. The Applicant shall establish and contribute \$500,000 under the Mount Thorley Warkworth Historic Heritage Conservation Fund in consultation with Council and the CHAG and to the satisfaction of the Secretary.

## Mount Thorley Warkworth Great Northern Road Conservation Fund

45. The Applicant shall establish and contribute \$200,000 under the Mount Thorley Warkworth Great Northern Road Conservation Fund to be administered by the Applicant in consultation with Council, CHAG, Convict Trail Project and Heritage Branch, to the satisfaction of the Secretary.

## Historic Heritage Management Plan

46. The Applicant shall prepare and implement a Historic Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
  - (b) be prepared in consultation with the Heritage Branch, Council, CHAG and local historical organisations;
  - (c) be submitted to the Secretary for approval prior to carrying out any mining to the west of Wallaby Scrub Road;
  - (d) include the following for the management of historic heritage on site:
    - conservation management plans for the former RAAF Base Bulga, Great North Road (Wallaby Scrub Road portion), Brick House and Springwood Homestead; and
    - a program/procedures for:
      - archaeological investigations of Wallaby Scrub Road, Well 2 and the former RAAF Base Bulga Complex;
      - photographic recording of all historic heritage sites within the disturbance areas prior to disturbance;
      - relocation and storage of moveable heritage items;
      - managing the discovery of any new heritage items during the development;
      - ongoing consultation and involvement of the relevant historical groups in the conservation and management of historic heritage on the site;
      - developing an interpretation programme of the heritage values of the RAAF Base Bulga Complex and the Great North Road Complex;
      - establishing the Mount Thorley Warkworth Historic Heritage Conservation Fund and the Mount Thorley Warkworth Great Northern Road Conservation Fund; and
      - protecting the other heritage items outside the disturbance areas.

*Note: It is accepted that the conservation management plan for the Springwood Homestead and interpretation programme for the RAAF Base Bulga Complex and the Great North Road Complex will not be submitted with the initial Historic Heritage Management Plan. These should be progressively added to the plan once completed.*

## TRANSPORT

### Wallaby Scrub Road

47. This consent allows open cut mining through the existing alignment of Wallaby Scrub Road.

*Note: The Applicant also requires an approval under the Roads Act 1993 to close Wallaby Scrub Road, in order to undertake mining within the existing road alignment. It also needs to obtain a mining lease over the road under the Mining Act 1992 for mining from surface to 20 metres depth.*

### Intersections

48. Unless the Secretary agrees otherwise, the Applicant shall:
- close the intersection of Lydes Lane and the Golden Highway to the satisfaction of the RMS, prior to carrying out any development under this consent; and
  - pay the RMS \$1 million towards the upgrade of the intersection of the Golden Highway and Mitchell Line of Road, or alternatively carry out upgrade works of an equivalent value on the intersection to the satisfaction of the RMS, within 12 months of the date of this consent.

### Putty Road Crossing

49. If the Applicant decides to construct a third crossing of Putty Road between the Warkworth and Mt Thorley mines, then this crossing must be constructed to the satisfaction of the RMS, and the Applicant shall bear all the costs associated with the construction, maintenance and subsequent removal of this crossing during the rehabilitation of the site.

### Rural Fire Service – Emergency Access Track/Fire Trail

50. Prior to the closure of Wallaby Scrub Road, the Applicant shall do the following in consultation with Council, RMS and the RFS:
- develop a suitable emergency access track/fire trail to the west of the approved mining pit in general accordance with the indicative track/trail shown on the figure in Appendix 8, and ensure that this track/trail complies with the relevant standards in the RFS' *Planning for Bush Fire Protection* publication and the Bushfire Coordinating Committee's *Fire Trails Policy No. 2/2007*, or its latest version;
  - develop a protocol with the RFS that:
    - provides for ongoing access and use of the new emergency access track/fire trail following the closure of Wallaby Scrub Road;
    - provides for access to the site during emergencies on site to assist with any emergency response; and
    - provides for the Applicant to use the emergency response equipment and appropriately trained personnel on site to assist the RFS (and any other emergency agencies) respond to emergencies in the surrounding area, to the satisfaction of the Secretary.

Following approval, the Applicant shall implement the protocol referred to above to the satisfaction of the Secretary.

### Monitoring of Coal Transport

51. The Applicant shall:
- keep records of the amount of coal transported from the development in each calendar year; and
  - make these records available on its website at the end of each calendar year.

## VISUAL

### Operating Conditions

52. The Applicant shall:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development, including lighting impacts on road users;
  - establish and maintain an effective vegetative screen along the boundary of the site that adjoins public roads;
  - ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version; and
  - monitor and report on the effectiveness of these measures, to the satisfaction of the Secretary.

## Additional Visual Mitigation Measures

53. Upon receiving a written request from the owner of any residence on privately-owned land who has, or would have, significant direct views of the mining operations from this residence and/or its associated facilities (such as pool or barbeque area) during the development, the Applicant shall implement additional visual impact mitigation measures on the land in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the visibility of mining operations from the residence and/or its associated facilities.

If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

### Notes:

- The additional visual impact mitigation measures must be aimed at reducing the visibility of the mining operations on site from significantly affected residences, and do not require measures to reduce the visibility of the mining operations from other locations on the affected properties.
- The additional visual impact mitigation measures do not necessarily have to include the implementation of measures on the affected property itself (i.e. the additional measures could involve the implementation of measures outside the affected property boundary that provide an effective reduction in visual impacts).
- Except in exceptional circumstances, the Secretary will not require additional visual impact mitigation to be undertaken for residences that are more than 5 kilometres from the mining operations.

## BUSHFIRE MANAGEMENT

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

## WASTE

55. The Applicant shall:
- implement all reasonable and feasible measures to minimise the waste (including coal reject) generated by the development;
  - ensure that the waste generated by the development is appropriately stored, handled and disposed of; and
  - monitor and report on effectiveness of the waste minimisation and management measures in the Annual Review.

## REHABILITATION

### Rehabilitation Objectives

56. The Applicant shall rehabilitate the site to the satisfaction of the DRE. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EIS (and depicted conceptually in the figure in Appendix 6), and comply with the objectives in Table 13.

Table 13: Rehabilitation Objectives

Feature	Objective
Mine site (as a whole)	<ul style="list-style-type: none"> <li>• Safe, stable and non-polluting</li> <li>• Final landforms to:               <ul style="list-style-type: none"> <li>○ be designed to minimise the visual impacts of the development;</li> <li>○ be in keeping with the natural terrain features of the area;</li> <li>○ be integrated with the rehabilitated landforms of surrounding mines;</li> <li>○ incorporate micro-relief; and</li> <li>○ avoid straight run drainage drop structures</li> </ul> </li> </ul>
Final Voids	<ul style="list-style-type: none"> <li>• Designed as long term groundwater sinks and to maximise groundwater flows across back-filled pits to the final void</li> <li>• Minimise:               <ul style="list-style-type: none"> <li>○ the size and depth of final voids</li> <li>○ the drainage catchment of final voids</li> <li>○ any high wall instability risk</li> <li>○ risk of flood interaction for all flood events up to and including the 1% AEP</li> </ul> </li> </ul>
Revegetation	<ul style="list-style-type: none"> <li>• Vegetation to be established, with the restoration of at least 1,617 hectares of Central Hunter Grey Box – Ironbark Woodland EEC</li> </ul>

Surface infrastructure	<ul style="list-style-type: none"> <li>To be decommissioned and removed, unless the DRE agrees otherwise</li> </ul>
Community	<ul style="list-style-type: none"> <li>Ensure public safety</li> <li>Minimise the adverse socio-economic effects associated with mine closure</li> </ul>

### Progressive Rehabilitation

57. 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 rehabilitation strategies shall be employed when areas prone to dust generation cannot yet be permanently rehabilitated.

*Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.*

### Rehabilitation Management Plan

58. The Applicant shall prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the DRE. This plan must:

- be prepared in consultation with the Department, NOW, OEH, Council and the CCC;
- be prepared in accordance with any relevant DRE guideline;
- be submitted to the DRE for approval prior to carrying out any development under this consent;
- include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
- describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform including final voids, and final land use;
- include interim rehabilitation where necessary to minimise the area exposed for dust generation;
- include a program to monitor, independently audit and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria; and
- build to the maximum extent practicable on the other management plans required under this consent.

## SCHEDULE 4 ADDITIONAL PROCEDURES

### NOTIFICATION OF LANDOWNERS/TENANTS

1. Within 1 month of the date of this consent, the Applicant shall:
  - (a) notify in writing the owners of:
    - the land listed in Table 1 of schedule 3 that they have the right to require the Applicant to acquire their land in accordance with the procedures in conditions 5-6 below at any stage during the development;
    - any residence on the land listed in Table 2 of schedule 3 that they have the right to request the Applicant to ask for additional noise mitigation measures to be installed at their residence at any stage during the development; and
    - any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;
  - (b) notify the tenants of any mine-owned land of their rights under this consent (see condition 18 of schedule 3); and
  - (c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EIS identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the development.
2. Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 1 that is subsequently purchased by the Applicant, the Applicant shall:
  - (a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and
  - (b) advise the prospective tenants of the rights they would have under this consent, to the satisfaction of the Secretary.
3. As soon as practicable after obtaining monitoring results showing:
  - (a) 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 development is again complying with the relevant criteria; and
  - (b) an exceedance of the relevant air quality criteria in schedule 3, the Applicant shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

### INDEPENDENT REVIEW

4. If an owner of privately-owned land considers the development to be exceeding the criteria in schedule 3 at his/her land, 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 the Applicant shall:

- (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to:
  - consult with the landowner to determine his/her concerns;
  - conduct monitoring to determine whether the development is complying with the relevant impact assessment criteria in schedule 3; and
  - if the development is not complying with these criteria then:
    - determine if the more than one mine is responsible for the exceedance, and if so the relative share of each mine regarding the impact on the land;
    - 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 within 2 months of the Secretary's decision, unless the Secretary agrees otherwise.

### LAND ACQUISITION

5. Within 3 months of receiving a written request from a landowner with acquisition rights, the Applicant shall make a binding written offer to the landowner based on:
  - (a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:
    - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and

- presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the additional noise and/or air quality mitigation measures in condition 3 of schedule 3;
- (b) the reasonable costs associated with:
- relocating within the Muswellbrook, Singleton or Cessnock local government area, or to any other local government area determined by the Secretary; and
  - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
- (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.

Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Applicant shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.

If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Secretary determines otherwise.

6. The Applicant shall pay all reasonable costs associated with the land acquisition process described in condition 5 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.

**SCHEDULE 5**  
**ENVIRONMENTAL MANAGEMENT, REPORTING AND 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 prior to carrying out any development under this consent;
  - (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:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise;
    - respond to any non-compliance;
    - respond to emergencies; and
  - (f) include:
    - copies of any strategies, plans and programs approved under the conditions of this consent; and
    - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

**Adaptive Management**

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures 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 and/or performance measures 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.

**Management Plan Requirements**

3. 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:
    - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
    - any relevant limits or performance measures/criteria;
    - 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:
    - impacts and environmental performance of the development;
    - effectiveness of any management measures (see c above);
  - (e) a contingency plan to manage any unpredicted impacts and their consequences;
  - (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:
    - incidents;
    - complaints;
    - non-compliances with statutory requirements; and
    - 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.*

#### **Annual Review**

4. By the end of March each year, the Applicant shall review the environmental performance of the development for the previous calendar year to the satisfaction of the Secretary. This review must:
- 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;
  - include a comprehensive review of the monitoring results and complaints records of the development over the past year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - monitoring results of previous years; and
    - relevant predictions in the EIS;
  - identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
  - identify any trends in the monitoring data over the life of the development;
  - identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - describe what measures will be implemented over the next year to improve the environmental performance of the development.

#### **Revision of Strategies, Plans and Programs**

5. Within 3 months of the submission of an:
- annual review under condition 4 above;
  - incident report under condition 7 below;
  - audit report under condition 9 below; or
  - any modification to the conditions of this consent (unless the conditions require otherwise),
- the Applicant shall review, and if necessary revise, 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 4 weeks of the review, unless the Secretary agrees otherwise, the revised document must be submitted to the Secretary for approval.

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

#### **Community Consultative Committee**

6. The Applicant shall operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version).

*Notes:*

- The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*
- In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.*

#### **REPORTING**

##### **Incident Reporting**

7. The Applicant shall notify the Secretary and any other relevant agencies immediately of any incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

##### **Regular Reporting**

8. The Applicant shall provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

## AUDITING

### Independent Environmental Audit

9. Within 1 year of the commencement of development under this consent, 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 conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals);
  - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
  - (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under the abovementioned approvals.

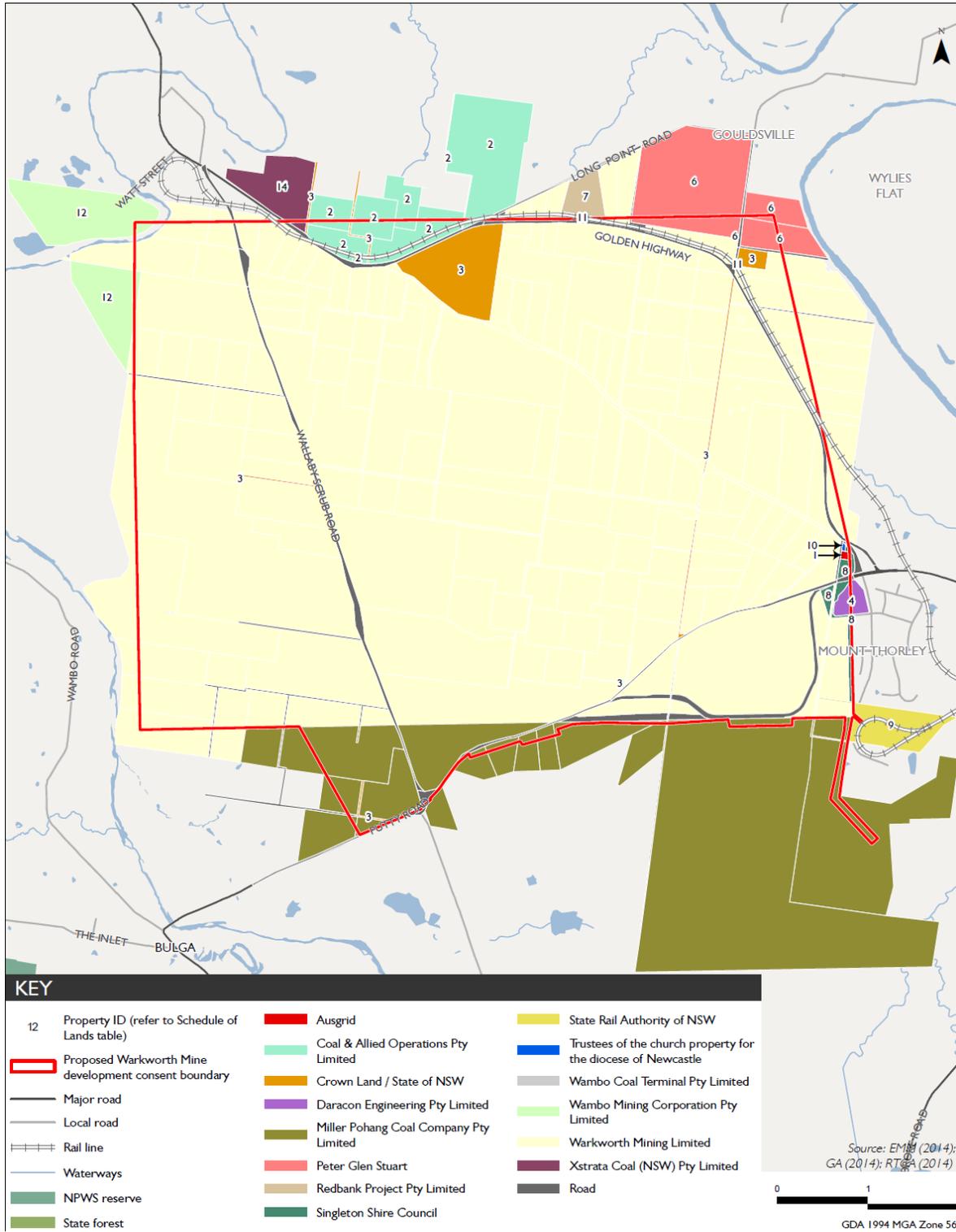
*Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Secretary.*

10. Within 6 weeks of the completion of this audit, unless the Secretary agrees otherwise, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

### ACCESS TO INFORMATION

11. From the commencement of development under this consent, the Applicant shall:
- (a) make copies of the following publicly available on its website:
    - the EIS;
    - current 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, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
    - a complaints register, which is to be updated monthly;
    - minutes of CCC meetings;
    - the annual reviews of the development (for the last 5 years, if applicable);
    - any independent environmental audit of the development, 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



Schedule of Lands  
Warkworth Continuation 2014  
Environmental Impact Statement  
Figure A.1

Figure 1: Land Ownership Plan Within the Development Application Area

ID	LOT	DP	OWNER
	3	1026900	Road
	4	1026900	Road
	10	1121154	Road
1	40	587922	Ausgrid
2	146	970755	Coal & Allied Operations Pty Limited
2	143	755267	Coal & Allied Operations Pty Limited
2	135	755267	Coal & Allied Operations Pty Limited
2	2	129806	Coal & Allied Operations Pty Limited
2	4	113342	Coal & Allied Operations Pty Limited
2	142	755267	Coal & Allied Operations Pty Limited
2	1	129808	Coal & Allied Operations Pty Limited
2	1	129806	Coal & Allied Operations Pty Limited
3	1	1086834	Crown Land / State of NSW
3	2011	1137289	Crown Land / State of NSW
3	3	705493	Crown Land / State of NSW
3		0	Crown Land / State of NSW
3		0	Crown Land / State of NSW
3		0	Crown Land / State of NSW
3		0	Crown Land / State of NSW
4	372	1026537	Daracon Engineering Pty Limited
5	271	600747	Miller Pohang Coal Company Pty Limited
5	1	42614	Miller Pohang Coal Company Pty Limited
5	99	755270	Miller Pohang Coal Company Pty Limited
5	551	569597	Miller Pohang Coal Company Pty Limited
5	17	658927	Miller Pohang Coal Company Pty Limited
5	3	42614	Miller Pohang Coal Company Pty Limited
5	8	247340	Miller Pohang Coal Company Pty Limited
5	19	247339	Miller Pohang Coal Company Pty Limited
5	6	587986	Miller Pohang Coal Company Pty Limited
5	61	755270	Miller Pohang Coal Company Pty Limited
5	9	247340	Miller Pohang Coal Company Pty Limited
5	7	247340	Miller Pohang Coal Company Pty Limited
5	272	600747	Miller Pohang Coal Company Pty Limited
5	271	260663	Miller Pohang Coal Company Pty Limited
5	2	610376	Miller Pohang Coal Company Pty Limited
5	5	247340	Miller Pohang Coal Company Pty Limited
5	273	260663	Miller Pohang Coal Company Pty Limited
5	341	612684	Miller Pohang Coal Company Pty Limited
5	1	43422	Miller Pohang Coal Company Pty Limited
6	74	755267	Peter Glen Stuart
6	1	910550	Peter Glen Stuart
6	75	755267	Peter Glen Stuart
6	126	665628	Peter Glen Stuart
7	450	1119428	Redbank Project Pty Limited
8	5	1026900	Singleton Shire Council
8	28	255730	Singleton Shire Council

