



ABORIGINAL CULTURAL HERITAGE ASSESSMENT

Moolarben Coal Complex OC4 South-West Modification

April 2015

Local Government Area: Mid-Western Region


Nearest Town: Ulan

Consultant Name: Niche Environment and Heritage Pty Ltd

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Proponent: Moolarben Coal Mines Pty Ltd

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Cover Photo: Surveying in the proposed OC4 South-West Modification corridor. Source: Niche Environment and Heritage Pty Ltd.

Summary

This report presents the results of an Aboriginal cultural heritage and archaeological assessment of the proposed Moolarben Coal Complex OC4 South-West Modification (the Modification) at the Moolarben Coal Complex, near Ulan in New South Wales. The OC4 South-West Modification includes the following key components:

- ❑ construction of the OC4 south-west haul road between OC4 and OC1 (and therefore the approved Stage 2 Haul Road would not need to be constructed);
- ❑ adjustments to the site water management system to contain surface water runoff from the south-west haul road and diversion of clean water;
- ❑ refinements to the early stages of mining and associated infrastructure layout at OC4 (wholly located within the approved surface disturbance footprint); and
- ❑ backfilling of the northern OC1 final void to approximately pre-mining elevations.

The subject area for the proposed Modification falls within hilly terrain comprised of simple slopes, ridge crests and first order drainage paths with low to steep slopes. The subject area and surrounding area of the proposed OC4 haul road has been subject to relatively intensive Aboriginal cultural heritage and archaeological survey in the past. These surveys were for the purposes of assessing the impacts of other mine related activities; such as subsidence, waste rock emplacements and exploration. Despite the relatively intensive previous survey effort, there have been no Aboriginal cultural heritage sites or objects previously recorded in the subject area.

Additional survey of the proposed subject area (comprising Option 1 and Option 2 haul road alternatives) was conducted on 12 March 2014 and 31 July 2014 by an experienced and qualified archaeologist (Jamie Reeves of Niche Environment and Heritage) and representatives of the four Moolarben Coal Project Registered Aboriginal Parties (Warrabinga Native Title Claimants Aboriginal Corporation, North East Wiradjuri Company Ltd, Murong Gialinga Aboriginal and Torres Strait Islander Corporation and Mudgee Local Aboriginal Land Council).

There were no Aboriginal objects or areas of cultural heritage value identified within the subject area, and none were considered likely to occur within the subject area.

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1. Introduction

The Moolarben Coal Complex is located approximately 40 kilometres (km) north of Mudgee in the Western Coalfields of New South Wales (NSW) in the Mid-Western Regional Local Government Area.

Moolarben Coal Operations Pty Ltd (MCO) is the operator of the Moolarben Coal Complex on behalf of the Moolarben Joint Venture (Moolarben Coal Mines Pty Ltd, Sojitz Moolarben Resources Pty Ltd and a consortium of Korean power companies). MCO and Moolarben Coal Mines Pty Ltd are wholly owned subsidiaries of Yancoal Australia Limited.

Stage 1 of the Moolarben Coal Complex (i.e. the Moolarben Coal Project) was approved in 2007 as a Major Project (05_0117) under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). Stage 1 consists of three open cut coal mines (OC 1, OC 2, OC 3), one underground mine (UG4), a coal handling and preparation plant, coal stockpiles, a rail loop, rail loader, and office and workshop support facilities. Modifications to the Stage 1 approval include Modifications 1, 2, 3, 4, 5, 6, 7, 8 and 9. An Aboriginal Heritage Management Plan (AHMP) for Stage 1 has been approved and is currently implemented.

MCO is seeking to expand its operations as part of Stage 2 of the Moolarben Coal Project. A Major Project Application (08_0135) was submitted to the NSW Department of Planning and Infrastructure (now the NSW Department of Planning and Environment) in 2008 and was approved on 30 January 2015. Stage 2 comprises an open cut mine (OC4), two underground mines (UG1 and UG2) and associated infrastructure.

MCO has identified that an opportunity exists to relocate the Stage 2 OC4 haul road to link the Stage 2 open cut operations with existing Stage 1 coal processing infrastructure and support facilities. The proposed relocation of the OC4 haul road would require a modification to both its Stage 1 and Stage 2 Moolarben Coal Project Approvals (05_0117 and 08_0135) under Section 75W of the EP&A Act.

Niche Environment and Heritage Pty Ltd (Niche) has been commissioned by MCO to undertake an Aboriginal Cultural Heritage Assessment (ACHA) and archaeological assessment report to inform an Environmental Assessment of the two options for the proposed OC4 haul road.

This archaeological assessment report has been prepared in accordance with the following guidelines:

- ❑ *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRs)(NSW Department of Environment, Climate Change and Water [DECCW] 2010a);
- ❑ *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010b); and

- ❑ *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (NSW Office of Environment and Heritage [OEH] 2011).

The objectives of this report were to assess the proposed Option 1 and Option 2 routes for a potential relocation of the OC4 haul road and the location of a Mine Water Dam (which is no longer a component of the Modification) for Aboriginal heritage values, to identify whether Aboriginal sites, objects or places would be impacted by the proposed works, and provide appropriate mitigation and management recommendations, where required.

