Project Approval

Section 75J of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning, the Planning Assessment Commission of NSW approves the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 6.

These conditions are required to:

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

Red type represents the July 2015 modification (MOD 1)
Blue type represents the February 2016 modification (MOD 2)

Member of the Commission **Member of the Commission** **Member of the Commission**

Sydney 2015

SCHEDULE 1

Application Number:	08_0135
Proponent:	Moolarben Coal Mines Pty Ltd
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Moolarben Coal Project Stage 2

TABLE OF CONTENTS

DEFINITIONS **3**

ADMINISTRATIVE CONDITIONS **6**

Obligation to Minimise Harm to the Environment 6
Terms of Approval 6
Lapsing of Approval 6
Limits on Approval 6
Structural Adequacy 7
Demolition 7
Protection of Public Infrastructure 7
Operation of Plant and Equipment 7
Staged Submission of Strategies, Plans and Programs 7
Community Enhancement 7

ENVIRONMENTAL CONDITIONS – GENERAL **8**

Noise 8
Blasting 10
Air Quality 12
Ulan Public School 14
Meteorological Monitoring 14
Water 14
Biodiversity 17
Heritage 19
Transport 21
Visual 21
Bushfire Management 21
Waste 21
Rehabilitation 22

ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING **24**

Subsidence 24

ADDITIONAL PROCEDURES **28**

Notification of Landowners/Tenants 28
Independent Review 28
Land Acquisition 28

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING **30**

Environmental Management 30
Reporting 31
Auditing 32
Access to Information 32

APPENDIX 1: SCHEDULE OF LAND **33**

APPENDIX 2: GENERAL LAYOUT OF PROJECT **37**

APPENDIX 3: STATEMENT OF COMMITMENTS **39**

APPENDIX 4: UNDERGROUND LAYOUT & SENSITIVE FEATURES **44**

APPENDIX 5: PROPERTY NUMBERS AND LAND OWNERSHIP **46**

APPENDIX 6: NOISE COMPLIANCE ASSESSMENT **50**

APPENDIX 7: BIODIVERSITY OFFSET STRATEGY **51**

APPENDIX 8: ABORIGINAL HERITAGE **53**

APPENDIX 9: NON- ABORIGINAL HERITAGE **69**

APPENDIX 10: REHABILITATION PLAN **71**

DEFINITIONS

Annual review	The review required by condition 4 of Schedule 6
ARI	Average Recurrence Interval
ARTC	Australian Rail Track Corporation Ltd
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in EA, and depicted conceptually in the figure in Appendix 7
Built features	Includes any building or work erected or constructed on land, and includes dwellings and infrastructure such as any formed road, street, path, walk, or driveway; any pipeline, water, sewer, telephone, gas or other service main
Blast misfire	The failure of one or more holes in a blast pattern to initiate
CCC	Community Consultative Committee
Cliff	A continuous rock face, including overhangs, having a minimum length of 20 metres, a minimum height of 10 metres and a minimum slope of 2 in 1 (>63.4^{o})
Conditions of this approval	Conditions contained in Schedules 2 to 6 inclusive
Council	Mid-Western Regional Council
CLD	Crown Lands Division within the Department of Trade and Investment, Regional Infrastructure and Services
CPI	Australian Bureau of Statistics Consumer Price Index
CCI	Construction Cost Index
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
DEC	NSW Department of Education and Communities
Department	Department of Planning & Environment
DPI	Department of Primary Industries
DPI Water	Department of Primary Industries Water
DRE	Division of Resources and Energy within the Department of Industry
DSC	Dams Safety Committee
EA	The Moolarben Coal Project Stage 2 Environmental Assessment Report (6 volumes), dated March 2009 as modified by the: • preferred project report, dated January 2012; • response to submissions, dated June 2012; • residual matters report, dated August 2012; • Groundwater Accounting and Water Sharing Plan prepared by RPS Aquaterra Pty Ltd, dated 13 June 2012; • Surface water information prepared by Worley Parsons Services Pty Ltd, dated 28 September 2012, 15 October 2012 and 9 November 2012; • Biodiversity Offset Strategy prepared by Cumberland Ecology Pty Ltd, dated December 2012; • Water Licensing Report – Wollar Creek Water Source prepared by Dundon Consulting Pty Ltd, dated 11 June 2013; • OC4 South-West Modification Environmental Assessment, dated April 2015 and associated response to submissions, dated June 2015 (MOD 1); and • UG1 Optimisation Modification Environmental Assessment, dated June 2015 and associated response to submissions, dated September 2015 (MOD 2).
EEC	Endangered ecological community, as defined under the *Threatened Species Conservation Act 1995*
Environmental consequences	The environmental consequences of subsidence impacts, including: damage to built features; loss of surface flows to the subsurface; loss of standing pools; adverse water quality impacts; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology; and ponding.
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
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 *Heritage Act 1977* and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974*

Incident	A set of circumstances that: • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this approval
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 5 of this approval 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 approval
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, or drains from, active mining and infrastructure areas (synonymous with 'dirty water')
Mining operations	Includes the removal and emplacement of overburden and extraction, processing, handling, storage and transport of coal carried out on the site
Minister	Minister for Planning, or delegate
Minor	Not very large, important or serious
Minor cliff	A continuous rock face, including overhangs, which has a: • minimum length of 20 metres and a height between 5 metres and 10 metres, or maximum length of 20 metres and a minimum height of 10 metres; and • minimum slope of 2 to 1 (>63.4º).
Mitigation	Activities associated with reducing the impacts of the project
Moolarben mine complex	The combined operations of the Moolarben Stage 1 and Stage 2 mines
Moolarben Stage 1 mine	The approved mining operations and associated development within the area marked in blue dashed line on the figures in Appendix 2
Moolarben Stage 1 mine surface infrastructure area	The approved surface infrastructure area, including the coal handling and preparation plant and the rail loop, as shown on the figures in Appendix 2
Moolarben Stage 2 mine	The approved mining operations and associated development enclosed within the yellow dashed line on the figure in Appendix 2
NP&W Act	*National Parks & Wildlife Act 1974*
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
OEH	Office of Environment and Heritage
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Project	The development as described in the EA
Proponent	Moolarben Coal Mines Pty Limited, or any other person or persons who rely on this approval to carry out the development that is subject to this approval.
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
Reasonable costs	The costs agreed between the Department and the Proponent for obtaining independent experts to review the adequacy of any aspects of the extraction plan, or where such costs cannot be agreed, the costs determined by a dispute resolution process
Rehabilitation	The restoration of land disturbed by the project to a good condition, to ensure it is safe, stable and non-polluting
RFS	Rural Fire Service
RMS	Roads and Maritime Services
Rock face feature	A continuous rock face, including overhangs, which has a: • minimum length of 20 metres and a height between 3 metres and 5 metres, or maximum length of 20 metres and a minimum height of 5 metres; and • minimum slope of 2 to 1 (>63.4º).
ROM	Run-of-mine
Secretary	Secretary of the Department, or nominee
Secretary Industry	Secretary of NSW Department of Industry, or equivalent position
Safe, serviceable & repairable	Safe means no danger to users who are present, serviceable means available for its intended use, and repairable means damaged components can be repaired economically
Second workings	Extraction of coal from longwall panels, mini-wall panels or pillar extraction

Site	The land referred to in Appendix 1
Statement of commitments	The Proponent's commitments in Appendix 3
Steep slope	An area of land having a gradient between 1 in 3 (33% or 18.3^{o}) and 2 in 1 (200% or 63.4^{o})
Subsidence	The totality of subsidence effects, subsidence impacts and environmental consequences of subsidence impacts
Subsidence effects	Deformation of the ground mass due to mining, including all mining induced ground movements, such as vertical and horizontal displacement, tilt, strain and curvature
Subsidence impacts	Physical changes to the ground and its surface caused by subsidence effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface depressions or troughs
UCML	Ulan Coal Mines Limited
TSC Act	*Threatened Species Conservation Act 1995*
Ulan Road Strategy	The strategy prepared by the Arrb Group Limited, dated December 2011 as amended by the Secretary's letter dated 25 May 2013

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent 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 project.

TERMS OF APPROVAL

2. The Proponent shall carry out the project:
   (a) generally in accordance with the EA; and
   (b) in accordance with the statement of commitments and the conditions of this approval.

   Notes:
   - *The general layout of the project is shown in Appendix 2; and*
   - *The statement of commitments is shown in Appendix 3.*

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
   (c) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval;
   (d) any reports, reviews or audits commissioned by the Department regarding compliance with this approval; and
   (e) the implementation of any actions or measures contained in these documents.

LAPSING OF APPROVAL

5. If the project has not been physically commenced within 5 years of the date of this approval, then this project approval shall lapse.

LIMITS ON APPROVAL

Mining Operations

6. The Proponent may carry out mining operations on site until 31 December 2038.

   Note: Under this approval, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of both the Secretary and the Secretary Industry. Consequently, this approval 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

7. The Proponent shall not extract more than:
   (a) 12 million tonnes of ROM coal from the open cut mining operations of the project in any calendar year; and
   (b) 8 million tonnes of ROM coal from the underground mining operations of the project in any calendar year.

   Notes:
   - *The above limits should be read in conjunction with the extraction, processing and coal transport limits in the Moolarben Coal Stage 1 approval (MP 05_0117).*
   - *The total ROM coal extracted from the Moolarben mine complex (open-cut and underground mining) is no more than 21 million tonnes in any calendar year.*
   - *No more than 13 million tonnes of coal from the Moolarben mine complex can be processed (washed) in any calendar year.*
   - *No more than 18 million tonnes can be transported from the Moolarben mine complex in any calendar year.*

Coal Processing and Transport

8. The Proponent shall ensure that all coal extracted from the project is sent to the Moolarben Stage 1 mine surface infrastructure area for processing and/or transport to market.

STRUCTURAL ADEQUACY

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

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

DEMOLITION

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

PROTECTION OF PUBLIC INFRASTRUCTURE

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

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

12. The Proponent shall ensure that all plant and equipment used on site, or in connection with the project, is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS

13. With the approval of the Secretary, the Proponent may:
    (a) submit any strategy, plan or program required by this approval on a progressive basis; and
    (b) combine any strategy, plan, program, review, audit or report required by this approval with any similar strategy, plan, program, review, audit or report required under Project Approval 05_0117 for the Moolarben Coal Project Stage 1.

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

13A. With the agreement of the Secretary, the Proponent may prepare a revision of or a stage of a strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.

COMMUNITY ENHANCEMENT

14. From the commencement of construction until mining operations under this approval cease, the Proponent shall pay to Council a total of $515 a year for each full-time equivalent employee/contractor at the Moolarben mine complex in excess of 320. This payment is for the provision of infrastructure and services generated by the project. It is also to be indexed in accordance with the CPI for the previous quarter.

SCHEDULE 3
ENVIRONMENTAL CONDITIONS - GENERAL

NOISE

Acquisition Upon Request

1. Upon receiving a written request for acquisition from the 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 5.

Table 1: Land subject to acquisition upon request

Receiver ID
32

Note: To interpret the land referred to in Table 1, see the applicable figures in Appendix 5.

Mitigation Upon Request

2. Upon receiving a written request from the owner of any residence on the land listed in Table 2, the Proponent shall implement additional noise mitigation measures (such as double-glazing, insulation and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the noise impacts of the project on the residence.

If within 3 months of receiving this request from the owner, the Proponent 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: Residence subject to additional noise mitigation upon request

Receiver ID
30

Note: To interpret the land referred to in Table 2, see the applicable figures in Appendix 5.

Noise Criteria

3. The Proponent shall ensure that the noise generated by the Moolarben mine complex does not exceed the criteria in Table 3 at any residence on privately-owned land or the other specified locations.

Table 3: Noise criteria dB(A)

Receiver ID	***Day***	***Evening***	***Night***	
	$L_{Aeq(15min)}$	$L_{Aeq(15min)}$	$L_{Aeq(15min)}$	$L_{A1(1min)}$
30, 63	39	39	39	45
70	37	37	37	45
75	36	36	36	45
31	36	35	35	45
All other privately-owned residences	35	35	35	45
Ulan Primary School	35 (internal) when in use			-
Ulan Anglican Church	35 (internal) when in use			-
Goulburn River National Park Munghorn Gap Nature Reserve	50 when in use			-

Note: To interpret the land referred to in Table 3, see the applicable figures in Appendix 5.

Noise generated by the Moolarben mine complex is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 6 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 Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

Land Acquisition Criteria

4. If the noise generated by the Moolarben mine complex exceeds the criteria in Table 4 then upon receiving a written request for acquisition from an owner of the land listed in Table 4, the Proponent shall acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 5.

Table 4: Acquisition criteria dB(A) $L_{Aeq\ (15min)}$

Receiver ID	Day ($L_{Aeq\ (15min)}$)	Evening ($L_{Aeq\ (15min)}$)	Night ($L_{Aeq\ (15min)}$)
63	43	43	42
All other privately-owned residences	40	40	40

Note: To interpret the land referred to Table 4, see the applicable figures in Appendix 5.

5. If the noise generated by the Moolarben mine complex contributes to exceedances of the relevant criteria in Table 5 on more than 25% of any privately-owned land (and a dwelling could be built on that land under existing planning controls), the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 5.

Table 5: Land acquisition criteria

Day/Evening/Night $L_{Aeq(period)}$	Receiver
55/50/45	All privately-owned land

Note: Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

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

Noise Mitigation Criteria

6. If the noise generated by the Moolarben mine complex exceeds the criteria in Table 6 at any privately owned residence, then upon receiving a written request the Proponent shall implement additional noise mitigation measures (such as double-glazing, insulation and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the noise impacts of the project on the residence.

If within 3 months of receiving this request from the owner, the Proponent 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 6: Mitigation criteria dB(A) $L_{Aeq\ (15min)}$

Receiver ID	Day ($L_{Aeq\ (15min)}$)	Evening ($L_{Aeq\ (15min)}$)	Night ($L_{Aeq\ (15min)}$)
63	40	40	39
All privately owned residences other than those in Table 2	37	37	37

Note: To interpret the land referred to Table 6, see the applicable figures in Appendix 5.

Operating Conditions

7. The Proponent shall:
   (a) implement best management practice to minimise the operational and road noise of the project;
   (b) operate a comprehensive noise management system 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 approval;
   (c) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply (see Appendix 6);
   (d) only use locomotives and rolling stock that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL;
   (e) co-ordinate noise management at the Moolarben mine complex with the noise management at Ulan and Wilpinjong mines to minimise cumulative noise impacts; and

(f) carry out regular monitoring to determine whether the Moolarben mine complex is complying with the relevant conditions of this approval,

to the satisfaction of the Secretary.

Noise Management Plan

8. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:
   (a) be prepared in consultation with the EPA, and submitted to and approved by the Secretary prior to the commencement of any development on site under this approval;
   (b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
   (c) describe the proposed noise management system in detail; and
   (d) include a monitoring program that:
   - evaluates and reports on:
     - the effectiveness of the noise management system;
     - compliance against the noise criteria in this approval; 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 better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring); 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

9. The Proponent shall ensure that blasting on the Moolarben mine complex does not cause exceedances of the criteria in Table 7.

Table 7: Blasting criteria

Location	***Airblast overpressure (dB(Lin Peak))***	***Ground vibration (mm/s)***	***Allowable exceedance***
Residence on privately owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
All public infrastructure	-	50 *(or a limit determined by the structural design methodology in AS 2187.2-2006, or its latest version, or other alternative limit for public infrastructure, to the satisfaction of the Secretary)*	0%

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

Blasting Hours

10. The Proponent shall only carry out blasting on site between 9 am and 5 pm 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

11. The Proponent may carry out a maximum of:
   (a) 2 blasts a day; and
   (b) 9 blasts a week, averaged over a calendar year,

   at the Moolarben mine complex.

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 or its workers.

Note: 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.

Property Inspections

12. If the Proponent receives a written request from the owner of any privately-owned land within 2 kilometres of any approved open cut mining pit 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 Proponent 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 project 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 Proponent 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 Proponent 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 Proponent 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 Proponent 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. The Proponent 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 Aboriginal rock shelter sites S2MC229 (AHIMS No. 36-3-1376), S2MC232 (AHIMS No. 36-3-1379) or S2MC233 (AHIMS No. 36-3-1380);
    (c) operate a suitable system to enable the public to get up-to-date information on the proposed blasting Schedule on site; and
    (d) co-ordinate the timing of blasting on site with the timing of blasting at the Ulan and Wilpinjong mines to minimise cumulative blasting impacts,

    to the satisfaction of the Secretary.

    Note: To identify the Aboriginal rock shelter sites, see the applicable figure in Appendix 8.

15. The Proponent shall not undertake blasting on site within 500 metres of:
    (a) any public road;
    (b) the Gulgong to Sandy Hollow Railway Line;
    (c) the Wollar-Wellington 330kV Transmission Line; or
    (d) any land outside the site not owned by the Proponent,

    unless the Proponent has:
        - 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 the infrastructure and/or other buildings and structures; and
        - 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 infrastructure or land; or
        - a written agreement with the relevant infrastructure owner or landowner to allow blasting to be carried out closer to the infrastructure or land, and the Proponent has advised the Department in writing of the terms of this agreement.

Blast Management Plan

16. The Proponent shall prepare and implement a Blast Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with the EPA, and submitted to and approved by the Secretary prior to conducting any blasting on site;
    (b) describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this approval;
    (c) propose and justify any alternative ground vibration limits for public infrastructure in the vicinity of the site (if relevant); and
    (d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria and operating conditions of this approval.

AIR QUALITY

Odour

17. The Proponent shall ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.

Air Quality Criteria

18. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the Moolarben mine complex do not cause exceedances of the criteria listed in Tables 8, 9 and 10 at any residence on privately-owned land.

Table 8: Long term impact assessment criteria for particulate matter

Pollutant	***Averaging period***	***[d] Criterion***
Total suspended particulate (TSP) matter	Annual	[a] 90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	[a] 30 µg/m^3

Table 9: Short term impact assessment criterion for particulate matter

Pollutant	***Averaging period***	***[d] Criterion***
Particulate matter < 10 µm (PM_{10})	24 hour	[a] 50 µg/m^3

Table 10: Long term impact assessment criteria for deposited dust

Pollutant	***Averaging period***	***Maximum increase in deposited dust level***	***Maximum total deposited dust level***
[c] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes to Tables 8-10:

[a] Total impact (i.e. incremental increase in concentrations due to the complex plus background concentrations due to all other sources);

[b] Incremental impact (i.e. incremental increase in concentrations due to the complex on its own);

[c] 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

[d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agreed by the Secretary.

