WILPINJONG EXTENSION PROJECT

RESPONSE TO SUBMISSIONS

May 2016


Resource
Strategies

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF PLATES

LIST OF APPENDICES

1 INTRODUCTION

Wilpinjong Coal Pty Ltd (WCPL), a wholly owned subsidiary of Peabody Energy Australia (Peabody Energy), prepared the *Wilpinjong Extension Project Environmental Impact Statement* (the EIS) for the proposed Wilpinjong Extension Project (the Project) that is being assessed under Part 4 of the New South Wales (NSW) *Environmental Planning and Assessment Act, 1979* (EP&A Act).

The Project provides for the continuation and extension of open cut coal mining and processing activities at the Wilpinjong Coal Mine to 2033. The continued development of coal resources in close proximity to WCPL's existing Coal Handling and Preparation Plant (CHPP) and other supporting facilities maximises the use of existing infrastructure and associated returns on existing financial investments.

At full development, the peak Project operational workforce would be in the order of 625 on-site personnel.

Project coal production would contribute to NSW export income, State royalties and State and Commonwealth tax revenue, as well as contributing to electricity supply in Australia and other countries that purchase Project coal. The Project would also result in the continued payment of developer contributions to the Mid-Western Regional Council (MWRC) and community sponsorships by WCPL in the region. A discussion of Project alternatives and Project justification is provided in Section 6.7 of the EIS.

The EIS was placed on public exhibition by the NSW Department of Planning and Environment (DP&E) from 27 January 2016 to 10 March 2016.

During this period, Government agencies, NGOs, businesses and members of the public were invited to provide submissions on the EIS to the DP&E.

The DP&E has requested that WCPL review and respond to the range of submissions that were received on the EIS.

WCPL's responses to submissions have been structured as follows:

- Part A – Responses to submissions from Government agencies.
- Part B – Responses to submissions from businesses and NGOs that objected to the Project.
- Part C – Responses to submissions from members of the public that objected to the Project using a pro-forma (with individual submitters noted in Appendix A).
- Part D – Responses to submissions from members of the public that objected to the Project not using a pro-forma (with individual submitters and issues raised noted in Appendix B).

Consistent with a request from the DP&E this response to submissions document has been structured to address submissions by issue, rather than by submitter, within these parts.

It is noted that a number of businesses, and NGOs and members of the public also supported the Project (approximately 14% of total submissions) and the associated benefits to the regional economy and employment. In the interest of brevity, these submissions have not been reproduced in this document.

In order to avoid duplication of content, where relevant, references are made to other responses where similar issues were raised by various Government agencies, businesses, NGOs and members of the public.

1.1 Continued Consultation

Since the lodgement of the Project Development Application and commencement of the public exhibition of the EIS in January 2016, WCPL has continued to consult with NSW Government agencies regarding the Project.

This included a meeting with DP&E on 6 April 2016 to discuss the range of concerns raised in the EIS submissions and WCPL's proposed approach to address the key concerns, and the number and classification of submissions received.

Both preceding and following this meeting, WCPL has continued to engage with other NSW regulatory agencies with respect to the EIS and the specific areas of regulatory responsibility of the key agencies. An overview of recent consultation is provided below.

Office of Environment and Heritage

In February 2016, during the exhibition of the Project EIS, WCPL conducted a site tour with the NSW Office of Environment and Heritage (OEH) representatives to inspect potential Regent Honeyeater habitat associated with the Project.

In April 2016, WCPL continued to consult with the OEH with respect to Regent Honeyeater habitat associated with the Project and OEH provided specific and detailed advice regarding the plant communities that it regarded were, or were not, habitat for this species, as well as some supplementary advice on the calculation of biodiversity offset credit requirements.

On the basis of OEH advice, the Project species credit requirements for the Regent Honeyeater have been re-calculated as presented in Section 2.3 of this document. WCPL consultation with the OEH on these matters is ongoing.

Environment Protection Authority

WCPL met with the NSW Environment Protection Authority (EPA) in April 2016 to discuss the key issues raised in its submission and WCPL's proposed approach to respond to these issues. The EPA indicated general agreement with WCPL's proposed approach on the key issues, however, reserved its acceptance of the detail of the responses following review of this document.

In addition, the EPA has been conducting independent operational noise compliance monitoring in the vicinity of the Wilpinjong Coal Mine.

WCPL consultation with the EPA on these matters is ongoing.

Mid-Western Regional Council

WCPL met with the MWRC in April 2016 to discuss the key issues raised in its submission and WCPL's proposed approach to respond to these issues. MWRC indicated general agreement with WCPL's proposed approach on the key issues.

In addition, WCPL has been consulting with the MWRC regarding the proposed Voluntary Planning Agreement for the Project, and materials for its exhibition.

WCPL consultation with the MWRC on these matters is ongoing.

Wollar Public School

WCPL met with a representative of the Wollar Public School in April 2016 to discuss the groundwater drawdown predictions at the school bore and the future availability of make good provisions, should these be required.

The school representative indicated general satisfaction with the information provided, and no particular concerns were raised.

DPI Water

WCPL met with the NSW Department of Primary Industries – Water (DPI Water) in May 2016 to discuss its submission and WCPL's proposed responses to the issues raised. DPI Water indicated general agreement with WCPL's proposed responses on a number of the key comments in the submission, subject to review of this document (particularly Appendix D), and also provided some administrative advice with respect to future management of water access licences. It is anticipated that further discussions with DPI Water may be undertaken following its review of this document, and WCPL may then provide a supplementary response to the Department's recommendations, if required.

Division of Resources and Energy

WCPL met with the NSW Division of Resources and Energy (DRE) (within the NSW Department of Industry) in May 2016 to discuss its submission and WCPL's proposed responses to the issues raised. DRE indicated general agreement with WCPL's proposed responses on the key issues raised, subject to review of this document.

2 PART A - RESPONSES TO GOVERNMENT AGENCY SUBMISSIONS

Responses to issues raised by Government agencies are provided in the subsections below.

Of the 11 submissions by Government agencies that were received by DP&E, none of the submissions objected to the Project (i.e. Government agencies provided comments only).

2.1 Noise

The following government agencies raised issues regarding noise and blasting:

- EPA; and
- MWRC.

Each of the main comments/issues raised are addressed below.

It is noted that the EPA (2016), in its submission for the Project, stated (underline added):

> *The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project*

Low Frequency Noise

Issue

The EPA has raised a concern that low frequency noise may not have been correctly assessed in the EIS, and that the difference between the mine contributed equivalent continuous noise levels for A-weighted decibels (dBA) over 15 minutes ($L_{Aeq[15minute]}$) and C-weighted decibels (dBC) over 15 minutes ($L_{Ceq[15minute]}$) should be considered to determine whether a low frequency modifying factor adjustment should be applied.

Response

Some two weeks of unattended noise monitoring targeting potential low frequency noise from the Wilpinjong Coal Mine to receivers in the Village of Wollar were conducted by SLR Consulting in December 2012 using a full spectrum noise monitor to allow the determination of one third octave band data and subsequent analysis of A-weighted and C-weighted results. The monitoring was unattended and was not conducted for compliance purposes (which requires attended monitoring), rather it was completed to investigate the characteristics of mine noise. At this time, mining operations had not commenced in Pits 3 and 7 and were therefore greater than 5 kilometres (km) from the Village of Wollar.

In order to focus the analysis in the monitoring period, the meteorological data from the on-site temperature tower was analysed and nights when adverse temperature inversions were present in the period from 12 midnight to 5 am were selected for further analysis (i.e. when mine noise was expected to be the dominant noise source in the Village of Wollar, based on previous assessments and when potential extraneous noise sources were likely to be reduced).

SLR Consulting analysed the noise data to remove any residual higher frequency extraneous noise sources by filtering the bandwidth to 20 Hz to 2 kHz to derive the intrusive $L_{eq(15minute)}$ A-weighted and C-weighted noise levels of Wilpinjong Coal Mine operations (Section 5.2.3 of the Wilpinjong Extension Project Noise and Blasting Assessment [SLR Consulting, 2015]) (i.e. the assessment was based on the conservative assumption that all filtered intrusive noise levels generated over the selected analysis period coinciding with temperature inversions is likely to have been solely mine-contributed or at least significantly mine-contributed).

Further articulation of the results of night-time noise monitoring (between midnight and 5 am) is provided in Table 1 below, and indicates that the estimated logmean (mine-contributed) difference between intrusive $L_{Aeq(15minute)}$ and $L_{Ceq(15minute)}$ was less than 15 decibels (dB) for each day for which suitable data was available to be analysed.

Table 1
Measured (20 Hz to 2 kHz) Intrusive $L_{Aeq(15minute)}$ and $L_{Ceq(15minute)}$ Noise Levels[1]

Day and Date (2012)	Mean $L_{Aeq(15minute)}$	Logmean $L_{Ceq(15minute)}$	Mean Difference
Tuesday 04-Dec	32 dBA	46 dBC	14.3 Db
Thursday 06-Dec	34 dBA	46 dBC	11.6 dB
Sunday 09-Dec	35 dBA	47 dBC	12.3 dB
Friday 14-Dec	34 dBA	46 dBC	12.4 dB
Saturday 15-Dec	32 dBA	45 dBC	12.8 dB
Sunday 16-Dec	34 dBA	48 dBC	13.8 dB
Monday 17-Dec	32 dBA	41 dBC	9.7 dB
Overall	**33 dBA**	**46 dBC**	**12.6 dB**

Source: SLR Consulting (pers. comm., 2016).

[1] dB re 20 micropascals (µPa) between 0000 hrs and 0500 hrs.

In addition, SLR Consulting further analysed the 147 individual 15 minute unattended noise measurements that were obtained on these days and some 18% (26) of the periods analysed under the adverse temperature inversion conditions illustrated a difference between dBA and dBC of greater than 15 dB. Half of these periods however coincided with A-weighted monitoring results of less than 30 dBA. Only some 9% of the unattended monitoring results (i.e. 13 from 147) recorded a difference between dBA and dBC of greater than 15 dB under the adverse temperature inversion weather conditions (i.e. ranging between 15.5 dB to 18.8 dB) and also coincided with A-weighted monitoring results above 30 dB. As noted above, monitoring was unattended for noise characterisation only, so no application of a 5 dBA penalty is applicable to these instances (i.e. compliance assessment requires attended monitoring to confirm the noise source). Given the distance from the mining operations to the Village of Wollar at that time (i.e. greater than 5 km), some differential noise attenuation (i.e. due to distance between the noise sources and the monitor) is to be expected.

SLR Consulting conducted a review of this data (that was based on a number of conservative assumptions, including that all of the unattended noise monitoring measurements in the analysed period were mine-generated), in combination with review of Wilpinjong Coal Mine extensive operator-attended noise monitoring reports (i.e. conducted monthly since September 2014 and bimonthly for an extensive period prior to 2014).

SLR Consulting concluded that the current Wilpinjong Coal Mine's noise emissions do not contain "dominant low frequency content" in accordance with the intent of the NSW Industrial Noise Policy's (INP's) assessment procedures. The significant distance between the mine noise sources and the Village of Wollar at the time of monitoring (i.e. that had the potential to create perverse outcomes using the INP's "C minus A" methodology due to differential attenuation) was also considered by SLR Consulting in determining the above conclusion.

In addition, it is noted that the DP&E stated the following with respect to low frequency noise in the *Wilpinjong Coal Mine Pit Extensions and CHPP Optimisation Modification – Assessment Report* (the Modification 5 Assessment Report) (DP&E, 2014a):

> *Low Frequency Noise*
>
> *Several objectors claimed they were being affected by low frequency noise, and suggested the NIA had not properly considered the potential low frequency noise impacts of the proposal. This claim is becoming increasingly common in submissions on mining proposals in NSW, despite the lack of evidence to support such claims.*
>
> *Nevertheless, Section 5.3 of the NIA contains an assessment of the potential low frequency impacts of the mine in accordance with the requirements in the NSW INP, and concludes the current noise emissions of the mine do not "contain a low frequency content".*
>
> *The Department accepts this conclusion, but notes that under the conditions of approval WCPL will be required to carry out monthly attended monitoring of the noise impacts of the mine's operations, and apply the low frequency noise modifying factor to any monitoring data, in accordance with the requirements of the NSW INP.*
>
> *Finally, it should be noted that the Department has identified a number of potential limitations in the NSW INP's current approach to dealing with low frequency noise, particularly where receivers are often located several kilometres away from the mine. This can lead to perverse outcomes in some cases where the modifying factors (penalties) in the NSW INP are applied to the monitoring results of mines when there is little or no low frequency noise impact. This, along with a range of other reasons, has prompted the EPA to carry out a detailed review of the low frequency noise provisions of the NSW INP. …*

It is noted that the EPA has placed on exhibition a Draft Industrial Noise Guideline that is being prepared to address the replacement of the INP. It is noted that the Draft Industrial Noise Guideline, as exhibited, includes some proposed refinements to the INP low frequency noise modifying factor methodology to address some of the limitations with the INP that are noted by the DP&E in the extract above. In particular the EPA's Draft Industrial Noise Guideline Technical Background Paper (Section 4.6.2) notes that:

> *This is quite a conservative criterion that would be exceeded in many environments not associated with significant LFN problems; for example, air conditioned environments. In addition, the 'C minus A' differential will naturally increase as you move away from a noise source due to higher attenuation rates of higher frequencies versus lower frequencies. This can lead to a perverse outcome where a low frequency modification may not apply near to a noise source, but will apply at more removed distances, even though the amplitude of the LFN spectrum has reduced.*

In addition, the *Moolarben Coal Complex – OC4 South-West Modification Response to Submissions* (Moolarben Coal, 2015) states:

> *SLR Consulting (2015) assessed the differences between A-weighted and C-weighted noise levels noise in accordance with the NSW Industrial Noise Policy and concluded that noise from the existing operations does not contain dominant low frequency content.*

The recent assessment findings at Wilpinjong and Moolarben suggest that low frequency noise is not a significant feature of the mining operations in the vicinity of the Project, and the noise emissions from the existing open cut mines do not contain “dominant low frequency content”.

In addition, it is understood that the EPA has been conducting independent operational noise monitoring at Wollar and surrounds over the last 12 to 24 months (particularly in early 2016) and has to date found the Wilpinjong Coal Mine has been compliant with the noise criteria within Project Approval 05-0021 (i.e. to WCPL’s knowledge no low frequency modifying factor has been applied by the EPA to Wilpinjong Coal Mine noise emissions in this monitoring).

Based on the above, as stated in the Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015), no further low frequency noise assessment is required for the Project.

Further, it is noted that under the conditions of any Development Consent for the Project, WCPL would be required to carry out monthly attended monitoring of the noise impacts of the mine’s operations at private receivers (and apply a low frequency modifying factor should it be required to be applied, consistent with the requirements of the consent).

Noise Mitigation Measures and Independent Modelling

Issue

The MWRC has raised a concern that some operational noise mitigation measures that are technically feasible have not been incorporated into the Project noise modelling predictions, and requests that independent modelling is undertaken for the Project.

Response

Under the Voluntary Land Acquisition and Mitigation Policy (and the INP and associated application notes), mitigation measures must be feasible and reasonable, where reasonableness relates to the application of judgement in arriving at a decision taking into account mitigation benefits, costs versus benefits provided and the extent and nature of potential improvements.

As described in the EIS, a number of technically feasible mitigation measures that could achieve up to a 7 dBA noise level reduction at the nearest privately-owned receivers were evaluated. However, WCPL identified that the additional costs associated with these measures were not considered to be reasonable, given the potential benefits of the proposed 5 dBA reduction that could be achieved at a significantly lower cost (Section 4.3.2 of the EIS).

It is also noted that the EPA, in its submission for the Project, stated:

> *The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project.*

The DP&E has also commissioned an independent review of the Wilpinjong Extension Project Noise and Blasting Assessment, including the assessment of cumulative impacts.

2.2 Air Quality

The following government agencies raised issues regarding air quality:

- EPA;
- NSW Health; and
- MWRC.

Each of the main comments/issues raised are addressed below.

It is noted that the EPA (2016) stated the following general observation with respect to the air quality modelling conducted for the Project:

> *The Air Quality Impact Assessment (AQIA) impact assessment prepared for the Proposal has been conducted generally in accordance with the* Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*.*

Diesel Particulate Emissions

Issue

The EPA has raised a concern that emissions of particulate matter from diesel engines have not been adequately quantified. The EPA recommended estimating these diesel emissions and detailing approaches to minimising emissions from diesel plant and equipment.

Response

Diesel particle emissions are already included in the emission factor equations utilised for the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment completed by Todoroski Air Sciences (2015).

The assessment uses emission factor equations developed for coal mines by the United States Environmental Protection Agency (US EPA) (US EPA AP-42), which do not separate particulate matter emissions from mechanical processes and diesel exhaust. It should also be noted that the US EPA sponsored studies conducted to develop the emission factor equations for hauling provide total levels of emissions arising from controlling silt levels (i.e. by watering the road) and are based on extensive measurements.

Notwithstanding, potential diesel emissions have also been separately estimated to the wheel-generated only dust emissions from haul trucks by Todoroski Air Sciences for the Project, to address the concern raised by the EPA and also to provide separate quantification of total diesel particulate emissions (Appendix C).

Appendix C describes that the theoretical underestimation in the truck exhaust particulate matter emissions represents 6.4 to 8.9 percent (%) of the total particulate matter with an equivalent aerodynamic diameter of 2.5 micrometres or less ($PM_{2.5}$) emissions and 0.77 to 1.07% of the total particulate matter with an equivalent aerodynamic diameter of 10 micrometres or less (PM_{10}) emissions from the mine.

The effect of this potential change in emissions would be a potential change in the maximum predicted concentrations at the most affected private receptors of up to 0.047 micrograms per cubic metre (µg/m³) for $PM_{2.5}$ (e.g. an increase in the maximum predicted cumulative annual average concentration of 3.9 µg/m³ to 3.947 µg/m³, or approximately 1.2%) and 0.042 µg/m³ for PM_{10} (e.g. an increase in the maximum predicted cumulative annual average concentration of 16.8 µg/m³ to 16.842 µg/m³, or approximately 0.25%).

These potential increases would be too small to measure. Overall, this indicates that even if there were any potential underestimation of emissions due to haul road vehicle exhaust, this would be negligible and would not affect the conclusions of the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment.

Therefore, the additional analysis requested by the EPA does not result in any material change in total emissions, nor any change to predicted impacts at private receivers as presented in the EIS.

Control measures that would be applied for the Project to minimise emissions from diesel engines include (Section 4.18.3 of the EIS):

- optimising the design of haul roads to minimise the distance travelled between the pit and the CHPP;
- minimising the rehandling of material (i.e. coal, overburden and topsoil); and
- maintaining mobile equipment in good operating order.

Adopted Background $PM_{2.5}$ Concentration

Issue

The EPA has raised a concern that the adopted background concentration for cumulative $PM_{2.5}$ annual average impacts is low, and requires additional justification for the adopted level.

Response

The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment completed by Todoroski Air Sciences (2015) assumed a background $PM_{2.5}$ concentration that was derived as described in Appendix C, as there is no reliable $PM_{2.5}$ monitoring near the existing Wilpinjong Coal Mine.

However, the assessment indicates that the $PM_{2.5}$ contribution from the Project is relatively small at private receivers, and the background assumption could be significantly varied without the Project exceeding the relevant criteria.

If the assessment was to adopt the annual average background $PM_{2.5}$ concentration measured in the Hunter Valley outside of towns near coal mines and population centres (Todoroski Air Sciences, 2014) (4.3 µg/m³), the criterion would still not be exceeded at any of the private receivers assessed.

This would also be the case if the more conservative annual average background $PM_{2.5}$ concentration adopted for the Bylong Coal Project Air Quality and Greenhouse Gas Impact Assessment (Pacific Environment Limited, 2015) (4.7 µg/m³) was used.

Additional discussion of background $PM_{2.5}$ levels is provided in Appendix C.

Air Quality Criteria Exceedance Procedures

Issue

NSW Health has raised a concern over the procedures in place for when air quality criteria are exceeded, and subsequent notification of NSW Health and residents of the Village of Wollar.

Response

Air quality management and monitoring for the Project would continue to be implemented in accordance with the Air Quality Management Plan (Section 4.4 of the EIS).

The Air Quality Management Plan describes the real-time monitoring triggers and associated responses, which include employing additional dust mitigation (such as haul road suppression) and shutting down all operations excluding train load out, if required (e.g. under severe weather conditions).

The Air Quality Management Plan also describes the procedures to be implemented in the event of an exceedance. The procedures include notification of the exceedance to the DP&E and EPA and taking all reasonable and feasible steps to ensure that the exceedance ceases and does not recur (including relocating, modifying and/or stopping mining operations). In the event of a non-compliance, all affected landowners/tenants are to be notified in writing and regular monitoring results are to be provided until the operations are again complying with the air quality criteria.

When the Air Quality Management Plan is updated to incorporate the Project, the response to exceedances procedures could be updated to include notification of NSW Health and the residents of the Village of Wollar in addition to the current notification requirements, should the Determining Authority deem this to be appropriate.

Independent Review

Issue

The MWRC has recommended independent assessment to validate the dispersion modelling completed for the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment.

Response

The DP&E has commissioned an independent review of the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment, including the assessment of cumulative impacts.

Spontaneous Combustion

Issue

The EPA has raised a concern that a 2015 Spontaneous Combustion Management Plan is referred to in the EIS but was not provided, and states that the Spontaneous Combustion Management Plan should be finalised prior to commencement of any expansion to mining operations.

Response

Following the approval of Modification 6, in accordance with the requirements of the Wilpinjong Coal Mine Project Approval (05-0021), WCPL submitted a revised Spontaneous Combustion Management Plan to the DP&E in December 2014. Following receipt of comments from the DP&E the plan was revised and re-submitted in May 2015. A further revision was then submitted to the DP&E in July 2015 for an update to the subsidiary Keylah Dump Removal Management Plan (i.e. revision of Keylah removal completion date).

NSW Government approval of the Spontaneous Combustion Management Plan has been provided in 2016.

2.3 Biodiversity

The following government agencies raised issues regarding biodiversity:

- OEH; and
- MWRC.

Each of the main comments/issues raised are addressed below.

Survey of Munghorn Gap Nature Reserve Boundary

Issue

The OEH recommends that the boundary of the Munghorn Gap Nature Reserve in the vicinity of the Project is identified and surveyed.

Response

Consistent with the OEH's recommendation, WCPL would provide OEH with a survey of the boundary of the Munghorn Gap Nature Reserve in the vicinity of mining prior to the commencement of mining in the Project open cut extension areas that are within 300 m of the boundary.

Munghorn Gap Nature Reserve Buffer

Issue

The OEH recommends that a buffer of at least 50 m is maintained between any open cut mining operations or infrastructure and the adjacent Munghorn Gap Nature Reserve.

Response

WCPL note that the *Guidelines for Developments Adjoining Land Managed by the Office of Environment and Heritage* (OEH, 2013) state:

> *Given the differences between sites and development types, it is not possible to specify a standard buffer; each development will need to be assessed on its merits. Developments that are designed to be sympathetic to adjoining lands, and to integrate with the landscape, are likely to require less need for buffers or set-backs.*
>
> *Where there is no buffer, consideration should be given to developing appropriate conditions or land management practices that minimise the potential edge effects from development.*

It is noted that a 50 m buffer was accepted as a limit on mining proximity by the proponent of Stage 2 of the Moolarben Coal Project *between the open cut mining and the Munghorn Gap Nature Reserve during the life of the project.*

WCPL has calculated the impact of the NSW government imposing a 50 m proximity limit on the open cut pit extensions for the Project and this indicates that some 350,000 tonnes of run-of-mine (ROM) coal would be sterilised along approximately 2 km of pit if this was to occur. It is noted that WCPL has an obligation to recover economically viable coal reserves within its mining lease.

WCPL does not consider that a nominal 50 m buffer distance from the open cut is warranted for the Project given:

- WCPL is not aware of any ecological basis for this nominal buffer that has arisen from previous Moolarben consent condition negotiations.
- The approved Wilpinjong Coal Mine does not operate to such a limit, and clearing of vegetation adjoining the reserve would be a short to medium-term impact. The pits would be progressively mined and rehabilitated to minimise the potential short-term edge effects from the Project.
- A key objective of the mine rehabilitation in the long-term is to increase the continuity of woodland vegetation by establishing links between woodland vegetation in the rehabilitation areas and existing vegetation in the Munghorn Gap Nature Reserve (i.e. a post-mining improvement in ecological connectivity).
- The Munghorn Gap Nature Reserve (and Goulburn River National Park) would be extended if the Project is approved (i.e. by incorporation of proposed Project biodiversity offset areas) that would result in a material gain to the reserve system, that would be expected to far outweigh any temporal impacts along small sections of the reserve boundary associated with mining proximity.

Notwithstanding the above, WCPL has considered the OEH recommendation and feedback from the DP&E, and is prepared to accept a setback of some 20 m between the surveyed boundary of the Munghorn Gap Nature Reserve and the limit of the open cut in the Project open cut extension areas. This proposed alternative limit would have a lesser adverse impact on Project open cut mining reserves than a nominal 50 m buffer, and Project development within the 20 m buffer would be limited to access tracks, upslope drainage and other ancillary development activities that are typically located on pit boundaries.

Potential Impacts to Eastern Bentwing-bats

Issue

The OEH raised concerns regarding potential indirect impacts to Eastern Bentwing-bats in a historical mine adit and recommends that WCPL *explore engineering solutions to ensure the integrity of the adit entrance is maintained in as a natural state as possible.*

Response

It is noted that the OEH submission misquoted Attachment A of the Wilpinjong Extension Project Biodiversity Assessment Report and Biodiversity Offset Strategy (BARBOS) (Hunter Eco, 2015). The quote that the OEH has attributed to the Eastern Bentwing-bat was actually made in reference to the Little Bentwing-bat. A full quote from Attachment A of the BARBOS is provided below to clarify (emphasis added):

> *Little Bentwing-bat have been recorded within the BAR Footprint and surrounds by Greg Richards and Associates (2005) (Figure 9). No breeding colonies of this species have been recorded in or near the BAR Footprint. There are no database records for this species within the BAR Footprint and surrounds.*
>
> *Eastern Bentwing-bat have been recorded within the BAR Footprint and surrounds by Greg Richards and Associates (2005) and Lesryk Environmental Consultants (2013) (Figure 9). Biodiversity Monitoring Services (2015a, 2015b) have also recorded this species in the immediate surrounds. No breeding colonies of this species have been recorded in the BAR Footprint. There is a database record for this species near the BAR Footprint (OEH, 2015a) (Figure 9).*

The quote from Attachment A of the BARBOS is consistent with the Terrestrial Fauna Baseline Report.

The historical adit located in Slate Gully is a mining-related man-made structure that will collapse at some stage, irrespective of the Project. Further, the current stability of the adit appears to be adversely affected by a large tree root which is breaking through the adit roof and causing rockfall around the entrance.

To mitigate the potential for future collapse of the entrance, a concrete or steel pipe would be installed to help maintain an opening in the event of any further rockfall around the entrance (Section 4.9.2 of the EIS). This existing commitment would involve an engineering solution to maintain an opening.

Mitigation Measures for the Eastern Bentwing-bat

Issue

The OEH recommends mitigation measures are developed to minimise the potential for disturbance of Eastern Bentwing-bats during the breeding season, including potential blasting limits.

Response

In addition to the mitigation measures proposed to minimise the potential for disturbance of bats outlined in the EIS (as summarised above), WCPL is prepared to consider the implementation of a blasting performance criteria of 80 millimetres per second (mm/s) for the adit (i.e. reduced blast vibration intensity) to limit the potential indirect impacts associated with blasting vibration on the Eastern Bentwing-bat. The proposed performance criteria is consistent with the performance criteria for Aboriginal rock shelter sites with art (i.e. for significant overhangs and caves) described in the Blast Management Plan. There is a lack of Australian blast vibration standards that apply to natural geological structures such as Aboriginal heritage related rock shelters. Therefore, in preparation of the WCPL Blast Management Plan, an internal performance measure was developed for rock shelters with art by applying a significant factor of safety on vibration levels at which rockfall had previously been observed in unlined tunnels in sandstone and granite as identified in previous Wilpinjong Noise and Blasting Assessments (460 mm/s). The proposed performance criteria of 80 mm/s that would be applied at the adit is also significantly lower than the 250mm/s *archaeological/geological* safe blast design vibration criteria adopted by SLR Consulting (2015).

WCPL has experience in applying this vibration performance criteria on-site, and would be able to both maintain the Project mine schedule and absorb the additional mining costs associated with complying with this vibration performance criteria while blasting proximal to the historical adit in pit 8.

It is not practical to modify the mine plan (i.e. limit blasting) during the relevant breeding season of the Eastern Bentwing-bat. OEH advises that the breeding season for this bat is December to March and given that blasting on-site is typically undertaken daily (i.e. a blast in one or more of the various active pits), it would not be reasonable to cease blasting (i.e. mining operations) in Pit 8 for such a large proportion of the year (i.e. this would adversely impact on WCPL's ability to maintain the Project mining schedule), particularly as the bats are already experiencing blasting vibration effects from approved operations in Pits 3 and 7.

Monitoring Program for the Adit

Issue

The OEH recommends that WCPL establish a monitoring program to determine whether the adit is used all year round or purely as a maternity site and to determine the degree of impact that blasting vibration has on bats utilising the adit.

Response

The existing Blast Management Plan would be revised to reflect the Project, monitoring and performance criteria for the adit and the conditions of any Development Consent. Any additional monitoring of the bats or the adit is not considered warranted given:

- Blasting is already undertaken and/or approved in the vicinity of the adit as a component of ROM operations at the approved Wilpinjong Coal Mine.
- The Eastern Bentwing-bat in the locality is unlikely to be dependent on the man-made historical mine adit, since the local and regional geology lends itself to a wide variety of alternative natural caves and associated structures along the escarpments of the sandstone country (Hunter Eco, 2015).
- The offset areas include approximately 2 km of sandstone escarpment with numerous caves (Offset Area 3). No credit is given for these habitat features under the NSW *Framework for Biodiversity Assessment* (OEH, 2014a).

Potential Impacts to the Regent Honeyeater

Issue

The OEH recommended changes to the NSW BioMetric Vegetation Types (BVTs) used to calculate the Project offset requirement for the Regent Honeyeater (*Anthochaera phrygia*).

Response

WCPL is of the opinion that the habitat designations for the Regent Honeyeater that were adopted for the BARBOS (Hunter Eco, 2015) were consistent with available contemporary scientific literature on the Regent Honeyeater.

Notwithstanding, a meeting was held with the OEH in April 2016 to discuss which BVTs are suitable as Regent Honeyeater habitat on the Wilpinjong Extension development site and Project offset lands.

During the meeting, David Geering (OEH) recommended a number of changes to the potential habitat assigned to the Regent Honeyeater. The changes recommended by the OEH are based on the following reasoning:

- Blakely's Red Gum Woodland (grassy) (HU681) in the BAR Footprint and offset areas is not potential habitat for the Regent Honeyeater, as David Geering (OEH) advised that the Blakely's Red Gum is not likely to be used by the Regent Honeyeater as a feed or nesting resource given there is no adjacent White Box or Yellow Box.

- Rough-barked Apple – Black Cypress Pine Woodland/Rough-barked Apple Forest (HU981) in the BAR Footprint and offset areas is not potential habitat for the Regent Honeyeater, as David Geering (OEH) advised that the Rough-barked Apple is not likely to be used by the Regent Honeyeater as a feed or nesting resource given there is no adjacent White Box or Yellow Box.
- Blakely's Red Gum - Rough-barked Apple Woodland (HU910) in Offset Areas 1 and 5 is potential habitat for the Regent Honeyeater given it is a narrow strip adjacent to White Box.
- Blakely's Red Gum - Rough-barked Apple Woodland (HU910) in Offset Area 2 is not potential habitat for the Regent Honeyeater given absence of feed or nesting resources within the occurrence.
- Red Ironbark Forest (HU886) in the BAR Footprint is potential habitat for the Regent Honeyeater, due to the presence of Grey Gum trees within the occurrences. David Geering (OEH) advised that Grey Gum trees are considered potential habitat for the Regent Honeyeater (based on one occasion at Capertee Valley where radio-tracked Regent Honeyeaters were observed foraging on Grey Gum blossom).
- Western Grey Box Woodland (HU962) in the BAR Footprint and offset areas is not potential habitat for the Regent Honeyeater, as David Geering (OEH) advised that the Regent Honeyeater has not been observed using Western Grey Box elsewhere.
- Yellow Box Woodland (derived native grassland) (HU732) in the offset areas is potential habitat for the Regent Honeyeater, as David Geering (OEH) advised that the Regent Honeyeater is likely to use paddock trees.
- Caley's Ironbark Woodland (HU891) in the offset areas is potential habitat for the Regent Honeyeater, as David Geering (OEH) advised that the Regent Honeyeater is likely to use Caley's Ironbark.

WCPL has incorporated the OEH's recommended changes to the credit calculations for the Regent Honeyeater.

The FBA uses the following calculation to determine species credits required for clearance:

Credits = area of habitat (ha) x multiplier derived by OEH (1/Tg value x 10)

The OEH's advice has reduced the total number of Regent Honeyeater species credits required for the Project from 21,021 to 14,630 (i.e. reduction of approximately 30%).

The NSW *Framework for Biodiversity Assessment* (OEH, 2014a) uses the following calculation to determine species credits created at an offset site:

Credits = area of habitat (ha) x multiplier derived by OEH (7.1)

The OEH's advice has also correspondingly reduced the total number of Regent Honeyeater species credits created by the offset areas from 4,413 to 4,271.

Disturbance of Environmental Conservation Areas

Issue

The OEH has recommended that WCPL continues to liaise with the OEH regarding potential impacts to land subject to the existing voluntary conservation area.

Response

Short sections of the proposed relocation of the TransGrid Wollar to Wellington 330 kilovolt (kV) electricity transmission line (ETL) would traverse parts of two of the Enhancement and Conservation Areas (ECAs) (i.e. ECA-A and ECA-B). The proposed ETL easements are through predominantly cleared land and the Project would require excision of an area of approximately 3 hectares (ha) from the existing voluntary conservation agreement.

WCPL is consulting with the OEH in relation to amendment of the voluntary conservation agreement, consistent with the OEH's submission.

Suitability of Inclusion of Existing Agricultural Land in Offset Areas

Issue

The OEH raised concerns regarding the inclusion of existing agricultural lands in offset lands that would be potentially included in the Goulburn River National Park or Munghorn Gap Nature Reserve.

Response

It is noted that the small areas of exotic pasture/cultivation (i.e. approximately 101.5 ha) identified by the OEH are located on the margins of lots that encompass large areas of remnant vegetation.

WCPL is considering the feasibility of removing the identified exotic pasture/cultivation areas from the proposed offset areas through boundary survey, allowing these areas to be excised from the land to be incorporated into the Goulburn River National Park or Munghorn Gap Nature Reserve.

In consultation with OEH, WCPL may also consider the potential to identify supplementary areas of remnant vegetation that would provide a similar number of potential offset credits to the area that may be excised.

It is noted that removing the exotic pasture/cultivation would also remove the connection to approximately 1 km of riparian land along the Goulburn River in Offset Area 3.

Calculation of Ecosystem Credits

Issue

The OEH raised concerns regarding the use of the linear assessment method for the Project.

Response

The OEH advised that the linear assessment method was the most appropriate to use for the Project offset calculations during a meeting in February 2015. In a recent meeting (April 2016), the OEH confirmed that the linear assessment method used in the Project offset calculations is acceptable for the Project.

Calculation of Species Credits

Issue

The OEH raised concerns regarding calculation of species credits for the Regent Honeyeater.

Response

WCPL is of the opinion that the habitat designations for the Regent Honeyeater that were adopted for the BARBOS (Hunter Eco, 2015) were consistent with available contemporary scientific literature on the Regent Honeyeater.

Notwithstanding, a meeting was held with the OEH in April 2016 to discuss which BVTs are suitable as Regent Honeyeater habitat on the Wilpinjong Extension development site and identified offsets. During the meeting, David Geering (OEH) recommended a number of changes to the potential habitat assigned to the Regent Honeyeater. The changes recommended by the OEH are described above.

It is noted that the OEH also confirms in its submission that the offset is suitable for *Ozothamnus tesselatus* and the Koala (*Phascolarctos cinereus*) (i.e. the credit requirements have been met).

Regent Honeyeater Habitat in Rehabilitated Areas

Issue

The OEH requested additional information to increase confidence that rehabilitated landscape will provide suitable habitat for the Regent Honeyeater.

Response

Section 4.4.5 of the BARBOS (Hunter Eco, 2015) proposes that a revised Mining Operations Plan (MOP) (rather than a Biodiversity Offset Management Plan) would include the use of mine rehabilitation in the generation of species credits for the Regent Honeyeater, including (Hunter Eco, 2015):

- the vegetation types proposed to be targeted on the mine site;
- a list of suitable native plant species to be used in the revegetation of the post-mine landforms; and
- completion/relinquishment criteria.

The MOP would be updated to include the Project in consultation with the relevant government agencies, and in accordance with the relevant DRE rehabilitation and mine closure guidelines. The MOP would provide completion, performance and monitoring criteria for rehabilitation areas that are to provide habitat for the Regent Honeyeater. Regent Honeyeater habitat BVTs/Plant Community Types (PCTs) to be established on rehabilitation areas are likely to include White Box – Black Cypress Pine shrubby woodland of the Western Slopes (BVT HU824, PCT1610).

In accordance with the NSW Framework for Biodiversity Assessment (FBA) (OEH, 2014), if rehabilitation is deemed unsuccessful then WCPL would need to retire the credits via other means (e.g. additional land-based offset areas or contribution towards the fund).

Consistent with the rehabilitation goals for the Wilpinjong Coal Mine, WCPL would develop Project final landforms that are generally consistent with the surrounding topography of the area, taking into account relief patterns and principles. Topsoil would be carefully stripped and stockpiled during mining for use in rehabilitation. Therefore, the final landform would provide a comparable substrate to the existing landform and is therefore expected to support similar habitat for the Regent Honeyeater.

WCPL notes that the FBA (OEH, 2014) does not discriminate on the basis of soils, landform or quality of habitat with respect to credit calculations for offset requirements.

Capability of Rehabilitated Landscape to Provide Regent Honeyeater Habitat

Issue

The OEH recommends that a *soils and land capability assessment be completed to determine the capability of the reformed landscape to provide habitat for the Regent Honeyeater*.

Response

A Land and Soil Assessment was undertaken for the Project by McKenzie Soil Management Pty Ltd (McKenzie Soil Management, 2015) which included detailed characterisation of the soil resources at the Project.

McKenzie Soil Management (2015) completed a preliminary inventory of soils that would be suitable for use as plant growth media for the post-mine land uses (i.e. nature conservation [woodland] and agricultural [mixed woodland/pasture]) to determine the quantity of suitable soil available for rehabilitation. Based on the McKenzie Soil Management (2015) soil resource inventory, there would be sufficient soil available in the Project open cut extension areas to meet the requirements of the rehabilitation concepts (Section 5.3.2 of the EIS).

Given the above, it is considered that there are sufficient suitable soil resources available for the proposed post-mine land uses (including nature conservation [woodland]).

In addition, the low strip ratio at the Project results in a final landform that is generally similar to the pre-mining landform (i.e. elevations and slopes) with an undulating landform and gentle slopes. The Project final landform elevations, topography and slopes would generally approximate the pre-mining topography, with localised variations (refer to Section 2.6 of this document for further discussion).

Suitability of the Offset Strategy for the Regent Honeyeater

Issue

The OEH recommends that WCPL develop an offset strategy that fully satisfies the credit requirements for the Regent Honeyeater in accordance with the NSW Biodiversity Offsets Policy for Major Projects and the FBA (OEH, 2014a).

Response

Hunter Eco (2015) considers that Offset Areas 1 to 5 provide an adequate offset for the Regent Honeyeater because:

- *The habitat in the offset areas is twice as large as that in the Project open cut extension and infrastructure areas.*
- *Offset Area 1 contains multiple records of the Regent Honeyeater (i.e. the offset area contains records of this species whereas the Project open cut extension and infrastructure areas contain no records, only potential habitat).*

- *The NSW Framework for Biodiversity Assessment (OEH, 2014) does not give consideration to the quality of the habitat being impacted or offset and instead treats all habitat the same (some habitat in the offset areas is known to be used by the Regent Honeyeater whereas the habitat in the Project open cut extension and infrastructure areas is only potential habitat).*
- *The NSW Framework for Biodiversity Assessment (OEH, 2014) does not give consideration to the strategic location of proposed offset areas (which are suitably located to augment NPWS estate).*

Further to the above, WCPL notes:

- Additional species credits for the Regent Honeyeater would also be generated through mine site rehabilitation for the Project.
- Incorporating the OEH's advice on Regent Honeyeater habitat has reduced the calculated species credits required for the Regent Honeyeater under the NSW Offsets Policy from 21,021 to 14,630 (i.e. reduction of approximately 30%).

The FBA (OEH, 2014a) results in a land-based offset ratio of 1:10.8 for the Regent Honeyeater (i.e. 1 ha of disturbance to 10.8 ha of offset land).

Based on the changes recommended by the OEH (as described earlier), the FBA requires an offset area containing 2,060 ha of potential habitat for the 190 ha of potential habitat clearance in the BAR Footprint.

Allowing for the 3,415 ecosystem credits produced by the mine site rehabilitation, an additional 7,129 credits (or 1,005 ha of potential habitat) would be required for the Project if WCPL were to strictly apply the FBA.

Based on the proportion of Regent Honeyeater habitat available in the currently proposed offsets (i.e. 60% of some 996 ha of identified offset lands), this suggests that an additional offset in the order of some 1,675 ha would need to be identified. This suggests that the total offset package would need to be in the order of 2,671 ha (as well as 610 ha of mine rehabilitation).

In the context of the quality of the 190 ha of Regent Honeyeater habitat to be removed by this Project, WCPL contend that the additional offset credits for the Regent Honeyeater should not be required as the ratio (1:10.8) is a perverse outcome (as identified may potentially occur in the transitional period for the NSW Biodiversity Offset Policy for Major Projects [Biodiversity Offset Policy]) (OEH, 2014b).

However, if the determining authority decides that the full species credit requirement for the Regent Honeyeater should be met, irrespective of the fact that it is a perverse outcome, WCPL could ultimately decide to satisfy this requirement through a combination of the following options available in the Biodiversity Offset Policy:

- Additional land based offsets secured by a biobanking agreement.
- Contributing money to supplementary measures.
- Establishing a fund.

WCPL are confident additional lands that are suitable to provide additional species credits for the Regent Honeyeater could be identified if this was necessary, given that a wide range of habitat is known to support the Regent Honeyeater.

WCPL will continue to consult with the OEH and DP&E in regard to Regent Honeyeater offset requirements and the identified perverse outcome.

Potential Impacts on Matters of National Environmental Significance

Issue

MWRC raised concerns regarding the assessment of potential Project impacts on Matters of National Environmental Significance (MNES).

Response

Following referral of the Project, a delegate of the Commonwealth Minister determined on 12 March 2015 that the proposed action is a 'controlled action' for the purposes of the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) due to potential impacts on the following controlling provisions under Part 3 of Chapter 2 of the EPBC Act:

- listed threatened species and communities (sections 18 and 18A); and
- a water resource, in relation to coal seam gas development and large coal mining developments (sections 24D and 24E).

The delegate of the Commonwealth Minister also determined on 12 March 2015 that the proposed action is to be assessed under the assessment bilateral agreement with the NSW Government (the Bilateral Agreement).

The Commonwealth of Australia and the State of NSW governments signed a bilateral agreement in February 2015 which accredits the NSW assessment regime under Part 4 of the EP&A Act for assessment purposes under the EPBC Act.

The Project will be assessed in accordance with the Bilateral Agreement and will require approval under both the EP&A Act and the EPBC Act.

Consideration of the Project against the objects of the EPBC Act is provided in Section 6 of the EIS. The Project's Secretary's Environmental Assessment Requirements (SEARs) relating to controlling provisions have been addressed in Sections 4 and 6 and Appendices C, D, E and F of the EIS.

2.4 Socio-economics

It is noted that the DRE within the NSW Department of Industry stated the following with respect to the potential socio-economic impacts of the Project:

> *The Proponent has completed resource estimation for the Project in accordance with the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves 2012 "the JORC Code". The Division has verified that the Project will mine approximately 95 million tonnes (Mt) of ROM coal (excluding dilution) yielding approximately 65 Mt of product coal.*
>
> *…*
>
> *Over the life of the Project, assuming production is sold on the export thermal market, the value of the coal produced would be worth around $6.5 billion in current dollars. The net present value of this revenue stream has been estimated by the Division at approximately $3.9 billion. Export income is vital for the health of both the NSW and Australian economy, export income contributes to the Nation's balance of trade which provides positive benefits to both the NSW and Australian credit rating.*
>
> *…*
>
> *The Project will be an extension to the Wilpinjong mine and if approved would enable the existing mine to maximise production rates until 2033. Without the Project the existing Wilpinjong mine will reduce saleable production from the current rate of around 11 Mt to 7 Mt in 2017 and continue operation until 2026. This substantial reduction in production would greatly reduce the throughput of all of the existing Wilpinjong mine's infrastructure.*
>
> *The estimated capital expenditure for the Project is approximately $107 million over the life of the mine. In a period of continuing falling mining industry capital investment in NSW, this large proposed investment would be a significant boost to declining mining related capital expenditure in NSW.*
>
> *…*
>
> *Many local industries would benefit from the Project, including; mine equipment maintenance firms, mining equipment supply firms, coal preparation plant maintenance and supply firms. These firms are mainly local industries that employ locally and rely on continuing mining activity for their viability.*
>
> *The Project is expected to directly employ an additional 75 people at full production, and continue to support a total of 625 ongoing jobs from the Wilpinjong mine. The Division believes the indirect employment from the Project (and the Wilpinjong mine) would be around 2,500 positions.*
>
> *…*
>
> *The Division has assumed that if the Project is approved, around 65 Mtpa* [sic] *of product coal would be economically mined from the Project area between 2017 and 2033.*
>
> *Using the above assumptions the Division has calculated that in a typical full production year NSW will receive approximately $30 million per annum in royalty and $500 million over the life of the Project. The net present value of this royalty stream would be around $300 million using a 7% real discount rate.*

The MWRC also reinforced the need for a Mine Closure Plan as follows:

> *The economic assessment conducted by Deloitte Access Economics recognises that whilst the project would have positive economic benefits in terms of increased business sales and employment opportunities, cessation of mining operations would result in a contraction in broader regional economic activity. The volatility of mining projects has significant economic and social impacts which is an ongoing concern for Council. It is important that WCPL continues to share relevant information with Council on a timely basis, so that these impacts can be managed.*
>
> *The report states that WCPL will develop a Mine Closure Plan for the Project which would include details of the mine closure strategy in consultation with Council, DP&E and the community. Council supports the development of this plan and requests that this is completed at least 3 years before the workforce numbers are expected to significantly decline to assist in minimising the adverse socio-economic effects.*

WCPL concurs with this advice.

The MWRC also raised some concerns regarding socio-economic impacts.

Community Facilities and Services

Issue

The MWRC advised that with a declining population in the Wollar area it is increasingly difficult to attract volunteers to assist in maintaining community facilities and support services. MWRC therefore suggested that WCPL works with community stakeholders, and makes some additional financial contributions.

Response

WCPL actively encourages staff to volunteer with the Rural Fire Service and has worked with the NSW Rural Fire Service to address concerns about volunteer numbers in the local area. In addition, WCPL supports the Rural Fire Service through financial contributions for the purchase of fire fighting equipment.

WCPL has been actively consulting with MWRC with respect to its submission on the Project and has identified that WCPL would also provide some additional access to the ablution facilities at the Wollar General Store for public use. In addition, WCPL would assist the MWRC with provision of cleaning services to either the Wollar General Store or Community Hall ablution facilities and continued grounds keeping of the vacant and public land within the Village of Wollar, including church grounds, park and town entrances.

WCPL has continued to consult with the MWRC with respect to its submission and it is understood that the MWRC is generally satisfied with this response.

2.5 Water Resources

The following government agencies raised issues regarding water resources:

- DPI Water;
- Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC); and
- EPA.

Each of the main comments/issues raised are addressed below.

Wilpinjong Creek Salinity

Issue

DPI Water and the IESC have raised concerns regarding the potential impacts of the Project on downstream water quality in Wilpinjong Creek. The primary basis for this concern is a perceived recent rising salinity trend along Wilpinjong Creek. DPI Water has also noted a recent rising trend in salinity of two bores maintained by the Department on Wollar Creek (GW273100 and GW273101), located about 3.6 km east of the nearest current workings. Figures 1a and 1b show relevant WCPL groundwater monitoring sites and the above DPI Water monitoring sites.

DPI Water specifically requested supplementary information be provided *to demonstrate that water quality impacts will be within Level 1 impacts, as defined in the AIP*. DPI Water (18 March 2016) has requested that WCPL *… provide descriptive detail to better understand the drivers for the elevated and rising salinity trends in the shallow groundwater and the salinity increase along Wilpinjong Creek*.

Response

Additional recent monitoring data and some further discussion is provided in Appendix D and supports the conclusion presented in the EIS that the water quality impacts will be within the Level 1 minimal impact considerations defined in the NSW Aquifer Interference Policy (AIP) (NSW Government, 2012).

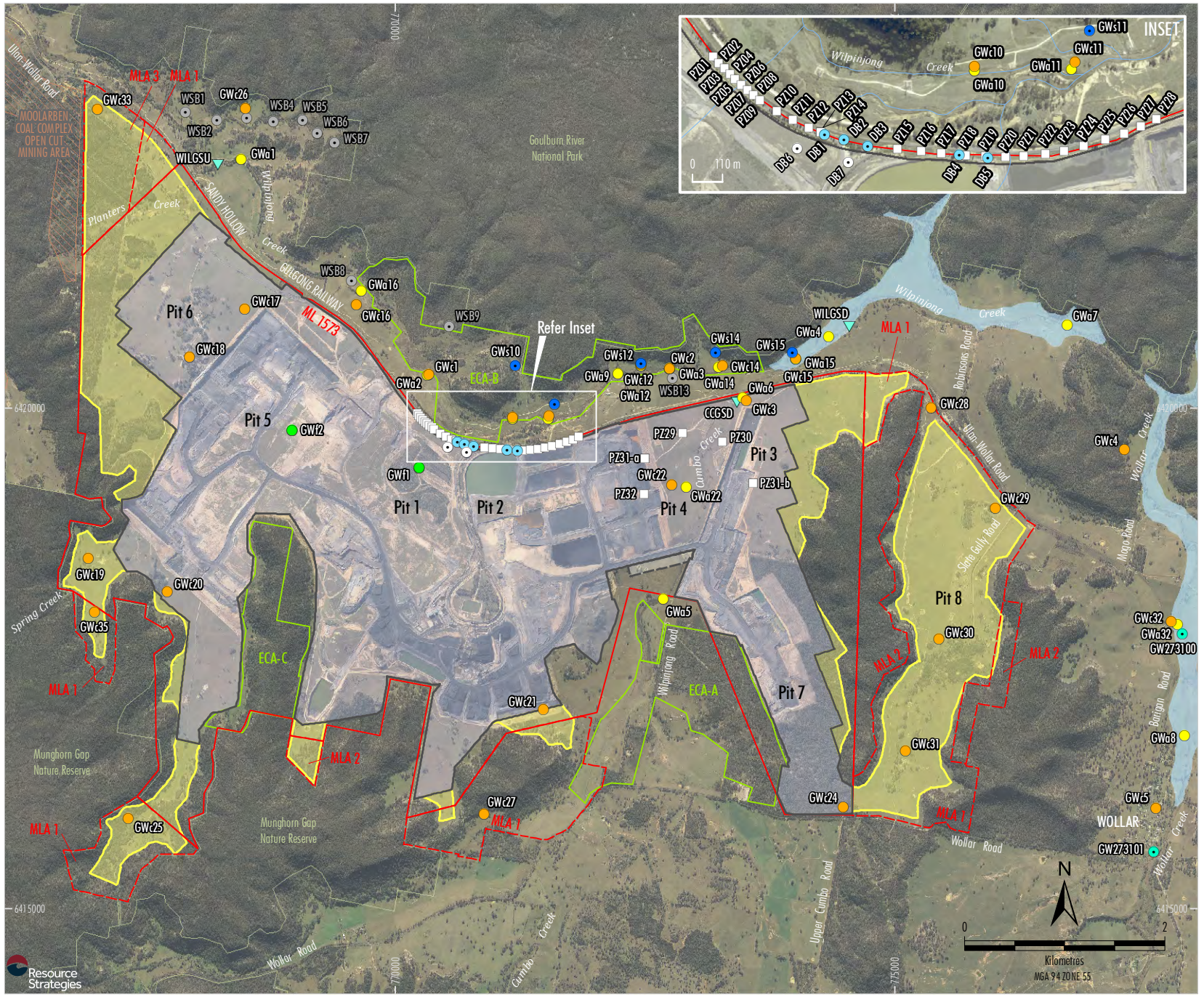
Consultation with Groundwater Users

Issue

DPI Water has requested that WCPL *invest in further community consultation with users who may be potentially impacted by the mine activities and allow for private users to participate in the on-going monitoring program.*

Response

WCPL conducted a comprehensive bore census of privately held bores surrounding the Wilpinjong Coal Mine in 2004 for the original Wilpinjong Coal Project EIS (Australasian Groundwater and Environmental, 2005). Since that time, WCPL has acquired a significant amount of the land surrounding the Wilpinjong Coal Mine. Specific to the Project, WCPL carried out a supplementary bore census for the Project to confirm bore locations and usage in the Village of Wollar (i.e. the only remaining private bores in the vicinity of the Wilpinjong Coal Mine) (HydroSimulations, 2015).