2. Site Location

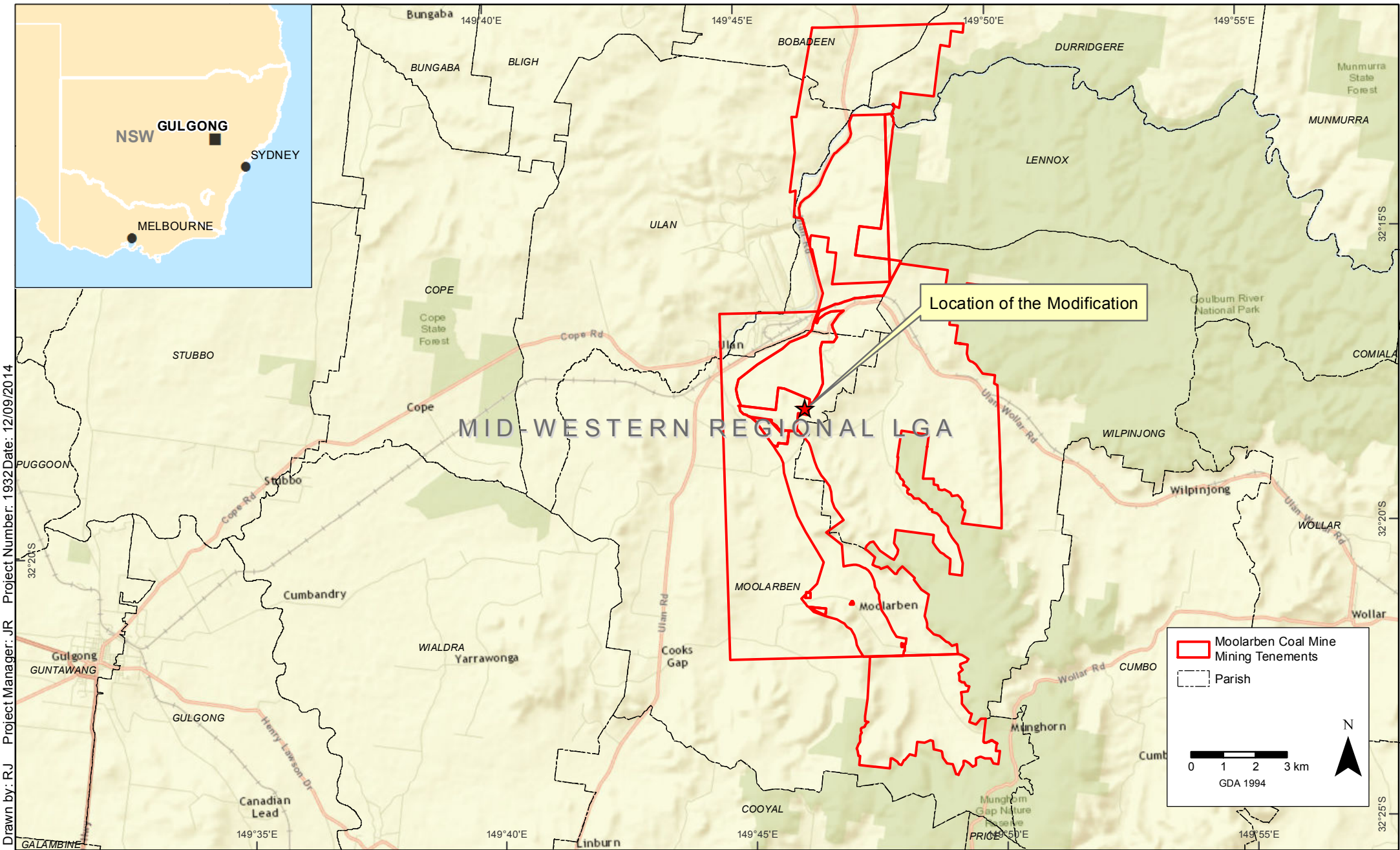
The subject area is located within the Moolarben Coal Complex, approximately 40 km north of Mudgee in the Western Coalfields of NSW (Figure 1). The Moolarben Coal Complex is located immediately west of the Wilpinjong Coal Mine and south of the Ulan Mine Complex in the locality of Ulan in the Central Tablelands of NSW.

The subject area is defined as the preferred Option 1 and Option 2 areas for the proposed OC4 haul road as depicted in Figure 2. This consists of a development corridor approximately 90 metres (m) wide and approximately 650 m in length for the Option 1 haul road (an area of approximately 5.1 hectares [ha]) and 1,690 m in length for the Option 2 haul road (an area of approximately 15.2 ha).

3. Investigators and Contributors

This investigation was conducted by Jamie Reeves, Archaeologist of Niche. This report was written by Jamie Reeves and Clare Anderson and reviewed by Renée Regal (Niche).

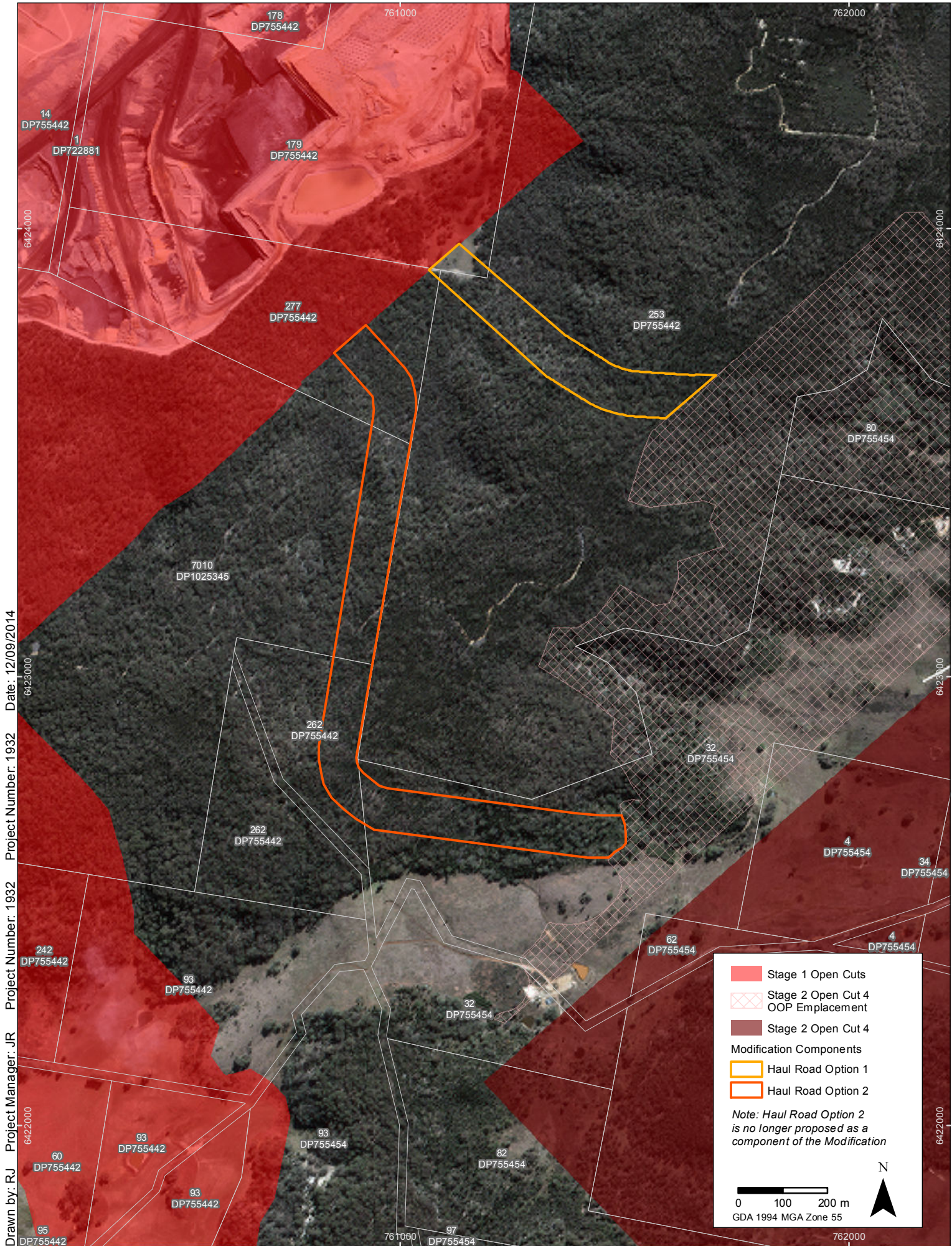
Coral Williams (Warrabinga Native Title Claimants Aboriginal Corporation), Shaen Morgan (North East Wiradjuri Company Ltd), Shannon Foley (Murong Gialinga Aboriginal and Torres Strait Islander Corporation) Christine Maynard and Larry Foley (Mudgee Local Aboriginal Land Council) participated in the archaeological survey campaigns. All of the Registered Aboriginal Parties (RAPs) were consulted and invited to provide advice on Aboriginal cultural heritage values during the assessment, regardless of participation in the archaeological survey work.



