



ASSESSMENT REPORT
PROPOSED MODIFICATION TO
DEVELOPMENT CONSENT DA 113-12-98 AT ULAN MINE
FOR A BASALT QUARRY

File No: S97/00374

1. INTRODUCTION AND BACKGROUND

1.1 *The Applicant*

Ulan Coal Mines Limited (UCML).

1.2 *Overview of the Proposal and its location*

UCML is seeking a modification to its existing consent to establish a basalt quarry ("the Proposal") on Mining Lease (ML) 1468 near Bobadeen Road, in the Mudgee Local Government Area approximately 50 kilometres north east of Mudgee. The location of the Development Application (DA) area is shown on Figure 1.

The Proposal includes the construction, operation and rehabilitation of the quarry and ancillary areas. The areal extent of the proposed development is approximately 1.5 hectares.

The Proposal would not significantly increase the employment or capital investment at the mine, but would reduce the road haulage distances of road metal (crushed basalt used as a road surfacing material).

UCML is seeking a modification to its existing consent, under Section 96(2) of the *Environmental Planning and Assessment (EP&A) Act 1979*. The Department exhibited the Statement of Environmental Effects (SEE) supporting the proposed modification, in accordance with the requirements in Clause 118 of the *EP&A Regulation 2000*.

During the exhibition period, the Department received 9 submissions: 7 from government agencies and 2 from the public.

These submissions raised concerns about potential noise, blasting, air quality, flora and fauna, waste and site rehabilitation impacts of the Proposal.

The Department has assessed the Proposal, the SEE, the submissions received, and recommends that the Minister approve the proposed modification subject to conditions.