Mine-owned Land

19. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the Moolarben mine complex do not cause exceedances of the criteria listed in Tables 11, 12 and 13 at any occupied residence on mine-owned land (including land owned by another mining company) unless:
    (a) the tenant and landowner (if the residence is owned by another mining company) have been notified of any health risks associated with such exceedances in accordance with the notification requirements under Schedule 5 of this approval;
    (b) the tenant of any land owned by the Proponent can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice;
    (c) air mitigation measures such as air filters, a first flush roof water drainage system and/or air conditioning) are installed at the residence, if requested by the tenant or landowner (if the residence is owned by another mining company);

(d) air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining company) of the actual particulate emissions at the residence; and
(e) 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.

Air Quality Acquisition Criteria

20. If particulate matter emissions generated by the Moolarben mine complex exceed the incremental criteria, or contribute an exceedance of the relevant cumulative criteria, in Tables 11, 12 and 13 at any residence on privately-owned land or on more than 25% of any privately-owned land (and a dwelling could be built on that land under existing planning controls), then upon receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 5.

Table 11: Long term land acquisition criteria for particulate matter

Pollutant	***Averaging period***	***[d] Criterion***
Total suspended particulate (TSP) matter	Annual	[a] 90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	[a] 30 µg/m^3

Table 12: Short term land acquisition criteria for particulate matter

Pollutant	***Averaging period***	***[d] Criterion***	***Basis***
Particulate matter < 10 µm (PM_{10})	24 hour	[b] 50 µg/m^3	Increment [b]

Table 13: Long term land acquisition criteria for deposited dust

Pollutant	***Averaging period***	***Maximum increase in deposited dust level***	***Maximum total deposited dust level***
[c] Deposited dust	Annual	[b] 2 g/m^2/month	[a] 4 g/m^2/month

Notes to Tables 11-13:

[a] *Cumulative impact (i.e. incremental increase in concentrations due to the complex plus background concentrations due to all other sources);*

[b] *Incremental impact (i.e. incremental increase in concentrations due to the complex on its own);*

[c] *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;*

[d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agreed by the Secretary.

Operating Conditions

21. The Proponent shall:
(a) implement best management practice to minimise the off-site odour, fume and dust emissions of the project;
(b) implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site;
(c) minimise any visible off-site air pollution generated by the project;
(d) minimise the surface disturbance of the site;
(e) 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 approval;
(f) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see Note d above under Table 13); and
(g) co-ordinate the air quality management at the Moolarben mine complex with the air quality management at the Ulan and Wilpinjong mines to minimise cumulative air quality impacts,

to the satisfaction of the Secretary.

Air Quality Management Plan

22. The Proponent shall prepare and implement an Air Quality Management Plan for the project to the satisfaction of the Secretary. This plan must:
(a) be prepared in consultation with the EPA, and submitted to and approved by the Secretary prior to the commencement of any development on site;

(b) describe the measures that would be implemented to ensure compliance with the relevant air quality criteria and operating conditions of this approval:
(c) describe the air quality management system;
(d) include an air quality monitoring program that:
- uses a combination of real-time and supplementary monitors to evaluate the performance of the project against the air quality criteria in this approval;
- adequately supports the air quality management system;
- evaluates and reports on the:
  - the effectiveness of the air quality management system;
  - compliance with the air quality criteria;
  - 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.

ULAN PUBLIC SCHOOL

23. The Proponent shall consult with DEC and, if requested:
a) implement agreed reasonable and feasible measures to ameliorate potential noise and/or dust impacts to Ulan Public School; or
b) on a reasonable basis relating to the adverse effect of noise and/or dust from the project, contribute to or meet reasonable costs toward relocating the school.

METEOROLOGICAL MONITORING

24. For the life of the project, the Proponent 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

25. The Proponent shall ensure that:
(a) it has sufficient water for all stages of the project, and if necessary, adjust the scale of operations on site to match its available water supply; and
(b) any water supply constraints do not compromise any aspect of the environmental performance of the mine.

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 project.

Compensatory Water Supply

26. The Proponent shall provide a compensatory water supply to any landowner of privately owned land whose water supply is adversely and directly impacted (other than an impact that is negligible) as a result of the project, in consultation with DPI Water, 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 project. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified, unless otherwise agreed with the landowner.

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

Water Pollution

27. Unless an EPL authorises otherwise, the Proponent shall comply with section 120 of the POEO Act.

Water Management Performance Measures

28. The Proponent shall comply with the performance measures in Table 14 to the satisfaction of the Secretary.

Table 14: Water Management Performance Measures

Feature	***Performance Measure***
Water Management – General	• Minimise cumulative water impacts with the other mines in the region • Maximise water sharing with the other mines in the region • Minimise the use of clean water on site
The Drip	• Nil impact on the water supply to the Drip
Construction and operation of linear infrastructure	• Design, install and maintain erosion and sediment controls generally in accordance with the series *Managing Urban Stormwater: Soils and Construction* including *Volume 1, Volume 2A – Installation of Services* and *Volume 2C – Unsealed Roads* • Design, install and maintain the infrastructure within 40 m of watercourses generally in accordance with the *Guidelines for Controlled Activities on Waterfront Land (DPI 2007)*, or its latest version • Design, install and maintain creek crossings generally in accordance with the *Policy and Guidelines for Fish Friendly Waterway Crossings* (NSW Fisheries, 2003) and *Why Do Fish Need To Cross The Road*? *Fish Passage Requirements for Waterway Crossings* (NSW Fisheries 2003), or their latest versions
Mine Sediment Dams	• Design, install and maintain the dams generally in accordance with the series *Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2E Mines and Quarries*
Clean water diversion & storage infrastructure	• Design, install and maintain the clean water system to capture and convey the 100 year ARI flood • Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site
Mine water storages	• Mine water storage infrastructure is designed to store a 100 year ARI 72 hour storm event • On-site storages (including tailings dams, mine infrastructure dams, groundwater storage and treatment dams) are suitably lined to comply with a permeability standard of $< 1 \times 10^{-9}$ m/s
Tailings, acid forming and potentially acid forming materials	• In-pit emplacement, encapsulation or capping to prevent the migration of pollutants beyond the pit shell • Adequate freeboard within the pit void to minimise the risk of discharge to surface waters
Chemical and hydrocarbon storage	• Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards
Murragamba and Eastern Creek realignments	• Increase the overall length of the creek diversions and reduce the overall average bed slope compared to the existing creek alignments • Mimic the existing meandering plan form of the low flow channel • Include creek corridors which are designed to contain flood flows up to the 1 in 100 year ARI • Include low flow channels which are designed to contain a rainfall event of a 1 in 1 year ARI • Include riffle/drop structures that are designed for a 1 in 20 year ARI peak flow • Incorporate erosion control measures based on vegetation and engineering revetments • Incorporate persistent/permanent pools for aquatic habitat • Incorporate seepage control/flow loss measures through sections of the creek lines to be constructed over mine waste backfill • Revegetate with suitable native riparian vegetation species to restore aquatic biodiversity throughout the realignments

Feature	*Performance Measure*
Aquatic and riparian ecosystem, including the relevant sections of Murragamaba Creek, Eastern Creek and Wilpinjong Creek	• Maintain or improve baseline channel stability • Develop site-specific in-stream water quality objectives in accordance with ANZECC 2000 and *Using the ANZECC Guidelines and Water Quality Objectives in NSW* procedures (DECC 2006), or its latest version

Water Management Plan

29. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with DPI Water and the EPA, by suitably qualified and experienced persons whose appointment has been approved by the Secretary;
    (b) be submitted to the Secretary for approval prior to the commencement of any development on site;
    (c) include reference to the National Water Quality Management Strategy;
    (d) include detailed performance criteria and describe measure to ensure that the Proponent complies with the Water Management Performance Measures (see Table 14);
    (e) in addition to the standard requirements for management plans (see condition 3 of Schedule 6), this plan must 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;
                - reporting procedures, including the preparation of a site water balance for each calendar year;
            - describes the measures that would be implemented to:
                - minimise clean water use on site;
                - maximise water sharing with the other mines in the region;
        (ii) Surface Water Management Plan, that includes:
            - detailed baseline data on water flows and quality in the waterbodies that could be affected by the project;
            - a detailed description of the water management system on site;
            - detailed plans, including design objectives and performance criteria, for the:
                - Murragamba and Eastern Creek realignments;
                - in-pit emplacement areas for tailings, acid forming and potentially acid forming materials;
                - final voids (see the Rehabilitation Objectives in Table 14);
            - detailed performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the project:
                - the water management system;
                - downstream surface water quality;
                - downstream flooding impacts and
                - stream and riparian vegetation health for Moolarben Creek, Bora Creek, Murragamba Creek, Eastern Creek, Wilpinjong Creek and the Goulburn River;
            - a program to monitor and report on:
                - the effectiveness of the water management system; and
                - surface water flows and quality, stream and riparian vegetation health in the watercourses that could be affected by the project; and
                - downstream flooding impacts;
            - reporting procedures for the results of the monitoring program; and
            - a plan to respond to any exceedances of the performance criteria, and mitigate any adverse surface water impacts of the project;
        (iii) Groundwater Management Plan, that includes:
            - detailed baseline data on groundwater levels, yield and quality in the region and privately-owned groundwater bores that could be affected by the project;
            - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
            - a program to monitor and report on:
                - groundwater inflows to the underground and open cut mining operations;
                - the seepage/leachate from water storages, emplacements, backfilled voids and final voids;
                - background changes in groundwater yield/quality against mine-induced changes;
                - the permeability, hydraulic gradient, flow direction and connectivity of the palaeochannel and flows within Wilpinjong Creek (requires 3 additional

monitoring piezometers within the main trunk of the paleochannel between the open cut 4 boundary and Wilpinjong Creek);
- impacts of the project on:
  - regional and local (including alluvial) aquifers;
  - groundwater supply of potentially affected landowners; and
  - groundwater dependent ecosystems (including the Drip) and riparian vegetation;
- a program to validate the groundwater model for the project, and compare against monitoring results with modelled predictions; and

• a plan to respond to any exceedances of the groundwater assessment criteria.

(iv) a protocol that has been prepared in consultation with the owners of the Ulan and Wilpinjong mines to:

• minimise cumulative water quality impacts;
• review opportunities of increased water sharing between these projects;
• co-ordinate water quality monitoring programs as far as practicable;
• undertake joint investigations/studies in relation to complaints/exceedences of trigger levels where cumulative impacts are considered likely; and
• co-ordinate modelling programs for validation, re-calibration and re-running of groundwater models.

BIODIVERSITY

Biodiversity Offset Strategy

30. The Proponent shall implement the biodiversity offset strategy for the project summarised in Table 15 and shown conceptually in Appendix 7 to the satisfaction of the Secretary.

Table 15: Summary of the Biodiversity Offset Strategy

Area	***Offset Type***	***Minimum Size hectares (ha)***
Dun Dun East	Enhance existing vegetation: • 1368 ha of native vegetation • 408 ha of EEC Regenerate: • 380 ha of existing grassland to forest/woodland	**1776**
Dun Dun West	Enhance existing vegetation: • 837 ha of native vegetation • 122 ha of EEC Regenerate: • 307 ha of existing grassland to forest/woodland	**959**
Avisford 1	Enhance existing vegetation: • 300 ha of native vegetation • 102 ha of EEC Regenerate: • 7 ha of existing grassland to forest/woodland	**402**
Avisford 2	Enhance existing vegetation: • 203 ha of native vegetation • 5 ha of EEC	**208**
Ulan 18	Enhance existing vegetation: • 291 ha of native vegetation • 48 ha of EEC Regenerate: • 178 ha of existing grassland to forest/woodland	**339**
Onsite Offset	Enhance existing vegetation: • 420 ha of native vegetation • 51 ha of EEC Regenerate: • 199 ha of existing grassland to forest/woodland	**471**
Old Bobadeen	Enhance existing vegetation: • 90 ha of native vegetation • 400 ha of EEC Regenerate: • 409 ha of existing grassland to forest/woodland	**490**
Libertus	Enhance existing vegetation: • 160 ha of native vegetation • 18 ha of EEC Regenerate: • 22 ha of existing grassland to forest/woodland	**178**

Notes:

- *To identify the areas referred to in Table 15, see the applicable figures in Appendix 7;*
- *The amount of native vegetation includes forest/woodland and grassland but excludes woodland and grassland EECs. The combined total of native vegetation and EEC on each property equates to the minimum size available as an offset;*
- *The amount of grassland available for regeneration includes sparsely vegetated woodland; and*
- *The strategy includes the regeneration of existing grassland areas within each offset to woodland communities.*

Regeneration Areas

31. The Proponent shall ensure that the regeneration of vegetation within the specified areas of the biodiversity offset strategy is focused on the re-establishment of flora species typical of the White Box Yellow Box Blakely's Red Gum Woodland as defined under the TSC Act and White Box Yellow Box Blakely's Red Gum Grassy Woodland as defined under the EPBC Act.

32. The Proponent shall use its best endeavours to work with the CLD to identify and implement any reasonable and feasible regeneration of vegetation on Crown lands in the vicinity of Pyramul Creek immediately to the south of the 'Dun Dun East' biodiversity offset area.

Munghorn Gap Nature Reserve

33. The Proponent shall ensure that:
    (a) the boundary of the project with the Munghorn Gap Nature Reserve is identified and surveyed prior to the commencement of open cut mining; and
    (b) a 50 meter buffer zone is maintained between the open cut mining and the Munghorn Gap Nature Reserve during the life of the project.

Habitat for Threatened Fauna Species

34. The Proponent shall ensure that the biodiversity offset strategy provides suitable habitat for all the threatened fauna species confirmed and identified as being potentially present in the disturbance areas.

    Note: The threatened fauna species confirmed and identified as being potentially present in the disturbance areas are listed in Appendix 7.

Regent Honeyeater Study

35. Within 6 months of the date of this approval, the Proponent shall calculate:
    (a) the impacts generated by the project on the Regent Honeyeater in species credits; and
    (b) the species credits that would be generated for the Regent Honeyeater from implementation of the offset strategy described in condition 30 above,

    in accordance with the *NSW Biodiversity Offset Policy for Major Projects*, and to the satisfaction of OEH.

36. If the calculations carried out in condition 35 above identify a shortfall of species credits to offset the impacts of the project, then within 24 months of the date of this approval, the Proponent shall satisfy the outstanding offset requirements to the satisfaction of OEH. This can be achieved by one or more of the following:
    (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; and/or
    (c) providing supplementary measures.

Vegetation Information System Mapping Data

37. At the request of OEH, the Proponent shall provide OEH with detailed vegetation mapping and survey data associated with its lands to be conserved in perpetuity in accordance with this approval. This information is to be provided free of charge.

Long Term Security of Biodiversity Offsets

38. By 31 December 2015, unless the Secretary agrees otherwise, the Proponent shall make suitable arrangements to protect the offset areas in Table 15 in perpetuity, in consultation with OEH and to the satisfaction of the Secretary.

    Note: The preferred mechanisms for the provision of long-term conservation security are via Biobanking Arrangements and additions to the OEH Estate.

Biodiversity Management Plan

39. The Proponent shall prepare and implement a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
    (a) be prepared in consultation with OEH, and submitted to and approved by the Secretary prior to the commencement of any development on site;
    (b) describe the short, medium, and long term measures that would be implemented to:

- manage the remnant vegetation and fauna habitat on the site; and
- implement the biodiversity offset strategy;
- integrate the implementation of the biodiversity offset strategy to the greatest extent practicable with the rehabilitation of the site;

(c) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);

(d) include a detailed description of the measures that would be implemented over the next 3 years for:
- enhancing the quality of existing vegetation and fauna habitat in the biodiversity offset areas;
- creating native vegetation and fauna habitat in the biodiversity offset areas and rehabilitation area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary);
- maximising the salvage of resources within the approved disturbance area - including vegetative and soil resources – for beneficial reuse in the enhancement of the biodiversity offset areas or rehabilitation area;
- collecting and propagating seed;
- protecting vegetation and fauna habitat outside the approved disturbance area on-site;
- minimising the impacts on fauna on site, including undertaking pre-clearance surveys;
- managing any potential conflicts between the proposed enhancement works in the biodiversity offset strategy areas and any Aboriginal heritage values (both cultural and archaeological) in these areas;
- managing salinity;
- controlling weeds and feral pests;
- controlling erosion;
- managing grazing and agriculture on site;
- controlling access; and
- bushfire management;

(e) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;

(f) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and

(g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

Conservation Bond

40. By 31 December 2015, the Proponent shall lodge a Conservation Bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond shall be determined by:

(a) calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and

(b) employing a suitably qualified quantity surveyor to verify the calculated costs,

to the satisfaction of the Secretary.

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

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

Notes:

- *Alternative funding arrangements for long-term management of the Biodiversity Offset Strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate can be used to reduce the liability of the conservation and biodiversity bond, and*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy.*

HERITAGE

Protection of Aboriginal Heritage Items

41. Unless otherwise authorised under the NP&W Act, the Proponent shall ensure that the project does not cause any direct or indirect impact on the identified Aboriginal heritage items located outside the approved disturbance area of the project.

Note: Identified Aboriginal heritage items are listed in Appendix 8.

Additional Survey

42. Prior to carrying out any development on site, unless the Secretary agrees otherwise, the Proponent shall:
    (a) carry out additional archaeological survey work in the vicinity of the proposed Stage 2 ROM Coal Facilities in consultation with OEH and Aboriginal stakeholders;
    (b) undertake a detailed analysis of the significance of the heritage items that are identified during the survey; and
    (c) recommend measures to avoid and/or mitigate the impacts of the project on these heritage items,

    to the satisfaction of the Secretary.

43. Within 12 months of the date of this approval, unless the Secretary agrees otherwise, the Proponent shall carry out a detailed investigation into the Aboriginal cultural heritage values of the southern portion of the Dun Dun East biodiversity offset area (Lot 79, DP 704159), in the vicinity of Pyramul Creek, in consultation with OEH and Aboriginal stakeholders, and to the satisfaction of the Secretary.