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Relocated Block Bank and Cumbo Creek Disturbance Area
- Proposed Open Cut Extension Area
- Enhancement and Conservation Area
- DPI Water - Mapped Highly Productive Alluvial Aquifer

Groundwater Monitoring Sites

- Alluvial Groundwater Monitoring
- Hard Rock Groundwater Monitoring
- Spoil Monitoring
- Water Supply Bore
- Dewatering Bore
- Dewatering Bore - Never used, now a Monitoring Bore
- Water Supply Bore - Never used
- DPI Water Bore
- Piezometer

Surface Water Monitoring Sites

- Surface Water Gauging Station

Note: Refer to Figure 1b for location of GWa34 and GWc34.

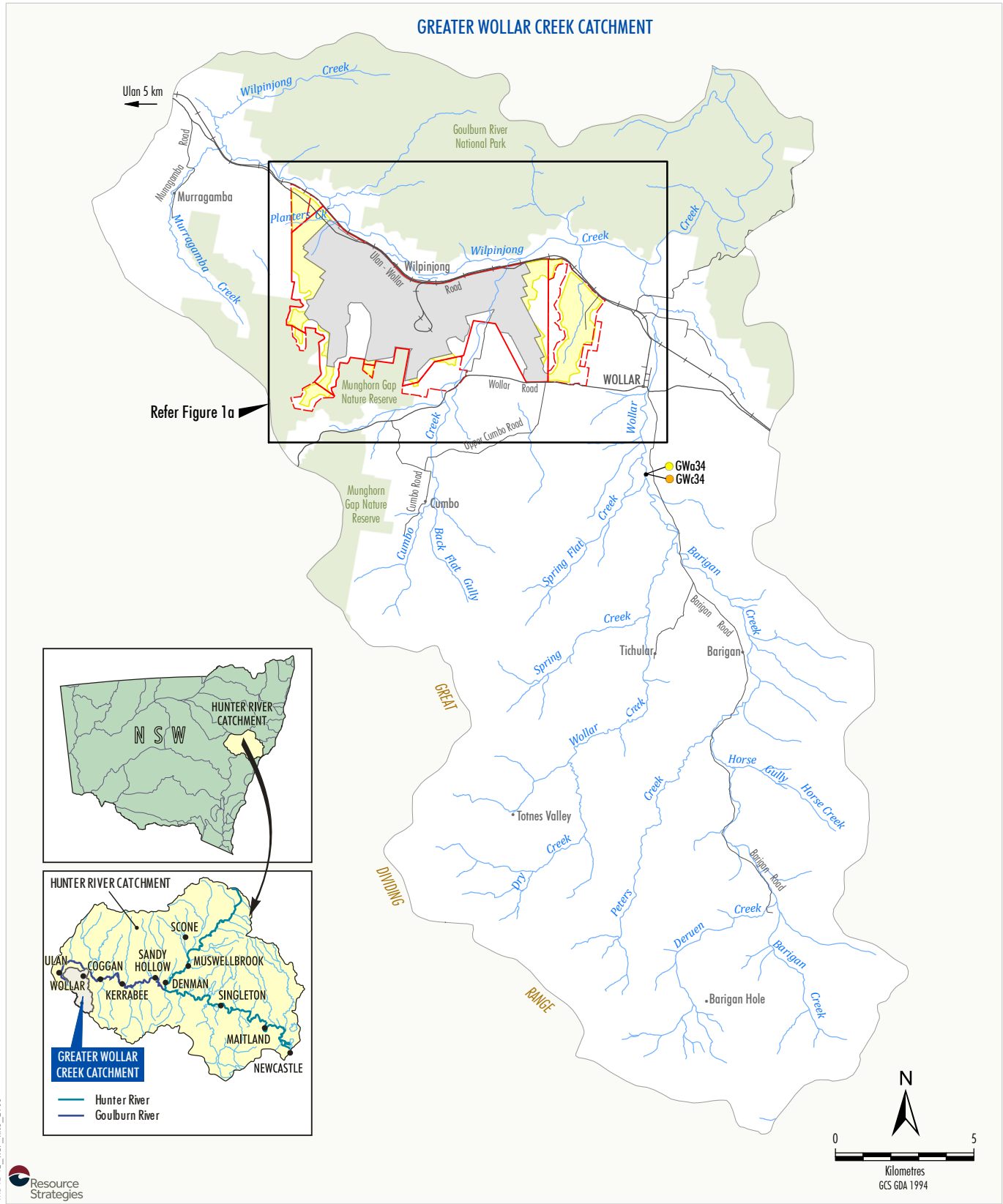
Source: WCPL (2015); DPI Water (2015); NSW Dept of Industry (2015)
Orthophoto: WCPL (Jun 2015; Jun 2014)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Key Groundwater Related Monitoring and Data Locations at Wilpinjong Coal Mine

Figure 1a



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Proposed Open Cut Extension Area

WCPL Monitoring

- Alluvial Groundwater Monitoring Site
- Hard Rock Groundwater Monitoring Site

Source: WCPL (2015); After DIPNR (2003); DPI Water (2015); NSW Land & Property Information (2013)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Key Groundwater Related Monitoring and Data Locations Upstream of Wollar

Figure 1b

No groundwater drawdown exceeding the AIP minimal impact consideration of 2 m at a sub-surface water supply construction such as a bore or well is predicted to occur on any privately-owned land (HydroSimulations, 2015).

Notwithstanding the above, the Wilpinjong Coal Mine Water Management Plan includes a Complaint Response Protocol to reply to community concerns that relate to groundwater and other matters. There were no complaints received in relation to groundwater impacts in 2014, 2015 or January to February 2016.

Additionally, in response to concerns raised by water users further upstream in the Barigan area during 2014, two new piezometers (GWa34 and GWc34) were installed upstream of the Village of Wollar on Wollar Creek (Figure 1b). Importantly, HydroSimulations (2015) did not predict any drawdown in the aquifers in this area.

WCPL also provides regular updates on groundwater monitoring results to the Community Consultative Committee, which is the appropriate forum for any community requests for augmentation of the existing groundwater monitoring programme.

Water Licensing

Issue

DPI Water requested additional information regarding Project water licensing requirements. In particular, DPI Water requested information pertaining to:

- Use of Water Access Licence (WAL) 21499 for mining activities by WCPL and irrigation activities by Peabody Pastoral Holdings.
- Licensing of post-mining groundwater inflows to the final voids (including baseflow).
- Licensing of any water table from the Upper Goulburn River Water Source, given that Figure 6-5 of the Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015) indicates some drawdown in the vicinity of the Goulburn River.
- Licensing of water captured by on-site water storages.

Response

Table 4-15 of the EIS provides a reconciliation of the estimated groundwater licensing requirements for the Project (during and post-mining) with the licences held by Peabody under both the NSW *Water Act, 1912* and the NSW *Water Management Act, 2000*. Table 4-15 is reproduced below as Table 2.

Table 2
Estimated Groundwater Licensing Requirements for the Project

Groundwater Source	Existing Peabody Energy/WCPL Licences (units)	Total Licensing Requirement (ML/yr)		
		During Mining	Post-Mining (2033-2045)	Post-Mining (2045-2100)
Wollar Creek Alluvium[1]	474	171	143	147
Porous Hard Rock[2]	2,021	1,099	Nil	Nil

Source: After HydroSimulations (2015).

[1] Wollar Creek Water Source under the Water Sharing Plan.

[2] Currently licensed under the *Water Act, 1912*. These licence entitlements will be transferred to the Sydney Basin – Upper Hunter groundwater source once the *Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources* commences.

ML/yr = megalitres per year.

As identified by DPI Water, WAL 21499 is jointly held by Peabody Pastoral Holdings and WCPL. Peabody Energy would ensure that the sum of the volume of water used for irrigation activities and the volume required to meet the Project licensing requirement does not exceed the annual entitlement in accordance with the conditions of WAL 21499.

It is noted that the 'During Mining' and 'Post Mining' licensing requirements are not cumulative (i.e. the maximum Project licensing requirement for the Wollar Creek alluvium is 171 ML/year).

Figure 6-5 of the Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015) indicates depressurisation of the Ulan Coal Seam extending to the Goulburn River. However, HydroSimulations (2015) conclude that the predicted take of water from the alluvium associated with the Upper Goulburn River Water Source would be negligible. All inflows to the mine workings are accounted for in the licensing requirements described in Table 2.

Based on the groundwater modelling (HydroSimulations, 2015), WCPL currently hold licences sufficient to cover the modelled groundwater inflows from the alluvial and porous rock groundwater sources to the final void post-mining. Sufficient licence allocations could be retired at the completion of the Project to account for groundwater inflows to the voids post-mining.

As described in Section 2.12.2 of the EIS, an objective of the water management on-site throughout the Project life is to maintain separation between runoff from areas undisturbed by mining and water generated within active mining areas. It is noted that small parts of undisturbed catchment would lie between the proposed up-catchment diversion structures and the progressive extent of the Project disturbance boundary. However, the proposed approach of establishing engineered diversions that would remain for extended periods until rehabilitated areas are suitable to become free draining is considered best practice (WRM Water and Environment, 2015).

Notwithstanding that all water captured in the site water management system is considered to be exempt from licensing requirements, consideration of Peabody Energy's potentially available harvestable rights is presented in the Surface Water Assessment, which states (WRM Water and Environment, 2015):

> *Based on this conservative evaluation, even if this runoff water was captured by the Project under the maximum historical rainfall water year it would still fall within the estimated Harvestable Right available to Peabody and would not require licensing.*

Water Management Plan

Issue

DPI Water recommends that the conditions of consent require the revised Water Management Plan for the site to be developed in consultation with DPI Water.

Response

WCPL concurs with this recommendation.

Make Good Provisions

Issue

DPI Water recommends that make good provisions be developed for the predicted Level 2 impacts at the Wollar Public School bore.

Response

Consistent with the requirements of the AIP, WCPL would continue to implement appropriate contingency measures for Project related drawdown greater than 2 m at any relevant private or public groundwater bores, including the Wollar Public School bore (Section 4.7.3 of the EIS), in accordance with the Surface and Ground Water Response Plan (WCPL, 2014).

Appropriate contingency measures for an impact on a groundwater supply user are described in Section 4.7.1 of the EIS, and may include:

- deepening the affected groundwater supply;
- construction of a new groundwater supply; or
- provision of a new alternative water supply.

WCPL met with the Wollar Public School in April 2016 to discuss the groundwater drawdown predictions at the school bore and the future availability of make good provisions, should these be required.

The school representative indicated general satisfaction with the information provided, and no particular concerns were raised.

The existing Water Management Plan, including the Groundwater Monitoring Plan and the Wilpinjong Coal Surface and Ground Water Response Plan (WCPL, 2014), would be revised to reflect the Project and the requirements of any associated water licences and conditions of any Development Consent.

Groundwater Sensitivity Analysis

Issue

The IESC note that the numerical groundwater modelling predictions would be strengthened through the application of sensitivity and uncertainty analyses, model verification, and updating of the groundwater model as new data become available.

Response

WCPL notes that the IESC recognises the use of a Class 2 numerical groundwater model is appropriate for assessment of impacts to groundwater resources.

Section 5.7.1 of the Groundwater Assessment states the following with regard to sensitivity analysis:

> *A formal sensitivity analysis has not been carried out (although the calibration processes investigates the sensitivity of various model predictions to different model parameters). A formal analysis is not warranted here because the WCM has been operating for a decade and has an extensive network of groundwater monitoring bores (in the coal seam and the alluvium), surface water monitoring sites, and reasonable records and estimates of groundwater inflow. The calibration of the model to both observed groundwater levels and fluxes, i.e. baseflow separation estimates and inflow to the pits, means that the hydraulic conductivity-to-recharge relationship is relatively well constrained. The degree to which the model matches historical fluxes and the long record of groundwater level data (Section 5.6.2) gives confidence in the predictions made using the model and which are described in following sections of this report.*

WCPL note that DPI Water (18 March 2016) state the following in their submission on the Project (emphasis added):

> *DPI Water acknowledges the model satisfies the requirements of Groundwater Modelling Guidelines (2012) with the exception of completing the sensitivity analysis. Dr Kalf did not provide any commentary on the exclusion of sensitivity analysis but DPI Water accepts Dr Merrick's rationale of the longer term data history and site characterisation to constrain unforseen risks. It is not expected that this omission would undermine the model classification or predictions made.*

Consistent with the IESC's recommendation, Section 4.8.3 of the EIS states the following with respect to updating of the groundwater model as new data become available:

> *The results of the groundwater monitoring program would inform progressive refinement of the numerical model as each of the open cut mining areas are developed. Revised outputs from the numerical model would be reported in the Annual Review, as relevant over the life of the Project and used to inform regular site water balance reviews.*

Outcomes of Geochemistry Assessment

Issue

The EPA and IESC request that additional information is provided regarding potential downstream water quality impacts associated with metals identified as enriched and/or soluble in the Wilpinjong Extension Project Geochemistry Assessment (Geo-Environmental Management Pty Ltd [GEM], 2015).

Response

The Wilpinjong Extension Project Geochemistry Assessment (GEM, 2015) analysis of water extracts from selected waste rock and coal reject samples indicated most metals would be relatively insoluble under the prevailing neutral to slightly alkaline pH conditions. Molybdenum (Mo) and selenium (Se) were however identified as likely to be soluble under these prevailing pH conditions. Consistent with the EPA and IESC's recommendations, WRM Water and Environment (2015) considered the potential impacts of discharge in terms of the element enrichments and solubilities identified in the Geochemistry Assessment and concluded:

> *Based on the successful implementation of management strategies and monitoring recommended in the Geochemistry Assessment (GEM, 2015), the risk of elevated dissolved solids and other contaminants impacting downstream waters is considered to be low.*

It is also noted that the DRE submission on the Project states the following:

> *In general other risks such as geochemical constraints, spontaneous combustion hazards, tailings management etc. have been well defined in the EIS and it is considered that they can be effectively managed by conventional mining and rehabilitation techniques as regulated by the Division under the mining lease.*

In addition to the above, following the identification of these elements as potential contaminants, WCPL expanded its monitoring to include analysis of these metals in April 2015, September 2015 and January 2016. A summary of the observed Mo and Se concentrations in the Wilpinjong Coal Mine water storages from these samples is provided in Table 3.

Table 3 indicates that, with the exception of one measurement of Se from the CHPP Sediment Dam, Mo and Se concentrations in all mine water storages are less than relevant Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000) guideline values and the National Health and Medical Research Council (NHMRC) (2011) human drinking water guideline values.

Table 3
Summary of Mo and Se Concentrations in Mine Water Storages

Monitoring Site[1]	Molybdenum (mg/L)					Selenium (mg/L)				
	April 2015	September 2015	January 2016	ANZECC Guideline Value[2]	Drinking Water Guideline Value[3]	April 2015	September 2015	January 2016	ANZECC Guideline Value[4]	Drinking Water Guideline Value[3]
Pit 1 Dam	No Sample	No Sample	0.007	0.15	0.05	No Sample	No Sample	<0.01	0.011	0.01
Pit 2 West Dam	0.005	0.006	0.008	0.15	0.05	<0.01	<0.01	<0.01	0.011	0.01
Ed's Lake	<0.001	No Sample	0.017	0.15	0.05	<0.01	No Sample	<0.01	0.011	0.01
Recycled Water Dam	0.006	0.005	0.005	0.15	0.05	<0.01	<0.01	<0.01	0.011	0.01
Clean Water Dam	0.006	No Sample	0.005	0.15	0.05	<0.01	No Sample	<0.01	0.011	0.01
CHPP Sediment Dam	No Sample	0.004	<0.001	0.15	0.05	No Sample	0.02	<0.01	0.011	0.01
Pit 2 Void	No Sample	No Sample	<0.001	0.15	0.05	No Sample	No Sample	<0.01	0.011	0.01
Pit 4	0.005	0.011	0.002	0.15	0.05	<0.01	<0.01	<0.01	0.011	0.01
Pit 4 (at pump)	<0.001	No Sample	No Sample	0.15	0.05	<0.01	No Sample	No Sample	0.011	0.01
Pit 5	<0.001	0.004	0.011	0.15	0.05	<0.01	<0.01	<0.01	0.011	0.01

1 Measurements from Pit 1 not shown as this would include measurements of reverse osmosis (RO) plant concentrate.

2 Recommended water quality trigger values (low risk) for livestock drinking water (ANZECC and ARMCANZ, 2000). Insufficient data to derive a reliable trigger value for aquatic ecosystems (ANZECC and ARMCANZ, 2000).

3 Guideline value for human health (NHMRC, 2011).

4 Recommended water quality trigger value for 95% species protection in freshwater aquatic ecosystems (ANZECC and ARMCANZ, 2000). 99% species protection value is below the level of detection for the water quality testwork.

The CHPP Sediment Dam does not discharge to the environment (i.e. designed to overflow to the open cut pits). It is also noted that Mo and Se concentrations would be expected to be lower in sediment dams established to collect runoff from rehabilitated areas than the already low observed concentrations in the mine water storages, which capture water that has been in contact with coal or coal reject material.

The Wilpinjong Extension Project Geochemistry Assessment (GEM, 2015) analysis of selected coal reject samples indicated that arsenic (As) is enriched in the Goulburn and Turill coal seams. However, analysis of water extracts indicated As would be insoluble under the prevailing neutral to slightly alkaline pH conditions. Notwithstanding, a summary of the observed As concentrations in the Wilpinjong Coal Mine water storages is provided in Table 4. Table 4 indicates that all but one of the As samples are below the NHMRC (2011) human drinking water guideline value and all but four are below the recommended water quality trigger value for 99% species protection in freshwater aquatic ecosystems (ANZECC and ARMCANZ, 2000). These low concentrations of As in the mine water storages support the Geochemistry Assessment conclusion that As is not soluble under prevailing conditions.

Table 4
Summary of As Concentrations in Mine Water Storages

Monitoring Site[1]	Arsenic (mg/L)				
	April 2015	September 2015	January 2016	ANZECC Guideline Value[2]	Drinking Water Guideline Value[3]
Pit 1 Dam	No Sample	No Sample	0.001	0.001	0.01
Pit 2 West Dam	<0.001	<0.001	<0.001	0.001	0.01
Ed's Lake	0.002	No Sample	<0.001	0.001	0.01
Recycled Water Dam	<0.001	<0.001	<0.001	0.001	0.01
Clean Water Dam	<0.001	No Sample	<0.001	0.001	0.01
CHPP Sediment Dam	No Sample	0.031	<0.001	0.001	0.01
Pit 2 Void	No Sample	No Sample	<0.001	0.001	0.01
Pit 4	0.004	0.004	<0.001	0.001	0.01
Pit 4 (at pump)	<0.001	No Sample	No Sample	0.001	0.01
Pit 5	<0.001	0.001	<0.001	0.001	0.01

1 Measurements from Pit 1 not shown as this would include measurements of RO Plant concentrate.

2 Recommended water quality trigger value for 99% species protection in freshwater aquatic ecosystems (ANZECC and ARMCANZ, 2000).

3 Guideline value for human health (NHMRC, 2011).

Cumulative Impacts to Surface Water Flow Regime

Issue

The IESC note that the cumulative surface water impact assessment would be strengthened by quantifying changes to the flow regime over the life of the proposed Project.

Response

As described in Section 4.8.2 of the EIS, the maximum catchment intercepted by the existing/approved Wilpinjong Coal Mine is 24.1 square kilometres (km^2). Under the modified water management system for the Project, the catchment area of the containment system would peak in 2018 at 23.8 km^2 (WRM Water and Environment, 2015). During mining, flow reductions in Wilpinjong Creek associated with catchment excision are counteracted to varying extents by the approved water discharge from the water treatment facility in accordance with Environment Protection Licence (EPL) 12425.

Given the above, WRM Water and Environment (2015) concluded that the Project's incremental contribution to any potential cumulative impacts on surface water flow or availability are expected to be negligible.

WRM Water and Environment (2015) presents flow frequency curves that indicate the maximum incidence of days with less than 0.1 ML/day flow for the Wilpinjong Coal Mine (incorporating the Project) would be effectively unchanged from the impacts of the existing/approved Wilpinjong Coal Mine. The Project would therefore have no measurable incremental impact on flow in Wilpinjong Creek and therefore no material influence on approved cumulative impacts.

Effectiveness of Management and Mitigation Strategies

Issue

IESC request additional data to support the adequacy of existing water management and mitigation strategies.

IESC also recommend a range of monitoring and management measures for the Project.

Response

Data supporting the adequacy of existing water management strategies, including approved water discharges from the water treatment facility in accordance with EPL 12425, is provided in Appendix D.

The Water Management Plan (including the Site Water Balance, Erosion and Sediment Control Plan, Surface Water Management and Monitoring Plan, Surface and Ground Water Response Plan and the Groundwater Monitoring Program) has been prepared in consultation with DPI Water and provided to the DP&E for approval.

The existing Wilpinjong Coal Mine Water Management Plan would be reviewed and revised to incorporate the Project subject to the conditions of any Development Consent for the Project. The Water Management Plan describes the operational site water management system and would include provisions for review of the site water balance, erosion and sediment controls, surface water and groundwater monitoring and management.

Sediment Dams

Issue

The EPA suggest that the use of sediment dams for the Project represents a departure from the approved water management practices at the Wilpinjong Coal Mine. The EPA also requests that any future sediment dams are licensed as discharge points under EPL 12425.

Response

Some sediment dams developed at the Wilpinjong Coal Mine have previously been periodically used to store mine water and have therefore not been permitted to discharge off-site. However, the use of sediment dams to treat and discharge water is approved at the Wilpinjong Coal Mine in accordance with the original Wilpinjong Coal Project EIS, which states (WCPL, 2005):

> *Until the surfaces of rehabilitation areas have stabilised to a satisfactory condition, runoff from these areas would be directed to sediment retention storages prior to release to local drainages.*
>
> *…*
>
> *Runoff from rehabilitation areas would be directed to sediment retention storages prior to being released to local drainages.*

The use of sediment dams was also contemplated in the Surface Water Assessment for the original Wilpinjong Coal Project, which states (Gilbert & Associates, 2005):

> *Until rehabilitated landforms have satisfactorily stabilised, runoff from these areas would be directed to sediment retention storages, prior to release to local drainages.*

Off-site drainage from sediment dams was also considered in the *Wilpinjong Coal Mine Modification Surface Water Assessment* (Gilbert & Associates, 2013):

> *Runoff from areas of pre-strip and rehabilitation which has not yet fully established would be directed to either open cut pits, water storages or sediment dams. Any sediment dams would be designed in accordance with the Erosion and Sediment Control Plan and the provisions for sediment retention basins in Landcom (2004) and Department of Environment and Climate Change (DECC, 2008).*

Design criteria for sediment dams and management controls for releases from sediment dams to the environment are also described in Section 4.3.4 of the *Wilpinjong Coal Mine Erosion and Sediment Control Plan* (WCPL, 2014).

Sediment dams would be maintained until such time as vegetation successfully establishes on topsoiled areas and where runoff has similar water quality characteristics to areas that are undisturbed by mining activities (Section 2.12.2 of the EIS). As indicated on Figures 2-8 to 2-12 of the EIS, not all of the proposed sediment dams would be active at one time, as the dams would be progressively developed and decommissioned as mining and rehabilitation progresses.

EPA has advised WCPL that an updated EPL for the Project would require that the sediment dams are sized to accommodate a total of 44 millimetres of rainfall over any consecutive 5 day period.

It is understood a design rainfall depth of 44 millimetres is consistent with the design criteria for Type F sediment basins described in *Managing Urban Stormwater, Soils and Construction* (Landcom, 2004). This rainfall depth is based on a 95th percentile 5 day rainfall event for the Central Tablelands area.

WCPL notes that adopting this design criteria would increase the size of the site sediment dams (i.e. to accommodate a slightly larger rainfall event which would reduce the frequency of spills due to design exceedances). However, this would not have a material influence on the outcomes of the impact assessment presented in the Wilpinjong Extension Project Surface Water Assessment (WRM Water and Environment, 2015).

On this basis, WCPL considers that the continued use of sediment dams for the proposed Project does not reflect a change to the water management strategy for the approved Wilpinjong Coal Mine. WCPL would apply to vary EPL 12425 to reflect the Project and, if relevant, this would include the sediment dams as relevant licensed discharge points (with appropriate dam sizing and discharge criteria that reflects the purpose of the sediment dams).

2.6 Rehabilitation and Final Landform

The DRE raised some concerns with respect to the rehabilitation and final landforms at the Project. Each of the main comments/issues raised are addressed below.

It is noted that the DRE also stated with respect to rehabilitation:

- *Rehabilitation methodologies as described in the EIS, whilst conceptual, are sufficiently detailed to demonstrate the case that sustainable rehabilitation can be achieved…*
- *The document appropriately describes the functional domains of the project and in turn proposes satisfactory rehabilitation strategies for these domains consistent with those employed since the Wilpinjong mine first commenced in 2006.*
- *In general other risks such as geochemical constraints, spontaneous combustion hazards, tailings management etc. have been well defined in the EIS and it is considered that they can be effectively managed by conventional mining and rehabilitation techniques as regulated by the Division under the mining lease.*

Target Rehabilitated Vegetation Communities

Issue

The DRE raised a concern regarding the target vegetation communities to be achieved by rehabilitation, particularly where the rehabilitation would be used as part of the biodiversity offset package.

Response

Approximately 1,550 ha of woodland vegetation would be re-established as a component of the revegetation program (inclusive of Wilpinjong Coal Mine and the Project) (Section 5.3.3 of the EIS). The native species to be planted in revegetation areas would be selected on a site by site basis depending on nearby remnant vegetation associations, soil types, aspect and site conditions. The species selected would include the establishment of vegetation communities characteristic of habitat for the Regent Honeyeater in Project woodland rehabilitation areas. Regent Honeyeater habitat BVTs/PCTs to be established on rehabilitation areas are likely to include White Box – Black Cypress Pine shrubby woodland of the Western Slopes (BVT HU824, PCT1610).

The target vegetation communities (including a list of suitable native plant species) to be used in the revegetation of Project open cut extension disturbance areas and the proposed location of these target vegetation communities would be documented in the MOP. The MOP would be consistent with the Project Biodiversity Offset Strategy and Biodiversity Management Plan.

The OEH submission on the Project (March 2016) suggests this should include:

> *A Biodiversity Offset Management Plan be prepared that clearly addresses all points within the FBA relating to the use of mine rehabilitation in the generation of species credits for the Regent Honeyeater. This must include a clear set of completion, performance and monitoring criteria be prepared that will identify whether the rehabilitation is strongly trending towards Regent Honeyeater habitat and clear provisions should monitoring demonstrate that the rehabilitation work is not trending towards Regent Honeyeater habitat.*

WCPL concurs with this approach, but is of the opinion that this detailed material would most suitably be included in the MOP, rather than a Biodiversity Offset Management Plan.

Final Landform Design

Issue

The DRE requested further detail in regards to final landform design, including how similar landscape features as evident in surrounding landscapes had been incorporated into the post-mining landform design.

Response

The Project final landform has been designed to be generally consistent with the existing topography of the open cut extension areas, and key features would include (refer to Figure 5-2 of the EIS):

- backfilled mine landforms that generally approximate the pre-mining topography, with some variations including landforms already approved;
- an elevated waste rock emplacement located in the south of Pit 2 to a maximum final elevation of approximately 440 m Australian Height Datum (AHD) (noting this landform is already approved to a maximum of 450 m AHD and final elevation of 430 m AHD); and
- three final voids located in the southern end of Pit 8, the north-west of Pit 6, and in Pit 2 (Pit 2 West Dam).

Landforms in the vicinity of the Project are characterised by the narrow floodplains associated with tributaries of the Goulburn River, undulating foothills, ridges and escarpments of the Great Dividing Range and the dissected landforms of the Goulburn River National Park (Plate 1). The Wilpinjong Coal Mine including the Project open cut and contained infrastructure areas is located in the undulating foothills (predominately used for agriculture).

Plate 1: Modified and Natural Landforms – Wilpinjong Coal Mine

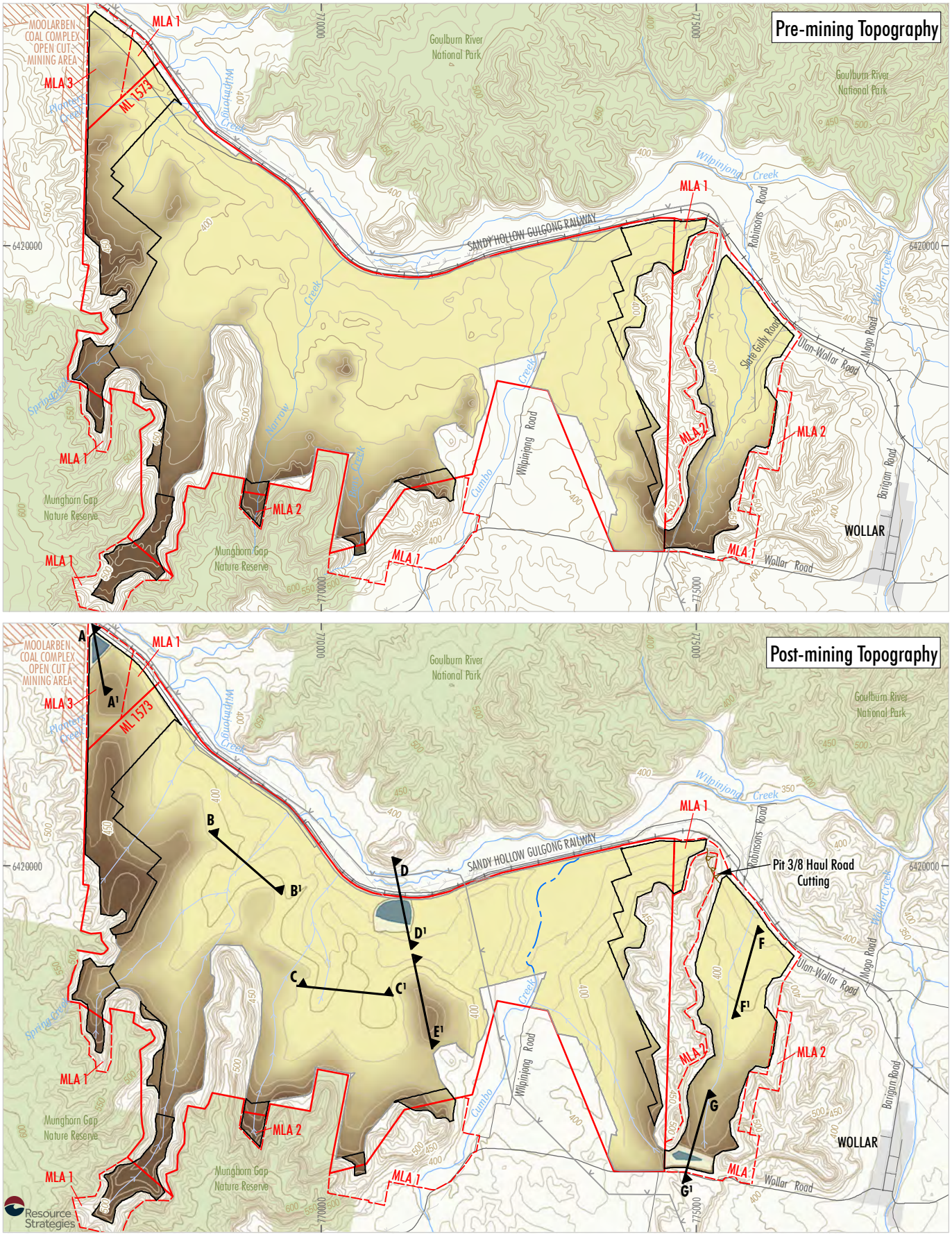
In the open cut and contained infrastructure area, pre-mining elevations generally range from approximately 350 to 440 m AHD and elevations on the conceptual final landform are also in the same range (Figure 2). The conceptual final landform elevations lie wholly within the range of natural topographic variation in the area.

The slopes incorporated in the conceptual final landform are also generally consistent with the pre-mining slopes (Figure 3) and commensurate with similar adjacent landforms. In addition to the cross-sections presented in the EIS, some more detailed cross-sections of the conceptual final landforms are provided on Figures 4 to 10.

The size of the final voids would be minimised as far as reasonable and feasible to minimise changes to topography.

The low strip ratio (the ratio of waste rock [bulk cubic metres {bcm}] removed per tonne of coal) at the Project (Plate 2) relative to most other open cut mining operations in NSW allows for the majority of waste rock to be placed in the mine voids behind the advancing open cut operations. There are no large out-of-pit waste rock emplacements associated with the approved Wilpinjong Coal Mine final landform or the Project final landform (the elevated waste rock emplacement is located in Pit 2). This low strip ratio results in a final landform that is generally similar to the pre-mining landform (i.e. elevations and slopes) (Figures 2, 3 and 4 to 10) with an undulating landform and gentle slopes (Figures 11 to 13).

Plate 2: Pit Wall Showing Various Coal Plies and Shallow Overburden



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Proposed Open Cut Extension Area
- Final Void
- Final Void Waterbody [1]

[1] Pit 8 Final Void is predicted to be dry during periods of low rainfall.

- Conceptual Cumbo Creek Realignment
- Drainage Line
- Surface Contour
- Local ETL
- TransGrid 330 kV ETL
- Cross Section Location

Elevation

- 360m AHD
- 510m AHD

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

N

0 1

Kilometres
MGA 94 ZONE 55

Peabody ENERGY

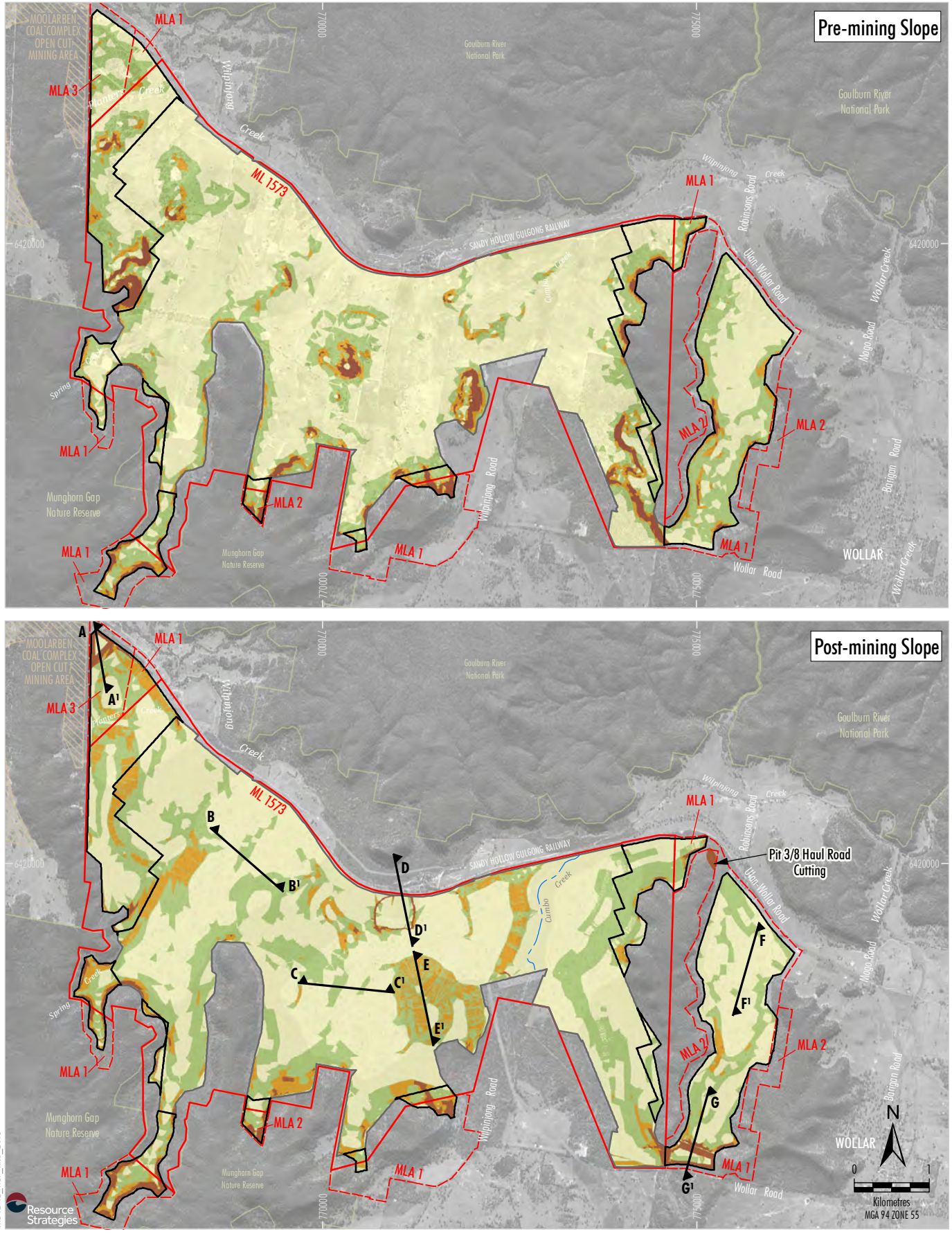
WILPINJONG EXTENSION PROJECT

Pre-mining and Conceptual Post-mining Topography

Figure 2

WIL-12-12_WEP_RtnS_208E

Resource Strategies



LEGEND

- Mining Lease Boundary
- Mining Lease Application Boundary
- Approved/Existing Open Cut and Contained Infrastructure Area
- Proposed Open Cut Extension Area
- Conceptual Cumbo Creek Realignment
- Cross Section Location

- <5% Slope
- 5% to 10% Slope
- 10 to 15% Slope
- >15% Slope

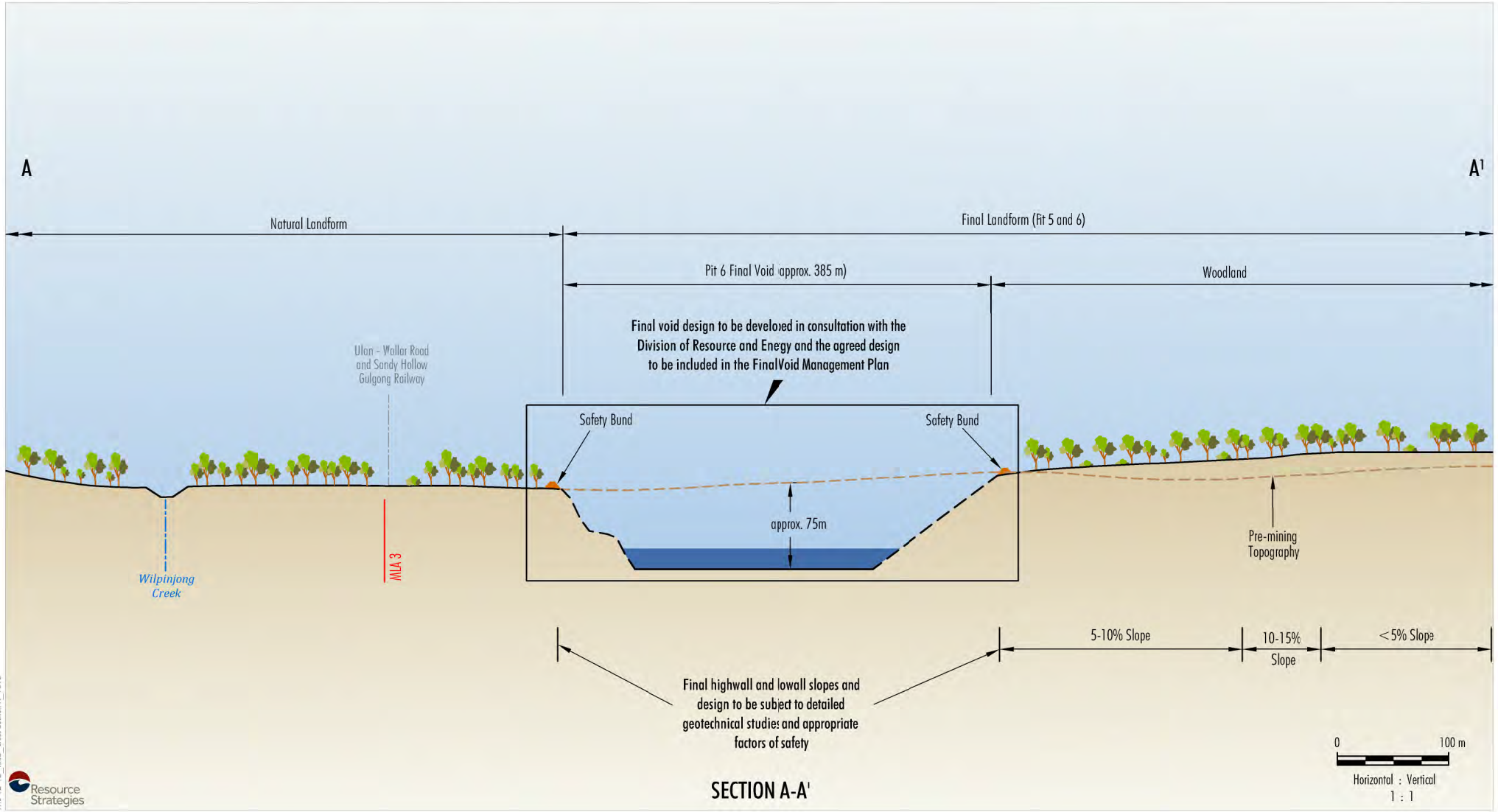
Source: WCPL (2015); NSW Dept of Industry (2015)
Orthophoto: WCPL (Jun 2015; Jun 2014; 1988)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Pre-mining and Conceptual Post-mining Indicative Slope Maps

Figure 3



Source: WCPL (2015)

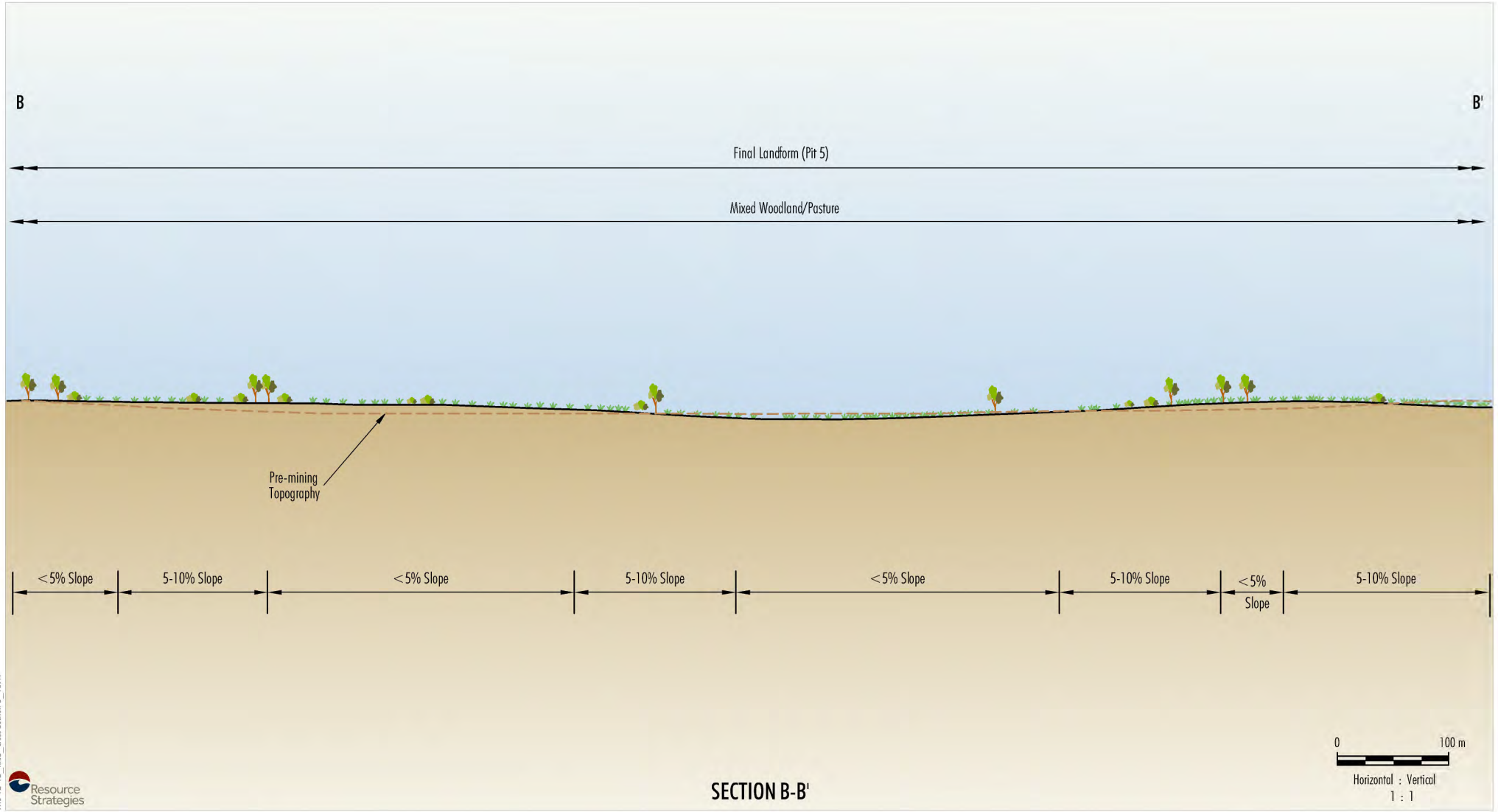
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section A

Figure 4



Source: WCPL (2015)

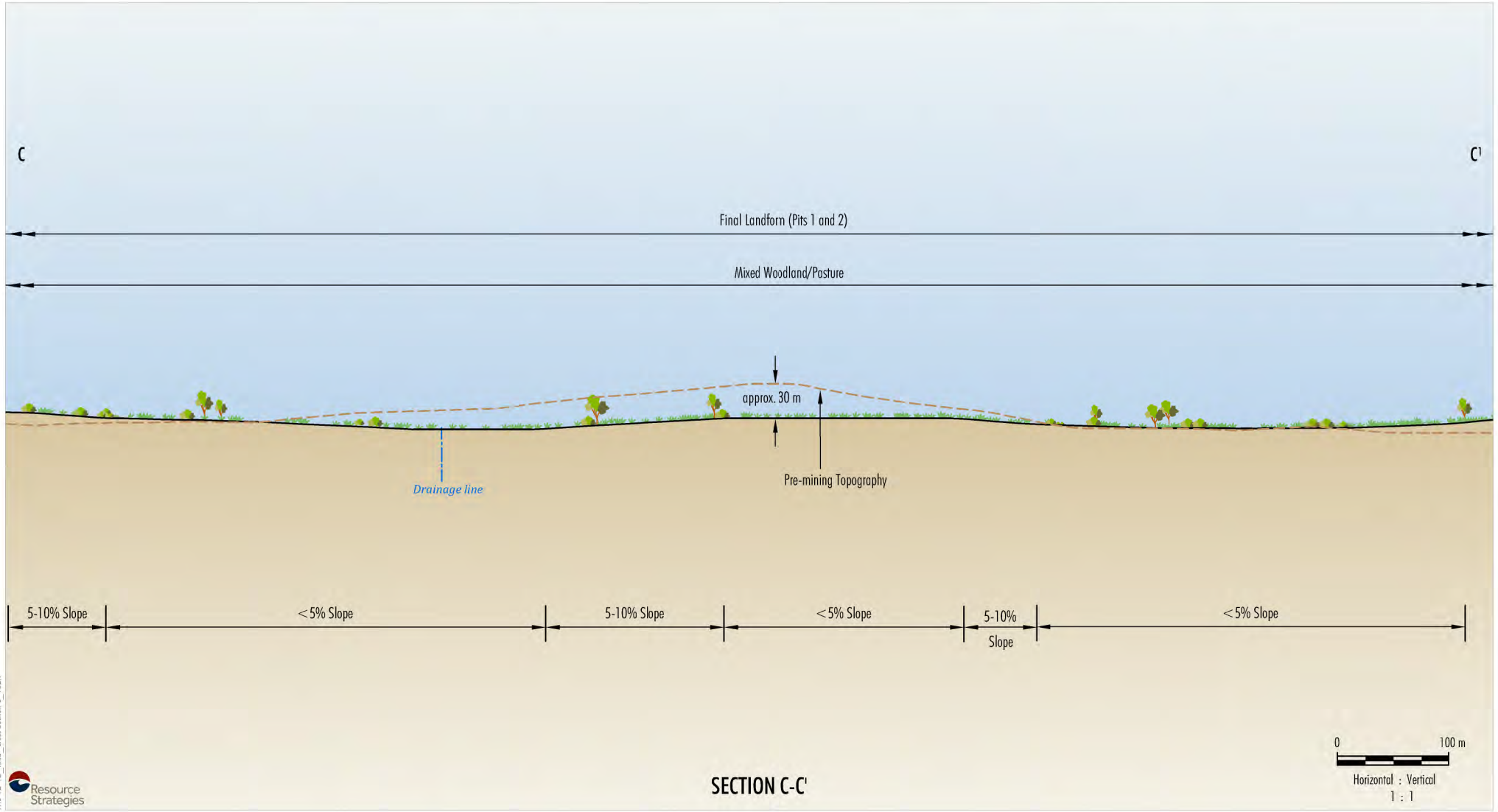
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section B

Figure 5



Source: WCPL (2015)