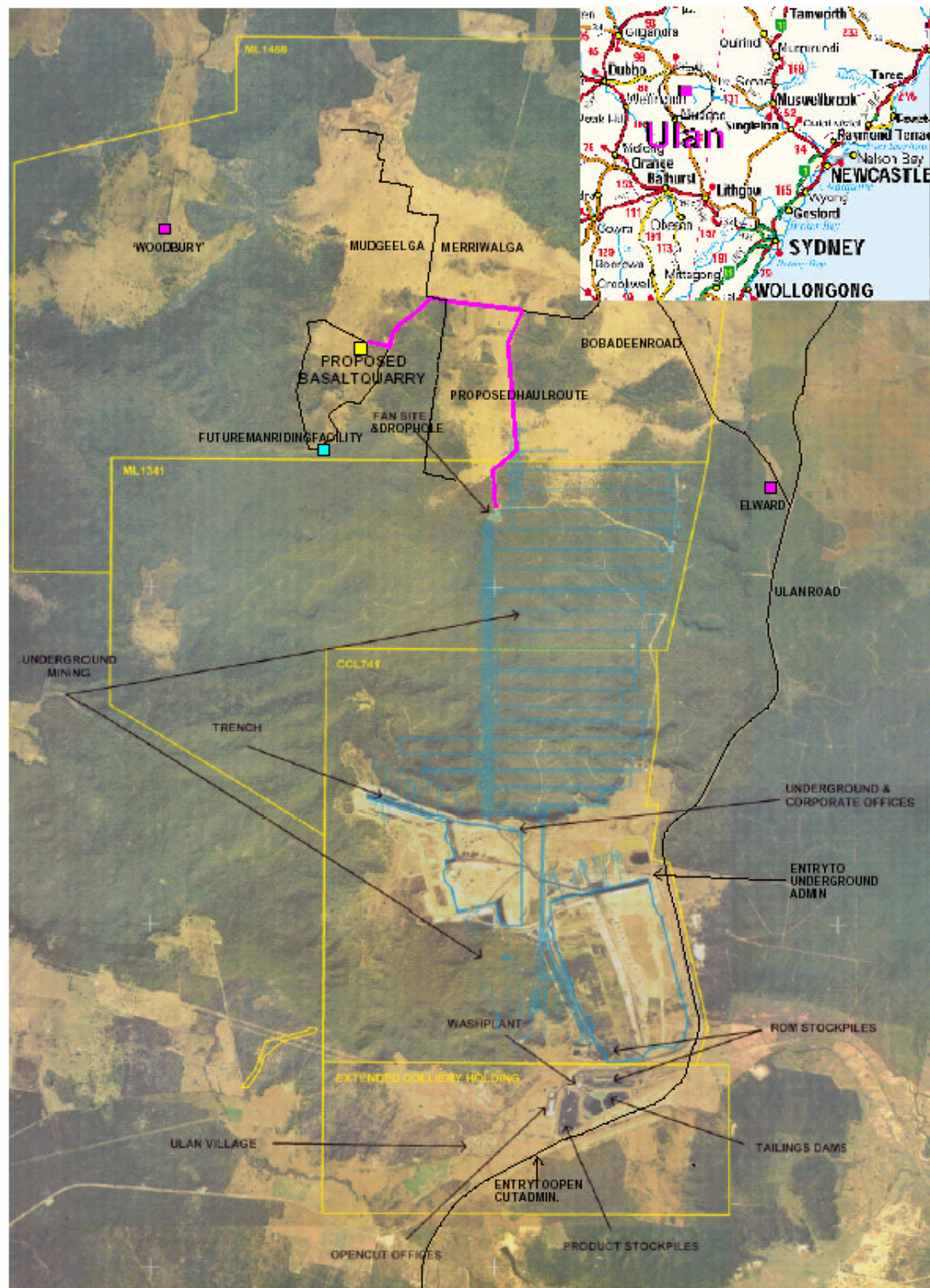


FIGURE 1: Location of Proposed Quarry

2. PROPOSAL

2.1 *Description and Surrounding Land Use*

The Proposal would be a source of blue metal for maintaining underground roads within the mining lease area and armour for dams and storages. At present, basalt gravel is imported from a quarry near Mudgee, approximately 50 kilometres to the south west. With the expansion of underground mine workings, a maximum of 10,000 tonnes per annum (tpa) of blue metal would be required for a minimum of 20 years. The Proposal has the potential to reduce truck movements on the Ulan Road, between Ulan and Mudgee, by 360 per annum.

The basalt resource is estimated at 240,000 tonnes, or 120,000 cubic metres (m³), with waste included. The maximum annual extraction rate would be 12,000 tonnes providing 10,000 tonnes of blue metal and 2,000 tonnes of waste material. Initial extraction would be by 30 tonne excavator or a D10 dozer where ripping is possible. Unweathered basalt would then be extracted by blasting. The broken rock would be fed into a mobile crusher by a front-end loader, crushed to an appropriate size, stockpiled and loaded onto trucks for use on underground and surface haul roads or as dam armour. Stockpile areas would have water management controls to direct runoff from the stockpile to an existing dam. Erosion and sediment controls would be constructed prior to the commencement of quarrying. A site compound would be provided with a portable shed. Explosives would be stored on site. The layout of the quarry is shown in Figure 2. A general view of the site is shown in Figure 3.

The life of the quarry is anticipated to be 20 years and it would be 20 metres deep at that time.

Product would be hauled from the quarry to the underground drop hole by an internal road, a distance of approximately 6 kilometres. The dam construction site is approximately 5 kilometres from the quarry along the same internal haul road as the drop hole. Approximately two to three loads of gravel per year would be transported by highway truck to the southern underground mine lease areas via Bobadeen Road and Ulan Road.

Waste material would be placed on the floor of the void and the area would receive clean excavated material from the Bobadeen area in the future to reduce the depth of the non-draining quarry floor as much as possible. Areas around the void would be shaped, topsoiled and deep ripped prior to sowing with pasture species to return the area to grazing land.

The quarry would operate between 7am and 6pm Monday to Saturday, with no work on Sundays and public holidays.