ID	LOT	DP	OWNER
8	371	1026537	Singleton Shire Council
8	29	255730	Singleton Shire Council
9	6	251238	State Rail Authority of NSW
10	2	602169	Trustees of church property for the diocese of Newcastle
11	2	1086834	Wambo Coal Terminal Pty Limited
11	451	1119428	Wambo Coal Terminal Pty Limited
12	23	3030	Wambo Mining Corporation Pty Limited
12	7	3030	Wambo Mining Corporation Pty Limited
13	360	1135647	Warkworth Mining Limited
13	220	1135537	Warkworth Mining Limited
13	99	755267	Warkworth Mining Limited
13	350	1135536	Warkworth Mining Limited
13	35	260056	Warkworth Mining Limited
13	19	113342	Warkworth Mining Limited
13	B	182301	Warkworth Mining Limited
13	162	755267	Warkworth Mining Limited
13	18	113342	Warkworth Mining Limited
13	105	755267	Warkworth Mining Limited
13	16	113342	Warkworth Mining Limited
13	17	113342	Warkworth Mining Limited
13	102	755267	Warkworth Mining Limited
13	154	755267	Warkworth Mining Limited
13	91	755267	Warkworth Mining Limited
13	A	182301	Warkworth Mining Limited
13	103	755267	Warkworth Mining Limited
13	7	248570	Warkworth Mining Limited
13	1	248570	Warkworth Mining Limited
13	1	705493	Warkworth Mining Limited
13	35	755270	Warkworth Mining Limited
13	24	755270	Warkworth Mining Limited
13	272	260663	Warkworth Mining Limited
13	140	248186	Warkworth Mining Limited
13	21	113342	Warkworth Mining Limited
13	129	755267	Warkworth Mining Limited
13	166	657481	Warkworth Mining Limited
13	16	755267	Warkworth Mining Limited
13	6	113342	Warkworth Mining Limited
13	13	113342	Warkworth Mining Limited
13	179	755267	Warkworth Mining Limited
13	138	248186	Warkworth Mining Limited
13	1B	37572	Warkworth Mining Limited
13	22	113342	Warkworth Mining Limited
13	48	755267	Warkworth Mining Limited
13	189	755267	Warkworth Mining Limited
13	3	43383	Warkworth Mining Limited
13	203	704466	Warkworth Mining Limited

ID	LOT	DP	OWNER
13	200	755267	Warkworth Mining Limited
13	1	227280	Warkworth Mining Limited
13	2	227280	Warkworth Mining Limited
13	3	227280	Warkworth Mining Limited
13	178	755267	Warkworth Mining Limited
13	132	755267	Warkworth Mining Limited
13	6	245850	Warkworth Mining Limited
13	8	245850	Warkworth Mining Limited
13	155	755267	Warkworth Mining Limited
13	1	326244	Warkworth Mining Limited
13	1	245850	Warkworth Mining Limited
13	3	245850	Warkworth Mining Limited
13	137	755267	Warkworth Mining Limited
13	1	129800	Warkworth Mining Limited
13	152	755267	Warkworth Mining Limited
13	21	625709	Warkworth Mining Limited
13	4	43383	Warkworth Mining Limited
13	2	827333	Warkworth Mining Limited
13	3	129811	Warkworth Mining Limited
13	8	246201	Warkworth Mining Limited
13	20	113342	Warkworth Mining Limited
13	36	260056	Warkworth Mining Limited
13	139	248186	Warkworth Mining Limited
13	136	755267	Warkworth Mining Limited
13	71	755270	Warkworth Mining Limited
13	170	755267	Warkworth Mining Limited
13	165	755267	Warkworth Mining Limited
13	144	755267	Warkworth Mining Limited
13	6	248570	Warkworth Mining Limited
13	137	248186	Warkworth Mining Limited
13	143	573290	Warkworth Mining Limited
13	1	949066	Warkworth Mining Limited
13	46	755267	Warkworth Mining Limited
13	15	113342	Warkworth Mining Limited
13	180	755267	Warkworth Mining Limited
13	131	248186	Warkworth Mining Limited
13	2	705493	Warkworth Mining Limited
13	134	755267	Warkworth Mining Limited
13	2	1097294	Warkworth Mining Limited
13	1	755267	Warkworth Mining Limited
13	168	755267	Warkworth Mining Limited
13	7	245850	Warkworth Mining Limited
13	156	755267	Warkworth Mining Limited
13	1	326245	Warkworth Mining Limited
13	197	657482	Warkworth Mining Limited
13	5	248570	Warkworth Mining Limited

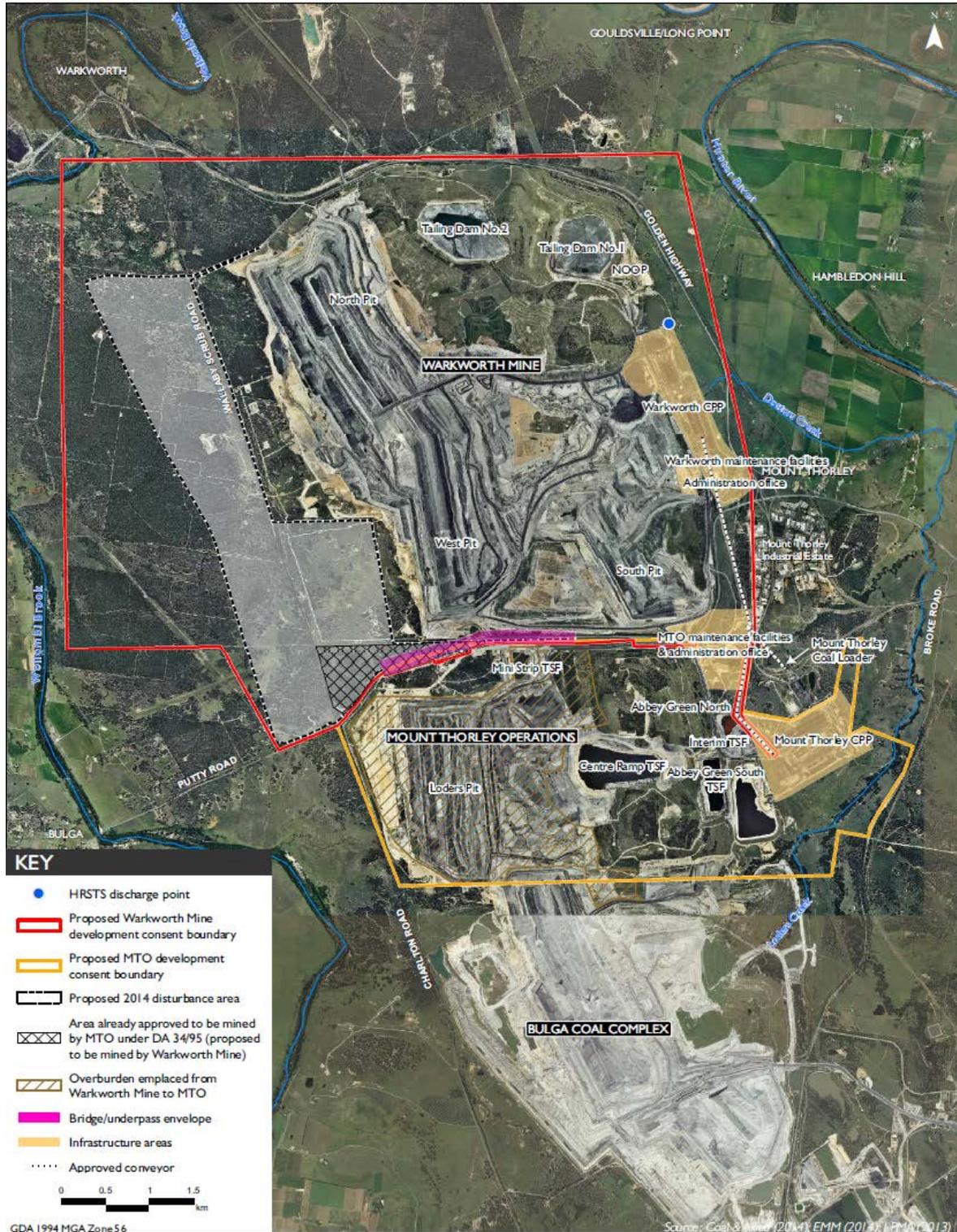
ID	LOT	DP	OWNER
13	11	246201	Warkworth Mining Limited
13	2	129822	Warkworth Mining Limited
13	131	755267	Warkworth Mining Limited
13	1	129819	Warkworth Mining Limited
13	2	129811	Warkworth Mining Limited
13	3	246201	Warkworth Mining Limited
13	6	247820	Warkworth Mining Limited
13	95	755267	Warkworth Mining Limited
13	93	755267	Warkworth Mining Limited
13	1	610376	Warkworth Mining Limited
13	104	755267	Warkworth Mining Limited
13	164	755267	Warkworth Mining Limited
13	2	804245	Warkworth Mining Limited
13	191	755267	Warkworth Mining Limited
13	97	755267	Warkworth Mining Limited
13	130	755267	Warkworth Mining Limited
13	5	113342	Warkworth Mining Limited
13	141	573290	Warkworth Mining Limited
13	184	755267	Warkworth Mining Limited
13	89	755267	Warkworth Mining Limited
13	132	248186	Warkworth Mining Limited
13	130	248186	Warkworth Mining Limited
13	27	755267	Warkworth Mining Limited
13	90	755267	Warkworth Mining Limited
13	10	113342	Warkworth Mining Limited
13	7	113342	Warkworth Mining Limited
13	196	755267	Warkworth Mining Limited
13	150	755267	Warkworth Mining Limited
13	173	755267	Warkworth Mining Limited
13	2	245850	Warkworth Mining Limited
13	12	246201	Warkworth Mining Limited
13	5	246201	Warkworth Mining Limited
13	2	130264	Warkworth Mining Limited
13	1	129822	Warkworth Mining Limited
13	1	129812	Warkworth Mining Limited
13	1	129811	Warkworth Mining Limited
13	92	755267	Warkworth Mining Limited
13	25	755270	Warkworth Mining Limited
13	185	755267	Warkworth Mining Limited
13	161	755267	Warkworth Mining Limited
13	1	804245	Warkworth Mining Limited
13	182	755267	Warkworth Mining Limited
13	135	248186	Warkworth Mining Limited
13	142	573290	Warkworth Mining Limited
13	2	43383	Warkworth Mining Limited
13	12	113342	Warkworth Mining Limited

ID	LOT	DP	OWNER
13	183	755267	Warkworth Mining Limited
13	144	573290	Warkworth Mining Limited
13	1	573286	Warkworth Mining Limited
13	47	1096589	Warkworth Mining Limited
13	1	176095	Warkworth Mining Limited
13	167	755267	Warkworth Mining Limited
13	111	755267	Warkworth Mining Limited
13	1	1097294	Warkworth Mining Limited
13	9	246201	Warkworth Mining Limited
13	5	245850	Warkworth Mining Limited
13	1	130264	Warkworth Mining Limited
13	151	755267	Warkworth Mining Limited
13	3	129819	Warkworth Mining Limited
13	2	129799	Warkworth Mining Limited
13	2	246201	Warkworth Mining Limited
13	11	113342	Warkworth Mining Limited
13	8	1026900	Warkworth Mining Limited
13	1	1041796	Warkworth Mining Limited
13	7	247820	Warkworth Mining Limited
13	96	755267	Warkworth Mining Limited
13	94	755267	Warkworth Mining Limited
13	26	755270	Warkworth Mining Limited
13	87	755267	Warkworth Mining Limited
13	190	755267	Warkworth Mining Limited
13	841	531116	Warkworth Mining Limited
13	106	755267	Warkworth Mining Limited
13	110	755267	Warkworth Mining Limited
13	187	755267	Warkworth Mining Limited
13	1	130275	Warkworth Mining Limited
13	177	755267	Warkworth Mining Limited
13	157	755267	Warkworth Mining Limited
13	159	755267	Warkworth Mining Limited
13	10	246201	Warkworth Mining Limited
13	4	245850	Warkworth Mining Limited
13	120	1089243	Warkworth Mining Limited
13	2	129819	Warkworth Mining Limited
13	1	129799	Warkworth Mining Limited
13	1	246201	Warkworth Mining Limited
13	2	735566	Warkworth Mining Limited
13	12	1121154	Warkworth Mining Limited
13	22	625709	Warkworth Mining Limited
13	1	130276	Warkworth Mining Limited
13	14	113342	Warkworth Mining Limited
13	136	248186	Warkworth Mining Limited
13	5	43383	Warkworth Mining Limited
13	134	248186	Warkworth Mining Limited

ID	LOT	DP	OWNER
13	172	755267	Warkworth Mining Limited
13	1	43383	Warkworth Mining Limited
13	133	248186	Warkworth Mining Limited
13	2	248570	Warkworth Mining Limited
13	4	658759	Warkworth Mining Limited
13	4	248570	Warkworth Mining Limited
13	11	1121154	Warkworth Mining Limited
13	63	755267	Warkworth Mining Limited
14	1	1043120	Xstrata Coal (NSW) Pty Limited

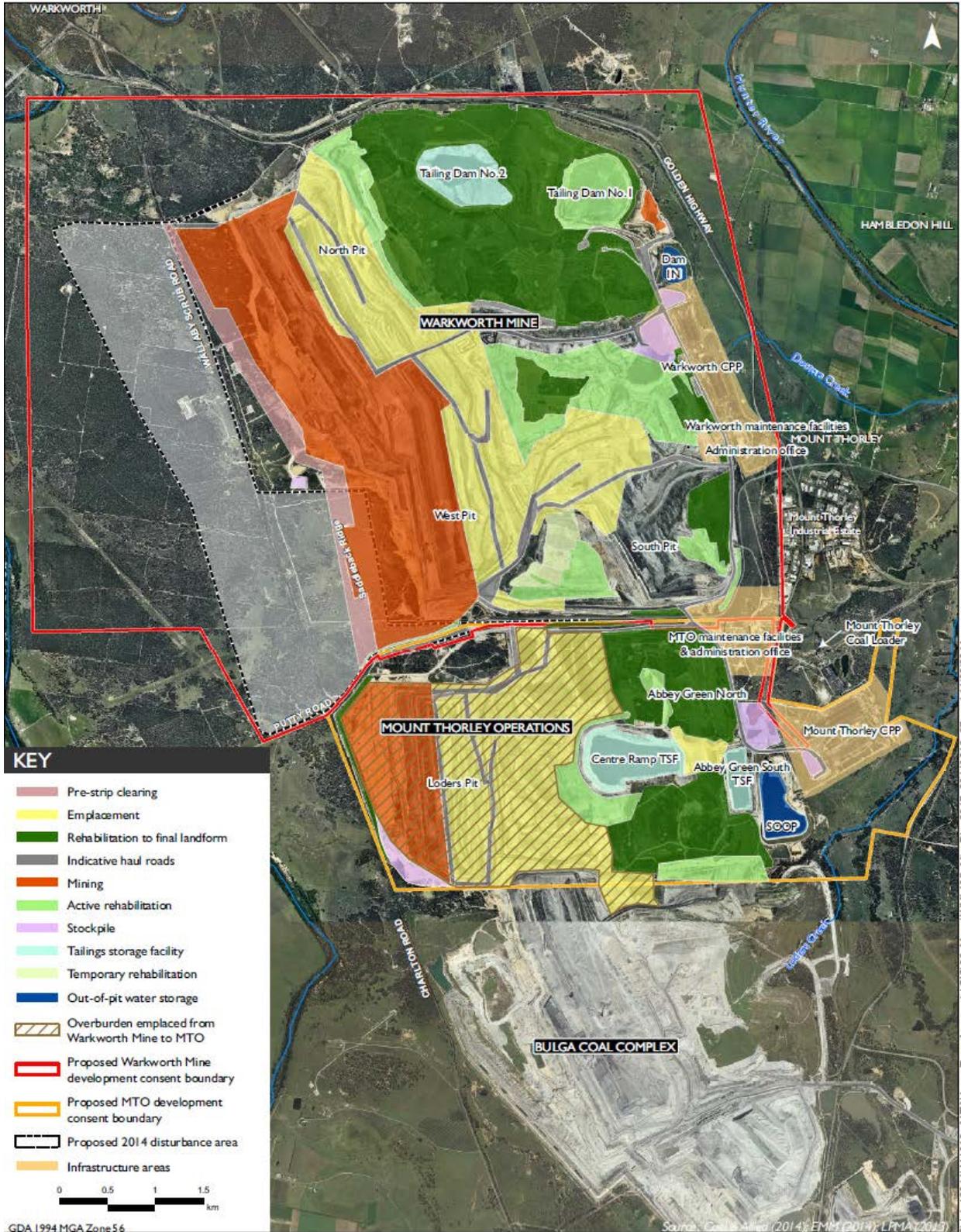
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**APPENDIX 2  
DEVELOPMENT LAYOUT PLANS**