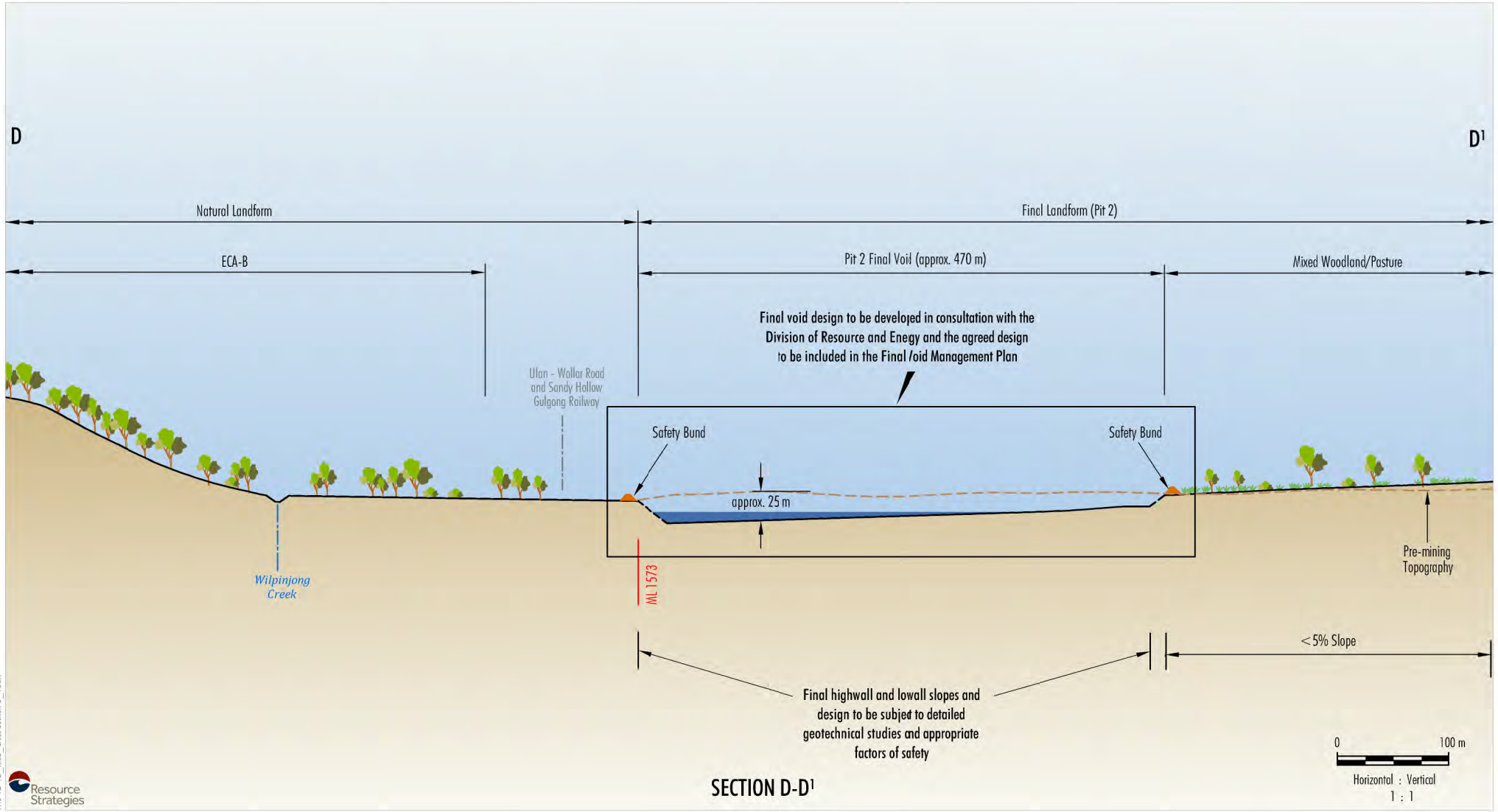
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section C

Figure 6



Source: WCPL (2015)

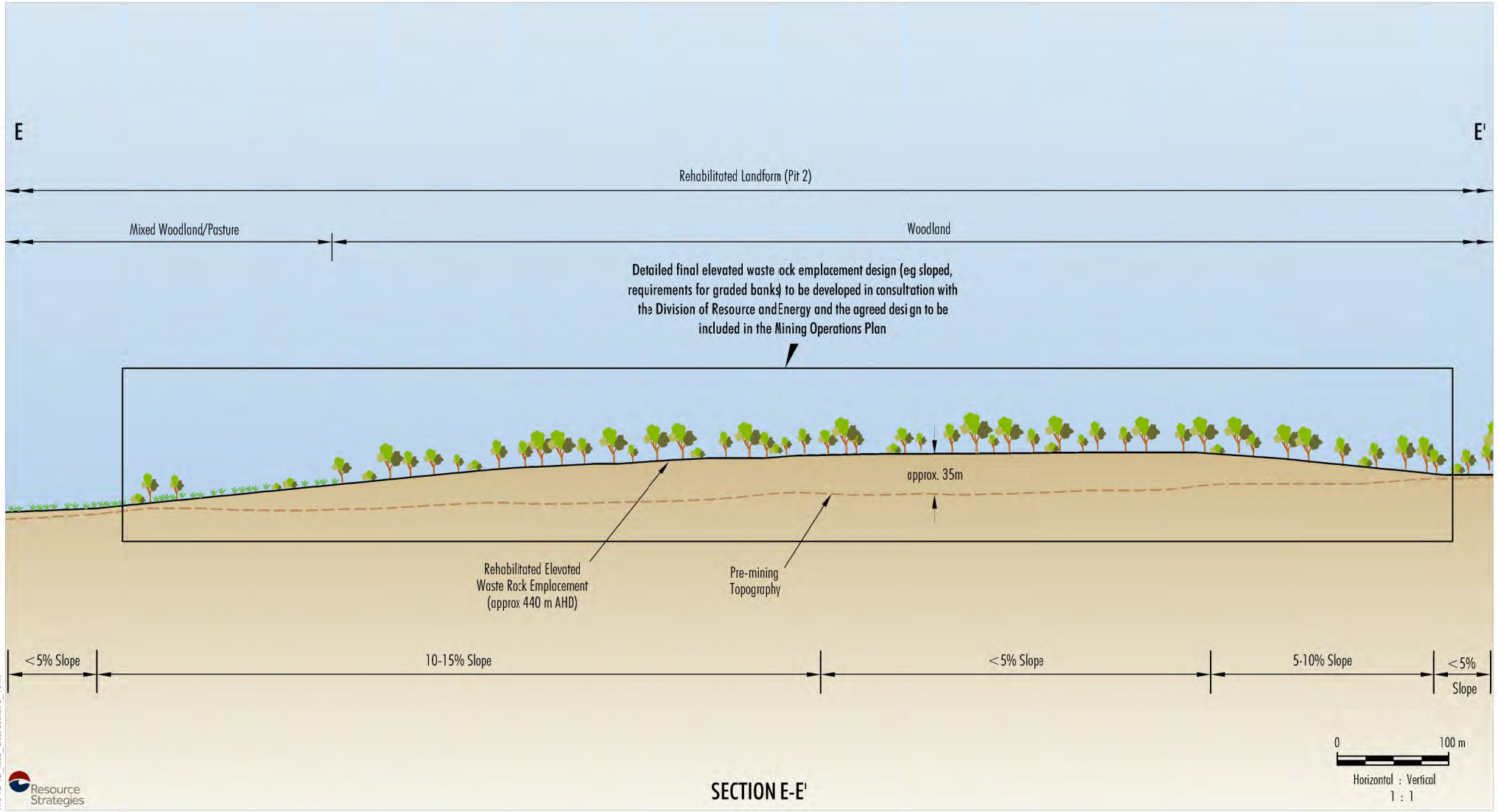
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section D

Figure 7



Source: WCPL (2015)

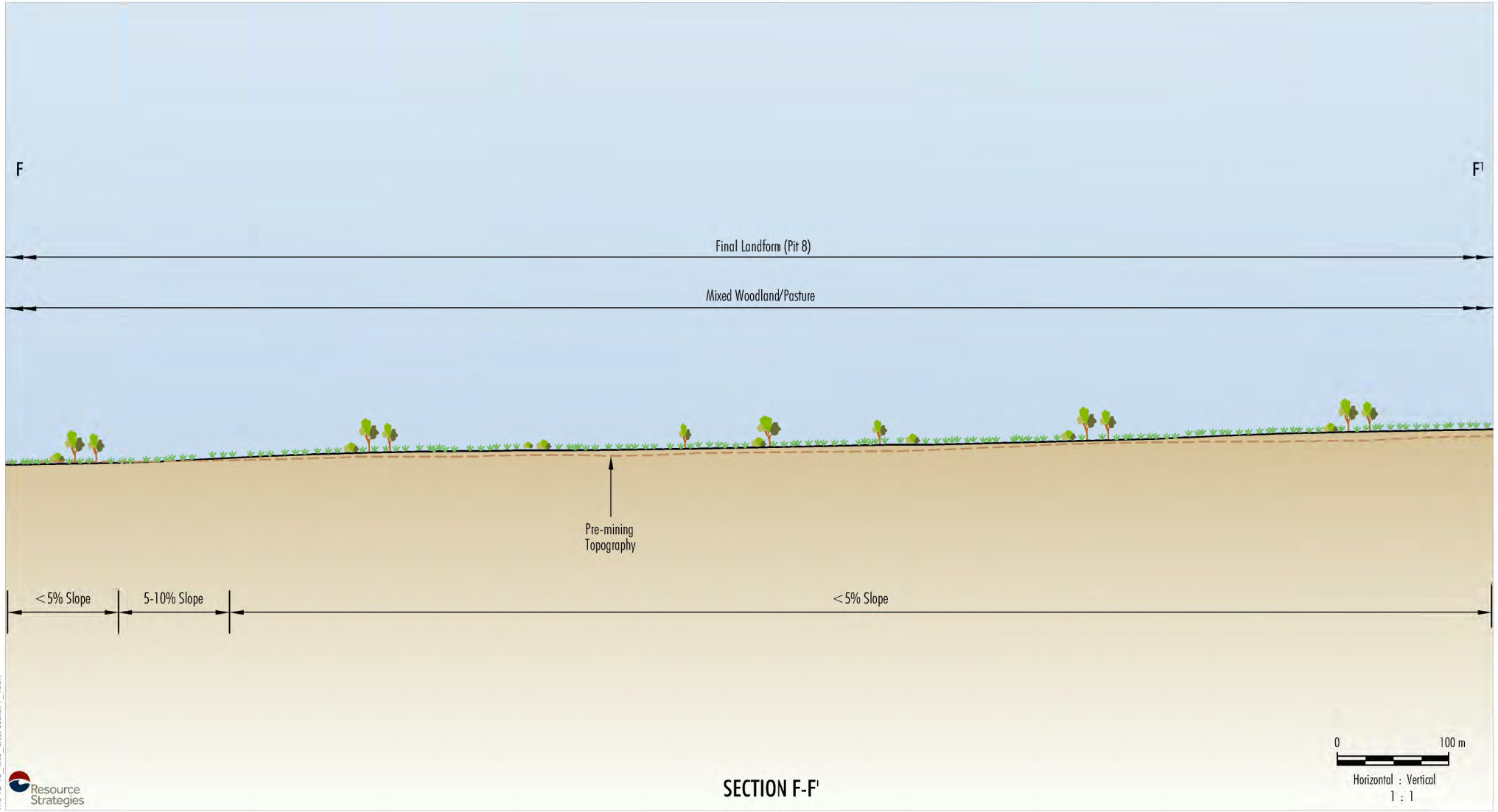
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section E

Figure 8



Source: WCPL (2015)

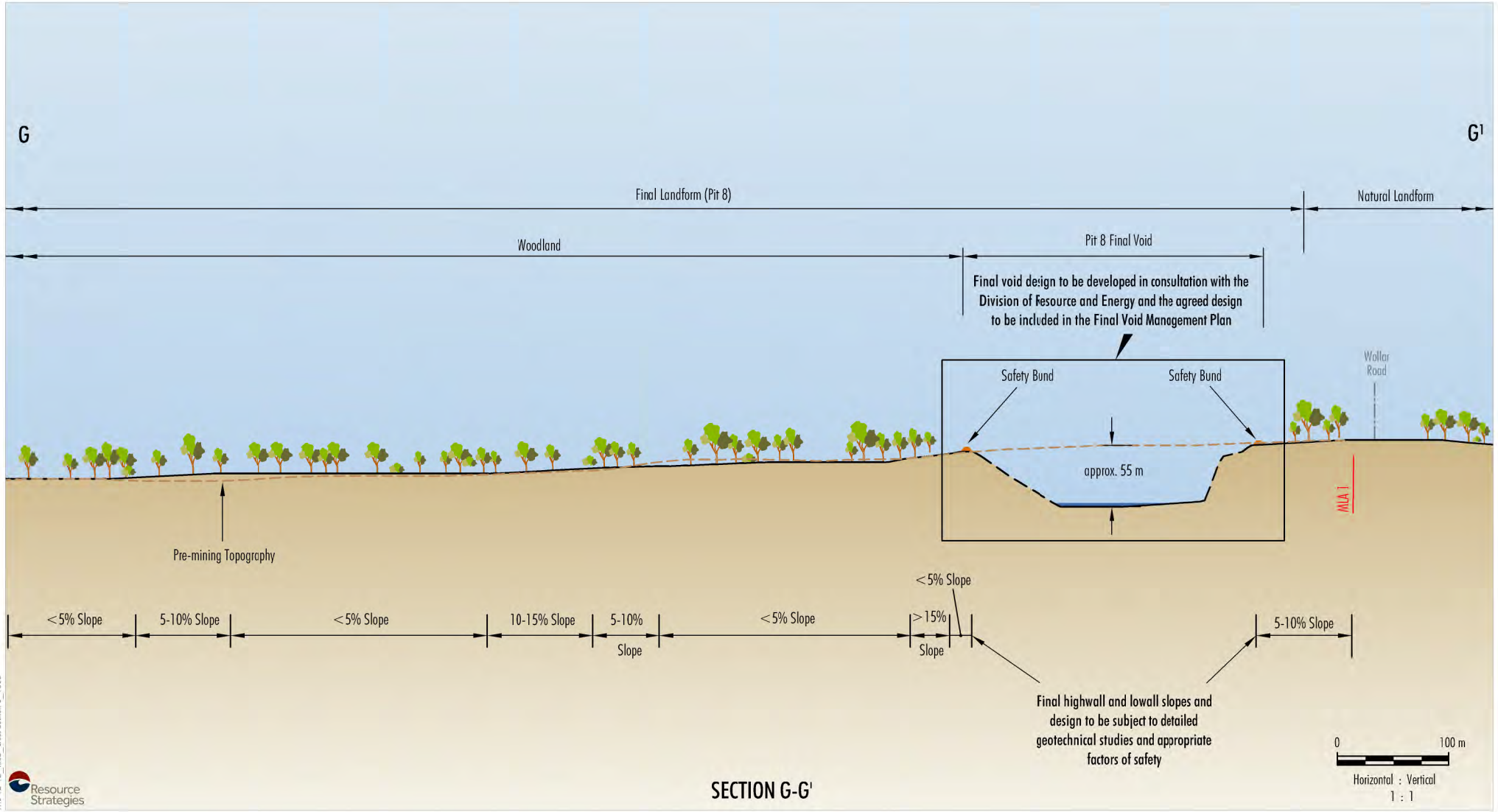
Refer Figure 2 for Cross Section locations.

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section F

Figure 9



Source: WCPL (2015)

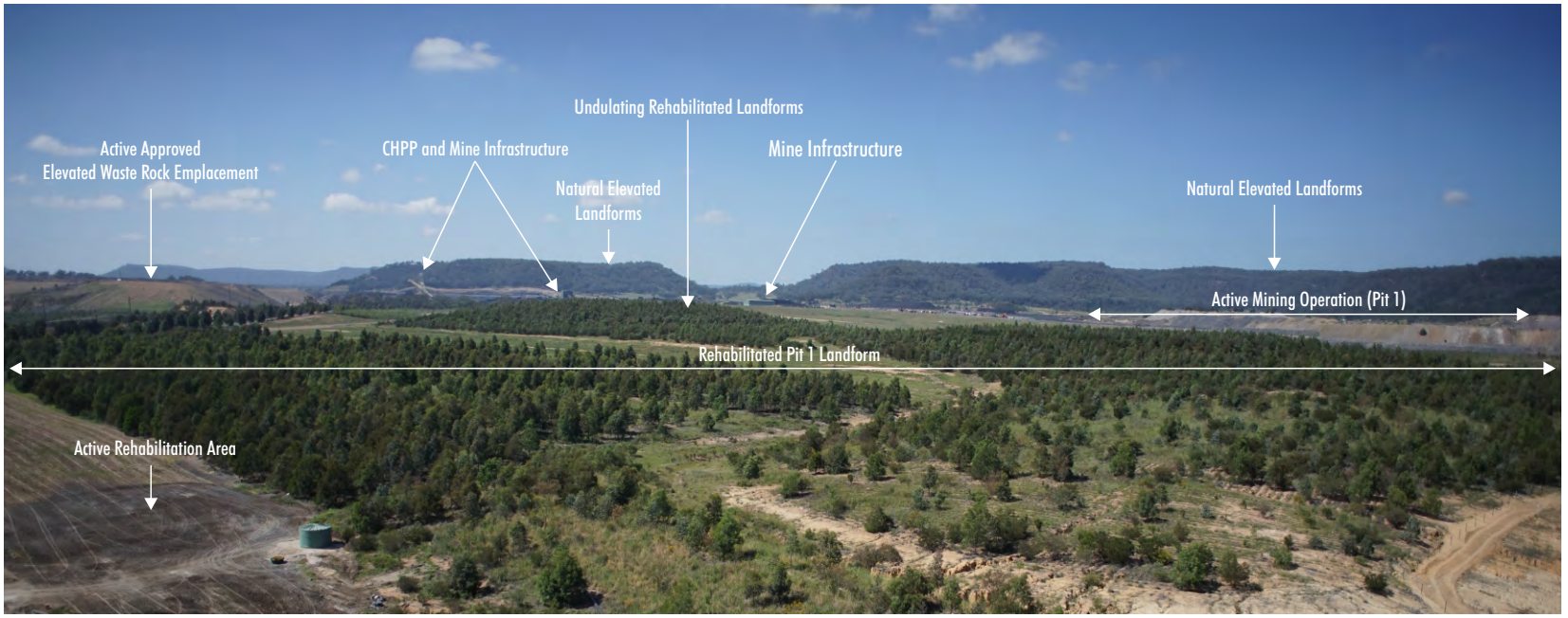
Refer Figure 2 for Cross Section locations.

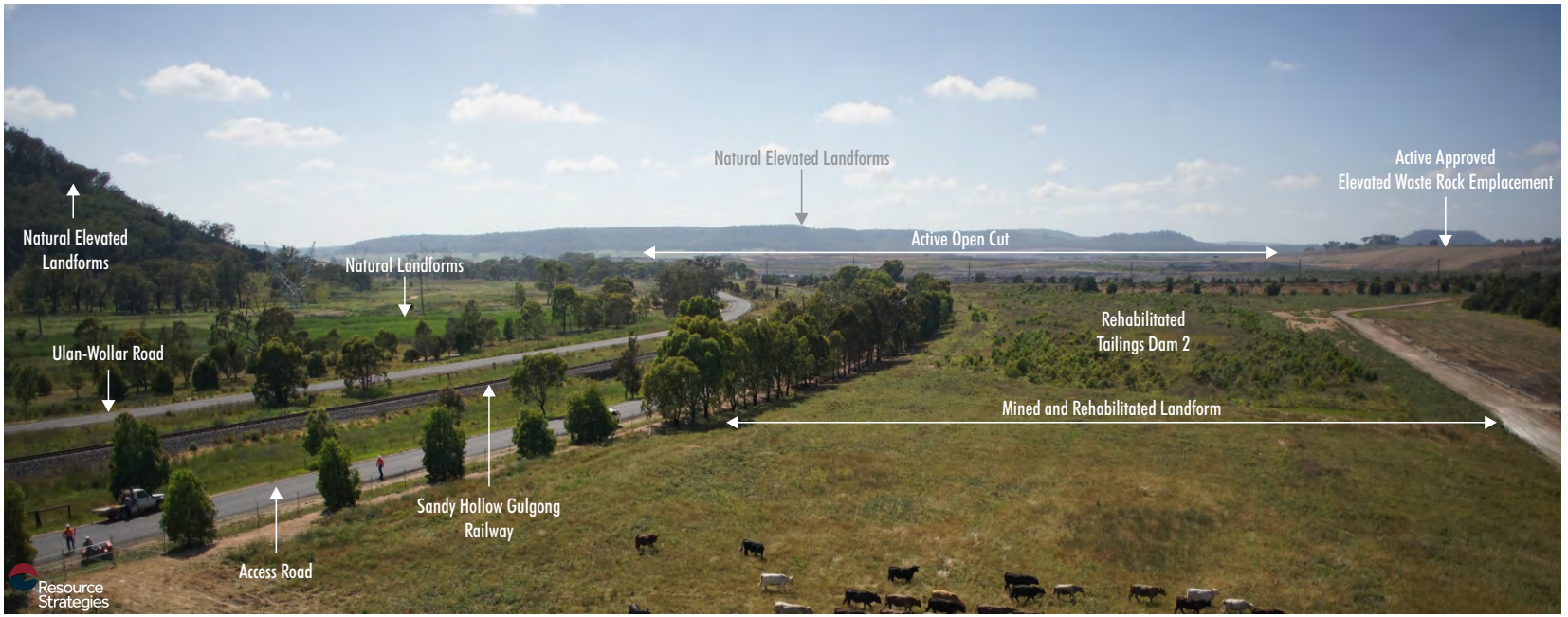
Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Conceptual Cross Section G

Figure 10





WIL-12-12_WEP_RS_001B

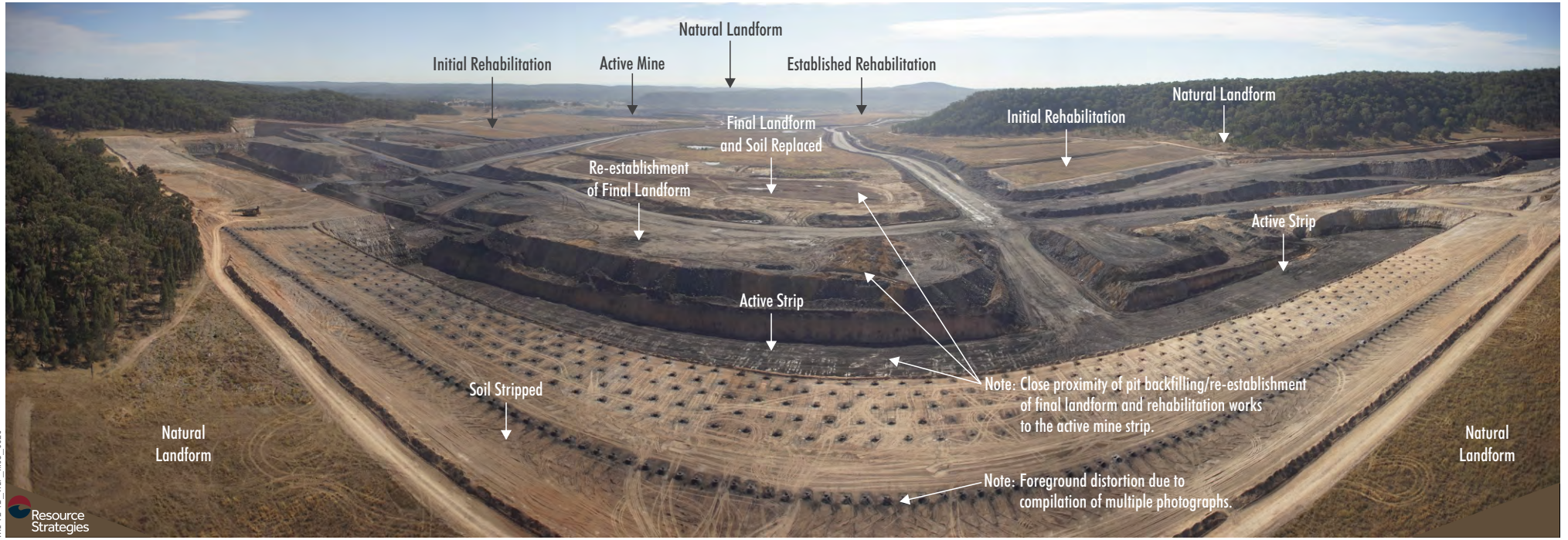
Source: WCPL (2015)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Examples of Existing Wilpinjong Coal Mine Rehabilitated Landforms

Figure 11



WIL-12-12_WEP_RtnS_002C

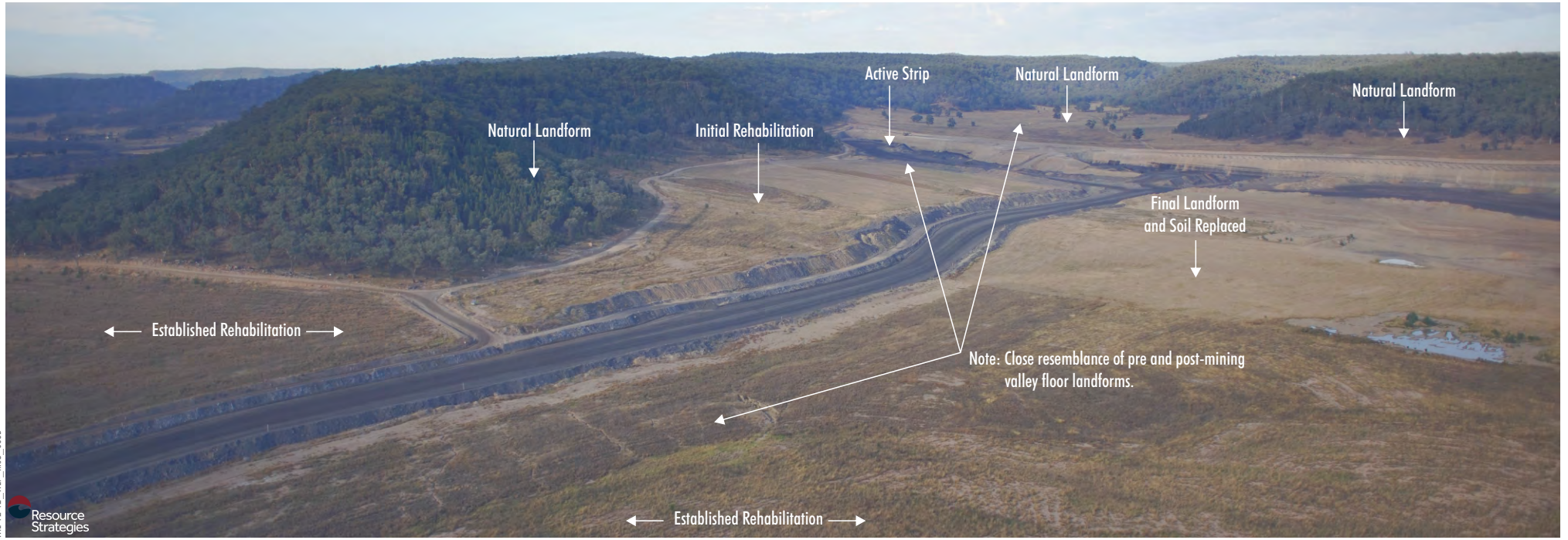
Source: WCPL (2016)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Panoramic View Northeast
- Pit 5 Operations
April 2016

Figure 12



WIL-12-12_WEP_RtnS_003B

Source: WCPL (2016)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

View South-Southeast
- Pit 5 Operations
April 2016

Figure 13

The conceptual final landform would have similar elevations and slopes to the pre-mining landform as waste rock (including overburden and interburden) mined at the Project would be used to progressively backfill the mine voids behind the advancing open cut operations (Figure 12). The final landform elevations, topography and slopes would generally approximate the pre-mining topography, with localised variations (Figures 2 to 10).

The in-pit elevated waste rock emplacement would have a final elevation of up to approximately 440 m AHD (Figures 2 and 3). The rehabilitated elevated waste rock emplacement would be consistent with the range of natural elevations in the open cut area pre-mining (Figure 2).

Detailed mine planning towards the end of the mine life will seek to minimise the size of the final voids as far as reasonable and feasible.

Final Void – Geotechnical Risks

Issue

The DRE requested further detail in regards to final landform design, including any significant geotechnical risks associated with the final voids that may compromise the ability to achieve successful closure.

Response

Existing geotechnical stability management and monitoring measures conducted at the Wilpinjong Coal Mine would continue to be applied at the Project (Section 5.3.7 of the EIS).

The final voids would be designed having regard to minimising highwall instability risk. A Final Void Management Plan would be developed in consultation with the DRE and other relevant authorities as a component of the Mine Closure Plan in advance of mine closure. The final void design and the Final Void Management Plan would be periodically reviewed in consultation with the DRE and other relevant authorities.

WCPL has considered the geotechnical implications of the Project, including the geotechnical implications of final voids (Attachment 8 of the EIS). The assessment concluded:

> *...*
>
> *The highwall batter angle of 70° in competent rock reflects the favourable conditions that exist at Wilpinjong Mine and highwall designs are checked and adjusted as necessary to reflect the nature and the strength of the in-situ material. This is based on the ongoing collection of exploration and geotechnical data and the duration that the highwall would be left standing prior to backfilling.*
>
> *While the open cut depths at Wilpinjong Coal Mine are relatively modest, final void highwalls would be subject to detailed geotechnical design and factors of safety would be adjusted to reflect that these voids would be a final landform feature.*
>
> *Where necessary the lower final void slopes may also be buttressed with competent waste rock, or the upper slopes constructed with a series of benches to achieve a suitably stable final landform.*
>
> *The final void design criteria would be detailed in the applicable Mining Operations Plan to the satisfaction of the NSW Department of Resources and Energy.*

...

The Wilpinjong Extension Project does not raise any material additional geotechnical issues. Existing management measures and data collection would continue to be applied to manage geotechnical stability for the open cut extensions and associated final landform design and construction.

Final Landform – Suitability of Post-mining Land Use

Issue

The DRE requested further detail in regards to final landform design, including stability issues associated with the final landform in regards to its ability of sustaining the intended final land use.

Response

The proposed post-mining land use of the Wilpinjong Coal Mine incorporating the Project would continue to comprise a combination of nature conservation (woodland) and agricultural (mixed woodland/pasture) land uses (Figure 5-3 of the EIS). WCPL has also commenced controlled cattle grazing trials on rehabilitated landforms at the Wilpinjong Coal Mine (Figure 11) to examine the potential for grazing to be used as a management tool on rehabilitated areas.

The proposed mixed woodland/pasture land use areas are generally located on sections of the final landform with gentle slopes similar to the existing pasture areas (Figures 12 and 13). No material stability issues have been identified on final landforms constructed to date.

Given the above, it is considered that there would be no significant stability issues associated with the proposed mixed woodland/pasture post-mining land use.

Progressive Rehabilitation Scheduling

Issue

The DRE requested further detail in regards to the proposed mine layout and scheduling with the objective of maximising opportunities for progressive rehabilitation.

Response

The indicative mining and rehabilitation progression of the Project is shown on Figures 2-8 to 2-12 of the EIS. The nature of the mining and rehabilitation progression of the Project is driven by the high production levels and relatively shallow coal seams at the Wilpinjong Coal Mine.

This results in a larger number of relatively small open pits which advance quickly in comparison to most other mines. Multiple open pits are required to be active at any one time to accommodate the mine fleet necessary to produce at up to 16 million tonnes per annum (Mtpa) of ROM coal. Although it is necessary to have multiple pits active at one time, the total active mining area may be comparable to, or smaller than, other open cut coal mines with deeper coal seams, which have larger open pits and extensive out-of-pit waste rock emplacements.

Rehabilitation commences after the initial phases of mining in each open pit have progressed sufficiently to allow for the backfilling of the mined out void. Once mining operations have reached steady state (i.e. all stages of mining sequence can occur concurrently), progressive landform reconstruction and rehabilitation of the mined out areas can follow behind, in step, but offset from, the mining operations. A good example is evidenced by the eastern part of Pit 5, where the final landform is currently being constructed some 3-4 strips behind the active mining strip (Figure 12).
Staging of the development of the open cut mining areas would be determined by coal market volume and blending requirements, mine economics and localised geological features (Section 2.7.2 of the EIS). As these requirements are likely to vary over the life of the Project, the development of the different open cut mining areas and ROM coal extraction rates from them may also vary. It is therefore difficult to accurately forecast progressive rehabilitation for each pit against Project ROM coal production milestones at the EIS stage.

Notwithstanding the above, WCPL would provide mining advance plans and progressive rehabilitation schedules for each pit in the relevant MOPs that are regularly updated/refined to reflect current mine planning.

Final Void Justification

Issue

The DRE requested further detail in regards to the options analysis in the EIS to justify the proposed final land form design as opposed to other alternatives considered (e.g. void backfilling).

Response

Final voids are generally left at the conclusion of open cut mining with the size of these voids dictated by the depth of the open cut, the mining sequence and the extent to which economic backfilling can be incorporated into the mine plan.

At the cessation of the approved Wilpinjong Coal Mine two final voids will remain in Pits 3 and 6. As a component of the Project, these approved final voids would be backfilled as part of waste rock emplacement during the advance of the mine into the Project open cut extension areas.

The Project would involve mining in eight open cut areas, and WCPL has evaluated a number of alternatives with respect to the number and size of final voids left at the cessation of operations. The evaluation determined that final voids would remain in the southern end of Pit 8, the north-west corner of Pit 6, and in Pit 2 (Pit 2 West Dam) (Section 5.3.12 of the EIS). Potential final voids located at the southern end of Pit 5 (east and west arms) were rejected on the basis of proximity to the Munghorn Gap Nature Reserve.

WCPL has considered the option of altering material handling to achieve only two final voids at the Wilpinjong Coal Mine (i.e. backfilling the Pit 8 final void). However, investigations by WCPL suggest this would add significantly to operating costs (i.e. >$15 million). In addition, altering Project material handling to avoid the requirement for the relatively modest Pit 8 final void would result in:

- delay to progressive rehabilitation, or disturbance of previously rehabilitated landforms (i.e. a significant volume of waste rock would need to be stockpiled for an extended period and then rehandled); and
- would require the long-term stockpiling and subsequent rehandling of waste rock that would include a proportion of material that has some propensity for spontaneous combustion.

WCPL also considered the void's more elevated location in the south of Pit 8 (Figure 5-3 of the EIS) which suggests it would have relatively limited environmental implications (e.g. it would frequently be dry and is not expected to form a long-term groundwater sink [Section 4.7.2 of the EIS] and a visual bund would screen potential views from Wollar Road [Section 4.15.3 of the EIS]).

Due to the low strip ratios at the Wilpinjong Coal mine, the final landform is very similar to pre-existing landforms (Figure 4). The final voids would also be relatively modest in size and depth (Figures 2, 4, 7 and 10). The scale of these features being modest in comparison to other mine sites is predominantly due to the shallow nature of the coal seams. This creates a smaller working footprint for the mining operation enabling the rehabilitated final surface to be kept close behind the final void.

The surface catchment of the final voids would be reduced as far as is reasonable and feasible. This would be achieved by progressively backfilling mine voids to approximate the natural surface and the use of up-catchment diversions and contour drains around the perimeter of the final voids (Section 5.3.12 of the EIS).

A Final Void Management Plan would be developed as a component of the Mine Closure Plan in advance of mine closure in consultation with the DRE and other relevant authorities.

WCPL has also commenced consultation with the Moolarben Coal Complex with respect to the potential to mine barrier coal between the Moolarben Coal Complex Open Cut 4 final void and the Project Pit 6 final void in the future (Section 3.1.6 of the EIS). If this was to occur (subject to separate environmental assessment and approval) it is anticipated that there would be some final void rationalisation between the two mining operations (e.g. combine the approved Moolarben Coal Complex Open Cut 4 final void and the proposed Pit 6 final void).

2.7 Aboriginal Cultural Heritage

The OEH has reviewed the Wilpinjong Extension Project Aboriginal Cultural Heritage Assessment (ACHA) and states in its submission:

> *OEH accept the ACH assessment methodology presented in the report for the proposed extension areas including those areas of new and modified infrastructure. The methodology is well developed on an adequate environmental and archaeological review of site and landscape relationships for the Wilpinjong mine precinct. OEH note that the survey coverage has been comprehensive.*

The MWRC has raised a concern with respect to Aboriginal cultural heritage as follows.

Aboriginal Heritage Sites in Slate Gully

Issue

The MWRC advised that there is concern within the local Aboriginal Community in relation to the destruction of rock formations, art and an ochre quarry on a rocky hill in Slate Gully and the significance of these sites and consultation with the community with respect to potential mitigation measures.

Response

The significance assessment presented in the ACHA (South East Archaeology, 2015) has been undertaken in accordance with the *Burra Charter* (Australia International Council on Monuments and Sites, 2013) and the OEH policy *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) and includes consideration of scientific, cultural, educational, historic and aesthetic values.

As described in Section 7 of the ACHA (South East Archaeology, 2015), the assessment of scientific significance includes a consideration of the research potential, representativeness, integrity and nature of the site, while Aboriginal (cultural) significance refers to the value placed upon Aboriginal heritage evidence by the local Aboriginal community (South East Archaeology, 2015).

South East Archaeology (2015) acknowledges that all Aboriginal heritage sites and objects (including those in the Project area and surrounds) are considered to be culturally significant to the local Aboriginal community. All heritage evidence tends to have some contemporary significance to Aboriginal people, because it represents an important tangible link to their past and to the landscape.

Sites WCP578 (rock shelter with artefacts and art) and WCP579 (rock shelter with artefacts and ochre quarry) have been further assessed by South East Archaeology (2015) as being of high archaeological significance within a local context. Management and mitigation measures for these sites have been recommended in recognition of their archaeological significance (South East Archaeology, 2015).

With regard to the rock formation on the valley floor of Slate Gully (including sites WCP578, WCP579, WCP580, WCP594 and WCP577), it is noted in Section 7.2 of the ACHA (South East Archaeology, 2015) that the area has been identified of being of high cultural significance by the Registered Aboriginal Parties.

Further discussion on the management of these sites is provided in Section 3.7 of this document.

2.8 Historical Heritage

The NSW Heritage Council raised an issue regarding historical heritage. This issue is addressed below.

Mitigation Measures for Caretaker's Cottage

Issue

The NSW Heritage Council recommended additional mitigation measures be implemented for the Possible Location of Caretaker's Residence at the Historical Shale Oil Mine Complex. Additional recommended mitigation measures include:

- An appropriate archaeological assessment method including a research design for salvage excavation is developed in consultation with the Heritage Council of NSW or it's Delegate to guide physical archaeological excavations at the Shale Oil Mine.
- Results of the archaeological works shall be presented in a final excavation report within one year of completion of all archaeological works on the site and shall be submitted for the information of the NSW Heritage Council.
- A suitable artefact repository for the ongoing retention of any relics of local heritage significance which are recovered during excavations for this activity must be identified in the report.

Response

The Possible Location of Caretaker's Cottage site consists of a level area of land with brick fragments (Section 4.11.1 of the EIS). While it is likely that this was the location of the Caretaker's Cottage, no *in situ* structural material was identified during the field survey (Niche Environment and Heritage, 2015).

The Possible Location of Caretaker's Cottage is assessed in the Wilpinjong Extension Project Historical Heritage Assessment for the Project as having local significance with some identified potential for archaeological deposits (Niche Environment and Heritage, 2015).

Consistent with Niche Environment and Heritage's (2015) recommendations for the Possible Location of Caretaker's Cottage, an archaeological test excavation would occur at the possible location of the Caretaker's Cottage to verify the presence of subsurface archaeological material. This test excavation would be done by a qualified historical archaeologist and would occur prior to surface disturbance activities at the inferred location of the cottage. If relics are located, their discovery would be reported in accordance with section 146 of the NSW *Heritage Act, 1977*.

WCPL consider that the Project proposed mitigation measures for the Possible Location of Caretaker's Cottage presented in the EIS are adequate and the additional measures proposed by NSW Heritage Council are not warranted given the assessed local heritage significance of the site. Notwithstanding, WCPL is prepared to accept a consent condition that requires consultation with the NSW Heritage Council following the completion of the test excavation. Based on evaluation of the findings of the initial test excavation in consultation with the Heritage Council, WCPL would conduct further reporting or investigation if this is required by the Secretary of the DP&E.

2.9 Transport

It is noted that Transport for NSW has reviewed the EIS and advised the DP&E that it had no comment on the Project.

In addition, the NSW Roads and Maritime Services (RMS) provide the following comments on the Project:

> *The realignment of Ulan-Wollar Road including new rail level crossing and vehicular access to Wilpinjong Mine is to be designed and constructed to a standard commensurate with the existing speed zone and in accordance with Austroads Guide to Road Design and Australian Standard 1742.7. This includes Safe Intersection Sight Distance (SISD).*
>
> *The mine manager is to continue to liaise with mine managers at Ulan and Moolarben Coal Mines to ensure shift changes between the three mines are appropriately spaced apart so to minimise peak vehicular movements on the public road network used to access the three mines.*
>
> *Mine related traffic on the public road network at the same time as school bus operations is to be avoided. Where interaction between both road users is unavoidable, evidence of the need to operate during these times is to be provided to the Department of Planning and Environment prior to any approval being granted for a change in shift times.*

WCPL generally concurs with these comments.

In addition it is noted that the MWRC states:

> *Council generally agrees with the Road Transport Assessment (RTA) performed by GTA Consultants (GTA) but contends that there are several items that require addressing*

The MWRC raised some concerns regarding potential transport impacts. These are outlined and addressed below.

Road Maintenance

Issue

The MWRC requested that a road dilapidation report should be required as a condition of consent to be carried out prior to the commencement of works and sought assurance that damage to the road as a result of increased vehicle movements associated with the construction and operation of the Project would be funded by WCPL.

Response

The Wilpinjong Extension Project Road Transport Assessment (GTA Consulting, 2015) concluded that the road network would satisfactorily accommodate the additional traffic generated by the Project, together with other developments expected to occur in the region.

WCPL has made financial contributions to the MWRC for road maintenance activities in accordance with Wilpinjong Coal Mine Planning Agreements and Project Approval 05-0021 including:

- an initial payment of $450,000 prior to the first shipment of coal from the site;
- an annual payment of $70,000 per year for community infrastructure and road maintenance contributions;

- $20,000 per year for the period 2007 to 2009 to assist with the development of school bus lay-by areas along Ulan Road;
- a $600,000 contribution to road upgrades that was negotiated as a component of the Mining Rate Modification;
- either $50,000 cash or the equivalent value in gravel to be used by MWRC for the upgrading of Ulan-Wollar Road; and
- additional annual community infrastructure and amenity contributions that are calculated using a formula in Project Approval 05-0021 that correlates the relative monetary contribution to the total site workforce (WCPL contributions under this formula in 2013 and 2014 totalled approximately $525,000).

WCPL has also co-funded implementation of the Ulan Road Strategy that will result in significant upgrades to Ulan Road in accordance with Project Approval 05-0021.

In addition, WCPL would fund the proposed extensions of the Ulan-Wollar Road relocations and the sealing of a remaining un-sealed section of Ulan-Wollar Road and the provision of a replacement sealed low level causeway crossing of Cumbo Creek (Section 2.6.1 of the EIS).

WCPL considers that the most appropriate mechanism for WCPL to contribute to the maintenance of the local road network is funding in accordance with existing voluntary planning agreements (consistent with the existing Wilpinjong Coal Mine operations) and a road dilapidation survey is not warranted.

WCPL has continued to consult with the MWRC regarding its submission on the Project and it is understood that the MWRC is generally satisfied with this response.

Ulan-Wollar Road Intersections

Issue

The MWRC requested that the existing main access to Wilpinjong Coal Mine from the Ulan-Wollar Road be upgraded to facilitate through traffic similar to the proposal for the new intersection at Pit 8.

Response

The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) recommends a basic right turn (BAR) treatment for the new intersection on Ulan-Wollar Road. The recommended BAR intersection treatment is based on a comparison of the forecast cumulative traffic movements against the Austroads Guide to Road Design intersection warrants. Consistent with this recommendation and the MWRC's submission, WCPL would construct the new intersection on Ulan-Wollar Road (Pit 8) with a BAR treatment. The conceptual layout of an intersection with a BAR treatment is shown on Plate 3 below.

The existing Wilpinjong Coal Mine access road/Ulan-Wollar Road intersection has a BAR treatment. GTA Consultants (2015) has reviewed the forecast cumulative traffic movements for this existing intersection and existing sightlines against the Austroads Guide to Road Design intersection warrants and the forecast cumulative traffic movements do not warrant an upgrade to the existing intersection treatment.

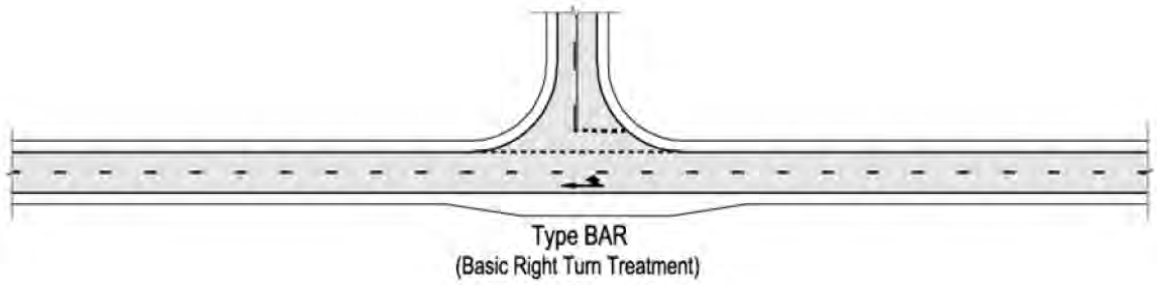


Plate 3: Intersection with a Basic Right Turn Treatment

However, it is acknowledged that the unsealed shoulder on the northern side of the existing intersection could be widened to provide more passing space for through traffic, consistent with the diagram above (this would be undertaken at the time of the other Ulan-Wollar Road works as discussed below).

WCPL has continued to consult with the MWRC regarding its submission on the Project and it is understood that the MWRC is generally satisfied with this response.

Ulan-Wollar Road Sealing

Issue

The MWRC requested that the relocation and sealing of Ulan-Wollar Road proposed as part of the Project be formed and sealed to a similar standard to that required of the Ulan Road Strategy.

Response

WCPL would fund the sealing of a remaining un-sealed section of Ulan-Wollar Road and the provision of a replacement sealed low level causeway crossing of Cumbo Creek.

As shown in Table 4-39 of the EIS, the forecast cumulative traffic movements on the section of Ulan-Wollar Road to be sealed (i.e. less than 200 vehicles/day) are significantly lower than the forecast cumulative traffic movements on Ulan Road (i.e. 1,000 to 10,000 vehicles/day).

Applying the same design guidelines adopted for the Ulan Road Strategy (i.e. the Austroads Guide to Road Design), the recommended road design for the section of Ulan-Wollar Road to be sealed based on the forecast cumulative traffic movements is two 3.1 m wide lanes; two 0.5 m wide sealed shoulders; and two 1 m wide gravel shoulders.

WCPL proposes that the road design for the section of Ulan-Wollar Road to be sealed be consistent with the Austroads Guide to Road Design rather than the road design requirements of Ulan Road which carries a much higher volume of traffic.

WCPL has continued to consult with the MWRC regarding its submission on the Project and it is understood that the MWRC is generally satisfied with this response.

Bylong Coal Project Cumulative Traffic Generation

Issue

The MWRC requested that consideration be given to cumulative traffic impact resulting from the Bylong Coal Project as this may have been underestimated as the traffic assessment provided in the Bylong Coal traffic study did not include the scenario of no temporary workers accommodation unit being built at Bylong.

Response

The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) includes consideration of the potential cumulative impacts of other approved and proposed projects (including the Bylong Coal Project). The assessment of potential cumulative impacts was based on publically available information from relevant environmental approval documentation at the time of submission of the EIS (e.g. *Bylong Coal Project Environmental Impact Statement* [Hansen Bailey, 2015]).

The potential cumulative road transport impacts associated with any changes to the Bylong Coal Project proposal should be assessed by Kepco Bylong Australia Pty Ltd (including any cumulative impacts).

However, it is noted that WCPL's Project would not generate any material traffic on Wollar Road, and therefore potential cumulative traffic issues are expected to be minimal.

WCPL has continued to consult with the MWRC regarding its submission on the Project and it is understood that the MWRC is generally satisfied with this response.

2.10 Other

Other general issues raised by the OEH, Rural Fire Service (RFS), DPI Lands and EPA are addressed below.

Bush Fire Protection

Issue

The OEH and RFS recommended consideration of bush fire protection measures and preparation/update of a Bush Fire Risk Management and Emergency/Evacuation Plan for the Project.

Response

Bushfire management at the Wilpinjong Coal Mine is currently conducted in accordance with the Bushfire Management Plan. This Bushfire Management Plan was revised in 2013 in consultation with key stakeholders including RFS, OEH, NPWS, MWRC, adjacent mines and graziers, and covers the existing approved Wilpinjong Coal Mine and also the Project extension areas.

WCPL would revise the Bushfire Management Plan to include the Project and would consider the requirements of *Planning for Bush Fire Protection 2006* (RFS, 2006) (including Asset Protection Zones) and *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (RFS, 2014).

In addition to the above, WCPL would continue to consult with the Cudgegong Bush Fire Management Committee and the RFS, and provide assistance to these organisations as appropriate.

Proximity of Wastewater Treatment Plant to Rehabilitation Areas

Issue

The EPA noted that an additional wastewater treatment plant would be constructed at the new mine infrastructure areas and that wastewater generated by this facility is proposed to be used for irrigation of rehabilitation. However, the EPA raised a concern that the mine infrastructure area is not located in proximity to any areas of rehabilitation until Year 8.

Response

WCPL acknowledges that early in the life of the Project there may be limited rehabilitation areas available proximal to the Pit 8 mine infrastructure area, in which case irrigation would be directed to unmined grassed/vegetated areas within the approved open cut footprint and within the operational water management area (i.e. that drain to an operational storage).

Contaminated Soil and the Historical Shale Oil Mine

Issue

The EPA noted that a shale oil mine was located within the proposed pit 8 area and that contaminated soil assessment has concluded the area of this previous mine is suitable for the proposed land use. However the EPA suggested consideration be given to remediation of soil from this location to avoid any potential impact on stripped topsoil which is used for rehabilitation.

Response

WCPL concurs with the EPA that the remaining Historical Shale Oil Mine Complex waste material in Pit 8 may not be suitable material for Project rehabilitation. While Lloyd Consulting Environmental Services (2015) considered that the Historical Shale Oil Mine Complex posed a low risk to the environment and/or human health, the Historical Shale Oil Mine Complex waste material would be excavated as part of the Project and co-disposed with waste rock in the mine voids (Section 4.12.3 of the EIS).

Land Ownership Plans

Issue

DPI Lands raised a clarification on the EIS land ownership plans with respect to crown special lease/licence designations and stressed the underlying ownership on these parcels remains with the Crown.

Response

WCPL has recently updated the EIS land ownership plans to reflect some recent changes in land ownership, and clarifications were also made on these plans to accommodate the points raised in DPI Lands' submission. The updated versions of the EIS plans 1-5a-c are provided in Appendix E (contemporary versions can also be provided to DP&E upon request at suitable stages in the approval process).

3 PART B - RESPONSES TO NON-GOVERNMENT ORGANISATIONS

Responses to issues raised by businesses and NGOs are provided in the subsections below.

Of the 31 submissions by businesses and NGOs that were received by DP&E, some 55% of the submissions objected to the Project, some 39% supported the Project, while some 6% commented on the Project.

3.1 Noise

Predicted Noise Levels

Issue

The Wollar Progress Association and Ryde – Hunter's Hill Flora and Fauna Preservation Society raise concerns about the ongoing impacts of noise generated from the approved Wilpinjong Coal Mine and consider that predicted noise levels for the Project and previous assessments have been significantly underestimated.

Response

The operational noise assessment was conducted in accordance with the:

- INP; and
- Interim Construction Noise Guideline (DECC, 2009).