Drawn by: RJ Project Manager: JR Project Number: 1932 Date: 12/09/2014

Regional Location
Moolarben OC4 South-West Modification

FIGURE 1



Drawn by: RJ Project Manager: JR Project Number: 1932 Date: 12/09/2014

Site Map

Moolarben OC4 South-West Modification

FIGURE 2

Imagery: (c) YanCoal 2013-08-12



4. Description of Development Proposal

MCO has reviewed the mining sequence and associated infrastructure layout requirements at the Moolarben Coal Complex to enable more efficient access to the OC4 resource. As a consequence, the approved Stage 2 Haul Road (to the north-east of OC4) would no longer be required, and would be replaced by a shorter, more direct, haul road route to OC1 (in the south-west).

Removal of the approved Stage 2 Haul Road would result in benefits to the environment, including:

- ❑ up to approximately 18.5 ha of approved surface disturbance being avoided; and
- ❑ improved water management and reduced risk of uncontrolled site discharge to Murragamba and Wilpinjong Creeks, by removing ongoing high maintenance requirements to control sediment along the approved haul road.

The OC4 South-West Modification includes the following key components:

- ❑ construction of the OC4 south-west haul road between OC4 and OC1 (and therefore the approved Stage 2 Haul Road would not need to be constructed);
- ❑ adjustments to the site water management system to contain surface water runoff from the south-west haul road and diversion of clean water;
- ❑ refinements to the early stages of mining and associated infrastructure layout at OC4 (wholly located within the approved surface disturbance footprint); and
- ❑ backfilling of the northern OC1 final void to approximately pre-mining elevations.

5. Aboriginal Community Consultation Process

In administering its statutory functions under Part 6 of the NSW *National Parks and Wildlife Act, 1974*, the OEH requires that proponents consult with Aboriginal people about the Aboriginal cultural heritage values (cultural significance) of Aboriginal objects and/or places within any given development area in accordance with Clause 80c of the NSW *National Parks and Wildlife Regulation, 2009*.

The OEH maintains that the objective of consultation with Aboriginal communities about the cultural heritage values of Aboriginal objects and places is to ensure that Aboriginal people have the opportunity to improve ACHA outcomes by (DECCW 2010a):

- providing relevant information about the cultural significance and values of Aboriginal objects and/or places;
- influencing the design of the method to assess cultural and scientific significance of Aboriginal objects and/or places;
- actively contributing to the development of cultural heritage management options and recommendations for any Aboriginal objects and/or places within the proposed subject area; and
- commenting on draft assessment reports before they are submitted by the proponent to the OEH.

Consultation in the form outlined in the ACHCRs is a formal requirement where a proponent is aware that his/her development activity has the potential to harm Aboriginal objects or places. The OEH also recommends that these requirements be used when the certainty of harm is not yet established but a proponent has, through some formal development mechanism, been required to undertake a cultural heritage assessment to establish the potential harm their proposal may have on Aboriginal objects and places.

Consultation for this Modification, has been undertaken in accordance with the ACHCRs as these meet the fundamental tenants of the 2004 consultation requirements (NSW Department of Environment and Conservation [DEC] 2004), while meeting current industry standards for community consultation.

The ACHCRs outline a four stage consultation process that includes detailed step-wise guidance as to the aim of the stage, how it is to proceed and what actions are necessary for it to be successfully completed. The four stages are:

- Stage 1 - Notification of Project proposal and registration of interest.
- Stage 2 - Presentation of information about the proposed Project.
- Stage 3 - Gathering information about the cultural significance.
- Stage 4 - Review of draft cultural heritage assessment report.

The document also outlines the roles and responsibilities of the OEH, Aboriginal Parties including Local and State Aboriginal Land Councils, and proponents throughout the consultation process.

To meet the requirements of consultation it is expected that proponents will (DECCW 2010a):

- bring the RAPs or their nominated representatives together and be responsible for ensuring appropriate administration and management of the consultation process;
- consider the cultural perspectives, views, knowledge and advice of the RAPs involved in the consultation process in assessing cultural significance and developing any heritage management outcomes for Aboriginal objects(s) and/or places(s);
- provide evidence to the OEH of consultation by including information relevant to the cultural perspectives, views, knowledge and advice provided by the RAPs;
- accurately record and clearly articulate all consultation findings in the final cultural heritage assessment report; and
- provide copies of their cultural heritage assessment report to the RAPs who have been consulted.

The consultation process undertaken to seek active involvement from relevant Indigenous people followed the current NSW statutory guideline, namely, the ACHCRs. Section 1.3 of the ACHCRs describes the guiding principles of the document. The principles have been derived directly from the Principles section of the Australian Heritage Commission's *Ask First: A guide to respecting Indigenous heritage places and values* (Australian Heritage Commission 2002). Both documents share the aim of creating a system where free prior informed advice can be sought from the Aboriginal community.

The following outlines the process and results of the consultation conducted during this assessment to ascertain and reflect the Aboriginal cultural heritage values of the subject area.

The Consultation Process

Stage 1 - Notifications

This stage of the consultation process is used to identify any Aboriginal people or groups who may have a cultural interest and possess cultural knowledge in the subject area. Aboriginal stakeholder groups with an interest in the Moolarben Coal Complex have previously been identified (in compliance with the *Consultation Requirements*) and MCO has maintained ongoing consultation and engagement with these groups since 2004 (see overview in Kuskie 2013a: 70).

For the Modification, the existing parties were contacted and consulted with. These parties are:

- Ms Aleisha Lonsdale;
- Mr Craig McConnell;
- Mudgee Local Aboriginal Land Council;
- Murong Gialinga Aboriginal and Torres Strait Islanders Corporation;
- NC01¹;
- North-East Wiradjuri Company Ltd;
- Warrabinga Native Title Claimants Aboriginal Corporation; and
- Ms Warranha Ngumbaay.

A consultation log detailing all Aboriginal community consultation undertaken for the Modification is provided in Appendix 1. A copy of relevant written correspondence received from the RAPs is also provided in Appendix 2.

Stages 2 and 3 - Presentation of Project Information and Gathering Information about Cultural Significance

The RAPs were provided with a letter outlining information about the Modification and a copy of the Proposed Methodology for an ACHA in accordance with the ACHCRs (DECCW 2010b).

An information session was held on 11 March 2014 at the Moolarben Coal Complex. RAPs were invited to the information session and representatives from the following RAPs attended:

- Warrabinga Native Title Claimants Aboriginal Corporation;
- North East Wiradjuri Company Ltd;

¹ One of the RAPs for the Modification advised Moolarben Coal that they did not wish for their name to be made public or be published in any formal documentation. Accordingly, in this report this RAP is referred to as "NC01".

- Murong Gialinga Aboriginal and Torres Strait Islander Corporation; and
- Mudgee Local Aboriginal Land Council.

At the information session, MCO provided a presentation on the nature and scale of the proposed Modification, an overview of the impact assessment process, a discussion of the roles, functions and responsibilities of participants and protocols for the management of any sensitive cultural heritage information. The information session also provided RAPs with an additional opportunity to raise any cultural issues or comments/perspectives regarding the proposed Modification or the Proposed Methodology.