Currently, the area is used for cattle grazing. Several remnant and regenerating Yellow Box trees are located within the proposed quarry footprint. Water flow from the site is towards Ulan Creek to the south east. The nearest non-UCML owned residence is approximately 3.1 kilometres to the northwest ("Woodbury"). It is approximately 6.6 kilometres to the nearest residence to the south east ("Elwood").



FIGURE 2: Quarry Layout



FIGURE 3: Quarry Site Viewed From the East

2.2 Statutory Planning Framework

Environmental Planning & Assessment (EP&A) Act 1979

Permissibility

The site is zoned General Rural 1(a) under the Mudgee Local Environmental Plan 1998, and the Proposal is permissible with consent in this zone.

Consent Authority

The Minister was the consent authority for the original development consent, and is consequently the consent authority for this application.

Section 96(2)

Under section 96(2) of the *EP&A Act 1979*, a consent authority may modify a development consent if:

It is satisfied that the development to which the consent as modified relates is substantially the same development for which consent was originally granted and before that consent as originally granted was modified (if at all) under this section

The Department has examined the original development consent for the Ulan Mine and is satisfied that the consent as modified would relate substantially to the same development for which consent was originally granted.

Integrated Development

The Proposal does not require any additional approvals listed in section 91 of the *EP&A Act 1979*. Consequently, the Proposal does not seek to modify any conditions of consent based on General Terms of Approval provided by an integrated approval body.

Relevant Planning Instruments / Policies

The following planning instruments are relevant to the Proposal:

- State Environmental Planning Policy No. 11 – Traffic Generating Developments;
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;
- State Environmental Planning Policy No. 44 – Koala Habitat Protection; and
- Mudgee Local Environmental Plan 1998.

The Applicant has assessed the Proposal against the relevant provisions in these planning instruments in Section 2.3 of the SEE. The Department is satisfied that the Proposal is generally consistent with the relevant aims, objectives, and requirements of these planning instruments.

3. CONSULTATION

The SEE was exhibited from 29 November 2002 to 16 December 2002 in accordance with clause 118 of the *EP&A Regulation*. The Department received a total of nine (9) submissions during the exhibition period.

The issues raised in these submissions are summarised below and provided in Appendix 1.

Table 1. Submissions received

Commonwealth Government	-
State Government	6
Local Government	1
Utility	-
Special Interest Groups	-
Business	-
Individual Private Submissions	2
Community Pro-forma letter	-
Community Petition	-
Total	9

A number of the submissions raised issues which have been addressed through additional information or conditions of consent.

3.1 Government Agency Submissions

None of the government agencies objected to the Proposal.

Submissions were received from:

Department of Mineral Resources (DMR)

The DMR supports the Proposal, subject to inclusion of DMR requirements in the conditions of consent.

Mine Subsidence Board (MSB)

The quarry is not within a proclaimed Mine Subsidence District.

NSW Environment Protection Authority (EPA)

The EPA raised no specific issues for assessment.

NSW Agriculture

Where possible, NSW Agriculture would prefer that the remaining vegetation be retained outside the quarry area and that appropriate management measures be applied to encourage its regeneration.

The Department agrees with these comments and requirements for rehabilitation of the site have been incorporated into the rehabilitation requirements for the mine site.

NSW National Parks and Wildlife Service (NPWS)

NPWS raised a number of issues as follows:

- adequacy of survey effort;
- possible presence of other threatened species;
- application of the 8 part test individually to species; and
- previous survey efforts on site including whether these have been updated to consider species more recently listed on schedules of the *TSC Act*.

UCML provided additional information regarding survey effort and assessment of threatened species. The Department has reviewed the additional information and is satisfied with the assessment of threatened fauna species.

3.2 Private submissions

The two private submissions raised concerns about:

- noise;
- blasting;
- air quality;
- wind data accuracy;
- Mudgee LEP objectives;
- UCML has not approached landowner to discuss problems; and
- impacts on new residents 3.4 kilometres from the proposed quarry.