Consideration was also given to the Voluntary Land Acquisition and Mitigation Policy.

The Noise and Blasting Assessment was peer reviewed by Mr Richard Heggie (Former Managing Director, SLR Consulting), who concluded that the report is comprehensive, conforms to the relevant guidelines and has been undertaken in a professional manner. The peer review report is presented in Attachment 4 of the EIS.

In addition, noise management at the Wilpinjong Coal Mine is currently undertaken in accordance with the Noise Management Plan (Section 4.3.1 of the EIS), which outlines:

- noise mitigation measures and controls;
- the noise monitoring and reporting regimes; and
- procedures for the management of exceedances and complaints.

The noise monitoring system in place at the Wilpinjong Coal Mine provides real-time access to noise data and provides the capacity to set a real-time target noise level (e.g. 2 dB below the compliance level).

Upon noise emissions reaching the identified target level, the response protocol is enacted, which includes identification of the noise source. Upon determination that the noise source is Wilpinjong Coal Mine related, active measures can be put in place to modify operations or stand down equipment to maintain compliance with noise criteria. In the *Wilpinjong Coal Mine Production Optimisation Modification – Assessment Report* (the Modification 6 Assessment Report) (DP&E, 2014b) the DP&E noted that the real-time noise management system is consistent with best practice in the mining industry.

WCPL reported compliance with relevant noise limits at the nearest privately-owned receivers during the most recent Independent Audit period between 2012 and 2014 (AECOM Australia, 2015) and the 2015 and January to February 2016 period (WCPL's EPL 12425 compliance summary reports).

The noise generated from the approved Wilpinjong Coal Mine is effectively managed through the implementation of the Noise Management Plan, this would continue for the Project.

It is also noted that the EPA, in its submission for the Project, stated:

> *The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project.*

Suitability of the Industrial Noise Policy and Voluntary Land Acquisition and Mitigation Policy to Rural Villages

Issue

The Wollar Progress Association and Bylong Valley Protection Alliance raised concerns that the INP has caused a significant increase in noise disturbance through the conditions of approval for the Wilpinjong Coal Mine, and that the Voluntary Land Acquisition and Mitigation Policy does not take into account such increases.

Response

The Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015) has been prepared in accordance with the Project's SEARs, which specifically refer to the INP.

Under the INP, the minimum rating background level is 30 dBA, resulting in a minimum evening and night-time intrusiveness criterion of $L_{Aeq(15minute)}$ 35 dBA in the Village of Wollar. The Project-specific noise levels used for assessment of noise at the Wilpinjong Coal Mine are therefore correct based on current NSW Government policy.

Notwithstanding, WCPL continues to consult and engage with remaining private residents in the Village of Wollar with respect to potential property acquisitions or noise agreements based on each individual landowner's circumstances.

Project Noise Level of 37 dBA

Issue

The Wollar Progress Association, Bylong Valley Protection Alliance and Hunter Communities Network raised a concern that raising the Project noise limit from 35 dBA to 37 dBA is unacceptable and would cause unpredicted impacts on outlying properties.

Response

As described in response to a concern raised by the MWRC, the Project's proposed noise mitigation strategy has been developed in accordance with the feasible and reasonable principles of the Voluntary Land Acquisition and Mitigation Strategy.

As described in the EIS, a number of technically feasible mitigation measures that could achieve up to a 7 dBA reduction at the nearest privately-owned receivers were assessed, however, the additional costs associated with these measures were not considered to be reasonable by WCPL, given the potential benefits of a 5 dBA reduction that could be achieved at a significantly lower cost (Section 4.3.2 of the EIS). Implementation of the feasible and reasonable mitigation measures that provide a 5 dBA reduction results in a maximum intrusive noise level of 36 dBA to 37 dBA for all but one of the proximal privately-owned receivers.

In accordance with the classification of noise exceedances in the Voluntary Land Acquisition and Mitigation Policy, the impact of a potential exceedance of the Project-specific noise level $L_{Aeq(15minute)}$ 35 dBA) of this magnitude is negligible and not discernible by the average listener.

It is also noted that the EPA, in its submission for the Project, stated:

> *The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project.*

Low Frequency Noise and Sleep Disturbance

Issue

The Wollar Progress Association raised a concern that low frequency noise impacts and sleep disturbance impacts have not been adequately assessed.

Response

As described in response to a concern raised by the EPA regarding low frequency noise assessment (Section 2.1 of this document), review of regular operator-attended noise monitoring and specific unattended monitoring conducted by SLR Consulting indicates that Wilpinjong Coal Mine's noise emissions do not contain "dominant low frequency content" in accordance with the INP's assessment procedures and no further low frequency noise assessment is required for the Project.

The potential for sleep disturbance was assessed as part of the Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015). No exceedances of the sleep disturbance criterion were predicted at any privately-owned receivers during the night-time.

Further, it is noted that under the conditions of any Development Consent for the Project, WCPL would be required to carry out monthly operator-attended monitoring of the noise impacts of the mine's operations at private receivers (and apply a low frequency modifying factor should it be required to be applied, consistent with the requirements of the consent).

Road Traffic Noise Assessment

Issue

The Wollar Progress Association raised a concern that road noise has not been assessed on roads other than Ulan Road, in particular Main Road 208.

Response

The Project does not generate significant traffic through the Village of Wollar, or along Wollar Road (Main Road 208), and hence no Project road traffic noise assessment is required on these roads.

As described in the Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015), approximately 90% of all arrivals and departures from the Wilpinjong Coal Mine are to or from Mudgee, using Ulan Road and Ulan-Wollar Road.

As described in the Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015), the road traffic noise assessment focuses on Ulan Road, as no private receivers remain on Ulan-Wollar Road between the Project and Ulan Road.

It is also noted that the EPA, in its submission for the Project, stated:

> *All three receivers that are expected to be affected by road noise above NSW Road Noise Policy (DECCW 2011) criteria have been identified for mitigation under the Ulan Road Strategy (ARRB Group 2011).*

Operational, Road and Rail Noise Assessed Separately

Issue

The Bylong Valley Protection Alliance raised a concern that operational road and rail noise are assessed separately.

Response

The Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015) has been prepared in accordance with the SEARs for the Project. The SEARs state that the likely operational impacts of the Project should be assessed against the INP, the likely road noise impacts of the Project should be assessed against the NSW Road Noise Policy, and the likely rail noise impacts of the Project should be assessed against the Rail Infrastructure Noise Guideline.

WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects.

Noise Limits in Passive Recreational Areas

Issue

The Central West Environment Council raised a concern that the noise conditions should not exclude times when the Munghorn Gap Nature Reserve or Goulburn River National Park are not in use.

Response

As described in the EIS, public facilities (i.e. camping grounds) in the Munghorn Gap Nature Reserve and Goulburn River National Park are not proximal to the Project and public access is very limited to the reserved lands in the vicinity of the Project.

WCPL is seeking to have the passive recreational area criteria applied only at designated locations with publically available facilities and tracks in the Munghorn Gap Nature Reserve and Goulburn River National Park, rather than to all areas (i.e. so that the amenity criteria do not apply to areas that are not used by people), which is consistent with the requirements of the INP.

Compliance Monitoring and Operations

Issue

The Wollar Progress Association raised a concern that compliance monitoring for the current operations of the Wilpinjong Coal Mine has not coincided with two fleets operating concurrently within the eastern-most pits (Pits 3 and 7[1]).

Response

Operator-attended compliance noise monitoring has been undertaken when two fleets have been operational simultaneously in the two eastern-most pits and the results have shown compliance with the relevant criteria (e.g. June 2015 and January 2016).

Wilpinjong Coal Mine operational data for the period May 2013 to April 2016 shows that over the period analysed, two fleets operated in the eastern-most pits less than 30% of all shifts.

[1] For the purposes of WCPL internal mine planning Pit 3 has been divided into two separate pits (Pit 3 in the north and Pit 7 in the south).

3.2 Air Quality

Air Quality Criteria

Issue

The Wollar Progress Association raised a concern that the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment has not considered the variation to the *National Environment Protection (Ambient Air Quality) Measure, 2015*.

Response

The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment was prepared in accordance with the SEARs issued for the Project. The Project's SEARs state that the potential air quality impacts of the Project should be assessed in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*.

The $PM_{2.5}$ predictions in the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment have been compared to the National Environment Protection (Ambient Air Quality) Measure advisory reporting standards for $PM_{2.5}$, which were applicable at the time of assessment. It is noted that the variation to the National Environment Protection (Ambient Air Quality) Measure changes the $PM_{2.5}$ criteria from an advisory reporting standard to a reporting standard, but the criteria levels remain the same (i.e. 25 µg/m³ 24-hour average and 8 µg/m³ annual average).

The variation to the National Environment Protection (Ambient Air Quality) Measure includes an annual average PM_{10} concentration reporting standard of 25 µg/m³, which is more stringent than the annual average PM_{10} concentration criterion in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (30 µg/m³). It should be noted that the purpose of the National Environment Protection (Ambient Air Quality) Measure is for Government jurisdictions to monitor air quality in regions, not for project impact assessment purposes.

Notwithstanding, Appendix F of the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015) includes the predicted particulate matter concentrations at each sensitive receptor for all scenarios modelled. The predicted annual average PM_{10} concentrations are below the National Environment Protection (Ambient Air Quality) Measure criterion of 25 µg/m³ for all private receivers in each modelled scenario.

Potential Dust Impacts at Mine-owned Properties

Issue

The Wollar Progress Association raised a concern that the potential dust impacts (including health impacts) at mine-owned properties have not been considered adequately.

Response

As described in response to a concern raised by NSW Health regarding procedures in place for potential air quality exceedances (Section 2.2 of this document), air quality management and monitoring would continue to be implemented in accordance with the Air Quality Management Plan (Section 4.4 of the EIS).

The Air Quality Management Plan describes the procedures to be implemented in the event of an exceedance. The procedures include notification of the exceedance to the DP&E and EPA and taking all reasonable and feasible steps to ensure that the exceedance ceases and does not recur (including relocating, modifying and/or stopping mining operations). In the event of a non-compliance, all affected landowners/tenants are to be notified in writing and regular monitoring results from the approved monitoring network are to be provided until the operations are again complying with the air quality criteria.

The Air Quality Management Plan also describes that a copy of the NSW Health fact sheet entitled "Mine Dust and You" would be provided to owners/tenants of any land (including mine-owned land) where particulate matter concentrations are predicted to be greater than the relevant air quality criteria during the life of the mine.

It is also noted that in its submission, NSW Health states (NSW Health, 2016):

> *The EIS for the Wilpinjong Extension Project has been reviewed and the Secretary's Environmental Assessment Requirements have been met.*

Adopted Background $PM_{2.5}$ Concentration

Issue

The Wollar Progress Association raised concern that the adopted $PM_{2.5}$ background concentration used for the assessment of cumulative annual average $PM_{2.5}$ concentrations is not based on data measured in the vicinity of the mine site.

Response

As described in response to a concern raised by the EPA regarding the background $PM_{2.5}$ level adopted for the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Section 2.2 of this document), the Project-only component of predicted $PM_{2.5}$ concentrations at sensitive receptors is very small, and the background assumption could be varied significantly without the Project exceeding the relevant criteria.

Diesel Particulate Emissions

Issue

The Wollar Progress Association raised concern that emissions of particulate matter from mobile equipment and the emissions from idling coal trains to the east of the Village of Wollar have not been considered.

Response

As described in response to a concern raised by the EPA regarding diesel particulate emissions from mobile equipment including haul trucks (Section 2.2 of this document), such emissions have already been included in the dispersion modelling completed for the Project.

Due to the nature of train idling, it is not expected that potential diesel particulate matter from idling trains on Australian Rail Track Corporation (ARTC) rail infrastructure would contribute significantly to 24-hour particulate matter concentrations in the Village of Wollar. It is also noted that the rail siding to the east of the Village of Wollar is not WCPL infrastructure and is controlled by ARTC.

Air Quality Management

Issue

The Wollar Progress Association raised concern that the current management of coal dust from mining and passing coal trains is not protecting community health.

Response

Air quality management and monitoring for the Project would continue to be implemented in accordance with the Air Quality Management Plan (Section 4.4 of the EIS). The air quality criteria within the Air Quality Management Plan are consistent with the criteria within Project Approval 05-0021, which have been developed for the protection of human health (with the exception of criteria for deposited dust, which have been developed for the protection of amenity).

The Air Quality Management Plan describes the real-time monitoring triggers and associated responses to maintain compliance with the criteria, which include employing additional dust mitigation (such as haul road suppression) and shutting down all operations excluding train load out, if required (e.g. under severe weather conditions).

As described in the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015), the potential for any adverse air quality impacts associated with coal dust generated during rail transport would likely be low.

Air Quality Levels

Issue

The Ryde – Hunter's Hill Flora and Fauna Preservation Society raised concern that residents living in the Village of Wollar would be subjected to unacceptable air quality levels that would not be tolerated in Sydney.

Response

As described in Appendix C (background information to the response to the EPA regarding background $PM_{2.5}$ levels), background $PM_{2.5}$ levels are in fact greater in large townships than near smaller towns outside of coal mines, due to the increased anthropogenic emissions such as wood smoke. Notably, the NSW Air Quality Statement 2015 (OEH, 2015a) shows that more than half of the air quality monitors in the Sydney region with a full year of data in 2015 recorded an annual average $PM_{2.5}$ concentration over the standard of 8 µg/m³.

As described in response to a concern raised by NSW Health regarding procedures in place for potential air quality exceedances (Section 2.2 of this document), air quality management and monitoring would continue to be implemented in accordance with the Air Quality Management Plan (Section 4.4 of the EIS).

In addition, the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment concludes that dust levels at all privately-owned receivers would remain within acceptable criteria and that with the application of the existing air quality management strategy, it is anticipated that actual dust levels would be lower than the levels predicted.

Spontaneous Combustion

Issue

The Wollar Progress Association has raised a concern that spontaneous combustion propensity testing is proposed to occur in Pit 8 following approval of the Project.

Response

As the coal seams to be mined are largely contiguous, the spontaneous combustion propensity of coal and partings in Pit 8 is expected to be similar to Pits 3 and 7.

In addition, the spontaneous combustion propensity testing at the Wilpinjong Coal Mine to date has been completed on samples taken from the open cut as the pit advances, and builds on the database of results that WCPL has developed across the coal resource in the Project area.

Greenhouse Gas Emissions

Issue

The Nature Conservation Council of NSW and a number of other NGOs raise concerns that the increased coal production of the Project would increase greenhouse gas emissions by 20 Mtpa of carbon dioxide equivalent (CO_2-e) and would therefore contribute significantly to global warming/climate change.

Response

Greenhouse gas emissions associated with the Project have been estimated by Todoroski Air Sciences (2015) and are presented in the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment.

Annual average Scope 1 emissions for the Project are in fact estimated to be approximately 115,680 tonnes of carbon dioxide equivalent (i.e. 0.1 Mtpa CO_2-e), which is approximately 0.2% of Australia's estimated annual greenhouse gas emissions for the 2013 to 2014 period. These emissions are inclusive of the approved Wilpinjong Coal Mine, and therefore the incremental increase in potential greenhouse gas emissions associated with the Project would be materially less.

The estimated greenhouse gas emissions intensity of the Project (including the approved Wilpinjong Coal Mine) is approximately 0.01 tonnes of carbon dioxide equivalent per tonne of ROM coal (including all Scope 1 and Scope 2 emissions). This makes the Wilpinjong Coal Mine one of the most efficient mining operations in NSW in terms of greenhouse gas emissions intensity.

Existing greenhouse gas abatement measures at the Wilpinjong Coal Mine (such as maximising mining efficiency, maintaining equipment and the select use of solar power) would continue for the Project.

Scope 1 and 2 greenhouse gas emissions from the Wilpinjong Coal Mine would continue to be reported annually in accordance with the National Greenhouse and Energy Reporting System.

It should be noted that Scope 3 emissions are optional for reporting, as the emissions would be reported by another organisation as Scope 1 emissions. As Scope 3 emissions are not controlled by or attributable to WCPL, there is inherent uncertainty associated with quantifying the emissions. For example, the Scope 3 emission estimates assume the Project's product coal would be combusted in an average Australian coal-fired power station, however if the coal was combusted in a more efficient power station, the potential greenhouse gas emissions would be reduced.

3.3 Biodiversity

Adequacy of Biodiversity Assessment

Issue

The Wollar Progress Association raised concerns regarding the adequacy of the biodiversity assessment presented in the EIS.

Response

The BARBOS (Hunter Eco, 2015) was prepared for the Project by Dr Colin Driscoll (an OEH accredited biobank assessor according to section 142B(1)(c) of the NSW *Threatened Species Conservation Act, 1995* (TSC Act) using the FBA (OEH, 2014a). Dr Colin Driscoll has significant experience in biodiversity assessments in NSW and is familiar with the area.

WCPL has consulted with the OEH throughout the preparation of the BARBOS. WCPL has continued to consult with the OEH after submission of the EIS to address technical aspects of the biodiversity credit calculations that are associated with the transitional nature of the Biodiversity Offset Policy (OEH, 2014b).

Adequacy of Biodiversity Offset Strategy

Issue

A number of NGOs suggested that the proposed Project biodiversity offset strategy is inadequate.

Response

The BARBOS (Hunter Eco, 2015) was prepared for the Project by Dr Colin Driscoll (an OEH accredited biobank assessor according to section 142B(1)(c) of the TSC Act). Dr Colin Driscoll has significant experience in biodiversity assessments in NSW and is familiar with the area.

Dr Colin Driscoll applied the FBA (OEH, 2014a) which outlines the methodology which underpins the Biodiversity Offset Policy (OEH, 2014b).

Dr Colin Driscoll concludes that the Project would improve the biodiversity values of the region in the medium to long-term with the implementation of the proposed Biodiversity Offset Strategy. The Project Biodiversity Offset is justified on the basis that the offset areas (Hunter Eco, 2015):

- *are strategically located to adjoin Goulburn River National Park and Munghorn Gap Nature Reserve, with the potential to increase the extent of these existing protected areas;*
- *are freehold land owned by Peabody Energy which can be used as offsets in a timely manner;*
- *contain approximately 47.5 ha of Box-Gum Woodland EEC/CEEC, comprising approximately 21.5 ha of woodland and 26 ha of derived native grassland;*
- *include 206 ha of Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion Vulnerable Ecological Community;*
- *include records of 24 threatened fauna species within the offset areas and many more surrounding the offset areas;*
- *include a large population (6,458 individuals) of Ozothamnus tesselatus;*

- *contain two additional threatened plants which are not proposed to be disturbed by the Project, namely Scant Pomaderris (Pomaderris queenslandica) and Tylophora linearis;*
- *contain the endangered population Cymbidium canaliculatum R. Br. in the Hunter Catchment (despite the endangered population not being impacted by the Project); and*
- *include over 2 km of sandstone escarpment with numerous caves (despite no similar caves being impacted by the Project).*

The ultimate decision as to the adequacy of the Project Biodiversity Offset Strategy and the associated refining of biodiversity offset credits lies with the determining authorities (i.e. NSW Minister for Planning and Federal Minister for the Environment, or their delegates).

It is noted that areas of exotic pasture/cultivation (101.5 ha) occur within the proposed offset lands on the margins of large areas of remnant vegetation. WCPL is considering the feasibility of removing the identified exotic pasture/cultivation from the offset areas through boundary survey based on OEH advice.

Protection of Environmental Conservation Areas

Issue

Hunter Communities Network suggested that the existing ECAs have not been secured.

Response

The existing Wilpinjong Coal Mine ECAs have been secured through a voluntary conservation agreement.

Use of Rehabilitation in Biodiversity Offset Strategy

Issue

The Wollar Progress Association raised concerns regarding the use of rehabilitation in the Project Biodiversity Offset Strategy.

Response

Refer to WCPL's response to OEH regarding the use of rehabilitation in the Project biodiversity offset strategy (Section 2.3 of this document).

Potential Impacts on the Regent Honeyeater

Issue

A number of NGOs raised concerns regarding potential impacts on the Regent Honeyeater.

Response

The Regent Honeyeater has not been recorded within the Project open cut extension and infrastructure areas. The SEARs for the Project requires an offset strategy to maintain or improve the biodiversity values of the region in the medium to long-term and therefore the Project meets the requirements.

The short to medium-term impact on the Regent Honeyeater would be the progressive loss of *potential* habitat (i.e. habitat in which the species has not been recorded). Given the wider area of potential habitat, it is reasonable to conclude that, with the proposed measures to avoid, mitigate and offset, it is appropriate for the impacts to the potential habitat to occur without further modifications to the Project (Hunter Eco, 2015). Of note, the Regent Honeyeater has been recorded within Offset Area 1 (Hunter Eco, 2015).

Potential Cumulative Impacts

Issue

BirdLife Australia raised concerns regarding the cumulative impacts of the approved Wilpinjong Coal Mine, the Project, the Moolarben Coal Complex and the Ulan Mine Complex on biodiversity.

Response

Cumulative impacts have been addressed in Section 3.1.4 of the BARBOS (Hunter Eco, 2015), including the significantly larger areas of offset land that are being secured by the local mines.

Regent Honeyeater Habitat

Issue

BirdLife Australia and the Nature Conservation Council raised concerns regarding the determination of Regent Honeyeater habitat in the BARBOS. (Hunter Eco, 2015)

Response

WCPL is of the opinion that the habitat designations for the Regent Honeyeater that were adopted for the BARBOS (Hunter Eco, 2015) were consistent with available contemporary scientific literature on the Regent Honeyeater.

Notwithstanding, a meeting was held with OEH in April 2016 to discuss which BVTs are suitable as Regent Honeyeater habitat on the Wilpinjong Extension development site and identified offsets. During the meeting, David Geering (OEH) recommended a number of changes to the potential habitat assigned to the Regent Honeyeater.

The changes recommended by OEH are described in Section 2.3 of this document.

Concerns Regarding Insufficient Species Credits for the Regent Honeyeater

Issue

A number of NGOs raised concerns regarding the insufficient species credits for the Regent Honeyeater in the Project biodiversity offset strategy.

Response

Refer to WCPL's responses to OEH's comments regarding the adequacy of the Project biodiversity offset strategy for the Regent Honeyeater (Section 2.3 of this document).

Mudgee-Wollar Important Bird and Biodiversity Area

Issue

BirdLife Australia raised concerns regarding the location of the Project within the Mudgee-Wollar Important Bird and Biodiversity Area (IBA).

Response

The Mudgee-Wollar IBA is approximately 162,656 ha and includes the Goulburn River National Park, Munghorn Gap Nature Reserve and the Greater Blue Mountains World Heritage Site (BirdLife International, 2016).

According to the BirdLife Australia document *IBAs in Danger: The State of Australia's Important Bird and Biodiversity Areas* (Vine and Dutson, 2014), the Regent Honeyeater breeds regularly in the Capertree Valley IBA, and occasionally in four other IBAs, including the Mudgee-Wollar IBA. The combined area of the five IBAs that the Regent Honeyeater breeds in is 661,380 ha.

Based on OEH's recommendations regarding vegetation types representing potential habitat for the Regent Honeyeater, the Project would disturb some 190 ha of potential Regent Honeyeater habitat. This disturbance represents 0.12% of the Mudgee-Wollar IBA and 0.03% of the five IBAs that BirdLife Australia has determined provide breeding habitat for the Regent Honeyeater. It is noted that the Regent Honeyeater is also known to utilise a very wide range of habitats outside of these identified areas in NSW.

The proposed Project offset lands are also located in the Mudgee-Wollar IBA, and would contribute to the extension of the NPWS estate.

Potential Impacts on the Painted Honeyeater and Malleefowl

Issue

BirdLife Australia raised concerns regarding the potential impacts of the Project on the Painted Honeyeater (*Grantiella picta*) and Malleefowl (*Leipoa ocellata*).

Response

The Painted Honeyeater was not listed under the EPBC Act at the time of the controlled action decision (12 March 2015) and therefore the listing is not relevant to the Project (refer section 158A of the EPBC Act).

The Painted Honeyeater and Malleefowl have been treated according to the FBA (OEH, 2014). The Painted Honeyeater and Malleefowl are not species credit species under the FBA (OEH, 2014) but rather ecosystem credit species (i.e. species that can be predicted to be present based on a habitat assessment). Threatened species that are ecosystem credit species and/or species credit species are pre-determined by OEH in the *Credit Calculator and BioNet Threatened Species Profile Database* (OEH, 2015b).

Potential Impacts on Ozothamnus tesselatus

Issue

Nature Conservation Council raised concerns regarding potential impacts on *Ozothamnus tesselatus.*

Response

It is noted that the OEH (in the submission on the Project) confirm that the offset is suitable for *Ozothamnus tesselatus* (i.e. the credit requirement has been met).

Ozothamnus tesselatus is unlikely to be significantly impacted by the Project given (Hunter Eco, 2015):

- *The amount of occupied habitat to be removed is small, in the order of a few hundred square metres divided amongst the three locations in or near the Project open cut and infrastructure extension areas.*
- *There would be no fragmentation. All habitat to be removed is situated at the edge of extensive vegetated areas.*
- *It is clear that the species is plentiful in the immediate region so the loss of habitat associated with the Project would not be critical to the survival of the species.*
- *No critical habitat is present within the BAR Footprint according to any databases or registers.*

The proposed Project offset areas include some 6,458 individuals in comparison to some 589 in the Project disturbance area.

On this basis, further measures to avoid impacts to the *Ozothamnus tesselatus* are not considered warranted.

Potential Impacts on Environmental Conservation Areas

Issue

Mudgee District Environment Group and Central West Environment Council raised concerns regarding the proposed disturbance of 3 ha of ECA-A for the proposed relocation of the TransGrid Wollar to Wellington 330 kV ETL.

Response

Short sections of the proposed relocation of the TransGrid Wollar to Wellington 330 kV ETL would traverse parts of two of the ECAs (i.e. ECA-A and ECA-B). The proposed ETL easements are through predominantly cleared land and the Project would require excision of an area of approximately 3 ha from the existing voluntary conservation agreement.

WCPL is consulting with OEH in relation to amendment of the voluntary conservation agreement, consistent with OEH's submission.

Potential Impacts on Munghorn Gap Nature Reserve

Issue

A number of NGOs raised concerns regarding potential impacts of the Project on Munghorn Gap Nature Reserve.

Response

Refer to WCPL's responses to OEH's comments regarding proximity of mining to Munghorn Gap Nature Reserve (Section 2.3 of this document).

Potential Cumulative Impacts on Endangered Ecological Communities and Threatened Species

Issue

A number of NGOs raised concerns regarding potential cumulative impacts on Endangered Ecological Communities (EECs) and threatened species.

Response

Cumulative impacts have been addressed in Section 3.1.4 of the BARBOS (Hunter Eco, 2015), in the EIS, including the significant areas of offset land that are being secured by the local mines.

The SEARs for the Project require an offset strategy to maintain or improve the biodiversity values of the region in the medium to long-term and therefore the Project meets these requirements.

Potential Impacts to Koalas

Issue

Wollar Progress Association raised concerns regarding potential impacts to Koalas.

Response

It is noted that the OEH (in the submission on the Project) confirm that the offset is suitable for the Koala (i.e. the credit requirement has been met). The OEH states (March 2016):

> *The species credit offset requirements are met for both Ozothamnus tesselatus and Koala with 45,852 and 4,598 credits respectively generated on the offset sites.*

An assessment of potential impacts of the Project on Koala habitat has been undertaken in accordance with *State Environmental Planning Policy 44 – Koala Habitat* and *Protection and the Recovery Plan for the Koala (Phascolarctos cinereus)* (DECC, 2008).

A single incidental sighting of a Koala (outside of the Project open cut and infrastructure extension areas) occurred in 2013 indicating that this species does utilise the local area. However, this species has not been recorded during targeted field surveys from 2005 to 2015 (Hunter Eco, 2015).

Biodiversity Monitoring Services (2013) describes that considering the dearth of sightings in the immediate and surrounding area it is unlikely that a viable population exists in or near Wilpinjong Coal Mine and that the single animal sighted was an individual moving between areas.

3.4 Socio-economics

Net Present Value of the Project

Issue

The Australia Institute raised concerns about the accuracy of the cost benefit analysis component of the Wilpinjong Extension Project Economic Assessment based on the estimated Project net present value (NPV) being larger than Peabody Energy's market value.

Response

The Project NPV reported in Section 5.3 of the Wilpinjong Extension Project Economic Assessment (Deloitte Access Economics [Deloitte], 2015) (i.e. $735 million) reflects the net present economic value of the Project from a societal perspective. The Wilpinjong Extension Project Economic Assessment is not a valuation of Peabody Energy and does not determine Peabody Energy's market value.

Peabody Energy's market value reflects market perceptions of the combined value of its global operations (inclusive of financial arrangements). Peabody Energy has majority interests in 26 coal mines internationally which operate under a range of economic and financial conditions (including nine mines in Australia). In particular, Peabody Energy's market value does not just reflect the value of the Wilpinjong Coal Mine. Further, Peabody Energy's current market value may not fully factor in the value of the Project as the Project has not received relevant environmental approvals. That is, Deloitte's assessment of the Project necessarily assumes that the Project is approved while market participants may differ in their assessments.

Issue

The Australia Institute and some other NGOs raised concerns about Peabody Energy's ability to meet its rehabilitation obligations.

Response

Peabody Energy voluntarily filed petitions under Chapter 11 for the majority of its United States (US) entities in the United States Bankruptcy Court for the Eastern District of Missouri. No Australian entities are included in the Chapter 11 filings, and Peabody Energy plans for its Australian operations to continue as usual. The Australian operations have access to separate funding arrangements enabling it to commit to the Project.

Peabody Energy has made available to its Australian platform a committed US$250 million revolving Intercompany Loan Facility. The Intercompany Loan Facility is designed to provide additional liquidity to support the ongoing operations of the Australian business during Peabody Energy's Chapter 11 reorganisation, with draw amounts being tied to operating budgets and subject to certain availability restrictions.

As such, the circumstances surrounding the Chapter 11 bankruptcy protection sought by Peabody Energy Corporation and related US entities will not impact WCPL's ability to meet its financial obligations.

Notwithstanding the above, The Australia Institute and others are misunderstanding the nature of the regulation of NSW mines.

WCPL has lodged a rehabilitation security deposit for the Wilpinjong Coal Mine with the NSW Government in accordance with the requirements of the NSW *Mining Act, 1992* (Mining Act). The rehabilitation security deposit is based on a rehabilitation cost estimate prepared in accordance with the *Rehabilitation cost estimate guidelines* (Department of Industry and Investment, 2012). The rehabilitation security deposit is in the form of a bank guarantee that would remain in place regardless of the financial status of Peabody Energy.

WCPL would continue to maintain a rehabilitation security deposit for the Project with the NSW Government.

Operating Costs

Issue

The Australia Institute raised concerns that the operating costs adopted in the benefit cost analysis component of the Wilpinjong Extension Project Economic Assessment are low based on a comparison of the Project's operating costs with a free-onboard thermal coal (energy adjusted basis) cost curve (Figure 4 of The Australia Institute's submission).

Response

Figure 4 of The Australia Institute's submission presents a free-onboard thermal coal cost curve on an energy adjusted basis. To compare the Project's per tonne operational costs to this cost curve (i.e. energy adjusted), the Project's operational costs need to be increased to account for the product coal energy content. The Australia Institute's conclusions regarding the Project's operational costs (unadjusted for energy content) relative to an energy adjusted cost curve are therefore invalid.

As described in Section 5.2.5 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) in the EIS, the operational cost estimates adopted for the Economic Assessment were derived with reference to:

- mining costs based on econometric modelling (Shafiee, Nehring and Topal, 2009) for open cut coal mines;
- CHPP costs ($5/tonne for washed coal and $1/tonne for bypass coal);
- overhead costs ($5/tonne); and
- distribution and selling costs ($12/tonne).

The CHPP, overhead and the distribution and selling costs were estimated by Deloitte (2015) based on experience with other projects and guidance from WCPL.

As described in Section 5.2.5 of the Wilpinjong Extension Project Economic Assessment, the Wilpinjong Coal Mine is at the low end of the industry range for operating costs, particularly due to the low strip ratio associated with the operations (Deloitte, 2015).

It is also noted that WCPL does not incur distribution and selling costs for domestic product coal under existing supply contracts which reduces overall costs compared to other coal mining operations.

WCPL considers that the operational costs adopted in the Wilpinjong Extension Project Economic Assessment are in fact conservative and the value of the Project is not overstated.

Notwithstanding the above, sensitivity analysis was also undertaken on the operational costs and the Project NPV remained positive (refer to Section 5.4 of the Wilpinjong Extension Project Economic Assessment [Deloitte, 2015]).

Export Coal Prices

Issue

The Australia Institute raised concerns that the export thermal coal prices adopted in the benefit cost analysis component of the Wilpinjong Extension Project Economic Assessment are elevated compared to current prices and the long-term forecast of one broker.

Response

As described in Section 5.2.1 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015), the export coal prices adopted for the Economic Assessment were derived from the independent consensus forecast for thermal coal spot prices and exchange rate forecasts reported by the Department of Industry and Science. Discounts were then applied to the consensus thermal coal spot price forecasts to take into account differences in the quality of the Project export product coal, relative to the standard thermal coal exports from the Port of Newcastle.

As noted in the Section 5.2.1 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015), forecasting coal prices over the long-term is difficult and therefore a sensitivity analysis was undertaken for export coal prices and the Project NPV remained positive (refer to Section 5.4 of the Economic Assessment).

Deloitte's (2015) sensitivity ranges for the export coal prices (+30% and -15%) cover 67% of the range of historical monthly thermal coal prices over the period from January 1995 to September 2015. The lowest price in the lower sensitivity scenario (-15%) is placed at the 16th percentile of historical thermal coal prices and the maximum price in the upper sensitivity scenario (+30%) is placed around the 84th percentile of historical thermal coal prices.

It should be noted that this lower sensitivity scenario represents an extreme case whereby prices remain at historically low levels throughout the 19 year life of the Project, fluctuating between the 16th and 31st percentiles of historical export coal prices. This scenario also assumed that WCPL is fully exposed to the spot market rather than longer-term contracts – another conservative assumption.

Given the above, WCPL considers that the export coal prices adopted in the Wilpinjong Extension Project Economic Assessment are realistic and the value of the Project is not overstated.

Domestic Coal Prices

Issue

The Australia Institute raised concerns that the domestic coal prices adopted in the benefit cost analysis component of the Wilpinjong Extension Project Economic Assessment do not reflect market prices.

Response

WCPL supplies product coal to AGL Macquarie under existing contractual arrangements. The Project would not change the amount of product coal supplied to the AGL Macquarie and therefore is irrelevant to the calculation of the Project incremental NPV, as is acknowledged by The Australia Institute.

Rehabilitation Costs

Issue

The Australia Institute raised concerns that the estimated rehabilitation costs adopted in the benefit cost analysis are less than the current Wilpinjong Coal Mine rehabilitation security deposit.

Response

WCPL has lodged a rehabilitation security deposit for the Wilpinjong Coal Mine with the NSW Government in accordance with the requirements of the Mining Act. The existing rehabilitation security deposit is based on a rehabilitation cost estimate prepared in accordance with the *Rehabilitation cost estimate guidelines* (Department of Industry and Investment, 2012) for the current MOP period. Section 2.7 of the *Rehabilitation cost estimate guidelines* (Department of Industry and Investment, 2012) set out the following basis for calculation of the rehabilitation security deposit:

- costs to engage a contractor to rehabilitate (including decommissioning) the site;
- mobilisation costs;
- project management costs;
- monitoring costs; and
- contingency.

The Wilpinjong Extension Project Economic Assessment includes rehabilitation, decommissioning and monitoring costs over the life of the mine of approximately $71 million for the base case and approximately $79 million for the Project case (Sections 5.2.6 and 5.2.7 of the Wilpinjong Extension Project Economic Assessment [Deloitte, 2015]).

WCPL considers that the rehabilitation, decommissioning and monitoring costs adopted in the Wilpinjong Extension Project Economic Assessment to be reasonable.

Decommissioning Costs

Issue

The Australia Institute and some other NGOs raise concerns that the cost benefit analysis component of the Wilpinjong Extension Project Economic Assessment includes the delay to rehabilitation and decommissioning costs as a benefit while not considering the costs associated with the delay to rehabilitation and decommissioning.

Response

Delayed rehabilitation and decommissioning costs are a benefit in the cost benefit analysis in the Wilpinjong Extension Project Economic Assessment.

The related costs associated with the delayed rehabilitation and decommissioning were also appropriately included in the cost benefit analysis in the Wilpinjong Extension Project Economic Assessment (i.e. the use or non-use values and other externalities have been considered). These costs include foregone onsite and offsite agricultural production; foregone residual value of land; and externalities associated with the extension of mining operations due to the Project (e.g. air quality and noise impacts).

Project Workforce

Issue

The Australia Institute and some other NGOs raised concerns that the projected Project workforce shown on Chart 4.1 of the Wilpinjong Extension Project Economic Assessment is larger than the current workforce and therefore the projected Project workforce is overstated.

Response

Chart 4.1 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) does not show the current Wilpinjong Coal Mine workforce size as is suggested by The Australia Institute. Chart 4.1 shows the expected Project workforce for the period 2017 to 2033. If The Australia Institute and others were to review the history of the Wilpinjong Coal Mine, they would be aware that the approved Wilpinjong Coal Mine workforce has progressively increased from less than 200 personnel to greater than 500 personnel since operations commenced in 2006.

As of April 2016, the Wilpinjong Coal Mine workforce (approximately 530) is at approximately 96% of the expected maximum workforce for the approved mine (i.e. 550 personnel) and the Project workforce adopted in the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) is based on manning required for projected mobile equipment requirements.

Wage Premium

Issue

The Australia Institute raised concerns that the employee (or wage) benefits adopted in the regional benefit cost analysis component of the Wilpinjong Extension Project Economic Assessment are inconsistent with the *Guidelines for economic assessment of mining and coal seam gas proposals* (NSW Government, 2015).

Response

The current *Guidelines for economic assessment of mining and coal seam gas proposals* (NSW Government, 2015) (the Economic Guideline) were released on 24 December 2015 (i.e. after the Wilpinjong Extension Project Economic Assessment was prepared) and are not referenced in the SEARs. While the Economic Guidelines do state that "an appropriate starting assumption should be that workers do not receive a wage premium...", the Economic Guidelines go on to state that "Although the zero wage premium is a useful starting assumption, the appropriateness of this assumption must be assessed on a case by case basis."

As described in Section 6 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015), it was assumed that the Project workforce could earn the average level of income in the Mid-Western Regional Local Government Area (LGA) if they were not employed at the Project. This approach results in the Project workforce receiving a wage premium (or employee benefits) equal to the difference between the average mining wage and the average level of income in the Mid-Western Regional LGA. This approach to valuing the employment benefits from the Project is considered appropriate for the following reasons:

- as the coal mining industry has contracted resulting in fewer mining employment opportunities, the likelihood of the entire Project workforce obtaining alternative employment in the mining industry is low; and
- some of the Project workforce may not leave the Mid-Western Regional LGA and may be unemployed for some period due to the relatively high unemployment rate in the Mid-Western Regional LGA (8.5%) (Commonwealth Department of Employment, 2016) compared to the NSW unemployment rate (5.2%) (Australian Bureau of Statistics, 2016).

It is also noted that Section 4 of the Economic Guidelines, which covers local effects analysis, recommend the same approach adopted in the Wilpinjong Extension Project Economic Assessment for estimating employment benefits "The recommended indicator of the net increase in income is the difference between incomes in the mining industry in the local area compared to the average level of income in the area".

In addition, the Economic Guideline states that workers are more likely to realise employment benefits if they develop new skills as a result of working on a project as they become more employable in the long-term. As WCPL provides training programmes (e.g. apprenticeships) for its workforce, the Project workforce would therefore be more likely to receive employment benefits. Therefore assuming zero employee benefits for the Project is not appropriate.

Given the above, WCPL considers that the employment benefits reported in the Wilpinjong Extension Project Economic Assessment are not speculative and are reasonable.

Social Impact Assessment Interviews and Survey

Issue

The Wollar Progress Association has raised concerns regarding the interview and survey process for the Wilpinjong Extension Project Social Impact Assessment.

Response

Fifteen Social Impact Assessment interviews were held during February and March 2015, including eleven interviews with existing residents of the Village of Wollar and the surrounding area (Mogo Road and Barigan Road), and four interviews with former residents. All former residents that were interviewed still maintained business or farming interests around the Village of Wollar (Elliott Whiteing, 2015).

Interviews were structured to discuss (Elliott Whiteing, 2015):

- what the Village of Wollar was like in previous decades;
- social changes over time before the Wilpinjong Coal Mine commenced;
- social changes since the Wilpinjong Coal Mine commenced; and
- the current Project context, including scoping of impacts and opportunities.

A WCPL employee attended each meeting to provide an overview of the Project and draft outcomes of key environmental studies (i.e. noise and air). The interviewees were given the opportunity to refuse the attendance of the WCPL employee, or could opt to have the WCPL employee leave after describing the Project or remain to answer questions.

A survey was conducted with Wilpinjong Coal Mine employees to identify how they interact with the local social environment, including (Elliott Whiteing, 2015):

- residential location and housing arrangements;
- local and regional expenditure; and
- contribution to social networks and social resources.

A full description of all potential impacts of the Project is provided in the EIS, which was made available to the public once it had been accepted by the NSW Government. The public exhibition process is an appropriate mechanism for the community to comment further on the Project, once all the potential impacts and corresponding Project mitigation measures are available to the community.

Rural Fire Service

Issue

The Wollar Progress Association and National Parks Association of NSW raised concerns regarding the loss of volunteers in the RFS.

Response

WCPL actively encourages staff to volunteer with the RFS and has worked with the RFS to address concerns about volunteer numbers in the local area. In additional WCPL supports the RFS through financial contributions for purchase of fire fighting equipment.

WCPL also maintains its own fire truck and suitably RFS trained staff to assist in primary response or support in the event of a bushfire emergency.

Wollar General Store

Issue

The Wollar Progress Association raised concerns regarding the possible closure of the Wollar General Store interfering with postal deliveries.

Response

Consistent with the recommendation in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015), WCPL would engage with Australia Post, to investigate potential alternatives to the current mail service system if the current lessee discontinues operation of the Wollar General Store. WCPL would continue to liaise with the local community on this issue through updates to the Community Consultative Committee.

Wollar Public School

Issue

Wollar Progress Association raised concerns regarding the possible closure of Wollar Public School.

Response

The sustainability of small primary schools in the region and elsewhere in NSW has been identified as an issue under consideration by the NSW Department of Education, particularly with respect to declining enrolment numbers, limited resource capacity, access and transport needs. The Bylong Public School has recently been placed into recess by the Department of Education and Communities and the Wollar Public School is under review by the Department of Education due to low enrolment numbers. Irrespective of the Project, it is anticipated that further rationalisation of small schools may occur in the region.

WCPL would continue to consult with the Department of Education regarding its review of the Wollar Public School.

It is also noted that Peabody Energy also has a record of supporting events and improvements to facilities at the Wollar Public School, and a number of the students at the school reside in Peabody Energy-owned housing.

Peabody Purchasing Strategy

Issue

A number of NGOs raised concerns regarding the existing social impacts associated with land purchases by Peabody Energy, including purchases to minimise noise management costs.

Response

To date, the obligation to meet the noise criteria specified in Project Approval 05-0021 for privately-owned receivers has been achieved by WCPL through a combination of the following:

- Property acquisition, which has reduced the number of privately-owned receivers that could potentially be affected by noise impacts from the mine.
- For the remaining privately-owned receivers, the implementation of the Wilpinjong Coal Mine noise management strategy as per the Noise Management Plan, which includes the use of real-time noise monitoring to manage noise levels.

The DP&E's support for Peabody Energy's proactive property strategy was articulated in the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b).

Peabody Energy also rents habitable residences it owns to general members of the community and mine employees and this has to some extent reduced potential population decline. Some mine employees who reside in the Village of Wollar have become active financial members of the Wollar Progress Association, attend community events held at the Wollar General Store, or are active RFS volunteers. It is also noted that Peabody Energy also has a record of supporting events and improvements to facilities at the Wollar Public School, and a number of the students at the school reside in Peabody Energy-owned housing.

The Wilpinjong Extension Project Social Impact Assessment (Elliot Whiteing, 2015) considers the pre-existing social environment incorporating the approved Wilpinjong Coal Mine and other mines in the region and assesses the potential impacts of the Project relative to this pre-existing environment.

Ongoing Cumulative Social Impacts

Issue

A number of NGOs raised concerns regarding the existing cumulative social impacts of the Wilpinjong Coal Mine and regional mines on the Villages of Ulan, Wollar and Bylong.

Response

Elliott Whiteing (2015) has described the potential impacts of the Project on local and regional communities and centres.

The potential cumulative impacts of the Project and other proposed, approved or recently commenced resource projects within the Mid-Western Regional LGA have also been considered in the Social Impact Assessment (Elliott Whiteing, 2015).

Resource Availability

Issue

The Wollar Progress Association raised a concern that the Project may be based on an incorrect assessment of resource availability and quality.

Response

The Project would involve the production of up to approximately 16 Mtpa of ROM coal and approximately 95 Mt of additional ROM coal extracted over the life of the Project in comparison to the approved Wilpinjong Coal Mine. The DRE's submission on the EIS states (8 March 2016):

> *The Division is of the opinion that the Proponent is genuine in its push to have the Project approved in order to maintain production at around current levels from its existing mine, and also to prolong the life of the mine for a further seven years until 2033.*
>
> *The Proponent has completed resource estimation for the Project in accordance with the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves 2012 "the JORC Code". The Division has verified that the Project will mine approximately 95 million tonnes (Mt) of ROM coal (excluding dilution) yielding approximately 65 Mt of product coal.*

Export Market

Issue

A concern was raised by the Wollar Progress Association and a number of other NGOs that the Project would not provide domestic coal, and there may not be a continuing export market for high ash thermal coal.

Response

The Project would result in the production of thermal coal products for electricity generation.

The International Energy Agency (2015) predicts that global demand for energy is expected to increase by approximately one-third by 2040 and coal is projected to account for 10% of this increase in global energy demand.

Demand for coal is expected to increase in Asia and it is projected to account for 80% of global coal demand by 2040 (International Energy Agency, 2015). Australia is geographically well placed to supply this projected increasing demand for thermal coal.

Consequently, it is considered that the Project is needed given increasing demand for energy and anticipated continued use of coal as part of the range of energy sources needed to meet global energy demands.

3.5 Water Resources

Potential Impacts of Final Voids on Water Resources

Issue

A number of NGOs raised concerns about the potential impacts of Project final voids on downstream water resources.

Response

The Pit 2 and Pit 6 final void lakes would remain as permanent and localised groundwater sinks. The Pit 8 final void would frequently be dry, with the possibility of it acting as a flow-through system, mainly transmitting incident rainfall and runoff (HydroSimulations, 2015).

WRM Water & Environment (2015) have simulated the long-term behaviour of the final voids. Groundwater inflows and outflows were modelled using storage level versus flow relationships developed from the groundwater model by HydroSimulations (2015).

Final void water levels in Pit 2 and Pit 6 are expected to reach an equilibrium within approximately 100 years. The maximum void water levels are also expected to be well below the crest of the void and hence would not spill to the environment (WRM Water and Environment, 2015).

The simulated water level in the Pit 8 final void reaches a maximum of approximately 2 m, which is 33 m below the crest of the void. The void would regularly be dry and would not spill to the environment (WRM Water and Environment, 2015).

HydroSimulations (2015) conclude there would be no discernible deterioration in groundwater quality in the porous rock or alluvial groundwater systems as a result of mining, including in the long-term.

Groundwater Supply

Issue

The Wollar Progress Association raised concerns regarding potential impacts on the Wollar Public School bore and bores on Peabody Energy-owned property in the Village of Wollar.

Response

No groundwater drawdown exceeding the AIP minimal impact consideration of 2 m at a sub-surface water supply construction such as a bore or well is predicted to occur on any privately-owned land (HydroSimulations, 2015).

Drawdown exceeding the AIP minimal impact consideration of 2 m is predicted at one bore in the porous rock aquifer located on Crown land at the Wollar Public School (HydroSimulations, 2015). The Wollar Public School bore is screened in the Shoalhaven Group, which is relatively low-yielding. The bore is 60 m deep, with approximately 40 to 50 m of available drawdown. The maximum predicted drawdown is 6 m, meaning that the bore is unlikely to go dry as a result of the Project (HydroSimulations, 2015).

Consistent with the requirements of the AIP, WCPL would continue to implement appropriate contingency measures for Project related drawdown greater than 2 m at any relevant private or public groundwater bores, including the Wollar Public School bore (Section 4.7.3 of the EIS), in accordance with the Surface and Ground Water Response Plan (WCPL, 2014).

WCPL consulted with Wollar Public School on 27 April 2016. Wollar Public School confirmed that they are satisfied with the proposed make good provisions for the predicted drawdown.

Peabody Energy maintains suitable rainwater collection infrastructure at occupied dwellings in the Village of Wollar and surrounds that are leased to third parties.

Existing Degradation of Wilpinjong Creek

Issue

Mudgee District Environment Group and Bylong Valley Protection Alliance raised concerns regarding the poor condition of Wilpinjong Creek in the vicinity of Peabody Energy-owned land.

Response

The poor condition of Wilpinjong Creek predates the Wilpinjong Coal Mine as described in the original Wilpinjong Coal Project EIS, which describes the state of Wilpinjong Creek prior to mining as follows (WCPL, 2005):

> *Well incised channel (3-4 m deep). Varies significantly including dry areas, semi-permanent soaks, pool and riffle sequences and swampy areas with extensive areas of reed growth along the creek bed. Severely impacted by grazing of livestock and kangaroos. Vegetation on the banks and overbank areas is predominantly grass with occasional trees and little riparian vegetation.*

Additionally, the Groundwater Assessment (HydroSimulations, 2015) relied on comments by the OEH:

> *The Hunter River Water Quality Objectives (OEH, 2006) notes that the surface water quality in the area of "uncontrolled streams" that includes the WEP is "often inadequate to support most of the desired environmental values, particularly for healthy aquatic ecosystems, for swimming and drinking, and for irrigation of moderately salt-tolerant crops." Included in this is the "high background salinity levels of… Wollar" Creek, which is on the down-gradient side of the WEP.*

Due to the factors described above, the *Wilpinjong Coal Project Aquatic Ecosystem Assessment* (Bio-Analysis, 2005) determined that approximately 50% of Wilpinjong Creek was in poor condition, with low diversity and low abundance of riparian vegetation and large infestations of weeds such as blackberries.

This is also consistent with the outcomes of the Wilpinjong Extension Project Aquatic Ecology Assessment prepared for the Project, which states (Bio-Analysis, 2015):

> *This section of the creek was given a poor rating for aquatic habitat because water visibility was poor, the riparian vegetation consisted of several species of weed, the assemblage of fish was numerically dominated by alien species (European Carp [Cyprinus carpio] and Mosquito fish) and there was evidence of erosion, streambank degradation and sedimentation in several places.*

It is noted that in the vicinity of Wilpinjong Coal Mine the length of Wilpinjong Creek within ECA-B has been fenced off and is now protected under a voluntary conservation agreement. The weed management and regeneration works undertaken in the ECAs are described in the Biodiversity Management Plan (WCPL, 2015).

Potential Impacts on Springs and Alluvial Groundwater

Issue

Mudgee District Environment Group raised concerns regarding the modelling of impacts on Triassic springs in the Munghorn Gap Nature Reserve and Goulburn River National Park and the modelling of impacts on alluvial aquifers connected to Wilpinjong Creek.

Response

Groundwater modelling completed for the Project indicates there would be no discernible effect on any perched groundwater or springs in the Goulburn River National Park or Munghorn Gap Nature Reserve (i.e. in the Triassic Wollar Sandstone/Narrabeen Group) (HydroSimulations, 2015).

