ATTACHMENT D

Applicant's Response to Submissions

Bogo Operations Pty Limited

ABN: 41 604 273 725

A Consolidated Response to Submissions

for the

Ongoing Operations of Bogo Quarry

(and Mobile Asphalt and Concrete Batching Plants)

Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

August 2016

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Bogo Operations Pty Limited

ABN: 41 604 273 725

A Consolidated Response to Submissions

for the

Ongoing Operations of Bogo Quarry

(and Mobile Asphalt and Concrete Batching Plants)

Prepared for:

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Ref No. 724/12

August 2016

R.W. CORKERY & CO. PTY. LIMITED

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ATTACHMENTS

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1. INTRODUCTION

This document has been assembled to address a range of matters raised by the NSW Roads and Maritime Services and the Office of Environment and Heritage following the exhibition of the EIS for the Ongoing Operations of Bogo Quarry (and Mobile Asphalt and Concrete Batching Plants). It is noted that responses were received from EPA, DPI-Water, DRE and Office of Agriculture who did not identify any issues requiring a response.

2. NSW ROADS AND MARITIME SERVICES

Comment

The proposal includes the transportation of material to and from the site by road transport using heavy vehicles including 26m B-Doubles. Paynes Road is not currently an approved B-Double route. Given this and the available storage within the median crossover on the Hume Highway it is considered appropriate that the approved haulage vehicles be restricted to a length comparable to a general access vehicle (19 metre truck and dog combination or 19 metre semi-trailer). Should the development propose to retain B-Double as a haulage vehicle works will be required to the median crossover to accommodate the length of such vehicles. Appropriate applications to the National Heavy Vehicle Regulator will also be required for the assessment of the proposed route along Paynes Road as a B-Double Route.

NSW RMS Submission

Response

Bogo Quarry Pty Ltd considers it appropriate to restrict the despatch of products from the Quarry to vehicles of 19m or less. Accordingly, the Applicant would be prepared to accept the condition restricting the vehicle types travelling to and from the Quarry to these vehicles.

Comment

Please provide details of traffic movements in relation to the proposed production levels of all operations and how these will fit with maximum of 8 vehicles per hour leaving the site.

NSW RMS Submission

Response

The Applicant has developed a procedure for product despatch on busy days that ensure the number of vehicles leaving the quarry do not exceed 8 per hour.

During those periods when the mobile asphalt plant and/or concrete plant are operational, a similar procedure would be adopted to limit the number of vehicles departing the quarry on an hourly basis.

It has been the Applicant's experience that the generation of up to 8 product despatches per hour is a comparatively rare event at present although it is anticipated that 8 product despatches per hour would become more frequent during high sales periods.

3. YASS VALLEY COUNCIL

Comment

The proposed perimeter tree screen does not appear to screen the quarry from Hume Highway. In this regard, you are requested to provide details as to how quarry face/quarry operations will be made not visible from the carriageway of Hume Highway. To this end, please note that the quarry is also visible from Burrinjuck Road. Therefore, you are requested to elaborate the visual effectiveness of the proposed southern bund. Furthermore, during the initial stages of the quarry and mobile plants operations when southern bund is not in place what arrangements would be made to block the views of the quarry operations from Burrinjuck Road.

Yass Valley Council Submission

Response

At the outset in response to this matter, the Applicant would like to advise Council that at no time to date has there been any complaint received regarding the visibility of the disturbed areas on the more elevated sections of the extraction area. That said, the Applicant recognises that the tree screen has been positioned in a location that will be most effective towards the end of the quarry's operational life (and beyond the operational life of the Quarry).

The Applicant acknowledges that the southern elevated section of the extraction area is most visible from the southbound lanes on the Hume Highway. The current extraction plan provides for:

i) the progression of the elevated extraction faces from north to south. At present, the Applicant has progressed approximately 70% of the elevated faces. The elevated southern face would be fully removed within 5 years; and

ii) the continued use of constructing a visibility barrier up to 5m high on the western, southern and northern sides of the extraction area.

The proposed southern bund will ultimately be effective in shielding sections of the processing plant and the concrete plant from views from Burrinjuck Road. It is acknowledged that the southern bund will be constructed progressively and would achieve its full height within a period of approximately 5-10 years.

Comment

The JRPP panel during its meeting with Council staff has asked to clarify whether the noise report is based on historic data or it has been updated with current noise testing. In this regard can you please confirm the status of the noise report?

Yass Valley Council Submission

Response

The noise report was completed with retention of sound power levels from the previous report (not finalised) as there had been no change in the equipment in the intervening period. Current noise testing of background levels was not considered necessary. Rather, reliance was placed upon the default background noise levels which are clearly conservative.

Comment

Details on how to mitigate potential impacts of light spillage from trucks during night time operations.

Yass Valley Council Submission

Response

The mitigation of impacts of vehicle lights on Paynes Road would not be possible during those periods when products are despatched of a night-time. The request to mitigate potential impacts is in fact an unexpected request given that a range of other roads accessing the Hume Highway would similarly have vehicles approaching the Highway. It is the current practice of the Applicant to minimise night-time product despatches although some night-time activities have been required in the past for the delivery of asphalt.

Comment

For your information, the subject land is identified as being having terrestrial biodiversity value, highly erodible soils and groundwater vulnerability on the applicable Yass Valley LEP 2013 natural resource management maps. Accordingly, you are requested to address the clause 6.3, 6.4 and 6.7 of the Yass Valley LEP 2013.

Yass Valley Council Submission

Response

Clause 6.3 – Terrestrial Biodiversity

The Map displaying terrestrial biodiversity is of a very large scale and simply identifies areas of mature trees amongst exotic grasslands. Much more weight should be placed upon the detailed site specific terrestrial ecological study undertaken by Biosis (2016) – EIS Appendix 4.

Clause 6.4 – Groundwater Vulnerability

The Bogo Quarry lies in an area displayed as Groundwater Vulnerability. Consideration of this issue is not relevant to the Bogo Quarry as all extraction is proposed to be undertaken above the regional groundwater table.

Clause 6.7 – Highly Erodible Soils

The single area of high soil erodibility shown on the Map is located within the floor of the existing quarry. The nature of the soils on the Quarry Site are such that they do not display characteristics of highly erodible soils.

4. OFFICE OF ENVIRONMENT AND HERITAGE

Comment

Cultural Heritage Assessment Report (CHAR) fails to identify all the Aboriginal sites located on the subject land. This has also led to failure to submit Aboriginal site cards and possible site impacts. For your information there are five (5) known Aboriginal sites located within the Bogo quarry boundaries. Accordingly, you are requested to address this issue.

OEH Submission

Response

The Applicant has commissioned Biosis Pty Ltd to compile a letter report and Plan of Management addressing the concerns raised by OEH in relation to Aboriginal heritage matters. A full copy of the report including the site cards is included as **Attachment 1**.

Comment

Cultural Heritage Assessment Report (CHAR) submitted with the development application does not address the Environmental Assessment Requirements. The submitted CHAR is also not compliant with the legislation changes occurred in 2010. Accordingly you are requested to address the requirements 1, 2, 3, 4, 5, 6, 7, and 8 of Aboriginal Heritage Site Assessment Requirements as well as CHAR must be compliant with the current legislation.

OEH Submission

Response

The Applicant has commissioned Biosis Pty Ltd to compile a letter report and Plan of Management addressing the concerns raised by OEH in relation to Aboriginal heritage matters. A full copy of the report addressing the nominated requirements is included as **Attachment 1**.

Comment

There is highly likely occurrence of threatened species Yass Daisy. Accordingly targeted surveys should be carried out to determine occurrence of Yass Daisy on Bogo Quarry and documented in the report.

OEH Submission

Response

The Approved Conservation Advice for Yass Daisy (Commonwealth of Australia 2008) states "Yass Daisy occurs in dry forest, Box-Gum Woodland and secondary grassland derived from clearing of these communities . . . Yass Daisy is apparently unaffected by light grazing ..." The study area is dominated by exotic pasture grasses, and has been severely disturbed due to extensive past grazing practices. This area was considered to have low resilience, with native species limited to disturbance tolerant native grasses and forbs. Native vegetation in the form of Box Gum Woodland was restricted to the area grassy ground layer immediately beneath and surrounding the four (4) canopy trees. Given this, the habitat within the study area is not considered suitable for the species, given the lack of even secondary grasslands and the past disturbance due to grazing. Suitable habitat is limited to small patches of native vegetation located beneath the four trees.

Despite this, surveys have been undertaken sufficient to determine the presence of the species with a high degree of reliability. In spring 2008 (late October) Ecotone conducted a field survey of the study area. Ecotone was aware of the possibility of the species being present, but did not detect it then. In 2015 field surveys were undertaken in spring (late September) during the stated flowering period of the species and at a time of year when the Yass Daisy would have been highly visible. The 2015 surveys consisted of a mix of random meander and irregular transects, and concentrated most intensely on the only small patches of potentially suitable habitat within the proposed extraction/impact area (the subject site) where native grass species were recorded beneath the canopies of the four remnant trees. The species was not recorded in these areas. Surveys were also undertaken across other parts of the quarry. The species was not recorded in any part of the quarry property. Although the flora and fauna assessment (and EIS) states that no targeted surveys were undertaken, we believe that the traverses of the study area, including focusing on areas of potentially suitable habitat, are sufficient to determine the presence of the species with a high degree of reliability.

It is our opinion that the species is a low likelihood of the species occurring within the study area and the species is at a negligible risk of impact from the proposed expansion of the quarry. This conclusion is drawn due to the following:

- The majority of the study area does not provide suitable habitat past grazing practices and extensive disturbance. Suitable habitat is limited to the base of four canopy trees.
- These areas of suitable habitat were thoroughly traversed during the flowering period for the Yass Daisy in 2008 and 2015. The species was not recorded.

Comment

White Box Yellow Box Blakely's Red Gum Woodland (Box Gum Woodland) is located on site and is also acknowledged by the submitted Flora and Fauna Assessment Report. This Box Gum Woodland as well as the habitat and hollow bearing trees are to be shown on Figure 5.3-Quarry Site Vegetation.