4. CONSIDERATION OF ISSUES

The Department has assessed the Proposal, the SEE, and the submissions on the Proposal, and believes that the following issues require further consideration.

4.1 Flora and Fauna

A Flora and Fauna Assessment was undertaken on behalf of the Applicant by Mount King Ecological Surveys. Three threatened species, the Grey Falcon, the Square-

tailed Kite and the Turquoise Parrot were identified as possibly using the quarry site for foraging habitat. The flora survey identified species that had been identified during previous survey of the mine area, but it was considered that it was unlikely that these would be present at the quarry site.

The NPWS raised a number of issues in its submission, including:

- the Flora and Fauna Management Plan should be prepared in accordance with the previous consent conditions and any relevant recommendations should be taken into account in its assessment of the current DA;
- survey effort including timing, duration, coverage and methodology and their findings should be provided to ascertain adequacy in relation to the current Proposal;
- presence or otherwise of threatened species possibly occurring may not have been verified through the survey effort (eg flora species such as grasses found not likely to occur on basis of past land use rather than verification);
- the 8 part test should be applied for each individual threatened species in order for the consent authority to assess the significance of effects under the EP&A Act;
- adequate information required including ensuring previous surveys and assessment work adequately cover the site. This should be updated to take into account new species and key threatening processes listed under the *TSC Act* since the original EIS. If inadequate, a new assessment should be requested; and
- recommended that the Department's flora and fauna specialists comment on methodology and findings.

NSW Agriculture raised the following:

- vegetation should be retained outside the quarry area and under appropriate management it should respond to regeneration.

At the request of the Department, the Applicant provided additional information on the Proposal, including:

- survey details, particularly for flora species;
- survey of the site for *Homoranthus darwinioides*, *Boronia ruppia*, *Adiantum aethiopicum*, *A. hispidum*, *Actinotus helianthi*;
- section 5A Tests (8 part test) all flora and fauna species likely to be impacted;
- appropriate mitigation and/or compensatory measures; and
- undertook to update the Flora and Fauna, Land Management and Site Water Management Plans

The Department has considered this additional information and is satisfied that there would be no significant impacts on any of the species, their habitat or ecological communities.

4.2 Aboriginal Heritage

An archaeological assessment was undertaken by South East Archaeology Pty Ltd on behalf of the Applicant. The Warrabinga Native Title Claimants Aboriginal Corporation, Wiradjuri Council of Elders and Murong Gialinga Aboriginal and Torres Strait Islander Corporation were represented at the site survey. The survey identified one Aboriginal heritage site on the northern side of Bobadeen Road, which would not be disturbed by the construction and operation of the quarry. The site would be

fenced prior to, and for the duration of, quarrying and relevant staff informed of protection requirements.

In a submission, the NPWS raised the following issues:

- NPWS does not endorse the Archaeology and Cultural Management Plan in its existing form;
- Archaeological assessment contains deficiencies; additional survey work is recommended in the form:
- The archaeological assessment does not provide an adequate framework for concluding that this area has low potential/value. Only 0.4% of the area was available for artefact detection and in the context of previous work in the region it is expected that more evidence would be present in this location;
- this is an area with basalt cobbles distributed across the surface. This material was important for axe manufacture. It is not clear from the assessment whether this material could have been a raw material source and if it is determined that it is not a source, what criteria have been used to conclude this;
- the original survey provided poor coverage of the area. Further archaeological material may be located. If survey effort does not provide evidence of material, then test excavations in likely areas are required to determine whether archaeological items are present;
- disturbance was noted as moderate to high, however, this is only noted in generic terms and its effect on the land surface and therefore any buried objects and their integrity is not clear. The question of resource suitability and thus an explanation for the absence of evidence needs to be more fully developed;
- the report notes information available for comparative purposes and model building is not adequate. An understanding of the distribution of numbers of axes, or flakes of basalt (in both shelter and open deposits) would be a very important element in developing a model of use for this type of raw material, locations of manufacture etc and assessing whether the quarry area could have been a raw material source;
- the recommendations of the Murong Gialinga group have not been taken into account and need to be addressed. It is noted that the artefact will not be impacted by the quarry but it is not clear that this fully meets the concerns of the group. This needs to be clarified.