Heritage Conservation Areas

44. The Proponent shall implement the heritage conservation strategy described in the EA, summarised in Table 16 and shown conceptually in Appendix 8, to the satisfaction of the Secretary.

Table 16: Summary of the Heritage Conservation Strategy

Area	***Sites***	***Minimum Size hectares (ha)***
Murragamba Creek Management Area	40 sites - 5 of high significance, 6 of medium and 29 of low	**154**
Powers Conservation Area	10 sites – 1 of high significance, 2 of medium and 7 of low significance	**63**
Red Hills Conservation Area	42 sites – 2 of high significance, 9 of medium and 31 of low significance	**107**

Note: *To identify the areas referred to in Table 16, see the applicable figures in Appendix 8.*

Long Term Security of Heritage Conservation Areas

45. Within 18 months of approval of the Heritage Management Plan, unless the Secretary agrees otherwise, the Proponent shall make suitable arrangements to protect the heritage conservation areas in Table 16 in perpetuity to the satisfaction of the Secretary.

Notes:
- *The location of the conservation areas are shown in the figure in Appendix 8.*
- *The protection of the Aboriginal heritage conservation area/s may be combined with the protection of the biodiversity offset areas required under condition 30 of this approval.*

Heritage Management Plan

46. The Proponent shall prepare and implement a Heritage Management Plan for the project 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 OEH and the Aboriginal stakeholders (in relation to the management of Aboriginal heritage values);
    (c) be submitted to and approved by the Secretary prior to construction, unless the Secretary agrees otherwise;
    (d) include a description of the measures that would be implemented for:
        - managing the discovery of human remains or previously unidentified heritage items on site; and
        - ensuring any workers on site receive suitable heritage inductions prior to carrying out any development on site, and that suitable records are kept of these inductions;
    (e) include the following for the management of Aboriginal Heritage:
        - a detailed plan of management for the Murragamba Creek, Red Hills and Powers conservation areas;
        - a description of the measures that would be implemented for:
            - protecting, monitoring and/or managing (including any proposed archaeological investigations and/or salvage measures) the heritage items identified in the tables in Appendix 8;
            - managing the discovery of previously unidentified Aboriginal items on site;
            - conserving the sites outside the surface disturbance area (see Appendix 8), including measures that would be implemented to secure, analyse and record the sites at risk of subsidence;
            - maintaining and managing reasonable access for Aboriginal stakeholders to heritage items on site and within any Aboriginal heritage conservation areas;

- ongoing consultation with the Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage both on site and within any Aboriginal heritage conservation areas; and

- a strategy for the storage of any heritage items salvaged on site, both during the project and in the long term;

(f) include a detailed plan for the implementation of the mitigation and management measures outlined for the specified heritage items in Appendix 9, including archival recording, historical research and archaeological assessment prior to any disturbance.

TRANSPORT

Ulan Road Strategy

47. The Proponent shall:
    (a) work with Council and the owners of the Ulan and Wilpinjong mines to develop to a detailed plan for the implementation of the Ulan Road Strategy; and
    (b) make financial contributions towards the implementation of this detailed plan, in accordance with the requirements in the plan, with its share of the mining companies' contribution for implementation of the strategy to be proportionate to its share of mining-related traffic to be generated on the road during the life of the strategy.

    If there is any dispute between the various parties involved in either the development of the detailed plan or the implementation of the strategy, then any of the parties may refer the matter to the Secretary for resolution.

Ulan-Wollar Road Site Access

48. The Proponent shall design, construct, and maintain the site access intersection off Ulan-Wollar Road to the satisfaction of Council.

Cope Road Maintenance

49. The Proponent shall pay Council $480,000 (in 2013 dollar value) for the maintenance of Cope Road. This payment must be:
    (a) made in 4 instalments of $120,000 over the first four years of mining operations, with the first payment to be made on the commencement of mining operations on site;
    (b) indexed in accordance with the CPI for the previous quarter.

VISUAL

50. The Proponent shall:
    (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project;
    (b) ensure no fixed outdoor lights shine above the horizontal or above the building line or any illuminated structure;
    (c) ensure no in-pit mobile lighting rigs shine above the pit wall and other mobile lighting rigs do not shine above the horizional;
    (d) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting,* or its latest version;
    (e) provide for the establishment of trees and shrubs and/or the construction of mounding or bunding to minimise visual and lighting impacts on the Proponent's land adjoining public roads with views of the site;
    (f) ensure that the visual appearance of all buildings, structures, facilities or works (including paint colours and specifications) is aimed at blending as far as possible with the surrounding landscape,

    to the satisfaction of the Secretary.

BUSHFIRE MANAGEMENT

51. The Proponent shall:
    (a) ensure that the project is suitably equipped to respond to any fires on site; and
    (b) assist the RFS and emergency services as much as practicable if there is a fire in the vicinity of the site.

WASTE

52. The Proponent shall:
    (a) implement all reasonable and feasible measures to minimise the waste (including coal reject) generated by the project;
    (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of; and

(c) monitor and report on effectiveness of the waste minimisation and management measures in the Annual Review.

REHABILITATION

Rehabilitation Objectives

53. The Proponent shall rehabilitate the site to the satisfaction of the Secretary Industry. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA (and depicted conceptually in the figures in Appendix 10), and comply with the objectives in Table 17.

Table 17: Rehabilitation Objectives

Feature	***Objective***
Mine site (as a whole)	• Safe, stable and non-polluting; • Constructed landforms drain to the natural environment (excluding final voids); and • Minimise visual impact of final landforms as far as is reasonable and feasible. • Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems that is compatible with the conservation values of the adjacent Munghorn Gap Nature Reserve and Goulburn River National Park, that is comprised of: - 1502 ha of open woodland including Grey Box – Narrow-leaved Ironbark shrubby woodland on hills of the Hunter Valley, North Coast and Sydney Basin; Scribbly Gum – Brown Bloodwood woodland of the southern Brigalow Belt South; Rough-barked Apple – Coast Banksia shrubby woodland on Warkworth Sands of the central Hunter Valley, Sydney Basin; and White Box Yellow Box Blakely's Red Gum Woodland (EEC); - aquatic habitat areas (within the diverted creek lines and retained water features); - habitat for threatened fauna species; and - wildlife corridors.
Final Voids	• Minimise the size and depth of final voids so far as is reasonable and feasible, subject to meeting the objectives below • Minimise the drainage catchment of the final void so far as is reasonable and feasible; • Negligible high wall instability risk; • The size and depth of the final voids must be designed having regard to their function as long-term groundwater sinks, to ensure that groundwater flows across the back-filled pit towards the final void; and • Minimise risk of flood interaction for all flood events up to and including the Probable Maximum Flood level.
Water quality	• Water retained on site is fit for the intended land use (s) for the post-mining domain(s) • The potential ecological, hydrological and geomorphic impacts from post-mining water discharges on receiving creeks are assessed and appropriate mitigation measures are effectively implemented as part of the closure plan.
Surface infrastructure	• To be decommissioned and removed, unless the Secretary Industry agrees otherwise.
Degraded riparian areas along Wilpinjong Creek and along Murragamba and Eastern Creeks downstream of the mined areas to the boundary of the Wilpinjong mine.	• Restore channel stability; • Restore riparian and aquatic ecosystem function; and • Include compensatory aquatic habitat areas.
Community	• Ensure public safety; and • Minimise adverse socio-economic effects associated with mine closure.

Progressive Rehabilitation

54. The Proponent shall rehabilitate the site progressively 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 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 project.

Long Term Security of Rehabilitated Areas

55. Prior to relinquishing the mining lease that covers the site, unless the Secretary agrees otherwise, the Proponent shall make suitable arrangements to protect the rehabilitation areas with conservation value in perpetuity, in consultation with OEH and to the satisfaction of the Secretary.

Rehabilitation Management Plan

56. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Secretary Industry. This plan must:
    (a) be prepared in consultation with the Department, DPI Water, OEH, Council and the CCC;
    (b) be submitted to and approved by the Secretary Industry prior to the commencement of any development on site under this approval, unless the Secretary agrees otherwise;
    (c) be prepared in accordance with any relevant DRE guideline;
    (d) provide for periodic review and updating of the rehabilitation plans and management strategies to ensure best practice landform design and establishment strategies are employed;
    (e) describe how the rehabilitation of the site would be integrated with the implementation the biodiversity offset strategy;
    (f) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
    (g) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, and address all aspects of rehabilitation including mine closure, final landform, and final land use;
    (h) include interim rehabilitation where necessary to minimise the area exposed for dust generation;
    (i) 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
    (j) build to the maximum extent practicable on the other management plans required under this approval.

SCHEDULE 4
ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING

SUBSIDENCE

Performance Measures – Natural and Heritage Features

1. The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 18, to the satisfaction of the Secretary.

Table 18: Subsidence Impact Performance Measures

Water Resources	
Drainage Lines (DL1 – DL7)	No greater subsidence impacts or environmental consequences than predicted in the EA
Land	
Cliffs C7, C9 and C10	Negligible environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs or fracturing, that in total do not impact more than 0.5% of the total face of such cliffs within any longwall mining domain)
Other cliffs	No greater subsidence impacts or environmental consequences than predicted in the EA
Minor cliffs Rock face features Steep slopes	Minor environmental consequences (that is, occasional rockfalls, displacement of or dislodgment of boulders or slabs, or fracturing, that in total do not impact more than 5% of the total face area of each such type of feature within any longwall mining domain)
Biodiversity	
Threatened species, threatened populations, or endangered ecological communities	Negligible subsidence impacts or environmental consequences
Heritage Sites	
Aboriginal heritage site S2MC 236 (AHIMS No.s 36-3-0016 and 36-3-0134)	Negligible subsidence impacts or environmental consequences
Historic heritage sites	No greater subsidence impact or environmental consequences than predicted in the EA
Mine workings	
First workings under an approved Extraction Plan beneath any feature where performance measures in this table require negligible subsidence impacts or negligible environmental consequences	To remain long-term stable and non-subsiding
Second workings	To be carried out only in accordance with an approved Extraction Plan

Notes:

- *The locations of the features referred to in Table 18 are shown in Appendix 4.*
- *The Proponent will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this approval.*
- *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.*
- *The requirements of this condition only apply to the impacts and consequences of mining operations, construction or demolition undertaken following the date of this approval.*

Offsets

2. If the Proponent exceeds the performance measures in Table 18 and the Secretary determines that:
   (a) it is not reasonable or feasible to remediate the impact or environmental consequence; or
   (b) remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence;

   then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Secretary.

Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.

Performance Measures – Built Features

3. The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 19, to the satisfaction of the Secretary.

Table 19: Subsidence Impact Performance Measures – Built Features

Key public infrastructure:	
Gulgong-Sandy Hollow Railway Line Ulan-Wollar Road	Always safe and serviceable. Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.
Other infrastructure:	
Murragamba Road Low voltage electricity power line	Always safe. Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Telecommunication cable Fibre-optic cable Murragamba Trig Station	Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Other built features and improvements, including fences	Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated. Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Public Safety	
Public safety	Negligible additional risk

Notes:

- *The locations of the features referred to in Table 19 are shown in Appendix 4.*
- *The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans or Public Safety Management Plan (see condition 5 below).*
- *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Secretary will be the final arbiter.*
- *The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval.*
- *Requirements under this condition may be met by measures undertaken in accordance with the Mine Subsidence Compensation Act 1961.*
- *Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.*

4. Any dispute between the Proponent and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 19 is to be settled by the Secretary, following consultation with the Secretary Industry. Any decision by the Secretary shall be final and not subject to further dispute resolution under this approval.

Extraction Plan

5. The Proponent shall prepare and implement an Extraction Plan for all second workings on site to the satisfaction of the Secretary. Each extraction plan must:
   (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
   (b) be approved by the Secretary before the Proponent carries out any of the second workings covered by the plan;
   (c) include detailed plans of existing and proposed first and second workings and any associated surface development;
   (d) include detailed performance indicators for each of the performance measures in Tables 18 and 19;
   (e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;

(f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 18 and 19, and manage or remediate any impacts and/or environmental consequences;

(g) include a Built Features Management Plan, which has been prepared in consultation with DRE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which:

- addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features;
- has been prepared following appropriate consultation with the owner/s of potentially affected feature/s;
- recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and
- in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure;

(h) include a Water Management Plan, which has been prepared in consultation with EPA and DPI Water, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:

- surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
- a program to monitor and report stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability;
- a program to monitor and report groundwater inflows to underground workings;
- a program to predict, manage and monitor impacts on groundwater bores on privately-owned land;
- a program to:
  - confirm the location and saturated extent of the palaeochannel adjacent to the extents of underground 1 second workings, including drilling of additional investigation bores;
  - validate, and if necessary revise, the groundwater model for the palaeochannel; and
  - monitor and report on the groundwater impacts of underground 1 second workings on the palaeochannel; and a program to monitor and report on the predicted groundwater impacts on the paleochannel adjacent to underground 1 boundary; and

(i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species, populations and their habitats; endangered ecological communities; and water dependent ecosystems;

(j) include a Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general;

(k) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and reflects all requirements under conditions 41-46 of Schedule 3;

(l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area;

(m) include a Subsidence Monitoring Program, which has been prepared in consultation with DRE, to:

- describe the on-going subsidence monitoring program;
- provide data to assist with the management of the risks associated with subsidence;
- validate the subsidence predictions;
- analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and
- inform the contingency plan and adaptive management process;

(n) include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 18 and 19, or where any such exceedance appears likely;

(o) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 56 of Schedule 3; and

(p) include a program to collect sufficient baseline data for future Extraction Plans.

Note: To identify the longwall mining domains referred to in this condition, see Appendix 2.

6. The Proponent shall ensure that the management plans required under conditions 5(g)-(l) above include:

(a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and

(b) a detailed description of the measures that would be implemented to remediate predicted impacts.

First Workings

7. The Proponent may carry out first workings on site other than in accordance with an approved Extraction Plan, provided that DRE is satisfied that the first workings are designed to remain long-term stable and non-subsiding, except insofar as they may be impacted by approved second workings.

Second Workings under Palaeochannel

7A. The Proponent shall ensure that the longwall panels of the project do not underlie any saturated section of the palaeochannel in the vicinity of Wilpinjong Creek, unless it has demonstrated that it has obtained the necessary water licences, to the satisfaction of the Secretary.

Payment of Reasonable Costs

8. The Proponent shall pay all reasonable costs incurred by the department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan.

Gas Drainage

9. The Proponent shall implement all reasonable and feasible measures to minimise the greenhouse gas emissions from the underground mining operations to the satisfaction of the Secretary.

10. Prior to carrying out underground mining operations, the Proponent shall submit an updated Greenhouse Gas Minimisation Plan to the Secretary. This plan must:
    (a) identify options for minimising greenhouse gas emissions from underground mining operations, with a particular focus on capturing and/or using these emissions;
    (b) investigate the feasibility of implementing each option;
    (c) propose the measures that would be implemented in the short to medium term on site; and
    (d) include a research program to inform the continuous improvement of the greenhouse gas minimisation measures on site.

SCHEDULE 5
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS/TENANTS

1. Within 1 month of the date of this approval, the Proponent shall:
   (a) notify in writing the owners of:
      - any land listed in Table 1 and any residence or land exceeding the criteria in Tables 4 or 5 (respectively) of Schedule 3 that they have the right to require the Proponent to acquire their land at any stage during the project;
      - any residence on the land listed in Table 2 and any residence exceeding the criteria in Table 6 of Schedule 3 that they have the right to request the Proponent for additional noise mitigation measures to be installed at their residence at any stage during the project; 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 approval; 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 EA identify that dust emissions generated by the project are likely to be greater than the relevant air quality criteria in Schedule 3 at any time during the life of the project.

2. Prior to entering into any tenancy agreement for any land owned by the Proponent that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 3 that is subsequently purchased by the Proponent, the Proponent 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 approval,
   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 Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
   (b) an exceedance of the relevant air quality criteria in Schedule 3, the Proponent 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 project to be exceeding the criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.

   If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision, the Proponent 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 project is complying with the relevant impact assessment criteria in Schedule 3; and
      - if the project is not complying with these criteria then:
         - determine if 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.

LAND ACQUISITION

5. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent 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 project, 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 mitigation measures in conditions 2 and 6 of Schedule 3;

(b) the reasonable costs associated with:
- relocating within the Mid-Western Regional Council 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 Proponent 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 will 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 Proponent 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 Proponent 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 Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Secretary determines otherwise.

6. The Proponent 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 6
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:
   (a) be submitted to the Secretary for approval prior to the commencement of any development on the site;
   (b) provide the strategic framework for environmental management of the project;
   (c) identify the statutory approvals that apply to the project;
   (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
   (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 project;
      - 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 approval; and
      - a clear plan depicting all the monitoring to be carried out in relation to the project.

Adaptive Management

2. The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 & 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval 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 Proponent 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 Proponent shall ensure that the management plans required under this approval 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 project 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 project;
      - 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 project 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.

Annual Review

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

Revision of Strategies, Plans and Programs

5. Within 3 months of the submission of:
   (a) the submission of annual review under condition 4 above;
   (b) the submission of an incident report under condition 7 below;
   (c) the submission of an audit under condition 9 below; or
   (d) any modification to the conditions of this approval or MP 05_0117 (unless the conditions require otherwise),

   the Proponent shall review and, if necessary, revise the strategies, plans, and programs required under this approval to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review 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 project.

Community Consultative Committee

6. The Proponent shall operate a Community Consultative Committee (CCC) for the Moolarben mine complex to the satisfaction of the Secretary. This CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), and be operating by the end of March 2015.

   Notes:
   - *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval; and*
   - *The CCC should be comprised of an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

REPORTING

Incident Reporting

7. The Proponent shall immediately notify the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Secretary and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent 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 Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

AUDITING

9. By 31 December 2015, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
   (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval, and any other relevant approvals, relevant EPL/s and/or Mining Lease (including any assessment, plan or program required under these approvals);
   (d) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals; and
   (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

   Note: This audit team must be led by a suitably qualified auditor, and include experts in noise, air quality, ecology, Aboriginal heritage and any other fields specified by the Secretary.