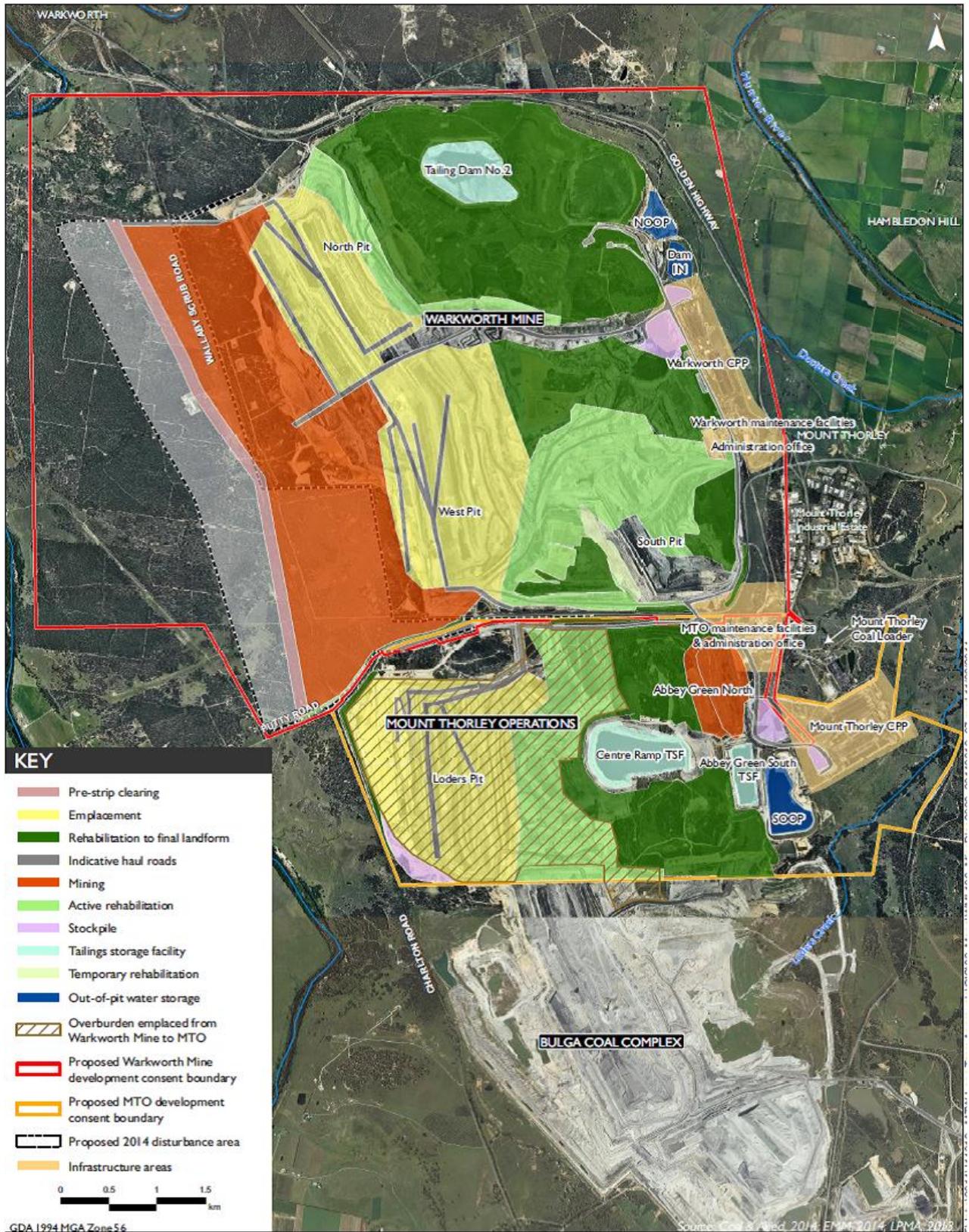
The proposal  
Warkworth Continuation 2014  
Environmental Impact Statement  
Figure 2.3

Figure 3: General Development Layout



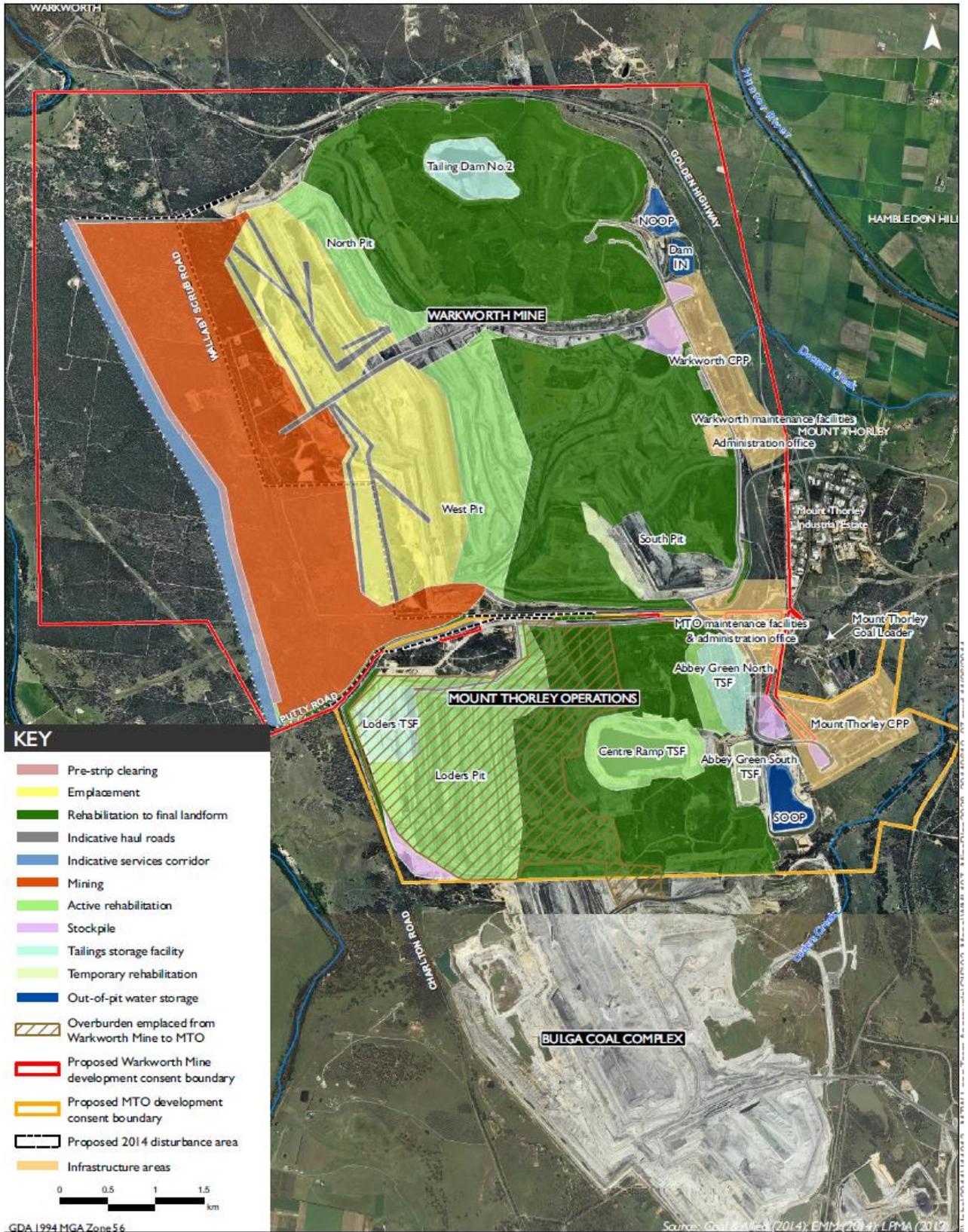
Indicative Year 3 mine plan  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 2.7

Figure 4: Conceptual Mine Plan – Year 3



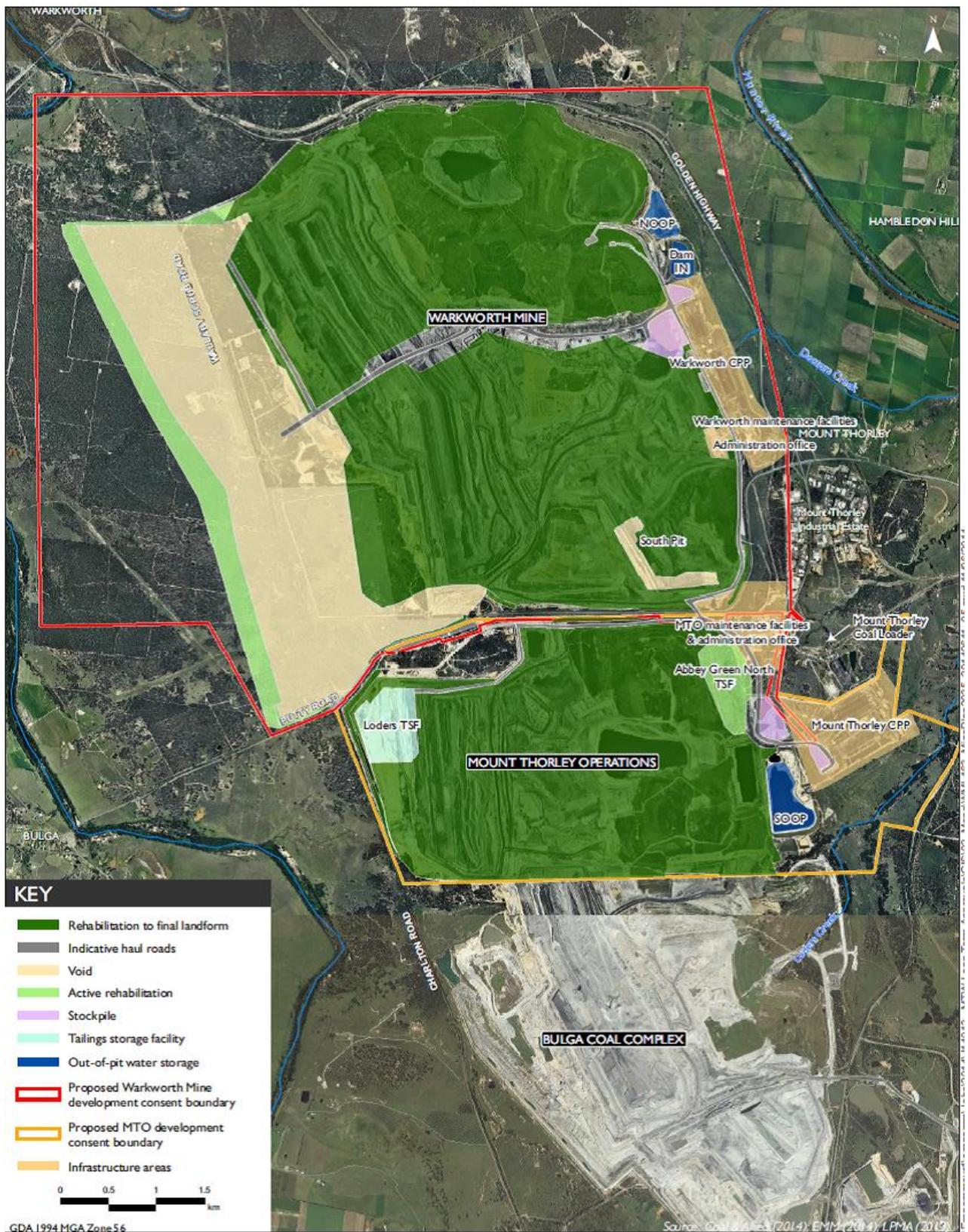
Indicative Year 9 mine plan  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 2.8

Figure 5: Conceptual Mine Plan - Year 9



Indicative Year 14 mine plan  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 2.9

Figure 6: Conceptual Mine Plan – Year 14



Indicative Year 21 mine plan  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 2.10

Figure 7: Conceptual Mine Plan – Year 21

### APPENDIX 3 LAND OWNERSHIP PLANS

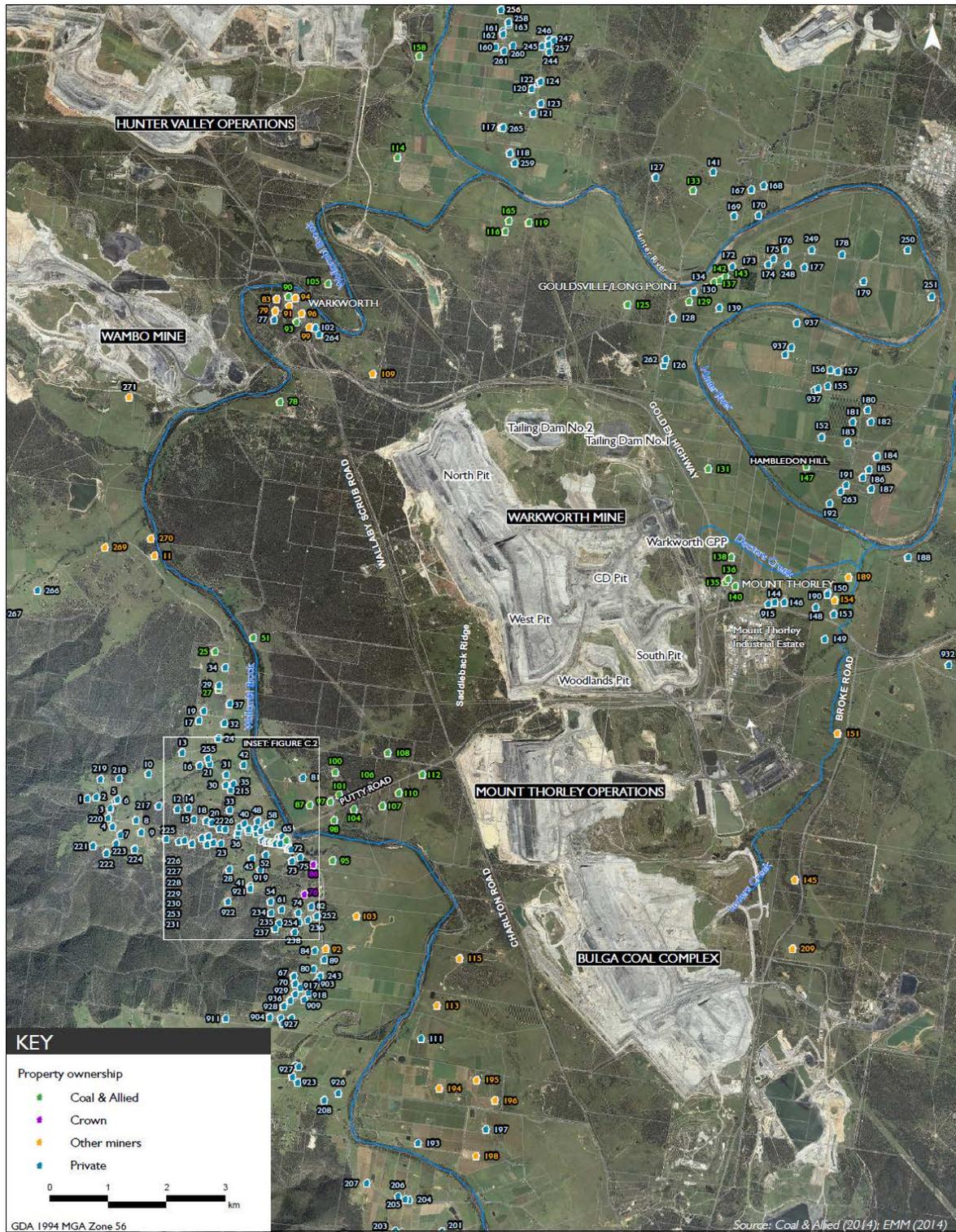


Figure 8: Surrounding Residences

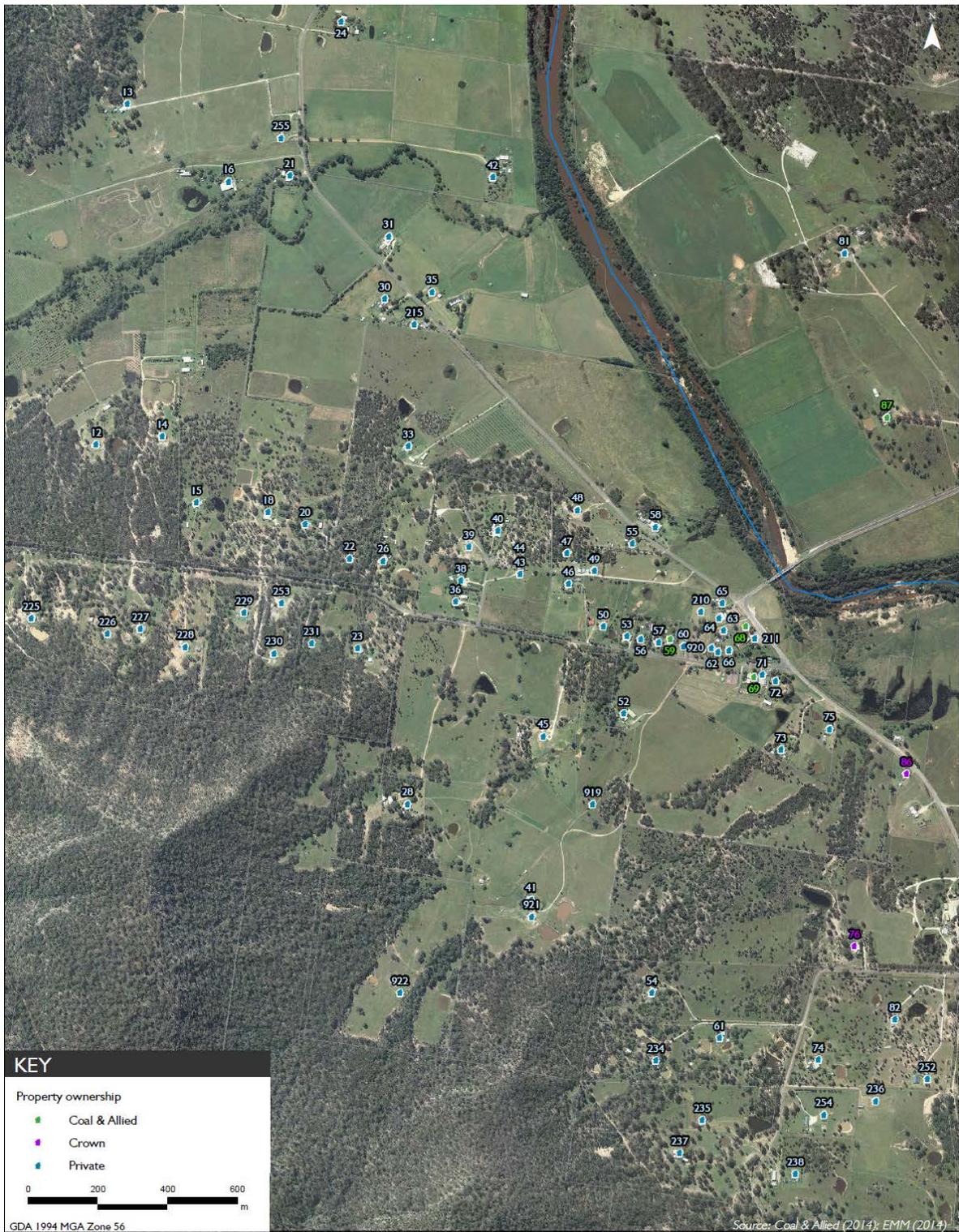


Figure 9: Surrounding Residences – South West (Bulga)