The Proposed Methodology for the ACHA was also discussed and distributed at the information session, with a minimum of 28 days allowed for RAPs to:

- suggest any protocols to be adopted into the information gathering process and assessment methodology; and
- highlight any other matters such as issues or areas of cultural significance that might affect, inform or refine the methodology.

The period for commenting on the Proposed Methodology was open between 11 March 2014 and 8 April 2014. No comments on the Proposed Methodology were received from the RAPs during this time.

Representatives from the following RAPs attended the field survey of the subject area on 12 March 2014 and 31 July 2014:

- Warrabinga Native Title Claimants Aboriginal Corporation;
- North East Wiradjuri Company Ltd;
- Murong Gialinga Aboriginal and Torres Strait Islander Corporation; and
- Mudgee Local Aboriginal Land Council.

The first campaign of field surveys (i.e. 12 March 2014) was undertaken during the period for review and comment on the Proposed Methodology. It was explained at the information session (11 March 2014) that if any RAP had comments on the Proposed (assessment) Methodology which (subject to agreement by MCO) would change the approach for the field surveys (i.e. pedestrian survey across the extent of the study area that has not been subject to previous systematic survey), MCO would commit to re-surveying the relevant portions of the study area following the Proposed Methodology review period. As no comments of this nature were received, no re-surveying was undertaken.

Following comments received from NC01, an additional copy of the Proposed Methodology was provided for their review and feedback on 13 June 2014, with comments requested by 10 July 2014. No comments on the Proposed Methodology were received from NC01 during this time.

Following completion of the 12 March 2014 survey work and the conclusion of the Proposed Methodology review period, access was gained to a previously inaccessible portion of the proposed Haul Road Option 1. Field survey of this land was undertaken on 31 July 2014 consistent with the Proposed (assessment) Methodology. This survey work was undertaken during the review period for the draft ACHA.

Stage 4 - Review of Draft Report

A draft of this report (i.e. the draft ACHA) was provided to the RAPs for their review and comment on 7 May 2014 in accordance with the ACHCRs (DECCW 2010a). A minimum of 28 days were provided to each of the RAPs with a request for comments to be provided by 6 June 2014.

During the 31 July 2014 survey work, no Aboriginal culture heritage sites or cultural heritage values were identified, which is consistent with the findings of the 12 March 2014 survey work and the content of the draft ACHA provided to the RAPs for their review on 7 May 2014. It is also noted that the landforms surveyed during the 31 July 2014 survey campaign were consistent and contiguous with those originally surveyed during the 12 March 2014 survey (i.e. the landforms were directly adjacent to those previously surveyed).

A copy of the final ACHA report will be made available to all RAPs during the public exhibition period for the Environmental Assessment. During this exhibition period all RAPs will have the opportunity to review and provide additional comment on the final ACHA report.

Written submissions on the draft ACHA were received from the following RAPs in accordance with the ACHCRs (DECCW 2010a):

- Warrabinga Native Title Claimants Aboriginal Corporation (10 June 2014);
- NC01 (6 June 2014);
- Murong Gialinga Aboriginal and Torres Strait Islanders Corporation (5 June 2014); and
- Mr Craig McConnell (27 May 2014).

The copies of the submissions are included in this report in Appendix 2. Responses to each submission are provided below.

Warrabingga Native Title Claimants Aboriginal Corporation

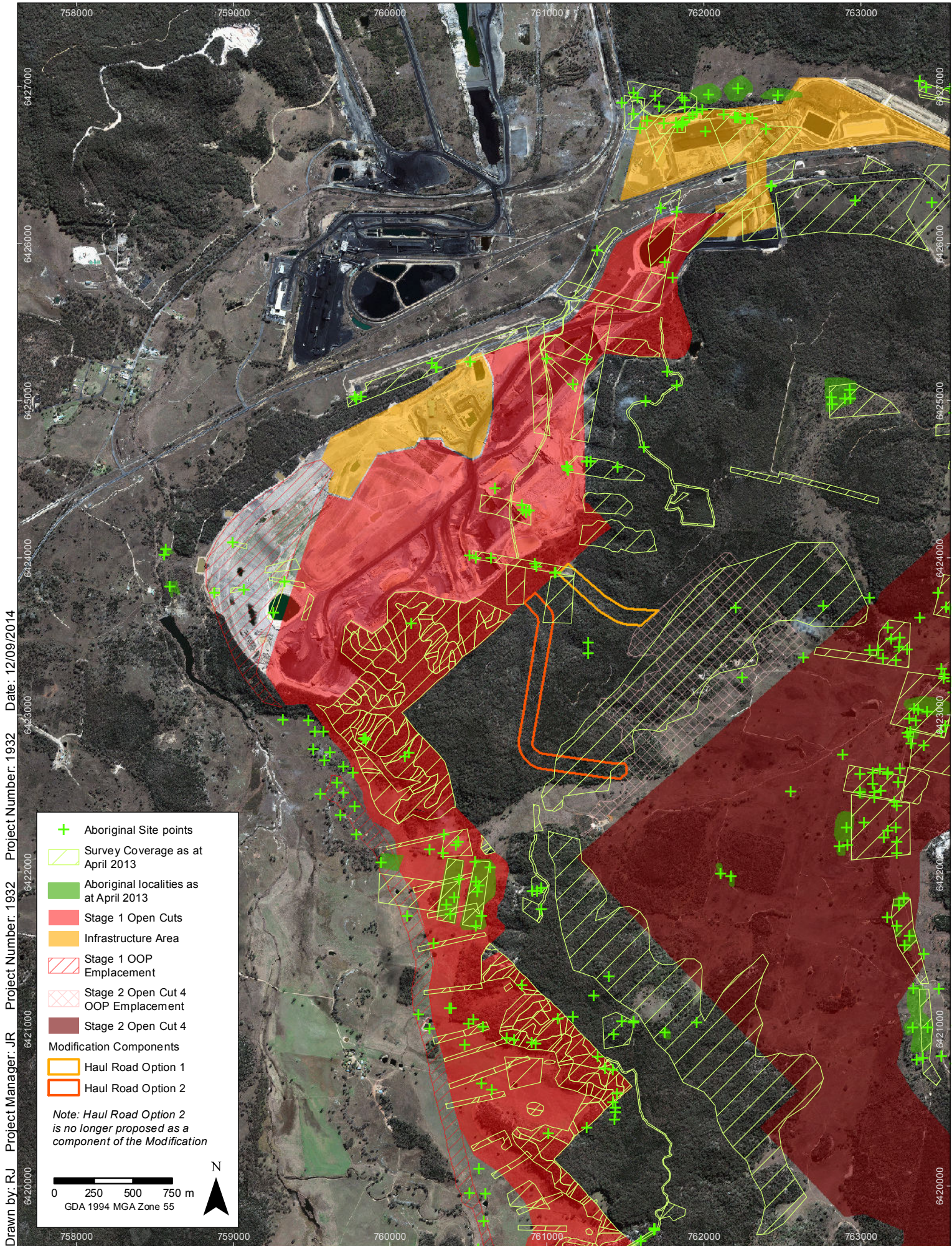
Comment: *“The first area of improvement relates to the provision of more detailed and referenced maps so an accurate understanding of the areas stated in Section 1 paragraphs 2 and 3 can be understood in context.”*

Response: Figure 1 presents the location of the Modification in relation to the Moolarben Coal Complex tenements and provides a more regional context to the Modification area. Figure 2 provides a zoom-in on the proposed haul road route options in relation to key surrounding surface disturbance areas including the Stage 1 open cut, Stage 2 open cut and the Stage 2 open cut emplacement. Figure 3 provides a more general site overview and presents the haul road options in relation to surface disturbance activities associated with the wider Moolarben Coal Complex area including the infrastructure areas, Stages 1 and 2 emplacements, Stage 1 and 2 open cuts. Figure 3 also provides context in relation to the existing known Aboriginal heritage sites and previous survey coverage. On this basis, Niche is of the opinion that sufficient site context has been provided to enable a thorough review of this report by the RAPs.