The Applicant was requested to respond to these issues. The Applicant responded to each of the issues raised by the NPWS and indicated that in view of the lack of evidence of lithic procurement, it was considered unlikely that artefacts are present. The basis of the predictive archaeological models was clarified and the supporting evidence for these models was provided. Murong Gialinga raised the possibility that further evidence may occur at the immediate site. As the site and its immediate surrounds would not be impacted by the Proposal, further investigation of this claim is not warranted.

The Department is generally satisfied with the additional information provided. The Department notes that the Archaeology and Cultural Heritage Management Plan, required by the consent, applies to all surface facilities. The quarry will be defined in the modification to the consent as part of the mine's surface facilities. The provisions of the Plan will apply to the quarry site which requires that the Applicant invite representatives of the relevant Aboriginal groups to be present before any ground disturbance commences and that should artefacts be found, the NPWS be notified regarding any relevant consent prior to works recommencing.

4.3 Noise

An assessment of the noise levels at the nearest residence was reported in the SEE using data from the Wilkinson Murray assessment (1998) provided for the Ulan mine. A review of the 1998 report was provided for the Applicant by Global Acoustics. Assuming a background level of 30dB(A), the lowest default background noise level applicable under the Industrial Noise Policy (INP),(EPA, 2001) the Applicant considers that a project specific noise limit (PSNL) of L_{Aeq} 35 dB is appropriate for this development.

Table 2. Calculated L_{Aeq} dB(A), all plant

Location	Atmospheric Conditions	Predicted	PSNL
Mitchell	No wind	12	35
Mitchell	3 metres/sec wind from source to receptor	32	35

Concerns about noise and blasting impacts were expressed in the two public submissions as follows:

- use of wind data from Ulan village approximately 7 kilometres south of the proposed quarry; and
- data used to calculate L_{Aeq} came from the Wilkinson Murray 1998 assessment.

The Department considers the use of data from the original background monitoring to be appropriate as it was obtained at a time before the commencement of major mining activity at the Ulan Mine. The data is more representative of true background noise levels than more recent background noise data. The background noise levels are likely to be more conservative than if they were based on recently acquired data. The Applicant is also required, through the consent conditions, to identify commitments made in the SEE and report on those commitments. One of the commitments is, *"Should any complaints be received, an investigation will be undertaken in accordance with existing noise procedures contained within the UCML environmental management system"*.

The Department is satisfied that the potential noise impacts of the Proposal can be managed.

4.4 Blasting

One submission expressed concern about the potential effects of blasting at the residence. Blasting was not considered in the SEE since the closest residence is approximately 3.1 kilometres to the north of the quarry. Existing conditions of consent relating to blasting will apply to the quarry. These require the Applicant to monitor both ground vibration and air blast overpressure levels. The Department is satisfied that any blast impacts can be managed.

4.5 Traffic and Transport

Traffic associated with the Proposal would include:

- heavy vehicle traffic (mobile crusher) on Ulan Road several times a year;
- traffic generated by staff at the quarry during work periods (3 permanent staff); and
- transport of two to three loads of blue metal to the open cut site each year.

Merriwa Shire Council raised concerns about road transport of the quarry product including:

- the use of Bobadeen Road and the intersection with MR 214;
- although sections of Bobadeen Road would be utilised, there is no proposed upgrade;
- the travel arrangements of workers has not been addressed;
- concerned that Ulan Road is considered to be “configured to allow heavy vehicle turning movements” as Council considers the intersection dangerous; and
- safety of traffic on MR214 when partial sealing of Bobadeen Road has not entirely removed the dust problem, particularly where Bobadeen Road loops back to run parallel to the main road.