OEH Submission

Response

The Box Gum Woodland was not mapped in detail beyond the proposed area of disturbance although Biosis noted that the bulk of the understorey and grasses between the remaining trees were exotic. Hence, it is not appropriate to show any boundaries on Figure 5.3. Details of habitat and hollow-bearing trees are provided in the detailed Biosis report, and Figure 3 in particular.

Attachment 1 – Letter Report and Plan of Management for Aboriginal Cultural Heritage

(See Separate Document)

1 September 2016

(Revised)

Mr Rob Corkery
RW Corkery & Co Pty Ltd
12 Dangar Rd
Brooklyn NSW 2083

Dear Rob,

Re: Letter of Advice and Plan of Management for the Bogo Quarry

Our Ref: Matter 22617

The following document provides advice regarding Aboriginal sites that exist within the Bogo Quarry, located at Lot 1 DP1205646, 134 Paynes Road, Bookham, NSW. This advice has been sought in direct response to requests made by the Office of Environment and Heritage (OEH) with regard to Aboriginal cultural heritage issues (Appendix 1).

It is considered that an Aboriginal Cultural Heritage Assessment (ACHA) will not be required in support of an Aboriginal Heritage Impact Permit (AHIP) given that the sites will not be impacted as a part of the extraction activities.

As a result, Biosis have been engaged to address OEH's concerns with the review of existing information, a site inspection of each of the five Aboriginal sites to determine their extent and indicate where fencing to adequately protect these sites will be erected. One of these sites is already registered on the Aboriginal Information Management Systems (AHIMS) register and the other four are not. OEH has requested that these four sites be registered on AHIMS. This has been undertaken based on previously collected data and the results of the current site inspection.

Project objectives

The following is the summary of the major objectives for the due diligence investigation:

- Confirm the location of registered Aboriginal sites within Lot 1 DP1205646 through a search of the AHIMS register, maintained by OEH.
- Determine and map the location of registered and un-registered Aboriginal sites using the AHIMS results data and historical data from previous archaeological investigations at Bogo Quarry.
- Undertake a site inspection to relocate previously registered Aboriginal sites and un-registered Aboriginal sites (5 sites in total) to determine the condition of each site (disturbance/erosion), including the presence and extent of surface cultural material. This information is required for the successful submission of Aboriginal site registrations to the AHIMS in compliance with the guidelines issued by the OEH.
- Based on the historical locational data and the results of the site inspection, the extent of Aboriginal sites will be fenced using temporary fences until a permanent alternative can be erected. This

management measure, as well as other management measures required for each Aboriginal site is detailed in this letter of advice and Plan of Management.

- Additional recommendations and advice will also be provided to minimise or mitigate potential impacts to cultural heritage values if these Aboriginal sites cannot be avoided by proposed impacts from the future expansion of the Bogo Quarry.

Location of the study area

The Bogo Quarry study area encompasses the entire Lot 1 DP1205646, 134 Paynes Road, Bookham NSW. The boundary of the extraction area and the current location of registered and unregistered Aboriginal sites within the Bogo Quarry are shown on Figures 1 and 2.

Background to the project

The Bogo Quarry is currently operating under approved Development Consent (DA 96/067B) for the maximum extraction of 200 000 tpa and is seeking approval to expand the operation to extract a maximum of 500 000 tpa. A Development Application (DA) was submitted to Yass Shire Council requesting approval for the increased extraction.

RW Corkery & Co recently received a letter from OEH that outlined feedback on their recent DA and accompanying EIS to extend the operational life of Bogo Quarry. The OEH letter stated that insufficient information was available to provide feedback on the DA and the OEH specifically requires response to the following issues:

- Failure to submit Aboriginal site cards and possible site impact. This statement refers to two sites IF1 and IF2 identified by Navin Officer Consultants in 1995 and two sites (2009-1 and 2009-2) recorded by Cultural Heritage Management Australia (CHMA 2009).
- Cultural Heritage Assessment Report (CHAR) does not address the Environmental Assessment Requirements (EARs).

As part of an environmental assessment prepared in 2009, an Aboriginal heritage assessment was undertaken by CHMA. The objective of that assessment was to identify any Aboriginal heritage sites or objects which may be impacted by the proposed development. The assessment located sites within the boundary of Lot 1 DP1205646 but stated none would be impacted by the proposed extraction activities. This assessment was undertaken prior to the DECCW 2010 Aboriginal heritage assessment requirements reform and does not meet the current requirements for an Aboriginal heritage assessment. The report also does not consider the impact to sites IF1 and IF2.

In 2015, Biosis was commissioned by RW Corkery & Co on behalf of Bogo Quarry Operations Limited to provide a letter of advice in relation to regenerative tree planting which had been undertaken along the boundary fence of the extraction area. The letter of advice found that Aboriginal heritage sites Bogo 2009-1, Bogo 2009-2 and 51-1-0042 had not been impacted by the tree planting. Assessment of sites IF 1 and IF 2 was not undertaken as part of this brief and therefore Biosis did not provide advice on the impact or protection of these sites. The DA cannot be approved until the information requested by OEH has been adequately provided.

It is considered that an Aboriginal Cultural Heritage Assessment (ACHA) will not be required given that the sites will not be impacted as a part of the extraction activities. Therefore, an Aboriginal Heritage Impact Permit (AHIP) will not be required.

Community consultation

Consultation with the Aboriginal community is not a formal requirement for an inspection of Aboriginal sites if no impacts are proposed. It should, however, be recognised in NSW that Aboriginal people are the primary determinants of the significance of their cultural heritage. A landscape may hold intangible values that can be assessed only by the Aboriginal community. Consultation with the local Aboriginal community will occur with the provision of this letter of advice for their comment.

Aboriginal sites within the study area

The OEH maintains a database of Aboriginal sites within New South Wales (NSW) under Part 6 of the *NSW National Parks and Wildlife Act 1974*. Aboriginal objects and places in NSW are legally required to be registered on the AHIMS register. One registered Aboriginal archaeological site is listed on the AHIMS register and is located on the northern boundary of the current study area (Figure 2 and Table 1).

Table 1: AHIMS Aboriginal sites registered within the study area

AHIMS site no.	Site name	Site type	Recorded by
51-1-0042	Bogo Quarry 1	Artefact scatter	NOHC (1995)

In addition, four un-registered Aboriginal sites identified during previous archaeological assessments, also occur within proximity to the existing extraction area and within the current study area (Figure 2 and Table 2).

Table 2: Un-registered Aboriginal sites present within the study area

AHIMS site no.	Site name	Site type	Recorded by
Pending	IF1	Isolated artefact scatter	NOHC (1995)
Pending	IF2	Isolated artefact scatter	NOHC (1995)
Pending	Bogo 2009-1	Artefact scatter	CHMA (2009)
Pending	Bogo 2009-2	Artefact Scatter	CHMA (2009)

Aboriginal site Bogo Quarry 1 (AHIMS #51-1-0042) – MGA Zone 55 655228.6146803

Bogo Quarry 1 (#51-1-0042) was recorded by Navin Officer Heritage Consultants (NOHC) in 1995 as consisting of over 40 artefacts over a dispersed area north of the approved extraction area (NOHC, 1995).

Aboriginal site IF1 – MGA Zone 55 654813.6143761

IF2 is an isolated artefact recorded by NOHC in 1995 in a paddock 50 metres to the west of the study area, i.e. beyond Lot 1 DP 1205646.

Aboriginal site IF2 – MGA Zone 55 655090.6146651

IF2 is an isolated green/grey chert flake recorded by NOHC in 1995 on the northern edge of the current extent of extraction, within the existing limit of extraction.

Aboriginal site Bogo 2009-1 – MGA Zone 55 655315.6146263

Bogo 2009-1 was recorded by CHMA in 2009 as consisting of seven artefacts located adjacent to the dam on the southern side of the study zone.

Aboriginal site Bogo 2009-2 – MGA Zone 55 655315.6146263

Bogo 2009-2 was also recorded by CHMA in 2009 as consisting of two artefacts located on the western side of the existing extraction area and outside of any proposed impacts.

Results of the site inspection

A site inspection was undertaken within the study area on 29 July 2016 by Nicole Castle (Consultant Archaeologist - Biosis), Rebecca Morris (Heritage Research Assistant - Biosis) and Noel Scarlett (Bogo Quarry) to identify Aboriginal sites IF1, IF2, 2009-1 and 2009-2. The condition of these sites was assessed, as well as their location relative to proposed impacts. Aboriginal site Bogo Quarry 1 (#51-1-0042) was also inspected due to inconsistences of previous reports, in order to determine the condition of the site. Figure 2 shows the locations of all five known Aboriginal sites in relation to the proposed development area, and Figure 3 shows the revised extents of the sites as a result of the site inspection.

Aboriginal site Bogo Quarry 1 (AHIMS #51-1-0042) – MGA Zone 55 655228.6146803

The only Aboriginal site registered site on AHIMS in the Quarry area, Bogo Quarry 1 (#51-1-0042), was originally recorded as comprising over 40 artefacts over a dispersed area (NOHC, 1995). The recorded locations all occur outside of the area of impact of the proposed limit of extraction and no impacts were recorded at this site location (Plate 1). None of the previously identified artefacts were visually relocated during the site visit due to poor site visibility. Bogo Quarry 1 (#51-1-0042) was assessed as being in overall good condition during the site inspection. The extent of the site was marked out with spray paint in order to erect fencing around the site to protect it from impacts. No artefacts were identified during the inspection.

Plate 1 **Location of Bogo Quarry 1 (AHIMS #51-1-0042),view north, scale 2 metres, positioned within the southern extent of the site.**

Aboriginal site IF1 – MGA Zone 55 654813.6143761

IF1 is an isolated artefact recorded by NOHC in 1995 in a paddock to the 50 metres west of the study area (Figure 2) i.e beyond Lot 1 DP 1205646. The recorded location is well outside the area of impact of the proposed limit of extraction and no impacts were recorded at this site location. The previously identified artefact was unable to be relocated during the site visit due to poor site visibility (Plate 2).