Comment: *“Further, we note that there are two options identified for the haul road yet there is no preferred option identified, are we to assume that both haul roads are to be built?”*

Response: Only one haul road option is proposed to be constructed as a component of the Modification (Figure 2)

Comment: *“Could you also please confirm whether the “pipeline network” mentioned in Section 4 is proposed to be contained wholly within the Haul Road Easement (90m wide) or are they proposed for separate routes and therefore are currently not adequately assessed. We note that two Aboriginal sites are known to be located to the south east of the proposed Mine Water Dam (Figure 3). Yet those two sites do not appear to receive any specific consideration in the report. We have concerns that the placement of the mine water dam in the present location will make inundation of these two sites easier to justify in the future. Without further more specific details in relation to these two sites we are unable to indicate any level of agreement or endorsement of the proposed works. It is critical that these documents contain sufficient information for a person unfamiliar with the project to gain an appreciation of the project and understand what is being asked for. How can we be expected to seek input from our senior people in relation to these areas and what is being proposed when this is unclear in the report.”*



Notice: 2014-04-24. Niche Environment and Heritage Pty Ltd have identified spatial discrepancies, indicative of datum error, between the Moolarben Coal heritage database and AHIMS. These discrepancies are under investigation. The site point data presented here should be interpreted in this regard.

Moolarben Coal Aboriginal Heritage Records
Moolarben OC4 South-West Modification

FIGURE 3

Imagery: (c) YanCoal 2013-08-12

Response: The Mine Water Dam and the associated pump and pipeline network are no longer a component of the Modification. Section 4 and Figure 2 of this report provide a clear description of the Modification, including the key components which may require surface disturbance.

Comment: *"We also are unable to understand how some of the visibility and exposure percentages specified in Table 7 can be accurate. We assume that Plates 1 and 2 document the typical conditions in their respective Survey Units and as such we certainly do not agree with visibility and exposure percentage to the levels specified in the report. By overstating the Visibility and Exposure percentages it has the effect of making the effective survey coverage appear higher and therefore has the effect of making the results of the survey appear more legitimate. I would suggest that visibility and exposure percentage in the order of 10-20% would be more in keeping with the area surveyed."*

Response: As stated in text and captions, Plates 1 and 2 do not represent "typical conditions in their respective survey units", rather they provide examples of the terrain that is characteristic of each landform defined by the survey archaeologist. Archaeological exposure and visibility were estimated using the OEH *Code of Practice for the Archaeological Investigation of Aboriginal Objects* (DECCW 2010b). Niche is confident the estimates provide an accurate and fair interpretation of the survey's effectiveness, as intended by the Code, and recognises nothing can be gained from deliberately artificially reporting such values.

Comment: *"There is a question over Moolarben Coal Mines ability to respond to any queries raised in relation to the methodology. If the period of comment was 11/3/2014 to 8/4/2014 as stated in Section 5 then how is it that the survey could be conducted on 12/3/2014. I would suggest to you that the reason you received no comment was because there was no reason for bothering drafting a letter when clearly it would not be considered, as Moolarben Coal Mine had already undertaken the works which were supposed to be subject to comment."*

Response: Noted. There is no regulatory requirement to conduct the surveys subsequent to the expiry of the Proposed Methodology review period (noting that the Proposed Methodology refers to more than just the archaeological survey, and provides a methodology for the progression of the assessment). At the information session (11 March 2014) MCO advised that if any submissions or comments were received in regard to the Proposed Methodology that MCO reasonably considers would have altered the field survey design/implementation, then MCO committed to undertaking the field surveys (with involvement of the RAPs) again after the completion of the Proposed Methodology review period, having regard to the survey requirements and the objectives of the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010a).

Comment: *“Warrabinga request that our comments be addressed in the report and that a further round of consultation be undertaken once these comments have been addressed. At this stage we do not believe that the report provided sufficient detail for us to reach a position supporting the proposed works.”*

Response: The comments provided by Warrabinga Native Title Claimants Aboriginal Corporation have been included in full in Appendix 2 and considered in detail in this section. Detailed consideration of the comments provided by all RAPs has been undertaken, including updates and/or clarification in the report where required. A copy of the final ACHA report will be made available to all RAPs during the public exhibition period for the Environmental Impact Statement. During this exhibition period all RAPs will have the opportunity to review and provide additional comment on the final ACHA report. Niche considers that the draft ACHA and this final report present a robust and adequate assessment of Aboriginal cultural heritage in relation to the Modification. The sections of the report describing the Modification description (Section 4), the survey (Section 11), the results (Section 12), scientific values and significance assessment (Section 14), impact assessment (Section 15), the management and mitigation measures (Section 16) and the recommendations (Section 17) present a detailed and comprehensive assessment. On this basis, it is considered that a re-issue of the report is not warranted.

NC01

Comment: *NC01 “is supportive of any efforts to provide facilities for the community at large within our Traditional Lands, where it does not significantly impact on cultural artefacts, heritage sites, the environment including water sources and the sub-terrain water table, endangered or threatened species of flora or fauna and provided Proponents have consulted with [NC01] and negotiated an agreed outcome in relation to our cultural, heritage and environmental concerns which Moolarben have not.[NC01] objects to any other non-traditional aboriginal organizations or people taking part in site surveys, consultation and assessments within our defined traditional lands. These non-traditional people and groups are outsiders under Traditional Lore and have no right to advise on or to be present during consultation or site visits as they do not possess the specific traditional knowledge in relation to these lands or sites. These participants may be indigenous and may live locally however this still does not give them the right to disregard Traditional Lore and values.”*

Response: Consultation for the Modification ACHA has been undertaken in accordance with the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010a) and the NSW *National Parks and Wildlife Regulation, 2009*. It is noted that in accordance with the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010a), MCO can only limit consultation where an approved determination of Native Title exists over the study area. MCO is not aware of any approved Native Title Determinations across the study area.

Comment: NC01 *“as Registered Native Titles Claimants were not involved nor Consulted in any Heritage aspects at Moolarben Coal from 2010 to present day and this is contrary to the Native Title Act and Consultation Guidelines and is therefore constitutes an illegal act by Moolarben Coal and its parent company Yancoal. On behalf of the [NC01], We formally object as a Traditional Owner Group with interest over this Mining Lease and wider lands were not involved in nor consulted at any time in the drafting of this Aboriginal Cultural Heritage Assessment report.[NC01] representatives have not been consulted in person nor onsite and a mutual agreement has not been reached and therefore we strongly object to the entire project”.*

Response: As described earlier in this section, NC01 has been consulted in relation to the Modification through the provision of a Proposed Methodology for review and comment and the provision of a draft ACHA for review and comment.