10. Within 3 months of commissioning this audit, or as otherwise agreed by the Secretary, the Proponent 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. The Proponent shall:
   (a) make the following information publicly available on its website:
      - the EA;
      - current statutory approvals for the project;
      - approved strategies, plans or programs required under the conditions of this approval;
      - a comprehensive summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
      - a complaints register, which is to be updated on a monthly basis;
      - minutes of CCC meetings;
      - the last five annual reviews;
      - any independent environmental audit, and the Proponent's response to the recommendations in any audit;
      - any other matter required by the Secretary; and
   (b) keep this information up to date,
   (c) investigate and report on reasonable and feasible measures to make predictive meteorological data and real time monitoring data publicly available on its website

   to the satisfaction of the Secretary.

APPENDIX 1
SCHEDULE OF LAND

Owner	Description		Parish	County	EA ID
Moolarben Coal Mines Pty. Ltd.	Pt Lot 218	DP 755442	Moolarben	Phillip	36
Moolarben Coal Mines Pty. Ltd.	Pt Lot 238	DP 755442	Moolarben	Phillip	36
Moolarben Coal Mines Pty. Ltd.	Pt Lot 107	DP 755454	Wilpinjong	Phillip	44
Moolarben Coal Mines Pty. Ltd.	Lot 90	DP 755454	Wilpinjong	Phillip	44
Moolarben Coal Mines Pty. Ltd.	Lot 85	DP 755454	Wilpinjong	Phillip	44
Moolarben Coal Mines Pty. Ltd.	Lot 86	DP 755454	Wilpinjong	Phillip	27
Moolarben Coal Mines Pty. Ltd.	Lot 3	DP 878678	Wilpinjong	Phillip	15
Moolarben Coal Mines Pty. Ltd.	Lot 44	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Pt Lot 193	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Lot 119	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Pt Lot 192	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Pt Lot 1	DP 803204	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Pt Lot 61	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Lot 95	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Pt Lot 36	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Pt Lot 37	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Lot 60	DP 755442	Moolarben	Phillip	5
Moolarben Coal Mines Pty. Ltd.	Lot 93	DP 755454	Wilpinjong	Phillip	134
Moolarben Coal Mines Pty. Ltd.	Lot 93	DP 755442	Moolarben	Phillip	134
Moolarben Coal Mines Pty. Ltd.	Pt Lot 229	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Pt Lot 228	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Pt Lot 110	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 223	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 234	DP 755442	Moolarben	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 96	DP 755454	Wilpinjong	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 112	DP 755454	Wilpinjong	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 113	DP 755454	Wilpinjong	Phillip	4
Moolarben Coal Mines Pty. Ltd.	Lot 2	DP 1023568	Wilpinjong	Phillip	3
Moolarben Coal Mines Pty. Ltd.	Lot 1	DP 1023568	Wilpinjong	Phillip	3
Moolarben Coal Mines Pty. Ltd.	Lot 105	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 91	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 99	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 42	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 41	DP 755454	Wilpinjong	Phillip	1

Moolarben Coal Mines Pty. Ltd.	Lot 7	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 92	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 97	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 82	DP 755454	Wilpinjong	Phillip	1
Moolarben Coal Mines Pty. Ltd.	Lot 61	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 33	DP 755454	Wilpinjong	Phillip	43
Moolarben Coal Mines Pty. Ltd.	Lot 2	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 36	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 53	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 8	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 62	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 4	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 34	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 57	DP 755454	Wilpinjong	Phillip	2
Moolarben Coal Mines Pty. Ltd.	Lot 262	DP 755442	Moolarben	Phillip	7
Moolarben Coal Mines Pty. Ltd.	Lot 32	DP 755454	Wilpinjong	Phillip	7
Moolarben Coal Mines Pty. Ltd.	Lot 1	DP 755454	Wilpinjong	Phillip	8
Moolarben Coal Mines Pty. Ltd.	Lot 58	DP 755454	Wilpinjong	Phillip	8
Moolarben Coal Mines Pty. Ltd.	Lot 21	DP 755454	Wilpinjong	Phillip	8
Moolarben Coal Mines Pty. Ltd.	Lot 76	DP 755454	Wilpinjong	Phillip	8
Moolarben Coal Mines Pty. Ltd.	Pt Lot 2	DP 1143354	Wilpinjong	Phillip	14
Moolarben Coal Mines Pty. Ltd.	Lot 11	DP 1152406	Wilpinjong/ Lennox	Phillip	46
Moolarben Coal Mines Pty. Ltd.	Lot 2	DP 878678	Wilpinjong	Phillip	13
Moolarben Coal Mines Pty. Ltd.	Lot 6	DP 878678	Wilpinjong	Phillip	18
Moolarben Coal Mines Pty. Ltd.	Lot 5	DP 878678	Moolarben/Wilpinjong	Phillip	17
Moolarben Coal Mines Pty. Ltd.	Lot 4	DP 878678	Wilpinjong	Phillip	16
Moolarben Coal Mines Pty. Ltd.	Lot 7	DP 878679	Wilpinjong	Phillip	19
Moolarben Coal Mines Pty. Ltd.	Lot1	DP 817487	Lennox	Phillip	71
Mid-Western Regional Council	Lot 16	DP 1140073	Lennox	Phillip	71
Mid-Western Regional Council	Lot 17	DP 1140073	Lennox	Phillip	71
Mid-Western Regional Council	Lot 20	DP 1140073	Lennox	Phillip	71
Ulan Coal Mines Ltd.	Lot 80	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 28	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 38	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 65	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 79	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 40	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 253	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 13	DP 1152406	Lennox	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 18	DP 1140073	Lennox	Phillip	46
Ulan Coal Mines Ltd.	Lot 3	DP 722882	Lennox	Phillip	46
Ulan Coal Mines Ltd.	Lot 2	DP 722882	Lennox	Phillip	46

Ulan Coal Mines Ltd.	Pt Lot 50	DP 736630	Lennox	Phillip	46
Ulan Coal Mines Ltd	Pt Lot 14	DP 1152406	Lennox	Phillip	46
Ulan Coal Mines Ltd.	Lot 106	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 118	DP 724657	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 120	DP 724656	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 63	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 29	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 69	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 59	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 122	DP 724655	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 67	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 68	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 37	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 52	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 95	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 74	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 75	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 71	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 77	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 78	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 117	DP 705226	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 54	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 30	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 50	DP 755454	Wilpinjong	Phillip	46
Ulan Coal Mines Ltd.	Lot 253	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 14	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 178	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 179	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 277	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 242	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 91	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 7	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 272	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Lot 1	DP 1089166	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 1	DP 1099037	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 2	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 3	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 4	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 5	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 6	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 8	DP 206588	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 92	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 8	DP 755442	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 27	DP 755439	Lennox	Phillip	46
Ulan Coal Mines Ltd.	Lot 1	DP 722881	Moolarben	Phillip	46
Ulan Coal Mines Ltd.	Pt Lot 3	DP 115031	Moolarben	Phillip	46
Crown	Ulan-Wollar Road				
Crown	Murragamba Road				
Crown	Carrs Gap Road				
Crown	Ulan Road				
Crown	Lot 43 Vacant Crown Land	DP 755454	Wilpinjong	Phillip	38
Crown	Lot 44 Vacant Crown Land	DP 755454	Wilpinjong	Phillip	38
Crown	Lot 116 Reserve for Access	DP 705226	Wilpinjong	Phillip	38
Crown	Lot 119 Reserve for Access	DP 724657	Wilpinjong	Phillip	38
Crown	Lot 121 Reserve for Access	DP 724656	Wilpinjong	Phillip	38
Crown	Pt Lot 123 Reserve for Access	DP 724655	Wilpinjong	Phillip	38
Crown	Pt Lot 7010 Vacant Crown Land	DP 1025345	Moolarben	Phillip	38
Crown	Unidentified Crown Road No 7	(Refer Plan 0857C)	Wilpinjong	Phillip	-
Crown	Unidentified Crown Road No 8	(Refer Plan 0857C)	Wilpinjong	Phillip	-
Crown	Unidentified Crown Road No 9	(Refer Plan 0857C)	Wilpinjong	Phillip	-
Crown	Unidentified Crown Road No 10	(Refer Plan 0857C)	Wilpinjong	Phillip	-

Crown	Unidentified Crown Road No 11	(Refer Plan 0857C)	Wilpinjong	Phillip	-
Crown	Unidentified Crown Road No 12	(Refer Plan 0857C)	Wilpinjong	Phillip	-
Crown	Unidentified Crown Road No 13	(Refer Plan 0857C)	Wilpinjong	Phillip	-
State Rail Authority	Sandy Hollow Gulgong Railway				

APPENDIX 2
GENERAL LAYOUT OF PROJECT

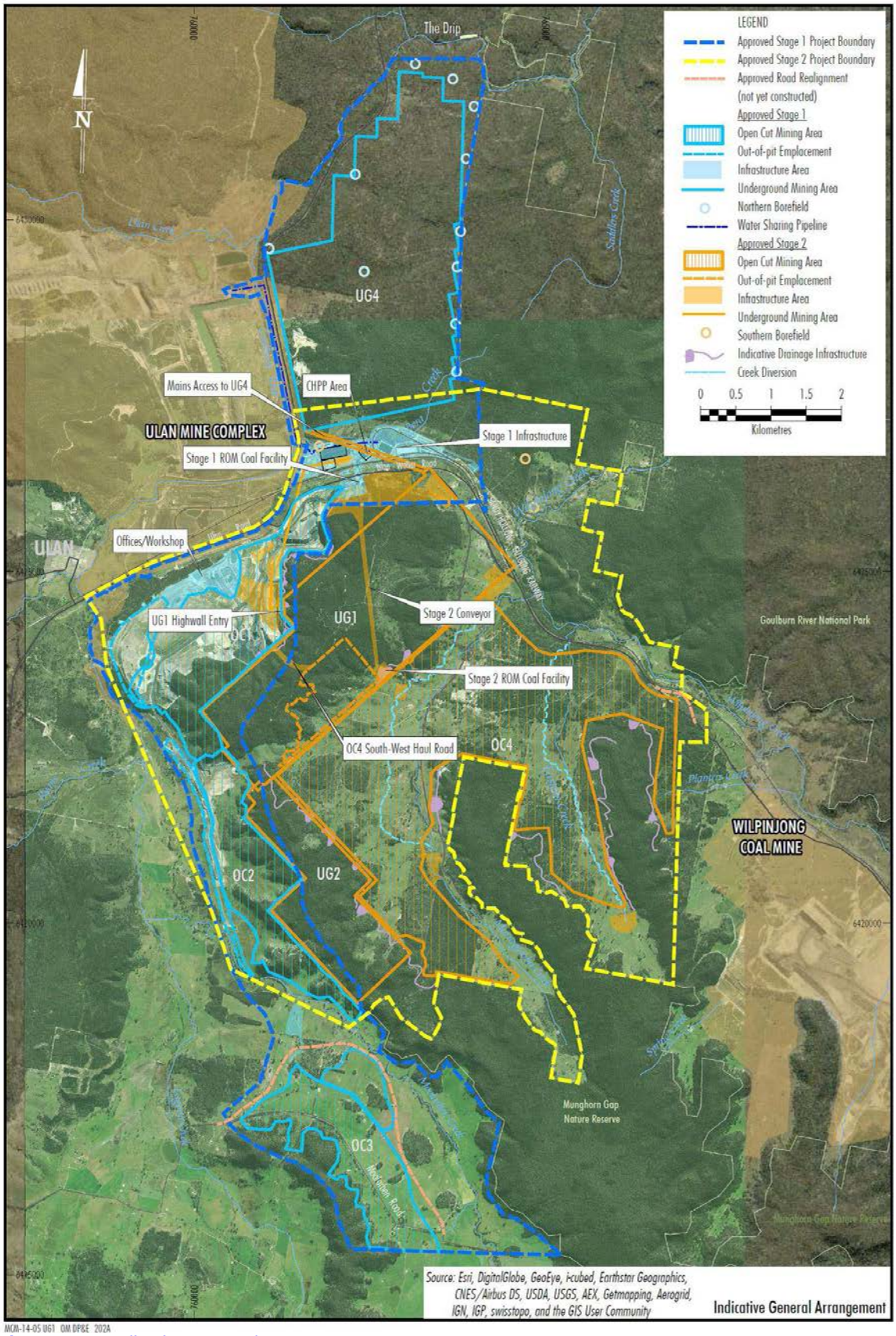

Figure 2.1 – Indicative General Arrangement

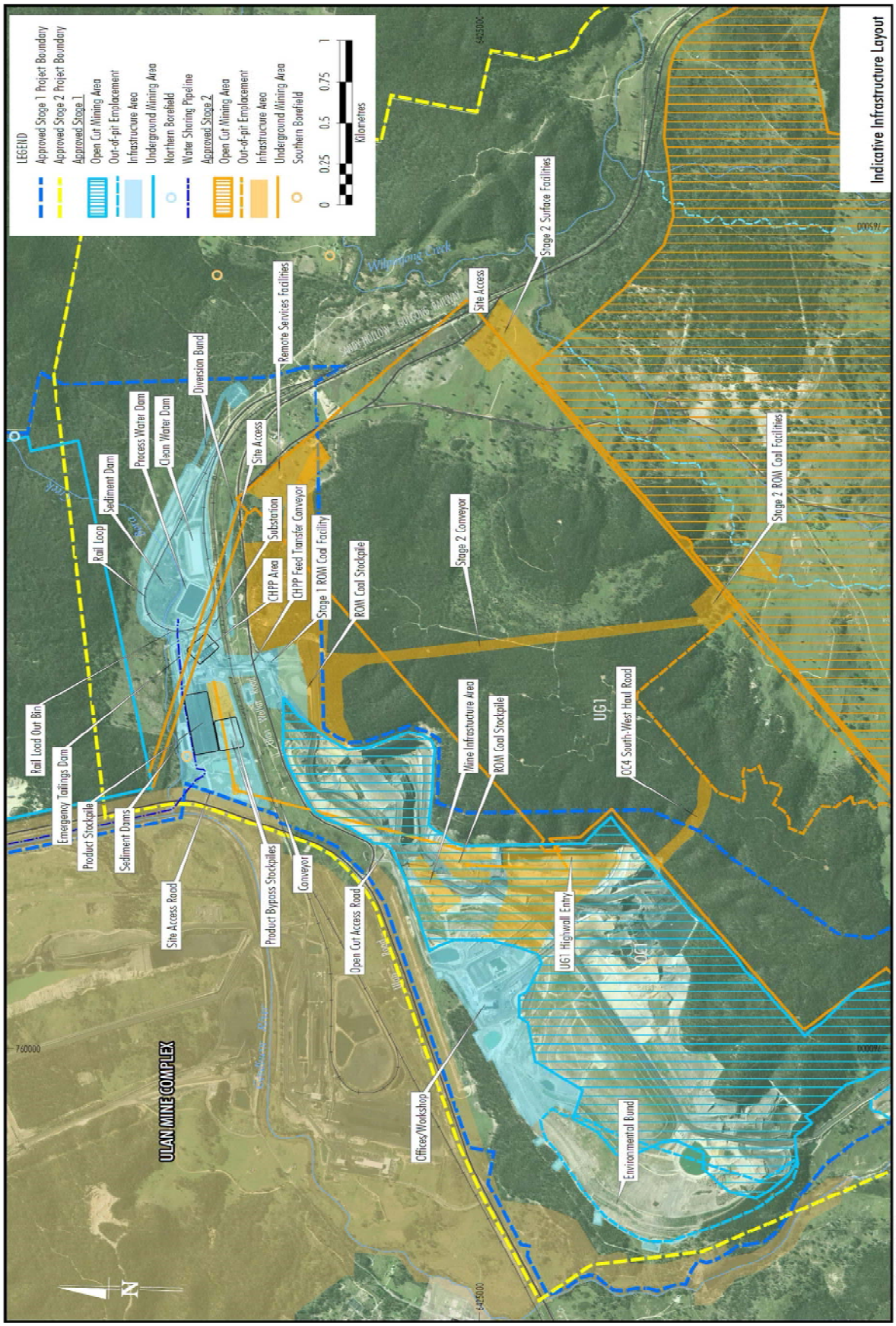

Figure 2.2 – Indicative Infrastructure Arrangement

APPENDIX 3
STATEMENT OF COMMITMENTS

Ref	Commitment
	Mining Operations
1.	MCM will operate the Stage 1 and Stage 2 projects as a combined mining complex (the MCC) to extract up to 17 Mtpa of ROM coal comprising: • 13 Mtpa from combined open cut operations (with up to 8 Mtpa derived from Stage 1 OCs and up to 12 Mtpa from Stage 2 OC); and • up to 4 Mtpa from underground operations, for 24 years, generally in accordance with the Stage 2 EA and PPR.
2.	MCM will ensure that open cut plant and equipment meet the sound power levels described in the noise impact assessment for the project, including specifying sound power levels and factory fitting of attenuation kits in relevant plant and equipment purchase contracts.
3.	MCM will obtain all necessary licences and approvals required to operate the Stage 2 project, generally in accordance with the Stage 2 EA and PPR.
	Environmental Management
4.	MCM will revise the Stage 1 Environmental Management System to incorporate the MCC Stage 2 project in consultation with relevant regulators and stakeholders (where appropriate). This may require revision or preparation of monitoring and management plans as prescribed by the Project Approval, such as (where relevant): • Environmental Monitoring Program; • Air Quality and Greenhouse Gas Management Plan (including energy savings actions); • Spontaneous Combustion Management Plan; • Noise Management Plan; • Blast Management Plan; • Water Management Plan (including groundwater and surface water); • Creek and Aquatic Rehabilitation Plan; • Rehabilitation Management Plan; • Biodiversity Management Plan; • Subsidence Management Plan; • Aboriginal Cultural Heritage Management Plan; • Non Aboriginal Heritage Management Plan; • Erosion and Sediment Control Plan; • Social Engagement and Issue Response Strategy; • Bushfire Management Plan; and • Waste Management Plan. (Note where applicable or appropriate some of these plans may be combined).
	Air Quality
5.	MCM will use its best endeavours to implement industry best practice air quality management initiatives to minimise the air quality impacts of the MCC.
6.	The revised MCC Air Quality Management Plan (and future variations) will include a validation exercise of the real time response triggers.