Potential drawdowns in the alluvium and baseflow effects have been considered in the Groundwater Assessment for the Project (HydroSimulations, 2015), which concludes:

- Minimal drawdown (approximately 1 m) in the aquifers of the shallow alluvial groundwater system along Wilpinjong Creek. Predicted drawdowns in the more distant alluvial aquifers associated with Wollar Creek are predicted to be lower.
- Loss of groundwater discharge (or baseflow capture) to surface stream systems is predicted to be minimal on Wilpinjong Creek and negligible for Wollar Creek.
- Minimal loss of groundwater discharge (or baseflow capture) to Cumbo Creek, which is approved to be relocated as part of the existing/approved WCM.

Mobilisation of Salt and Heavy Metals from Backfilled Areas

Issue

Mudgee District Environment Group raised concerns regarding mobilisation of salts and heavy metals from backfilled areas.

Response

HydroSimulations (2015) reviewed the existing groundwater monitoring results and the Geochemistry Assessment (GEM, 2015) and concluded that, with the implementation of the management measures recommended by GEM (2015) as well as the existing management measures undertaken at the approved Wilpinjong Coal Mine, there would be negligible impacts to groundwater quality (either directly or via final pit voids) as a result of potentially acid forming material.

The Groundwater Assessment concludes that there would be no discernible deterioration in groundwater quality in the alluvial or porous rock groundwater systems as a result of mining, including in the long-term (HydroSimulations, 2015).

It is also noted that the DRE submission on the Project states the following:

> *In general other risks such as geochemical constraints, spontaneous combustion hazards, tailings management etc. have been well defined in the EIS and it is considered that they can be effectively managed by conventional mining and rehabilitation techniques as regulated by the Division under the mining lease.*

Potential Cumulative Impacts in the Goulburn River Catchment

Issue

A number of NGOs raised concerns regarding the Project's contribution to potential cumulative impacts in the Goulburn River Catchment.

Response

Refer to response to government agency comments regarding potential cumulative impacts to surface water flow regimes and Wilpinjong Creek salinity and the supplementary report provided in Appendix D.

In addition to the water management measures undertaken by WCPL, WCPL has also implemented a Willow (weed) control program on sections of the Goulburn River within Peabody Energy ownership as part of a joint environmental improvement project with OEH (National Parks and Wildlife Service) in the adjoining Goulburn River National Park.

Water Licensing

Issue

Hunter Environment Lobby acknowledges that WCPL holds sufficient groundwater licences under the *Water Act, 1912* but suggests it would be prudent to wait for the gazettal of the *Draft Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources* to assess the use and availability of groundwater associated in the vicinity of the Project.

Response

DPI Water (18 March 2016) reviewed the licensing requirements for the Project and states the following:

> *… the proponent holds sufficient entitlement from both the alluvial and porous rock aquifers to offset the predicted modelled peak groundwater take…*

DPI Water (18 March 2016) also recognises the *Draft Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources* but does not require that it is gazetted prior to assessing the Project.

Water Impacts will be Greater than Predicted

Issue

Running Stream Water Users Association raised concerns regarding the accuracy of the predictions based on perceived ongoing impacts to groundwater and surface water.

Response

The Wilpinjong Coal Mine is obligated to operate in accordance with the groundwater and surface water management conditions specified in Project Approval 05-0021 and EPL 12425. Details regarding the ongoing environmental performance of the Wilpinjong Coal Mine are available in the Annual Reviews, which are available on Peabody Energy's website.

The ongoing impacts on groundwater and surface water systems associated with the approved Wilpinjong Coal Mine are consistent with the previously predicted impact, as summarised below:

- There were no complaints received in relation to surface water or groundwater impacts in 2014, 2015 or January to February 2016.
- No mining effects have been observed in any hard rock or alluvial monitoring bores in the Village of Wollar (HydroSimulations, 2015).
- A general trend for mining-related drawdown is apparent in coal seam hydrographs, typically within a few hundred metres of active mine areas, but drawdown is much less apparent, if apparent at all, in alluvial bore hydrographs (HydroSimulations, 2015).
- On the basis of the available data, there does not appear to be any discernible change in Wilpinjong Creek, Cumbo Creek or Wollar Creek pH, electrical conductivity (EC) and sulphate concentrations since the commencement of mining (Gilbert and Associates, 2013).
- The recently perceived increase in salinity along Wilpinjong Creek is within the range observed by previous monitoring and there is no evidence to suggest it is mining related (Appendix D).

The Wilpinjong Extension Project Groundwater Assessment was peer reviewed by Kalf and Associates (Dr Frans Kalf) who concluded that the hydrogeological description, conceptualisation, model design, simulations and reporting had been conducted in a professional manner.

The Wilpinjong Extension Project Surface Water Assessment was peer reviewed by Emeritus Professor Thomas McMahon (Emeritus Professor of the Department of Civil and Environmental Engineering at The University of Melbourne) who concluded that the assessment was completed in a professional and detailed manner.

The Peer Review reports are presented in Attachment 4 of the EIS.

Given the above, the Surface Water and Groundwater Assessments presented in the EIS are considered to provide an accurate representation of the potential impacts of the Project on groundwater and surface water systems.

The existing Surface and Groundwater Response Plan, which is included in the Water Management Plan for the Wilpinjong Coal Mine, would be reviewed and revised for the Project subject to the conditions of any Development Consent for the Project.

The Surface and Groundwater Response Plan would describe any additional measures and procedures that would be implemented over the life of the Project to respond to any potential exceedances of surface water related criteria and contingent mitigation, compensation, and/or offset options if downstream surface water users (of which there are none on Wilpinjong Creek, Cumbo Creek or Wollar Creek downstream of the Wilpinjong Coal Mine) or riparian vegetation are adversely affected by the Project.

Consistent with the requirements of the AIP, WCPL would continue to implement appropriate contingency measures for Project related drawdown greater than 2 m at any relevant private or public groundwater bores.

3.6 Rehabilitation and Final Landform

Final Void Justification

Issue

The Wollar Progress Association and some other NGOs raised concerns regarding the justification for the Project final voids.

Response

Final voids are generally left at the conclusion of open cut mining with the size of these voids dictated by the depth of the open cut, the mining sequence and the extent to which economic backfilling can be incorporated into the mine plan.

At the cessation of the approved Wilpinjong Coal Mine two final voids will remain in Pits 3 and 6. As a component of the Project, these approved final voids would be backfilled as part of waste rock emplacement during the advance of the mine into the Project open cut extension areas.

The Project would involve mining in eight open cut areas, and WCPL has evaluated a number of alternatives with respect to the number and size of final voids left at the cessation of operations. The evaluation determined that final voids would remain in the southern end of Pit 8, the north-west corner of Pit 6, and in Pit 2 (Pit 2 West Dam) (Section 5.3.12 of the EIS). Potential final voids located at the southern end of Pit 5 (east and west arms) were rejected on the basis of proximity to the Munghorn Gap Nature Reserve.

WCPL has considered the option of altering material handling to achieve only two final voids at the Wilpinjong Coal Mine (i.e. backfilling the Pit 8 final void). However, investigations by WCPL suggest this would add significantly to operating costs (i.e. >$15 million). In addition, altering Project material handling to avoid the requirement for the relatively modest Pit 8 final void would result in:

- delay to progressive rehabilitation, or disturbance of previously rehabilitated landforms (i.e. a significant volume of waste rock would need to be stockpiled for an extended period and then rehandled); and
- would require the long-term stockpiling and subsequent rehandling of waste rock that would include a proportion of material that has some propensity for spontaneous combustion.

WCPL also considered the void's more elevated location in the south of Pit 8 (Figure 5-3 of the EIS) which suggests it would have relatively limited environmental implications (e.g. it would frequently be dry and is not expected to form a long-term groundwater sink [Section 4.7.2 of the EIS] and a visual bund would screen potential views from Wollar Road [Section 4.15.3 of the EIS]).

Due to the low strip ratios at the Wilpinjong Coal mine, the final landform is very similar to pre-existing landforms (Figure 4). The final voids would also be relatively modest in size and depth (Figures 2, 4, 7 and 10). The scale of these features being modest in comparison to other mine sites is predominantly due to the shallow nature of the coal seams. This creates a smaller working footprint for the mining operation enabling the rehabilitated final surface to be kept close behind the final void.

Further detail regarding the justification for the Project final voids is provided in responses to similar concerns raised by the DRE in Section 2.6 of this document.

Rehabilitation Plan

Issue

The Wollar Progress Association raised a concern regarding the level of detail provided in the Project rehabilitation strategy, particularly where the rehabilitation would be used as part of the biodiversity offset package.

Response

Approximately 1,550 ha of woodland vegetation would be re-established as a component of the revegetation program (inclusive of Wilpinjong Coal Mine and the Project) (Section 5.3.3 of the EIS). The native species to be planted in revegetation areas would be selected on a site by site basis depending on nearby remnant vegetation associations, soil types, aspect and site conditions. The species selected would include the establishment of vegetation communities characteristic of habitat for the Regent Honeyeater in Project woodland rehabilitation areas.

The target vegetation communities (including a list of suitable native plant species) to be used in the revegetation of Project open cut extension disturbance areas and the proposed location of these target vegetation communities would be documented in the MOP. The MOP would be consistent with Project Biodiversity Offset Strategy and Biodiversity Management Plan.

The OEH submission on the Project (March 2016) suggests this should include:

> *A Biodiversity Offset Management Plan be prepared that clearly addresses all points within the FBA relating to the use of mine rehabilitation in the generation of species credits for the Regent Honeyeater. This must include a clear set of completion, performance and monitoring criteria be prepared that will identify whether the rehabilitation is strongly trending towards Regent Honeyeater habitat and clear provisions should monitoring demonstrate that the rehabilitation work is not trending towards Regent Honeyeater habitat.*

WCPL concurs with this approach, but is of the opinion that this detailed material would most suitably be included in the MOP, rather than a Biodiversity Offset Management Plan.

3.7 Aboriginal Cultural Heritage

Cultural Significance

Issue

A number of NGOs raised concerns regarding the difference between archaeological significance and cultural significance, and in particular, concerns regarding the cultural significance of some Aboriginal heritage sites located in Slate Gully.

Response

The significance assessment presented in the ACHA (South East Archaeology, 2015) has been undertaken in accordance with the Burra Charter (Australia International Council on Monuments and Sites, 2013) and the OEH policy *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011) and includes consideration of scientific, cultural, educational, historic and aesthetic values.

As described in Section 7 of the ACHA (South East Archaeology, 2015), the assessment of scientific significance includes a consideration of the research potential, representativeness, integrity and nature of the site, while Aboriginal (cultural) significance refers to the value placed upon Aboriginal heritage evidence by the local Aboriginal community (South East Archaeology, 2015).

South East Archaeology (2015) acknowledges that all Aboriginal heritage sites and objects (including those in the Project area and surrounds) are considered to be culturally significant to the local Aboriginal community. All heritage evidence tends to have some contemporary significance to Aboriginal people, because it represents an important tangible link to their past and to the landscape.

Sites WCP578 (rock shelter with artefacts and art) and WCP579 (rock shelter with artefacts and ochre quarry) have been further assessed by South East Archaeology (2015) as being of high archaeological significance within a local context. Management and mitigation measures for these sites have been recommended in recognition of their archaeological significance (South East Archaeology, 2015).

With regard to the rock formation on the valley floor of Slate Gully (including sites WCP578, WCP579, WCP580, WCP594 and WCP577), it is noted in Section 7.2 of the ACHA (South East Archaeology, 2015) that the area has been identified of being of high cultural significance by the Registered Aboriginal Parties.

Discussion on the potential cumulative impacts of the Project on Aboriginal heritage (including a consideration of the regional context of the identified Aboriginal heritage) is provided in the responses below.

Recording of Aboriginal Heritage Sites by Kayandel Archaeological Services

Issue

The Mudgee Local Aboriginal Land Council and Murong Gialinga Aboriginal and Torres Strait Islander Corporation have raised concerns that some Aboriginal heritage sites previously recorded by Kayandel Archaeological Services have not been registered on the Aboriginal Heritage Information Management System (AHIMS) database, and therefore there is a knowledge gap in relation to the heritage potential of the Project area.

Response

A number of sites recorded during assessments, surveys and salvage undertaken at the Wilpinjong Coal Mine by Kayandel Archaeological Services are yet to be listed on the OEH AHIMS register. However, as described in Section 3.1 of the ACHA, South East Archaeology (2015) prepared a revised Aboriginal Site Database for WCPL, based on information currently known from various sources (including the OEH AHIMS register, Navin Officer reports and site records, and data provided by Kayandel Archaeological Services).

Notwithstanding, on 9 March 2015, WCPL provided additional correspondence to Kayandel Archaeological Services requesting that outstanding site cards are lodged with OEH and that copies also be provided to WCPL.

Independent Rock Art Specialists

Issue

The Mudgee Local Aboriginal Land Council and Murong Gialinga Aboriginal and Torres Strait Islander Corporation have suggested that an independent rock art specialist should be engaged to assess art-based Aboriginal heritage sites that would be potentially impacted by the Project, including Castle Rock.

Response

As described in Section 4.10.3 of the EIS, prior to any disturbance at sites WCP578 and WCP579 (associated with the rock formation on the valley floor of Slate Gully), WCPL would undertake a program of further investigation. This investigation would include salvage excavation of deposits, surface collection of identified artefact evidence, detailed recording of the ochre quarry evidence and rock art (including by photography and accurate surveying, such as laser scanning) and where feasible, removal of samples for further analysis (e.g. chemical analysis and dating) (South East Archaeology, 2015).

As described in Section 10.2.2 of the ACHA (South East Archaeology, 2015), the above investigation and recording would be undertaken by appropriately qualified and experienced archaeologists with a minimum BA (Honours) degree in Aboriginal archaeology, 10 years fulltime experience in Aboriginal archaeology and three months prior experience on Aboriginal rock shelter excavations for the lead archaeologist, and BA (Honours) degree in Aboriginal archaeology, 2 years fulltime experience and one month prior experience on Aboriginal rock shelter excavations in Aboriginal archaeology for assistant archaeologists.

The potential indirect impacts associated with the Project (e.g. associated with blasting activities and/or dust) are discussed in Section 9.2 of the ACHA, including consideration of site WCP72 (also known as 'Castle Rock'). The impacts of vibration and/or dust on site WCP72 are considered unlikely to be materially affected by the Project (South East Archaeology, 2015).

Notwithstanding, site WCP72 is managed in accordance with the currently approved Aboriginal Heritage Management Plan at the Wilpinjong Coal Mine (WCPL, 2008). The approved management of this site includes baseline recording of the site and ongoing monitoring of ground vibration levels and dust deposition levels.

Potential Cumulative Impacts on Aboriginal Cultural Heritage

Issue

A number of NGOs raised concerns that no consideration had been given to the potential cumulative impacts of the Project in relation to existing mines and the associated inter-generational impacts on Aboriginal heritage as a result of the Project.

Response

The regional context and potential cumulative impacts associated with the Project are described in Section 9.3 of the ACHA (South East Archaeology, 2015). South East Archaeology (2015) concluded that the Project would not result in any significant cumulative impact on Aboriginal heritage in the region.

This assessment included a consideration of the known and potential heritage resources that may be impacted by projects including the existing Wilpinjong Coal Mine, the Moolarben Coal Complex and the Ulan Mine Complex. It was determined that the Project would not cause, within a regional context, a loss of heritage resources that could be viewed as being very rare or unique or unlikely to exist elsewhere (South East Archaeology, 2015).

It is further noted that South East Archaeology (2015) has concluded that the Project is not inconsistent with the principle of intergenerational equity.

WCPL also note that the OEH have reviewed the ACHA (South East Archaeology, 2015) and state:

> *OEH accept the ACH assessment methodology presented in the report for the proposed extension areas including those areas of new and modified infrastructure. The methodology is well developed on an adequate environmental and archaeological review of site and landscape relationships for the Wilpinjong mine precinct. OEH note that the survey coverage has been comprehensive.*

Potential Impacts on Aboriginal Heritage Sites in the Munghorn Gap Nature Reserve

Issue

The Mudgee Local Aboriginal Land Council and Murong Gialinga Aboriginal and Torres Strait Islander Corporation raised concerns regarding the potential impacts of the Project on Aboriginal heritage sites of cultural significance in the Munghorn Gap Nature Reserve.

Response

The potential indirect impacts of the Project in relation to blasting and dust have been considered in the ACHA (South East Archaeology, 2015). Based on the blasting assessment conducted by SLR Consulting (2015), a conservative safe working distance for rock shelters is approximately 100 m from open cut blasting activities (Section 4.10.2 of the EIS). There are 60 rock shelter sites located within 100 m of the open cut pit boundaries.

Of these, two (WCP118/WCP119) have 'moderate' local significance and are potentially impacted by Project ancillary infrastructure. Their potential impact and management is therefore assessed/ proposed on the basis of assumed direct impact. Of the remaining 58 rock shelter sites, four have a 'possibly moderate' local significance. Appendix G of the ACHA (South East Archaeology, 2015) concludes that one of these sites (WCP504) warrants test excavation if direct impacts cannot be avoided (determined post approval during detailed mine planning).

South East Archaeology (2015) concludes that no further management is warranted for the 54 remaining rock shelter sites with 'low' local significance (i.e. management of blast vibration levels is not required at most of the rock shelter sites).

In addition, it is noted that almost all of the 100 m zone (from the margin of the Project additional open cut pits, and excluding the existing approved Open Cut and Contained Infrastructure Area) has been subject to archaeological survey coverage (South East Archaeology, 2015), with the exception of a few small portions. The ACHA concludes that "systematic heritage survey is warranted of these areas (minor areas along the western margin of Area B, south-western and south-eastern margins of Area C, western, southern and eastern margins of Area D, and the eastern margin of Area G east of Pit 3) in order to identify if any rock shelter sites are present and allow their management in accordance with procedures specified in the Aboriginal Cultural Heritage Management Plan".

Additional Surveys of the Proposed TransGrid Wollar to Wellington 330 kV ETL

Issue

The Mudgee Local Aboriginal Land Council and Murong Gialinga Aboriginal and Torres Strait Islander Corporation raised concerns regarding the need for additional surveys to be undertaken within portions of the proposed TransGrid Wollar to Wellington 330 kV ETL realignment.

Response

All potential direct disturbance areas that have not yet been subject to systematic Aboriginal heritage survey sampling as a result of minor partial realignment resulting from detailed design would be subject to survey (Section 4.10.3 of the EIS).

South East Archaeology (2015) concluded that as the variation to the northern alignment of the TransGrid Wollar to Wellington 330 kV ETL is located within the same area of moderate to high potential for sub-surface archaeological deposits, the realignment would be unlikely to result in either a net increase or decrease in the overall impacts on heritage associated with the Project.

In addition, South East Archaeology (2015) concluded that systematic heritage survey of the area associated with the variation to the northern alignment of the TransGrid Wollar to Wellington 330 kV ETL prior to impacts occurring, would enable the identification of and management of any heritage evidence.

Adequacy of ACHA

Issue

Rylstone District Environment Society raised concerns that the potential impacts of the Project on Aboriginal heritage have not been adequately addressed.

Response

OEH have reviewed the ACHA (South East Archaeology, 2015) and state:

> *OEH accept the ACH assessment methodology presented in the report for the proposed extension areas including those areas of new and modified infrastructure. The methodology is well developed on an adequate environmental and archaeological review of site and landscape relationships for the Wilpinjong mine precinct. OEH note that the survey coverage has been comprehensive.*

3.8 Transport

Heavy Vehicle Movements through the Village of Wollar

Issue

The Wollar Progress Association raised concerns regarding the impacts of heavy vehicle movements through the Village of Wollar associated with gravel deliveries from the Bylong Quarry.

Response

WCPL is not currently sourcing any gravel materials from the Bylong Quarry for its operations at the Wilpinjong Coal Mine (i.e. the Bylong Quarry trucks travelling through the Village of Wollar are not associated with the Wilpinjong Coal Mine). WCPL notes that the Bylong Quarry trucks travelling through the Village of Wollar are likely to be associated with the Moolarben Coal Operations and Gulgong Sandy Hollow Railway maintenance activities.

Notwithstanding the above, the Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) includes consideration of potential cumulative impacts. As described in Section 3 of the Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015), baseline traffic surveys were conducted on Ulan-Wollar Road (east of Slate Gully Road) in February and March 2015. This survey site identifies any mining-related vehicles travelling through the Village of Wollar to either the Wilpinjong Coal Mine, Moolarben Coal Complex or the Ulan Coal Complex. The average weekday traffic at this survey site was low (i.e. 102 vehicles/day) and consisted of approximately 24.5% heavy vehicles (refer to Table 3.1 and 3.2 of the Wilpinjong Extension Project Road Transport Assessment [GTA Consultants, 2015]).

This existing traffic (including heavy vehicles) was included in the assessment of potential cumulative road transport impacts in the Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015).

Cumulative Road Transport through the Village of Wollar

Issue

The Wollar Progress Association raised concerns regarding the assessment of cumulative road transport impacts in the Village of Wollar.

Response

The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) includes consideration of potential cumulative impacts. As described in Section 3 of the Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015), baseline traffic surveys were conducted on Ulan-Wollar Road (east of Slate Gully Road) in February and March 2015. This survey site identifies any mining-related vehicles travelling through the Village of Wollar to either the Wilpinjong Coal Mine, Moolarben Coal Complex or the Ulan Coal Complex. The average weekday traffic at this survey site was low (i.e. 102 vehicles/day) and consisted of approximately 24.5% heavy vehicles (refer to Table 3.1 and 3.2 of the Wilpinjong Extension Project Road Transport Assessment [GTA Consultants, 2015]).

A small number of Wilpinjong Coal Mine employees now reside in the Wollar community and travel to and from the mine to the Village of Wollar. These traffic movements would generally replace similar traffic movements generated by the previous owners.

This existing traffic (including heavy vehicles) was included in the assessment of potential cumulative road transport impacts in GTA Consultants (2015).

Cumulative Road Transport on Main Road 208

Issue

The Wollar Progress Association and Kepco Bylong Australia Pty Ltd raised concerns regarding the assessment of cumulative road transport impacts on Main Road 208 in the vicinity of the Village of Wollar.

Response

The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) includes consideration of the potential cumulative impacts of other approved and proposed projects (including the Bylong Coal Project) on Main Road 208 (i.e. Wollar-Bylong Road east of Wollar Road). The assessment of potential cumulative impacts was based on publically available information from relevant environmental approval documentation at the time of submission of the EIS (e.g. *Bylong Coal Project Environmental Impact Statement* [Hansen Bailey, 2015]).

The potential cumulative road transport impacts associated with any changes to the Bylong Coal Project proposal should be assessed by Kepco Bylong Australia Pty Ltd (including any cumulative impacts).

However, it is noted that the Project would not generate any material traffic on Main Road 208, and therefore potential cumulative traffic issues are expected to be minimal.

3.9 Other

NSW Government Policy

Issue

The Hunter Communities Network raised a concern that NSW Government policies favour development proponents over landholders and small communities.

Response

WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects and in particular, those referenced in the SEARs issued for the Project.

The ultimate decision as to weighing up the potential impacts and benefits of the Project and potentially competing land uses lies with the determining authorities (i.e. NSW Minister for Planning and Federal Minister for the Environment, or their delegates).

4 PART C - RESPONSES TO PRO-FORMA PUBLIC SUBMISSIONS

Appendix A provides a reconciliation of the pro-forma public submissions received and the locality of the submitters. Some 367 of the public submissions received on the WEP EIS were in the form of a pro-forma objection.

As these pro-formas represent approximately 59% of the total public objections received by the DP&E, these objections have been addressed separately to the remainder of the public submissions.

Social Impacts

Issue

Both pro-formas raised concerns regarding the ongoing population decline and associated social impacts of the approved Wilpinjong Coal Mine and the potential cumulative social impacts of the Project on the Village of Wollar.

Response

The DP&E's support for Peabody Energy's proactive property strategy was articulated in the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b).

Peabody Energy rents habitable residences it owns to general members of the community and mine employees and this has to some extent reduced potential population decline. Some mine employees who reside in the Village of Wollar have become active financial members of the Wollar Progress Association, attend community events held at the Wollar General Store, or are active RFS volunteers. It is also noted that Peabody Energy also has a record of supporting events and improvements to facilities at the Wollar Public School, and a number of the students at the school reside in Peabody Energy-owned housing.

The Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015) has described the existing social impacts that have arisen to date in the Village of Wollar and the potential impacts of the Project on local and regional communities and centres.

The potential cumulative impacts of the Project and other proposed, approved or recently commenced resource projects within the Mid-Western Regional LGA have also been considered in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015).

Greenhouse Gases

Issue

Both pro-formas raised concerns regarding the potential release of 20 million tonnes per year of additional greenhouse gases and the potential impacts on climate change.

Response

Annual average Scope 1 emissions for the Project are in fact estimated to be approximately 115,680 tonnes of carbon dioxide equivalent (i.e. 0.1 Mtpa CO2-e), which is approximately 0.2% of Australia's estimated annual greenhouse gas emissions for the 2013 to 2014 period. These emissions are inclusive of the approved Wilpinjong Coal Mine, and therefore the incremental increase in potential greenhouse gas emissions associated with the Project would be materially less.

The estimated greenhouse gas emissions intensity of the Project (including the approved Wilpinjong Coal Mine) is approximately 0.01 tonnes of carbon dioxide equivalent per tonne of ROM coal (including all Scope 1 and Scope 2 emissions). This makes the Wilpinjong Coal Mine one of the most efficient mining operations in NSW in terms of greenhouse gas emissions intensity.

Further detail regarding greenhouse gas emissions is provided in response to a similar concern raised by a number of NGOs in Section 3.2 of this document.

Farmland and Interception of Groundwater and Surface Water

Issue

One of the pro-formas raised concerns regarding the disturbance of 800 ha of farmland and the interception of groundwater and surface water.

Response

The Project and the potential biodiversity offset areas would result in a long-term reduction of the area of agricultural land of approximately 656 ha, subject to finalisation of the Project biodiversity offset package.

These potentially sterilised agricultural lands are not Biophysical Strategic Agricultural Land (McKenzie Soil Management, 2015). This was confirmed by the DP&E with the issue of a Site Verification Certificate for the Project in October 2014.

Consideration of the economic value of lost agricultural production on these lands is provided in the Wilpinjong Extension Project Socio-Economic Assessment (Delloite, 2015).

The potential impacts of the Project on groundwater and surface water have been addressed in the Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015) and Wilpinjong Extension Project Surface Water Assessment (WRM Water and Environment, 2015), respectively. DPI Water has reviewed these assessments and state:

> *It is considered that the remote location of the expansion limits the potential impacts to water users.*

Further discussion on potential Project impacts on water resources are provided in Sections 2.5 and 3.5 of this document.

Clearance of Remnant Bushland and Habitat for Threatened Species

Issue

Both pro-formas raised concerns regarding the clearance of remnant bushland and potential habitat for threatened species.

Response

Cumulative impacts have been addressed in Section 3.1.4 of the BARBOS (Hunter Eco, 2015), including the significant areas of offset land that are being secured by the local mines. Impacts on biodiversity has been assessed in accordance with the NSW Biodiversity Offsets Policy for Major Projects and the FBA

The SEARs for the Project require an offset strategy to maintain or improve the biodiversity values of the region in the medium to long-term and the Project meets this requirement.

Munghorn Gap Nature Reserve

Issue

Both pro-formas raised concerns regarding potential impacts of the Project on Munghorn Gap Nature Reserve.

Response

The approved Wilpinjong Coal Mine operates in the immediate vicinity of the Munghorn Gap Nature Reserve.

Clearing of vegetation adjoining the reserve would be a short to medium-term impact. The pits would be progressively mined and rehabilitated to minimise the potential short-term edge effects from the Project.

A key objective of the mine rehabilitation in the long-term is to increase the continuity of woodland vegetation by establishing links between woodland vegetation in the rehabilitation areas and existing vegetation in the Munghorn Gap Nature Reserve (i.e. a post-mining improvement in ecological connectivity).

Refer to WCPL's responses to OEH's comments regarding proximity of mining to Munghorn Gap Nature Reserve for additional information (Section 2.3 of this document).

Regent Honeyeater

Issue

Both pro-formas raised concerns regarding potential impacts to the Regent Honeyeater, including concerns that the Project biodiversity offset strategy does not include sufficient species credits for the Regent Honeyeater.

Response

The Regent Honeyeater has not been recorded within the Project open cut extension and infrastructure areas. The SEARs for the Project requires an offset strategy to maintain or improve the biodiversity values of the region in the medium to long-term.

The short to medium-term impact on the Regent Honeyeater would be the loss of potential habitat (i.e. habitat in which the species has not been recorded). Given the wider area of potential habitat, it is reasonable to conclude that, with the proposed measures to avoid, mitigate and offset, it is appropriate for the impacts to the potential habitat occur without further modifications to the Project (Hunter Eco, 2015). Of note, the Regent Honeyeater has been recorded within Offset Area 1 (Hunter Eco, 2015).

Refer to WCPL's responses to OEH's comments regarding the adequacy of the Project biodiversity offset strategy for the Regent Honeyeater (Section 2.3 of this document).

Biodiversity Offset Strategy

Issue

One pro-forma raised concerns regarding the general adequacy of the Project biodiversity offset strategy.

Response

The BARBOS (Hunter Eco, 2015) was prepared for the Project by Dr Colin Driscoll (an OEH accredited biobank assessor according to section 142B(1)(c) of the TSC Act). Dr Colin Driscoll has significant experience in biodiversity assessments in NSW and is familiar with the area.

Dr Colin Driscoll applied the FBA which outlines the methodology which underpins the Biodiversity Offset Policy (OEH, 2014b).

Dr Colin Driscoll concludes that the Project would improve the biodiversity values of the region in the medium to long-term with the implementation of the Project biodiversity offset strategy.

Additional justification is provided in WCPL's response to NGO comments on the Project biodiversity offset strategy (Section 3.3 of this document).

Regional Aboriginal Cultural Heritage

Issue

Both pro-formas raised concerns regarding the potential impacts of the Project on regional Aboriginal heritage values.

Response

The regional context and potential cumulative impacts associated with the Project are described in Section 9.3 of the ACHA (South East Archaeology, 2015). South East Archaeology (2015) concluded that the Project would not result in any significant cumulative impact on Aboriginal heritage in the region.

This assessment included a consideration of the known and potential heritage resource that may be impacted by projects including the existing Wilpinjong Coal Mine, the Moolarben Coal Complex and the Ulan Mine Complex. It was determined that the Project would not cause, within a regional context, a loss of heritage resources that could be viewed as being very rare or unique or unlikely to exist elsewhere (South East Archaeology, 2015).

It is further noted that South East Archaeology (2015) has concluded that the Project is not inconsistent with the principle of intergenerational equity.

WCPL also note that OEH have reviewed the ACHA (South East Archaeology, 2015) and state:

> *OEH accept the ACH assessment methodology presented in the report for the proposed extension areas including those areas of new and modified infrastructure. The methodology is well developed on an adequate environmental and archaeological review of site and landscape relationships for the Wilpinjong mine precinct. OEH note that the survey coverage has been comprehensive.*

Peabody Energy Financial Status

Issue

Both pro-formas raised concerns regarding Peabody Energy's current financial status and its ability to meet its environmental obligations.

Response

WCPL would continue to maintain a rehabilitation security deposit for the Project with the NSW Government in accordance with the requirements of the Mining Act.

Further detail regarding Peabody Energy's financial position and its rehabilitation security deposit obligations under the Mining Act is provided in responses to similar concerns raised by NGOs in Section 3.4 of this document.

Benefits of the Project

Issue

Both pro-formas suggest that the forecast employment numbers for the Project are inaccurate, leading to an over-statement of the economic benefits of the Project.

Response

Chart 4.1 of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) shows the expected Project workforce for the period 2017 to 2033. The approved Wilpinjong Coal Mine workforce has progressively increased from less than 200 personnel to greater than 500 personnel since operations commenced in 2006.

As of April 2016, the Wilpinjong Coal Mine workforce (approximately 530) is at approximately 96% of the expected maximum workforce for the approved mine (i.e. 550 personnel) and the Project workforce adopted in the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) is based on manning required for projected mobile equipment requirements.

Given the above, WCPL considers that the manning numbers adopted in the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) are realistic and the benefits of the Project are not overstated.

Existing Power Station Contract

Issue

One pro-forma notes that the contract to supply AGL's Bayswater Power Station can be met by the current approval.

Response

This fact is acknowledged in the EIS.

It is noted that the DRE, in its submission on the Project, stated the following:

> *Over the life of the Project, assuming production is sold on the export thermal market, the value of the coal produced would be worth around $6.5 billion in current dollars. The net present value of this revenue stream has been estimated by the Division at approximately $3.9 billion. Export income is vital for the health of both the NSW and Australian economy, export income contributes to the Nation's balance of trade which provides positive benefits to both the NSW and Australian credit rating.*
>
> ...
>
> *Many local industries would benefit from the Project, including; mine equipment maintenance firms, mining equipment supply firms, coal preparation plant maintenance and supply firms. These firms are mainly local industries that employ locally and rely on continuing mining activity for their viability.*
>
> *The Project is expected to directly employ an additional 75 people at full production, and continue to support a total of 625 ongoing jobs from the Wilpinjong mine. The Division believes the indirect employment from the Project (and the Wilpinjong mine) would be around 2,500 positions.*

Cumulative Impacts

Issue

Both pro-formas raised concerns regarding the assessment of cumulative impacts presented in the EIS.

Response

The existing Wilpinjong Coal Mine and nearby other existing, approved and proposed mining operations have been considered in the EIS, including (Section 2.5 of the EIS):

- Moolarben Coal Complex;
- Ulan Mine Complex;
- Bowdens Silver Project;
- Bylong Coal Project; and
- Cobbora Coal Mine.

Potential cumulative impacts associated with operational noise, air quality, groundwater, surface water biodiversity, road transport and population/community infrastructure were particularly considered and are described where relevant in the EIS.

Noise

Issue

One pro-forma raised concerns regarding the adequacy of the noise assessment and the proposed Project monitoring and mitigation measures.

Response

To monitor compliance of the Wilpinjong Coal Mine operations with noise criteria specified in Project Approval 05-0021 and EPL 12425, WCPL currently operates an extensive noise monitoring network, including attended and real time noise monitors.

In the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b) the DP&E noted that the real-time noise management system is consistent with best practice in the mining industry.

Under the Voluntary Land Acquisition and Mitigation Policy, mitigation measures must be reasonable and feasible, where reasonableness relates to the application of judgement in arriving at a decision, taking into account mitigation benefits, costs versus benefits provided and the extent and nature of potential improvements.

As described in the EIS, a number of technically feasible mitigation measures that could achieve up to a 7 dBA reduction at the nearest privately-owned receivers were assessed, however the additional costs associated with these measures were not considered to be reasonable by WCPL, given the potential benefits of a 5 dBA reduction that could be achieved at a significantly lower cost (Section 4.3.2 of the EIS).

It is also noted that the EPA, in its submission for the Project, stated:

> *The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project*

Air Quality

Issue

One pro-forma raised concerns that the Wilpinjong Extension Project Air Quality Assessment has not been prepared in accordance with new standards adopted in November 2015.

Response

The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015) was prepared in accordance with the SEARs issued for the Project. The SEARs state that the potential air quality impacts of the Project should be assessed in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (NSW Department of Environment and Conservation, 2005).

Further detail regarding air quality criteria is provided in response to a similar concern raised by the Wollar Progress Association in Section 3.2 of this document.

Water Resources

Issue

One pro-forma raised concerns that the ongoing impacts on groundwater and surface water systems would be greater than predicted.

Response

The Wilpinjong Coal Mine is obligated to operate in accordance with the groundwater and surface water management conditions specified in Project Approval 05-0021 and EPL 12425.

The ongoing impacts on groundwater and surface water systems associated with the approved Wilpinjong Coal Mine are consistent with the previously predicted impact, as summarised in Section 3.5 of this document.

The Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015) was peer reviewed by Kalf and Associates (Dr Frans Kalf) who concluded that the hydrogeological description, conceptualisation, model design, simulations and reporting had been conducted in a professional manner.

The Wilpinjong Extension Project Surface Water Assessment (WRM Water & Environment, 2015) was peer reviewed by Emeritus Professor Thomas McMahon (Emeritus Professor of the Department of Civil and Environmental Engineering at The University of Melbourne) who concluded that the assessment was completed in a professional and detailed manner.

The Peer Review reports are presented in Attachment 4 of the EIS.

Given the above, the Surface Water and Groundwater Assessments presented in the EIS are considered to provide an accurate representation of the potential impacts of the Project on groundwater and surface water systems.

Final Voids

Issue

Both pro-formas raised concerns regarding the Project final voids.

Response

The Pit 2 and Pit 6 final void lakes would remain as permanent and localised groundwater sinks. The Pit 8 final void would frequently be dry, with the possibility of it acting as a flow-through system, mainly transmitting incident rainfall and runoff (HydroSimulations, 2015).

WRM Water & Environment (2015) has simulated the long-term behaviour of the final voids. Groundwater inflows and outflows were modelled using storage level versus flow relationships developed from the groundwater model by HydroSimulations (2015).

Final void water levels in Pit 2 and Pit 6 are expected to reach an equilibrium within approximately 100 years. The maximum void water levels are also expected to be well below the crest of the void and hence would not spill to the environment (WRM Water & Environment, 2015).

The simulated water level in the Pit 8 final void reaches a maximum of approximately 2 m, which is 33 m below the crest of the void. The void would regularly be dry and would not spill to the environment (WRM Water & Environment, 2015).

HydroSimulations (2015) conclude there would be no discernible deterioration in groundwater quality in the porous rock or alluvial groundwater systems as a result of mining, including in the long-term.

Refer to the response to the DRE for additional justification for the final voids proposed for the Project (Section 2.6 of this document).

Project Justification

Issue

One pro-forma suggested that the Project cannot be justified, particularly given the quality of coal to be extracted.

Response

The Project would involve the production of up to approximately 16 Mtpa of ROM coal and approximately 95 Mt of additional ROM coal would be extracted over the life of the Project in comparison to the approved Wilpinjong Coal Mine.

An economic assessment has been completed for the Project by Deloitte (2015). The Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) considered the economic efficiency of the Project by conducting a benefit cost analysis. The Project is estimated to have a positive net benefit and hence is desirable and justified from an economic efficiency perspective, including consideration of a range of potential environmental externality costs (e.g. operational noise and air quality impacts). The benefit cost analysis in the Economic Assessment indicates a net benefit of approximately $735 million would be foregone if the Project is not implemented (Deloitte, 2015).

It is also noted that the DRE submission on the Project states the following:

> *Over the life of the Project, assuming production is sold on the export thermal market, the value of the coal produced would be worth around $6.5 billion in current dollars. The net present value of this revenue stream has been estimated by the Division at approximately $3.9 billion. Export income is vital for the health of both the NSW and Australian economy, export income contributes to the Nation's balance of trade which provides positive benefits to both the NSW and Australian credit rating.*
>
> *...*
>
> *Many local industries would benefit from the Project, including; mine equipment maintenance firms, mining equipment supply firms, coal preparation plant maintenance and supply firms. These firms are mainly local industries that employ locally and rely on continuing mining activity for their viability.*
>
> *The Project is expected to directly employ an additional 75 people at full production, and continue to support a total of 625 ongoing jobs from the Wilpinjong mine. The Division believes the indirect employment from the Project (and the Wilpinjong mine) would be around 2,500 positions.*

5 PART D - RESPONSES TO OTHER PUBLIC SUBMISSIONS

Appendix B provides a reconciliation of the submissions received from members of the public and the locality of the submitter.

Of the 348 submissions by members of the public (that were not in the form of a pro-forma objection) that were received by DP&E, some 72% objected to the Project, some 27.5% supported the Project, while some 0.5% commented on the Project.

It is noted that of these submissions that were received from the locality of Wollar, some 37% were in the form of supporting submissions, and of these (non pro-forma) submissions from the wider local area (2850 and 2852 post codes), some 79% were in the form of supporting submissions.

The comments and issues raised by objecting members of the public are addressed in Table 5.

Table 5
Responses to Other Public Submissions

Issue ID No.	Subject	Issues Raised	Response
A1	Social	Concerns regarding existing and future negative social impacts on the Village of Wollar (and the surrounding area), including impacts of land purchases on population and the school.	The Wilpinjong Coal Mine is obligated to operate in accordance with the air quality and noise management conditions specified in Project Approval 05-0021 and EPL 12425. To date, the obligation to meet the noise criteria specified in Project Approval 05-0021 for privately-owned receivers has been achieved by WCPL through a combination of the following: • Property acquisition, which has reduced the number of privately-owned receivers that could potentially be affected by noise impacts from the mine. • For the remaining privately-owned receivers, the implementation of the Wilpinjong Coal Mine noise management strategy as per the Noise Management Plan, which includes the use of real-time noise monitoring to manage noise levels. The DP&E's support for Peabody Energy's proactive property strategy was articulated in the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b). Peabody Energy also rents habitable residences it owns to general members of the community and mine employees and this has to some extent reduced potential population decline. Some mine employees who reside in the Village of Wollar have become active financial members of the Wollar Progress Association, attend community events held at the Wollar General Store, or are active RFS volunteers. It is also noted that Peabody Energy has a record of supporting events and improvements to facilities at the Wollar Public School, and a number of the students at the school reside in Peabody Energy-owned housing. The Wilpinjong Extension Project Social Impact Assessment (Elliot Whiteing, 2015) considers the pre-existing social environment incorporating the approved Wilpinjong Coal Mine and other mines in the region and assesses the potential impacts of the Project relative to this pre-existing environment. The sustainability of small primary schools in the region and elsewhere in NSW has been identified as an issue under consideration by the NSW Department of Education, particularly with respect to declining enrolment numbers, limited resource capacity, access and transport needs. The Bylong Public School has recently been placed into recess by the Department of Education and Communities and the Wollar Public School is under review by the Department of Education due to very low enrolment numbers. Irrespective of the Project, it is anticipated that further rationalisation of small schools may occur in the region. WCPL would continue to consult with the Department of Education regarding its review of the Wollar Public School.

Issue ID No.	Subject	Issues Raised	Response
A2	Social	Concerns that the Social Impact Assessment separately described pre-existing impacts of land acquisitions and potential impacts of the Project.	The Wilpinjong Extension Project Social Impact Assessment (Elliot Whiteing, 2015) considers the pre-existing social environment incorporating the approved Wilpinjong Coal Mine and other mines in the region and assesses the potential impacts of the Project relative to this pre-existing environment.
A3	Social	Issues with the Wollar General Store no longer offering mechanical servicing and other services, and likely closure of the store would increase isolation of residents.	The previous store owner requested that Peabody Energy purchase the store as it was no longer financially viable to provide mechanical services in the Village of Wollar. Wollar General Store is run as a commercial business and the current lessee does not have the skill set to provide mechanical services, nor is it commercially viable. The Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015) recognises the loss of mechanical services and other services from the lessee of the Wollar General Store and the potential closure of the store. Consistent with the recommendation in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015), WCPL would engage with Australia Post to investigate potential alternatives to the current mail service system if the current lessee discontinues operation of the Wollar General Store.
A4	Social	Concerns that the cumulative impacts of the Wilpinjong Coal Mine, Ulan Coal Mine, Moolarben Coal Mine and proposed Project (and Bylong Coal Project) have not been considered with respect to social impacts.	Elliott Whiteing (2015) has assessed the potential impacts of the Project on local and regional communities and centres. The potential cumulative impacts of the Project and other proposed, approved or recently commenced resource projects within the Mid-Western Regional LGA have also been considered in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015).

Issue ID No.	Subject	Issues Raised	Response
A5	Social	Concerns that adequate financial compensation should be offered to landholders who elect to sell to Peabody Energy in Wollar and surrounds.	As described in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015), WCPL currently values properties in the Village of Wollar for purchase in consideration of. • the NSW's Government land valuations in the Village of Wollar and surrounds; • general accordance with valuation requirements for lands with acquisition rights; • comparisons with sale prices in nearby rural villages and towns (such as Gulgong); and • the addition of a premium. Consistent with the recommendation in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015), WCPL would offer to pay for a second valuation from a Registered Valuer chosen by the property owner, to provide the property owners in the Village of Wollar with an alternative source of information about their property's value if there is a dispute over the market value during purchase negotiations. It is noted that there are no predicted exceedances of acquisition upon request noise or air quality criteria predicted for the Project, so any purchases would be at WCPL's discretion.
A6	Social	Concerns that mine workers do not mix with non-mine workers in the community and increasing isolation.	It is noted that the key findings of the employee survey indicate (Elliott Whiteing, 2015): • Approximately half (48%) of surveyed employees participate in a voluntary organisation. • High rates of home ownership or property under purchase (collectively representing 67% of worker accommodation arrangements), which reflects longevity in workforce plans to live and work in the area. It is acknowledged by WCPL that mine employees in Peabody Energy owned houses in the Village of Wollar and surrounds may have different interests or values to some of the other members of the local community. Some mine employees who reside in the Village of Wollar have become active financial members of the Wollar Progress Association and others have attended various community events held at the Wollar General Store. Some of these residents are also active RFS volunteers. WCPL is therefore of the opinion that there is interaction between mine workers and other local residents.
A7	Social	Concerns that the Project will result in decreased property values in Wollar.	Refer to the response to A5 above that describes the approach that WCPL applies to purchase of private properties in the Village of Wollar.

Issue ID No.	Subject	Issues Raised	Response
A8	Social	Concerns that the Wollar community did not have access to all the predicted impacts of the Project during the Social Impact Assessment community interviews.	A WCPL employee attended each community member interview conducted as part of the Social Impact Assessment to provide an overview of the Project and draft outcomes of key environmental studies (i.e. noise and air quality assessments). However, this attendance of the WCPL employee was subject to the prior agreement of the interviewee. Other avenues for discussing the Project included participation in the Community Consultative Committee, Project drop in session at the Village of Wollar General Store and regular 'Have a Chat' meetings. A full description of all potential impacts of the Project is provided in the EIS, which was made available to the public once it had been accepted by the NSW Government. The EIS public exhibition process is the NSW Government mechanism for the community to comment on the Project as a whole, including the potential impacts and corresponding Project mitigation measures and potential benefits.
A9	Social	Concerns that mine employees were incentivised by employment benefits for the Social Impact Assessment community interviews or survey.	A survey was conducted with Wilpinjong Coal Mine employees to identify how they interact with the local social environment, including: • residential location and housing arrangements; • local and regional expenditure; and • contribution to social networks and social resources. The outcomes of the employee survey were separately reported to the outcomes of the community interviews and community survey.

Issue ID No.	Subject	Issues Raised	Response
B1	Greenhouse Gas Emissions	Concerns regarding greenhouse gas emissions associated with the Project are not consistent with Australian Government commitments, and global efforts to reduce greenhouse gas emissions.	Greenhouse gas emissions associated with the Project have been estimated by Todoroski Air Sciences (2015). Annual average Scope 1 emissions for the Project are estimated to be approximately 115,680 tonnes of carbon dioxide equivalent (i.e. 0.1 Mtpa CO_2-e), which is approximately 0.2% of Australia's estimated annual greenhouse gas emissions for the 2013 to 2014 period. These emissions are inclusive of the approved Wilpinjong Coal Mine, and therefore the incremental increase in potential greenhouse gas emissions associated with the Project would be materially less. The estimated greenhouse gas emissions intensity of the Project (including the approved Wilpinjong Coal Mine) is approximately 0.01 tonnes of carbon dioxide equivalent per tonne of ROM coal (including all Scope 1 and Scope 2 emissions). This makes the Wilpinjong Coal Mine one of the most efficient mining operations in NSW in terms of greenhouse gas emissions intensity. Existing greenhouse gas abatement measures at the Wilpinjong Coal Mine (such as maximising mining efficiency, maintaining equipment and the select use of solar power) would continue for the Project. Scope 1 and 2 greenhouse gas emissions from the Wilpinjong Coal Mine would continue to be reported annually in accordance with the National Greenhouse and Energy Reporting System.
B2	Greenhouse Gas Emissions	Concerns that Scope 3 emissions are not suitably considered in the Greenhouse Gas Assessment.	Greenhouse gas emissions associated with the Project, including Scope 3 emissions, have been estimated by Todoroski Air Sciences (2015). It should be noted that Scope 3 emissions are optional for reporting, as the emissions would be reported by another organisation as Scope 1 emissions. As potential Scope 3 emissions are not controlled by or attributable to WCPL, there is inherent uncertainty associated with quantifying the emissions. For example, the Scope 3 emission estimates assume the Project's product coal would be combusted in an average Australian coal-fired power station. However if the coal was combusted in a more efficient power station, the potential greenhouse gas emissions would be reduced.

Issue ID No.	Subject	Issues Raised	Response
C1	Peabody Energy Financial Situation	Concerns that Peabody Energy's financial position in the United States may impact on its ability to develop the Project, or is the reason for the proposal.	Peabody Energy has voluntarily filed petitions under Chapter 11 for the majority of its US entities in the United States Bankruptcy Court for the Eastern District of Missouri. No Australian entities are included in the Chapter 11 filings, and Peabody Energy plans for its Australian operations to continue as usual. The Australian operations have access to separate funding arrangements enabling it to commit to the Project. Peabody Energy has made available to its Australian platform a committed US$250 million revolving Intercompany Loan Facility. The Intercompany Loan Facility is designed to provide additional liquidity to support the ongoing operations of the Australian business during Peabody Energy's Chapter 11 reorganisation, with draw amounts being tied to operating budgets and subject to certain availability restrictions. As such, the circumstances surrounding the Chapter 11 bankruptcy protection sought by Peabody Energy Corporation and related US entities will not impact WCPL's ability to meet its financial obligations.
C2	Peabody Energy Financial Situation	Concerns that Peabody Energy's financial position in the United States may result in the Wilpinjong Coal Mine closing and rehabilitation costs being incurred by the NSW government.	WCPL has lodged a rehabilitation security deposit for the Wilpinjong Coal Mine with the NSW Government in accordance with the requirements of the Mining Act. The rehabilitation security deposit is based on a rehabilitation cost estimate prepared in accordance with the Rehabilitation cost estimate guidelines (Department of Industry and Investment, 2012) for the current MOP period. The rehabilitation security deposit is in the form of a bank guarantee that would remain in place regardless of the financial status of Peabody Energy. WCPL would continue to maintain a rehabilitation security deposit for the Project with the NSW Government.
C3	Employment Effects	Concern that the production levels of the Project would be similar to the existing approved mine, but workforce numbers are projected to increase, while existing employees have been decreasing.	As of April 2016, the Wilpinjong Coal Mine workforce (approximately 530) is at approximately 96% of the expected maximum workforce for the approved mine (i.e. 550 personnel) and the Project workforce adopted in the Economic Assessment is based on the manning required for projected mobile equipment requirements.
C4	Economics	Concerns that the benefits of the Project may be overstated due to the coal price and operating cost assumptions that have been adopted in the Wilpinjong Extension Project Economic Assessment.	WCPL considers that the operational costs and export coal prices adopted in the Wilpinjong Extension Project Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) are realistic and the value of the Project is not overstated. Further detail regarding the operational costs and export coal prices adopted in the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) is provided in response to a similar concern raised by The Australia Institute in Section 3.4 of this document.