Plate 2 **Location of IF1, view north-east, scale 2 metres.**

Aboriginal site IF2 – MGA Zone 55 655090.6146651

IF2 is an isolated green/grey chert flake recorded by NOHC in 1995 on the northern edge of the current extent of extraction, within the existing limit of extraction. The recorded location is within the existing proposed limit of extraction and may or may not have already been disturbed by extraction activity (Plate 3). The site was recorded over 20 years ago and insufficient information available in the NOHC report prevented relocation of the site. The coordinates were visited however the site location could not be determined and the previously identified artefact was unable to be relocated during the site visit. Therefore the site extent was not marked out during the inspection as the site location could not be established.

Plate 3 **Location of IF2, view south-west, scale 2 metres.**

Aboriginal site Bogo 2009-1 – MGA Zone 55 655315.6146263

Bogo 2009-1 was recorded by CHMA in 2009 as consisting of seven artefacts located adjacent to the dam on the southern side of the study area. This area was inspected with one of the original seven artefacts being relocated (Plate 4 and Plate 5). The site occurs close to the machinery access routes for the proposed limits of extraction on the southern side of the dam. The extent of the site was marked out with spray paint to indicate the location to erect fencing around the site. This extent can be seen on Figure 3.

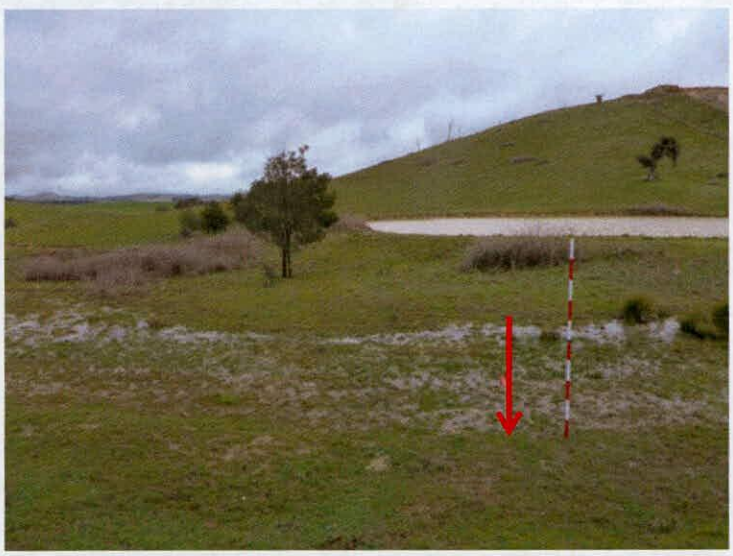


Plate 4 **Location of Bogo 2009-1 with artefact location, view north-west, scale 2 metres.**

Plate 5 **Core artefact from Bogo 2009-1.**

Aboriginal site Bogo 2009-2 – MGA Zone 55 654918.6146639

Bogo 2009-2 was also recorded by CHMA in 2009 as consisting of two artefacts located on the western side of the existing extraction area and outside of any proposed impacts. The location of this site is well outside of the area of impact of the proposed limit of extraction and no impacts were recorded at this site. One of the previously identified artefacts was visually relocated at this site during the site visit (Plate 6 and Plate 7). The extent of the site was marked out with spray paint to indicate the location to erect fencing around the site. This extent can be seen on Figure 3.

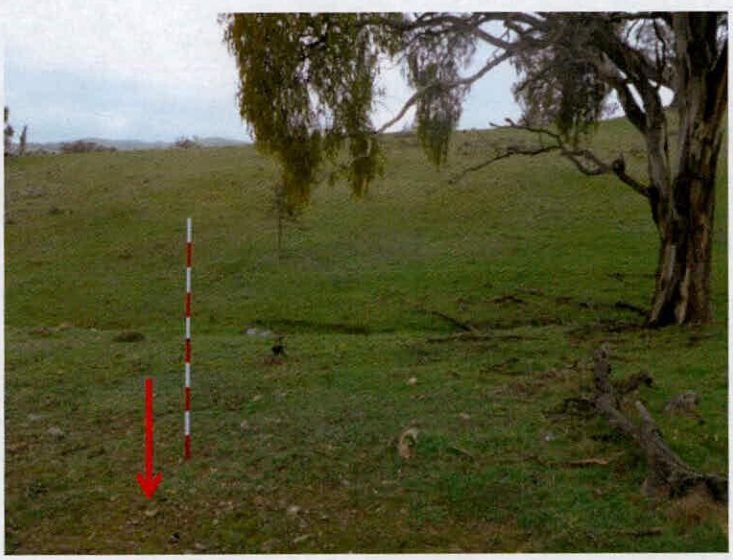


Plate 6 **Location of Aboriginal site Bogo 2009-2 with artefact location, view north,scale 2 metres.**

Plate 7 **Flake from Aboriginal site Bogo 2009-2.**

Activities and Plan of Management

The results of the site inspection conclude that an Aboriginal Cultural Heritage Assessment in support of an AHIP is not required at the quarry, given that no Aboriginal cultural heritage sites will be impacted by the proposed development. This is provided that the impacts do not occur within the confirmed site extents identified during the inspection, as illustrated in Figure 3. Biosis cannot confirm whether site IF2 has or has not been impacted as a part of the extraction activities, given that the site was recorded over 20 years ago and little information is available to determine its precise location. The coordinates were revisited during the inspection, however the site could not be relocated. Consultation with OEH determined that an AHIMS site card cannot be lodged with AHIMS due to this lack of information. Given an Aboriginal site cannot be registered, it is understood through correspondence with OEH that an AHIP is not required seeing as no Aboriginal sites will be impacted.

The following activities and mitigation measures will ensure the ongoing protection of Aboriginal sites within the quarry. A copy of this letter will be submitted to OEH.

Activity 1: No further heritage investigation is required.

The work described in this report can proceed without further assessment or approval from *NSW National Parks and Wildlife Act 1974* as no impacts are proposed to Aboriginal objects or places.

Activity 2: Registration of previously identified sites

Four previously recorded Aboriginal sites have not been registered with OEH. It is a requirement that Aboriginal sites be reported to OEH and an AHIMS site card completed for the sites, complete with their details. Given the location of site IF2 could not be ascertained during the site inspection due to insufficient information provided in the previous archaeological reports, preparation of a site card is not warranted for this site. Therefore site cards are currently being prepared for the three sites and will be lodged with AHIMS.

Activity 3: Recommendations for ongoing management.

The following mitigation measures should be implemented as part of the ongoing management of the site to ensure that no impacts occur to identified Aboriginal cultural heritage:

Mitigation measure 1: Fencing around Aboriginal sites Bogo 2009-1, Bogo 2009-2 and Bogo Quarry 1 (AHIMS #51-1-0042)

High visibility coloured pegs have been placed around the extent of Aboriginal sites Bogo 2009-1, Bogo 2009-2, and Bogo Quarry 1 in order to delineate the extent of the Aboriginal sites. Given the location of IF1 being located outside of the study area for the quarry it is not necessary to fence around this site. Fencing is not possible for IF2 given the site could not be relocated. This type of fencing is appropriate and can be seen as an example around sites Bogo 2009-1 and Bogo Quarry 1 in Appendix 3.

Mitigation measure 2: Discovery of unanticipated Aboriginal cultural material

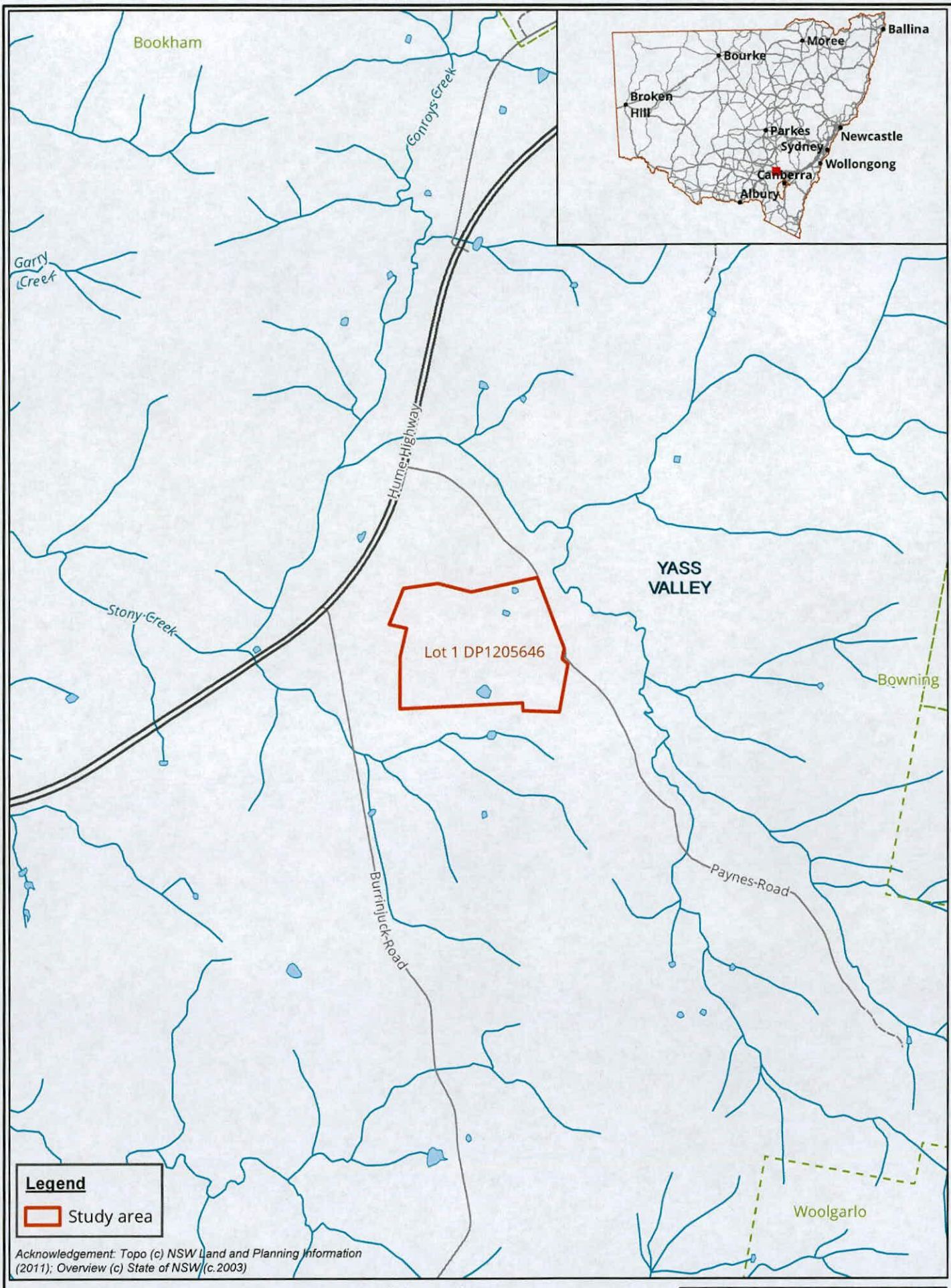
All Aboriginal places and objects are protected under the NPW Act. This protection extends to Aboriginal objects and places that have not been identified but might be unearthed during construction. The following contingency plan describes the actions that must be taken in instances where Aboriginal cultural material any such discovery at the activity area must follow these steps:

1. **Discovery:** Should unanticipated Aboriginal cultural material be identified during any works, works must cease in the vicinity of the find.
2. **Notification:** OEH must be notified of the find.
3. **Management:** In consultation with OEH, the Onerwal Local Aboriginal Land Council and a qualified archaeologist, a management strategy should be developed to manage the identified Aboriginal cultural material. This may include the requirement to apply for an Aboriginal Heritage Impact Permit (AHIP).
4. **Recording:** The find will be recorded in accordance with the requirements of the *National Parks and Wildlife Act 1974* and OEH guidelines.