Ref	Commitment
7.	MCM will complete a review of particulate emission controls implemented at the MCC against industry best practice on a three yearly basis and report the findings in the relevant Annual Review.
8.	MCM will develop and implement meteorological criteria to help ensure that blasting is not undertaken under unfavourable wind and/or atmospheric conditions which would result in an exceedance of relevant criteria.
9.	Where air quality impacts are predicted to exceed criteria at private residences in the PPR due to MCC operations, MCM will install a first flush system to the rain water tanks upon written request of the landholder.
Greenhouse Gas	
10.	MCM will undertake regular revision of energy efficiency initiatives to ensure that Scope 1 greenhouse gas emissions per tonne of product coal are kept to the minimum practicable level.
Noise and Blasting	
11.	MCM will use its best endeavours to implement industry best practice noise control and management measures to minimise the noise impacts of the MCC.
12.	MCM will proactively manage its operations to ensure noise impacts are within the worst case predicted noise envelope.
13.	MCM will ensure noise monitoring is implemented to determine and manage the contribution to cumulative mine noise from the MCC at Property 258, including implementing at least quarterly attended noise monitoring and installing a directional noise monitor in the vicinity of the property in conjunction with the Ulan Mine, unless monitoring indicates there is no noise impact from the MCC at this property.
14.	MCM will work cooperatively with neighbouring mines to develop a blast monitoring system which is representative of the closest sensitive receivers to ensure compliance with the relevant blast criteria.
15.	The sound power of the conveyor used in the NIA will be provided to equipment manufacturers and suppliers to help ensure that the conveyor is maintained at these levels during operations
16.	MCM will continue to advise neighbours of blasting schedules upon request so that any concerns regarding blasting and impacts to pets and livestock can be managed by neighbours.
Water Resources	
17.	MCM will implement the water management and mitigation measures described in the PPR and subsequent supporting documents.
18.	MCM will continue to monitor groundwater impacts on surrounding privately owned bores. In the event that it is demonstrated that water levels in existing landholder bores decline as a consequence of the MCC, leading to an adverse impact on groundwater supply, MCM will: • engage an appropriately qualified and experienced hydrogeologist to investigate the cause of the impact and recommend an appropriate action response plan; and • provide an alternate interim water supply or commensurate compensation as agreed to with the landholder.
19.	MCM will develop a surface water monitoring program to quantify the streamflow and water quality characteristics within Murragamba and Eastern Creeks for existing conditions prior to mining of the creek lines.
20.	MCM will manage rainfall run-off from MCC mine disturbed areas to prevent contamination of downstream water sources from sediment laden water, unless otherwise approved under a relevant Environment Protection Licence.

Ref	Commitment
21.	MCM will develop a six monthly water balance for MCC operations to assist in site water management and monitoring protocols. This will be reviewed on a regular basis to account for changing mine water inflows and water management infrastructure as mining progresses. The frequency of this review will be revised after Year 3 of Stage 2 operations to the approval of relevant regulators.
22.	Collated groundwater monitoring data will be reviewed annually to assess the impacts of the MCC on the groundwater environment and to compare observed impacts with those predicted from groundwater modelling.
23.	The groundwater monitoring program will be revised to include additional piezometers in alluvial areas, including palaeochannel areas, potentially affected by the MCC.
24.	A groundwater modelling post-audit and model re-calibration (where required) will be carried out 2 years (and 5 yearly thereafter) after commencing Stage 2 coal extraction. Should any groundwater review or post-audit indicate a significant variance from the model predictions, an appropriate response will be implemented in consultation with NOW and DP&I.
25.	MCM will acquire relevant licences under the *Water Act 1912* and *Water Management Act 2000* as required (or implement other such ameliorative measures as agreed with relevant regulators, such as return flows or other such reasonable and feasible mitigation measures to reduce the total direct and indirect water take of the MCC from alluvial and connected surface water sources).
26.	MCM will endeavour to implement an integrated monitoring program for the MCC, with UCML and Wilpinjong Coal Mine for data-sharing.
27.	MCM commits to realign and reconstruct the mined sections of Murragamba and Eastern creeks to meet geomorphological, hydraulical and ecological performance and completion criteria developed in consultation with relevant regulators.
28.	MCM will develop operational criteria for the realigned sections of Murragamba and Eastern creeks in consultation with relevant regulators and install diversions around the realigned sections of creek until such time as they become operational.
29.	As a part of its revised Water Management Plan, MCM will prioritise UCML surplus water for use within the MCC, to minimise the need for extraction from the Northern Borefield.
Ecology	
30.	MCM will implement the ecological management and mitigation measures described in the PPR and subsequent supporting documents.
31.	MCM will establish the Biodiversity Offset Strategy as described in the PPR and subsequent supporting documents to initially maintain and ultimately improve ecological values. Where ownership or the controlling interest of any proposed offset property is not able to be held by MCM it will either provide an alternate property of equal biodiversity value as a replacement, or make other such alternate arrangements as agreed to with relevant regulators. Management of offset properties for conservation purposes will be described in a Rehabilitation Offset Management Plan (or equivalent).
32.	MCM will implement appropriate security mechanisms to ensure that offset areas and rehabilitated areas (at the completion on mining) are protected in the long-term.
33.	MCM will continue to consult with OEH on the inclusion of relevant Moolarben owned properties into the existing Avisford Nature Reserve.
Aboriginal Archaeology and Cultural Heritage	
34.	The salvage and the protection of all known Aboriginal objects within the Project Boundary will be

Ref	Commitment
	managed in accordance with the measures described in the PPR, subsequent supporting documents and an approved Aboriginal Cultural Heritage Management Plan for the MCC which has been prepared in consultation with local Aboriginal community stakeholders and the OEH. Prior to finalisation and approval of the Aboriginal Cultural Heritage Management Plan, the description of significance, development area, potential impacts, management strategies and current management status for all sites in the Stage 2 area will be reviewed by a suitably experienced and qualified archaeologist.
35.	Site S2MC229 will be described as being a directly impacted site with a management strategy of 'detailed recording and surface collection, including closer inspection of the drip line' in the approved Aboriginal Cultural Heritage Management Plan.
36.	Unsurveyed areas such as the Powers Management Area will be assessed and managed in accordance with the procedures agreed to with local Aboriginal community stakeholders and approved in the Aboriginal Cultural Heritage Management Plan for the MCC.
37.	MCM will manage the Aboriginal conservation zones as outlined in the PPR and subsequent supporting documents in consultation with local Aboriginal community stakeholders.
Rehabilitation	
38.	MCM will rehabilitate the Stage 2 project area to restore forest and woodland across the valley landscape, including rehabilitating 631 ha of currently degraded secondary grasslands. Areas of derived native grassland, secondary grassland and exotic grassland will be rehabilitated to treed landscapes.
39.	MCM will implement best practice environmental management to progressively rehabilitate mined and degraded non-mined areas with a focus on the re-establishment of C/EEC Box Gum Woodland and threatened species habitat.
40.	The gradients of final landform slopes will be generally designed to be no more than 10 to 14 degrees. However, where the out-of-pit (OOP) emplacement area is spatially constrained the final gradients of these slopes will be limited to a maximum of 20 degrees, provided it is agreed to by the relevant regulators.
Traffic and Transport	
41.	Early morning and evening shift changes will be outside school bus service times, and where feasible will be offset from existing Ulan and Wilpinjong mine shift changes over time to minimise peak traffic loads on the road network.
42.	MCM will work with MRWC and Ulan and Wilpinjong coal mines to generally improve road safety and traffic management on the local road network.
Visual	
43.	Rehabilitation will be carried out on disturbed areas as soon as practical after disturbance with emphasis on bunding and the OOP emplacement area.
44.	Infrastructure lighting will be designed to control light spill with directional lighting in elevated and exposed areas and will utilise low intensity lights to the level necessary for operational and safety requirements to minimise adverse night lighting impacts.

Community	
45.	MCM will provide fair and reasonable community enhancement contributions for Stage 2 of the MCC to MWRC, which will augment the existing VPA for Stage 1.
46.	MCM will consult with the community, neighbouring industry and government authorities in relation to the MCC.
47.	MCM will employ appropriately qualified persons residing in the MWRC area where feasible. MCM will also provide traineeships for young people residing in the MWRC area.
Reporting	
48.	MCM will prepare an Annual Review (which summarises monitoring results and reviews performance) and distribute it to the relevant regulatory authorities and the MCM CCC.