Issue ID No.	Subject	Issues Raised	Response
C5	Economics	Concerns that the Wilpinjong Extension Project Economic Assessment of the Project indicates the Net Present Value of the Project is higher than the share market value of the parent company.	The Project NPV reported in Section 5.3 of the Wilpinjong Extension Project Economic Assessment (i.e. $735 million) reflects the net present economic value of the Project from a societal perspective. The Wilpinjong Extension Project Economic Assessment is not a valuation of Peabody Energy and does not determine Peabody Energy's market value. Further detail regarding the comparison of the Project NPV with Peabody Energy's market value is provided in response to a similar concern raised by The Australia Institute in Section 3.4 of this document.
C6	Economics	Concerns that the increases in employment associated with the Project do not justify the potential environmental impacts.	An Economic Assessment has been completed for the Project by Deloitte (2015). The Economic Assessment considered the economic efficiency of the Project by conducting a benefit cost analysis. The Project is estimated to have a positive net benefit and hence is desirable and justified from an economic efficiency perspective, including consideration of a range of potential environmental externality costs (e.g. operational noise and air quality impacts). The benefit cost analysis in Deloitte (2015) indicates a net benefit of approximately $735 million would be foregone if the Project is not implemented.
C7	Economics	Concerns that any increase in employment associated with the Project would not result in additional jobs for local people.	At full development, the peak Project operational workforce would be in the order of 625 on-site personnel, including a mixture of direct WCPL employees and on-site contractor's personnel (including continuation of employment for members of the existing Wilpinjong Coal Mine workforce). Based on the workforce survey included in the Wilpinjong Extension Project Social Impact Assessment (Elliott Whiteing, 2015), greater than 85% of the existing Wilpinjong Coal Mine operational workforce resides in the Mid-Western Region LGA. It is anticipated that a similar proportion of the Project workforce would reside in the Mid-Western Region LGA.
C8	Economics	Concerns that the Project does not provide sufficient economic benefits to the NSW Government and revenue from coal royalties and corporate tax revenue are inadequate.	The Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) estimates that approximately $190.5 million (present value) of royalties and approximately $173.3 million (present value) of company tax would be paid as a result of the Project. These payments have been estimated consistent with the relevant NSW and Commonwealth Government taxation requirements.

Issue ID No.	Subject	Issues Raised	Response
C9	Economics	Concerns that employees in a variety of fields are being drawn away from other productive trades/industries by mining.	The Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) for the Project included an assessment of economic impacts (including employment) at two different scales to assess the potential impact of the Project on the broader region and in NSW. The Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) is based on computable general equilibrium modelling developed by Deloitte. The computable general equilibrium model assesses the wider economic impacts of the Project at two levels (Deloitte, 2015): • Direct impacts — the economic gains associated with the Project operations themselves (e.g. coal extraction and processing, and revenues generated by sale of coal exports). • Indirect, induced and crowding out impacts — the economic gains in related upstream or downstream industries and the economic losses associated with 'crowding out' of activity in other sectors of the economy as a result of the Project. Deloitte (2015) therefore takes into account potential 'crowding out' employment impacts. Adopting this methodology, the economic impact assessment concluded that additional net employment associated with the Project is projected to peak in 2019 with an additional 214 fulltime equivalent jobs in the region and an additional 64 fulltime equivalent jobs in the rest of NSW.
C10	Economics	Concerns that the Economic Assessment does not account for global health costs associated with Scope 3 emissions.	The cost-benefit-analysis component of the Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) has not included the costs and benefits of the downstream electricity generation as this is outside of the scope of the Project. This approach is consistent with the relevant NSW economic assessment guidelines.
C11	Economics	Concerns regarding the adequacy of the Economic Assessment.	The Wilpinjong Extension Project Economic Assessment has been completed by Deloitte (2015) and has been prepared with reference to the relevant NSW economic assessment guidelines. The Economic Assessment was peer reviewed by Mr Brian Fisher (BAEconomics), who concluded that the report has been competently completed and provides an accurate estimate of the net value of the Project to NSW. The peer review report is presented in Attachment 4 of the EIS.

Issue ID No.	Subject	Issues Raised	Response
C12	Economics	Concerns that the development of the Project would threaten the viability of other coal mines in the region due to oversupply of coal.	The Project would result in the production of thermal coal products for electricity generation. The International Energy Agency (2015) predicts that global demand for energy is expected to increase by approximately one-third by 2040 and coal is projected to account for 10% of this increase in global energy demand. Demand for coal is expected to increase in Asia and it is projected to account for 80% of global coal demand by 2040 (International Energy Agency, 2015). Australia is geographically well placed to supply this projected increasing demand for thermal coal. Consequently, it is considered that the development of the Project is unlikely to adversely affect other coal mines in the region.

Issue ID No.	Subject	Issues Raised	Response
D1	Operational Noise	Noise levels are currently unacceptable, are affecting amenity and would worsen with the Project.	As described in the EIS, WCPL reported compliance with relevant noise limits at the nearest privately-owned receivers during the most recent Independent Audit period between 2012 and 2014 (AECOM Australia, 2015) and the 2015 and January to February 2016 period (WCPL's EPL 12425 compliance summary reports). The predictive noise modelling for the Project (SLR Consulting, 2015) identified that with the implementation of all reasonable and feasible mitigation measures, maximum intrusive noise levels of 36 dBA to 37 dBA would likely be experienced at all but one of the proximal privately-owned receivers. In accordance with the classification of noise exceedances in the Voluntary Land Acquisition and Mitigation Policy, the impact of a potential exceedance of the Project-specific noise level of this magnitude is negligible and not discernible by the average listener. Noise management for the Project would be undertaken in accordance with the Noise Management Plan. While the Noise Management Plan would be updated to incorporate the Project, the plan currently outlines: • noise mitigation measures and controls; • the noise monitoring and reporting regimes; and • procedures for the management of exceedances and complaints. The noise monitoring system in place at the Wilpinjong Coal Mine provides real-time access to noise data and provides the capacity to set a real-time target noise level (e.g. 2 dB below the compliance level). Upon noise emissions reaching the identified target level, the response protocol is enacted, which includes identification of the noise source. Upon determination that the noise source is Wilpinjong Coal Mine related, active measures can be put in place to modify operations or stand down equipment to maintain compliance with noise criteria. In the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b) the DP&E noted that the real-time noise management system is consistent with best practice in the mining industry. Noise generated from the approved Wilpinjong Coal Mine is effectively managed through the implementation of the Noise Management Plan, and this would continue for the Project.

Issue ID No.	Subject	Issues Raised	Response
D2	Operational Noise	Concerns regarding the suitability of the Industrial Noise Policy and Voluntary Land Acquisition and Mitigation Policy for assessing operational noise impacts on rural villages.	The Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015) has been prepared in accordance with the Project's SEARs, which specifically refer to the INP and the *Voluntary Land Acquisition and Mitigation Policy*. Under the INP, the minimum rating background level is 30 dBA, resulting in a minimum intrusiveness criterion of LAeq(15minute) 35 dBA. The Project-specific noise levels used for assessment of noise at the Wilpinjong Coal Mine are therefore correct based on current NSW Government policy. The consideration of the significance of residual noise impacts has been undertaken in accordance with the *Voluntary Land Acquisition and Mitigation Policy* (Section 4.3.2 of the EIS). WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects.
D3	Operational Noise	Concerns regarding existing low frequency noise and sleep disturbance and this would worsen with the Project.	Ongoing review of operator-attended noise monitoring indicates that Wilpinjong Coal Mine's noise emissions do not contain "dominant low frequency content" in accordance with the INP's assessment procedures and therefore no further low frequency assessment is required for the Project (Section 2.1 of this document). As described in Section 4.3.2 of the EIS, the potential for sleep disturbance was assessed as part of the Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015). No exceedances of the applicable sleep disturbance criterion were predicted at any privately-owned receivers during the night-time.
D4	Transport Noise	Concerns that the assessment of Project operational noise does not include the assessment of Project transportation noise (including trains).	The Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015) has been prepared in accordance with the SEARs for the Project. The SEARs state that the likely operational impacts of the Project should be assessed against the INP, the likely road noise impacts of the Project should be assessed against the NSW Road Noise Policy, and the likely rail noise impacts of the Project should be assessed against the Rail Infrastructure Noise Guideline. WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects.

Issue ID No.	Subject	Issues Raised	Response
D5	Operational Noise	Concerns that the operational noise monitoring, modelling and associated management measures were not considered to be adequate.	To monitor compliance of the Wilpinjong Coal Mine operations with noise criteria specified in Project Approval 05-0021 and EPL 12425, WCPL currently operates an extensive noise monitoring network, including attended and real-time noise monitors. In the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b) the DP&E noted that the real-time noise management system is consistent with best practice in the mining industry. Under the Voluntary Land Acquisition and Mitigation Policy, mitigation measures must be reasonable and feasible, where reasonableness relates to the application of judgement in arriving at a decision, taking into account mitigation benefits, costs versus benefits provided and the extent and nature of potential improvements. As described in the EIS, a number of technically feasible mitigation measures that could achieve up to a 7 dBA reduction at the nearest privately-owned receivers were assessed, however the additional costs associated with these measures were not considered to be reasonable by WCPL, given the potential benefits of a 5 dBA reduction that could be achieved at a significantly lower cost (Section 4.3.2 of the EIS). It is also noted that the EPA, in its submission for the Project, stated: *The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project*

Issue ID No.	Subject	Issues Raised	Response
D6	Operational Noise	Concerns that Wilpinjong Coal Pty Ltd's noise mitigation strategy is to purchase properties.	As described in Section 4.3.1 of the EIS, WCPL's noise management strategy is described in the Noise Management Plan. The Noise Management Plan outlines: • noise mitigation measures and controls; • the noise monitoring and reporting regimes; and • procedures for the management of exceedances and complaints. The noise monitoring system in place at the Wilpinjong Coal Mine provides real-time access to noise data and provides the capacity to set a real-time target noise level (e.g. 2 dB below the compliance level). Upon noise emissions reaching the identified target level, the response protocol is enacted, which includes identification of the noise source. Upon determination that the noise source is Wilpinjong Coal Mine related, active measures can be put in place to modify operations or stand down equipment to maintain compliance with noise criteria. In the Wilpinjong Coal Mine Modification 6 assessment report the DP&E noted that the real-time noise management system is consistent with best practice in the mining industry (DP&E, 2014b). Separate to the noise management strategy, WCPL also implements a proactive property strategy, which includes property acquisition or compensatory outcomes for the nearest privately-owned receivers where noise levels above the Project-specific noise levels are predicted. The DP&E's support for Peabody Energy's proactive property strategy was articulated in the Wilpinjong Coal Mine Modification 6 Assessment Report (DP&E, 2014b). However, Peabody Energy also rents habitable residences it owns to general members of the community and mine employees and this has to some extent reduced potential population decline.
E1	Air Quality	Dust levels are unacceptable, are affecting amenity and would worsen with the Project.	As described in the EIS, monitoring of PM_{10} shows that annual average PM_{10} concentrations have been below the annual average criteria for all monitoring years and while there have been isolated instances where 24-hour average PM_{10} concentrations have been above the criterion of 50 µg/m³, these instances have generally coincided with widespread dust events (e.g. bushfires and dust storms). No exceedances of relevant air quality criteria are predicted at any privately-owned receiver due to the Project plus other existing/proposed coal mines and background (i.e. non-mining) sources for any of the modelled scenarios, with the exception of cumulative 24-hour average PM_{10} concentrations. With the continued implementation of real-time air quality monitoring and associated response protocols, the predicted potential cumulative 24-hour average PM_{10} exceedances would be averted.

Issue ID No.	Subject	Issues Raised	Response
E2	Air Quality	Concerns regarding the suitability of the Voluntary Land Acquisition and Mitigation Policy for assessing air quality impacts on rural villages.	The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015) has been prepared in accordance with the Project's SEARs, which specifically refer to the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* and the *Voluntary Land Acquisition and Mitigation Policy*. WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects.
E3	Air Quality	Concerns that new guidelines have been released in Q1 2016 were not considered in the Air Quality and Greenhouse Gas Assessment for the Project.	The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015) was prepared in accordance with the SEARs issued for the Project. The SEARs state that the potential air quality impacts of the Project should be assessed in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*. The $PM_{2.5}$ predictions in the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment have been compared to the National Environment Protection (Ambient Air Quality) Measure advisory reporting standards for $PM_{2.5}$, which were applicable at the time of assessment. It is noted that the variation to the National Environment Protection (Ambient Air Quality) Measure changes the $PM_{2.5}$ criteria from an advisory reporting standard to a reporting standard, but the criteria levels remain the same (i.e. 25 µg/m³ 24-hour average and 8 µg/m³ annual average). The variation to the National Environment Protection (Ambient Air Quality) Measure includes an annual average PM_{10} concentration reporting standard of 25 µg/m³, which is more stringent that the annual average PM_{10} concentration criterion in the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (30 µg/m³). It should be noted that the purpose of the National Environment Protection (Ambient Air Quality) Measure is for Government jurisdictions to monitor air quality in regions, not for project impact assessment purposes. Notwithstanding, Appendix F of the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (Todoroski Air Sciences, 2015) includes the predicted particulate matter concentrations at each sensitive receptor for all scenarios modelled. The predicted annual average PM_{10} concentrations are below the National Environment Protection (Ambient Air Quality) Measure criterion of 25 µg/m³ for all private receivers in each modelled scenario.

Issue ID No.	Subject	Issues Raised	Response
E4	Spontaneous Combustion	Impacts from spontaneous combustion, including odours, are currently unacceptable, are affecting amenity and would worsen for the Project.	It is acknowledged that spontaneous combustion events at the Wilpinjong Coal Mine, which have historically been associated with both ROM coal stockpiles and carbonaceous material located in temporary waste rock emplacements, have occurred. While these events have been managed in accordance with the Spontaneous Combustion Management Plan, they have at times resulted in perceptible odour and/or associated environmental complaints from nearby private receivers and/or users of Ulan-Wollar Road. Hydrogen sulphide odour can be easily detected at concentrations much lower than are harmful to health, with its smell being easily perceptible at concentrations well below 1 part per million in air (Pacific Environment Limited, 2013). In consultation with the EPA, WCPL initiated short-term monitoring of selected gases, volatile organic compounds and polycyclic aromatic hydrocarbons in the Village of Wollar to the east and Cooks Gap to the west of Wilpinjong Coal Mine following spontaneous combustion events on-site in early 2012. Pacific Environment Limited (2013) reviewed the monitoring data, and concluded that while it is difficult to determine pollutant sources the Wilpinjong Coal Mine was not indicated as the primary source of any pollutant, and low concentrations were measured for all pollutants. The material to be excavated in ROM operations for the Project is expected to have similar propensity for spontaneous combustion as the material currently being handled and managed on-site. There would, therefore, continue to be some potential for spontaneous combustion events to occur in coal or other carbonaceous materials over the life of the Project, however this would continue to be managed in accordance with the Spontaneous Combustion Management Plan.
E5	Air Quality	Concerns that coal particles have been detected in dust samples in Wollar.	As described in the EIS, dust emissions would continue to be managed in accordance with the Air Quality Management Plan. The air quality criteria within the Air Quality Management Plan are consistent with the criteria within Project Approval 05-0021, including the criteria for deposited dust, which have been developed for the protection of amenity (not human health, as for airborne particulate matter). As described in Section 4.4.1 of the EIS, dust deposition monitoring results show that annual average dust deposition levels recorded near privately-owned dwellings were below the EPA criterion.
E6	Air Quality	Concerns that other air quality pollutants from combustion engines and blasting have not been assessed.	As described in the EIS, the air quality assessment completed for the Project focuses on potential impacts associated with particulate matter generated by mining activities. Emissions of other pollutants, such as carbon monoxide, nitrogen dioxide and sulfur dioxide also arise due to fuel combustion in mobile equipment. However, emissions of pollutants associated with fuel combustion are considered too low to generate any significant off-site concentrations. As described in the EIS, blast fume emissions would continue to be managed with the Blast Fume Management Strategy within the Blast Management Plan. With the implementation of the Blast Fume Strategy and associated management measures, potential impacts from blast fume emissions would be readily managed for the Project and adverse impacts on the surrounding environment would be minimised.

Issue ID No.	Subject	Issues Raised	Response
E7	Air Quality	Concerns that the air quality monitoring, modelling and associated management measures are inadequate.	To monitor compliance of the Wilpinjong Coal Mine operations with air quality criteria specified in Project Approval 05-0021 and EPL 12425, WCPL currently operates an extensive air quality monitoring network, which monitors concentrations of PM_{10} and total suspended particulate matter and dust deposition levels. Monitoring is conducted using a combination of High Volume Air Samplers, Tapered Element Oscillating Microbalances as well as dust gauges. The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment was prepared in accordance with the SEARs issued for the Project. The SEARs state that the potential air quality impacts of the Project should be assessed in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*. It is also noted that the EPA, in its submission for the Project, stated: *The EPA is aware the dust stop Pollution Reduction Program (the PRP) has previously been implemented to identify best practice management for wheel generated and overburden dust emissions for existing operations. The modelling scenarios presented assume best practice operations with the application of best practice dust mitigation.* The EPA also stated: *The Air Quality Impact Assessment (AQIA) impact assessment prepared for the Proposal has been conducted generally in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales.*
E8	Air Quality	Concerns that meteorological data relating to prevailing wind directions in the EIS is inaccurate.	The meteorological data used in the EIS is sourced from the on-site automatic weather station. It is also noted that the EPA, in its submission for the Project, stated: *During an information session for the Proposal, community members expressed concern about the wind directions modelled for the project (being primarily easterly) being different to those modelled for recent developments at the Moolarben coal mine (being primarily south westerly). The EPA considers the differences between significant wind directions identified for this Proposal and recent Moolarben coal mine applications are explained by the different topography around the weather station used by each mine.*

Issue ID No.	Subject	Issues Raised	Response
E9	Air Quality	Concerns that the Spontaneous Combustion Plan does not suitably consider incidents such as the Morewell fire.	It is documented in the Hazelwood Mine Fire Inquiry Report (Victorian Government, 2014) that the Hazelwood Mine fire was started by embers from a nearby bushfire, and not a spontaneous combustion event. Bushfire management at the Wilpinjong Coal Mine is currently conducted in accordance with the Bushfire Management Plan. This Bushfire Management Plan was revised in 2013 in consultation with key stakeholders including RFS, OEH, NPWS, MWRC, adjacent mines and graziers, and covers the existing approved Wilpinjong Coal Mine and also the Project extension areas. WCPL would revise the Bushfire Management Plan to include the Project and would consider the requirements of *Planning for Bush Fire Protection 2006* (RFS, 2006) and *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan* (RFS, 2014). In addition to the above, WCPL would continue to consult with the Cudgegong Bush Fire Management Committee and the RFS, and provide assistance to these organisations as required.
F1	Transport	Traffic through the Village of Wollar, and potential cumulative traffic with the Bylong Coal Project.	The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) includes consideration of potential cumulative impacts (including the proposed Bylong Coal Project) in the Village of Wollar. It is noted that the Project would not generate any material traffic on Wollar Road, and therefore potential cumulative traffic issues are expected to be minimal. Further detail regarding the potential cumulative road transport impacts in the Village of Wollar is provided in response to a similar concern raised by the Wollar Progress Association in Section 3.8 of this document.
F2	Transport	Concerns that the Project and other local mines have adversely impacted road maintenance and road conditions due to increased heavy vehicle movements.	WCPL makes financial contributions to the MWRC for road maintenance activities in accordance with Wilpinjong Coal Mine Planning Agreements and has also co-funded implementation of the Ulan Road Strategy that will result in significant upgrades to Ulan Road in accordance with Project Approval 05-0021. In addition, WCPL would fund the proposed extensions of the Ulan-Wollar Road relocations and the sealing of a remaining un-sealed section of Ulan-Wollar Road and the provision of a replacement sealed low level causeway crossing of Cumbo Creek (Section 2.6.1 of the EIS).
F3	Transport	Concerns regarding a potential increase in the number and size of trains and associated impacts on level crossings.	The Project would not change the approved daily maximum (10 laden trains leaving the site per day) or average (six laden trains leaving the site per day) train movements. It is acknowledged that coal train capacities on the Sandy Hollow Gulgong Railway may vary over the life of the Project due to progressive rail capacity upgrades and contractor train configurations (Section 2.9 of the EIS). In the event that the maximum coal train capacity was to increase, each train would comprise more wagons, but this would correspondingly reduce the number of train movements required per annum (i.e. improved transport efficiency).

Issue ID No.	Subject	Issues Raised	Response
F4	Transport	Concerns that mine employees are not adhering to road rules.	WCPL takes dangerous driving incidents seriously and operates a joint program with the adjoining Ulan Mine Complex and Moolarben Coal Complex to follow up on any driving related complaints. Appropriate disciplinary measures would be applied to any mine employee or contractor that is confirmed to be driving dangerously on local roads. Should any such driving incidents occur they can be reported through to the WCPL Community Hotline (phone 1300 606 625). In addition, WCPL encourages any observer of a dangerous driving incident on a public road to report this directly to the Police.
F5	Transport	Concerns that the Voluntary Planning Agreement provides insufficient funds for the local government to maintain roads.	The Wilpinjong Extension Project Road Transport Assessment (GTA Consultants, 2015) concluded that the road network would satisfactorily accommodate the additional traffic generated by the Project, together with other developments expected to occur in the region. WCPL has made financial contributions to the MWRC for road maintenance activities in accordance with Wilpinjong Coal Mine Planning Agreements and has also co-funded implementation of the Ulan Road Strategy that will result in significant upgrades to Ulan Road in accordance with Project Approval 05-0021. In addition, WCPL would fund the proposed extensions of the Ulan-Wollar Road relocations and the sealing of a remaining un-sealed section of Ulan-Wollar Road and the provision of a replacement sealed low level causeway crossing of Cumbo Creek (Section 2.6.1 of the EIS).
G1	Tourism	Concern that the extension of the Wilpinjong Coal Mine and the additional of a new final void is not compatible with tourism in the region.	Tourism currently takes place in the region in the context of the operating Wilpinjong Coal Mine, Moolarben Coal Complex and Ulan Mine Complex. The Project open cut and infrastructure extension areas comprise largely cleared Peabody-owned pastoral land and hence it is not envisaged that the use of this land for mining will directly affect tourism. As no views of the Project from the Village of Wollar or any other privately-owned dwelling are anticipated due to the extensive land ownership of Peabody Energy and other local resource companies and the undulating topography and presence of remnant vegetation, no potential visual impacts as a result of the Project are expected at privately-owned residences (Marc & Co and Resource Strategies, 2015). On this basis, the Project is not anticipated to have a material adverse impact on tourism in the region. It is noted that the local mining industry also contributes to tourism through the visitation of friends and families of mine employees, and this would continue for the Project.
H1	Product coal market	Concern that the Project is not required for satisfaction of the current domestic coal contract with AGL.	This fact is acknowledged in the EIS.

Issue ID No.	Subject	Issues Raised	Response
H2	Product coal market	Concern that there may not be a market for Project coal on the export market and this would affect the viability of the Project.	The Project would result in the production of thermal coal products for electricity generation. The International Energy Agency (2015) predicts that global demand for energy is expected to increase by approximately one-third by 2040 and coal is projected to account for 10% of this increase in global energy demand. Demand for coal is expected to increase in Asia and it is projected to account for 80% of global coal demand by 2040 (International Energy Agency, 2015). Australia is geographically well placed to supply this projected increasing demand for thermal coal. Consequently, it is considered that the Project is needed given increasing demand for energy and anticipated continued use of coal as part of the range of energy sources needed to meet global energy demands.
I1	Fire Fighting	Concern that the development of Wilpinjong Coal Mine has affected the viability of the local Rural Fire Service, and this would worsen with the Project.	WCPL actively encourages staff to volunteer with the RFS and has worked with the RFS to address concerns about volunteer numbers in the local area. In additional WCPL supports the RFS through financial contributions for purchase of firefighting equipment. WCPL also maintains its own fire truck and suitably RFS trained staff to assist in primary response or support in the event of a bushfire emergency.
J1	Blasting	Concerns regarding with blasting – including amenity impacts or impacts on buildings in Wollar.	As described in Section 4.5.2 of the EIS, the blasting assessment in the Wilpinjong Extension Project Noise and Blasting Assessment (SLR Consulting, 2015) indicates that no exceedances of relevant airblast or vibration criteria would occur at any privately-owned receivers, community facilities or historical heritage sites in the Village of Wollar for the typical maximum blast maximum instantaneous charge proposed for the Project (up to approximately 3,900 kilograms).
K1	Heritage	Concerns that significant Aboriginal cultural heritage values of the Project area have not been assessed in a regional context.	The regional context and potential cumulative impacts associated with the Project are described in Section 9.3 of the ACHA (South East Archaeology, 2015). South East Archaeology (2015) concluded that the Project would not result in any significant cumulative impact on Aboriginal heritage in the region. This assessment included a consideration of the known and potential heritage resource that may be impacted by surrounding projects including the existing Wilpinjong Coal Mine, the Moolarben Coal Complex and the Ulan Mine Complex. It was determined that the Project would not cause, within a regional context, a loss of heritage resources that could be viewed as being very rare or unique or unlikely to exist elsewhere (South East Archaeology, 2015). It is further noted that South East Archaeology (2015) has concluded that the Project is not inconsistent with the principle of intergenerational equity.

Issue ID No.	Subject	Issues Raised	Response
K2	Heritage	Concerns about the management of cemeteries and other memorials in Wollar.	The Project would not impact cemeteries and other memorials in the Village of Wollar and surrounds based on the heritage and blasting assessments (refer response below).
K3	Heritage	Concerns that the historic heritage of Wollar and the surrounding area will be affected by the Project.	A Historical Heritage Impact Assessment for the Project was undertaken by Niche Environment and Heritage (2015). The assessment was prepared in consideration of the relevant principles and articles contained in the *Burra Charter* (Australia ICOMOS, 1999), the *NSW Heritage Manual* (NSW Heritage Office and NSW Department of Urban Affairs and Planning, 1996) and *Statements of Heritage Impact* (OEH, 1996). Searches of the Commonwealth Heritage List, National Heritage List and Register of the National Estate were undertaken. No registered sites were located within, or adjacent to, the Project (Niche Environment and Heritage, 2015). A search of the National Trust Register (a non-statutory register) identified four registered sites within the Village of Wollar. Sites with identified heritage value in the vicinity of the Project listed in the Mid-Western Regional Local Environmental Plan (LEP) included two landscape areas adjacent to the Project and four historical heritage sites located in the Village of Wollar (three of which were also listed in the National Trust Register). All of these sites are listed as being of local heritage significance in Schedule 5 of the Mid-Western Regional LEP. They are all located outside of the Project open cut extension and infrastructure areas (Niche Environment and Heritage, 2015). Niche Environment and Heritage (2015) identified four sites of local historical heritage significance as having some potential to be impacted by the Project. A Heritage Management Plan would also be developed for the Project and would include specific management measures for relevant potentially impacted historical heritage sites, including: • archival recording of the features of the Historical Shale Oil Mine Complex; • test excavation at the possible location of the Caretaker's Cottage; and • consideration of avoidance of the Road Embankment. William Carr's Hut (Site 11) is located within the approved limits of Moolarben Coal Complex open cut development. Moolarben Coal has advised WCPL that archival recording of William Carr's Hut has already been undertaken in accordance with Project Approval 08_0135. No further measures are required.

Issue ID No.	Subject	Issues Raised	Response
L1	Biodiversity	Concerns that the clearing of some 354 hectares of native vegetation, including habitat for a number of threatened species (e.g. Regent Honeyeater), would have a detrimental impact that would not be suitably addressed by the Project biodiversity offset strategy.	Dr Colin Driscoll concludes that the Project would improve the biodiversity values of the region in the medium to long-term with the implementation of the proposed Biodiversity Offset Strategy. Additional information regarding potential impacts of the Project on biodiversity, including potential impacts on the Regent Honeyeater and additional offset considerations, are provided in Sections 2.3 and 3.3 of this document.
L2	Biodiversity	Concerns that the Project would increase the proximity of mining to the Munghorn Gap Nature Reserve and would adversely impact on the Nature Reserve.	The approved Wilpinjong Coal Mine operates in the immediate vicinity of the Munghorn Gap Nature Reserve. Clearing of vegetation adjoining the reserve would be a short to medium-term impact. The pits would be progressively mined and rehabilitated to minimise the potential short-term edge effects from the Project. A key objective of the mine rehabilitation in the long-term is to increase the continuity of woodland vegetation by establishing links between woodland vegetation in the rehabilitation areas and existing vegetation in the Munghorn Gap Nature Reserve (i.e. a post-mining improvement in ecological connectivity). Refer to WCPL's responses to OEH's comments regarding proximity of mining to Munghorn Gap Nature Reserve for additional information (Section 2.3 of this document).
L3	Biodiversity	Concerns that traffic increases would result in increased roadkill.	The NSW Framework for Biodiversity Assessment (OEH, 2014a) states that it does not account for direct impacts on fauna from vehicle strike. Although traffic would increase, the Project would involve similar potential impacts from vehicle strike as the existing/approved Wilpinjong Coal Mine.

Issue ID No.	Subject	Issues Raised	Response
M1	Final Voids	Concerns that Project final voids would have long-term impacts on downstream water resources or the local environment and would sterilise land.	Final void water levels in Pit 2 and Pit 6 are expected to reach an equilibrium within approximately 100 years. The maximum void water levels are also expected to be well below the crest of the void and hence would not spill to the environment (WRM Water and Environment, 2015). The simulated water level in the Pit 8 final void reaches a maximum of approximately 2 m, which is 33 m below the crest of the void. The void would regularly be dry and would not spill to the environment (WRM Water and Environment, 2015). HydroSimulations (2015) conclude there would be no discernible deterioration in groundwater quality in the porous rock or alluvial groundwater systems as a result of mining, including in the long-term. The Wilpinjong Extension Project Economic Assessment considered the economic efficiency of the Project by conducting a benefit cost analysis. The Project is estimated to have a positive net benefit and hence is desirable and justified from an economic efficiency perspective, including consideration of a range of potential environmental externality costs. The benefit cost analysis considered the costs associated with the foregone agricultural land (production).
M2	Final Voids	Concerns that final voids are not acceptable and should be backfilled if the Project is to proceed.	The low strip ratio (the ratio of waste rock [bcm] removed per tonne of coal) at the Project relative to most other open cut mining operations in NSW allows for the majority of waste rock to be placed in the mine voids behind the advancing open cut operations. There is no large out-of-pit waste rock emplacements associated with the approved Wilpinjong Coal Mine final landform or the Project final landform. The low strip ratio results in a final landform that is generally similar to the pre-mining landform (i.e. elevations and slopes) with an undulating landform and gentle slopes. WCPL has considered the option of altering material handling to achieve only two final voids at the Project, consistent with the approved Wilpinjong Coal Mine (i.e. backfilling the Pit 8 final void). However, investigations by WCPL suggest this would add significantly to operating costs and would also have potential additional environmental implications. Further discussion on this topic is provided in Section 2.6 of this document.
M3	Final Voids	Concerns regarding final void long-term stability.	WCPL has considered the geotechnical implications of the Project, including the geotechnical implications of final voids (Attachment 8 of the EIS). The assessment concluded that the Project does not raise any material additional geotechnical issues. Existing management measures and data collection would continue to be applied to manage geotechnical stability for the open cut extensions and associated final landform design and construction.

Issue ID No.	Subject	Issues Raised	Response
N1	Health	Concerns that the potential impacts of the Project on health have not been suitably addressed.	It is noted that NSW Health, in its submission for the Project, stated: *The EIS for the Wilpinjong Extension Project has been reviewed and the Secretary's Environmental Assessment Requirements have been met.* It is also noted that the criteria assessed against in the EIS are generally developed for the protection of human health (e.g. $PM_{2.5}$ criteria), except where they have been developed for the protection of amenity (e.g. dust deposition criteria).
N2	Health	Concerns that the Project should not be approved following the publication of research into Black Lung Disease.	Black Lung Disease is a known occupational health and safety management issue for the coal mining industry generally. Order 41 was approved by the NSW Government on 11 February 2011. It requires employers of coal mine workers and operators in NSW to ensure that pre placement and periodic (at least every three years) medical assessments are completed for every employee. Regular health screening helps keep the NSW coal mining industry free from diseases such as pneumoconiosis or 'black lung' (CS Health, 2016). The recent identification of a number of Black Lung Disease cases in Queensland is not specifically relevant to the Project, which is an open cut coal mine.
O1	Land Use	Concerns that the Project would have adverse impacts on productive agricultural land.	The Project and the potential biodiversity offset areas would result in a long-term reduction of the area of agricultural land of approximately 656 ha, subject to finalisation of the Project biodiversity offset package. These potentially sterilised agricultural lands are not biophysical Strategic Agricultural Land, as described in the Wilpinjong Extension Project Land and Soil Assessment (McKenzie Soil Management, 2015). Consideration of the economic value of lost agricultural production on these lands is provided in Wilpinjong Extension Project Economic Assessment (Deloitte, 2015). In addition, WCPL would implement a progressive rehabilitation program which aims to rehabilitate the site to a state that would minimise the incompatibility of the Project with existing and future land uses in the area. The rehabilitated final landform would incorporate agricultural land and native woodland vegetation.

Issue ID No.	Subject	Issues Raised	Response
O2	Land Use	Concerns that mining is not compatible with other land uses in the region.	Land use in the vicinity of the Wilpinjong Coal Mine (and the Project) is characterised by a combination of coal mining operations, conservation areas, agricultural land uses and the Village of Wollar. The Project would be operated in a manner as to minimise potential impacts on the environment and alternative land uses on adjoining lands (as described in Sections 4 and 7 of the EIS). A consideration of the compatibility of the Project with other nearby land uses is provided in Attachment 5 of the EIS, which concluded that the Project is not incompatible with existing, approved or likely adjoining land uses.
O3	Land Management	Concerns that the application of pest control measures on Peabody Energy-owned land is not suitably controlling foxes.	Peabody Energy participates in fox and wild dog baiting programmes in co-operation with other landholders in the area as administered by the Goulburn River Wild Dog Association and Local Land Services (it is noted that this baiting is controlled to avoid baiting close to residences).
O4	Land Management	Concerns that Peabody Energy pastoral land management techniques increases the risk of grass fires.	Pastoral land management techniques consistent with general industry practice are employed by lessees who operate on Peabody Energy land. In addition, WCPL also maintains its own fire truck and suitably RFS trained staff to assist in primary response or support in the event of a bushfire emergency.
O5	Land Management	Concerns that Peabody Energy-owned buildings in Wollar are not being maintained.	Peabody Energy-owned buildings in the Village of Wollar and surrounds are suitably maintained and leased to mine employees or other members of the community if they are habitable. A number of dwellings that were not habitable or comprised a safety hazard due to asbestos when Peabody Energy purchased them have been progressively demolished in accordance with relevant Council approvals.

Issue ID No.	Subject	Issues Raised	Response
P1	Cumulative Impacts	Concerns that the potential cumulative impacts of the Project and other mines have not been sufficiently considered.	The existing Wilpinjong Coal Mine and nearby other existing, approved and proposed mining operations have been considered in the EIS, including (Section 2.5 of the EIS): • Moolarben Coal Complex; • Ulan Mine Complex; • Bowdens Silver Project; • Bylong Coal Project; and • Cobbora Coal Mine. Potential cumulative impacts associated with operational noise, air quality, groundwater, surface water biodiversity, road transport and population/community infrastructure were particularly considered and are described where relevant in the EIS.
Q1	Barigan Valley	Concerns that the development of Wilpinjong Coal Mine has increased social isolation on farms.	It is noted that the location of Barigan Valley is approximately 20 km south of the Wilpinjong Coal Mine. The Barigan Valley area is geographically isolated due to topography and road infrastructure. However, the potential for increased social isolation associated with a falling local population is acknowledged in the Wilpinjong Extension Project Social Impact Assessment Elliott Whiteing, 2015) conducted for the Project.
Q2	Barigan Valley	Concerns that the development of Wilpinjong Coal Mine has affected groundwater levels in Barigan Valley.	It is noted that the location of Barigan Valley is approximately 20 km south of the Wilpinjong Coal Mine. HydroSimulations (2015) notes that potential groundwater drawdowns are naturally restricted from developing to the south of the Wilpinjong Coal Mine by the outcropping of the Shoalhaven Group and/or naturally unsaturated nature of the Ulan Coal Seam. This is confirmed by the modelled groundwater drawdown for the Ulan Coal Seam shown on Figure 6-5 of the Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015). Additionally, in response to concerns raised by water users further upstream in the Barigan Valley area during 2014, two new piezometers (GWa34 and GWc34) were installed upstream of the Village of Wollar on Wollar Creek (Figure 1b). WCPL also provides regular updates on groundwater monitoring results to the Community Consultative Committee, which is the appropriate forum for any community requests for augmentation of the existing groundwater monitoring programme.

Issue ID No.	Subject	Issues Raised	Response
R1	Hunting	Concerns that mine workers are hunting from public roads.	WCPL does not condone any illegal activities and encourages direct reporting of any illegal activity directly to the police. In addition, WCPL works with local landholders to actively identify and report any illegal hunting activities in the vicinity of the mine (e.g. collection of licence plate numbers and reporting to police).
S1	Visual	Concerns regarding the effects of existing Wilpinjong Coal Mine and Project night-lighting on star gazing.	A Visual Assessment for the Project was undertaken by Marc & Co and Resource Strategies (2015). Potential night-lighting impacts were considered and it was concluded that the nature of the night-lighting for the Project would be similar to the existing night-lighting at the Wilpinjong Coal Mine and the change in potential night-lighting impacts associated with the Project would be minor.
S2	Visual	Concerns that the Project would affect visual amenity of the local area.	A Visual Assessment for the Project was undertaken by Marc & Co and Resource Strategies (2015). The Visual Assessment considered potential visual impacts of the Project at sensitive viewpoints including private dwellings, Munghorn Gap Nature Reserve, Goulburn River National Park, local roads and the Sandy Hollow Gulgong Railway. The potential visual impacts of the Project were considered to be low or very low after final rehabilitation.
T1	General	Concerns regarding the need for the Project and its justification in the context of the approved mine.	The Project would involve the production of approximately 95 Mt of additional ROM coal in comparison to the approved Wilpinjong Coal Mine. An Economic Assessment has been completed for the Project by Deloitte (2015). The benefit cost analysis indicates a net benefit of approximately $735 million would be foregone if the Project is not implemented. WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects. The ultimate decision as to weighing up the potential impacts and benefits of the Project lies with the determining authorities (i.e. NSW Minister for Planning and Federal Minister for the Environment, or their delegates).
T2	General	Concern that the continued extraction of low quality coal does not justify the environmental and social impacts of the Project.	Refer to the response above.

Issue ID No.	Subject	Issues Raised	Response
T3	General	Concern that the previous predictions for the Wilpinjong Coal Mine have not been accurate and therefore the actual impacts may not be consistent with the EIS.	The Wilpinjong Coal Mine is obligated to operate in accordance with the relevant noise, blasting and air quality assessment criteria and water release conditions specified in Project Approval 05-0021 and EPL 12425. Monitoring conducted in accordance with approved noise, blasting and air quality management plans has shown that, with the implementation of applicable management measures, and where necessary real-time controls, the Wilpinjong Coal Mine can operate within relevant noise, blasting and air quality criteria at the nearest private receivers. As described in the EIS: • WCPL reported compliance with relevant noise limits at the nearest privately-owned receivers during the most recent Independent Audit period between 2012 and 2014 (AECOM Australia, 2015) and the January to August 2015 period (WCPL's EPL 12425 compliance summary reports) (SLR Consulting, 2015). • Between 2012 and August 2015, no airblast or vibration results exceeding the blast criteria were recorded at privately-owned receivers. • PM_{10} monitoring results show that since monitoring commenced in 2006, there have been no exceedances of the EPA annual average criterion of 30 µg/m³. • There were no complaints received in relation to surface water or groundwater impacts in 2014, 2015 or January to February 2016. The Wilpinjong Extension Project Noise and Blasting Assessment was peer reviewed by Mr Richard Heggie (Director, SLR Consulting), who concluded that the report is comprehensive, conforms to the relevant guidelines and has been undertaken in a professional manner. The Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment was peer reviewed by Dr Nigel Holmes, who concluded that the report followed the relevant assessment procedures and was a realistic assessment of the effects of the Project on air quality. The Wilpinjong Extension Project Groundwater Assessment was peer reviewed by Kalf and Associates (Dr Frans Kalf) who concluded that the hydrogeological description, conceptualisation, model design, simulations and reporting had been conducted in a professional manner. The Wilpinjong Extension Project Surface Water Assessment was peer reviewed by Emeritus Professor Thomas McMahon (Emeritus Professor of the Department of Civil and Environmental Engineering at The University of Melbourne) who concluded that the assessment was completed in a professional and detailed manner. The Peer Review reports are presented in Attachment 4 of the EIS. Given the above, the predicted impacts presented in the EIS are considered to provide an accurate representation of the potential impacts of the Project.

Issue ID No.	Subject	Issues Raised	Response
T4	General	Concerns that a complete independent review of the Project has not been undertaken.	As described above, a number of the key specialist reports prepared for the EIS have been subject to Peer Review. In addition, the DP&E will conduct its own independent review of the Project and provide its recommendation to the PAC for an independent review and subsequent determination of the Project.
T5	General	Concerns that more consultation should be undertaken during all stages of the Project.	Consultation for the Project has been undertaken in accordance with the SEARs. A description of all consultation undertaken for the Project is provided in Section 3 of the EIS.
T7	General	Concerns regarding the flow of information from the mine to the community through the Community Consultative Committee.	The Wilpinjong Coal Mine Community Consultative Committee is chaired by an independent facilitator and finalised meeting minutes are available on the Wilpinjong Coal website. WCPL has extensively consulted with the Community Consultative Committee and the community regarding the Project as described in Section 3 of the EIS.
T8	General	Concerns that reduced complaints about the Wilpinjong Coal Mine are due to land purchases as opposed to good management.	The Wilpinjong Coal Mine is obligated to operate in accordance with the environmental conditions specified in Project Approval 05-0021 and EPL 12425. As described in the Section 4.3.1 of the EIS, noise management at the Wilpinjong Coal Mine is currently undertaken in accordance with the Noise Management Plan, which outlines: • noise mitigation measures and controls; • the noise monitoring and reporting regimes; and • procedures for the management of exceedances and complaints. The noise monitoring system in place at the Wilpinjong Coal Mine provides real-time access to noise data and provides the capacity to set a real-time target noise level (e.g. 2 dB below the compliance level). WCPL also implement a proactive property strategy. A discussion of the recent complaints history is provided in the EIS. It is noted that in 2016, to date some 18 complaints have been recorded from 6 complainants. The DP&E's support for Peabody Energy's proactive property strategy was articulated in the Wilpinjong Coal Mine Modification 6 assessment report (DP&E, 2014).

Issue ID No.	Subject	Issues Raised	Response
T9	General	Concerns that the Risk Assessment has not been reviewed against the experience of other communities who have been adjacent to mining operations.	The Wilpinjong Extension Project Environmental Risk Assessment was facilitated by Dr Peter Standish (SP Solutions, 2015). Dr Standish has 35 years' experience in open cut mining operations with operating, managerial and contract management experience and has been involved in environmental risk review for nine years. The Environmental Risk Assessment Team included a number of Peabody Energy and WCPL employees with significant mining experience and familiarity with the local area. Details of the team members and their relevant qualifications and experience are included in the Wilpinjong Extension Project Environmental Risk Assessment (SP Solutions, 2015).

Issue ID No.	Subject	Issues Raised	Response
U1	Water Resources	Concerns that the potential impacts of the Project on water resources (i.e. supply or water quality) may be greater than predicted.	The Wilpinjong Coal Mine is obligated to operate in accordance with the groundwater and surface water management conditions specified in Project Approval 05-0021 and EPL 12425. The ongoing impacts on groundwater and surface water systems associated with the approved Wilpinjong Coal Mine are consistent with the previously predicted impact, as summarised below: • There were no complaints received in relation to surface water or groundwater impacts in 2014, 2015 or January to February 2016. • No mining effects have been observed in any hard rock or alluvial monitoring bores in the Village of Wollar (HydroSimulations, 2015). • A general trend for mining-related drawdown is apparent in coal seam hydrographs, typically within a few hundred metres of active mine areas, but drawdown is much less apparent, if apparent at all, in alluvial bore hydrographs (HydroSimulations, 2015). • On the basis of the available data, there does not appear to be any discernible change in Wilpinjong Creek, Cumbo Creek or Wollar Creek pH, EC and sulphate concentrations since the commencement of mining (Gilbert and Associates, 2013). • The recently perceived increase in salinity along Wilpinjong Creek is within the range observed by previous monitoring and there is no evidence to suggest it is mining related (Appendix D). The Wilpinjong Extension Project Groundwater Assessment was peer reviewed by Kalf and Associates (Dr Frans Kalf) who concluded that the hydrogeological description, conceptualisation, model design, simulations and reporting had been conducted in a professional manner. The Wilpinjong Extension Project Surface Water Assessment was peer reviewed by Emeritus Professor Thomas McMahon (Emeritus Professor of the Department of Civil and Environmental Engineering at The University of Melbourne) who concluded that the assessment was completed in a professional and detailed manner. The Peer Review reports are presented in Attachment 4 of the EIS. Given the above, the Surface Water and Groundwater Assessments presented in the EIS are considered to provide an accurate representation of the potential impacts of the Project on groundwater and surface water systems.

Issue ID No.	Subject	Issues Raised	Response
U2	Water Resources	Concerns that the Project poses a threat to reliable groundwater or surface water supply.	All privately-owned WALs in the Wollar Creek catchment are located on Wollar Creek upstream of its confluence with Wilpinjong Creek (i.e. upstream of any potential impacts of the Wilpinjong Coal Mine incorporating the Project). As there are no private surface water users on Wilpinjong or Wollar Creeks downstream of the Wilpinjong Coal Mine, any impact on other private water users (i.e. downstream on the Goulburn River) due to the Wilpinjong Coal Mine (incorporating the Project) would be too small to measure (WRM Water and Environment, 2015). No groundwater drawdown exceeding the AIP (NSW Government, 2012) minimal impact consideration of 2 m at a sub-surface water supply construction such as a bore or well is predicted to occur on any privately-owned land (HydroSimulations, 2015). Drawdown exceeding the AIP (NSW Government, 2012) minimal impact consideration of 2 m is however predicted at one bore in the porous rock aquifer located on Crown land at the Wollar Public School (HydroSimulations, 2015). The Wollar Public School bore is screened in the Shoalhaven Group, which is relatively low-yielding. The bore is 60 m deep, with approximately 40 to 50 m of available drawdown. The maximum predicted drawdown is 6 m, meaning that the bore is unlikely to go dry as a result of the Project (HydroSimulations, 2015). Consistent with the requirements of the AIP (NSW Government, 2012), WCPL would continue to implement appropriate contingency measures for Project related drawdown greater than 2 m at any relevant private or public groundwater bores. Given the above, the Project is not considered to pose a threat to any privately-owned groundwater or surface water supply. DPI Water are responsible for the allocation of water in the region. DPI Water has established water management plans to balance the competing needs of the environment and water users. Based on the groundwater modelling, WCPL currently hold licences sufficient to cover the modelled groundwater inflows from the alluvial and porous rock groundwater sources (Table 2). Therefore, the Project would not result in any material change to the allocation of water in the region.

Issue ID No.	Subject	Issues Raised	Response
U3	Water Resources	Concerns that an independent regional study of the cumulative impacts of mining should be conducted.	Potential cumulative impacts on water resources have been considered in the Wilpinjong Extension Project Groundwater Assessment (HydroSimulations, 2015) and Wilpinjong Extension Project Surface Water Assessment (WRM Water and Environment, 2015). Potential impacts of the Project on surface water flow and quality in the Goulburn River are anticipated to be negligible (WRM Water and Environment, 2015). Therefore, a regional study of the impacts of mining on the Upper Goulburn River or Hunter River is not considered necessary to assess this Project.
U4	Water Resources	Concerns regarding potential impacts to upland swamps.	There are no upland swamps in the vicinity of the Project.
U5	Water Resources	Concerns regarding potential impacts to springs.	Groundwater modelling completed for the Project indicates there would be no discernible effect on any perched groundwater or springs in the Goulburn River National Park or Munghorn Gap Nature Reserve (i.e. in the Triassic Wollar Sandstone/Narrabeen Group) (HydroSimulations, 2015).
U6	Water Resources	Concerns that the Project would have adverse impacts on the Goulburn River due to groundwater drawdown.	Groundwater modelling conducted by HydroSimulations (2015) has considered baseflow capture from the Goulburn River as a result of the Project and concludes that it would be negligible.
V1	Rehabilitation	Concerns about how the NSW Government ensures that restoration of the land occurs at the end of the Project.	WCPL has lodged a rehabilitation security deposit for the Wilpinjong Coal Mine with the NSW Government in accordance with the requirements of the Mining Act. The rehabilitation security deposit is based on a rehabilitation cost estimate prepared in accordance with the Rehabilitation cost estimate guidelines (Department of Industry and Investment, 2012) for the current MOP period. The rehabilitation security deposit is in the form of a bank guarantee. WCPL would continue to maintain a rehabilitation security deposit for the Project with the NSW Government.

Issue ID No.	Subject	Issues Raised	Response
V2	Rehabilitation	Concerns that rehabilitation will not be able to return land affected by the Project to its original quality.	The Wilpinjong Extension Project Land and Soil Assessment was undertaken by McKenzie Soil Management (2015) which included detailed characterisation of the soil resources at the Project. McKenzie Soil Management (2015) completed a preliminary inventory of soils that would be suitable for use as plant growth media for the post-mine land uses (i.e. nature conservation [woodland] and agricultural [mixed woodland/pasture]) to determine the quantity of suitable soil available for rehabilitation. Based on the McKenzie Soil Management (2015) soil resource inventory, there would be sufficient soil available in the Project open cut extension areas to meet the requirements of the rehabilitation concepts (Section 5.3.2 of the EIS). Given the above, it is considered that there are sufficient suitable soil resources available for the proposed post-mine land uses (including nature conservation [woodland]).
V3	Rehabilitation	Concerns that existing rehabilitation associated with the Wilpinjong Coal Mine has not been adequate.	WCPL considers that the current rehabilitation performance at the Wilpinjong Coal Mine indicates good progress towards achieving the relevant rehabilitation objectives and completion criteria with the continued application of adaptive rehabilitation management. The most recent Independent Environmental Audit (AECOM Australia Pty Ltd, 2015), conducted in accordance with Condition 9 of Schedule 5 of Project Approval 05-0021, included a review of the adequacy of rehabilitation activities at the Wilpinjong Coal Mine and concluded that overall rehabilitation completed to date is of a high standard.
V4	Rehabilitation	Concerns that rehabilitation and mitigation costs will outweigh any economic benefits provided by the Project.	The Wilpinjong Extension Project Economic Assessment (Deloitte, 2015) considered the economic efficiency of the Project by conducting a benefit cost analysis. The Project is estimated to have a positive net benefit and hence is desirable and justified from an economic efficiency perspective, including consideration of a range of potential environmental externality costs (e.g. rehabilitation costs, noise and air quality mitigation costs).
W1	Policy	Concerns that NSW Government policies favour development proponents over landholders and small communities.	WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects. The ultimate decision as to weighing up the potential impacts and benefits of the Project and potentially competing land uses lies with the determining authorities (i.e. NSW Minister for Planning and Federal Minister for the Environment, or their delegates).
W2	Policy	Concerns that NSW Government policies should be supporting non-fossil fuel energy generation.	WCPL has assessed the Project in the context of NSW Government policies and guidelines that apply to the assessment and development of coal mine projects. Development of NSW Government policy on future sources of energy is not a matter for consideration by WCPL.

Issue ID No.	Subject	Issues Raised	Response
X1	No Specific Issue Raised or Statement of Philosophical Opposition	Philosophical opposition to coal mining or coal mining companies was articulated in a range of forms.	WCPL acknowledges that some people philosophically oppose coal mining projects. However, the Project is a coal mining proposal that is permissible within the NSW approval process.

6 REFERENCES

AECOM Australia (2015) *Independent Environmental Audit Wilpinjong Coal Mine*.

ARRB Group (2011) *Ulan Road Strategy.*

Australasian Groundwater and Environmental (2005) *Wilpinjong Coal Project Environmental Impact Statement – Bore Census.*

Australia International Council on Monuments and Sites (2013) *Burra Charter*.