Yours sincerely

Nicole Castle

Consultant Archaeologist



Acknowledgement: Topo (c) NSW Land and Planning Information (2011); Overview (c) State of NSW (c.2003)

Figure 1: Location of the study area

Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong

Matter: 22617
Date: 25 July 2016,
Checked by: NEC, Drawn by: LH, Last edited by: lharley
Location:P:\22600s\22617\Mapping\

0 250 500 750 1,000
Metres
N
Scale 1:25,000 @ A4, GDA 1994 MGA Zone 55

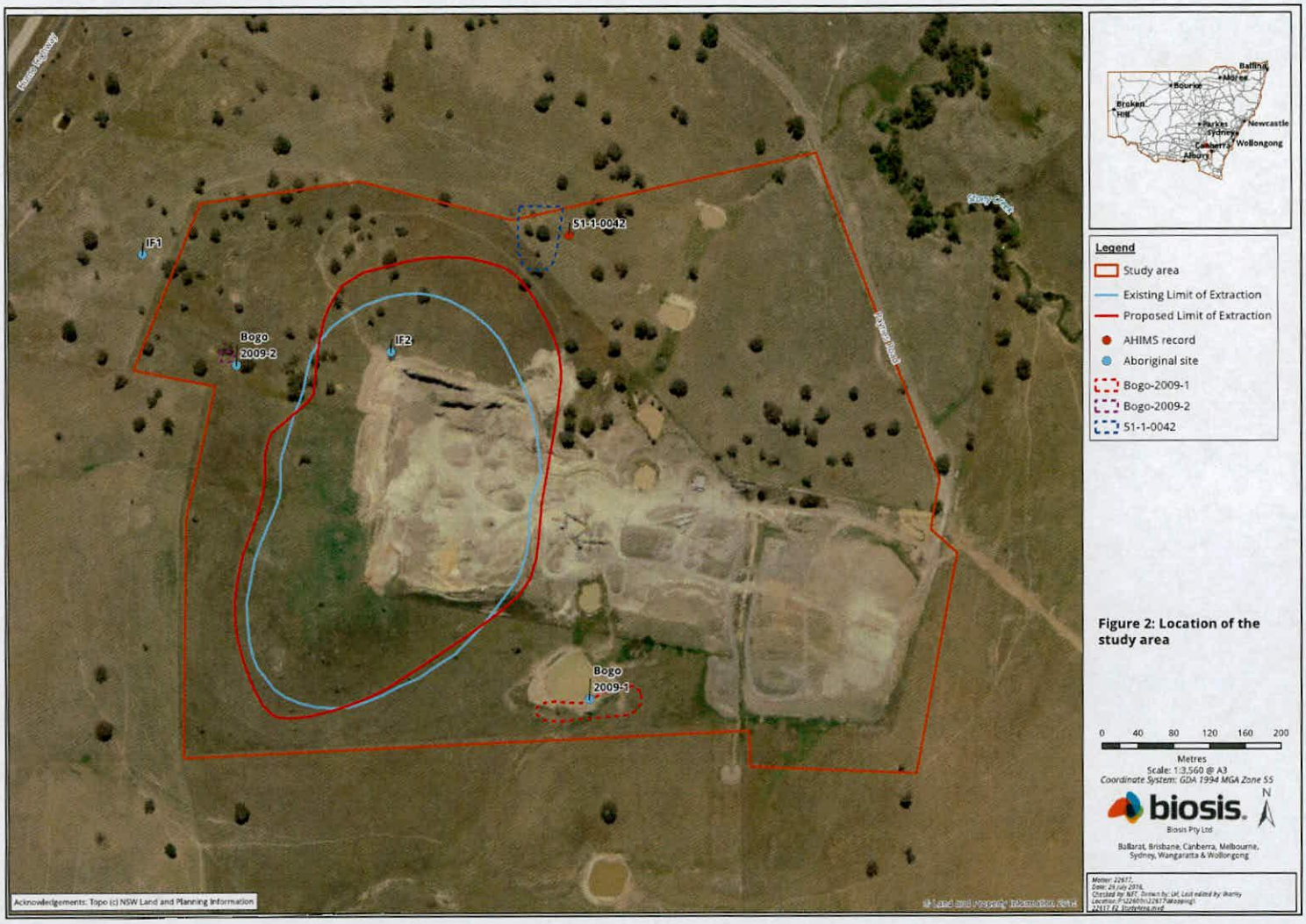


Figure 2: Location of the study area

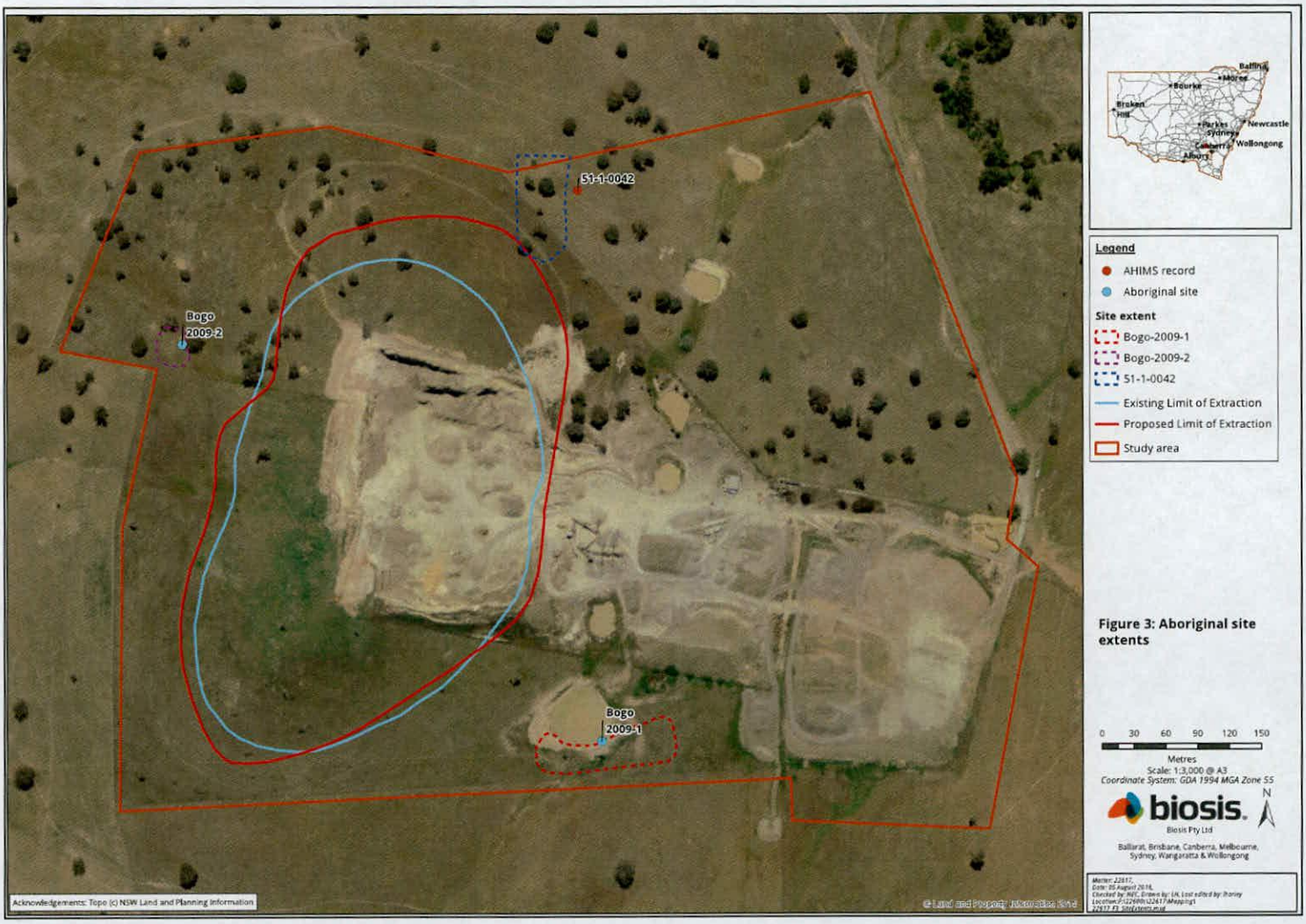


Figure 3: Aboriginal site extents

Appendix 1: OEH Submission

NSW GOVERNMENT | Office of Environment & Heritage

DOC16/173735-20

The General Manager
Yass Valley Council
PO Box 6
YASS NSW 2582
Attention: Mr Muzaffar Rubbani

Dear Mr Rubbani

Bogo Quarry, Development Application No 5.2016.57.1, 134 Paynes Road, Bookham 2582

I refer to your email, received by the Office of Environment and Heritage (OEH) on 5 April 2016, in relation to the above development application (DA), and your request for OEH comment, in accordance with the *Environmental Planning and Assessment Act 1979*. I understand that the proposal is to extend the operational life of Bogo Quarry, to increase the annual production level of hard rock products, and to import, place and operate a mobile concrete batching plant and a mobile asphalt plant.