Haulage of blue metal is limited to two to three truck loads per annum on public roads. The Department has included a condition that requires UCML to make available crushed basalt, at cost, to Merriwa Shire Council for the purpose of upgrading Bobadeen Road and its intersection with Ulan Road. As truck movements on the public road system will be greatly reduced through the Proposal the Department is satisfied that potential impacts would be managed through the consent conditions.

5. SECTION 79C CONSIDERATIONS

Section 79C of the EP&A Act sets out the matters that a consent authority must take into consideration when it determines a proposal to modify a development consent under Section 96(2).

The Department has assessed the Proposal against these matters, and is satisfied that:

- The Proposal is generally consistent with the provisions of the relevant planning instruments;
- The potential impacts of the Proposal can either be mitigated or managed; and
- The Proposal is generally in the public interest.

6. RECOMMENDED CONDITIONS OF CONSENT

The Department has prepared a recommended notice of modification for the development consent to accommodate the Proposal.

The notice is required to:

- minimise the adverse environmental impacts associated with the Proposal;
- provide for the effective on-going environmental management of the Proposal; and
- provide for the regular monitoring, auditing, and reporting on the Proposal.

The Applicant has agreed to these proposed modifications.

7. CONCLUSION

The Department has assessed the Proposal, the SEE, and the various submissions on the Proposal.

The Proposal will improve road safety and reduce road maintenance impacts from the haulage of crushed basalt on local and regional roads. It will provide an economic supply of crushed basalt for Ulan Coal Mines. Current levels of employment and capital investment will remain relatively unchanged.

The impacts associated with achieving these benefits can generally be mitigated or managed.

To manage these potential impacts, the Department requires that:

- the quarry footprint be minimised;
- an Erosion and Sediment Control Plan be prepared for the quarry;
- the site be rehabilitated; and
- a report be prepared on commitments made in the SEE and progress made in meeting those commitments, prior to the commencement of the quarry development.

With these measures in place, the Department recommends that the Minister approve the proposed modification.

RECOMMENDATION

It is RECOMMENDED that the Minister:

- consider the findings and recommendations of this report;
- determine that the development consent, as modified, would relate substantially to the same development to which consent was originally granted;
- approve the proposed modifications to the development consent under Section 96(2) of the *EP&A Act*; and
- sign the attached Notice of Modification.

David Kitto
Acting Manager
Mining and Extractive Industries

Sam Haddad
Executive Director

SUBMISSIONS FOR QUARRY AT ULAN MINE

Identifier	ISSUE	
DMR	Supports Proposal subject to "The operator is required to provide annual production data as requested by the DMR, in a manner required, on the standard form for that purpose".	
MSB	No issues	
Private resident	- Noise - Blasting - On a still day, machinery noise from Ulan could be clearly heard when the o/c was operating and this was further away than 3.1km	
EPA	No specific issues for assessment raised.	
NSW Agriculture	- Vegetation should be retained outside the quarry area; - Under appropriate management it should respond to regeneration.	
Merriwa Shire Council	- Generally supportive subject to general review of requirements relating to developer contributions and road upgrade; - Concern that a number of past incremental changes to the mine have resulted in greater transport impacts particularly to the main and local roads servicing the mine; - Bobadeen Road as well as the intersection with MR214 has not been properly addressed; - The SEE states that no upgrade to the Bibadeen Road is proposed despite sections being utilised for haulage purposes; - Daily travel arrangements of workers not addressed; - Concern about current land disposal of contaminated waste mine waters; - Council considers reference to Bobadeen Road intersection with Ulan Road as "configured to allow heavy vehicle turning movements" inaccurate. Council has for some time been concerned with this potentially dangerous intersection; - Information about intersection upgrade attached; - Recent partial sealing of Bobadeen Road has not entirely removed the dust problem for traffic management, gives rise to dangerous road conditions on MR 214, particularly along that section of highway where Bobadeen Road loops back to run parallel to the main road; - There should be some consideration for additional financial contribution from UMCL towards community services for the Ulan community.	
NPWS	The Flora and Fauna Management Plan should be prepared in accordance with the previous consent conditions and any relevant recommendations should be taken into account in its assessment of	Need a survey for <i>Bothriochloa biloba</i> ?