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand (2000) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality.*

Australian Bureau of Statistics (2016) *6202.0 Labour Force Australia.* Website: http://www.ausstats.abs.gov.au/ausstats/meisubs.nsf/0/BA45AE421C9A66A8CA257F7800134CC8/$File/62020_feb%202016.pdf
Date Accessed: February 2016.

BIO-ANALYSIS: Marine, Estuarine and Freshwater Ecology (2005) *Wilpinjong Coal Project Aquatic Ecosystem Assessment*.

Biodiversity Monitoring Services (2013) *Wilpinjong Coal Mine Modification – Terrestrial Fauna Assessment.*

BirdLife International (2016) *Important Bird and Biodiversity Area Fact Sheet.* Website: http://www.birdlife.org/
Date Accessed: April 2016.

Commonwealth Department of Employment (2016) *LGA Data tables – Small Area Labour Markets – December quart 2015.*

CS Health (2016) *NSW Coal Order 41 Information*.

Deloitte Access Economics (2015) *Wilpinjong Extension Project Economic Assessment*.

Department of Environment and Climate Change (2009) *Interim Construction Noise Guideline*.

Department of Environment and Conservation (2005) *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales.*

Department of Industry and Investment (2012) *Rehabilitation cost estimate guidelines.*

Department of Planning and Environment (2014a) *Wilpinjong Coal Mine Pit Extensions and CHPP Optimisation Modification – Assessment Report*.

Department of Planning and Environment (2014b) *Wilpinjong Coal Mine Production Optimisation Modification – Assessment Report*.

Elliot Whiteing (2015) *Wilpinjong Extension Project Social Impact Assessment.*

Geo-Environmental Management (2015) *Wilpinjong Extension Project Environmental Geochemistry Assessment of Overburden, Interburden and Coal Rejects.*

Gilbert & Associates (2013) *Wilpinjong Coal Mine Modification Surface Water Assessment*.

Gilbert and Associates Pty Ltd (2005) *Wilpinjong Coal Project Surface Water Assessment*.

GTA Consultants (2015) *Wilpinjong Extension Project Road Transport Assessment.*

Hanson Bailey (2015) *Bylong Coal Project Environmental Impact Statement.*

Hunter Eco (2015) *Wilpinjong Extension Project Biodiversity Assessment Report and Biodiversity Offset Strategy*.

HydroSimulations (2015) *Wilpinjong Extension Project Groundwater Assessment*.

International Energy Agency (2015) *World Energy Outlook 2015.*

Lloyd Consulting Environmental Services (2015) *Wilpinjong Extension Project Land Contamination Assessment.*

Marc & Co and Resource Strategies (2015) *Wilpinjong Extension Project Visual Assessment.*

McKenzie Soil management (2015) *Land and Soil Assessment: Wilpinjong Extension Project Wollar, NSW*.

Moolarben Coal (2015) *Moolarben Coal Complex OC4 South-west Modification Response to Submissions*.

National Health and Medical Research Council (2011) *Australian Drinking Water Guidelines*.

New South Wales Government (2012) *Aquifer Interference Policy*.

New South Wales Government (2015) *Guidelines for the economic assessment of mining and coal seam gas proposals: Draft for consultation.*

New South Wales Heritage Office and New South Wales Department of Urban Affairs and Planning (1996) *NSW Heritage Manual.*

New South Wales Rural Fire Service (2006) *Planning for Bush Fire Protection 2006.*

New South Wales Rural Fire Service (2014) *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan.*

Niche Environment and Heritage (2015) *Wilpinjong Extension Project Historical Heritage Assessment.*

Office of Environment and Heritage (1996) *Statement of Heritage Impact.*

Office of Environment and Heritage (2006) *The Hunter River Water Quality Objectives.*

Office of Environment and Heritage (2011) *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.*

Office of Environment and Heritage (2013) *Guidelines for Developments Adjoining Land Managed by the Office of Environment and Heritage.*

Office of Environment and Heritage (2014a) *NSW Framework for Biodiversity Assessment.*

Office of Environment and Heritage (2014b) *NSW Biodiversity Offset Policy for Major Projects.*

Office of Environment and Heritage (2015a) *New South Wales Air Quality Statement 2015*.

Office of Environment and Heritage (2015b) *Credit Calculator and BioNet Threatened Species Profile Database*.

Pacific Environment Limited (2013) *Wilpinjong Gases Review*.

Pacific Environment Limited (2015) *Bylong Coal Project – Air Quality & Greenhouse Gas Impact Assessment*.

Shafiee S, Nehring M and Topal E (2009) *Estimating average total cost of open pit coal mines in Australia*, Australian Mining Technology Conference 27-28 October 2009, pp. 134-145.

SLR Consulting (2015) *Wilpinjong Extension Project Noise and Blasting Assessment*.

South East Archaeology (2015) *Wilpinjong Extension Project Aboriginal Cultural Heritage Assessment.*

SP Solutions (2015) *Wilpinjong Extension Project Environmental Risk Assessment.*

Todoroski Air Sciences (2014) *Cumulative Impact Assessment Mt Arthur, Bengalla and Mangoola Coal Mines*.

Todoroski Air Sciences (2015) *Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment*.

Ulan Coal Mines Limited (2010) *Ulan Coal Continued Operations Response to Submissions.*

Victorian Government (2014) *Hazelwood Mine Fire Inquiry Report*.

Vine and Dutson (2014) *IBAs in Danger: The State of Australia's Important Bird and Biodiversity Areas.*

Wilpinjong Coal Pty Limited (2005) *Wilpinjong Coal Project Environmental Impact Statement.*

Wilpinjong Coal Pty Limited (2014) *Wilpinjong Coal Mine Erosion and Sediment Control Plan.*

Wilpinjong Coal Pty Limited (2014) *Wilpinjong Coal Project Open Cut Operations Mining Operations Plan 2014 – 2019 (Amendment B 2014).*

Wilpinjong Coal Pty Limited (2014) *Wilpinjong Coal Surface and Ground Water Response Plan.*

WRM Water & Environment (2015) *Wilpinjong Extension Project Surface Water Assessment*.

Appendix A

Pro-forma Public Submissions Table

Submission ID No.	Name	Submitter Locality
140598	Name Withheld	Catherine Hill Bay, NSW
140685	Alison Potter	Rozelle, NSW
141402	Robin Varian	Northmead, NSW
141898	Gillian Lord	Turramurra, NSW
142846	Name Withheld	Goonellabah, NSW
142879	Henrietta Fraser	Ocean Shores, NSW
143105	Yvette Buchhorn	Mayfield, NSW
143200	Name Withheld	Upper Coomera, Qld
143334	Sharyn Munro	Upper Lansdowne, NSW
143343	Julie Sheppard	Razorback, NSW
143465	Ian Baird	Katoomba, NSW
143467	Jon Singleton	Sydney, NSW
143469	Ruth Bacchus	Peel, NSW
143471	Sabine Simmonds	Cremorne, NSW
143475	Corinne Mackenzie	Carlton, Vic
143477	Angelika Knoerzer	McMahons Point, NSW
143485	Emma Wilkie	Cromer, NSW
143487	Sigrid Visser	Pymble, NSW
143491	Name Withheld	Kingsford, NSW
143501	Name Withheld	Springwood, NSW
143505	Greg Warwick	Kiama, NSW
143511	Ian Taylor	Elizabeth Bay, NSW
143515	Robin Humphrey	Springwood, NSW
143523	Kevin McDonnell	Mulgoa, NSW
143525	Alan Carpenter	Ingleburn, NSW
143527	Name Withheld	Coolalinga, NT
143531	Yvonne Lollback	Warrimoo, NSW
143535	Robert Bell	Wollongong, NSW
143537	Carolyn van Langenberg	Blackheath, NSW
143551	Leigh Howlett	Camperdown, NSW
143555	Rachael Clifford	Coffs Harbour, NSW
143562	Name Withheld	West Ryde, NSW
143566	Marianne Wiseman	Raymond Terrace, NSW
143568	Kevin Taylor	Urunga, NSW
143570	Duane Norris	Hardys Bay, NSW
143572	Susan Phillips	Rozelle, NSW
143578	Felicity Crombach	Terrey Hills, NSW
143584	Beryn Jewson	Kanwal, NSW
143590	Jennifer West	Canberra, ACT
143598	Jane Parkes	Bellbird Heights, NSW
143602	Sam Durland	Wollongong, NSW
143604	Name Withheld	Balgownie, NSW

Submission ID No.	Name	Submitter Locality
143606	Peter Wesley-Smith	Kangaroo Valley, NSW
143622	Name Withheld	Tempe, NSW
143624	Christina Martin	Hornsby Heights, NSW
143626	Brett Wood	Clovelly, NSW
143640	Name Withheld	Weston Creek, ACT
143672	Dorit Herrmann	Stanmore, NSW
143678	Name Withheld	Rhodes, NSW
143688	Duncan Stitfold	Newton Boyd, NSW
143708	Roman Suwald	Cessnock, NSW
143710	Marian McIntosh	Randwick, NSW
143712	Mark Williams	Ocean Shores, NSW
143714	Name Withheld	Mosman, NSW
143722	Jorg Wichmann	San Remo, NSW
143749	Name Withheld	Moruya, NSW
143757	Justin Doyle	Mosman, NSW
143761	Andrew Berlach	Harrington, NSW
143765	Leonie Lyall	Wentworth Falls, NSW
143769	Penelope Shield	Centennial Park, NSW
143785	Name Withheld	Turramurra, NSW
143809	Sarah Daniels	Woodford, NSW
143811	Karen Gurton	Erowal Bay, NSW
143813	Name Withheld	East Ryde, NSW
143815	Deborah Lilly	Mullumbimby, NSW
143817	Jenny Hughes	Pearl Beach , NSW
143823	Stephanie Bull	Mount Victoria, NSW
143825	Charmaine Hermansysh	Enfield, NSW
143837	Jennifer Gray	Byron Bay, NSW
143839	Tim Collins	Armidale, NSW
143843	Sascha Towson	Asquith, NSW
143853	Wendy White	East Maitland, NSW
143856	Robert McLaughlin	Bulga, NSW
143862	Anne Maree McLaughlin	Bulga, NSW
143892	Phil Packham	Berowra Hts, NSW
143900	Tania De Bortoli	Katoomba, NSW
143929	Kane Lunn	Greenwich, NSW
143931	Beatrice Lucas	Trinity Beach, Qld
143933	Susann Runciman	Dungong, NSW
143935	Name Withheld	Lisarow, NSW
143939	Pamela Reeves	Gladesville, NSW
143945	Roger Perry	Gladesville, NSW
143963	Melanie Elphick	Stanmore, NSW
143968	Kathryn McCallum	Artarmon, NSW
143974	Warren Burkinshaw	Arcadia, NSW

Submission ID No.	Name	Submitter Locality
143994	Name Withheld	Burwood, NSW
143996	Name Withheld	Sydney, NSW
143999	Madi Maclean	Katoomba, NSW
144001	Susanne Skates	Booral , NSW
144024	Jessica Eisenhauer	Mollymook Beach, NSW
144034	Name Withheld	North Narooma, NSW
144056	Georgette Allan	Valla Beach, NSW
144122	Vicki Lennon	Manilla, NSW
144126	Name Withheld	MacMasters Beach, NSW
144128	Name Withheld	Wahroonga, NSW
144171	Michael Green	Ryde, NSW
144180	Dave Thompson	Bondi, NSW
144192	Terry Burrows	Kandos, NSW
144206	Rodger Jamieson	Bondi, NSW
144252	Karen Hising	Wentworth Falls, NSW
144267	Carol Collins	Dover
144271	Suraya Coorey	Belmore, NSW
144277	Charmian Eckersley	Eraring, NSW
144295	Sue McCcarthy	Belfield, NSW
144297	Name Withheld	Stanmore, NSW
144317	Bronwyn Vost	Hurlstone Park, NSW
144328	Name Withheld	Clandulla, NSW
144348	Name Withheld	Burra, NSW
144352	Sarah Box	Adamstown Heights, NSW
144394	Alicia Lloyd	Manly, NSW
144468	Name Withheld	Gundy, NSW
144492	Catherine Woolnough	Baulkham Hills, NSW
144526	Name Withheld	Sydney, NSW
144687	Anthony MacDougall	Mudgee , NSW
144694	Sue Makin	Mudgee, NSW
144696	Rob Fahy	Biragandil, NSW
144700	Venessa Fahy	Biraganbil , NSW
144702	Jahe Fahy	Biragandil, NSW
144706	James Westwood	Piambong, NSW
144708	John A Blue Hutchison	Kyogle, NSW
144710	Robert Campbell	Gulgong, NSW
144712	Sharon Frost	Yarrawonga, NSW
144716	Yolanda Rojaj	Cooks Gap , NSW
144718	Rick McGregor	Yarrawonga , NSW
144720	Ray Binns	Gulgong, NSW
144726	John Clarke	St Fillans, NSW
144732	Rhonda Westwood	Piambong, NSW

Submission ID No.	Name	Submitter Locality
144760	Fraser Stuart	Yarrawonga, NSW
144766	Robert Pichler	Cooks Gap , NSW
144770	Janelle Cooper	Gulgong, NSW
144772	Doris Pichler	Yarrawonga, NSW
144778	Greer Schoenfelder	Wollar , NSW
144780	Veronica Rheinberger	Mudgee, NSW
144784	Teena Cowper	Mudgee, NSW
144790	Victoria Tapp	Cooks Gap, NSW
144798	M Ryan	Mudgee, NSW
144800	Sonia Grant	Mudgee, NSW
144802	Kay Bushnell	Mudgee, NSW
144823	Belinda Webster	Charbon, NSW
144826	Terry Burrows	Kandos, NSW
144828	Kirsty Nicholas	Mudgee, NSW
144830	Virginia Nicholas	Beryl, NSW
144832	Leanne McKenzie	Hargraves , NSW
144834	Allan Wills	Rylstone, NSW
144836	Rodney McKenzie	Hargraves, NSW
144838	Sue Anne White	Mudgee, NSW
144840	Max Mosher	Camboon, NSW
144842	Andrew Pack	South Penrith, NSW
144844	Jill Grieve	Mudgee, NSW
144850	Barry Cowdan	Clandulla, NSW
144852	Fiona Arnott	Normanhurst, NSW
144856	Wendy Arnott	Mudgee, NSW
144860	Hannah Smiles	Mudgee, NSW
144862	Jeanette Smiles	Mudgee, NSW
144864	Gregory Smiles	Mudgee, NSW
144868	P.R. Grieve	Rystone, NSW
144870	Kacper Jankowski	Springwood, NSW
144874	Noel Compton	Beryl, NSW
144876	John Harding	Upper Growee, NSW
144878	Debra Bush	Rylstone, NSW
144882	Billie Johnstone	Botobolar , NSW
144884	Karon Grant	Rylstone, NSW
144888	Michael Strong	Bundeena, NSW
144891	Bibi Liati	Frog Rock , NSW
144897	M Rasink	Bundeena, NSW
144899	Simone Kurtz	Stony Creek , NSW
144903	Lucy Cooper	Springwood, NSW
144905	Margaret Payne	Mudgee, NSW
144907	Janet De Rooy	Mudgee, NSW
144912	Andrew Beesley	Mudgee , NSW
144918	Raymond Hicks	Kandos, NSW
144922	Rebekah Lampson	Mudgee, NSW

Submission ID No.	Name	Submitter Locality
144926	John Lee	Holsworthy, NSW
144928	K Carten	Ingleburn, NSW
144930	Dale Brown	Meroo, NSW
144932	Shaun Keating	Riverstone, NSW
144934	Jennifer Consodine	Mudgee, NSW
144936	Janett John	Unanderra, NSW
144938	Gregory Murphy	Epping, NSW
144941	Jesse Mitchell	Mudgee, NSW
144943	Graeme Dobbs	Carlingford, NSW
144945	Judy Gibbons	NSW
144948	Sonia Hayton	Mudgee, NSW
144950	Max Northam	Spring Flat, NSW
144952	Garth Downey	Bylong, NSW
144954	Brett Rapley	Mudgee, NSW
144956	Ross Kurtz	Mudgee, NSW
144958	Ron Wellsmore	Grattai, NSW
144960	Peter Smith	Mudgee, NSW
144962	Gary Wood	Mudgee, NSW
144964	Jorgen Anderson	Coxs Creek, NSW
144966	Jotto Pond	NSW
144968	Adrianne Anderson	Coolabah, NSW
144970	Karen Gatley	Mudgee, NSW
144972	Brooke Apap	Gulgong , NSW
144974	Cearna Illy	Mudgee, NSW
144976	Jacqui Bouf	Croydon, NSW
144980	Darren Walsh	Mudgee, NSW
144982	Jill Bowen	Forestville, NSW
144984	Peter Hughes	Lue, NSW
144986	Blake Pilley	Windeyer, NSW
144988	Rosalyn Brad	Lue, NSW
144990	Craig Nott	Mudgee, NSW
144992	Michael Brown	Mudgee, NSW
144994	David Nott	Tallawang, NSW
144996	Joy Brown	Budgewoi, NSW
144998	Justin Field	Mudgee, NSW
145000	N Brown	Mudgee, NSW
145002	Phil Bell	Mendooran, NSW
145004	Mary Ellen Burke	Lilyfield, NSW
145006	Arabella Sheene	Katoomba, NSW
145008	Neville Catt	Mudgee, NSW
145010	Lynda Goodman	Mudgee, NSW
145013	Sherry Catt	Mudgee, NSW
145015	Rob Smith	Bara, NSW
145020	Barry Slater	NSW
145023	Melinda Colley	Mudgee, NSW
145025	Kim Dobbs	Carlingford, NSW

Submission ID No.	Name	Submitter Locality
145029	Michelle Docker	Newport, NSW
145031	Michael Blewitt	Botobolar, NSW
145033	Paul Douglas	Mudgee, NSW
145035	Rob Duffy	Mudgee, NSW
145037	Kate Englebrecht	Mosman, NSW
145043	J Ferguson	Glenbrook, NSW
145045	Prue George	Rylstone, NSW
145047	Matthew Hay	Sadlier, NSW
145050	Susan Hay	Casula, NSW
145052	Donny Hobbs	Mudgee, NSW
145054	Jessica Honeysett	Goolma, NSW
145056	Jennifer Ismay	Leonay, NSW
145058	K Jackson	Lue, NSW
145062	G Johnson	Coolabah, NSW
145064	Craig Keenan	Mudgee, NSW
145066	Ellen Kent	Mudgee, NSW
145068	Brendon Garth Leary	Mudgee, NSW
145070	Jo-Anne Lee	Marsfield, NSW
145072	Fiona MacDonald	Ilford, NSW
145076	Angus MacDonald	Mudgee, NSW
145078	Christine McRae	Mudgee, NSW
145080	Peter J Monaghan	Upper Growee , NSW
145082	Paul Montalto	Oberon, NSW
145084	A R Moore	Mudgee, NSW
145086	Jan Moore	Mudgee, NSW
145088	J Patterson	Monivae, NSW
145090	Sue Pridmore	Rylstone, NSW
145092	Ellen Quinn	Budgewoi, NSW
145094	Brooke Rayner	Mudgee, NSW
145096	Doone Richmond	Lindfield, NSW
145098	Phil Ridley	Breakfast Creek, NSW
145100	Chontelle Rowland-Jones	Pyramul, NSW
145102	Shirley Smiles	Mudgee, NSW
145104	Nicole Smith	St Fillans, NSW
145106	Carmel Spark	Coxs Creek, NSW
145115	Janet Bateman	Mudgee, NSW
145117	Cameron Bell	Dubbo, NSW
145119	Colin Doherty	Goolma, NSW
145121	Adrian Spragg	Castlecrag, NSW
145123	Alex Douglas	Canowindra, NSW
145125	Anita Spragg	Castlecrag, NSW
145127	Chelsea Edwards	Mudgee, NSW
145129	Gail Fisher	Budgee Budgee (Mudgee), NSW
145131	Wendy Fisher	Milvale, NSW

Submission ID No.	Name	Submitter Locality
145133	Jordan Fraser	NSW
145135	John Wade	Corlette, NSW
145137	Jessica Grace	NSW
145139	Maxine Wade	Corlette, NSW
145141	Jo Holland	Mudgee, NSW
145143	Darcy Walker	Carwell , NSW
145145	Tracy Hollow	Cooyal, NSW
145147	Lola Yates	Rylstone, NSW
145149	Sue Youssef	Miranda, NSW
145151	Anne James	Mudgee, NSW
145155	Linda James	Mudgee, NSW
145157	Andrew Kenan	Mudgee, NSW
145159	Julie-Anne Maher	Mudgee, NSW
145161	Shimaare Milton	Mudgee, NSW
145163	Lachlan Mitchell	NSW
145165	J Morgan	Mudgee, NSW
145167	Darren O'Brien	Mudgee, NSW
145169	Yvonne Pye	Mudgee, NSW
145171	Janine Russell	Mudgee, NSW
145173	Diana Rutter	Running Stream, NSW
145175	Dave Aley	Carrara, Qld
145177	Anatta Abrahams	Rylstone, NSW
145179	Craig Andrews	Gulgong, NSW
145181	Allison Beer	Karis Flat, NSW
145183	Peter Austin	Mt Victoria , NSW
145185	Bryan Brassington	Forrestfield, WA
145187	Justin Balmain	Neutral Bay , NSW
145189	Ross Christian	Mudgee, NSW
145191	Liz Baron	Forsayth , Qld
145193	Wendy Best	Rylstone, NSW
145195	Audra Field	Mudgee, NSW
145197	Janelle Brydon	Rylstone, NSW
145199	Pagan Hockley	Dubbo, NSW
145201	Allan John Christensen	Unanderra, NSW
145203	Helen Palmer	Yarrawonga, NSW
145205	Todd Christensen	Rosemeadow, NSW
145207	Sarah Robertson	Mudgee, NSW
145209	Kylie Colvin	Unanderra, NSW
145211	Belinda Sinclair	NSW
145213	Pala Stait	Mudgee, NSW
145215	K Cowden	Clandulla , NSW
145217	Brian Wells	Mudgee, NSW
145219	Carolyn Barlow	Rylstone, NSW
145221	Vicki Wellsmore	Grattai, NSW
145223	Laura Fisher	Coogee, NSW

Submission ID No.	Name	Submitter Locality
145225	Steven Franklin	Mudgee, NSW
145227	Graeme Gardiner	Lue, NSW
145229	Bradley Gardner	Welby , NSW
145231	Elle Grace	Penrith, NSW
145233	Virginia Handmer	Rylstone, NSW
145235	Robert Harkin	Rylstone, NSW
145237	Paul Houlahan	Merriwa, NSW
145241	Drew Metlan	Wongarben, NSW
145243	Wendy Meurant	Tahmoor, NSW
145245	Di Meylan	Dubbo, NSW
145247	Glenn Meylan	Dubbo, NSW
145249	Louise Moore	Apple Tree Flat, NSW
145251	Kevin Norris	Tahmoor, NSW
145253	Steve Peacock	Dubbo, NSW
145255	Richard Simshouser	Rylstone, NSW
145257	Gus Smiles	Mudgee, NSW
145260	G Spencer	Marayong, NSW
145262	Mike Sweeney	Mudgee, NSW
145264	Paul Vonwilzei	Naremburn, NSW
145266	Rocky Warelmon	Dubbo, NSW
145268	Joanne Williams	Blackheath, NSW
145270	Anne Word	Rylstone, NSW
145273	Yvonne Bucknell	Mudgee, NSW
145275	Dawn Colley	Hargraves, NSW
145278	Debbie De Groot	Mudgee, NSW
145280	Rebecca Easterbrook	Mudgee, NSW
145282	John King	Mudgee, NSW
145286	Louise Manwoving	Cooyal, NSW
145288	Alison McAuliffe	Mudgee, NSW
145290	Wayde Moynahon	Yarrawonga, NSW
145292	Andrew Radclyffe	Mudgee, NSW
145294	Edward Sheen	Katoomba, NSW
145296	J Thomson	Carrara, Qld
145298	Peter Thomson	Miranda, NSW
145300	Glenn Van Reason	Windeyer, NSW
145357	Ewan & Merilyn Carvey	Mudgee, NSW
145360	Allan	Mudgee, NSW
145362	Emily Van Reason	Windeyer, NSW
145364	Ashley Honeysett	Goolma, NSW
145366	Anna Kebdi	Morisset, NSW
145368	Joy Markin	Mudgee, NSW
145370	Sue Vella	Hill End, NSW
145372	C Barnes	Empire Bay, NSW
145374	Dennis Grimshaw	Mudgee, NSW

Submission ID No.	Name	Submitter Locality
145376	Deb	Mona Vale, NSW
145378	Name Withheld	Mudgee, NSW
145387	Geoff Decker	Running Stream, NSW
145389	Megan	Mudgee, NSW
145391	Simon Gray	Mudgee, NSW
145393	Bonny Syaly	Mudgee, NSW
145395	Merilyn Yosher	Camboon, NSW
145399	Wayne Turner	Home Rule, NSW

Submission ID No.	Name	Submitter Locality
145401	Jerry Rohn	Kandos, NSW
145403	Gary Goodland	Mudgee, NSW
145407	Julie-Anne Suniman	Mudgee, NSW
145412	A Riley	Cooyal, NSW
145788	Michael Varman	Lindfield, NSW
147275	Gregory Cox	Tenterfield, NSW
147279	Leigh Gardiner	Lue, NSW
147281	Andrew Matheson	Mudgee, NSW

Appendix B

Other Public Submissions Table

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
139082	Name Withheld	Supports	N/A	Mudgee, NSW
139086	Darrell Hair	Objects	O5, K2, C1, C4, C6, V1, H2, A1	Orange, NSW
139108	Russel Marsh	Supports	N/A	Greengully, NSW
139965	Beryl Slade	Supports	N/A	Christchurch, New Zealand
140032	Nicola Barnes	Supports	N/A	Yarrawonga, NSW
140132	Name Withheld	Supports	N/A	Mudgee, NSW
140183	Paul Grimes	Supports	N/A	Wollar, NSW
140206	James Darmody	Supports	N/A	Budgee Budgee (Mudgee), NSW
140418	Richard Cade	Supports	N/A	Mudgee, NSW
140474	Penny Slade	Supports	N/A	Mudgee, NSW
140557	Emma Buckman	Objects	A1	Gulgong, NSW
140566	Gilbert Randall	Objects	X1	South Penrith, NSW
140581	Rodney Pryor	Objects	H1, T2, C2, C7, D1, E1, J1, F3, U1	Mudgee, NSW
140600	Jenny Brown	Objects	A1, A4, M1, G1, U1, C1	Clandulla, NSW
140608	Margaret Roberts	Objects	B1, W2, A1, W1	Leichhardt, NSW
140657	Neil Schofield	Objects	A1, A4, P1, B1, K1, L1, M1, C1, T2	Elizabeth Bay, NSW
140677	Name Withheld	Supports	N/A	Mudgee, NSW
140740	Juliet Fowler Smith	Objects	T2, A4, N1, A1	Balmain, NSW
140779	Name Withheld	Objects	X1	Rylstone, NSW
140888	Name Withheld	Objects	D1, E1, L1, U1, C1	Mudgee, NSW
140897	Name Withheld	Supports	N/A	Mudgee, NSW
140899	Name Withheld	Supports	N/A	Mudgee, NSW
140964	Name Withheld	Objects	A1, A4, D5, E3, P1, L1, L2, M1, U1, C3, C1, H1, T2, C2, O1	Faulconbridge, NSW
140985	Warwick Pearse	Objects	L2, L1, O1, N1, P1, B1, A1	Lane Cove, NSW
141067	Judith Leslie	Objects	B1, C5, C3, M1, L1, C4	Bulga, NSW
141071	Terry Burrows	Objects	C3	Kandos, NSW
141295	Name Withheld	Supports	N/A	Wollar, NSW
141406	Jodie Dunning	Objects	W1	Thirroul, NSW
141412	David Mason	Objects	C1, A1, M2, L1, D5, E3, P1, K1	Marrickville, NSW
141414	Anne Devine	Objects	X1	Warrubullen, Qld
141475	Alisha MacDougall	Supports	N/A	Mudgee, NSW
141556	Name Withheld	Objects	X1	Kenmore, Qld
141684	Bern Davies	Objects	D1, E1, T2, A4	Toronto, NSW
141798	Sally Kennedy	Objects	C1, H1, C8, A1	Longueville, NSW
142302	Carl Tane Schmidt	Objects	D5, I1, A3, T3, C2, M1, M2	Wollar, NSW
142393	Sean Mumford	Supports	N/A	Frog Rock, NSW
142395	Name Withheld	Supports	N/A	Mudgee, NSW
142399	Glen Pitt	Supports	N/A	Singleton, NSW
142427	Paula McPherson	Supports	N/A	Wilpinjong, NSW
142507	Name Withheld	Objects	X1	Goondiwindi, Qld
142559	Edward Farrugia	Supports	N/A	Clandulla, NSW
142586	Kellie Smith	Supports	N/A	Mudgee, NSW
142757	Name Withheld	Supports	N/A	Bombira, NSW
142808	Elisabeth Brasseur	Objects	D1, E1, C1, C2, L1, U1, C3, W2, L2	Mudgee, NSW
142825	David Toombs	Objects	A1	Wollar, NSW
142838	Paul Kreuzen	Objects	C2, H2	Gulgong, NSW
142850	Katrina Dukats	Objects	C2	Thirlmere, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
142884	Margaret Reid	Supports	N/A	Mudgee, NSW
142926	Name Withheld	Objects	T2, H1, C1, D1, E1, L1, K1, U1, B1, A1, M1, C3	Noraville, NSW
142944	Name Withheld	Supports	N/A	Mudgee, NSW
142946	Will Heesterman	Supports	N/A	Mudgee, NSW
142948	Name Withheld	Supports	N/A	Mudgee, NSW
142961	Name Withheld	Supports	N/A	Mudgee, NSW
142963	Name Withheld	Objects	K2	Maryland , NSW
142969	Name Withheld	Supports	N/A	Gulgong, NSW
142971	Susan Jordan	Supports	N/A	Mudgee, NSW
142973	Name Withheld	Supports	N/A	Mudgee, NSW
143008	Name Withheld	Supports	N/A	Chapel Hill, Qld
143022	Catherine Errey	Objects	C2, V1, L2, K2, N1, E1	Jannali, NSW
143029	Neil Jarman	Objects	A1, L1, L2, P1, C7	Barigan, NSW
143054	Margaret Edwards	Objects	A1, D5, E7, L2, M1, C3, T2, T4	East Maitland, NSW
143090	Susan Schneider	Objects	E1, E5, J1, E4, D1, E4, T5, A1, A3, F1, L1, T3, D3, E9	Wollar, NSW
143094	Keith Royle	Objects	L1, A1, V1	Jilliby, NSW
143100	Karthikeyan Nadarajan	Supports	N/A	Eight Mile Plains, Qld
143102	Bruce Hughes	Objects	C1, D1, E1, F1, B1, A5, A3, C2, I1	Wollar, NSW
143209	David Marshall	Supports	N/A	Mudgee, NSW
143232	Mary Thirwall	Objects	E4, D1, E1, J1, T2, K1	NSW
143261	Isabel McIntosh	Objects	B1, C1	Alexandria, NSW
143281	Steven Hyem	Objects	L1, U2	Engadine, NSW
143296	Name Withheld	Supports	N/A	Manly, Qld
143301	Karin Fogarty	Supports	N/A	Cooks Gap, NSW
143306	Name Withheld	Supports	N/A	Cooks Gap, NSW
143325	Denis Wilson	Objects	X1	Wyndham, NSW
143367	Jeanette Bierbaum	Supports	N/A	Cooyal, NSW
143403	Name Withheld	Supports	N/A	Mudgee, NSW
143405	Alison Tallant	Supports	N/A	Mudgee, NSW
143408	Name Withheld	Supports	N/A	Caloundra West, Qld
143418	Dan Ewald	Objects	E6, E1, L1, L2	Lennox Head, NSW
143426	Name Withheld	Supports	N/A	Wollar, NSW
143439	Greg Dowker	Supports	N/A	Mudgee, NSW
143445	Name Withheld	Supports	N/A	Mudgee, NSW
143454	Name Withheld	Supports	N/A	Mudgee, NSW
143456	Ian Simpson	Supports	N/A	Buckaroo, NSW
143473	Tony Kiek	Objects	X1	Jindabyne, NSW
143479	Name Withheld	Objects	L1	Glebe , NSW
143483	Claudette Rechtorik	Objects	N1, T2, C8	Leichhardt, NSW
143489	Jan Davis	Objects	B1, L1, N1, C1, H1, W2, U3, V1, M1, U1, D1, E1, A1, A5, O2, T3, C5, T2	East Maitland , NSW
143495	Lynetter Sinclair	Objects	A1, W1, C1, C2	Woodford, NSW
143513	Jonathon Peter	Objects	W2	Airlie Beach, Qld
143521	John Warner	Objects	C1, H2, O2, B1	Murrumbateman, NSW
143529	Name Withheld	Objects	X1	Sydney, NSW
143533	Margaret Hilder	Objects	C1, B1, W2, A1, N1	Little Hartley, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
143539	Alison Lyssa	Objects	B1, A1, U1, L1	Bondi Junction, NSW
143541	Andrew Gaines	Objects	B1, T1	Katoomba, NSW
143543	John Mester	Objects	W1	South Golden Beach, NSW
143545	Chris Burns	Objects	B1, A1	Forestville, NSW
143547	Name Withheld	Objects	N1, W2	Wallarobba, NSW
143549	Rosie White	Objects	A1, L1	Laguna, NSW
143553	David Kelley	Objects	E1, D1, U1, L1, K3, C2, W2	Vincentia, NSW
143558	Name Withheld	Objects	A5, C7, V1	Armidale, NSW
143560	Name Withheld	Objects	E1, D1, L1, B1, O1, V1	Newport, NSW
143564	Jane Suttle	Objects	X1	Goulburn, NSW
143574	Abigail Humphreys	Objects	B1	Katoomba , NSW
143576	David Hart	Objects	C2	Dunbogan, NSW
143580	Judith Whitworth	Objects	X1	Edgecliff, NSW
143582	Rhonda Daniels	Objects	L1, A1, D1, E1, B1, K3, U1, T2	Sutherland, NSW
143586	Ted Finnie	Objects	E1, J1, E6, S1, N1	Merriwa, NSW
143588	Nada Sale	Objects	A1	Missabotti, NSW
143592	Name Withheld	Objects	C2	Nelson Bay, NSW
143594	Pat Francis	Objects	A1, L1, U2	Bondi Junction, NSW
143596	Name Withheld	Objects	W2, C6	Hunters Hill, NSW
143600	Name Withheld	Objects	A1, D5, E1, K3, L1, C3, T1	Belrose, NSW
143608	Ailene Cruz	Objects	A1	Coogee, NSW
143610	David Palmer	Objects	B1, H1, E1, D1, L1, T2	Ingleside , NSW
143612	Ruth Colman	Comments	U1, L1, K3, E3, D5, B1, T2	Lorn, NSW
143614	Mike Pickles	Objects	X1	Chatswood West, NSW
143618	Mike Asbridge	Objects	A1, L1, T2	North Narrabeen, NSW
143620	Tlaloc Tokuda	Objects	B1, A1	Bondi Junction, NSW
143628	Alecandra Manzie Fe	Objects	B1	Blue Knob, NSW
143632	Shahab Khan	Objects	T2	Wiley Park, NSW
143636	David Eden	Objects	C2, V3, V1, B1, E1, N1, T1, C8	Glebe, NSW
143643	Peter Ross	Objects	B1, A1, D5, E7, U1, L1	St Peters, NSW
143648	Denise Willians	Objects	A1, D1, E1, E4, W1, E5, B1	Wollar, NSW
143650	Name Withheld	Objects	S2, N1	North Parramatta, NSW
143652	Jennifer Finnie	Objects	E1, J1, S1, L1	Merriwa, NSW
143654	Vicki Barry	Objects	H2, U1, U2	Leichhardt, NSW
143658	Name Withheld	Objects	H2, E1, S2, U4, B1	Thirlmere , NSW
143660	Angela Pertsinidis	Objects	T2, U1, L1, V2	Bronte, NSW
143662	Graham Newell	Objects	W1	Mayfield, NSW
143664	Karl Schaerf	Objects	W1, C1, A1, N1, N2, C2	Hamlyn Terrace, NSW
143666	Name Withheld	Supports	N/A	Mudgee, NSW
143670	Pieter Newtown	Objects	C1, T2	Newtown , NSW
143674	Michael Perroux	Objects	X1	Watsons Bay, NSW
143676	Deb Rothchild	Objects	B1, C1, C2, C3, U1, D5, L1, A1, E1, E3, L1, M1, M2, T2	Petersham, NSW
143680	Name Withheld	Objects	B1, A1, N1	Hamilton East, NSW
143682	Jenny Heywood	Objects	W2	Spence, ACT
143684	Melissa McQuillan	Objects	F2, F1, E1	Cairns, Qld
143686	Jill Williams	Objects	A1, N1	Milkers Flat, NSW
143690	Edward Turner	Supports	N/A	Mudgee, NSW
143692	Gabe C J Lomas	Objects	A1, E1, D1, T2, C1	Berwora Heights, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
143694	Sylvia Egan	Objects	T2	Nowra, NSW
143696	Barry Kemp	Objects	C6	Sawtell, NSW
143698	Russell Chiffer	Objects	W2, T2	Coffs Harbour, NSW
143700	Name Withheld	Objects	A1, L1	Portland, NSW
143702	Jennie Wiles	Objects	T2	Buxton, NSW
143704	Cecilia Kinross	Objects	A1, D1, E1, P1, L1, W2	Summer Hill Creek, NSW
143706	Christine Bilsland	Objects	U1, C2, V2, W1	Lane Cove, NSW
143716	Graeme Batterbury	Objects	X1	Lillian Rock, NSW
143718	Tamara Thompson	Objects	X1	Upper Coomera , Qld
143720	Name Withheld	Objects	T2, K1, L1	Curtin, ACT
143724	Name Withheld	Objects	D1, E1, N1	Kahibah, NSW
143726	Dawn Nettheim	Objects	O1, U1	Cheltenham, NSW
143728	Lachlan Garland	Objects	C2, V1, A1, L1, D1, E1	Wentworth Falls, NSW
143730	Judth Cousins	Objects	D1, E1, U1	Jewells, NSW
143732	Name Withheld	Objects	A1, E1	Rankin Park, NSW
143734	Heather Colman	Objects	T2, W2	Tuross Head, NSW
143736	Clive Riseam	Objects	A1, D1, E1, S2, B1, K1, L1, U1	Bonnet Bay, NSW
143738	Name Withheld	Objects	O1, L1, U1	Warriewood , NSW
143740	Name Withheld	Objects	A1, N1, U1, L1, M1, M2, C3, C1, H1, T2, C2, E1	Port Hacking, NSW
143742	Name Withheld	Objects	L1, S2, U1, B1	Narwee, NSW
143747	Nigel Tanner	Objects	X1	Kingsford, NSW
143751	Alan Glover	Objects	C1, C2, U1, E1, L1, A1, H1	Cedar Creek , NSW
143753	Virginia Duigan	Objects	X1	Birchgrove, NSW
143755	John Watts	Objects	S2, V1	St Ives, NSW
143759	Peter Clarke	Objects	X1	Sydney, NSW
143763	Rosemary Blemings	Objects	A1, L1, W2	Flynn, ACT
143767	Clare Strickland	Objects	N1, A1, L1, K3, C1, C2	Elanora Heights, NSW
143771	Name Withheld	Objects	H2, C2, A1	Concord, NSW
143775	Elizabeth Cameron	Objects	L1, L2, U5	Hurstville Grove, NSW
143777	Jane Judd	Objects	A1, E1, D1, S2, N1, L1, L2, K1, M2, U1, V2, C2, C3, C8, T2	Coonabarabran , NSW
143779	Maria Arranz	Objects	A1, N1, B1, L1, C1, C2	Faulconbridge, NSW
143781	Caroline Williams	Objects	W2, E1, D1	Neutral Bay, NSW
143787	Brian Faithfull	Objects	X1	Possum Ck, NSW
143793	Jennifer Edwards	Objects	T2, U1, N1, K3	Mossy Point, NSW
143795	Graham Fry	Objects	L1, U5, U1, C1, H1, P1, D1, E1, S1	Hurstville Grove, NSW
143797	Lachlan Judson	Objects	X1	Alexandria, NSW
143799	Geoff Wilkinson	Supports	N/A	Mudgee, NSW
143801	Finbar O'Donoghue	Objects	B1	Telopea, NSW
143805	Apostolis hadoulis	Objects	L1, A1, N1, A7, B1	Peregian Springs, Qld
143807	John Attwood	Objects	A1, E7	Tamworth, NSW
143819	Bob Morgan	Objects	W2	Colyton, NSW
143821	Aileen Jacob	Objects	E1, D1	Lavington, NSW
143827	Ivan Macfadyen	Objects	B1	Mayfield, NSW
143829	John Bell	Objects	B1, W1, T2	Tanilba Bay, NSW
143831	Don Dornan	Objects	N1, E1, U1, M2, B1, O1, H2	Duffy, ACT
143833	Carolyn Jenna	Objects	W2, N1, D1, E1, L1	Glebe, NSW
143835	Name Withheld	Objects	L1, N1, D1, E1	Killarney Vale, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
143841	Manfred Tettweiler	Objects	E1, D1, T2	Wilston, Qld
143845	Lyndal Breen	Objects	A1, V1, D1, F1, E1	Moss Vale, NSW
143847	Name Withheld	Objects	A1, C2	Rathmines, NSW
143849	Dorte Planert	Objects	C1, A1, E1, D1	Tatha, NSW
143858	Jenny Simons	Objects	T2	Burradoo, NSW
143860	Michael Streatfeild	Objects	L1, V2, V4, H2, C2	West Hoxton, NSW
143864	Name Withheld	Objects	H2, C1	Asquith, NSW
143868	Name Withheld	Objects	N1, V2, U1	Killarney Heights, NSW
143870	Peggy Fisher	Objects	H2, B1, O2	Killara, NSW
143872	Heather Ingram	Objects	C2, E1, U1, B1	Wyoming, NSW
143874	Alice Kershaw	Objects	O1	Rozelle, NSW
143876	Alison Zinsli	Objects	A1	Wingham, NSW
143882	Eva Rizana	Objects	A1, N1, L1, T2	Cullen Bullen, NSW
143886	Diane Michel	Objects	X1	North Ryde , NSW
143888	Margaret Lorang	Objects	N1, E1, S2, L1, U1, C2, T2	Mosman, NSW
143904	Nicole Weber	Objects	K1, A4	USA
143906	Janet Kossy	Objects	T2	Newtown, NSW
143908	Ben Ewald	Objects	E3, N1, J1, B2, E6	Cooks Hill, NSW
143911	Michael Jay	Objects	W2, B1, L1, L2, A1, A4, N1, D5, E3, C1, C2	Ainslie, ACT
143913	Claire Bettington	Objects	B1, C8, A1, A7, E1, U2	Maroubra, NSW
143915	Kirsty Macpherson	Objects	B2, B1	Southport, Qld
143918	Fiona Wood	Objects	B1	NSW
143921	Name Withheld	Supports	N/A	Mudgee, NSW
143923	George Carrad	Objects	B1	Oatley, NSW
143925	William Henry Goines	Objects	B1, A1	Coffs Harbour, NSW
143927	Jeremy Tager	Objects	A1, T2	Uki, NSW
143937	Daniel Lewis	Supports	N/A	Mudgee, NSW
143941	Name Withheld	Objects	T1, T2, H1, E1, U1, D1, E1, K1, C2, A1, C1, W2	Carlton, NSW
143943	Russ Graul	Objects	X1	Matraville, NSW
143947	Tony Newman	Objects	T2	Ourimbah, NSW
143949	Carly Hood	Objects	B1	Tatton, NSW
143951	Paul Hood	Objects	X1	Tatton, NSW
143953	Caroline Sherwood	Objects	O2, U1, E1, V1	Denman, NSW
143955	Mal Anderson	Objects	X1	Coffs Harbour, NSW
143957	Name Withheld	Objects	E1, N1	Byron Bay, NSW
143959	Brendan Berlach	Objects	X1	Umina Beach, NSW
143965	Name Withheld	Objects	W2, N1, A1	Kyle Bay, NSW
143972	Name Withheld	Objects	L1	Nashdale, NSW
144003	George Mortensen	Objects	T1, W2	Quialigo, NSW
144005	Susan Lawton	Objects	A1, L1, K1, T5, W2	Bowral, NSW
144007	Louise Fitzgerald	Objects	B1	Newtown, NSW
144011	Donald White	Objects	T9	Woollahra, NSW
144013	Anthony Lonergan	Objects	A1, E1, D1, S2, B1	Muswellbrook, NSW
144019	Kim Walker	Objects	T1	Sanctuary Point, NSW
144029	Allen Higginbottom	Objects	X1	East Maitland, NSW
144046	Beverley Smiles	Objects	A8, A2, N1, D3, D1, D5, D4, D2, D4, A1, A5, T1, T5, H2, C4, C3, C1, C11, A6, P1, W1	Wollar, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
144048	Norbert Mjadwesch	Comments	H2, C8, V2	Grattai, NSW
144050	David Smith	Objects	T2	Alison, NSW
144052	Mark Marusic	Objects	E1, D1, T2	Enmore, NSW
144054	Name Withheld	Supports	N/A	Gulgong , NSW
144069	Paula Rice	Supports	N/A	Aberglasslyn, NSW
144071	Adam Rice	Supports	N/A	Aberglasslyn, NSW
144073	Name Withheld	Objects	L2, L1, V2, V1	East Kurrajong, NSW
144077	Adam Rice	Supports	N/A	Wollar, NSW
144080	Bradley Phillips	Supports	N/A	Cessnock, NSW
144084	Name Withheld	Supports	N/A	Wollar, NSW
144091	Celia Smith	Objects	T2, L1, L2, U1, B1	Armidale, NSW
144096	Clark Potter	Supports	N/A	Eurunderee, NSW
144100	Brian Charlton	Objects	X1	Bungendore, NSW
144102	Richard Stanford	Objects	T2, B1	Blackalls Park, NSW
144104	Michael Kelly	Supports	N/A	Mudgee, NSW
144108	Dez Williams	Objects	A1	Anna Bay, NSW
144112	Rod McFarlane	Objects	H2, L1, U1	Lane Cove, NSW
144118	Theresa Audretsch	Objects	A1, T2, A6	Wollar, NSW
144124	Name Withheld	Objects	A1, W2, A5, C2, V1	North Sydney, NSW
144130	Phillip Divisek	Objects	T2,C1, W2	Eastwood, NSW
144134	Carly Booy	Supports	N/A	Mudgee, NSW
144136	Rosie Toth	Objects	C8, D1, E1	Tuross Head, NSW
144140	Paul Morgan	Supports	N/A	Mudgee, NSW
144142	Darryl Boorer	Supports	N/A	Ridgewood, WA
144146	Name Withheld	Supports	N/A	Fletcher, NSW
144148	Daniel Pike	Supports	N/A	Cumbo, NSW
144150	Beverley Atkinson	Objects	C6, T1, C3, C9, L1, H1, C9	Scone, NSW
144152	Susie Russell	Objects	A1, L1, D5, E7	Elands, NSW
144158	Jolyon Bromley	Objects	C2, H2, W2	Darlinghurst, NSW
144165	Sue Abbott	Objects	W2, C1, N2	Scone, NSW
144169	Nick Higginbotham	Objects	K3, A4, C10, E3, J1, E6	Redhead, NSW
144173	Kjane Boots	Objects	A1	Byron Bay, NSW
144176	Simon Leven	Supports	N/A	Mudgee, NSW
144178	Michael Jones	Objects	W2	Grassy Head, NSW
144182	Linda Howard	Supports	N/A	Gulgong, NSW
144184	James Grant	Supports	N/A	Mudgee, NSW
144188	Birgit Graefner	Objects	A1	Holgate, NSW
144190	Robert Garnsey	Objects	B1, V1, H2, C1, A1, N1, D5, E3, C9, O2, P1	Annandale, NSW
144196	Jenny Hoffman	Objects	X1	Kahibah, NSW
144200	Robert Gibberd	Objects	T1	New Lambton, NSW
144202	Kim Miller	Objects	L1, T2	Wahroonga, NSW
144208	Satya McVeity	Objects	W2, E1	Nimbin, NSW
144214	Todd Slater	Objects	L1, U1, C6	North Sydney, NSW
144216	Wayne Braniff	Supports	N/A	Mudgee, NSW
144218	Mick Fetch	Objects	A1, C3, C7, A3, A9, F2, F1, F5, E4, D5, D6, A8, E3, L1, L2, K3, C2, N1, H1, D1, T5, B1	Wollar, NSW
144222	Dennis Fetch	Objects	F1, F2, T8, E8, E4, H1, C2	Kahibah, NSW
144226	Lucinda Fetch	Objects	A1, K3, H1	Wolar, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
144230	Beth Williams	Objects	A1, A4, E1, D1, E3, C1, P1, L1, B1, T2, U1, M1, M2, L2, K1, C3, H1	Armidale, NSW
144232	Lorraine Fetch	Objects	K2, T2	Kahibah, NSW
144236	Anthony Leo	Supports	N/A	Bathurst, NSW
144255	Berni Aquilina	Objects	H2, B1, A1	Mudgee, NSW
144259	David Crawford	Objects	B1, T2	Lugarno, NSW
144261	Anarkali Papalkar	Objects	T2, L1	Horseshoe Bend, NSW
144265	Alison Smiles-Schmidt	Objects	D4, D5, F1, F4, C1, T3, C1, A5	Wollar, NSW
144273	Amanda Drinkwater	Objects	O2, L1, U1, B1	East Ballina, NSW
144279	Name Withheld	Supports	N/A	Muswellbrook, NSW
144283	Sharyn Cullis	Objects	A1, N1, L1, C2, C6	Oatley, NSW
144287	Name Withheld	Objects	X1	Hawkesdale, Vic
144299	C Hawse	Objects	C2, N1, A5, L1	Vaucluse, NSW
144304	Name Withheld	Objects	L1, V2, L2	West Pennant Hills, NSW
144306	Cher Schoenfelder	Objects	L1, A1, T2, O1	The Junction, NSW
144308	Martin Filipczyk	Objects	E1, D1, L1, L2, C1	Bundanoon, NSW
144311	Name Withheld	Objects	D1, E1, C2, A1	Bylong , NSW
144313	Miriam Robinson	Objects	A1	North Fitzroy, Vic
144332	Ken Parkhouse	Objects	X1	Kenthurst, NSW
144334	Catherine Blakey	Objects	E1, D1, P1, L1	Mangerton, NSW
144336	Steven Anderson	Objects	L1, K3	Fingal Bay, NSW
144338	Judith Conney	Objects	X1	Hungry Head, NSW
144340	Lloyd Coleman	Supports	N/A	Mudgee, NSW
144354	Anne Reeves	Objects	B1, T2, A1, E1, D1, S1, J1, L2, L1, U1, C6	Broadway, NSW
144360	Name Withheld	Supports	N/A	Mudgee, NSW
144362	Kevin B. Orr	Objects	W2	Blakehurst, NSW
144364	Sean Constable	Supports	N/A	Mudgee , NSW
144366	Name Withheld	Supports	N/A	Mudgee, NSW
144370	Name Withheld	Supports	N/A	Mudgee, NSW
144372	Paul Grimes	Supports	N/A	Wollar, NSW
144374	Jewell Patterson	Supports	N/A	Cooks Gap, NSW
144376	Ray Gooch	Supports	N/A	Gulgong, NSW
144378	Anthony Dixon	Supports	N/A	Mudgee, NSW
144380	Name Withheld	Supports	N/A	Mudgee, NSW
144382	Marie Hensley	Objects	N1, A1, A4, I1, K1, D1, E1, E4, L2, L1, P1, U1	Dunedoo, NSW
144392	Name Withheld	Supports	N/A	Mudgee, NSW
144396	Name Withheld	Supports	N/A	Botobolar, NSW
144402	Sarah Hardwick	Supports	N/A	Mudgee, NSW
144404	Name Withheld	Supports	N/A	Mudgee, NSW
144406	Name Withheld	Supports	N/A	Mudgee, NSW
144408	Name Withheld	Supports	N/A	Mudgee, NSW
144410	Diane O'mara	Objects	A1, I1, E1, D1, J1, N1, K1, A4, A2, D5, E3, C1, C3, O1, H1, B1, A4, P1, L2, L1, M2, U1, T2	Gulgong, NSW
144420	Name Withheld	Objects	A1, D1, E1, N1, O1, L1, U1, B1	Willoughby, NSW
144426	Name Withheld	Supports	N/A	Mudgee, NSW
144431	Annie McGovern	Objects	A1, W2	Nimbin, NSW

Submission ID No.	Name	Nature of Submission	Issue ID No.	Submitter Locality
144435	Derek Smith	Supports	N/A	Mudgee, NSW
144437	Peter Bonanno	Supports	N/A	Wollar, NSW
144439	Sylvia Cooper	Objects	W2, O2	Bundall, Qld
144443	Name Withheld	Objects	X1	Morphett Vale, SA
144454	Dennis Dorwick	Objects	B1	Jannali, NSW
144458	Name Withheld	Supports	N/A	Mudgee, NSW
144464	Frances Quirk	Objects	C1	Willawarrin, NSW
144466	John Spira	Objects	C6	Austinmer, NSW
144472	Colin Imrie	Objects	V1, U1, M1, M3, U6, A1, A4, C12, C3, L1, B1, M1, P1, T4, M2, A6, H2	Ulan, NSW
144474	Andrew Bartlett	Objects	W2, D1, E1, C2, H1	Constitution Hill, NSW
144478	Suzie Gold	Objects	A1, E1, D1, C1	Castlecrag, NSW
144480	Nicholas Wright	Supports	N/A	Cumbandry, NSW
144498	Les Johnston	Objects	A8, E7, E9, C10	Balmain, NSW
144500	Catherine Green	Objects	D5, E3, E7, B1, K3, L1, S2, N1, A1	Maitland, NSW
144508	Name Withheld	Supports	N/A	Mudgee, NSW
144512	Ben Smeaale	Supports	N/A	Mudgee, NSW
144516	Name Withheld	Supports	N/A	Mudgee, NSW
144518	Name Withheld	Supports	N/A	Mudgee, NSW
144522	Name Withheld	Supports	N/A	Mudgee, NSW
144524	George Tlaskal	Objects	B1, B2, O1, U1, M1, E1, D1, N1, D5, A5, C8	Bulga, NSW
144530	Mark Collins	Supports	N/A	Bombira, NSW
144690	Rex Mani	Supports	N/A	Gulgong, NSW
145448	Colin Faulkner	Objects	E8, E5, E4, M1, O3, E1, M3	Wollar, NSW
145866	Glenn Wall	Objects	L2, L3, Q2, Q1, A6, C3, C7, F2, F2, A1, I1, O4, O4, A3, R1, O5, S1, C1, L1	Wollar, NSW

Appendix C

Additional Air Quality Analysis for the Wilpinjong Extension Project

TODOROSKI AIR SCIENCES
Suite 2B, 14 Glen Street
Eastwood NSW 2122
Phone: (02) 9874 2123
Fax: (02) 9874 2125
Email: info@airsciences.com.au
Web: www.airsciences.com.au
ACN: 151 202 765 | ABN: 74 955 076 914

2 May 2016

Ian Flood
Manager Project Development & Approvals
Wilpinjong Coal Pty Ltd

RE: Additional air quality analysis for the Wilpinjong Extension Project

Dear Ian,
The following outlines additional information and clarification to address specific issues raised by the New South Wales (NSW) Environment Protection Authority (EPA) relating to the Wilpinjong Extension Project Air Quality and Greenhouse Gas Assessment (AQA) (**Todoroski Air Sciences, 2015**).