APPENDIX 4
UNDERGROUND MINE LAYOUT AND LOCATION OF SENSITIVE NATURAL AND MAN MADE FEATURES

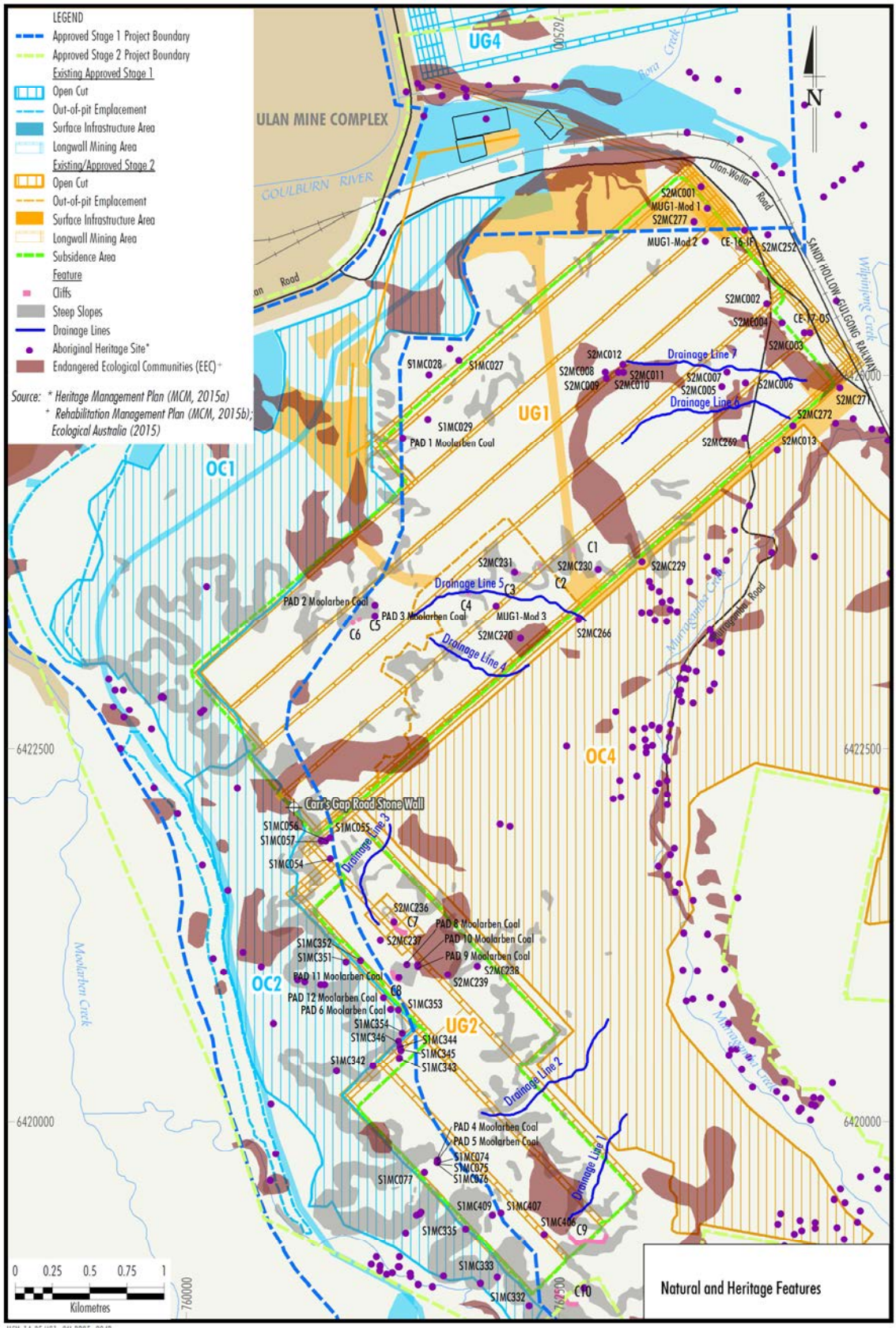

Figure 4.1 – Natural and Heritage Features

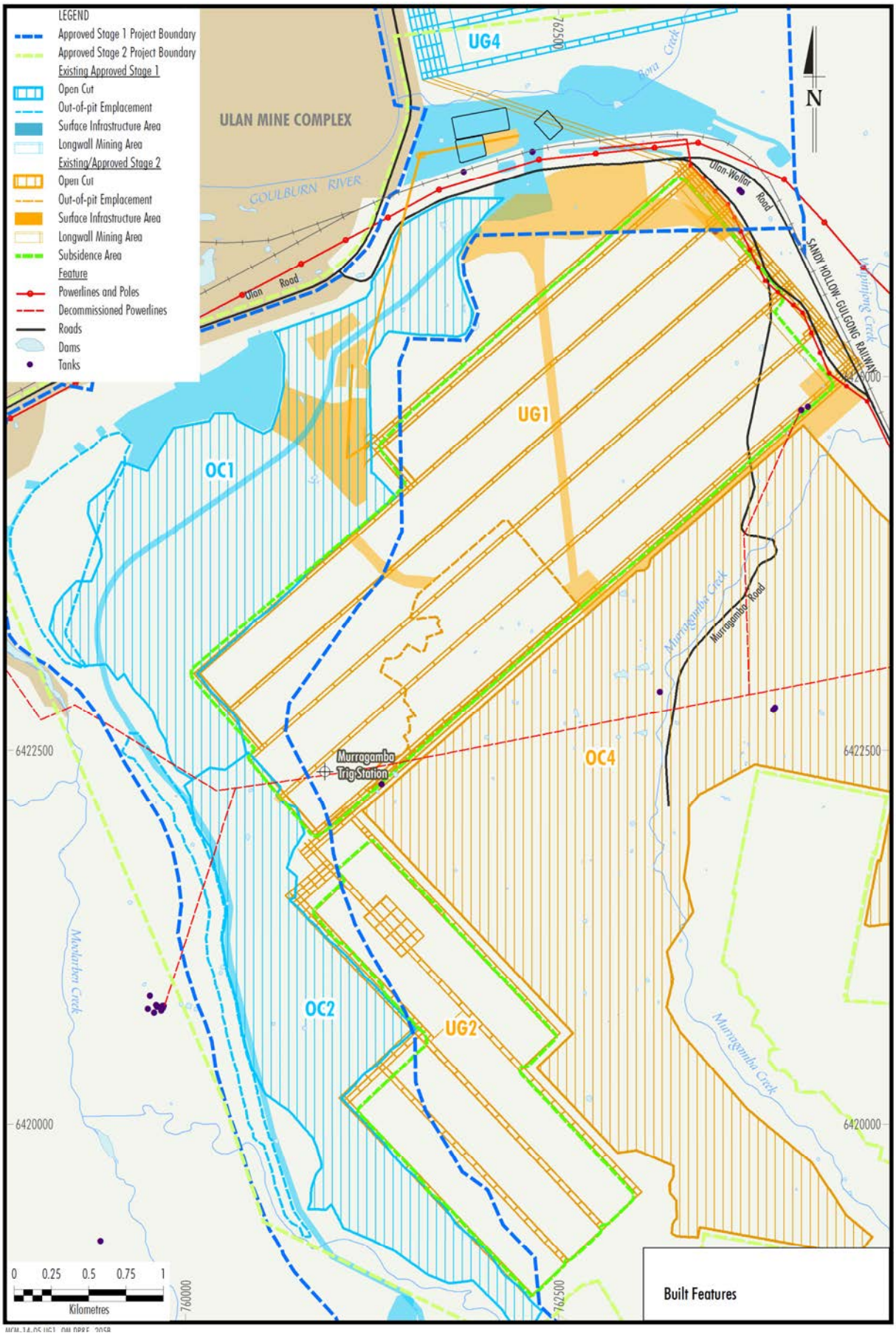

Figure 4.2 – Built Features

APPENDIX 5
PROPERTY NUMBERS AND LAND OWNERSHIP

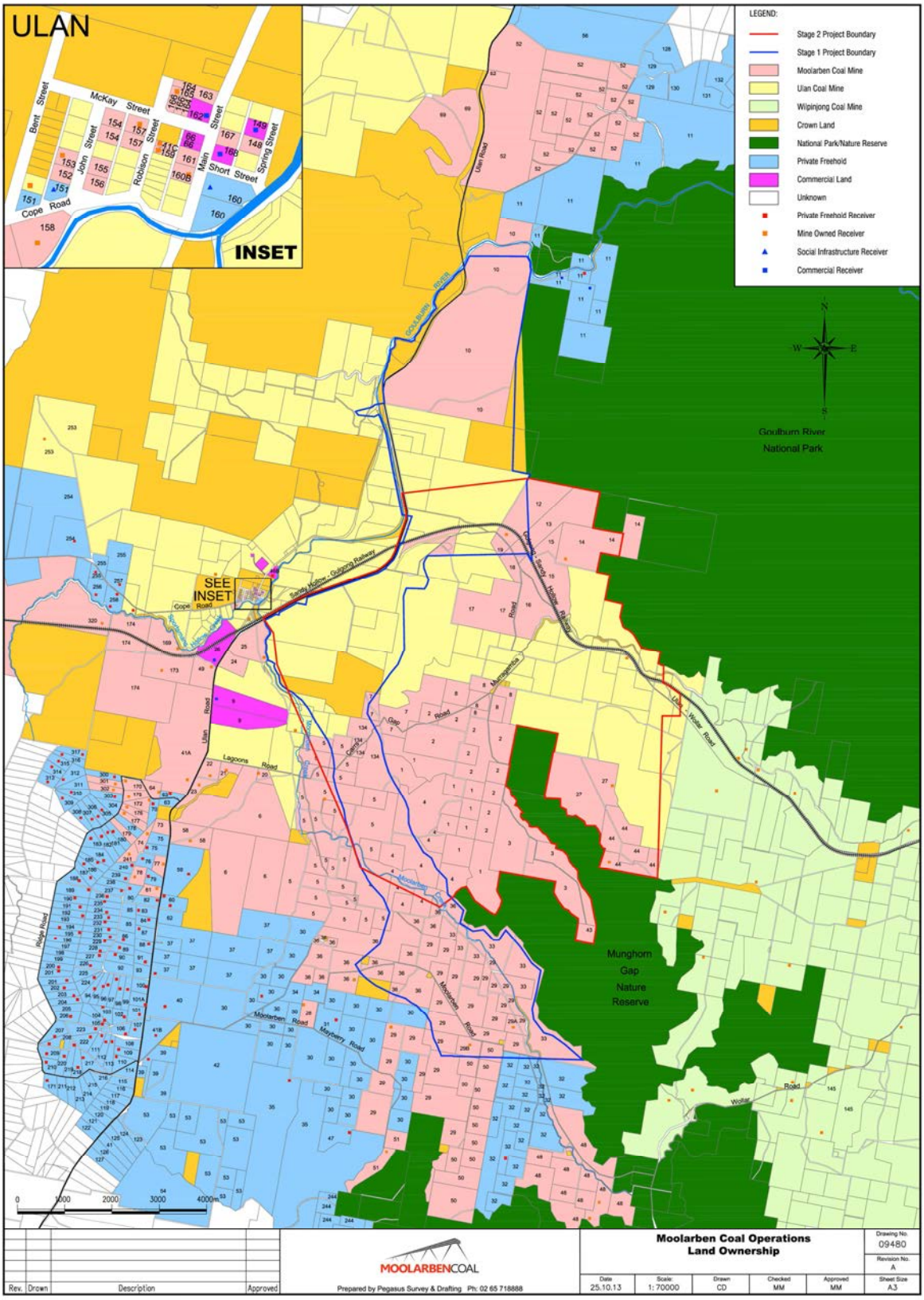

Figure 5.1

Table 5.1 Land Ownership

No.	NAME	No.	NAME	No.	NAME
1	Moolarben Coal Mine Owned/Controlled Land	82	S.C. Hungerford & M.C. Clemens	164	Moolarben Coal Mine Owned/Controlled Land
2	Moolarben Coal Mine Owned/Controlled Land	83	C.F. & C.R. Wall	165	Moolarben Coal Mine Owned/Controlled Land
3	Moolarben Coal Mine Owned/Controlled Land	84	D.S. Sebelic	166	Moolarben Coal Mine Owned/Controlled Land
4	Moolarben Coal Mine Owned/Controlled Land	85	J. & Z. Nikolovski	167	Moolarben Coal Mine Owned/Controlled Land
5	Moolarben Coal Mine Owned/Controlled Land	86	N.W. Harris	168	PJL Construction Complete Mining Services & Solutions P/L
6	Moolarben Coal Mine Owned/Controlled Land	87	B.J. & K. Howe	169	Moolarben Coal Mine Owned/Controlled Land
7	Moolarben Coal Mine Owned/Controlled Land	88	B.C. Meyers	170	Moolarben Coal Mine Owned/Controlled Land
8	Moolarben Coal Mine Owned/Controlled Land	89	M.V. & H.M. Glover & E. & B.J. Tomlinson	171	J.M. McGregor
9	I.C.I. Australia Operations	90	S.A. Powell	172	Moolarben Coal Mine Owned/Controlled Land
10a,b	Moolarben Coal Mine Owned/Controlled Land	91	H.M. Graham	173	Moolarben Coal Mine Owned/Controlled Land
11	J. Mullins & C. Imrie	92	V.A. Pulicino, J. Bonnici, S. Bonnici & G. Bonnici	174	Moolarben Coal Mine Owned/Controlled Land
12	Moolarben Coal Mine Owned/Controlled Land	93	F. & M. Fenech	175	Moolarben Coal Mine Owned/Controlled Land
13	Moolarben Coal Mine Owned/Controlled Land	94	L.K. Mittermayer	176	Moolarben Coal Mine Owned/Controlled Land
14a	Moolarben Coal Mine Owned/Controlled Land	95	B.J. Wittington	177	Moolarben Coal Mine Owned/Controlled Land
14b	The Minister for National Parks	96	D. Lazicic	178	P. Stone
15	Moolarben Coal Mine Owned/Controlled Land	97	D.J. & M.D. Smith	179	Moolarben Coal Mine Owned/Controlled Land
16	Moolarben Coal Mine Owned/Controlled Land	98	J.P. & M.E. Piper	180	C. & L. Barrett
17	Moolarben Coal Mine Owned/Controlled Land	99	D.E. Jenner & W.B. Jensen	181	S. Forster
18	Moolarben Coal Mine Owned/Controlled Land	100	O. & A. Kapista	182	J. Dutoitcook
19	Moolarben Coal Mine Owned/Controlled Land	101	R.D. & D.M.Z. Hull	183	R. & E. Steines
20	Moolarben Coal Mine Owned/Controlled Land	101a	P.J. Kearns	184	L. Stevenson
21	Moolarben Coal Mine Owned/Controlled Land	102	K.A. Roberts	185	L. Stevenson
22	Moolarben Coal Mine Owned/Controlled Land	103	S.B. Burnett & S.L. Grant	186	R. & I. Adamson
23	Moolarben Coal Mine Owned/Controlled Land	104	R.A. & L.A. Deeben	187	B. & K. Feeney
24	Moolarben Coal Mine Owned/Controlled Land	105	D.J. & N. Katsikaris	188	K. & T. Fielding
25	Moolarben Coal Mine Owned/Controlled Land	106	T.B. & J.H. Reid	189	M,M,D & A Goggin & J.A,P & R Hyde
26	Forty North Pty Limited	107	Z.J. & M. & A.A. Raso, B. Poplasen	190	T. & L. Sahyoun
27	Moolarben Coal Mine Owned/Controlled Land	108	R. Varga	191	B. & T. Lasham
28	Moolarben Coal Mine Owned/Controlled Land	109	D.A. & V.M. Evans	192	R. & J. Williams
29a,b	Moolarben Coal Mine Owned/Controlled Land	110	J.T. Thompson & H.T. Evans	193	D.J. Moloney

No.	NAME	No.	NAME	No.	NAME
30	R. Cox	111	G.J. & N.J. McEwan	194	P. & K. Potts
31	M. Cox	112	M.J. & L.M. Croft	195	R. Cottam
32	D. & J. Stokes	113	C.P.G. Ratcliff	196	F. Saxberg & F. Weir
33	Moolarben Coal Mine Owned/Controlled Land	114	T.F. & K. Holland	197	P. Gorm & I. Neilsen
34	J. Asztalos	115	A.K. & B.H. Ouinn	198	G.R. & M.E. Metcalfe
35	P. Johnson, M. & G. Thompson, P. & F. Debreczeny	116	D.J. & S.M. Reid	199	P. Gorm & I. Neilsen
36	Moolarben Coal Mine Owned/Controlled Land	117	J.M. Dick	200	V.K. Grimshaw
37	J. Szymkarczuk	118	A. Scott	201	K. & G. Towerton
38	State of NSW	119	P.J. Kearns	202	H. & V. Butler
39	R. & D. Sprigg	120	P.S. & D.R. Ord	203	D. Miller
40	J. Devenish	121	E.J. Cullen	204	R. & J. Donnan
41a,c	Moolarben Coal Mine Owned/Controlled Land	122	W.F. Wirth	205	D. Sparrow
41b	P. Libertis	123	N.D. Sullivan	206	C. Marshall & R.Vella
42	C. & L. Schmidt	124	W.J. & H.E. Bailey	207	A. & D. Smith
43	Moolarben Coal Mine Owned/Controlled Land	125	D.B. McBride	208	S. & C. Hasaart
44	Moolarben Coal Mine Owned/Controlled Land	126	M.P. Julian	209	F. Mawson
45	NSW Elec. Trans. Auth	127	B.K.T. & S.A. Bracken	210	J. & A. Tebbutt
46a,c,d,f,g	Ulan Coal Mines Ltd.	128	A. Sims	211	S. McGregor & W. Gray
46b	North Eastern Wiradjuri Wilpinjong Community Fund Limited	129	M. Yelds	212	E. & M. Lepik
47	S.F. & M.R. Andrews	130	G. McEwen	213	D. & J.Parsonage
48	Moolarben Coal Mine Owned/Controlled Land	131	G.R. & R.A. King	214	R. & E. O'Neil
49	Moolarben Coal Mine Owned/Controlled Land	132	N. Atkins	215	S. & P. Green
50	Moolarben Coal Mine Owned/Controlled Land	133	J.M. & T.E. Tynan	216	G. Holland & F. Handicott
51	Moolarben Coal Mine Owned/Controlled Land	134	Moolarben Coal Mine Owned/Controlled Land	217	R.P. & J.L. Patterson
52	Moolarben Coal Mine Owned/Controlled Land	136	Cumbo Land Pty Ltd	218	G. & G. Soady
53	W.D. & M.S. Bryant	137	Cumbo Land Pty Ltd	219	T. & S. Riger
54	M. A. & C. Harris	138	Cumbo Land Pty Ltd	220	S. Rusten & N. Smith
55	M.J. Cundy	139	Ulan Coal Mines Ltd.	221	State of NSW
56	M.J.& V Cundy	140	Cumbo Land Pty Ltd	222	B. Purtell
57	M.J. Cundy	141	Wilpinjong Coal Pty. Limited141	223	E. Palmer & J. Stewart
58	Moolarben Coal Mine Owned/Controlled Land	142	Cumbo Land Pty Ltd	224	R. & P. Dupond
59	G. & G. M. Szymkarcuk	143	Cumbo Land Pty Ltd	225	G. & R.F. Doulates
60	C.L. Rayner & D.M. Mundey	144	J.T. & Y.R Jones	226	L. & F. Muscat
61	M.A. Miller	145	Cumbo Land Pty Ltd	227	W. & J. Hughes
62	R. C. Menchin	146	Cumbo Land Pty Ltd	228	P. Libertis
63	B. F. & B. Whiticker	147	Cumbo Land Pty Ltd	229	J. & B. Lowe
64	Moolarben Coal Mine Owned/Controlled Land	148	Moolarben Coal Mine Owned/Controlled Land	230	D. Rawlinson & D. Hoole
65	Cumbo Land Pty Ltd	149	Mid Western Regional Council	231	T. Morrison & S. Benny
66	Rostherne Pty Ltd	150	Ulan Coal Mines Ltd	232	L. & J. Haaring
68	Cumbo Land Pty Ltd	151	A.I. Cunningham (Land entrusted to Catholic Church)	233	K. & D. Boal

No.	NAME	No.	NAME	No.	NAME
69	Moolarben Coal Mine Owned/Controlled Land	152	Moolarben Coal Mine Owned/Controlled Land	234	D. & L. Gaw
70	D.J. & A. Coventry	153	Moolarben Coal Mine Owned/Controlled Land	235	L. & R. Wilson
71	Council of the Shire of Mudgee	154	Moolarben Coal Mine Owned/Controlled Land	236	R. & C. Donovan
72	Ulan Electricity	155	Moolarben Coal Mine Owned/Controlled Land	237	A. Puskaric
73	Moolarben Coal Mine Owned/Controlled Land	156	Moolarben Coal Mine Owned/Controlled Land	238	B. Powell
74	Moolarben Coal Mine Owned/Controlled Land	157	Moolarben Coal Mine Owned/Controlled Land	239	J. Delarue
75	P. Ban	158	Moolarben Coal Mine Owned/Controlled Land	240	G.J. & D.M. Hartley
76	S.R & P.C Carbone	159	Moolarben Coal Mine Owned/Controlled Land	241	Moolarben Coal Mine Owned/Controlled Land
77	Moolarben Coal Mine Owned/Controlled Land	160	Minister for Education & Training	242	Mid Western Regional Council
78	Moolarben Coal Mine Owned/Controlled Land	160b	Moolarben Coal Mine Owned/Controlled Land	243	R.J. Hopper & T.H. Thompson
79	P. T.J. & S.E. Nagle	161	Moolarben Coal Mine Owned/Controlled Land	244	Y.R. Jones
80	W. & D.I. Sebelic	162	D.M. Harrison	245	M.P. & K.L.E. Cresham
81	Moolarben Coal Mine Owned/Controlled Land	163	Moolarben Coal Mine Owned/Controlled Land	246	A.W. & L.M. Murray
247	J. & H. & K. Batshon	258	P.M. & C.D. Elias	308	N.A. Dower
248	G. Boustani	259	State Rail Authority of NSW	309	G.S. Maher
249	C.J. & J.I. Eldridge	299	Country Energy	310	K.I. Death
250	G.C. Eldridge	300	C.M. Collins & C.Y. Marshall	311	B.J. & L.C. Williamson
251	N.F. Potter & C.E. Selley	301	Moolarben Coal Mine Owned/Controlled Land	312	M.S. & J.J. Ioannou
252	G.A. & R.M. Johnston	302	Moolarben Coal Mine Owned/Controlled Land	313	N.J. & B.D.E. Pracy
253	Ulan Coal Mines Ltd	303	H.J. Ungaro	314	S.L. Ford
254	Ulan Coal Mines Ltd	304	G. Balajan	315	W.J. Richards & B.J. Uzelac
255	H.J. & H. Schmitz	305	L. Barisic & M. Aul	316	C.R. Vassel & C.M. Williams
256	R.C. Campbell	306	E. Armstrong	317	R.J. Hore & V. Bingham
257	Ulan Coal Mines Ltd	307	M. Chant & N.K. Young	320	Moolarben Coal Mine Owned/Controlled Land

APPENDIX 6
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 3 of the conditions are to apply under all meteorological conditions except the following:
   (a) wind speeds greater than 3 m/s at 10 metres above ground level; or
   (b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or
   (c) stability category G temperature inversion conditions.

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 the Secretary agrees otherwise, 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:
   (d) monitoring locations for the collection of representative noise data;
   (e) meteorological conditions during which collection of noise data is not appropriate;
   (f) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
   (g) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