OEH has reviewed the information provided and is not satisfied that the proposed operations have been adequately assessed in relation to biodiversity and Aboriginal cultural heritage issues.

Failure to submit Aboriginal site cards and possible site impact

The locations of four Aboriginal sites recorded within the quarry boundaries have not been sent to the Aboriginal Heritage Information Management System (AHIMS). This is a legal requirement under Section 89A of the *National Parks and Wildlife Act 1974*. Two of the sites (IF1 and IF2) were recorded in 1995 by Navin Officer Heritage Consultants, but these sites were not mentioned in the 2009 Cultural Heritage Assessment Report, which also failed to submit site cards to AHIMS (2009-1 and 2009-2). After mapping all four sites in relation to the current extent of quarrying we are concerned that site IF2 may have been impacted (see Appendix A). We cannot provide clear advice on the development application until the locations of these four sites have been clarified.

Cultural Heritage Assessment Report (CHAR) does not address the Environmental Assessment Requirements (EARs)

The CHAR does not address the EARs we provided for Aboriginal Cultural Heritage. It is also not compliant with legislation changes that occurred in 2010, including Aboriginal consultation. A qualified archaeologist must update the condition and boundaries of the known Aboriginal sites and this information must be incorporated into a new Aboriginal Cultural Heritage Assessment Report that complies with current legislation. Without this information, we cannot assess if an Aboriginal Heritage Impact Permit (AHIP) will be required by the proponent. We cannot support DA approval until we receive the information requested in Appendix B.

Yass Daisy

OEH doesn't agree with the findings on page 41, Appendix 4, of the Environmental Impact Statement (EIS), *Table A.2 Threatened flora species recorded/predicted to occur within ten kilometres of the study area*, that the Yass Daisy is a low likely occurrence in the study area, as there are records of the species within 2 km of the study area. As such, there is a high likely occurrence of this threatened species. Page 12 of the EIS states that "no targeted survey was undertaken for threatened flora", we

PO Box 733, Queanbeyan NSW 2620
11 Farrer Place, Queanbeyan NSW
Tel: (02) 6229 7188 Fax: (02) 6229 7001
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consider that targeted surveys should be carried out to determine whether the Yass Daisy occurs on the site.

White Box Yellow Box Blakely's Red Gum Woodland (Box-Gum Woodland)
OEH accepts the findings of the Assessment of Significance for the Box-Gum Woodland, however notes that the assessment identifies that there is a substantially larger area of similar or better habitat for Box-Gum Woodland located on the site in the study area and beyond. OEH considers that this Box-Gum Woodland should be identified on Figure 5.3- Quarry site vegetation, as well as the habitat and hollow bearing trees in the study area.

If you require further information or would like to discuss the above comments further, please contact Lyndal Walters on 02 6229 7157.

Yours sincerely

ALLISON TREWEEK
Senior Team Leader, Planning - South East
Regional Operations Group
OFFICE OF ENVIRONMENT AND HERITAGE

Appendix A – Known Aboriginal sites in relation to Bogo quarry

The five Aboriginal sites that have been recorded within the Bogo quarry boundary are shown in red and yellow below. Site #51-1-0042 is the only site to be listed on AHIMS.

Sites IF1 and IF2 were identified by Navin Officer Archaeological Resource Management in 1995. The eastings and northings provided for these sites were identified from a 1:5000 topographic map. Because that method of recording has a significant margin of error, the location of these sites must be ground truthed by a qualified archaeologist. As the sites currently plot, we are concerned that site IF2 has been inadvertently impacted by quarrying activities because its location had not been recorded on AHIMS.

Sites 2009-1 and 2009-2 were identified by CHMA in 2009. These sites do not appear to have been impacted, however, site cards must still be submitted to AHIMS.

Appendix B – Aboriginal Cultural Heritage assessment requirements

Requirements 1, 2, 3, 4, 5, 6, 7 and 8 of our Aboriginal heritage site assessment requirements were not met by the CHAR.

The CHAR does not address OEH Environmental Assessment Requirements

Requirement 1

- The condition of the existing sites must be surveyed and updated by a qualified archaeologist because it has been 6 years since they were last surveyed. The extent of site 51-1-0042 may not have been accurately defined. In 1995 the site was recorded as having 40 artefacts, but in 2009 it was recorded as having more than 60 artefacts. If artefacts are eroding out, the site could be larger than originally recorded. The 2009 report did not discuss whether this site had subsurface potential. Because the currently identified southern boundary of the site is very close to the proposed limit of extraction as shown on figure 5.6 (EIS page 5-45), the subsurface potential of the site and the site boundary must be established. The report recommendation to avoid sites cannot currently be accepted because it will not be possible to avoid Aboriginal objects when the surface and subsurface extent of Aboriginal objects within the development area has not been defined.
- Page 5-45 of the EIS states that a new AHIMS search was undertaken on 2 October 2015. These results must be incorporated into the CHAR, including the client number and the details of the buffer used for the search.
- The literature review must be updated to incorporate the results of the new AHIMS search to ensure work in the surrounding region since 2009 is included. For example, archaeological surveys have been conducted in the area as part of the Yass Valley Wind Farm assessment (Dibden 2009).

Requirements 2 and 3

- The Aboriginal consultation process does not meet the requirements as specified in clause 80C of the *National Parks and Wildlife Regulation 2009*.
- Registered Aboriginal Parties must be consulted about any cultural heritage values of the area, including intangible values.

Requirements 4, 5, 6, and 7

- The responses to requirements 4, 5, 6, and 7 in the CHAR must be re-evaluated once a new field survey and comprehensive consultation process have been completed. Although the site management recommendations sent to the Onerwal Local Aboriginal Land Council and Buru Ngunawal Aboriginal Corporation in 2015 were approved by both parties, their views may change depending on whether the site boundaries of 51-1-0042 are found to have changed. Also, other stakeholders may hold additional cultural value information about the area.

Requirement 8

- A specific Statement of Commitment has not been prepared by the proponent about the development and implementation of an Aboriginal Heritage Management Plan (AHMP) which is to detail:
  a) The procedures to be followed if Aboriginal objects are found at any stage during the life of the development works to allow for the formulation of appropriate measures to manage any unforseen impacts to Aboriginal heritage values;
  b) The procedures to be followed in the event that any Aboriginal burials or skeletal material is uncovered during the development works and allow for the development of appropriate measures to manage this material;
  c) The process that will be followed for continuing consultation with the Aboriginal stakeholders and OEH, where required; and

d) The process for how the AHMP procedures will be managed and adhered to during the proposed operational life of the development.

The 2009 Heritage report does not comply with current regulations

Other aspects of the report do not meet the requirements of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (the Code) because the CHAR was written before significant changes to the regulations surrounding Aboriginal Cultural heritage occurred. The following points within the CHAR must be amended:

Requirement 2 – landscape description

- Describe soils present within the development footprint.
- Identify the forms of geomorphic activity in the subject area.
- Identify the forms of erosion within the archaeologically surveyed area.

Requirement 5 – archaeological survey

- Soil and landscape information must be recorded for each survey unit.
- The survey transects should be mapped in relation to the landforms present within the study area.
- Justify how the sampling strategy relates to the development footprint.
- Provide a topographic map showing the relationship of the survey units to landform types.
- Page 5-43 of the EIS says "the study area was traversed using vehicle and pedestrian transects". Under the Code, vehicle traverses are considered to be reconnaissance activities only (page 12). Only pedestrian traverses should be included in the survey results.

Requirements 9 and 10 – record and analyse survey coverage data

- Requirements 9 and 10 of the Code are that coverage be analysed by landform type and that both visibility and exposure be recorded.

Appendix 2: AHIMS site cards

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: 51-4-0352 **Date recorded:** 17-08-2016