<b>Assessment location ID</b>	<b>Property owner</b>
1	Judith Leslie
2	Shayne Aaron Currie
3	Charleroi Pty Limited
4	Graeme O'Brien & Susann Florence O'Brien
5	Daniel Bruce Jones
6	Russell James Doidge, Trinetta Louise Reid
7	Darral Keith Margery & Annette Gaye Margery
8	Laurence Fletcher, Margaret Ann Fletcher
9	Donald Bruce Roser
10	Andrew Mark Robey, Kim Luanne Robey
11	Wambo Mining Corporation Pty. Limited
12	Ronald Alexander Corino, Pauline Rayner
13	Ilario Francisco Circosta, Maria Angela Circosta*
14	Karin Margaret Hunt
15	William Lindsay Gordon Slaney, Peta Slaney
16	Leona Ann Williams
17	George David Lianos, Honor Claire Lianos
18	Barry John Anderson, Melissa Gai Anderson
19	Denis Cyril Maizey, Elaine Margaret Maizey
20	Gregory William Banks, Marion Elizabeth Banks
21	Gregory William Banks, Marion Elizabeth Banks
22	Elizabeth Mackenzie
23	Peter Jason Kolatchew, Heidi Kolatchew
24	Ronald Garry Bailey, Fiona Susan Bailey
25	William George Joseph Lambkin, Dawn Lambkin*
26	Barbara Gae Harrison, Trevor Eric Harrison
27	Warkworth Mining Limited
28	Hubert George Upward
29	Ilario Francisco Circosta, Maria Angela Circosta*
30	Damien Michael Hanson, Danielle Louise Hanson
31	Gregory Malcolm Caban
32	Paul Mark Dunn, Susan Joy Urwin
33	Ian Norris Bartholomew, Annette Maria Bartholomew
34	Allan Clyde Lepisto, Nerida Lepisto
35	Lawrence Malcolm Caban, Rhonda Beryl Caban
36	Raymond Carl Powell
37	Gregory Paul Crowe
38	Benjamin John Street, Jami Ann Street
39	Gregory John Mcnaught
40	Margaret Player, John Maclachlan Player
41	Hubert George Upward
42	Mark Anthony Lancaster, Debbie Marie Lancaster
43	Geoffrey Allen Burgess, Betty Joy Burgess
44	Barry Fogwell
45	Adam Charles Cameron
46	Jason Phillip Horn
47	Philip Adamthwaite
48	Brett James Gallagher, Rebecca Louise Gallagher

<b>Assessment location ID</b>	<b>Property owner</b>
49	John Thompson, Delwyn Kay Jackson
50	Bradley Richard Sales, Sharon Ann Bellamy
51	Warkworth Mining Limited
52	Stewart James Mitchell, Marie Clare Mitchell
53	Robert Mclaughlin
54	Christopher Stanley Neville & Elizabeth Ann Neville
55	Robert John Evans
56	Leonard Walter Mclachlan, Noelene Rita Mclachlan
57	Paul William Harris, Tracey Anne Swindail
58	David Andrew Gregory
59	Warkworth Mining Limited
60	Vaughan Thomas Cagney, Candice Rose Albert
61	Darrell Stanley Kaizer
62	Dwi Octaviani
63	Margueriette Ann Henneberry, Paul Andrew Burgess
64	Dusko Dragicevic, Milan Dragicevic
65	Gordon Keith Grainger, Selma Rosalind Grainger
66	Michael Vivian Bendall, Sue-Ellen Bendall
67	Michael Shane Dawson & Suzana Dawson
68	Warkworth Mining Limited
69	Warkworth Mining Limited
70	Peter Francis Ritchie And Fiona Jennifer Ritchie
71	Robert Ian Hedley, Jan Maree Louis
72	Frank Henry Turnbull
73	Phillip Joseph Reid, Carol Reid
74	Ronald Guy Godyn, Anne-Marie Godyn
75	Lindsay Robert Smith, Jillian Maree Smith
76	The State Of New South Wales
77	William Joseph Kelly, Marie Joyce Kelly, Lawrence Kelly
78	Warkworth Mining Limited
79	Wambo Mining Corporation Pty. Limited
80	Dimitrious Vikas & Joy Mary Vikas
81	Agl Energy Limited
82	Stephen Glenn Williamson, Nicole Leanne Highett
83	Xstrata Coal Pty Limited
84	Mary Veronica Thompson
86	The State Of New South Wales
87	Andre Marc Renaud, Noela Mary Renaud*
89	Bryan Dudley Medhurst
90	Coal & Allied Operations Pty Limited
91	Wambo Coal Pty Limited
92	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
93	Coal & Allied Operations Pty Limited
94	Wambo Coal Pty Limited
95	Miller Pohang Coal Company Pty Limited
96	Wambo Mining Corporation Pty. Limited
97	Warkworth Mining Limited
98	Miller Pohang Coal Company Pty Limited

Assessment location ID	Property owner
99	Wambo Coal Pty Limited
100	Miller Pohang Coal Company Pty Limited
101	Miller Pohang Coal Company Pty Limited
102	Brian Edward Kennedy, John Griffiths
103	Saxonvale Coal Pty. Limited, Nippon Steel Australia Pty. Limited
104	Miller Pohang Coal Company Pty Limited
105	Coal & Allied Operations Pty Limited
106	Miller Pohang Coal Company Pty Limited
107	Miller Pohang Coal Company Pty Limited
108	Miller Pohang Coal Company Pty Limited
109	Xstrata Coal (Nsw) Pty Limited
110	Miller Pohang Coal Company Pty Limited
111	Ian Wallace Russell
112	Miller Pohang Coal Company Pty Limited
113	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
114	Coal & Allied Operations Pty Limited
115	Saxonvale Coal Pty. Limited, Nippon Steel Australia Pty. Limited
116	Coal & Allied Operations Pty Limited
117	Phillip John Algie, Colleen Ann Maree Algie
118	Robert John Algie
119	Coal & Allied Operations Pty Limited
120	Russell John Wenham, Janelle Susan Wenham
121	Julie Gai Ernst, Gregory John Ernst
122	Stephen Douglas Edwards, Terri-Anne Howard, Joselyn Vida Clifton
123	Neil Robert Nelson, Glenda Joy Nelson
124	Stephen Douglas Edwards, Terri-Anne Howard, Joselyn Vida Clifton
125	Coal & Allied Operations Pty Limited
126	Peter Glen Stuart
127	Noel Francis Riley, Elaine Roslyn Riley
128	Warren John Welsh, Adam John Young
129	Coal & Allied Operations Pty Limited
130	Francescantonio Ventra, Joanne Ventra
131	Warkworth Mining Limited
133	Coal & Allied Operations Pty Limited
134	Andrew Arthur Barrett, Nicole Maree Kenny
135	Warkworth Mining Limited
136	Warkworth Mining Limited
137	Coal & Allied Operations Pty Limited
138	Warkworth Mining Limited
139	Kevin Denis Hartcher, Linda Anne Hartcher
140	Warkworth Mining Limited
141	Warren Thomas Barry, Lesley Una Barry
142	Coal & Allied Operations Pty Limited
143	Coal & Allied Operations Pty Limited
144	Jason Cyril Rumbel, Rebecca Ruth Rumbel
145	Saxonvale Coal Pty. Limited, Nippon Steel Australia Pty. Limited
146	Paul Henry Russell
147	Warkworth Mining Limited

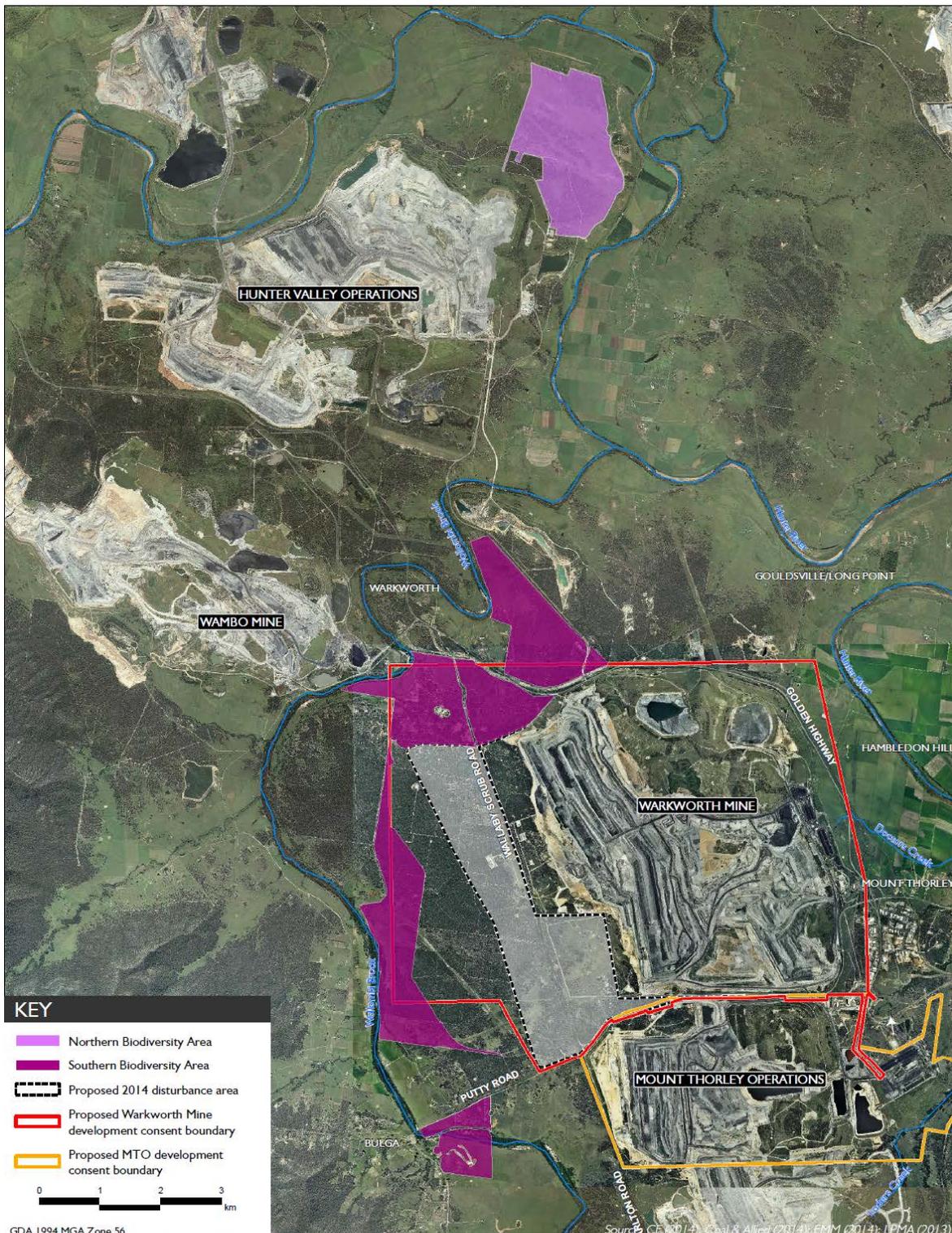
<b>Assessment location ID</b>	<b>Property owner</b>
148	Dorothy Clare Russell
149	Timothy Peter Hedley
150	Keith David Isaac, Sharon Ann Isaac
151	Bulga Coal Management Pty Limited
152	Graham Edwin Berry, Elizabeth Anne Berry
153	Thomas William Kermode, Kathleen May Kermode
154	Bulga Coal Management Pty Limited
155	Trevor Keith Berry, Graham Edwin Berry
156	Jean Mary O'Hara
157	Jean Mary O'Hara
158	Coal & Allied Operations Pty Limited
160	Elizabeth Stuart Bowman
161	Wyoming Holsteins Pty Limited
162	Wyoming Holsteins Pty Limited
163	Wyoming Holsteins Pty Limited
165	Coal & Allied Operations Pty Limited
167	Nathan James Laing
168	Stuart Francis Nichol Wright, Pamela Lynn Wright
169	Harold Douglas Hobden
170	John Marcheff
172	John Stuart Gough, Lynette Jean Gough
173	Michael John Wellard, Faye Denise Wellard
174	Margaret Anne Neal
175	Bradley John Halter
176	Michael Raymond Mapp, Shirley Maree Mapp
177	Greig Andrew Delaney
178	Craig Ian Flissinger, Catherine Anne Flissinger
179	Tickalara Pty. Limited
180	Bruce Graham Moore
181	David Charles Vassallo, Sheree Ann Vassallo
182	Robert Francis Holstein And Andrea Terry Holstein
183	Paul Anthony Cavanaugh, Jacinta Jade Dawkins
184	Campbell Stuart Ball And Gail Agnes Ball
185	Leonard Dale Franks
186	Leonard Dale Franks
187	Keith Heuston Pty. Limited
188	Comserve (No.932) Pty Ltd
189	Bulga Coal Management Pty Limited
190	Keith David Isaac, Sharon Ann Isaac
191	Robert John Vidler, Coral May Vidler
192	Jean Mary O'Hara
193	Robert Kennedy
194	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
195	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
196	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
197	Robert Kennedy
198	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
199	Adrian Garton, Susan Jean Garton

<b>Assessment location ID</b>	<b>Property owner</b>
200	Karren Anne Mccraw, Kenneth Ian Mccraw
201	Richard James Owens
202	Richard James Owens
203	Grapemen Holdings Pty Limited
204	Brenda Joan Tanner
205	Victoria Ann Foster
206	Theo Poulos, Maria Poulos
207	John Stephen Tulloch
208	Cybele Genevieve Orton
209	Saxonvale Coal Pty Limited, Nippon Steel Australia Pty Limited
210	Meria Violet Ford
211	Mike Dean Silk, Antoinette Silk
215	Allan Wayne Louis, Cheryl Anne Louis
217	Packtron Packaging Pty Limited
218	Phillip John Haerse, Elizabeth Rae Haerse
219	Philip Geoffrey Carroll
220	George Jiri Tlaskal
221	Christina Mary Metlikovec
222	John Vincent Putland
223	Andrew Glenn Upward
224	Rex Wayne Davis, Heather Anne Davis
225	Anthony and Trudie Seibel – Barnes
226	Neale Mccallum, Julie Marie Mcnaughton
227	Ian Wyn Jones, Karen Michelle Jones
228	Jason Peter Passlow, Belinda Louise Lee
229	Maurice Francis Chapman, Nellie Vera Chapman
230	Paul Dermot Byrne O'Toole, Melissa Jane O'Toole
231	Mark Mcalpin Roser, Nicole Roser
234	Robert John Bridge, Kylie Terese Bridge
235	Garrett James Walters & Clare Joanne Gowans
236	Scott Francis Ryan
237	Leslie Carol Krey
238	Raymond George Caban, Kathryn Louise Caban
243	John Patrick Cant, Cherie Margaret Cant
244	Todd Anthony Mills, Sharron Ann Mills
245	Chriss Ivan Maskey
246	Paul Raymond Burley, Catherine Maree Burley
247	Tony Zanardi, Sandra Maree Zanardi
248	Keith Joseph Horne
249	Thomas William Watson, Betty Watson
250	John Michael Woods
251	Frederick John & Carole Maria Flinn
252	Jaques Family Investments Pty Limited
253	Stuart Edward Reakes
254	Peter William Shore & Melanie Louise Shore
255	Ilario Francisco Circosta, Maria Angela Circosta*
256	Bruce Eric Moxey, Thea Anne Moxey
257	Robert John Algie

<b>Assessment location ID</b>	<b>Property owner</b>
258	Wyoming Holsteins Pty Limited
259	Robert John Algie
260	Wyoming Holstiens Pty. Limited
261	Wyoming Holstiens Pty. Limited
262	Peter Glen Stuart
263	John Klasen, Ruth Anne Klasen
264	George Robert Miller
265	Phillip John Algie, Colleen Ann Maree Algie
266	Ronald Wayne Fenwick
267	Kenneth Max Brosi
268	Kenneth Max Brosi, Julie Anne Brosi & Pauline June Mcloughlin
269	Wambo Mining Corporation Pty Limited
270	Wambo Mining Corporation Pty Limited
271	Wambo Mining Corporation Pty Limited
903	Adam John Baker
904	Allan Mark Brasington, Judith Anne Brasington
905	Cameron Michael Turner, Melissa Jayne Harris
909	Emanuel Victor Vassallo
911	Gary Dale Harris
915	Jason Cyril Rumbel, Rebecca Ruth Rumbel
917	John Robert Lamb
918	Joseph Vassallo, Doris Vassallo
919	Kenneth Neil Cameron
920	Lindsay Gordon Harris, Jillian May Ferguson
921	Melanie Caban, Keiran Lionel Caban
922	Melanie Evelyn Upward
923	Michelle Maria Brennan
926	Paul William Mackay, Suzanne Elizabeth Mackay
927	Phillip John Gunter, Leona Mary Gunter
928	Sarah Elizabeth Purser, Stirling Owen Keayes
929	Simon James Beavis
932	Stephen Dennis Tipping
936	Thomas Charles Jackson, Susan Gai Jackson
937	Trevor Keith Berry, Graham Edwin Berry