The two issues raised by the NSW EPA in its submission are set out in grey italics, and are addressed below each issue.

"Diesel particle emissions
Emissions of particulate matter from diesel engines have not been adequately quantified or assessed. This is a potentially significant source requiring management options different from those used to suppress dust on roads.

The EPA recommends that these diesel emissions be estimated separately. This is expected to change total emissions and further analysis is needed to identify consequential changes to the assessed impact on the air environment. Approaches to minimising emissions from diesel plant and equipment are required."

The US EPA supported AP-42 emission factor equations used in the AQA for mining activities that involve diesel powered equipment include contributions from the diesel exhaust emissions of the equipment. The emission factor equations do not distinguish between the separate sources of emissions, as the mechanically generated emissions and the exhaust emissions combined were measured when deriving the equations.

The EPA appears to be concerned that the diesel exhaust particulate matter may not have been adequately estimated due to the use of the 80% control factor for haul road emissions. NSW EPA correctly points out that watering the road only directly reduces wheel generated dust, but it does not follow that there is any underestimation in the emissions as a result. This is because the US EPA sponsored studies conducted to develop the emission factor equations for hauling provide <u>total</u> levels of emissions arising from controlling the silt levels (by watering the road), and are based on extensive measurements.

However, to address the EPA concern, the portion of potential diesel exhaust particulates from the haul road activity is quantified separately in this report.

Emissions from off-road haul trucks

To determine the level of impact of the haul truck diesel exhaust emissions as NSW EPA seeks, the separately estimated potential diesel exhaust emissions were compared with the modelled emissions presented in the AQA. The emission estimates for all years in the assessment were considered.

To estimate potential particulate matter (PM) diesel exhaust emissions from the diesel powered equipment, the emission factor set out in the US EPA Federal Tier Ⅱ standards for exhaust emissions from diesel equipment was applied for the number of haul trucks proposed for each modelled year as shown in **Table 1**.

Table 1: Proposed Truck numbers for the Wilpinjong Extension Project

Equipment type	2018	2020	2024	2028	2031
Cat 789 Truck	32	25	32	20	14

To derive the emission values, the CAT 789 haul trucks which would be used in each stage of the project were assumed to have a maximum gross power of 1,566kW, with 5,200 hours annual utilisation and to operate per the load factor assumed in the NSW EPA Emissions Inventory (**NSW EPA, 2012**).

Table 2 outlines the estimated total PM emissions from haul road vehicle exhaust for each modelled year. The table also shows the calculated $PM_{2.5}$ emissions from the hauling operations when applying an 80% control factor per the US EPA emission factor equations (i.e. as modelled) or when applying an 80% control factor only to the emissions due to mechanical processes (wheel generated dust).

Table 2: Summary of potential change due to haul Truck exhaust emissions

	2018	2020	2024	2028	2031
Estimated PM emissions from exhaust (kg)	30,540	24,473	30,694	18,955	13,201
Modelled $PM_{2.5}$ emissions for haul activity (kg)	119,805	91,368	99,368	73,676	51,537
Hauling $PM_{2.5}$ with 80% control only for wheel generated dust (kg)	144,237	110,947	123,923	88,841	62,098
Theoretical underestimation of PM emissions from exhaust (kg)	24,432	19,579	24,555	15,164	10,561
Estimated $PM_{2.5}$ emissions from the mine (kg)	339,511	303,919	275,580	195,592	144,197
Percentage of modelled emissions (%)	7.2%	6.4%	8.9%	7.8%	7.3%

The theoretical underestimation in the PM truck exhaust emissions represents 6.4 to 8.9% of the total $PM_{2.5}$ emissions from the mine.

The effect of this potential change in emissions would be a potential change in the maximum predicted $PM_{2.5}$ concentrations at the most affected private receptors of up to 0.047µg/m^3, which is too small to measure and well within the accuracy of the modelling. Overall this indicates that even if there were any potential underestimation of emissions due to haul road vehicle exhaust, this would be negligible and would not affect the conclusions of the AQA.

Appling the same method to estimate the potential change in annual average PM_{10} emissions, the theoretical underestimation in the PM truck exhaust emissions would represent 0.77 to 1.07 % of the total

PM_{10} emissions from the mine. The estimated maximum change at the most affected private receptor would be 0.042µg/m^3.

Therefore it is not expected that there would be any material change in total emissions, nor in resultant impacts.

Emissions from all key diesel plant

The portion of potential diesel exhaust emissions from all key mining plant (e.g. haul trucks, dozers, excavators, front end loaders, graders and drills) have been quantified using two different methods of emission estimation. These include; the US EPA Federal Tier II standards for exhaust emission factor (as applied above), and the emission factors published in the National Pollutant Inventory (NPI) *Emission estimation technique manual for combustion engines* (**NPI, 2008**). Emissions using the NPI method are based on the projected diesel fuel consumption and a breakdown of the fuel usage for the Project.

The total $PM_{2.5}$ emissions modelled in the AQA are compared with the estimated diesel exhaust $PM_{2.5}$ emissions for the Project in total (see **Figure 1)** and with only the haul truck activities (see **Figure 2**). The figures show that the estimated diesel exhaust $PM_{2.5}$ emissions represent between approximately 23 to 41 % of the modelled $PM_{2.5}$ emissions for all key mining plant and between approximately 22 to 27 % of the modelled $PM_{2.5}$ emissions for haul truck activity.

As noted, the emission factor equations used in the AQA for mining activities that involve diesel powered equipment include contributions from the diesel exhaust emissions of the equipment.

The figures show that the estimated diesel exhaust $PM_{2.5}$ emissions calculated per the NPI methods and using US EPA Tier II assumptions are well below the modelled $PM_{2.5}$ emissions and indicates that these emissions have been adequately considered in the modelling predictions.

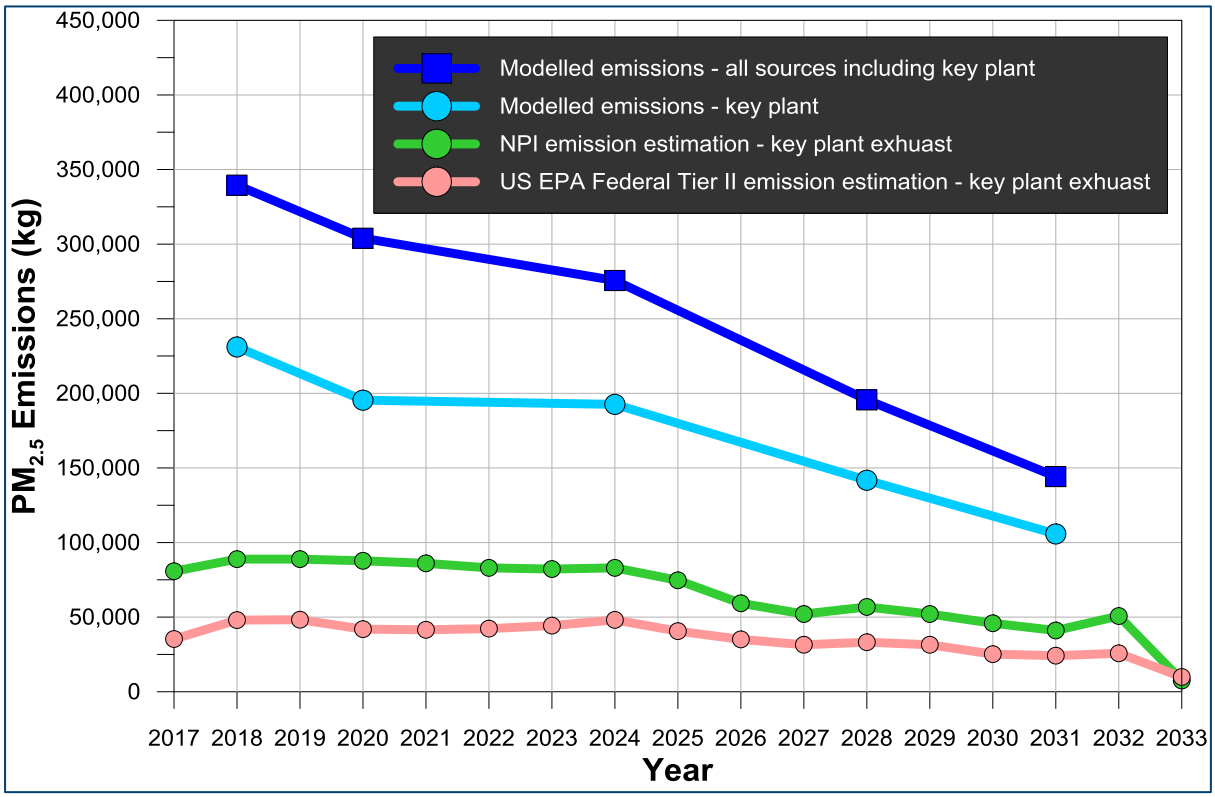


Figure 1: Comparison of estimated $PM_{2.5}$ emissions for all key mining plant

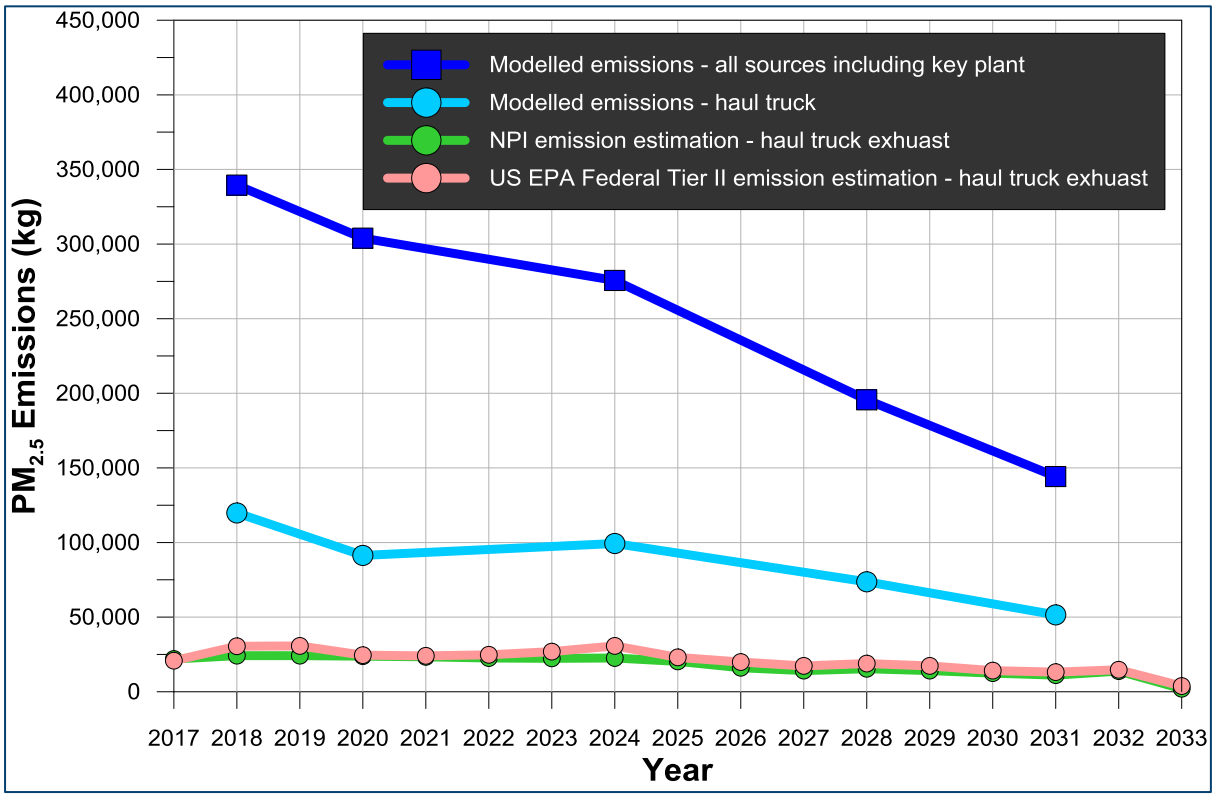


Figure 2: Comparison of estimated $PM_{2.5}$ emissions for haul truck activity

Control measures

Control measures that would be applied for the Project to minimise emissions from diesel engines are described in Section 4.18.3 of the EIS and include the following:

- optimising the design of haul roads to minimise the distance travelled between the pit and the Coal Handling and Preparation Plant (CHPP);
- minimising the rehandling of material (i.e. coal, overburden and topsoil);
- maintaining mobile equipment in good operating order;
- introduction of new, more efficient equipment to site (e.g. mobile equipment upgrade); and
- operational practices (e.g. unattended plant is not left idling and is switched off as soon as practicable after use).

"Adopted background $PM_{2.5}$ concentration
The adopted background concentration for cumulative $PM_{2.5}$ annual aveage impacts is approximately 3.2µg/m^3 and is based "on the assumption that an annual average $PM_{2.5}$ concentration of 8µg/m^3 is equivalent to an annual average PM_{10} concentration of 30µg/m^3". The EPA notes that there is no OEH monitoring station in NSW reporting levels this low. Justification for the adopted back ground concentration is required and revision of the assessment, as appropriate. "

The EPA implies that the adopted background $PM_{2.5}$ level may be too low to represent the area. While this argument can be made as the background $PM_{2.5}$ level is not derived from site-specific $PM_{2.5}$ monitoring, we point out that the adopted background level is not critical (see below). In this case the $PM_{2.5}$ background level has been based on an assumed equivalency between the EPA criteria and the NEPM advisory reporting standard for annual average $PM_{2.5}$, which is a reasonable and appropriate assumption to make in the absence of any actual monitoring data being available. Such equivalency assumptions have been applied and accepted by the EPA in many assessments for coal mines.

The alternative would have been to estimate a value to represent the background level on the basis of levels measured at some other representative location. However no such valid data were available at the time of the assessment, and presently we are not aware of any nearby or directly comparable locations in NSW at which valid $PM_{2.5}$ monitoring results are available for any complete year. Data presented in the Bylong Coal Project (**Pacific Environment Limited, 2015**) assessment became available after the assessment for this project. The Bylong Coal Project applied an annual average $PM_{2.5}$ background level of 4.7µg/m^3 (derived from an incomplete site-specific dataset). Whilst derived contrary to the EPA Approved Methods, this level may also be a reasonable estimate of the likely low background annual average $PM_{2.5}$ levels in this area.

However, it is important to observe that the actual annual average $PM_{2.5}$ levels that could reasonably be adopted in the assessment are not critical to the assessment conclusions and findings. The reasons for this include that the annual average $PM_{2.5}$ contribution to the ambient environment from the project is very low. The AQA predicts incremental annual average $PM_{2.5}$ concentrations for the most impacted private receptors of between 0.3 to 0.6µg/m^3 for all years assessed, which is equivalent to approximately 4 to 7% of the NEPM advisory reporting standard of 8µg/m^3. The levels at other receptors would be lower.

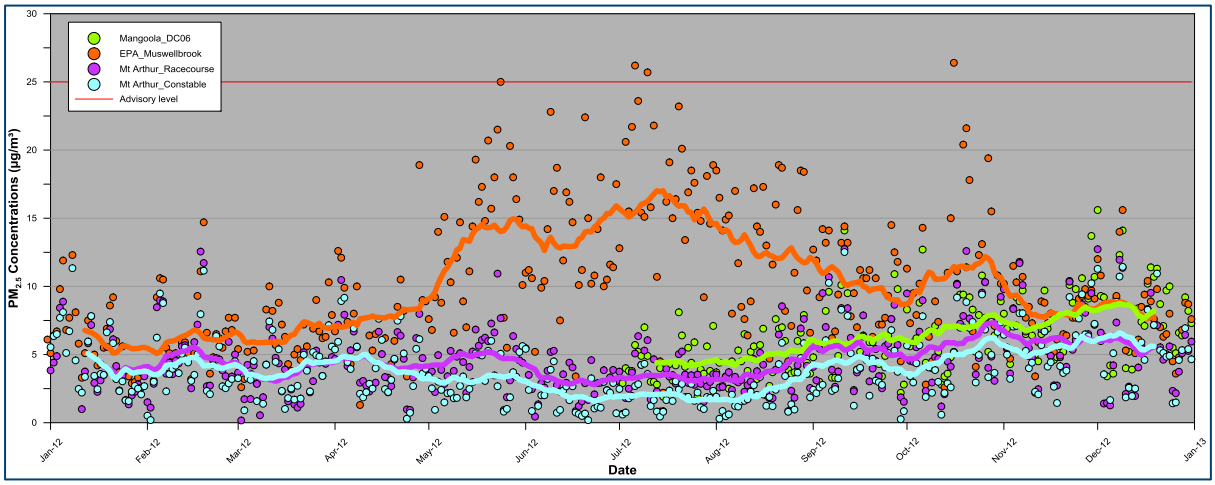
Thus even if the background level was determined to be as high as 93% of the criteria, i.e. 7.4µg/m^3, the cumulative effects with the project would remain within the NEPM reporting standard (the world's most stringent annual average $PM_{2.5}$ standard).

As outlined in more detail below, it is not reasonable to expect that the background annual average $PM_{2.5}$ levels in this area would be above 7.4µg/m^3, hence it is not reasonable to consider that there would be any issue related to annual average $PM_{2.5}$ arising from the project operating in this area.

Apart from the partial data available near Bylong, the nearest and perhaps somewhat similar locations to this area with valid $PM_{2.5}$ monitoring data might be in the Upper Hunter Valley at rural receptors in the vicinity of the Mangoola, Mount Arthur and Bengalla coal mines. It is noted that $PM_{2.5}$ levels in these locations would include greater $PM_{2.5}$ contributions from sources such as power stations, larger coal mines, greater residential activity, more trafficked highways, etc than the sources in this area, and it may be reasonable to assume that the background levels near the project would be lower than those measured in the Upper Hunter Valley.

Figure 3 shows the trends in 24-hour average $PM_{2.5}$ concentrations for four locations in the Upper Hunter Valley, NSW. The monitors include the OEH monitor positioned in the township of Muswellbrook and at other locations close to mining operations in the area.

Monitors outside of the towns in the vicinity of the Mangoola, Mt Arthur and Bengalla mines record lower trends in background levels and thus may be more representative of the area near Wilpinjong Coal Mine. These monitors recorded annual average $PM_{2.5}$ levels ranging from 3.9 to 4.6µg/m^3 and averaging 4.3µg/m^3 in 2012.



Source: (**Todoroski Air Sciences, 2014**)

Figure 3: Trends in 24-hour average $PM_{2.5}$ concentrations 2012

The trends in the Upper Hunter Valley data in **Figure 3** (but also in other data not shown in the figure) indicate that the $PM_{2.5}$ levels in areas close to mining are relatively steady throughout the year and that in the townships, emissions increase during the winter period. The high winter emissions are known to be associated with anthropogenic emissions such as wood smoke. These emissions are greatest in the larger settlements, as can be seen by examining the OEH data at Muswellbrook, Camberwell and Singleton, and

also other mining data in the Hunter Valley. For this reason, $PM_{2.5}$ levels due to wood smoke in this location are most likely to be significantly less than those recorded at the OEH monitors.

Thus, because the OEH $PM_{2.5}$ monitors are typically located in more polluted urban areas, it is not reasonable to apply the OEH data in this area. The annual average $PM_{2.5}$ levels measured in other somewhat similar, but also more developed, environments (such as in the Upper Hunter Valley at sites away from towns) are lower than the levels recorded at the OEH monitors. The background levels near Wilpinjong would reasonably be expected to be lower than those measured in the Upper Hunter Valley away from towns.

If the levels recorded in the Upper Hunter Valley away from towns were used to represent the background levels in this location, cumulative impacts above the NEPM advisory reporting standard would not occur, even though using the Upper Hunter Valley levels is likely to materially overestimate background levels. Thus no annual average $PM_{2.5}$ impacts, or any potentially adverse effects due to the Project operation in this area could reasonably be expected.

Please feel free to contact us if you need to discuss (or require clarification on) any aspect of this report.

Yours faithfully,

Todoroski Air Sciences

Aleks Todoroski

Philip Henschke

References

NPI (2008)

"Emission estimation technique manual for Combustion engines Version 3.0", Australian Government Department of the Environment, Water, Heritage and the Arts. National Pollutant Inventory, June 2008.

NSW EPA (2012)

"Technical Report No. 6 Air Emissions Inventory for the Greater Metropolitan Region in New South Wales 2008 Calendar Year Off-Road Mobile Emissions: Results", NSW EPA, August 2012

Pacific Environment Limited (2015)

"Bylong Coal Project – Air Quality & Greenhouse Gas Impact Assessment", prepared by Pacific Environment Limited for Hansen Bailey, July 2015

Todoroski Air Sciences (2014)

"Cumulative Impact Assessment Mt Arthur, Bengalla and Mangoola Coal Mines", prepared by Todoroski Air Sciences for NSW Department of Planning and Infrastructure, November 2015.

Todoroski Air Sciences (2015)

"Air Quality and Greenhouse Gas Assessment Wilpinjong Extension Project", prepared by Todoroski Air Sciences for Wilpinjong Coal Pty Ltd, November 2015.

Appendix D

Response to NSW Department of Primary Industries – Water on Salinity Trends

DPI Water (18 March 2016) states:

> **It is recommended that a supplementary report be provided to demonstrate that water quality impacts will be within Level 1 impacts, as defined in the AIP.**
>
> **…**
>
> **The report must provide descriptive detail to better understand the drivers for the elevated and rising salinity trends in the shallow groundwater and the salinity increase along Wilpinjong Creek.**

The AIP Level 1 Minimal Impact Considerations for water quality in highly productive and less productive alluvial water sources include the following (NSW Government, 2012):

> *No increase of more than 1% per activity in long-term average salinity in a highly connected surface water source at the nearest point to the activity.*

The Surface Water Assessment for the Project (WRM Water and Environment, 2015) concludes that, with the implementation of management measures in the existing Wilpinjong Coal Mine Water Management Plan, the potential adverse effects of the Project on downstream water quality would be negligible.

Therefore, consistent with the Level 1 impact described in the EIS, the Project is not anticipated to result in an increase of more than 1% in long-term average salinity in a highly connected surface water source. Notwithstanding, as requested by DPI Water, this supplementary report provides additional descriptive detail and data regarding recent salinity trends in shallow groundwater and along Wilpinjong Creek.

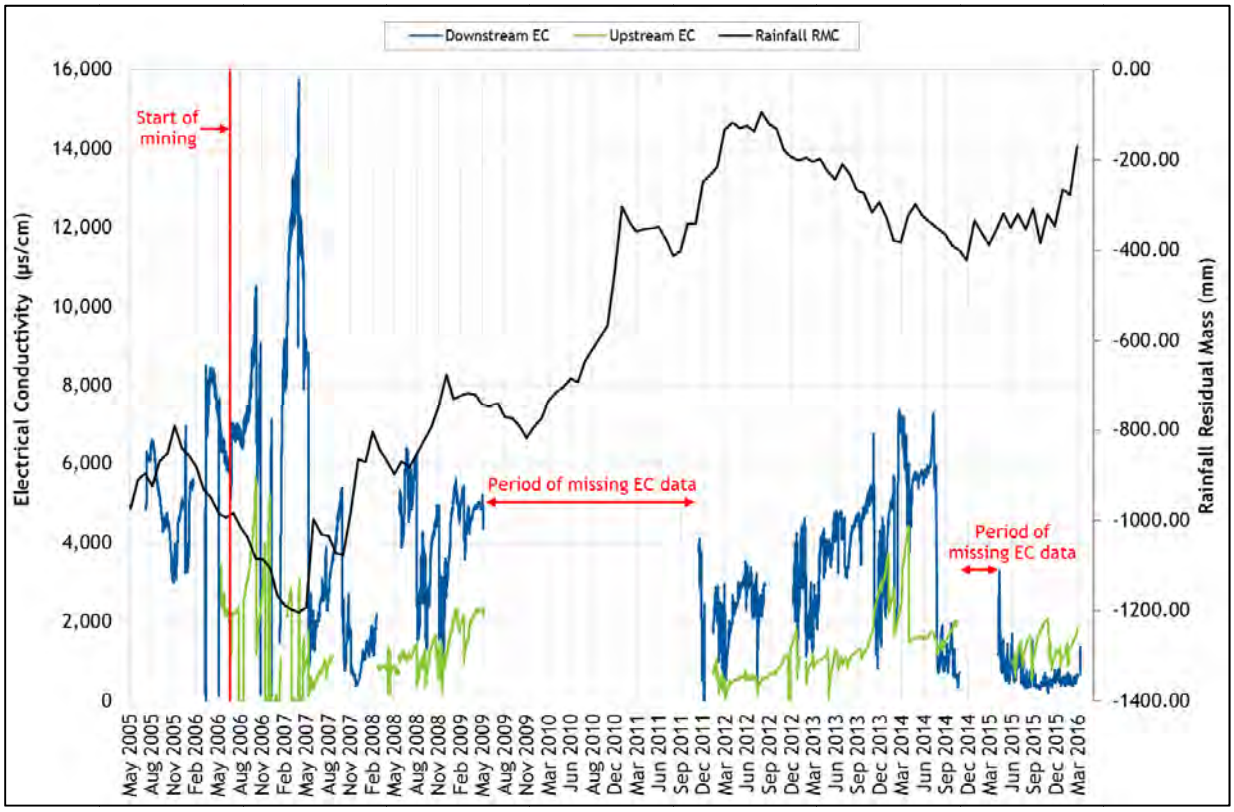
The salinity response of Wilpinjong Creek to periods of low rainfall was identified in the Surface Water Assessment prepared for Modification 5, which states (Gilbert & Associates, 2013):

> *Wilpinjong Creek displays typical behaviour with EC reducing with increasing flow rate…*

The Surface Water Assessment (WRM Water and Environment, 2015) presented Electrical Conductivity (EC) data from the Wilpinjong Creek gauging stations from the period January 2012 to September 2014. As identified by DPI Water, a trend of rising salinity in Wilpinjong Creek is evident both upstream and downstream of the mine during this period. The complete WCPL data set for the Wilpinjong Creek upstream (WILGSU) and downstream (WILGSD) gauging stations (including data prior to 2012 and more recent data) is presented on Figure 1.

Figure 1 indicates that the observed salinity increase along Wilpinjong Creek in the period January 2012 to September 2014 is well within observed historical climatic variation and has correspondingly decreased both upstream and downstream of the mine since September 2014 in response to a period of increasing rainfall. Rising salinity trends occurring in 2006 – 2007 and 2013 – 2014 clearly correspond with extended periods of lower rainfall as evidenced by the falling Rainfall Residual Mass Curve (Figure 1). In addition, the period of record shows a very clear trend that salinity upstream is lower than downstream since the commencement of monitoring. This is likely due to the influence of higher EC levels in Cumbo Creek, which joins Wilpinjong Creek between the two stations (WRM Water and Environment, 2015).

Figure 1
Wilpinjong Creek Electrical Conductivity and Rainfall



The peak salinity observed in Wilpinjong Creek during the rising trend in 2013 – 2014 (7,397 microSiemens per centimetre [µS/cm]) is significantly less than the peak in salinity observed in the period 2006 to 2007.

WCPL continues to undertake approved water discharges from the water treatment facility in accordance with EPL 12425. The EPL criteria have been selected such that released water is generally similar to or better than the receiving water quality (WRM Water and Environment, 2015).

Discharges from the on-site RO plant are presented on Figures 2a and 2b. Figures 2a and 2b confirm that salinity in Wilpinjong Creek, downstream of the Wilpinjong Coal Mine, decreases during periods of RO plant discharge due to the rigorous discharge salinity criteria stipulated in the EPL. During an extended period of discharge in 2015 and 2016, the consistent pre-mining trend of higher salinity in Wilpinjong Creek downstream was reversed by these approved discharges.

Based on the above, there is no evidence that the recently observed increase in salinity along Wilpinjong Creek is unusual or mining related, as it is within the range observed by previous monitoring and the salinity decreased as rainfall increased and during discharges from the water treatment facility.

Figure 2a
Wilpinjong Creek Electrical Conductivity and RO Plant Discharges

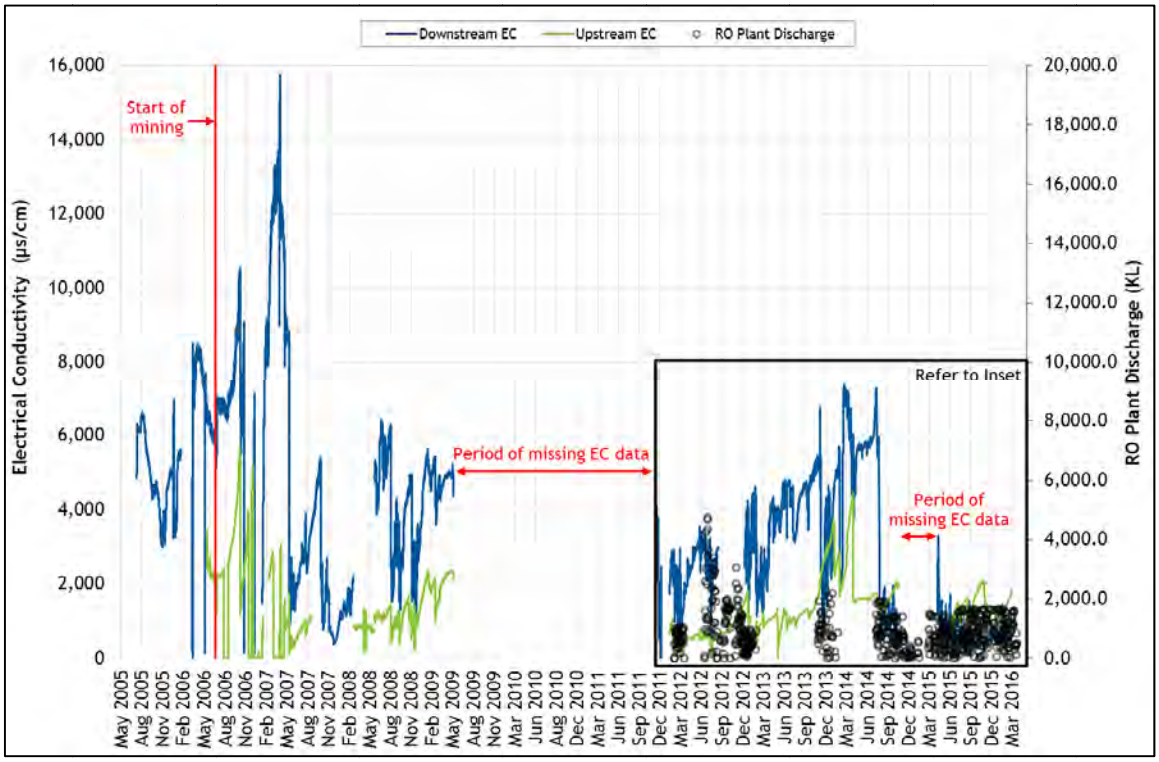
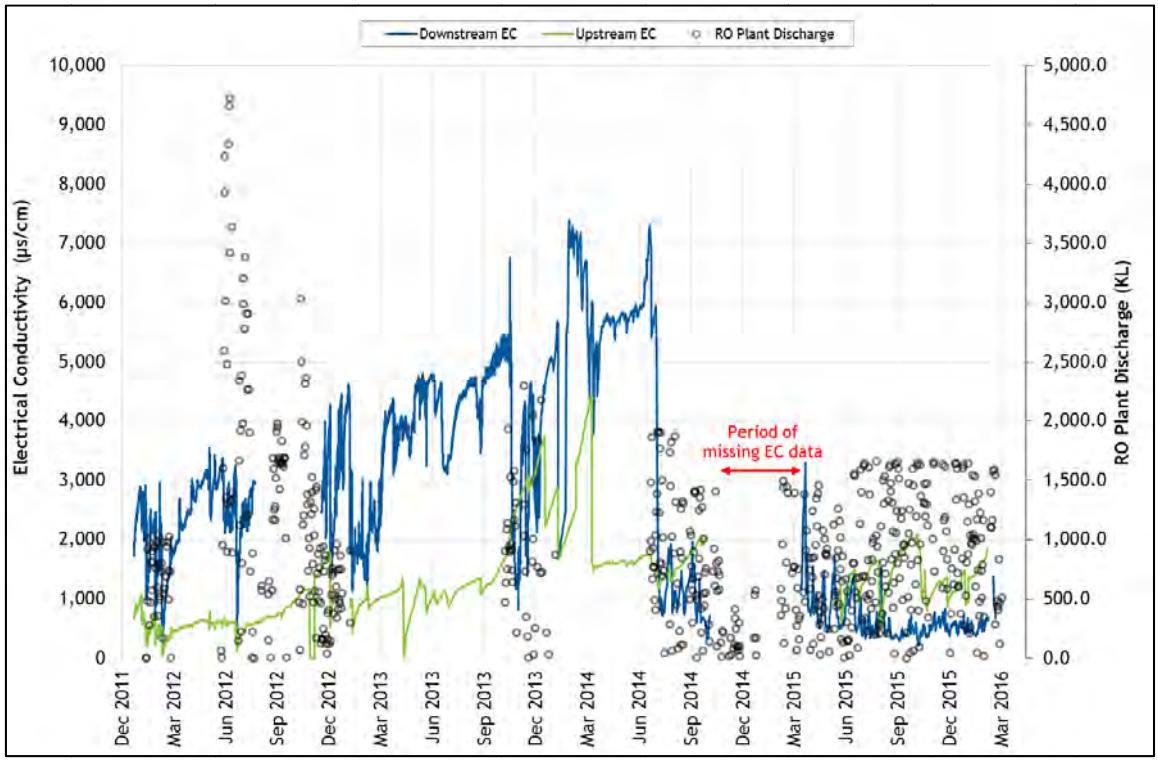


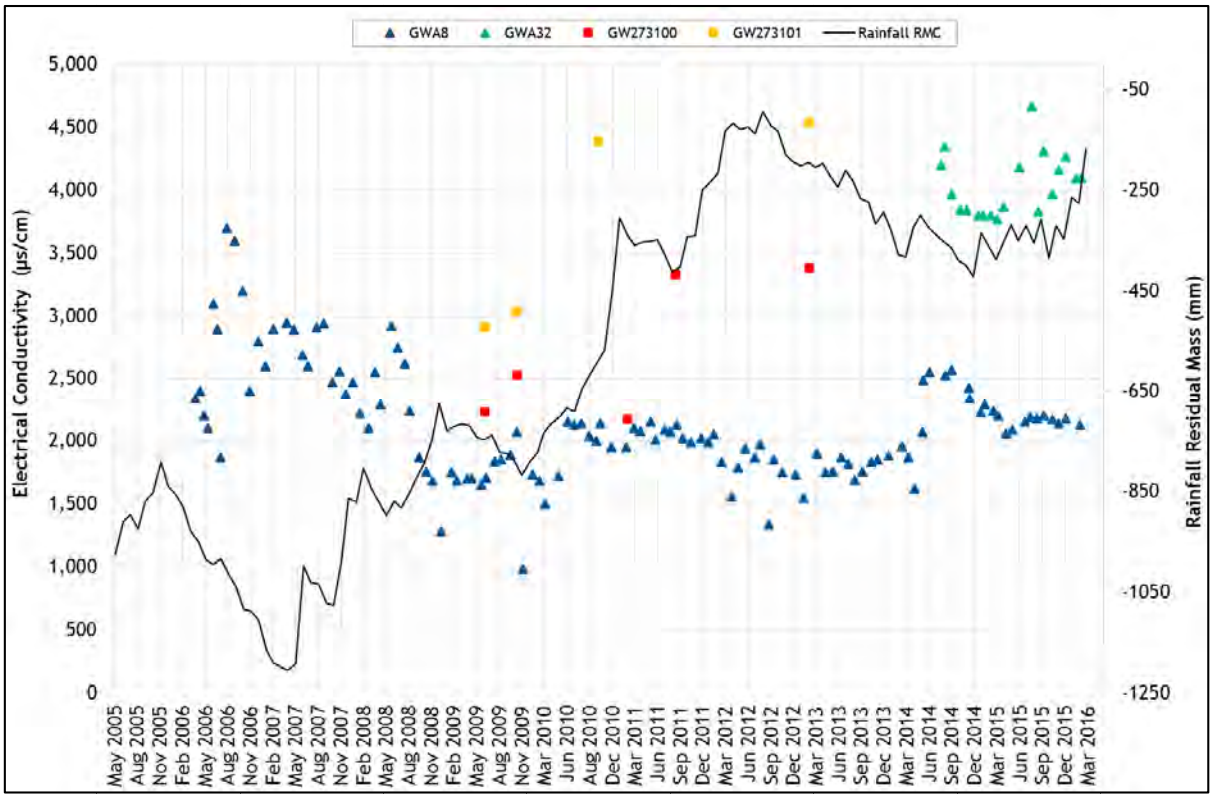
Figure 2b
Wilpinjong Creek Electrical Conductivity and RO Plant Discharges – Inset



DPI Water also identified an increase in salinity at two bores maintained by the Department on Wollar Creek (GW273100 and GW273101) in the period 2009 to 2013. Both bores are located approximately 2 km east of the Project and 3.6 km east of the nearest current workings in Pit 7 and are up-gradient from the mine, upstream of the Wilpinjong Creek confluence on Wollar Creek which flows generally northwards in this section of the stream.

EC monitoring results for GW273100, GW273101 (data to 2013) and two WCPL alluvial monitoring bores located in the vicinity of the DPI Water monitoring bores (GWa8 and GWa32) are shown on Figure 3. GWa32 is very close to GW273100 (Figure 1a of Response to Submissions).

Figure 3
Electrical Conductivity in Alluvial Groundwater Monitoring Bores



The increase in salinity at the DPI Water monitoring bores are not reflected in the monitoring results for the nearby WCPL monitoring bores. In addition, the long-term records for GWa8 illustrate responses in EC to rainfall trends and do not illustrate any rising trend that could be attributed to mining effects. The monitoring results at DPI Water monitoring bores are generally consistent with the range of temporal changes in groundwater quality described in Section 3.9.3 of the Groundwater Assessment (HydroSimulations, 2015), which states (emphasis added):

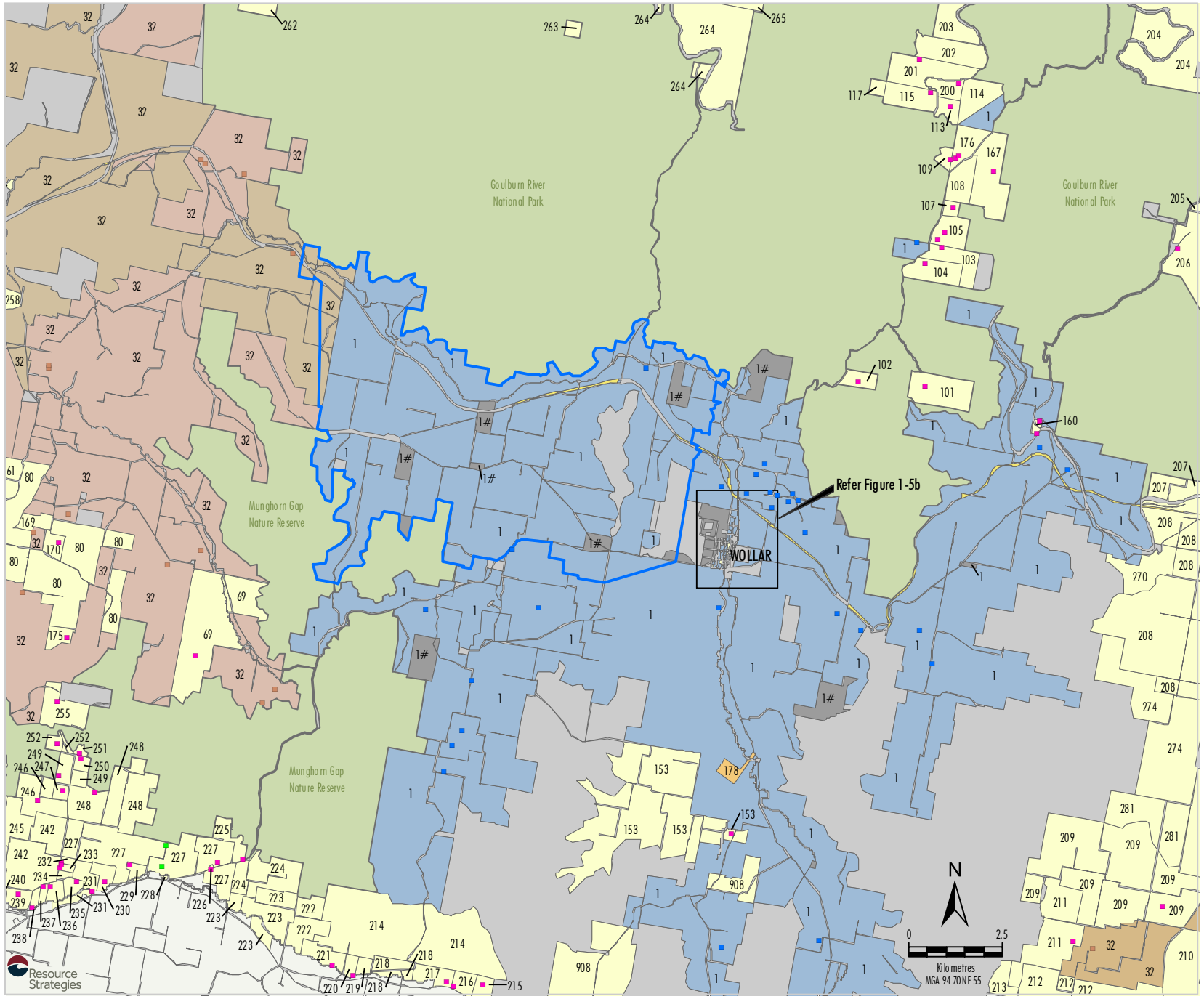
> *Most monitoring bores in alluvium (with a long monitoring record) show a steady increase in EC from approximately mid- to late-2013. The percentage increase is variable between locations but exceeds 100% in some bores (e.g. GWa01, GWa04, GWa06, GWa16).*

Increasing EC trends are also noted in some bores screened within the coal measures (e.g. GWc02, GWc03, GWc28). The increase in EC appears to coincide with the onset of a particularly dry period, during which rainfall recharge was limited and evaporative concentration of salts would occur. The increase also coincides with the start of mining at Pits 3 and 7. <u>However the change in salinity is considered to reflect climatic influence and not mining impact because an increasing EC trend is apparent in bores that are well distant from the mine and/or up-gradient from the mine, precluding a mining cause.</u>

The above analysis supports the conclusion presented in the EIS that the Project water quality impacts will be within the Aquifer Interference Policy Level 1 minimal impact considerations of *no increase of more than 1% per activity in long-term average salinity in a highly connected surface water source at the nearest point to the activity*.

Appendix E

Updated Land Ownership Plans



LEGEND

- Development Application Area
- Peabody Energy
- Bylong Coal Project
- Moolarben Coal Mine
- Ulan Coal Mine
- Crown Land (Special Lease/Licence)
- Crown Land
- TransGrid
- Railway Land
- Relevant Private Landholder
- Other Land (Ownership not identified)
- National Parks and Wildlife Service
- 1 Landholder Number
- Peabody Energy Dwelling
- Ulan/Moolarben Dwelling
- Private Dwelling
- Community Building

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

* Refer Figure 1-5c for List of Landholders.

\# Special Lease/Licence Holder

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Relevant Land Ownership Plan*

Figure 1-5a

WIL-12-12_WEP_RtnS_205A

LEGEND

- Peabody Energy
- Crown Land (Special Lease/Licence)
- Crown Land
- Railway Land
- Relevant Private Landholder
- Under Contract to Peabody Energy
- 1 Landholder Number
- Peabody Energy Dwelling
- Community Building
- Private Dwelling

Source: WCPL (2015); NSW Dept of Industry (2015); NSW Land & Property Information (2015)

* Refer to Figure 1-5c for List of Landholders.
\# Special Lease/Licence Holder

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Relevant Land Ownership Plan
Wollar Inset*

Figure 1-5b

REF NO	LANDHOLDER
1	PEABODY ENERGY
32	ULAN/MOOLARBEN/CASCADE COAL CONTROLLED LAND
61	J SZYMKARCZUK
69	DJ & JG STOKES
80	RB COX
101	NAB PIERCE
102	W FILIPCZYK
103	MR MOLLOY
104	J & IBD HARTIG
105	DL & EH TOOMBS
107	RJ LEE
108	PA CROSSE
109	MO VAISEY
113	AJ BRETT, S & D HILT
114	C WARE, N PARKER
115	T AUDRETSCH
117	S MCHUGH
150	E TINDALE, A MCDONALD & WS WILSON
153	TW MARSKELL
160	B SMILES & A SMILES-SCHMIDT
167	GJ JAQUES
169	J ASZTALOS
170	MB COX
175	SF & MR ANDREWS
176	S RAYNER
178	TRANSGRID
200	BJ HUGHES, CA BEINSSEN, K ASLETT
201	SJ CUTHBERT
202	SV MCGUINESS & RL PRYOR
203	WP PRATT, CB & EA TOBIN
204	RON POTTER (FARMS) PTY LTD
205	AJ O'BRIEN
206	EA HUNT
207	AL DUNN
208	JUSTIN KENNEDY LEWIS PTY LIMITED
209	ICELINK PTY LIMITED
210	TIMNATH PTY. LIMITED
211	MJ & BH PERRY
212	BONGALONG PTY LTD
213	IWI CATTLE CO.PTY.LIMITED
214	A ISAAC
215	TM LARKIN & ET MONAGHAN
216	RJ WAUGH
217	AE MCDONALD
218	RE, MR & H LUESCHER
219	JA LUCKETT
220	V & N STANKOVIC

REF NO	LANDHOLDER
221	HC & E VON BISCHOFFSHAUSEN
222	RT & JM BILES
223	NAGERA PTY LIMITED
224	CR & VK HARTAS
225	JW CAMPBELL
226	RD BALL
227	JB & J BAKER
228	KA ROSS
229	DE & JI SMITH
230	TA & RN STAIT
231	MR FIELD
232	J TAYLOR
233	CDR & ASE MARTIN
234	MP & KA REEDY
235	PJ HOLLOW & SG MCNALLY
236	JIM & CG STEVENSON
238	M ANDONOVSKI
239	MJ BRYANT
240	KJ & SJ DUGGAN
242	RR HOLLOW
245	FS FAZIO
246	AJ & JA BOLAND
247	DA BOLAND
248	GA, MA, CJ & CM LANG
249	AP & DE BOLAND
250	CJ WARD
251	PD FRENCH & LE SATTLER
252	CM POOLMAN, A&W CREIGHTON
255	YR JONES
258	ICI AUSTRALIA OPERATIONS PTY LIMITED
262	JE MULLINS & CD IMRIE
263	T NEVELL
264	TURILL TC PTY LTD
265	J & SJ HORVATH
270	MT PENNY PROPERTIES PTY LTD
274	GEBLE PTY LTD
281	LOCAWAY PTY LTD
900	THE TRUSTEES OF THE ROMAN CATHOLIC CHURCH FOR THE DIOCESE OF BATHURST
903	MJ HARDIMAN & DM HOGAN
908	AE & AW LYNCH
914	S NICOD
933	CR FAULKNER
942	RWM & SM SCHNEIDER
952	BJ & DM O'HARA (Under Contract to Peabody Energy)
959	CJ CLARKE

WIL-12-12 WEP_RtnS_004B

Resource Strategies

* Refer to Figures 1-5a and 1-5b for Land Ownership Plan and Wollar Inset.

Source: WCPL (2015); NSW Land & Property Information (2015)

Peabody ENERGY

WILPINJONG EXTENSION PROJECT

Relevant Landholder List*

Figure 1-5c

Peabody ENERGY


Peabody
ENERGY