Site Location Information

Site name: Bogo Quarry 2009-1

Easting: 655315 **Northing:** 6146263 **Coordinates must be in GDA (MGA)**

Horizontal Accuracy (m): 5

Zone: 55 **Location method:** Non-Differential GPS

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
Ms.	Morris	Rebecca

Organisation: Biosis Pty Ltd

Address: Unit 14 17-27 Power Avenue Alexandria NSW 2015

Phone: 0291018700 **E-mail:** rmorris@biosis.com.au

Site Context Information

Land Form Pattern: Rolling Hills

Land Form Unit: Flat

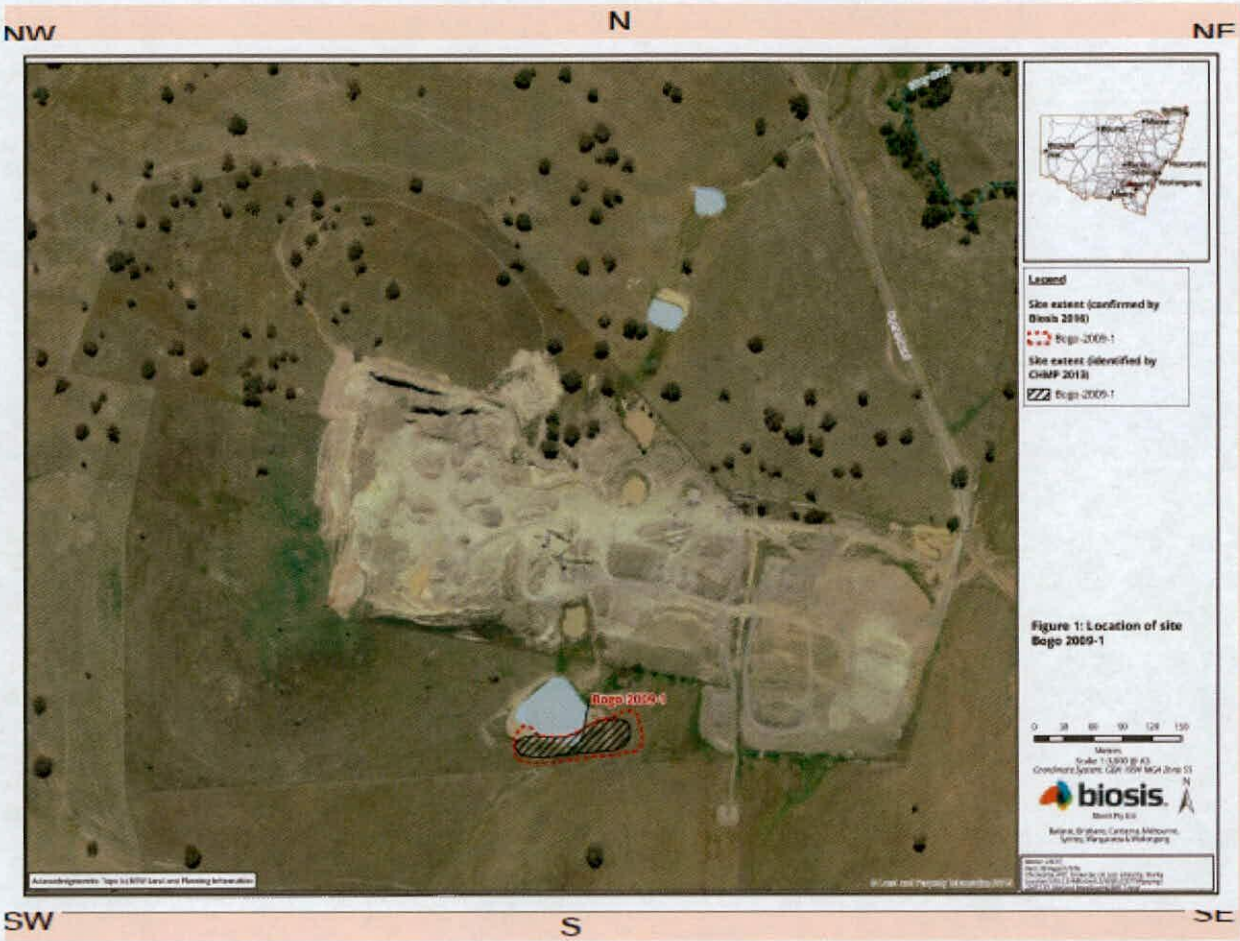
Vegetation: Cleared

Distance to Water (m): 660

Primary Report: Cultural Heritage Management Australia 2013 CHA Bogo Quarry. Report for R.W. Corkery & Co Pty Ltd

How to get to the site: Bogo Quarry 2009-1 is located adjacent (south of) to the southern edge of the artificial dam on the southern side of Bogo Quarry, 660 metres south-west of Stony Creek. The quarry is accessed via Paynes Road.

Site location map



Site contents information

open/closed site: Open

Site condition: Poor

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
1.	Artefact	7	120	40

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape:

Tree Species:

Description:

The site was initially recorded by CHMA in 2013 as consisting of seven silcrete surface artefacts: four flakes, one core and two flake pieces. One of these artefacts, a silcrete core measuring 80 x 45 mm was relocated on the surface of the southern bank of the dam by Biosis in 2016.

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
2.				

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape:

Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
3.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
4.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
5.			

Scarred Trees

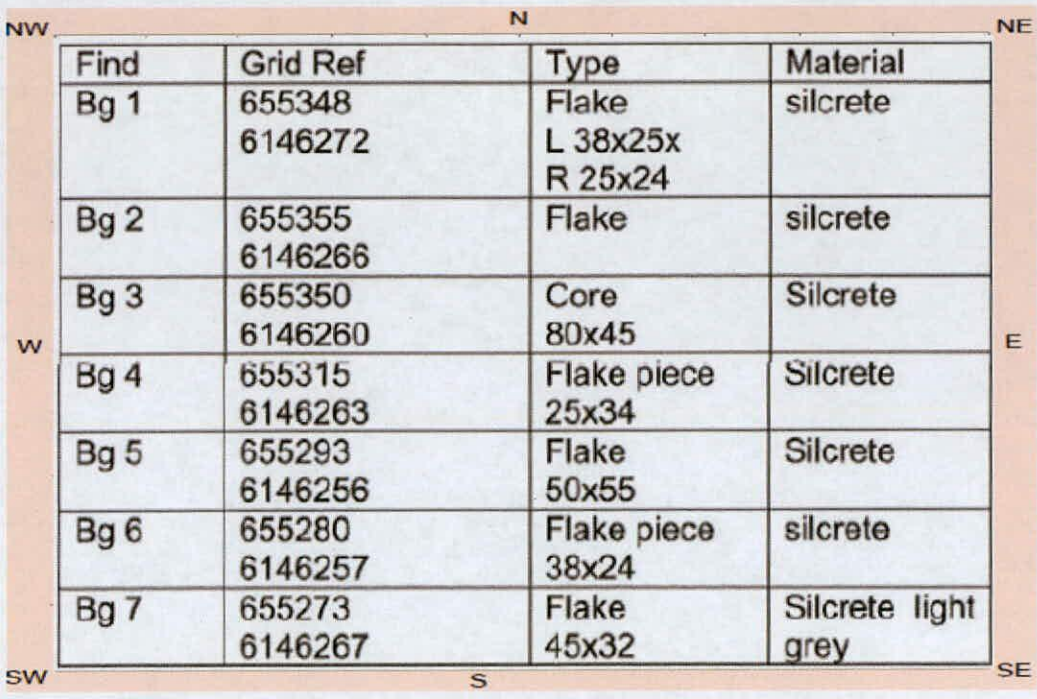
Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Other Site Info: The extent of Bogo 2009-1 was revised and extended by Biosis to include the entirety of the raised southern bank of the dam.

Site plan



Find	Grid Ref	Type	Material
Bg 1	655348 6146272	Flake L 38x25x R 25x24	silcrete
Bg 2	655355 6146266	Flake	silcrete
Bg 3	655350 6146260	Core 80x45	Silcrete
Bg 4	655315 6146263	Flake piece 25x34	Silcrete
Bg 5	655293 6146256	Flake 50x55	Silcrete
Bg 6	655280 6146257	Flake piece 38x24	silcrete
Bg 7	655273 6146267	Flake 45x32	Silcrete light grey

Site photographs

Description: Bogo Quarry 2009-1, relocated core artefact is shown with flag. View west with 2 metre scale.

Description: Bogo Quarry 2009-1, view south with 2 metre scale.

Description: Bogo Quarry 2009-1 silcrete core.

Description: Bogo Quarry 2009-1, relocated core artefact is shown with flag. View north-west with 2 metre scale.

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title | **Surname** | **First name**

Organisation:

Address:

Phone: **E-mail:**

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: 51-4-0353 **Date recorded:** 17-08-2016

Site Location Information

Site name: Bogo Quarry 2009-2

Easting: 654918 **Northing:** 6146639 **Coordinates must be in GDA (MGA)**

Horizontal Accuracy (m): 5

Zone: 55 **Location method:** Non-Differential GPS

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
Ms.	Morris	Rebecca

Organisation: Biosis Pty Ltd

Address: Unit 14 17-27 Power Avenue Alexandria NSW 2015

Phone: 0291018700 **E-mail:** rmorris@biosis.com.au

Site Context Information

Land Form Pattern: Rolling Hills

Land Form Unit: Crest

Vegetation: Cleared

Distance to Water (m): 800

Primary Report: Cultural Heritage Management Australia 2013 CHA Bogo Quarry. Report for R.W. Corkery & Co Pty Ltd

How to get to the site: Bogo 2009-2 is on an exposed rocky hill crest along the southern bank of a narrow natural drainage line on the western slope of Bogo Quarry, 415m SSE of the intersection of the Hume Hwy and Burrinjuck Rd. The quarry is accessed via Paynes Rd.

Site location map

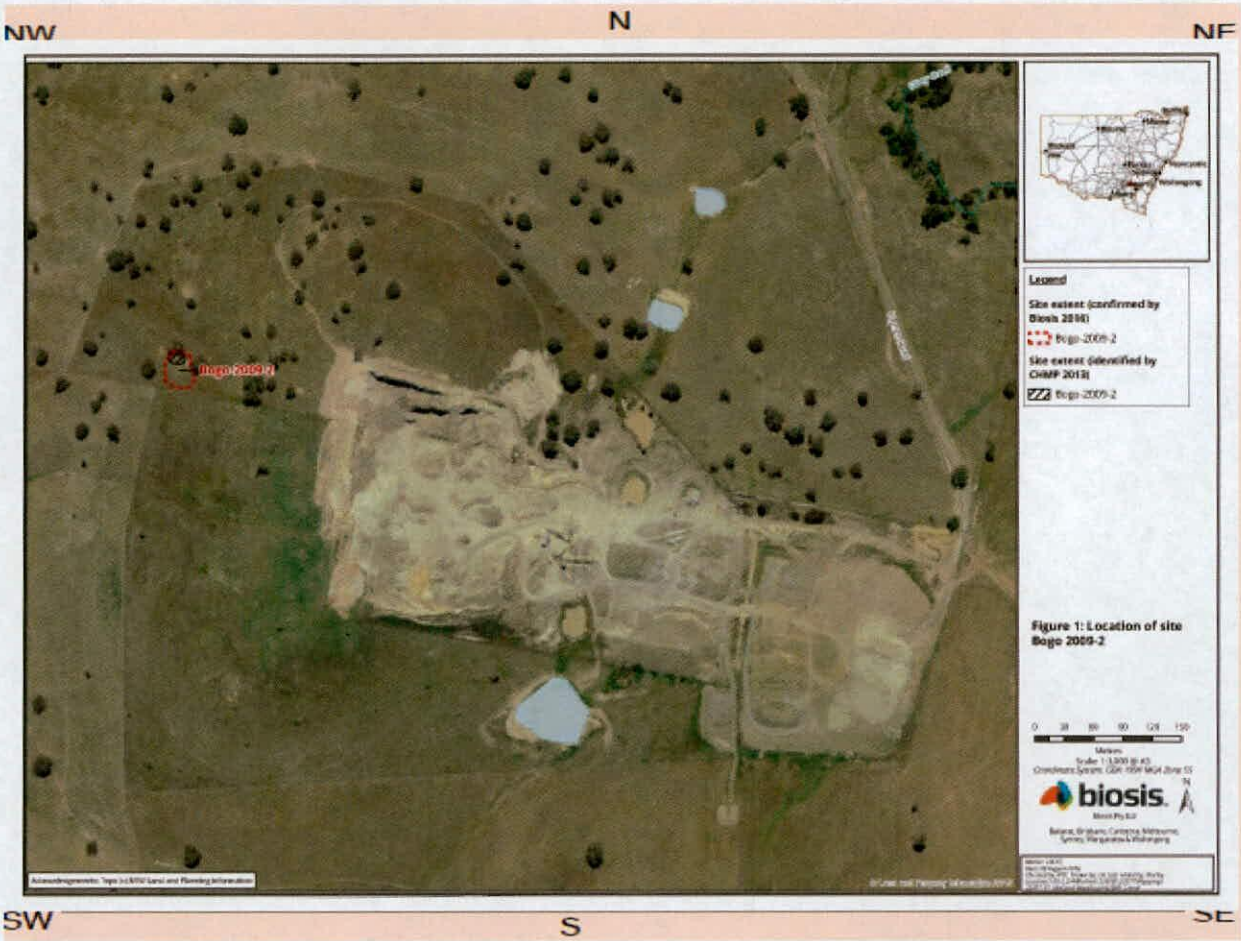


Figure 1: Location of site Bogo 2009-2

Site contents information

open/closed site: Open

Site condition: Good

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
1.	Artefact	2	30	35

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: | Tree Species:

Description:

The artefact scatter was initially recorded by CHMA in 2013 as consisting of two hornfels flake pieces. One of these artefacts, a flaked piece measuring 45 x 40 mm, was relocated on the side of the southern slope of the crest adjacent to the natural drainage line by Biosis in 2016.

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
2.				

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: | Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
3.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
4.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
5.			

Scarred Trees

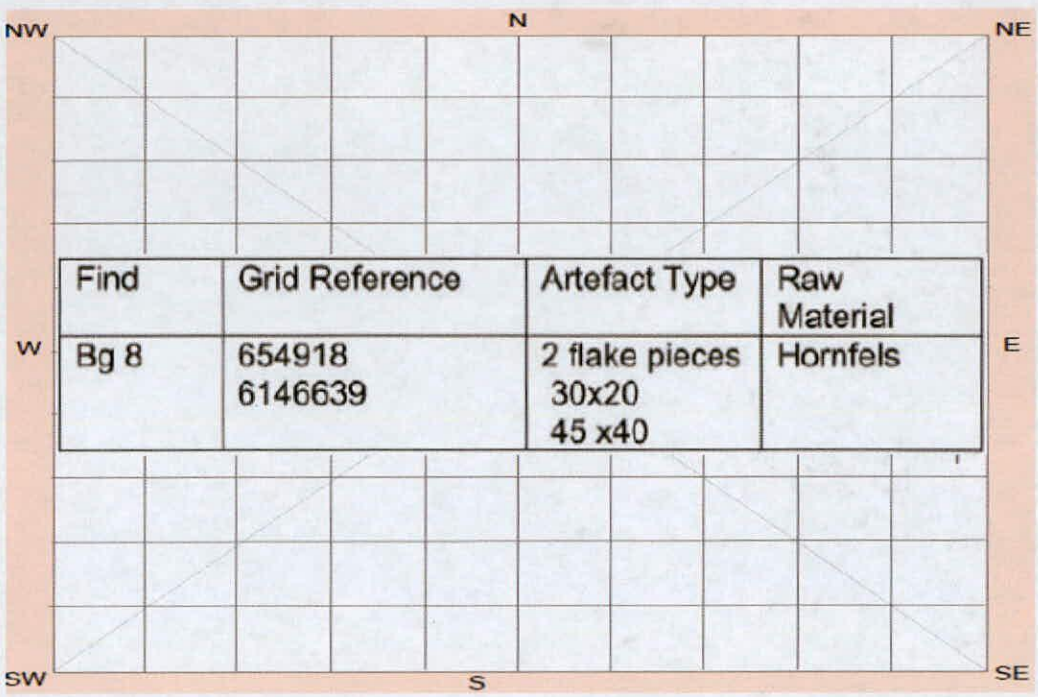
Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: Tree Species:

Description:

Other Site Info: The site is located in a paddock on the western slope of Bogo Quarry, 800 m SW of Stony Creek, encompassing an exposed rocky hill crest along the southern bank of a narrow natural drainage line. The flake pieces measured 30 x 20 mm and 45 x 40 mm. The site extent was revised and extended by Biosis.

Site plan



Find	Grid Reference	Artefact Type	Raw Material
Bg 8	654918 6146639	2 flake pieces 30x20 45 x40	Hornfels

Site photographs

Description: Bogo Quarry 2009-2, flake piece.

Description: Location of Bogo 2009-2 with relocated artefact location marked by flag. View north,scale 2 metres.

Description: Location of Bogo 2009-2 with relocated artefact location marked by flag. View south,scale 2 metres.

Description: Crest of Bogo 2009-2, view north,scale 2 metres.

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title	Surname	First name

Organisation:

Address:

Phone: **E-mail:**

Aboriginal Site Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

AHIMS site ID: 51-4-0354 **Date recorded:** 17-08-2016

Site Location Information

Site name: Bogo Quarry IF1

Easting: 654813 **Northing:** 6146761 **Coordinates must be in GDA (MGA)**

Horizontal Accuracy (m): 5

Zone: 55 **Location method:** Non-Differential GPS

Recorder Information

(The person responsible for the completion and submission of this form)

Title	Surname	First name
Ms.	Morris	Rebecca

Organisation: Biosis Pty Ltd

Address: Unit 14 17-27 Power Avenue Alexandria NSW 2015

Phone: 0291018700 **E-mail:** rmorris@biosis.com.au

Site Context Information

Land Form Pattern: Rolling Hills

Land Form Unit: Crest

Vegetation: Cleared

Distance to Water (m): 830

Primary Report: Navin Officer 1995 Archaeological Survey Bogo Quarry. Report for David Hogg Pty Ltd.

How to get to the site: According to the Navin Officer report, Bogo Quarry IF1 is located in a paddock west of Bogo Quarry, 260 m east of the Hume Highway and 830m WSW of Stony Creek. The quarry is accessed via Paynes Rd. Please note the coordinates date to 1995.

Site location map

Site contents information

open/closed site: Open

Site condition: Good

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
1.	Artefact	1	0	0

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape:

Tree Species:

Description:

The isolated find was initially recorded by Navin Officer in 1995 in a paddock to the west of Bogo Quarry as a light grey volcanic flaked piece measuring 42 x 10 x 29 mm. It was not able to be relocated by Biosis in 2016.

Features:

		Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
2.				

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape:

Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
3.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: | Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
4.			

Scarred Trees

Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: | Tree Species:

Description:

Features:

	Number of features	Length of feature(s) extent (m)	Width of feature (s) extent (m)
5.			

Scarred Trees

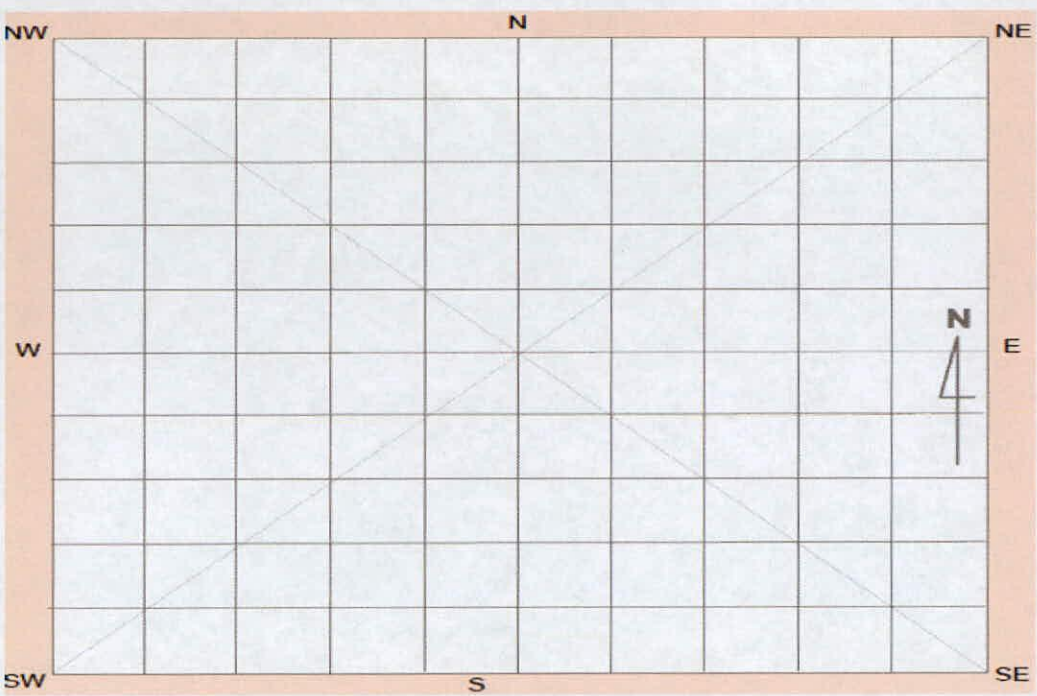
Scar Depth (cm)	Regrowth (cm)	Scar Length (cm)	Scar Width (cm)

Scar shape: | Tree Species:

Description:

Other Site Info: The site is currently located in a paddock used for animal grazing.

Site plan



Site photographs

Description: Location of Bogo Quarry IF1, view north, scale 2 metres.

Description: Location of Bogo Quarry IF1, view south, scale 2 metres.

Description: Location of Bogo Quarry IF1, view east, scale 2 metres.