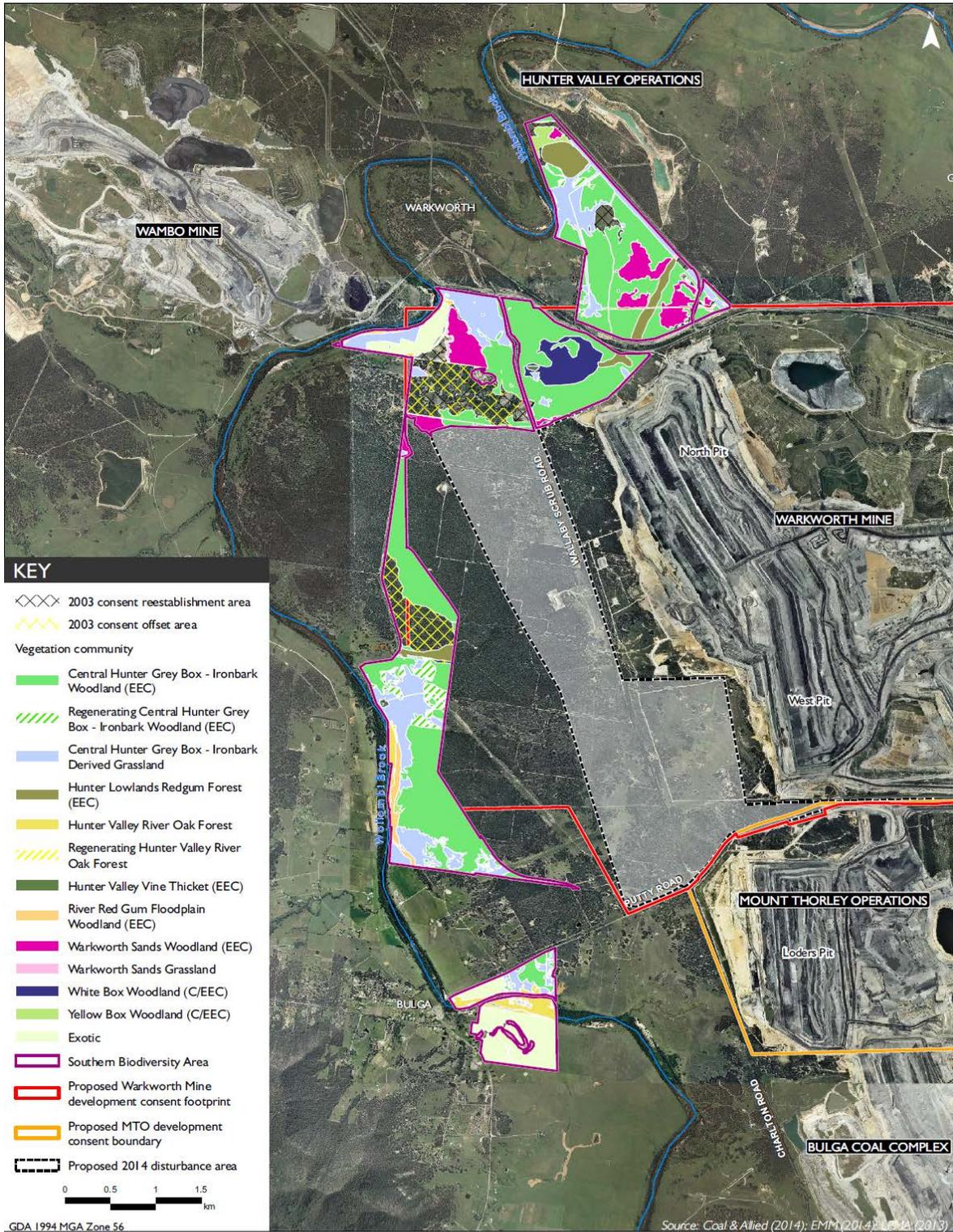
*\* at date of document publication private residence status still being determined on land transfer and have been treated as mine owned properties in the EIS.*

**APPENDIX 4  
DIRECT LAND-BASED BIODIVERSITY OFFSETS**



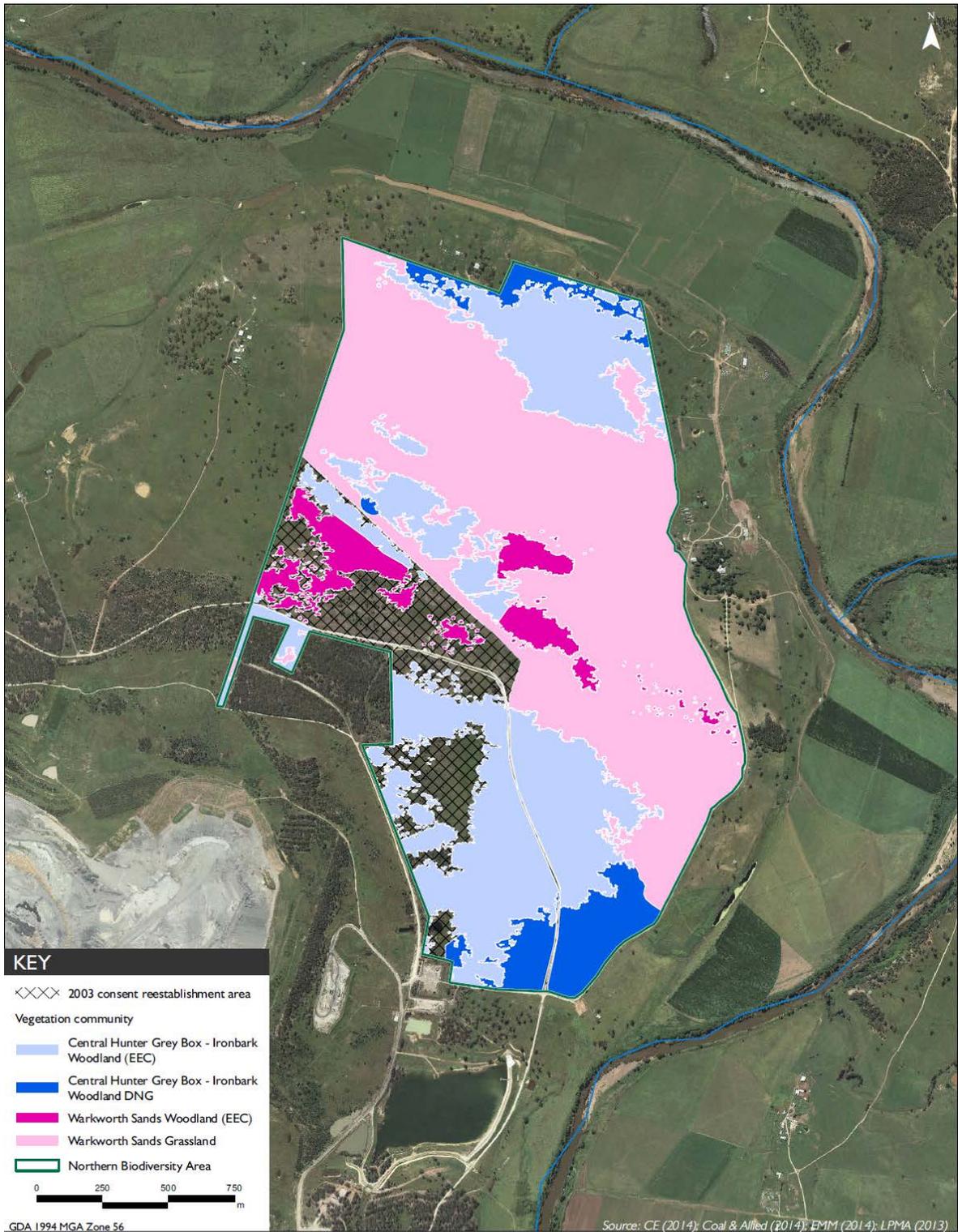
Location of Northern and Southern Biodiversity Areas  
Warkworth Continuation 2014  
Response to Submissions  
Figure 2.10

*Figure 10: Location of Northern and Southern Biodiversity Areas*



Vegetation communities in the Southern Biodiversity Area  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 12.7

Figure 11: Vegetation Communities in the Southern Biodiversity Area



Vegetation communities in the Northern Biodiversity Area  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 12.8

Figure 12: Vegetation Communities in the Northern Biodiversity Area

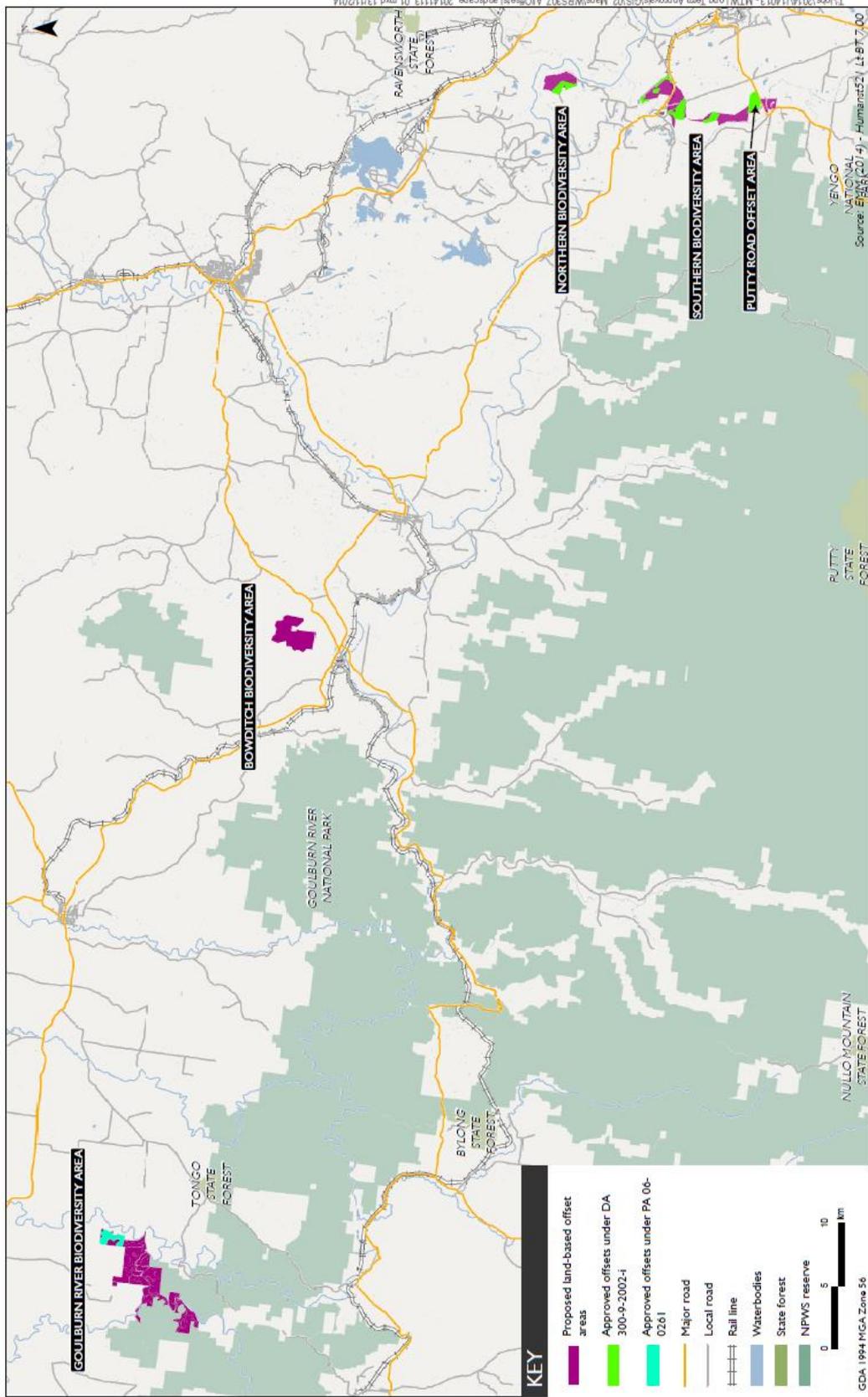
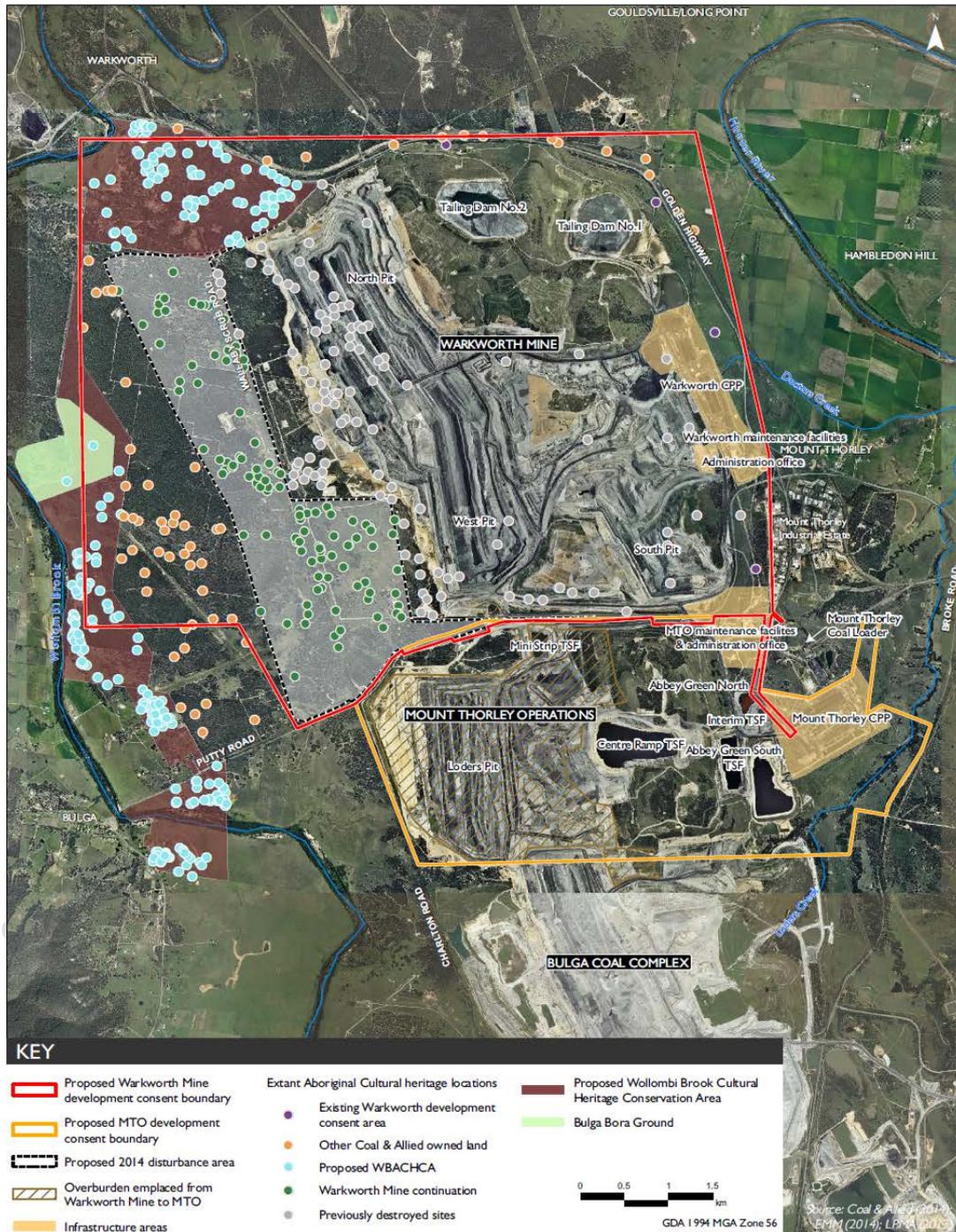


Figure 13: Location of Goulburn River Biodiversity Area and Bowditch Biodiversity Area

## APPENDIX 5 HERITAGE



Aboriginal cultural heritage places  
Warkworth Continuation 2014  
Environmental Impact Statement  
Figure 18.1

Figure 14: Wollombi Brook Aboriginal Cultural Heritage Conservation Area

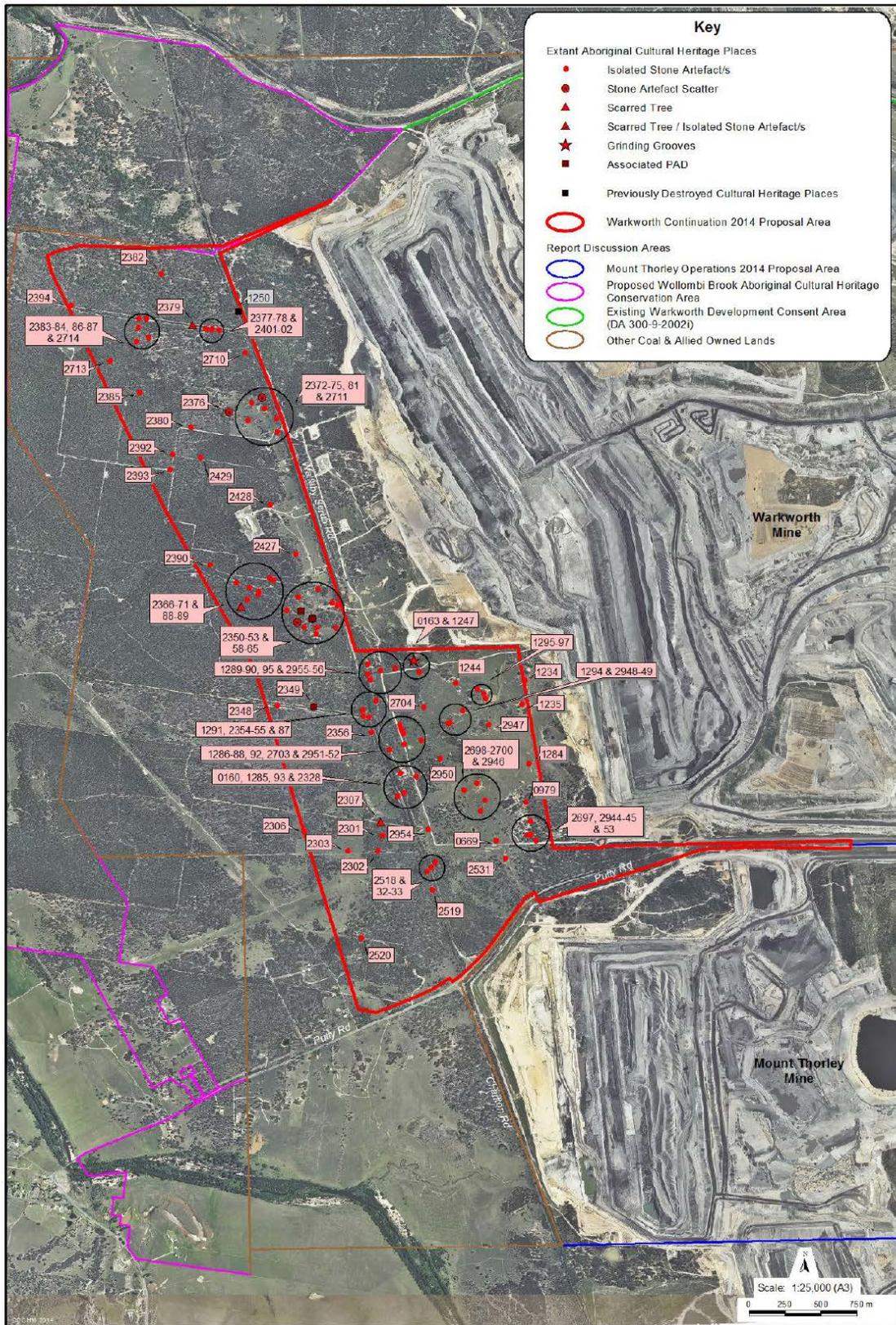


Figure 4: Map showing the location and current status of Aboriginal cultural heritage places within the Warkworth Continuation 2014 proposal area. Note: all place numbers are prefixed by the AHIMS code 37-6-XXXX.