Comment: *“It is as Traditional owners that [NC01] cannot support this Aboriginal Cultural Heritage report by Moolarben Coal as it will significantly impact on cultural artefacts, heritage sites, the environment including water sources and the sub-terrain water table, endangered or threatened species of flora or fauna.”*

Response: Objection noted. The assessment concluded that the study areas have been thoroughly surveyed and that no Aboriginal objects or areas of cultural heritage value were identified within the proposed disturbance footprint and therefore the Modification would not harm any known Aboriginal objects or cultural heritage values. The proposed OC4 South-West Modification works will be conducted and managed in accordance with the relevant approved Heritage Management Plan. Notwithstanding, additional management measures and recommendations are presented in Section 17. Potential impacts of the Modification on water resources and ecology will be considered in the Environmental Impact Statement and supporting specialist studies. A copy of the final ACHA report and all other specialist studies will be made available to all RAPs during the public exhibition period, during which all RAPs will have the opportunity to review and provide comment on all and any aspects of the Modification.

Murong Gialinga Aboriginal and Torres Strait Islanders Corporation

Comment: *“After reading the draft we would like to recommend that all the areas be thoroughly surveyed and the rock shelters be Monitored For Impact and Subsidence all Aboriginal stakeholders be involved with the monitoring.”*

Response: The assessment concluded that the study areas have been thoroughly surveyed and that no Aboriginal objects or areas of cultural heritage value were identified within the proposed disturbance footprint and therefore the Modification would not harm any known Aboriginal objects or cultural heritage values. The proposed OC4 South-West Modification works will be conducted and managed in accordance with the relevant approved Heritage Management Plan. Notwithstanding, additional management measures and recommendations are presented in Section 17. It is noted that subsidence impacts are not relevant to the Modification. Potential subsidence impacts from approved components of the Moolarben Coal Complex will be managed in accordance with the relevant management plan.

Mr Craig McConnell

Comment: *“I thank Moolarben Coal for the opportunity to comment on the proposed Modification to the OC4 South-West Aboriginal Cultural Heritage Assessment... From the Draft report I can summarise there will be less Environmental Impacts, Improved water Management, & The Cultural Heritage Survey of the subject area found no Aboriginal objects or areas of Aboriginal Cultural Significance. The report states the reps from the RAPs have expressed their satisfaction with the Methodology of the site survey. I am Pleased with the Reference to Historical survey data, the fact that the proposed Modifications will not impact any Identified Aboriginal objects, or Significant sites in the surrounding areas, & the Quantity & Quality of the Report. I have no objections or Amendments, from the information provided, to the Moolarben Coal Mine OC4 South-West Modification Aboriginal Cultural Heritage Assessment.”*

Response: Noted.

6. Register Searches

Commonwealth Registers

National Heritage Registers

Under the *Environment Protection and Biodiversity Conservation Act, 1999* Amendments (No. 88, 2003), two mechanisms have been created for the protection of heritage places of National or Commonwealth significance (<http://www.environment.gov.au/heritage/places/national/index.html>) - the National Heritage List (NHL) and the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth. There are no management constraints associated with listing on the Register of the National Estate (RNE) unless the listed place is owned by a Commonwealth agency.

A search of the online Australian Heritage Database, which includes items from the CHL and RNE was conducted on 4 March 2014. Search terms used were: Mid-Western regional, Ulan and Wollar. No heritage items were identified within or in close proximity to the subject area.

State Registers

Heritage Act Registers

The State Heritage Register (SHR) holds items that have been assessed as being of State Significance to NSW. The State Heritage Inventory (SHI) contains items that are listed on Local Environmental Plans (LEPs) and/or on a State Government Agency's Section 170 registers (OEH Website - www.heritage.nsw.gov.au/index.html). An assessment of heritage significance is required for items greater than 50 years in age. Items appearing on either the SHR or SHI have been granted a defined level of statutory protection under NSW legislation.

Searches of the SHR and SHI were completed on the 4 March 2014. No heritage items were listed in the subject area.

Environmental Planning and Assessment Act Registers (EP&A Act)

Local Environmental Plans

Each Local Government Area is required to create and maintain a LEP that identifies and conserves Aboriginal and Historic heritage items. These items are protected under the EP&A Act and the *Heritage Act 1977*.

A search of the *Mid-Western Regional Local Environmental Plan 2012* was undertaken on the 4 March 2014. There are no Aboriginal heritage items listed in the LEP that are located specifically within the subject area.

National Parks and Wildlife Act Registers (AHIMS)

Aboriginal Archaeological Sites in proximity to the Modification

An extensive Aboriginal Heritage Information Management System (AHIMS) search was conducted on 6 February 2014 (AHIMS ID 124265; Appendix 3) for the area surrounding the subject area. The search identified 117 Aboriginal sites, none of which were located in the impact footprint of the proposed activities. The 117 Aboriginal sites were recorded during the numerous environmental assessments of the Moolarben, Ulan and Wilpinjong Coal Mines between 1980 and 2013, indicating intensive levels of previous archaeological assessment, and form a small fraction of the sites known within a 10 km radius of the subject area. Each of the three mines hold databases of the number and nature of Aboriginal sites in their project boundaries and the extent of previous archaeological survey. At Moolarben it was noted that in some cases the AHIMS data was not consistent with the database held by MCO, with some sites being located in different positions on AHIMS when compared to the Moolarben Coal Mine Database. This was concluded to be an error in AHIMS (e.g. due to the incorrect datum being used), and as such the Aboriginal Sites Database site positions are presented in Figure 3 and used for the basis of this assessment. The distribution and nature of sites in the region are discussed further in Section 9 and are shown on Figure 3².

² Sites shown on Figure 3 in areas already subject to disturbance have been managed in accordance with the existing approved AHMP (or its former revision).

7. Landscape Context

The subject area is situated within the Central Tablelands region of NSW, about 2 km west of the Munghorn Gap Nature Reserve. The proposed haul road Option 1 and Option 2 traverse a hilly area comprised of simple slopes and ridge crests. Proposed haul road Option 2 is adjacent to a first order drainage path. The slope classes contained within the proposed haul road routes range from very gently inclined to moderately inclined slopes.

The subject area is situated at the north-western margin of the Sydney Basin and is characterised by Late Permian age Illawarra Coal Measures sandstone (mudstone, claystone, coal, torbanite and rhyolitic tuff) which is overlain by the Narrabeen Group (sandstone, conglomeratic sandstone, chert, shale coal and torbanite).

There are no known raw material sources for the manufacture of stone artefacts in the subject area, though the geological formations of Illawarra Coal Measures and Narrabeen Group sandstones are known to have provided exploitable quartz conglomerates across the region. Outcrops and exposed veins of tuff, cherts within the Illawarra Coal Measures and Narrabeen sandstone groups may also have provided raw materials for the manufacture of stone artefacts.

There are three soil landscapes within the subject area; the Ulan, Lees Pinch and Munghorn Plateau Soil Landscapes. All three soil landscapes are present within haul road Option 2 while the accessible portion of haul road Option 1 traverses the Ulan and Lees Pinch Soil Landscapes.