Description:

Site restrictions

Do you want to Restrict this site?: ☐

Restriction type: Gender ☐ General ☐ Location ☐

Why is this site restricted?:

Further information contact

Title | **Surname** | **First name**

Organisation:

Address:

Phone: **E-mail:**

Appendix 3: Photographs of fencing around Aboriginal sites

Plate 8 High visibility coloured pegs around the extent of Aboriginal site Bogo 2009-1

Plate 9 High visibility coloured pegs around the extent of Aboriginal site Bogo 2009-1

Plate 10 High visibility coloured pegs around the extent of Aboriginal site Bogo 2009-1

Plate 11 High visibility coloured pegs around the extent of Aboriginal site Bogo 2009-2

Plate 12 High visibility coloured pegs around the extent of Aboriginal site Bogo Quarry 1

21 October 2016

Mr Rob Corkery
Principal/Managing Director
RW Corkery & Co Pty Ltd
PO Box 239
BROOKLYN NSW 2083

Dear Rob

Bogo Quarry: Request from OEH for further ecology information
Our Ref: Matter 23599

In response to the comments from NSW Office of Environment and Heritage (OEH) arising from the Response to Submissions, we have updated Figure 5.3 (Figure 3 of the Biodiversity Report).

OEH requested that the figure be updated to show the areas of Box Gum Woodland including habitat trees that occur beyond the area of disturbance. Based on Biosis' knowledge of the habitat surrounding the proposed disturbance area from earlier field work, it is known that the Endangered Ecological Community (EEC) Box Gum Woodland community including habitat trees extends a considerable distance into the land surrounding the proposed disturbance area.

The figure has been updated to show the areas of surrounding trees comprising equivalent habitat that would not be impacted by the proposal. The biodiversity report found that in both the proposed impact area and the areas beyond, the EEC was confined to small areas of native grassland surrounding individuals or clusters of the larger identified habitat trees. The remaining land was found to comprise predominantly exotic grassland that does not comprise the EEC.

Therefore, the revised figure has identified areas of EEC habitat on the same basis, defined by the larger trees only. The areas surrounding the smaller trees are unlikely to include the native grassland that, together with the trees, comprise the Box Gum Woodland EEC. Larger trees that immediately adjoin the current limit of extraction have also been excluded since they may be at risk of indirect impact. The figure clearly shows that, compared with the four habitat trees and associated native grassland habitat that would be removed by the proposal, ample equivalent habitat remains in the surrounding area that would not be impacted by the proposed quarry operations.

Yours sincerely

Stefan Rose

Stefan Rose
Senior Ecologist

Biosis Pty Ltd
Newcastle Resource Group

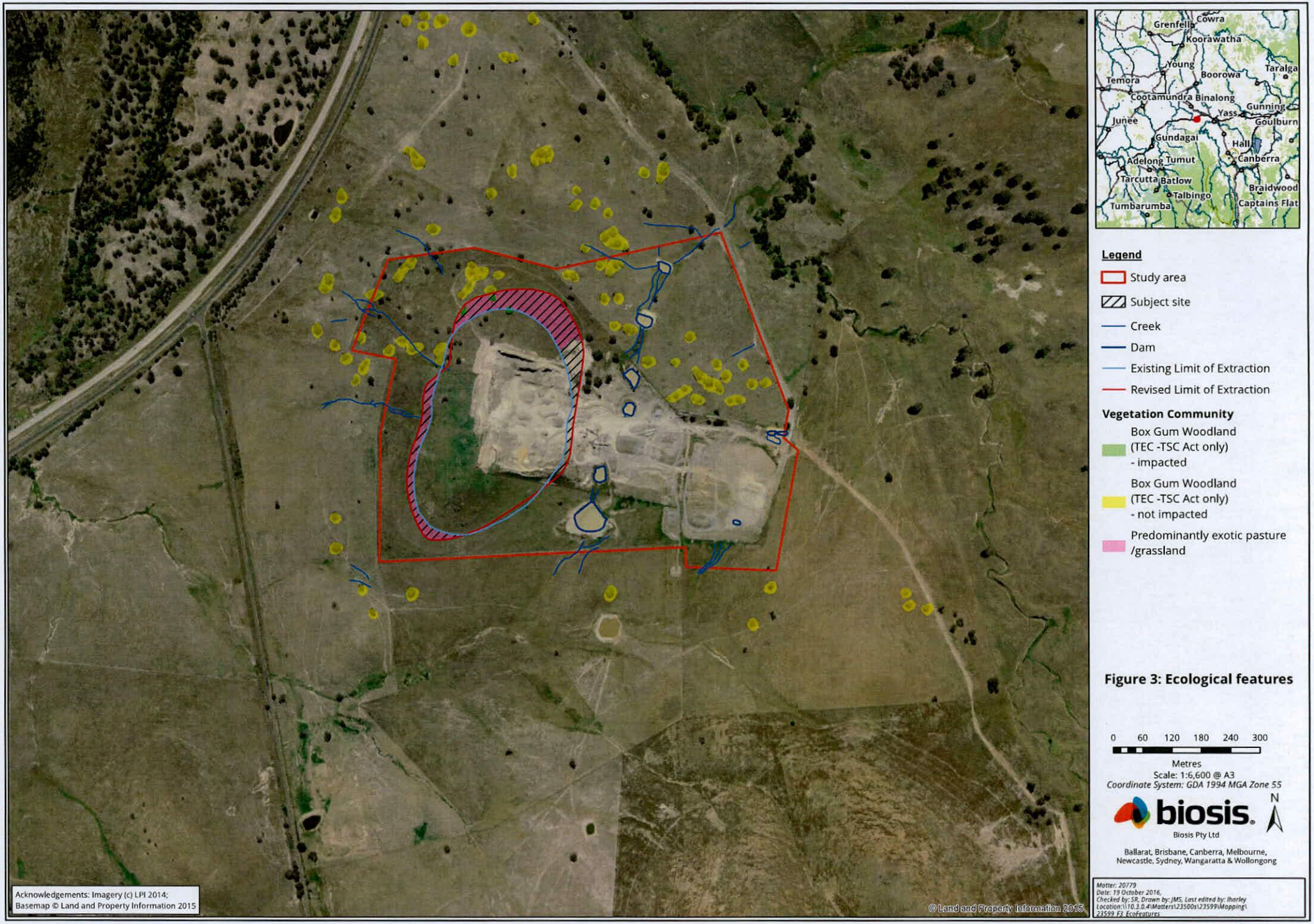
39 Platt Street
Waratah NSW 2298

Phone: 02 4911 4040

ACN 006 175 097
ABN 65 006 175 097

Email: newcastle@biosis.com.au

biosis.com.au


Grenfell
Cowra
Koorawatha
Young
Taralga
Boorowa
Temora
Cootamundra
Binalong
Gunning
Yass
Junee
Goulburn
Gundagai
Hall
Canberra
Adelong
Tumut
Tarcutta
Batlow
Braidwood
Talbingo
Tumbarumba
Captains Flat
Legend
Study area
Subject site
Creek
Dam
Existing Limit of Extraction
Revised Limit of Extraction
Vegetation Community
Box Gum Woodland (TEC -TSC Act only) - impacted
Box Gum Woodland (TEC -TSC Act only) - not impacted
Predominantly exotic pasture /grassland
Figure 3: Ecological features
0 60 120 180 240 300
Metres
Scale: 1:6,600 @ A3
Coordinate System: GDA 1994 MGA Zone 55
N
biosis
Biosis Pty Ltd
Ballarat, Brisbane, Canberra, Melbourne, Newcastle, Sydney, Wangaratta & Wollongong
Matter: 20779
Date: 19 October 2016.
Checked by: SR, Drawn by: JMS, Last edited by: lharley
Location:\\10.3.0.4\Matters\23500s\23599\Mapping\23599 F3 EcoFeatures
Acknowledgements: Imagery (c) LPI 2014; Basemap © Land and Property Information 2015
© Land and Property Information 2015

From: Nathan Garvey <NGarvey@biosis.com.au>
Sent: Monday, 11 July 2016 6:41 PM
To: Rob Corkery
Cc: Michael Howe (info@bogoquarry.com.au); Stefan Rose
Subject: RE: 724_Bogo Quarry OEH Response

Hi Rob,

Please find our response to the query from OEH below:

The Approved Conservation Advice for Yass Daisy (Commonwealth of Australia 2008) states *"Yass Daisy occurs in dry forest, Box-Gum Woodland and secondary grassland derived from clearing of these communities . . . Yass Daisy is apparently unaffected by light grazing . . ."* The study area is dominated by exotic pasture grasses, and has been severely disturbed due to extensive past grazing practices. This area was considered to have low resilience, with native species limited to disturbance tolerant native grasses and forbs. Native vegetation in the form of Box Gum Woodland was restricted to the area grassy ground layer immediately beneath and surrounding the four (4) canopy trees. Given this, the habitat within the study area is not considered suitable for the species, given the lack of even secondary grasslands and the past disturbance due to grazing. Suitable habitat is limited to small patches of native vegetation located beneath the four trees.

Despite this, surveys have been undertaken sufficient to determine the presence of the species with a high degree of reliability. In spring 2008 (late October) Ecotone conducted a field survey of the study area. Ecotone was aware of the possibility of the species being present, but did not detect it then. In 2015 field surveys were undertaken in spring (late September) during the stated flowering period of the species and at a time of year when the Yass Daisy would have been highly visible. The 2015 surveys consisted of a mix of random meander and irregular transects, and concentrated most intensely on the only small patches of potentially suitable habitat within the proposed extraction/impact area (the subject site) where native grass species were recorded beneath the canopies of the four remnant trees. The species was not recorded in these areas. Surveys were also undertaken across other parts of the quarry. The species was not recorded in any part of the quarry property. Although the flora and fauna assessment (and EIS) states that no targeted surveys were undertaken, we believe that the traverses of the study area, including focusing on areas of potentially suitable habitat, are sufficient to determine the presence of the species with a high degree of reliability.

It is our opinion that the species is a low likelihood of the species occurring within the study area and the species is at a negligible risk of impact from the proposed expansion of the quarry. This conclusion is drawn due to the following:

- The majority of the study area does not provide suitable habitat past grazing practices and extensive disturbance. Suitable habitat is limited to the base of four canopy trees.
- These areas of suitable habitat were thoroughly traversed during the flowering period for the Yass Daisy in 2008 and 2015. The species was not recorded.

If there is anything else please don't hesitate to contact us.

Kind regards,
Nathan

Nathan Garvey
Newcastle Resource Group Manager
Mobile: 0427 505 324