Figure 15: Aboriginal Cultural Heritage Places Identified in Table 2 Below

Table 1: Aboriginal Cultural Heritage Places to be Protected

AHIMS No	Place Name	Place Type	PAD	Status
37-6-0641	Lemington Mine Lease ISF4	Isolated Stone Artefact/s	-	Valid
37-6-0848	Site T (Bulga)	Stone Artefact Scatter	-	Valid
37-6-0991	JP30	Isolated Stone Artefact/s	-	Valid
37-6-1437	JP 16	Isolated Stone Artefact/s	-	Valid
37-6-1438	JP 17	Isolated Stone Artefact/s	-	Valid
37-6-1440	JP 18	Isolated Stone Artefact/s	-	Valid
37-6-1441	JP 19	Isolated Stone Artefact/s	-	Valid
37-6-1442	JP 21	Isolated Stone Artefact/s	-	Valid
37-6-1445	JP 24	Stone Artefact Scatter	-	Valid
37-6-1446	JP 25	Stone Artefact Scatter	-	Valid
37-6-1448	JP 27	Stone Artefact Scatter	-	Valid
37-6-1450	JP 31	Isolated Stone Artefact/s	-	Valid
37-6-1451	JP 35	Stone Artefact Scatter	-	Valid
37-6-2062	KR57	Stone Artefact Scatter	-	Valid
37-6-2064	KR59	Stone Artefact Scatter	-	Valid
37-6-2065	KR60	Stone Artefact Scatter	-	Valid
37-6-2304	MTW-5	Isolated Stone Artefact/s	-	Valid
37-6-2305	MTW-6	Isolated Stone Artefact/s	-	Valid
37-6-2311	MTW-12	Isolated Stone Artefact/s	-	Valid
37-6-2322	MTW-23	Isolated Stone Artefact/s	-	Valid
37-6-2323	MTW-24	Isolated Stone Artefact/s	-	Valid
37-6-2329	MTW-30	Isolated Stone Artefact/s	-	Valid
37-6-2331	MTW-32	Isolated Stone Artefact/s	-	Valid
37-6-2332	MTW-33	Isolated Stone Artefact/s	-	Valid
37-6-2333	MTW-34	Isolated Stone Artefact/s	-	Valid
37-6-2334	MTW-35	Isolated Stone Artefact/s	-	Valid
37-6-2335	MTW-36	Isolated Stone Artefact/s	-	Valid
37-6-2336	MTW-37	Isolated Stone Artefact/s	-	Valid
37-6-2337	MTW-38	Isolated Stone Artefact/s	-	Valid
37-6-2338	MTW-39	Isolated Stone Artefact/s / Shell Material	-	Valid
37-6-2339	MTW-40	Isolated Stone Artefact/s	-	Valid
37-6-2340	MTW-41	Isolated Stone Artefact/s	-	Valid
37-6-2341	MTW-42	Isolated Stone Artefact/s	-	Valid
37-6-2342	MTW-43	Scarred Tree	-	Valid
37-6-2343	MTW-44	Isolated Stone Artefact/s / Stone Source	-	Valid
37-6-2344	MTW-45	Isolated Stone Artefact/s	-	Valid
37-6-2345	MTW-46	Isolated Stone Artefact/s	-	Valid
37-6-2346	MTW-47	Isolated Stone Artefact/s	-	Valid
37-6-2347	MTW-48	Isolated Stone Artefact/s	-	Valid
37-6-2391	MTW-92	Isolated Stone Artefact/s	-	Valid
37-6-2395	MTW-96	Isolated Stone Artefact/s	-	Valid
37-6-2396	MTW-97	Isolated Stone Artefact/s	-	Valid
37-6-2397	MTW-98	Isolated Stone Artefact/s	-	Valid
37-6-2398	MTW-99	Isolated Stone Artefact/s	-	Valid
37-6-2399	MTW-100	Isolated Stone Artefact/s	-	Valid
37-6-2400	MTW-101	Isolated Stone Artefact/s	-	Valid

37-6-2436	MTW-137	Isolated Stone Artefact/s	-	Valid
37-6-2437	MTW-138	Isolated Stone Artefact/s	-	Valid
37-6-2438	MTW-140	Stone Artefact Scatter	-	Valid
37-6-2439	MTW-141	Stone Artefact Scatter	-	Valid
37-6-2440	MTW-142	Stone Artefact Scatter	-	Valid
37-6-2441	MTW-143	Isolated Stone Artefact/s	Yes	Valid
37-6-2442	MTW-144	Isolated Stone Artefact/s	-	Valid
37-6-2443	MTW-145	Isolated Stone Artefact/s	-	Valid
37-6-2444	MTW-146-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2445	MTW-147-WSW09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2446	MTW-148-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2447	MTW-149-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2448	MTW-150-WSW-09-4	Stone Artefact Scatter	Yes	Valid
37-6-2449	MTW-151-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2450	MTW-152-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2451	MTW-153-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2452	MTW-154-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2453	MTW-155-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2454	MTW-156-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2455	MTW-157-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2456	MTW-158-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2457	MTW-159-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2458	MTW-160-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2459	MTW-161-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2460	MTW-162-WSW-09-4	Isolated Stone Artefact/s	Yes	Valid
37-6-2461	MTW-163-WSW-09-41	Isolated Stone Artefact/s	-	Valid
37-6-2462	MTW-164-WSW-09-40	Isolated Stone Artefact/s	-	Valid
37-6-2463	MTW-165-WSW-09-27	Scarred Tree	-	Valid
37-6-2464	MTW-166-WSW-09-42	Isolated Stone Artefact/s	-	Valid
37-6-2465	MTW-167-WSW-09-43	Isolated Stone Artefact/s	-	Valid
37-6-2466	MTW-168-WSW-09-28	Scarred Tree	-	Valid
37-6-2467	MTW-169-WSW-09-29	Scarred Tree	-	Valid
37-6-2468	MTW-170-WSW-09-44	Isolated Stone Artefact/s	-	Valid
37-6-2469	MTW-171-WSW-09-5	Isolated Stone Artefact/s	-	Valid
37-6-2470	MTW-172-WSW-09-45	Isolated Stone Artefact/s	-	Valid
37-6-2471	MTW-173-WSW-09-6	Isolated Stone Artefact/s	Yes	Valid
37-6-2472	MTW-174-WSW-09-6	Isolated Stone Artefact/s	Yes	Valid
37-6-2473	MTW-175-WSW-09-6	Isolated Stone Artefact/s	Yes	Valid
37-6-2474	MTW-176-WSW-09-6	Stone Artefact Scatter	Yes	Valid
37-6-2475	MTW-177-WSW-09-7	Isolated Stone Artefact/s	-	Valid
37-6-2476	MTW-178-WSW-09-68	Isolated Stone Artefact/s	-	Valid
37-6-2477	MTW-179-WSW-09-30	Scarred Tree	-	Valid
37-6-2478	MTW-180-WSW-09-69	Isolated Stone Artefact/s	-	Valid
37-6-2479	MTW-181-WSW-09-31	Scarred Tree	-	Valid
37-6-2480	MTW-182-WSW-09-70	Isolated Stone Artefact/s	-	Valid
37-6-2481	MTW-183-WSW-09-71	Isolated Stone Artefact/s	-	Valid
37-6-2482	MTW-184-WSW-09-11	Stone Artefact Scatter	Yes	Valid
37-6-2483	MTW-185-WSW-09-12	Isolated Stone Artefact/s	-	Valid
37-6-2484	MTW-186-WSW-09-12	Isolated Stone Artefact/s	-	Valid
37-6-2485	MTW-187-WSW-09-12	Isolated Stone Artefact/s	-	Valid

37-6-2486	MTW-188-WSW-09-12	Isolated Stone Artefact/s	-	Valid
37-6-2487	MTW-189-WSW-09-12	Isolated Stone Artefact/s	-	Valid
37-6-2488	MTW-190-WSW-09-57	Isolated Stone Artefact/s	-	Valid
37-6-2489	MTW-191-WSW-09-72	Isolated Stone Artefact/s	-	Valid
37-6-2490	MTW-192-WSW-09-13	Isolated Stone Artefact/s	-	Valid
37-6-2491	MTW-193-WSW-09-73	Isolated Stone Artefact/s	-	Valid
37-6-2492	MTW-194-WSW-09-74	Isolated Stone Artefact/s	-	Valid
37-6-2494	MTW-196-WSW-09-14	Isolated Stone Artefact/s	-	Valid
37-6-2505	MTW-207-WSW-09-18	Isolated Stone Artefact/s	-	Valid
37-6-2506	MTW-208-WSW-09-17	Isolated Stone Artefact/s	-	Valid
37-6-2507	MTW-209-WSW-09-18	Stone Artefact Scatter	-	Valid
37-6-2521	MTW-223-WSW-09-32	Scarred Tree	-	Valid
37-6-2522	MTW-224-WSW-09-53	Isolated Stone Artefact/s	-	Valid
37-6-2523	MTW-225-WSW-09-54	Isolated Stone Artefact/s	-	Valid
37-6-2524	MTW-226-WSW-09-8	Isolated Stone Artefact/s / Stone Source	-	Valid
37-6-2577	MTW-282-WSW-09-63	Isolated Stone Artefact/s	-	Valid
37-6-2578	MTW-283-WSW-09-36	Scarred Tree	-	Valid
37-6-2579	MTW-284-WSW-09-64	Isolated Stone Artefact/s	-	Valid
37-6-2580	MTW-285-WSW-09-37	Scarred Tree	-	Valid
37-6-2581	MTW-286-WSW-09-65	Isolated Stone Artefact/s	-	Valid
37-6-2708	WS12	Isolated Stone Artefact/s	-	Valid
37-6-2709	WS13	Isolated Stone Artefact/s	-	Valid
37-6-2712	WS6	Isolated Stone Artefact/s	-	Valid
37-6-2942	MTW-521	Isolated Stone Artefact/s	-	Valid
37-6-2943	MTW-522	Isolated Stone Artefact/s	-	Valid
37-6-0611	Jerry's Plains Road 2	Isolated Stone Artefact/s	-	Valid
37-6-0682	Wark-2	Isolated Stone Artefact/s	-	Valid
37-6-2061	KR56	Stone Artefact Scatter	-	Valid
37-6-2063	KR58	Stone Artefact Scatter	-	Valid
37-6-0055	Wollombi Brook 04	Spiritual Place	-	Valid
37-6-0056	Wollombi Brook 03	Spiritual Place / Scarred Tree	-	Valid
37-6-1103	Site 1 GG	Grinding Grooves	-	Valid
37-6-1239	W70	Isolated Stone Artefact/s	-	Valid
37-6-1241	W71	Isolated Stone Artefact/s	-	Valid
37-6-1254	W25 (MTW337-336)	Stone Artefact Scatter	-	Valid
37-6-1255	W26 (MTW-334, MTW-343)	Isolated Stone Artefact/s	-	Valid
37-6-1258	W27 (MTW-342)	Isolated Stone Artefact/s	-	Valid
37-6-1259	W28 (MTW-314)	Isolated Stone Artefact/s	-	Valid
37-6-1260	W29 (MTW-356)	Isolated Stone Artefact/s	-	Valid
37-6-1262	W31 (MTW-333)	Isolated Stone Artefact/s	-	Valid
37-6-1264	W32	Isolated Stone Artefact/s	-	Valid
37-6-1265	W33 (MTW-332)	Isolated Stone Artefact/s	-	Valid
37-6-1267	W34 (MTW-320)	Isolated Stone Artefact/s	-	Valid
37-6-1268	W35 (MTW-312)	Isolated Stone Artefact/s	-	Valid
37-6-1270	W36 (MTW-316)	Isolated Stone Artefact/s	-	Valid
37-6-1300	W64 (MTW-315)	Isolated Stone Artefact/s	-	Valid
37-6-2308	MTW-9	Isolated Stone Artefact/s	-	Valid

37-6-2309	MTW-10	Isolated Stone Artefact/s	-	Valid
37-6-2310	MTW-11	Isolated Stone Artefact/s	-	Valid
37-6-2312	MTW-13	Stone Source	-	Valid
37-6-2313	MTW-14	Scarred Tree	-	Valid
37-6-2314	MTW-15	Isolated Stone Artefact/s	-	Valid
37-6-2315	MTW-16	Stone Arrangement	-	Valid
37-6-2316	MTW-17	Isolated Stone Artefact/s	-	Valid
37-6-2317	MTW-18	Isolated Stone Artefact/s	-	Valid
37-6-2318	MTW-19	Isolated Stone Artefact/s	-	Valid
37-6-2319	MTW-20	Isolated Stone Artefact/s	-	Valid
37-6-2320	MTW-21	Isolated Stone Artefact/s	-	Valid
37-6-2321	MTW-22	Isolated Stone Artefact/s	-	Valid
37-6-2324	MTW-25	Isolated Stone Artefact/s / Stone Source	-	Valid
37-6-2325	MTW-26	Isolated Stone Artefact/s	-	Valid
37-6-2326	MTW-27	Isolated Stone Artefact/s	-	Valid
37-6-2327	MTW-28	Isolated Stone Artefact/s	Yes	Valid
37-6-2330	MTW-31	Isolated Stone Artefact/s	-	Valid
37-6-2403	MTW-104	Isolated Stone Artefact/s	-	Valid
37-6-2404	MTW-105	Isolated Stone Artefact/s	-	Valid
37-6-2405	MTW-106	Isolated Stone Artefact/s	-	Valid
37-6-2406	MTW-107	Isolated Stone Artefact/s	-	Valid
37-6-2407	MTW-108	Isolated Stone Artefact/s	-	Valid
37-6-2408	MTW-109	Stone Artefact Scatter	-	Valid
37-6-2409	MTW-110	Isolated Stone Artefact/s	-	Valid
37-6-2410	MTW-111	Isolated Stone Artefact/s	-	Valid
37-6-2411	MTW-112	Isolated Stone Artefact/s	-	Valid
37-6-2412	MTW-113	Stone Artefact Scatter	-	Valid
37-6-2413	MTW-114, MTW-518	Isolated Stone Artefact/s	-	Valid
37-6-2414	MTW-115	Isolated Stone Artefact/s	-	Valid
37-6-2415	MTW-116	Isolated Stone Artefact/s	-	Valid
37-6-2416	MTW-117	Isolated Stone Artefact/s	-	Valid
37-6-2417	MTW-118	Isolated Stone Artefact/s	-	Valid
37-6-2418	MTW-119	Isolated Stone Artefact/s	-	Valid
37-6-2419	MTW-120	Isolated Stone Artefact/s	-	Valid
37-6-2420	MTW-121	Isolated Stone Artefact/s	-	Valid
37-6-2421	MTW-122	Isolated Stone Artefact/s	-	Valid
37-6-2422	MTW-123	Isolated Stone Artefact/s	-	Valid
37-6-2423	MTW-124	Isolated Stone Artefact/s	-	Valid
37-6-2424	MTW-125	Isolated Stone Artefact/s	-	Valid
37-6-2425	MTW-126	Isolated Stone Artefact/s	-	Valid
37-6-2426	MTW-127	Isolated Stone Artefact/s	-	Valid
37-6-2430	MTW-131	Isolated Stone Artefact/s	-	Valid
37-6-2431	MTW-132	Isolated Stone Artefact/s	-	Valid
37-6-2432	MTW-133	Isolated Stone Artefact/s	-	Valid
37-6-2433	MTW-134	Isolated Stone Artefact/s	-	Valid

37-6-2434	MTW-135	Isolated Stone Artefact/s	-	Valid
37-6-2435	MTW-136	Isolated Stone Artefact/s	-	Valid
37-6-2493	MTW-195-WSW-09-75	Isolated Stone Artefact/s	-	Valid
37-6-2495	MTW-197-WSW-09-14	Isolated Stone Artefact/s	-	Valid
37-6-2496	MTW-198-WSW-09-14	Isolated Stone Artefact/s	-	Valid
37-6-2497	MTW-199-wsw-09-14	Isolated Stone Artefact/s	-	Valid
37-6-2498	MTW-200-WSW-09-15	Isolated Stone Artefact/s	Yes	Valid
37-6-2499	MTW-201-WSW-09-15	Isolated Stone Artefact/s	Yes	Valid
37-6-2500	MTW-202-WSW-09-15	Stone Artefact Scatter	Yes	Valid
37-6-2501	MTW-203-WSW-09-79	Isolated Stone Artefact/s	-	Valid
37-6-2502	MTW-204-WSW-09-16	Isolated Stone Artefact/s	-	Valid
37-6-2503	MTW-205-WSW-09-76	Isolated Stone Artefact/s	-	Valid
37-6-2504	MTW-206-WSW-09-80	Isolated Stone Artefact/s	-	Valid
37-6-2508	MTW-210-WSW-09-19	Isolated Stone Artefact/s	Yes	Valid
37-6-2509	MTW-211-WSW-09-19	Isolated Stone Artefact/s	Yes	Valid
37-6-2510	MTW-212-WSW-09-19	Isolated Stone Artefact/s	Yes	Valid
37-6-2511	MTW-213-WSW-09-19	Isolated Stone Artefact/s	Yes	Valid
37-6-2512	MTW-214-WSW-09-78	Isolated Stone Artefact/s	-	Valid
37-6-2513	MTW-215-WSW-09-77	Isolated Stone Artefact/s	-	Valid
37-6-2514	MTW-216-WSW-09-46	Isolated Stone Artefact/s	-	Valid
37-6-2515	MTW-217-WSW-09-47	Isolated Stone Artefact/s	-	Valid
37-6-2516	MTW-218-WSW-09-48	Isolated Stone Artefact/s	-	Valid
37-6-2517	MTW-219-WSW-09-49	Isolated Stone Artefact/s	-	Valid
37-6-2525	MTW-227-WSW-09-33	Scarred Tree	-	Valid
37-6-2526	MTW-228-WSW-09-34	Scarred Tree	-	Valid
37-6-2527	MTW-230-WSW-09-55	Isolated Stone Artefact/s	-	Valid
37-6-2528	MTW-231-WSW-09-56	Isolated Stone Artefact/s	-	Valid
37-6-2529	MTW-232-WSW-09-20	Isolated Stone Artefact/s	Yes	Valid
37-6-2530	MTW-233-WSW-09-58	Isolated Stone Artefact/s	-	Valid
37-6-2534	MTW-237-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2535	MTW-238-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2536	MTW-239-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2537	MTW-240-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2538	MTW-241-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2539	MTW-242-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2540	MTW-243-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2541	MTW-244-WSW-09	Isolated Stone Artefact/s	-	Valid
37-6-2542	MTW-245-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2543	MTW-246-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2544	MTW-247-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2545	MTW-248-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2546	MTW-249-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2547	MTW-250-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2548	MTW-251-WSW-09-10	Isolated Stone Artefact/s	Yes	Valid
37-6-2549	MTW-252-WSW-09-20	Isolated Stone Artefact/s	Yes	Valid
37-6-2550	MTW-253-WSW-09-20	Isolated Stone Artefact/s	Yes	Valid