The lower elevations of the subject area are situated within the Ulan Soil Landscape, which is typically found in association with low undulating rises and creek flats on slopes between 2 and 10 percent (%). Yellow podzolic soils are present on the lower slopes and drainage line with yellow and brown earths, earthy sands and occasional occurrences of yellow solodic soils with salt sands. The Ulan Soil Landscape had moderate to high levels of erosion.

The Lees Pinch Soil Landscape, situated on the lower to midslopes of the subject area, is typically found in association with sandstone plateau and hillslopes with boulder debris and rock outcrops with slopes between 15 and 40%. Soils in the landscape are shallow siliceous sands with yellow earths and yellow podzolic soils on the lower slopes. This soil landscape is subject to high levels of downslope erosion.

The ridgelines within the subject area are dominated by the Munghorn Plateau Soil Landscape which is typically characterised by low undulating hills forming plateaux with slopes between 3 and 10%. Like the Lees Pinch Soil Landscape, soils in the Munghorn Gap Soil Landscape are shallow siliceous sands with yellow earths and yellow podzolic soils and rock outcrops may be present.

The geological composition and soil landscapes of the subject area indicate that sandstone boulders, outcrops, shelters and overhangs may be present, particularly in the Lees Pinch and Munghorn Soil Landscape units. Sandstone features have frequently been utilised in the region by past Aboriginal people and may contain evidence of past Aboriginal occupation in the form of rock art, grinding grooves and archaeological deposits of stone artefacts. Scatters of stone artefacts will most likely occur in association with sandstone features rather than in open, surface or subsurface contexts due to the shallow soils of the subject area and the sloped and erosional nature of the landscape.

Water is considered one of the primary factors in the prediction of the location of Aboriginal sites in the landscape. The subject area falls within the upper reaches of the Murrumbidgee Creek Catchment. There are no permanent water sources within the subject area, with the nearest permanent water sources being the Moolarben and Murrumbidgee Creeks, 1.4 km west and 1.7 km east in distance respectively. Drainage depressions in proximity to the subject area can be considered first or second order drainage lines and are unlikely to act as temporary sources of potable water. (After rain, water may have temporarily collected in depressions in sandstone outcrops within the subject area).

A number of ecological resources are known to have been exploited by the Wiradjuri (the traditional Aboriginal people of the area) including possums, kangaroos, wallabies, wombats, kangaroo rats, lizards, snakes, goanna, bird, insects and a range of plant species (Pearson 1981: 335). Many of these resources would have been available in the local landscape.

Climate data collected at the Gulgong weather station, approximately 20 km to the west of the subject area, indicates that the subject area is situated in an area with an average rainfall of 630 to 650 millimetres with warm to hot summers and cold winters. Winter frosts occur. Greater variation in seasonal weather may have resulted in more seasonal changes to Aboriginal practice; however to date there is no archaeological evidence of this occurring.

8. Local Aboriginal History

At the time of first contact, the subject area lay within the land occupied by Wiradjuri speaking people (Tindale 1974, Horton 1994), close to boundaries with the Kamilaroi, Gweagal and Wonnarua speaking peoples. Pearson (1981: 81) hypothesises three possible Wiradjuri speaking clans living at Bathurst, Wellington and Mudgee - Rylstone. The subject area most likely lies within the Mudgee - Rylstone group's area. Based on his review of historical sources, Pearson (1981: 75) suggested that most day to day activities were undertaken by groups of up to 20 individuals who came together into larger groups at certain times of the year to utilise a resource or undertake law or ceremonial activities.

The 1820s, with increasing European settlement along the Cudgegong River and from Mudgee to Wellington, would have resulted in increasing upheaval to traditional Aboriginal practices. Hostilities between the local Aboriginal population and non-Indigenous settlers peaked between 1824 and 1826 with the advent of martial law by Governor Brisbane and resistance from Windradyne, a Wiradjuri man (Haglund 1999a). Settlement increased with the gold rush between the 1850s and 1870s, causing further displacement of the local Aboriginal population.

Today, Wiradjuri people continue to live in the district and maintain an interest in their cultural heritage. The revitalisation of the Wiradjuri language has been taking place over the last 10 years with the publication of *A First Wiradjuri Dictionary* and Wiradjuri being taught at schools and TAFE in Parkes and Forbes (Senior and Rudder 2005).

9. Previous Archaeological Work

Regional Archaeological Studies

Archaeological studies provide material evidence of Aboriginal use of the landscape at times both before and after written history and complements the oral histories and cultural knowledge held by the Aboriginal community.

The earliest evidence of Aboriginal occupation in the region was found at Granites 2 Shelter, located approximately 150 km south-west of the subject area, and dates to 7,000 years before present (Pearson 1981). A number of other archaeological excavations have been undertaken in the nearby area and resulted in dates of occupation in the last 5,000 years (Kuskie 2009).

A number of archaeological models for the distribution of material evidence of Aboriginal use of the landscape have been developed for the region. The purpose of archaeological models is to assist in the prediction of what Aboriginal sites may be present in the landscape and where they might be located.

The first archaeological model of the region was developed by Pearson (1981) through the analysis of sites in the Upper Macquarie. He identified a range of site types typical to the region including open camp sites, scarred trees and grinding grooves and the presence of ceremonial sites and burial sites. From his data Pearson proposed that:

- ❑ Most sites would occur between 10 and 500 m from water, with the largest sites occurring nearest to water;
- ❑ That good soil drainage, views over watercourses, level ground with shelter from winds and elevation above cold air were important factors in site location;

- ❑ The majority of sites were in places that would originally have been open woodlands with an adequate source of fuel;
- ❑ Burials and grinding grooves would be located as close to habitation as possible;
- ❑ Grinding grooves required the presence of suitable stone such as sandstone;
- ❑ Burials were most likely to occur where soils were deep enough for internment;
- ❑ Ceremonial sites such as earth rings and stone arrangements would be situated away from campsites, potentially in isolated places, on small hills or knolls but also on flat land;
- ❑ There was no obvious patterning to the location of scarred and carved trees beyond proximity to water and occupation sites;
- ❑ Quarries may occur where suitable sources of stone were present and accessible; and
- ❑ Camp sites were rarely used by Aboriginal people in the past for longer than three nights and that sites with extensive archaeological deposits represented accumulation of material over multiple visits.

This model has since been revised and refined as part of the many archaeological assessments that have been conducted as part of the environmental assessment and approval process for the three mines located within 10 km of the subject area: Ulan, Wilpinjong and Moolarben.

Ulan Coal Mine

The Ulan Coal Mine is an open cut coal mine located adjacent to and north-west of the Moolarben Coal Complex, near the village of Ulan. The Ulan Coal Mine has been operational since the 1920s. In 2009, the Ulan Coal Mine sought a consolidated Part 3A Approval. Archaeological assessment of the Ulan Coal Mine commenced in the 1980s (Haglund 1980) with 29 assessments occurring over subsequent years (Table 1).