APPENDIX 7
BIODIVERSITY OFFSET STRATEGY

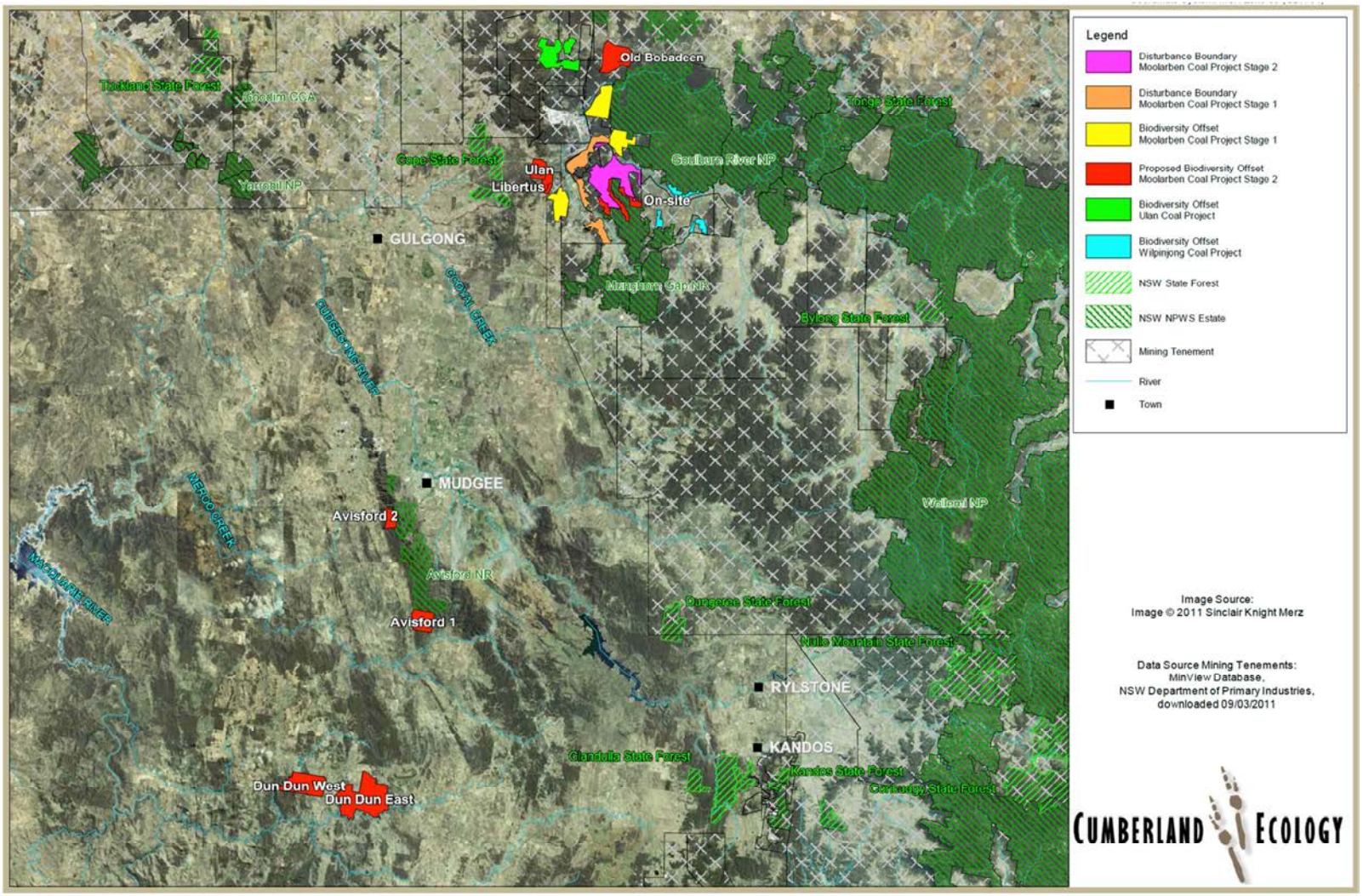

Figure 7.1

Table 7.1

MOOLARBEN STAGE 2
ACTUAL & POTENTAL THREATENED FAUNA SPECIES LIST

#	Common Name	Scientific Name	TSC	EPBC
	MAMMALS			
1	Yellow-bellied Sheath-tail Bat	*Sccolaimus flaviventris*	V	
2	Large-eared Pied Bat	*Chalinolobus dwyeri*	V	V
3	Little Pied Bat	*Chalinolobus picatus*	V	
4	Eastern Bent-wing Bat	*Miniopterus orinae/schreibersii*	V	
5	Greater Long-eared Bat	*Nyctophilus timoriensis*	V	V
6	Squirrel Glider	*Petaurus norfolcensis*	V	
7	Eastern Pygmy-possum	*Cercartetus nanus*	V	
8	Spotted-tailed Quoll	*Dasyurus maculatus*	E	E
9	Eastern-false Pipistrelle	*Falsistrellus tasmaniensis*	V	
10	Eastern Freetail Bat	*Mormopterus norfolkensis*	V	
11	Yellow-bellied Glider	*Petaurus australis*	V	
12	Koala	*Phascolarctos cinereus*	V	
13	Grey-headed Flying-fox	*Pteropus poliocephalus*	V	V
14	Greater Broad-nosed Bat	*Scoteanax rueppellii*	V	
15	Eastern Cave Bat	*Vespadelus troughtoni*	V	
	BIRDS			
16	Square-tailed Kite	*Lophoicinia isua*	V	
17	Glossy Black Cockatoo	*Calyptorhynchus lathami*	V	
18	Gang Gang Cockatoo	*Callocephalon fimbriatum*	V	
19	Powerful Owl	*Ninox strenua*	V	
20	White-throated Needletail	*Hirundapus caudacutus*		M
21	Rainbow Bee-eater	*Merops ornatus*		M
22	Brown Treecreeper	*Climacteris picumnus*	V	
23	Speckled Warbler	*Chthinicola sagittata*	V	
24	Black-chinned Honeyeater	*Melithreptus gularis*	V	
25	Painted Honeyeater	*Grantiella picta*	V	
26	Grey-crowned Babbler	*Pomatostomus temporalis*	V	
27	Hooded Robin	*Melanodryas cucullata*	V	
28	Gilbert's Whistler	*Pachycephala inornata*	V	
29	Rufous Fantail	*Rhipidura fuliginosa*		M
30	Satin Flycatcher	*Myiagra cyanoleuca*		M
31	Diamond Firetail	*Stagonopleura guttata*	V	
32	Swift Parrot	*Lathamus discolor*	E	E, M
33	Little Eagle	*Hieraaetus morphnoides*	V	
34	Cattle Egret	*Ardea ibis*		M
35	Varied Sittella	*Daphoenositta chrysoptera*	V	
36	Little Lorikeet	*Glossopsitta pusilla*	V	
37	White-fronted Chat	*Epthianura albifrons*	V	
38	Scarlet Robin	*Petroica boodang*	V	
39	Spotted Harrier	*Circus assimilis*	V	
40	Bush Stone Curlew	*Burhinus grallarius*	E	
41	Turquoise Parrot	*Neophema pulchella*	V	
42	Barking Owl	*Ninox connivens*	V	
43	Masked Owl	*Tyto novaehollandiae*	V	V
44	Regent Honeyeater	*Xanthomyza Phrygia*	CE	E, M
45	Superb Parrot	*Polytelis swainsonii*	V	V
46	Flame Robin	*Petroica phoenicea*	V	

APPENDIX 8
ABORIGINAL HERITAGE

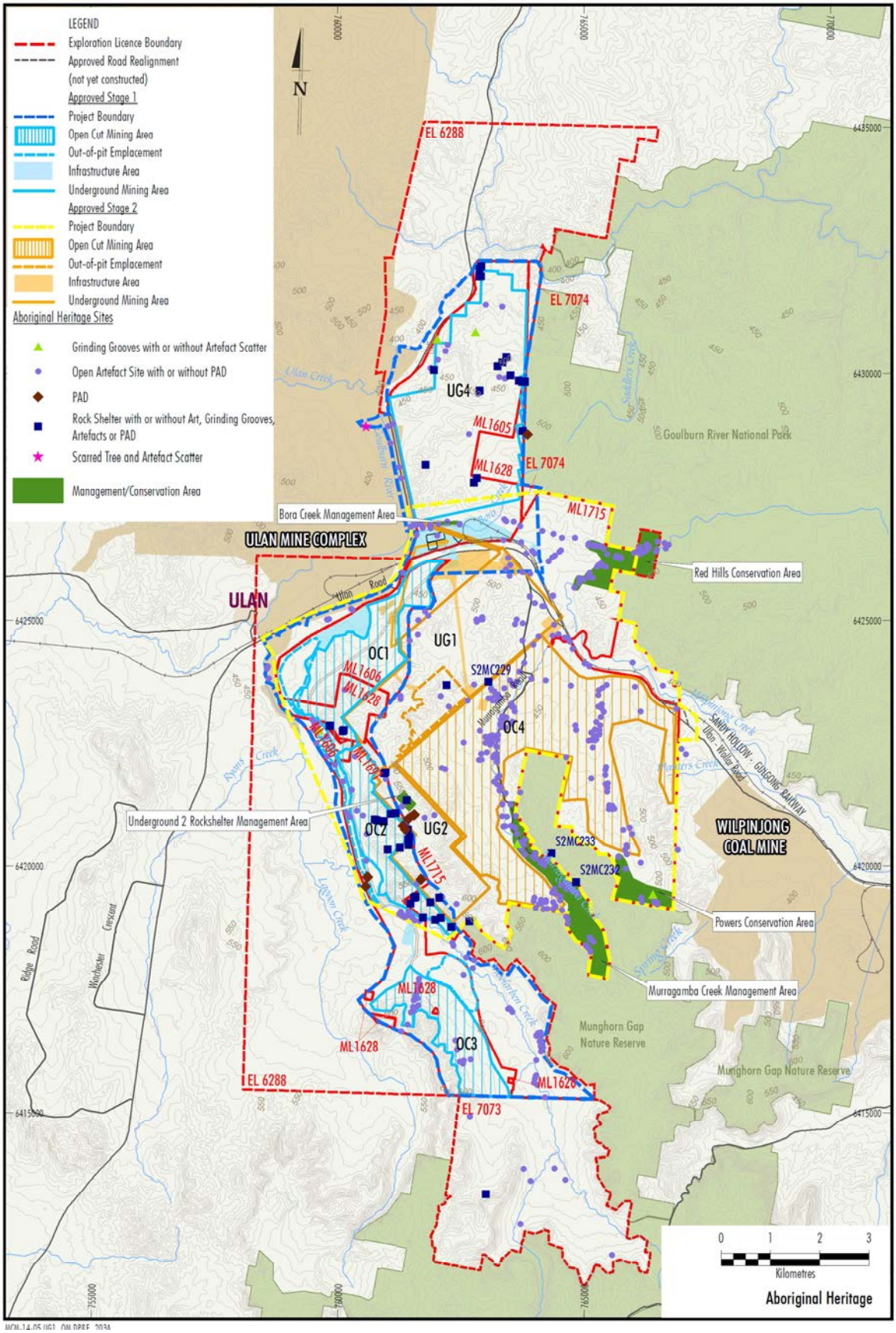

Figure 8.1

Table 8.1

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
36-3-0237†*	Artefact Scatter	14	Medium	Not Impacted	Recording and surface collection	No Change	Murragamba Creek Conservation Area
36-3-0238†*	Artefact Scatter	6	Medium	OC4	Recording and surface collection	No Change	No Change
36-3-0239†*	Artefact Scatter	3	Medium	OC4	Recording and surface collection	No Change	No Change
36-3-0240†*	Isolated Find	1	Medium	OC4	Recording and surface collection	No Change	No Change
36-3-0241†*	Artefact Scatter	19	Medium	OC4	Recording and surface collection	No Change	No Change
36-30287^	Artefact Scatter	unknown	Medium	Not Impacted	Nil required	No Change	Removed reference to this site as 36-3-0720 is the same site with correct location
36-30720^	Artefact Scatter	unknown	Medium	Not Impacted	Not identified	In situ conservation – fence site	Murragamba Creek Conservation Area
36-3-0337†*	Artefact Scatter	32	Medium	OC4	Recording and surface collection	No Change	No Change
PAD 1†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 10†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 11†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 2†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 3†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 4†§	Pad	N/A	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 5†§	Pad	N/A	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 8†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
PAD 9†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change	No Change
S1MC 22	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S1MC 23	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change
S1MC027†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC029†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC040†	Artefact Scatter	12	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC041†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC042†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC043†	Artefact Scatter	9	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC044†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC045†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC046†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC047†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC048†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC049†	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S1MC054†	Artefact Scatter	3	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC055†	Rock Shelter & Artefact Scatter	8	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC056†	Rock Shelter & Artefact Scatter	1	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC057†	Artefact Scatter	16	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC058†	Artefact Scatter	10	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC059†	Artefact Scatter	8	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC060†	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change	No Change
S1MC061†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC062†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC063†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC064†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC065†	Isolated Find	1	Low	UG2	Nil required	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S1MC066†	Artefact Scatter	24	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC067†	Artefact Scatter	52	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S1MC068†	Isolated Find	1	Low	UG2	Nil required	No Change	No Change
S1MC069†	Isolated Find	1	Low	UG2	Nil required	No Change	No Change
S1MC074†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC075†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC076†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC077†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC130†	Artefact Scatter	23	Low	OC4	Recording and surface collection	No Change	No Change
S1MC131†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC136†	Artefact Scatter	5	Low	OC4	Surface collection	No Change	No Change
S1MC137†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC138†	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S1MC139†	Artefact Scatter	23	Low	OC4	Recording and surface collection	No Change	No Change
S1MC18	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change
S1MC19	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change
S1MC20	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change
S1MC21	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change	No Change
S1MC274	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change
S1MC275	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S1MC276	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change
S1MC277	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change
S1MC278	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change
S1MC279	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change	No Change
S2MC 228	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change	No Change
S2MC001	Isolated Find	1	Low	Infrastructure	Surface collection	No Change	No Change
S2MC002	Isolated Find	1	Low	Infrastructure	Surface collection	No Change	No impact. No management measure required.
S2MC003	Artefact Scatter	5	Low	Not Impacted	Nil required	No Change	No Change
S2MC004	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC005	Artefact Scatter & PAD	2	Low	UG1	Surface collection and test excavation where monitoring indicates impacts are likely	No Change	No Change
S2MC006	Artefact Scatter & PAD	25	Medium	UG1	Site to be intensively recorded including test excavation and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change	No Change
S2MC006*	Artefact Scatter & PAD	25	Medium	Infrastructure and UG1	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC007	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S2MC008	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S2MC009	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S2MC010	Artefact Scatter	3	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S2MC011	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S2MC012	Isolated Find	1	Low	UG1	Nil required	No Change	No Change
S2MC013	Isolated Find	1	Low	OC4	Nil required	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change
S2MC014	Artefact Scatter and PAD	16	Medium	Not Impacted	Nil required	No Change	No Change
S2MC015	Artefact Scatter and PAD	28	Medium	Not Impacted	Nil required	No Change	No Change
S2MC016	Artefact Scatter	2	Low	OC4	Nil required	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change
S2MC017	Artefact Scatter	27	Low	OC4	Recording and surface collection	No Change	No Change
S2MC018	Artefact Scatter and PAD	15	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC019	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC020	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC021	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC022	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change	No Change
S2MC023	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC024	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC025	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC029	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change	No Change
S2MC030	Artefact Scatter	58	Medium	OC4	Recording and surface collection	No Change	No Change
S2MC031	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC032	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change	No Change
S2MC033	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change	No Change
S2MC034	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC035	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC036	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC037	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC038	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC039	Artefact Scatter	9	Low	OC4	Surface collection	No Change	No Change
S2MC040	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change	No Change
S2MC041	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC042	Artefact Scatter	47	Low	OC4	Recording and surface collection	No Change	No Change
S2MC043	Artefact Scatter and PAD	152	High	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC044	Artefact Scatter	18	Low	OC4	Recording and surface collection	No Change	No Change
S2MC045	Artefact Scatter and PAD	16	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC046	Artefact Scatter and PAD	20	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC047	Artefact Scatter and PAD	5	Low	OC4	Recording, surface collection and test excavation	No Change	No Change
S2MC048	Artefact Scatter	17	Low	OC4	Recording and surface collection	No Change	No Change
S2MC049	Isolated Find	1	Low	Dam	Conservation of the site by protective fencing.	Surface collection	No Change
S2MC050	Artefact Scatter	68	Medium	Not Impacted	Murragamba Creek Conservation Area	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC051	Artefact Scatter and PAD	17	Medium	No Impact	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities	No Change
S2MC052	Isolated Find	1	Low	Dam	Conservation of the site by protective fencing.	Surface collection	No Change
S2MC053	Artefact Scatter	43	Low	OC4	Recording and surface collection	No Change	No Change
S2MC054	Artefact Scatter and PAD	85	High	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC055	Artefact Scatter	18	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC056	Artefact Scatter	110	Medium	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC057	Artefact Scatter	53	Medium	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC058	Artefact Scatter	98	Medium	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC059	Artefact Scatter	25	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC059a	Artefact Scatter	6	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC060	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC061	Artefact Scatter	51	Medium	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC062	Artefact Scatter and PAD	67	High	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC063	Artefact Scatter and PAD	28	High	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC064	Artefact Scatter and PAD	627	High	No Impact	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities	Murragamba Creek Conservation Area
S2MC065	Artefact Scatter	21	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC066	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC067	Artefact Scatter	13	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC068	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC069	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC070	Artefact Scatter	3	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC071	Artefact Scatter	4	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	Murragamba Creek Conservation Area
S2MC072	Artefact Scatter	4	Low	OC4	Surface collection	No Change	No change
S2MC073	Isolated Find	1	Low	No Impact	Surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities	Murragamba Creek Conservation Area
S2MC074	Artefact Scatter	9	Low	OC4	Surface collection	No Change	No Change
S2MC075	Isolated Find	1	Low	No Impact	Surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities	Murragamba Creek Conservation Area
S2MC076	Artefact Scatter	60	Medium	No Impact	Recording and surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities	No Change
S2MC077	Artefact Scatter	4	Low	OC4	Surface collection	No Change	No Change
S2MC078	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC079	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC080	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC081	Artefact Scatter	52	Medium	OC4	Recording and surface collection	No Change	No Change
S2MC082	Artefact Scatter	3	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC083	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Murragamba Creek Conservation Area

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC084	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Murragamba Creek Conservation Area
S2MC085	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Murragamba Creek Conservation Area
S2MC086	Artefact Scatter and PAD	6	Low	Not Impacted	Nil required	No Change	Murragamba Creek Conservation Area
S2MC087	Artefact Scatter	13	Low	No Impact	Recording and surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC088	Artefact Scatter	4	Low	No Impact	Surface collection	No impact, no collection required	No Change
S2MC089	Artefact Scatter	93	Medium	Not Impacted	Nil required	No Change	No Change
S2MC090	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC091	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC092	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC093	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC094	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC095	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC096	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC097	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change	No Change
S2MC098	Isolated Find	1	Low	No Impact	Surface collection	No impact	Murragamba Creek Conservation Area
S2MC099	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC100	Artefact Scatter	4	Low	Not Impacted	Nil required	No Change	No Change
S2MC101	Artefact Scatter	9	Low	No Impact	Recording and surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC102	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC103	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC104	Artefact Scatter	8	Low	No Impact	Recording and surface collection	No impact, no excavation or salvage required	Murragamba Creek Conservation Area
S2MC105	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC106	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required	Murragamba Creek Conservation Area
S2MC107	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC108	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC109	Artefact Scatter	5	Low	OC4	Surface collection	No Change	No Change
S2MC110	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC111	Artefact Scatter	3	Low	OC4	Surface collection	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change
S2MC112	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC113	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC114	Artefact Scatter	4	Low	OC4	Surface collection	No Change	No Change
S2MC115	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC116	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change	No Change
S2MC117	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC118	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC119	Artefact Scatter and PAD	14	Low	OC4	Recording, surface collection and test excavation	No Change	No Change
S2MC120	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC121	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC122	Artefact Scatter and PAD	33	Low	OC4	Recording, surface collection and test excavation	No Change	No Change
S2MC123	Artefact Scatter and PAD	255	High	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC124	Artefact Scatter and PAD	171	High	OC4	Recording, surface collection, test excavation and salvage	No Change	No Change
S2MC125	Artefact Scatter	30	Medium	OC4	Recording and surface collection	No Change	No Change
S2MC126	Artefact Scatter and PAD	7	Low	OC4	Recording, surface collection and test excavation	No Change	No Change
S2MC127	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC128	Artefact Scatter	5	Low	OC4	Surface collection	No Change	No Change
S2MC129	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC130	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC131	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC132	Artefact Scatter	10	Low	OC4	Recording and surface collection	No Change	No Change
S2MC133	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC134	Artefact Scatter	50	Low	OC4	Recording and surface collection	No Change	No Change
S2MC135	Artefact Scatter	4	Low	OC4	Surface collection	No Change	No Change
S2MC136	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC137	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC138	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC139	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC140	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC141	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change	No Change
S2MC142	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC143	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC144	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC145	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC146	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC147	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC148	Artefact Scatter	6	Low	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC149	Isolated Find	1	Low	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC150	Artefact Scatter	64	Medium	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC151	Grind Grooves / Artefact Scatter	17	High	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC152	Artefact Scatter	2	Low	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC153	Artefact Scatter	67	Low	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC154	Artefact Scatter and PAD	49	Medium	Not Impacted	Powers Conservation Area	No Change	Powers Conservation Area
S2MC155	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Powers Conservation Area
S2MC156	Artefact Scatter	12	Low	Not Impacted	Nil required	No Change	Powers Conservation Area
S2MC157	Artefact Scatter	5	Low	Not Impacted	Nil required	No Change	Powers Conservation Area