	the current DA; • NPWS does not endorse the Archaeology and Cultural Management Plan; • Survey effort including timing, duration, coverage and methodology and their findings should be provided to ascertain adequacy in relation to the current Proposal; • Presence or otherwise of threatened species possibly occurring may not have been verified through the survey effort eg flora species such as grasses found not likely to occur on basis of past land use rather than verification; • The 8 part test should must be applied for each individual threatened species in order for the consent authority to assess the significance of effects under the EP&A Act; • Adequate information required including ensuring previous surveys and assessment work adequately cover the site and has been updated to take into account new species and key threatening processes listed under the <i>TSC Act</i> since the original EIS. If inadequate, a new assessment should be requested; • Recommended that PNSW's flora and fauna specialists comment on methodology and findings; • Archaeological assessment contains deficiencies; additional survey work is recommended in the form: • The archaeological assessment does not provide an adequate framework for concluding that this area has low potential/value. Only 0.4% of the area was available for artefact detection and in the context of previous work in the region it is expected that more evidence would be present in this location; • This is an area with basalt cobbles distributed across the surface. This material was important for axe manufacture, not clear from the assessment whether this material could have been raw material source and if not, what criteria are being used to conclude that it is not suitable; • Because of poor survey coverage, further archaeological material may be located. If surface conditions do not provide adequate detection, then test excavations are required to establish that surface evidence is in fact representative; • disturbance was noted as moderate to high, however, this is only noted I generic terms and its effect in the land surface and therefore any buried objects and their integrity is not clear. The question of resource suitability and thus an explanation for the absence of evidence needs to be more fully developed; • the report notes information available for	
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	comparative purposes and model building is not adequate. In the light of previous surveys this would seem unlikely. An understanding of the distribution of numbers of axes, or flakes of basalt (in both shelter and open deposits) would be a very important element in developing a model of use for this type of raw material, locations of manufacture etc and assessing whether quarry area could have been a raw material source; - the recommendations of the Murong Gialinga group have not been taken into account and need to be addressed. It is noted that the artefact will not be impacted by the quarry but it is not clear that this fully meets the concerns of the group. This need to be clarified. - Incorrect description on photograph.	
DLWC	No objection	
Private landowner Letter not to be made available to UCML	- Air quality - Noise pollution as both are influenced by wind direction and strength; - Not confident in accuracy of wind data as use a wind generator and most common wind direction is south easterly followed by east generally; - Ulan village is quite a distance from property and was used for wind modelling - may not be accurate as wind need to cross the Great Dividing Range. Also there are local temperature inversions; - Details of monitoring measures to substantiate predicted noise and dust impacts not included in SEE; - Nearest boundary to the proposed quarry is 900 metres; - Mudgee LEP objectives include ensuring development does not detract from the existing rural character, any noise consistently and constantly heard for long periods significantly detracts from the peace and quiet of our property; - Wife is a violinist who teaches privately and is affected like most musicians by extraneous noise - simplistic to believe that only loud noise or noise just below an EPA requirement can affect one's physical and mental health; - The length of the campaigns is not indicated; - UCML has a duty of care to undertake before and after monitoring for dust and noise pollution and if the quarry operation causes pollution then steps will be promptly taken to eliminate these problems; - UCML has not approached us to discuss these problems; - PlanningNSW should ask for comment from our other neighbours, eg Mr and Mrs Petzl who have just built a new house may have some input. The Petzl residence is approximately 3.4 kilometres	

	from the proposed quarry which is a lot closer than the Edward's residence noted in the SEE. • Imbalance as noise and dust issues covered in 3 pages and flora, fauna and archaeology take up over 50 pages;	
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