37-6-2551	MTW-254-WSW-09-20	Isolated Stone Artefact/s	Yes	Valid
37-6-2552	MTW-255-WSW-09-20	Isolated Stone Artefact/s	Yes	Valid
37-6-2553	MTW-256-WSW-09-22	Isolated Stone Artefact/s	Yes	Valid
37-6-2554	MTW-258-WSW-09-21	Scarred Tree	Yes	Valid
37-6-2555	MTW-260-WSW-09-21	Mound Feature (possible Burials)	Yes	Valid
37-6-2556	MTW-261-WSW-09-21	Isolated Stone Artefact/s	Yes	Valid
37-6-2557	MTW-262-WSW-09-21	Isolated Stone Artefact/s	Yes	Valid
37-6-2558	MTW-263-WSW-09-21	Isolated Stone Artefact/s	Yes	Valid
37-6-2559	MTW-264-WSW-09-21	Scarred Tree	Yes	Valid
37-6-2560	MTW-265-WSW-09-21	Isolated Stone Artefact/s	Yes	Valid
37-6-2561	MTW-266-WSW-09-22	Grinding Grooves	Yes	Valid
37-6-2562	MTW-267-WSW-09-22	Grinding Grooves	Yes	Valid
37-6-2563	MTW-268-WSW-09-23	Grinding Grooves	Yes	Valid
37-6-2564	MTW-269-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2565	MTW-270-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2566	MTW-271-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2567	MTW-272-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2568	MTW-273-WSM-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2569	MTW-274-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2570	MTW-275-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2571	MTW-276	Isolated Stone Artefact/s	Yes	Valid
37-6-2572	MTW-277-WSW-09-24	Isolated Stone Artefact/s	Yes	Valid
37-6-2573	MTW-278-WSW-09-61	Isolated Stone Artefact/s	-	Valid
37-6-2574	MTW-279-WSW-09-62	Isolated Stone Artefact/s	-	Valid
37-6-2575	MTW-280-WSW-09-62	Isolated Stone Artefact/s	-	Valid
37-6-2576	MTW-281-WSW-09-62	Isolated Stone Artefact/s	-	Valid
37-6-2582	MTW-287-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2583	MTW-288-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2584	MTW-289-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2585	MTW-290-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2586	MTW-291-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2587	MTW-292-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2588	MTW-293-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2589	MTW-294-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2590	MTW-295-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2591	MTW-296-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2592	MTW-297-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2593	MTW-298-wsw-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2594	MTW-299-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2595	MTW-300-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2596	MTW-301-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2597	MTW-302-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2598	MTW-303-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2599	MTW-304-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2600	MTW-305-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid

37-6-2601	MTW-306-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2602	MTW-307-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2603	MTW-308-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2604	MTW-309-WSW-09-25	Isolated Stone Artefact/s	Yes	Valid
37-6-2605	MTW-310-WSW-09-66	Isolated Stone Artefact/s	-	Valid
37-6-2606	MTW-311-WSW-09-67	Isolated Stone Artefact/s	-	Valid
37-6-2607	MTW-313	Isolated Stone Artefact/s	-	Valid
37-6-2608	MTW-317	Isolated Stone Artefact/s	-	Valid
37-6-2609	MTW-318	Isolated Stone Artefact/s	-	Valid
37-6-2610	MTW-319	Scarred Tree	-	Valid
37-6-2611	WE 16 (MTW-321)	Scarred Tree	-	Valid
37-6-2612	MTW-322	Scarred Tree	-	Valid
37-6-2613	MTW-323	Scarred Tree	-	Valid
37-6-2614	MTW-324	Scarred Tree	-	Valid
37-6-2615	MTW-325	Isolated Stone Artefact/s	-	Valid
37-6-2616	MTW-326	Isolated Stone Artefact/s	-	Valid
37-6-2617	MTW-327	Isolated Stone Artefact/s	-	Valid
37-6-2618	MTW-328	Isolated Stone Artefact/s	-	Valid
37-6-2619	MTW-329	Isolated Stone Artefact/s	-	Valid
37-6-2620	MTW-330	Isolated Stone Artefact/s	-	Valid
37-6-2621	PN6 (MTW-331)	Isolated Stone Artefact/s	-	Valid
37-6-2622	MTW-335	Isolated Stone Artefact/s	-	Valid
37-6-2623	MTW-338	Isolated Stone Artefact/s	-	Valid
37-6-2624	MTW-339	Isolated Stone Artefact/s	-	Valid
37-6-2625	MTW-340	Isolated Stone Artefact/s	-	Valid
37-6-2626	MTW-341	Isolated Stone Artefact/s	-	Valid
37-6-2627	MTW-344	Isolated Stone Artefact/s	-	Valid
37-6-2628	MTW-345	Isolated Stone Artefact/s	-	Valid
37-6-2629	MTW-346	Isolated Stone Artefact/s	-	Valid
37-6-2630	MTW-347	Isolated Stone Artefact/s	-	Valid
37-6-2631	MTW-348	Isolated Stone Artefact/s	-	Valid
37-6-2632	MTW-349	Isolated Stone Artefact/s	-	Valid
37-6-2633	MTW-350	Isolated Stone Artefact/s	-	Valid
37-6-2634	MTW-351	Isolated Stone Artefact/s	-	Valid
37-6-2635	MTW-352	Isolated Stone Artefact/s	-	Valid
37-6-2636	MTW-353	Isolated Stone Artefact/s	-	Valid
37-6-2637	MTW-354	Isolated Stone Artefact/s	-	Valid
37-6-2638	MTW-355	Isolated Stone Artefact/s	-	Valid
37-6-2639	MTW-357	Stone Artefact Scatter	-	Valid
37-6-2640	MTW-358	Isolated Stone Artefact/s	-	Valid
37-6-2641	MTW-359	Isolated Stone Artefact/s	-	Valid
37-6-2642	MTW-360	Isolated Stone Artefact/s	-	Valid
37-6-2643	MTW-361	Isolated Stone Artefact/s	-	Valid
37-6-2644	MTW-362	Isolated Stone Artefact/s	-	Valid
37-6-2645	MTW-363	Isolated Stone Artefact/s	-	Valid
37-6-2646	MTW-365	Isolated Stone Artefact/s	-	Valid

37-6-2647	MTW-366	Isolated Stone Artefact/s	Yes	Valid
37-6-2648	MTW-367	Isolated Stone Artefact/s	Yes	Valid
37-6-2649	MTW-368	Isolated Stone Artefact/s	Yes	Valid
37-6-2650	MTW-369	Isolated Stone Artefact/s	Yes	Valid
37-6-2651	MTW-370	Isolated Stone Artefact/s	Yes	Valid
37-6-2652	MTW-371	Isolated Stone Artefact/s	Yes	Valid
37-6-2653	MTW-372	Isolated Stone Artefact/s	Yes	Valid
37-6-2654	MTW-373	Isolated Stone Artefact/s	Yes	Valid
37-6-2655	MTW-374	Isolated Stone Artefact/s	Yes	Valid
37-6-2656	MTW-375	Isolated Stone Artefact/s	Yes	Valid
37-6-2657	MTW-376	Isolated Stone Artefact/s	Yes	Valid
37-6-2658	MTW-377	Isolated Stone Artefact/s	Yes	Valid
37-6-2659	MTW-378	Isolated Stone Artefact/s	Yes	Valid
37-6-2660	MTW-379	Isolated Stone Artefact/s	Yes	Valid
37-6-2661	MTW-380	Isolated Stone Artefact/s	Yes	Valid
37-6-2662	MTW-381	Isolated Stone Artefact/s	Yes	Valid
37-6-2663	MTW-382	Isolated Stone Artefact/s	Yes	Valid
37-6-2664	MTW-383	Isolated Stone Artefact/s	Yes	Valid
37-6-2665	MTW-384	Isolated Stone Artefact/s	Yes	Valid
37-6-2666	MTW-385	Isolated Stone Artefact/s	Yes	Valid
37-6-2667	MTW-386	Isolated Stone Artefact/s	Yes	Valid
37-6-2668	MTW-387	Isolated Stone Artefact/s	Yes	Valid
37-6-2669	MTW-388	Isolated Stone Artefact/s	Yes	Valid
37-6-2670	MTW-389	Isolated Stone Artefact/s	Yes	Valid
37-6-2671	MTW-390	Isolated Stone Artefact/s	Yes	Valid
37-6-2672	MTW-391	Isolated Stone Artefact/s	Yes	Valid
37-6-2673	MTW-392	Isolated Stone Artefact/s	Yes	Valid
37-6-2674	MTW-393	Isolated Stone Artefact/s	Yes	Valid
37-6-2675	MTW-394	Isolated Stone Artefact/s	Yes	Valid
37-6-2676	MTW-395	Isolated Stone Artefact/s	Yes	Valid
37-6-2677	MTW-396	Isolated Stone Artefact/s	Yes	Valid
37-6-2678	MTW-397	Isolated Stone Artefact/s	-	Valid
37-6-2679	MTW-398	Isolated Stone Artefact/s	Yes	Valid
37-6-2680	MTW-399	Isolated Stone Artefact/s	Yes	Valid
37-6-2681	MTW-400	Isolated Stone Artefact/s	Yes	Valid
37-6-2682	MTW-401	Isolated Stone Artefact/s	Yes	Valid
37-6-2683	MTW-402	Isolated Stone Artefact/s	Yes	Valid
37-6-2684	MTW-403	Isolated Stone Artefact/s	Yes	Valid
37-6-2685	MTW-404	Isolated Stone Artefact/s	Yes	Valid
37-6-2686	MTW-405	Isolated Stone Artefact/s	Yes	Valid
37-6-2687	MTW-406	Isolated Stone Artefact/s	Yes	Valid
37-6-2688	MTW-407	Isolated Stone Artefact/s	Yes	Valid
37-6-2689	MTW-408	Isolated Stone Artefact/s	Yes	Valid
37-6-2690	MTW-409	Isolated Stone Artefact/s	-	Valid
37-6-2691	MTW-410	Isolated Stone Artefact/s	-	Valid
37-6-2692	MTW-411	Isolated Stone Artefact/s	-	Valid

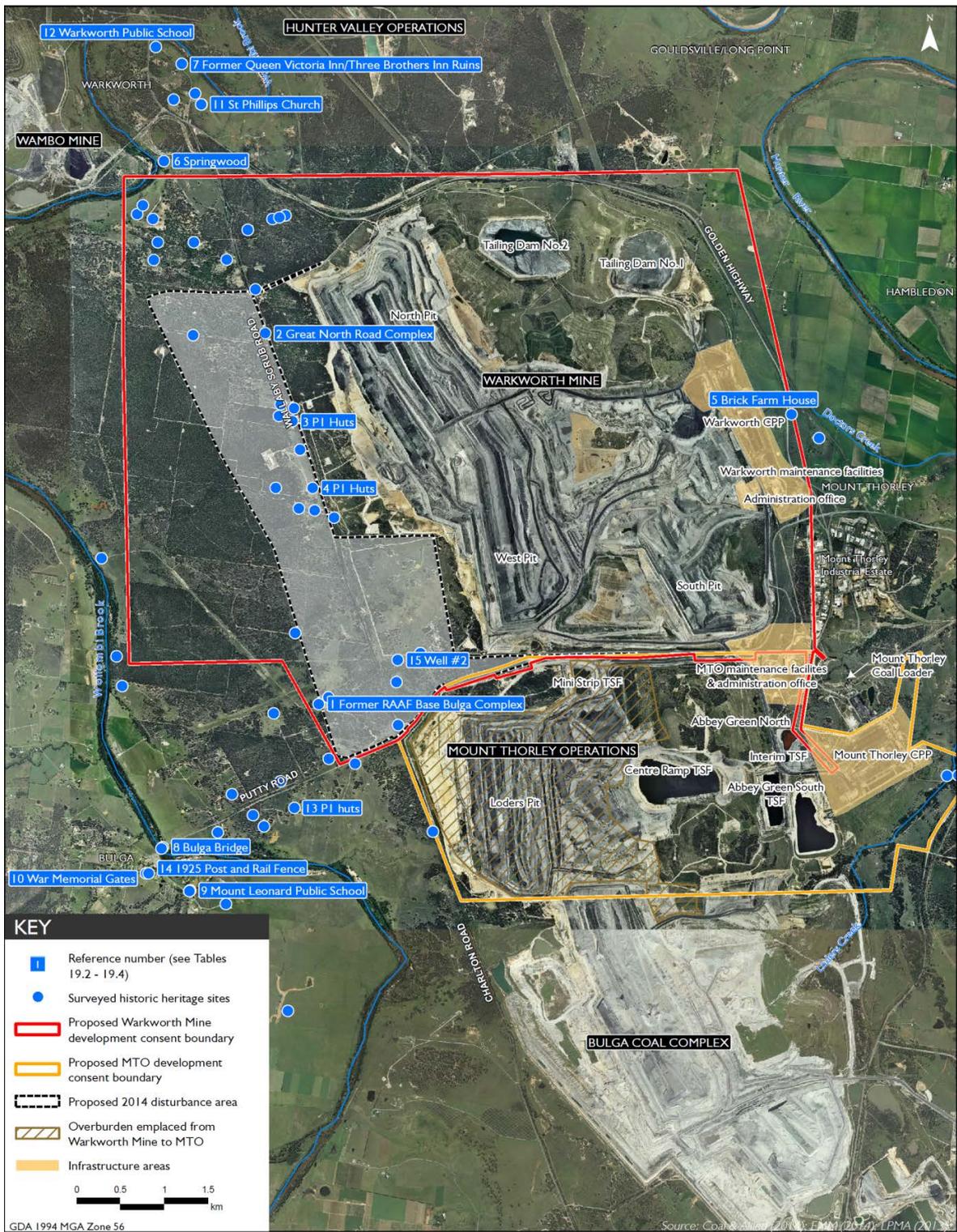
37-6-2693	MTW-412	Isolated Stone Artefact/s	-	Valid
37-6-2694	MTW-413	Scarred Tree	-	Valid
37-6-2705	PN4	Isolated Stone Artefact/s	-	Valid
37-6-2706	PN5 (N)	Isolated Stone Artefact/s	-	Valid
37-6-2924	MTW-505	Isolated Stone Artefact/s	-	Valid
37-6-2923	MTW-506	Isolated Stone Artefact/s	-	Valid
37-6-2925	MTW-507	Isolated Stone Artefact/s	-	Valid
37-6-2926	MTW-508	Isolated Stone Artefact/s	-	Valid
37-6-2927	MTW-509	Isolated Stone Artefact/s	-	Valid
37-6-2928	MTW-510	Isolated Stone Artefact/s	-	Valid
37-6-2929	MTW-511	Stone Artefact Scatter	-	Valid
37-6-2930	MTW-512	Isolated Stone Artefact/s	-	Valid
37-6-2931	MTW-513	Isolated Stone Artefact/s	-	Valid
37-6-2936	MTW-514	Isolated Stone Artefact/s	-	Valid
37-6-2937	MTW-515	Isolated Stone Artefact/s	-	Valid
37-6-2938	MTW-516	Isolated Stone Artefact/s	-	Valid
37-6-2939	MTW-517	Isolated Stone Artefact/s	-	Valid
37-6-2940	MTW-519	Isolated Stone Artefact/s	-	Valid
37-6-2941	MTW-520	Isolated Stone Artefact/s	-	Valid

Table 2: Aboriginal Cultural Heritage Places to be Impacted by the Development

<b>AHIMS No</b>	<b>Place Name</b>	<b>Place Type</b>	<b>PAD</b>	<b>Status</b>
37-6-0160	Mt Thorley J (MTW590-594)	Isolated Stone Artefact/s	-	Valid
37-6-0163	Mt Thorley M	Grinding Grooves	-	Valid
37-6-0669	MT 37 (MTW587-587)	Isolated Stone Artefact/s	-	Valid
37-6-0979	BP-4	Isolated Stone Artefact/s	-	Valid
37-6-1234	W12 (MTW-563)	Isolated Stone Artefact/s	-	Partially Destroyed
37-6-1235	W13 (MTW-562)	Isolated Stone Artefact/s	-	Partially Destroyed
37-6-1244	W20 (MTW-573)	Isolated Stone Artefact/s	-	Valid
37-6-1247	W21	Isolated Stone Artefact/s	-	Valid
37-6-1250	W23	Isolated Stone Artefact/s	-	Destroyed
37-6-1284	W48 (MTW-561)	Isolated Stone Artefact/s	-	Valid
37-6-1285	W49 (MTW-579)	Isolated Stone Artefact/s	-	Valid
37-6-1286	W50 (MTW-580)	Isolated Stone Artefact/s	-	Valid
37-6-1287	W51 (MTW-582)	Isolated Stone Artefact/s	-	Valid
37-6-1288	W52 (MTW-584)	Isolated Stone Artefact/s	-	Valid
37-6-1289	W53	Isolated Stone Artefact/s	-	Valid
37-6-1290	W54 (MTW-599)	Isolated Stone Artefact/s	-	Valid
37-6-1291	W55 (MTW-596)	Isolated Stone Artefact/s	-	Valid
37-6-1292	W56 (MTW-595)	Isolated Stone Artefact/s	-	Valid
37-6-1293	W57 (MTW-589)	Isolated Stone Artefact/s	-	Valid
37-6-1294	W58 (MTW-574)	Isolated Stone Artefact/s	-	Valid
37-6-1295	W59	Isolated Stone Artefact/s	-	Valid
37-6-1296	W60 (MTW-570)	Isolated Stone Artefact/s	-	Valid
37-6-1297	W61 (MTW-572)	Isolated Stone Artefact/s	-	Valid
37-6-2301	MTW-2	Isolated Stone Artefact/s	-	Valid
37-6-2302	MTW-3	Isolated Stone Artefact/s	-	Valid
37-6-2303	MTW-4	Isolated Stone Artefact/s	-	Valid
37-6-2306	MTW-7	Isolated Stone Artefact/s	-	Valid
37-6-2307	MTW-8	Scarred Tree	-	Valid
37-6-2328	MTW-29	Isolated Stone Artefact/s	-	Valid
37-6-2348	MTW-49	Isolated Stone Artefact/s	-	Valid
37-6-2349	MTW-50	Isolated Stone Artefact/s	Yes	Valid
37-6-2350	MTW-51	Isolated Stone Artefact/s	-	Valid
37-6-2351	MTW-52	Isolated Stone Artefact/s	-	Valid
37-6-2352	MTW-53	Isolated Stone Artefact/s	-	Valid
37-6-2353	MTW-54	Isolated Stone Artefact/s	-	Valid
37-6-2354	MTW-55	Isolated Stone Artefact/s	-	Valid
37-6-2355	MTW-56	Isolated Stone Artefact/s	-	Valid
37-6-2356	MTW-57	Isolated Stone Artefact/s	-	Valid
37-6-2357	MTW-58	Isolated Stone Artefact/s	-	Valid
37-6-2358	MTW-59	Isolated Stone Artefact/s	-	Valid
37-6-2359	MTW-60	Stone Artefact Scatter	Yes	Valid
37-6-2360	MTW-61	Stone Artefact Scatter	-	Valid
37-6-2361	MTW-62	Isolated Stone Artefact/s	-	Valid