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC158	Isolated Find and PAD	1	Low	OC4	Surface collection and test excavation	No Change	No Change
S2MC159	Isolated Find and PAD	1	Low	OC4	Surface collection and test excavation	No Change	No Change
S2MC160	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC161	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC162	Artefact Scatter	26	Low	OC4	Recording and surface collection	No Change	No Change
S2MC163	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC164	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC165	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC166	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC167	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC168	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC169	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC170	Artefact Scatter	2	Low	Dam	Surface collection	No Change	No Change
S2MC171	Artefact Scatter	4	Low	OC4	Surface collection	No Change	No Change
S2MC172	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC173	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC174	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC175	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC176	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC177	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC178	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change	No Change
S2MC179	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change	No Change
S2MC180	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC181	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC182	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC183	Artefact Scatter	5	Low	OC4	Surface collection	No Change	No Change
S2MC184	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC185	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC186	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC187	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC188	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC189	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC190	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC191	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC192	Isolated Find	1	Low	OC4	Surface collection	No Change	No Change
S2MC193	Artefact Scatter	2	Low	OC4	Surface collection	No Change	No Change
S2MC194	Artefact Scatter	3	Low	OC4	Surface collection	No Change	No Change
S2MC195	Artefact Scatter	3	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC196	Artefact Scatter	8	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC197	Artefact Scatter and PAD	13	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC198	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC199	Artefact Scatter	7	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC200	Artefact Scatter and PAD	260	High	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC201	Artefact Scatter	360	Medium	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC202	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC203	Artefact Scatter	20	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC204	Artefact Scatter	3	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC205	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC206	Artefact Scatter	53	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC207	Artefact Scatter and PAD	112	High	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC208	Artefact Scatter and PAD	53	Medium	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC209	Artefact Scatter and PAD	89	Medium	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC210	Artefact Scatter	8	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC211	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC212	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC213	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC214	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC215	Artefact Scatter	5	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC216	Artefact Scatter	91	Medium	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC217	Artefact Scatter	9	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC218	Artefact Scatter	50	Medium	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC219	Artefact Scatter	7	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC220	Artefact Scatter	15	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC221	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC222	Artefact Scatter	72	Medium	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC223	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC224	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC225	Artefact Scatter	45	Low	Not Impacted	Red Hills Conservation Area	No Change	Nil required
S2MC226	Artefact Scatter and PAD	109	Medium	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC227	Artefact Scatter and PAD	62	Medium	Not Impacted	Red Hills Conservation Area	No Change	No Change
S2MC229	Rock-shelter	14	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S2MC230	Isolated Find	1	Low	Stage 2 ROM Coal Facility	Nil required	No Change	No Change
S2MC231	Artefact Scatter / Sandstone Overhang	31	Low	Northern Out of Pit Emplacement Area	Record, surface collection and test excavation where monitoring indicates impacts are likely	Site to be intensively recorded including test excavation and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change
S2MC232	Isolated Find / Rock Shelter	1	Low	Not Impacted	Nil required	No Change	Murragamba Creek Conservation Area
S2MC233	Artefact Scatter / Rock Shelter	3	Low	Not Impacted	Nil required	No Change	No Change
S2MC234	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change	No Change
S2MC236 36-30134*	Shelter / Artefacts / Rock Paintings	5	High	Not Impacted	Underground 2 Conservation Area	No Change	No Change
S2MC237	Isolated Find	1	Low	Not Impacted	Underground 2 Conservation Area	No Change	No Change
S2MC238	Artefact Scatter	104	High	UG2	Recording and surface collection where monitoring indicates impacts are likely	No Change	No Change
S2MC239	Artefact Scatter	3	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change	No Change
S2MC240	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area
S2MC241	Artefact Scatter	4	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure	Final Management Measure
S2MC242	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area
S2MC243	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area
S2MC244	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area
S2MC245	Isolated Find	1	Low	Not Impacted	Nil required	No Change	Red Hills Conservation Area
S2MC246	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC247	Artefact Scatter	3	Low	Not Impacted	Nil required	No Change	No Change
S2MC248	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change	No Change
S2MC249	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change	No Change
S2MC250	Artefact Scatter and PAD	2	Medium	Not Impacted	Nil required	No Change	No Change
S2MC251	Artefact Scatter and PAD	12	Medium	Not Impacted	Nil required	No Change	No Change
S2MC252	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC253	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC254	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC255	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC256	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change	No Change
S2MC257	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC258	Artefact Scatter	9	Medium	Not Impacted	Nil required	No Change	No Change
S2MC259	Isolated Find	1	Low	Not Impacted	Nil required	No Change	No Change
S2MC260	Isolated Find	1	Low	Infrastructure	Surface collection	No Change	Red Hills Conservation Area
S2MC059b	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change	No Change
S2MC261	Grinding Grooves	92	High	Not Impacted	Murragamba Creek Conservation Area	Surveyed since the Stage 2 EA	Murragamba Creek Conservation Area
S2MC262	Isolated Artefact	1	Low	Not Impacted	Not identified	Surveyed since the Stage 2 EA	Murragamba Creek Conservation Area
MUG1-MOD1	Isolated Find	1	Low	Remote Services Facilities UG1 Mod	New record	-	Surface collection

^Sites 36-3-0287 and 36-3-0720 are the same site, having the same site cards; the information has been entered into AHIMS twice, with 36-3-0287 having an incorrect digit. The site card records the site as being an 'art site', but there are no details regarding the art. A site inspection indicated that there was no art in the vicinity. † Described in the Stage 1 EA. § Rock overhangs with a floor area of 1 x 2 m or greater are considered to be rock shelters and sites of potential archaeological deposits (PAD)

APPENDIX 9
NON-ABORIGINAL HERITAGE

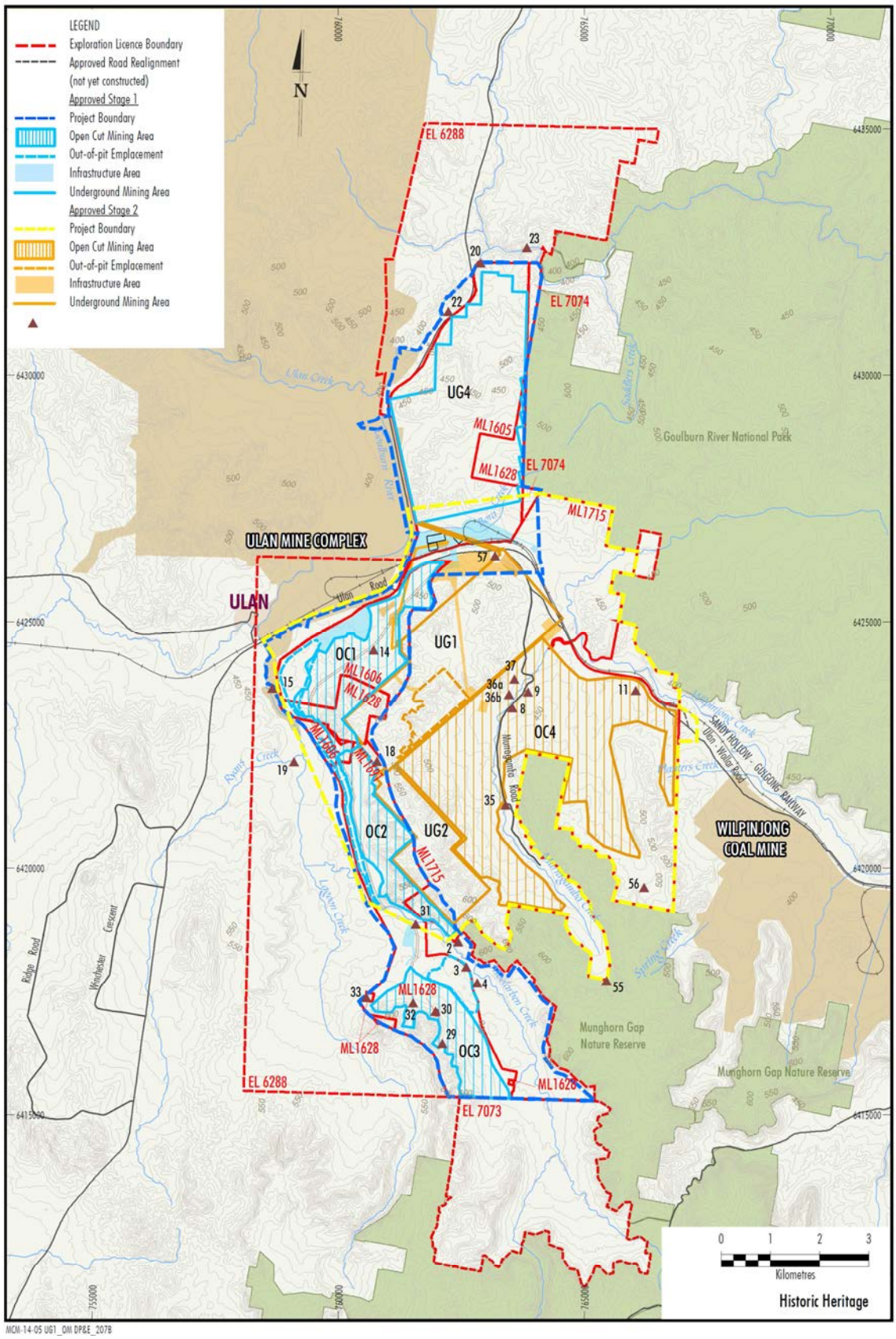

Table 9.1

Item #	Item Name	Significance	Impact Status	Recommendation
8	Murrugamba School Site	Local – moderate	High - within Open Cut 4	Archival Record Archaeological Assessment
9	Farm Site	Local – high	High – within Open Cut 4	Historical Research Archival Record
11	Farm Site	Local – moderate	High - on boundary of Open Cut 4	Historical Research Archival Record Archaeological Assessment
18	Carr's Gap Road stone wall	Local – moderate	High - on boundary of Open Cut 4 and Underground 1	Historical Research Archival Record
35	House Site[5]	Local – intrusive	High - on boundary of Open Cut 4	No further action
36a	House Site	Local – high	High - within Open Cut 4	Historical Research Archival Record Archaeological Assessment
36b	Burial	Local – high	High - within Open Cut 4	Historical Research Archival Record Archaeological Assessment
37	House Site	Local – moderate	High - within Open Cut 4	Historical Research Archival Record
55	Water Trough and Spring Fed Well	Not assessed, but noted as an item of interest	Low/nil - outside area of Open Cut 4 – possible indirect impact by draining of water	Archival Record
56	Water Trough and Spring Fed Well	Not assessed, but noted as an item of interest	Low/nil - outside area of Open Cut 4 – possible indirect impact by draining of water	Archival Record
57	Feed Trough	Not assessed, but noted as an item of interest	High – adjacent to road re-alignments	Historical Research Archival Record Ex situ Conservation

APPENDIX 10
REHABILITATION PLAN

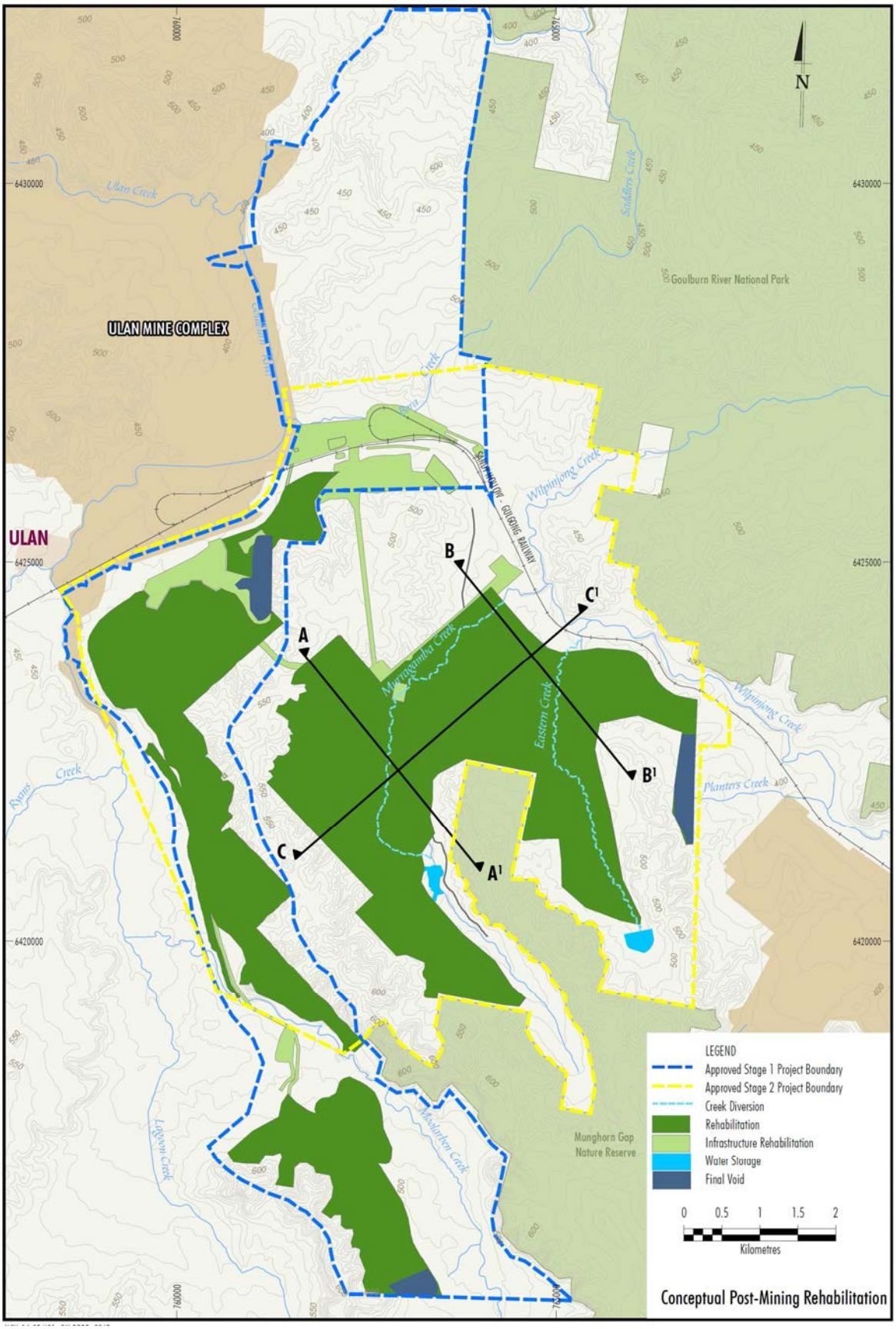

Figure 10.1

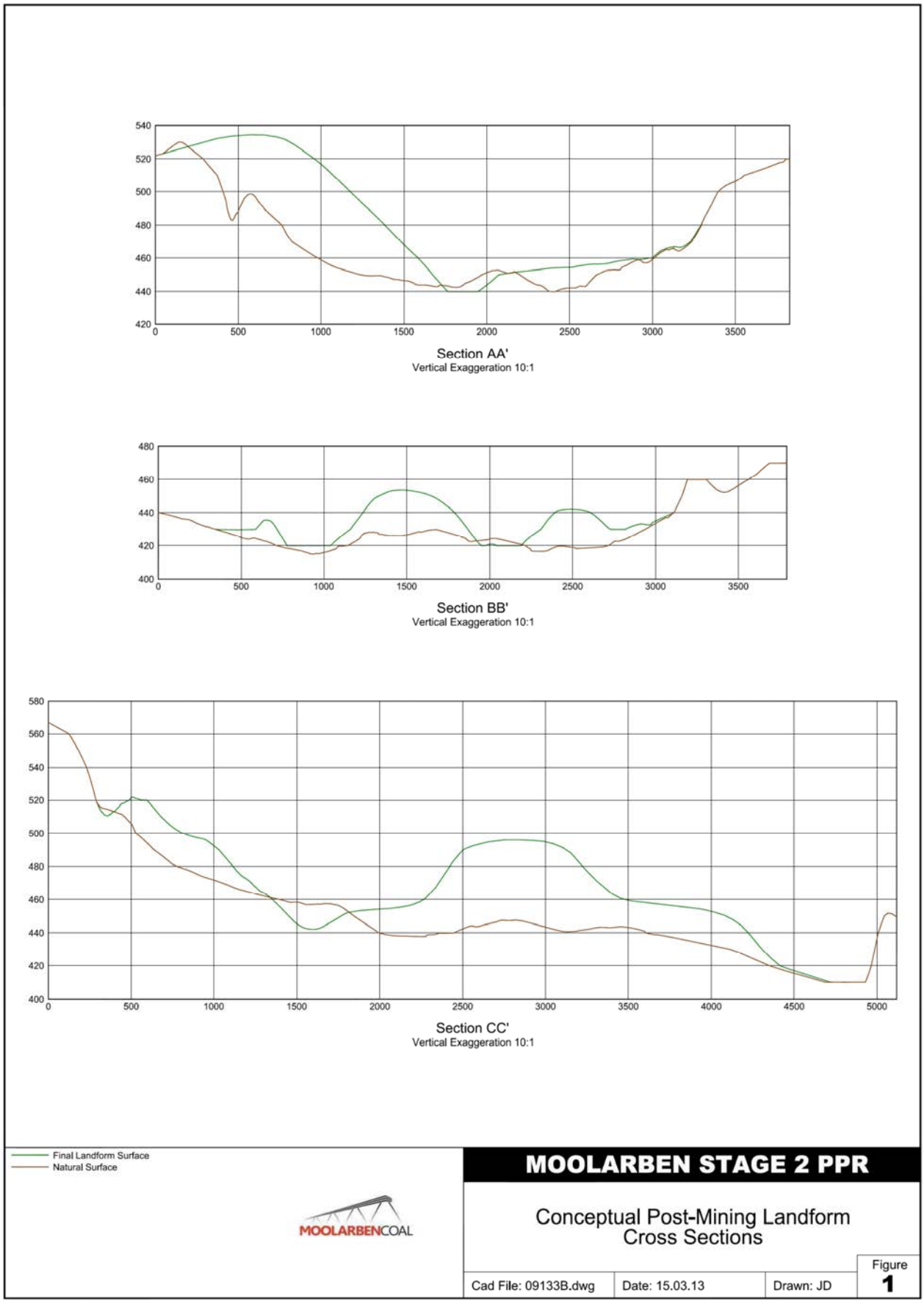
540
520
500
480
460
440
420
0
500
1000
1500
2000
2500
3000
3500
Section AA'
Vertical Exaggeration 10:1
480
460
440
420
400
0
500
1000
1500
2000
2500
3000
3500
Section BB'
Vertical Exaggeration 10:1
580
560
540
520
500
480
460
440
420
400
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
Section CC'
Vertical Exaggeration 10:1
Final Landform Surface
Natural Surface
MOOLARBENCOAL
MOOLARBEN STAGE 2 PPR
Conceptual Post-Mining Landform
Cross Sections
Cad File: 09133B.dwg
Date: 15.03.13
Drawn: JD
Figure
1

Figure 10.2