<b>AHIMS No</b>	<b>Place Name</b>	<b>Place Type</b>	<b>PAD</b>	<b>Status</b>
37-6-2362	MTW-63	Isolated Stone Artefact/s	-	Valid
37-6-2363	MTW-64	Isolated Stone Artefact/s	-	Valid
37-6-2364	MTW-65	Isolated Stone Artefact/s	Yes	Valid
37-6-2365	MTW-66	Isolated Stone Artefact/s	-	Valid
37-6-2366	MTW-67	Isolated Stone Artefact/s	-	Valid
37-6-2367	MTW-68	Isolated Stone Artefact/s	-	Valid
37-6-2368	MTW-69	Isolated Stone Artefact/s	-	Valid
37-6-2369	MTW-70	Scarred Tree	-	Valid
37-6-2370	MTW-71	Isolated Stone Artefact/s	-	Valid
37-6-2371	MTW-72	Isolated Stone Artefact/s	-	Valid
37-6-2372	MTW-73	Isolated Stone Artefact/s	-	Valid
37-6-2373	MTW-74	Isolated Stone Artefact/s	-	Valid
37-6-2374	WS2A (MTW-75)	Stone Artefact Scatter	-	Valid
37-6-2375	MTW-76	Isolated Stone Artefact/s	-	Valid
37-6-2376	MTW-77	Stone Artefact Scatter	-	Valid
37-6-2377	MTW-78	Isolated Stone Artefact/s	-	Valid
37-6-2378	MTW-79	Isolated Stone Artefact/s	-	Valid
37-6-2379	MTW-80	Scarred Tree / Isolated Stone Artefact/s	-	Valid
37-6-2380	MTW-81	Isolated Stone Artefact/s	-	Valid
37-6-2381	MTW-82	Isolated Stone Artefact/s	-	Valid
37-6-2382	MTW-83	Isolated Stone Artefact/s	-	Valid
37-6-2383	MS1 (MTW-84)	Isolated Stone Artefact/s	-	Valid
37-6-2384	MS8 (MTW-85)	Isolated Stone Artefact/s	-	Valid
37-6-2385	MTW-86	Isolated Stone Artefact/s	-	Valid
37-6-2386	MTW-87	Isolated Stone Artefact/s	-	Valid
37-6-2387	MTW-88	Isolated Stone Artefact/s	-	Valid
37-6-2388	MTW-89	Isolated Stone Artefact/s	-	Valid
37-6-2389	MTW-90	Isolated Stone Artefact/s	-	Valid
37-6-2390	MTW-91	Isolated Stone Artefact/s	-	Valid
37-6-2392	MTW-93	Isolated Stone Artefact/s	-	Valid
37-6-2393	MTW-94	Isolated Stone Artefact/s	-	Valid
37-6-2394	MTW-95	Isolated Stone Artefact/s	-	Valid
37-6-2401	MTW-102	Isolated Stone Artefact/s	-	Valid
37-6-2402	MTW-103	Isolated Stone Artefact/s	-	Valid
37-6-2427	MTW-128	Isolated Stone Artefact/s	-	Valid
37-6-2428	MTW-129	Isolated Stone Artefact/s	-	Valid
37-6-2429	MTW-130	Isolated Stone Artefact/s	-	Valid
37-6-2518	MTW-220-MSW-09-50	Isolated Stone Artefact/s	-	Valid
37-6-2519	MTW-221-WSW-09-51	Isolated Stone Artefact/s	-	Valid
37-6-2520	MTW-222-WSW-09-52	Isolated Stone Artefact/s	-	Valid
37-6-2531	MTW-234-WSW-09-9	Isolated Stone Artefact/s	-	Valid
37-6-2532	MTW-235-WSW-09-59	Isolated Stone Artefact/s	-	Valid
37-6-2533	MTW-236-WSW-09-60	Isolated Stone Artefact/s	-	Valid
37-6-2695	PL10 (MTW-600)	Isolated Stone Artefact/s	-	Valid

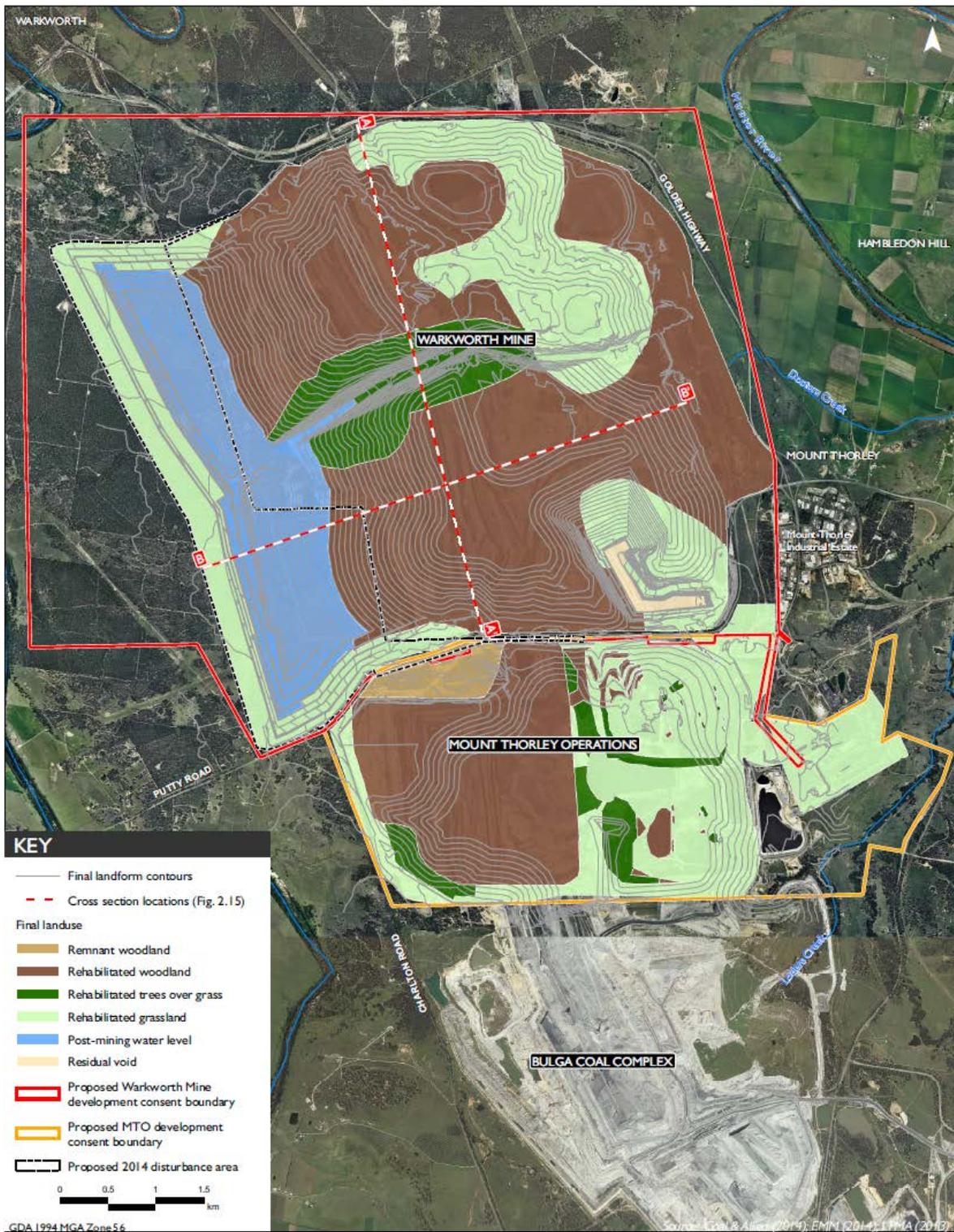
<b>AHIMS No</b>	<b>Place Name</b>	<b>Place Type</b>	<b>PAD</b>	<b>Status</b>
37-6-2697	PL2	Isolated Stone Artefact/s	-	Valid
37-6-2698	PL3	Isolated Stone Artefact/s	-	Valid
37-6-2699	PL4 (MTW-568)	Isolated Stone Artefact/s	-	Valid
37-6-2700	PL5 (MTW-577)	Isolated Stone Artefact/s	-	Valid
37-6-2703	PL8	Isolated Stone Artefact/s	-	Valid
37-6-2704	PL9	Isolated Stone Artefact/s	-	Valid
37-6-2707	WS10	Isolated Stone Artefact/s	-	Valid
37-6-2710	WS2	Isolated Stone Artefact/s	-	Valid
37-6-2711	WS3	Isolated Stone Artefact/s	-	Valid
37-6-2713	WS7	Isolated Stone Artefact/s	-	Valid
37-6-2714	WS9	Isolated Stone Artefact/s	-	Valid
37-6-2944	MTW-566	Isolated Stone Artefact/s	-	Valid
37-6-2945	MTW-567	Isolated Stone Artefact/s	-	Valid
37-6-2946	MTW-569	Isolated Stone Artefact/s	-	Valid
37-6-2947	MTW-571	Isolated Stone Artefact/s	-	Valid
37-6-2948	MTW-575	Isolated Stone Artefact/s	-	Valid
37-6-2949	MTW-576	Isolated Stone Artefact/s	-	Valid
37-6-2950	MTW-578	Isolated Stone Artefact/s	-	Valid
37-6-2951	MTW-581	Isolated Stone Artefact/s	-	Valid
37-6-2952	MTW-583	Isolated Stone Artefact/s	-	Valid
37-6-2953	MTW-585	Isolated Stone Artefact/s	-	Valid
37-6-2954	MTW-588	Isolated Stone Artefact/s	-	Valid
37-6-2955	MTW-597	Isolated Stone Artefact/s	-	Valid
37-6-2956	MTW-598	Isolated Stone Artefact/s	-	Valid



Field Survey Results  
 Warkworth Continuation 2014  
 Environmental Impact Statement  
 Figure 19.2

Figure 16: Historic Heritage Items

APPENDIX 6  
REHABILITATION PLANS



Final landuse and contours  
Warkworth Continuation 2014  
Environmental Impact Statement  
Figure 2.16

Figure 17: Indicative Final Landform and Land Use

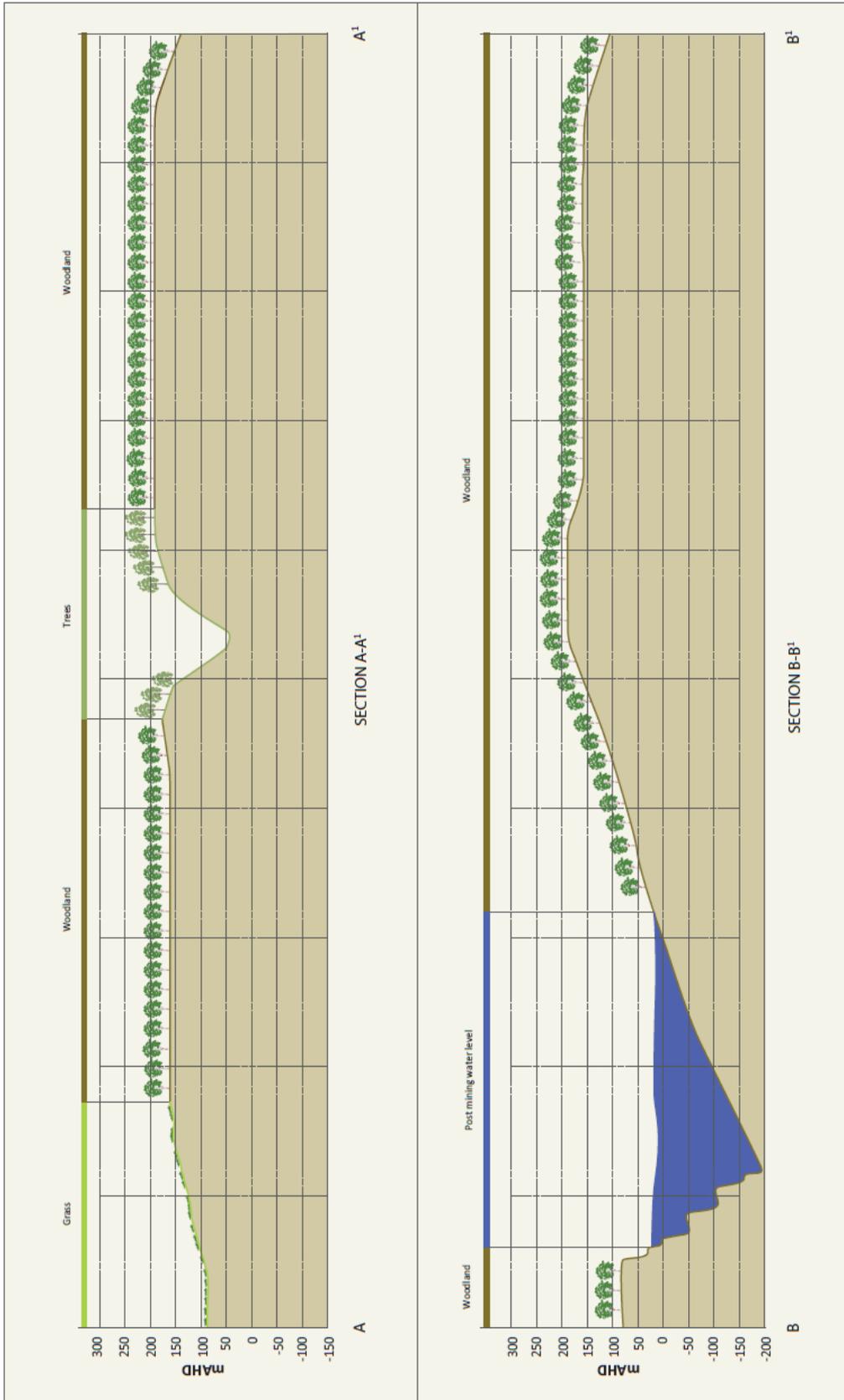


Figure 18: Indicative Final Landform – Cross Sections

## APPENDIX 7 NOISE COMPLIANCE ASSESSMENT

### Applicable Meteorological Conditions

1. The noise criteria in Table 3 of schedule 3 are to apply under all meteorological conditions except the following:
  - a) wind speeds greater than 3 m/s at 10 m above ground level; or
  - b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or
  - c) temperature inversion conditions greater than 3°C/100 m.

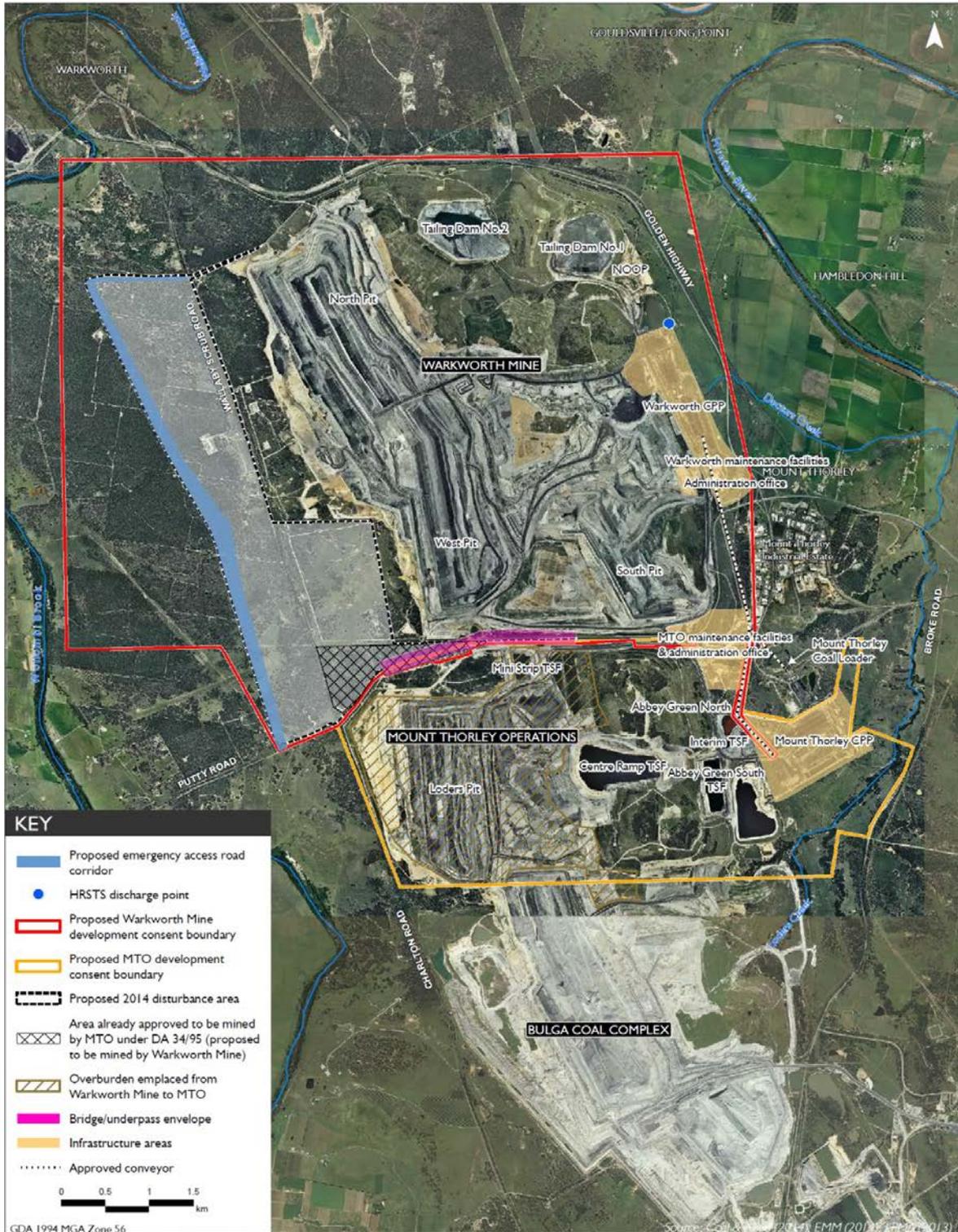
### Determination of Meteorological Conditions

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 located on the site.

### Compliance Monitoring

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. This monitoring must be carried out at least 12 times a year, unless the Secretary directs otherwise.
5. 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 conformance 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 8  
INDICATIVE ROUTE – EMERGENCY ACCESS TRACK**



Proposed emergency access road  
Warkworth Continuation 2014  
Environmental Impact Statement

Figure 19: Indicative Alternative Emergency Access Track/Fire Trail Corridor