An Aboriginal sites database was developed for the Ulan Coal Mine as part of the environmental assessment process for the Part 3A Approval (Kuskie 2009). Revision 10 of the database included 1,274 Aboriginal sites within the Ulan Coal Mine including 322 rockshelters with Potential Archaeological Deposits (PADs) (Table 2). The most frequent Aboriginal site features known within the Ulan Coal Mine were artefact scatters, rockshelters with PADs, and isolated artefacts.

Open camp sites range in size at the Ulan Coal Mine from one stone artefact to 990 stone artefacts (Kuskie 2009: 109). The bulk of open camp sites contain less than 10 artefacts and most sites occur over a 50 square metre (m²) area or less (Kuskie 2009: 109).

Table 1: Summary of Assessments at the Ulan Coal Mine (Kuskie 2013a: 15)

Author	Date	Title
Haglund	1980	Preliminary Archaeological Survey of the Coal mining Area at Ulan, NSW
Haglund	1981a	Archaeological Survey and Sampling at the Site of the Ulan Coal Mine, Ulan, NSW
Haglund	1981b	Ulan Coal Mine: Archaeological Investigation in Connection with Proposed Changes in Development Plans
Corkill	1991	Survey for Aboriginal Archaeological Sites at Ulan Colliery, New South Wales: proposed Overland Conveyor and Creek Site Development
Haglund	1992	Sample Surveys in Relation to Preposed Mine Extension in the Ulan Area, NSW
Haglund	1996a	Salvage Excavation Completed for Ulan Coal Mines Ltd: NPWS Site 36-3-177
Haglund	1996b	Archaeological Inspection and Monitoring of Track and Drill Site East of Ulan Creek
Edgar	1997	Ulan Open Cut Mine: Trench Through Proposed Highwall Zone 3: Aboriginal Heritage Aspects
Haglund	1999b	Ulan Coal Mines Second Longwall Project Environment Statement: Preliminary Survey for Aboriginal Sites
Haglund	1999a	Addendum to Ulan Coal Mines Second Longwall Project Environmental Statement
Haglund	1999c	Ulan Coal Mines Pty Ltd: Archaeological Review and Inspection in Relation to Potential High Wall Mining – Areas West and North-west of Trench A
Haglund	1999d	Report on Aboriginal heritage Studies Relating to SEPP No. 34 Application by Ulan Coal Mine
Therin	2000	Spring Gully 5 Salvage Excavation Usewear and Residue Report
Kuskie	2000	An Assessment of Two Aboriginal Grinding Grooves Sites at Ulan Coal Mine, Central Tablelands, New South Wales
Haglund	2001a	Salvage Excavation Completed for Ulan Coal Mines Ltd: Site SG5 Aboriginal Rock Shelter Site Vol I
Haglund	2001b	Salvage Excavation Completed for Ulan Coal Mines Ltd: Site SG5 Aboriginal Rock Shelter Site Vol III
White	2001a	Salvage Excavation Completed for Ulan Coal Mines Ltd Site SG4 Aboriginal Rock Shelter. Vol II
White	2001b	A Comment on the stone artefact assemblage from squares E 7 and E8 at Site SG6, Ulan, NS
Kuskie and Webster	2001	Archaeological Survey of Aboriginal Heritage within Longwall Panels 18-22, Mining Lease 1468 and 1341, Ulan Coal Mine, Central Tablelands, New South Wales, Volumes 1 and 2
Kuskie	2002	An Archaeological Assessment of a Proposed Basalt Quarry within Mining lease 1468, Ulan Coal Mine, Central Tablelands New South Wales
Kuskie and Clarke	2003	Proposed Open Cut Mine Extension, Additional Infrastructure and Consolidation Consents at Ulan Coal mine New South Wales: Aboriginal heritage Assessment (Vol. 1)
Kuskie	2004	Proposed Open Cut Mine Extension, Additional Infrastructure and Consolidation Consents at Ulan Coal mine New South Wales: Aboriginal heritage Assessment (Vol. 2)
Kuskie and Clarke	2005a	Proposed Open Cut Mine Extension, Additional Infrastructure at Ulan Coal Mine: Aboriginal heritage Assessment
Kuskie and Clarke	2005b	Archaeological Survey of Aboriginal heritage within SMP Application Area (Longwall Panels 23-25 and W1) of Mining Lease 1468, Ulan Coal Mine, Central Tablelands. Vol A and Vol B
Kuskie and Clarke	2007	Archaeological Survey of Aboriginal Heritage within SMP Application Area (Longwall Panels W2 and W3) of Mining Lease 1468, Ulan Coal Mine, Central Tablelands, New South Wales: Volume A and Volume B
Kuskie	2008	Ulan Coal Mines Limited: Project Waratah: Preliminary Aboriginal Heritage Assessment
Kuskie	2009	Ulan Coal Continued Operations Aboriginal Heritage Impact Assessment
Kuskie	2010a	Ulan Coal Continued Operations Aboriginal heritage Impact Assessment – Supplementary Report for North 1 panels project Modification
Kuskie	2012a	Ulan Coal Continued Operations Project: Test excavations of Aboriginal Rock Shelter Sites within the North 1 Panels - Interim Report

Table 2: Frequency of Aboriginal Sites at the Ulan Coal Mine as of 2009 (Kuskie 2009: 108)

Aboriginal Site Features	Number of Aboriginal Sites
Artefact Scatter and Open Sites	521
Isolated Artefacts	291
Grinding Groove	13
Grinding Grooves and Artefact Scatter	4
Ochre Quarry	3
Scarred Trees	8
Scarred Tree with Artefact Scatter	2
Stone Arrangements	6
Waterhole/Well	1
Rockshelters with Artefacts	87
Rockshelter with Grinding Grooves	3
Rockshelter with Grinding Grooves and Artefacts	1
Rockshelters with Art	8
Rockshelters with Art and Artefacts	4
Rockshelters with PAD	322
Total	1,274

The stone artefact assemblage at the Ulan Coal Mine as of 2009 consisted of over 9,000 items (Kuskie 2009: 118). Most artefacts were made from quartz, with tuff and chert being the next most common raw material type. Acidic volcanics, basalt, bone, breccia, chalcedony, flint, granite, ironstone, lithic sandstone, quartzite, rhyolite, sandstone, shell, silcrete, siltstone and petrified wood stone artefacts were also present in small quantities. The bulk of the artefact assemblage comprised complete and broken flakes, angular fragments, cores and core fragments. Retouched and utilised flakes, backed artefacts, hammer stones, anvils and axes were also present.

An analysis of the spatial distribution of Aboriginal sites and artefacts was completed for the archaeological resources at the Ulan Coal Mine. This involved the separation of the landscape into distinct landform and slope classes (Kuskie 2009: 131). Approximately 62% of the Ulan Coal Mine consisted of comparable land forms to the subject area - that is simple slopes and ridge crests (Kuskie 2009: 21).

It was noted that overall, artefacts occurred at a very low mean density across the analysis area (Kuskie 2009: 133) and indicated a background discard. Level to gently inclined terraces had some of the highest densities of artefacts, as did level to very gently inclined spur crests while moderately inclined simple slopes had marginally higher densities of artefacts than gentle simple slopes and valley flats. This may be the result of the presence of assemblages within rockshelters.

Rockshelters were found to occur on scarps, simple slopes, spur crests and drainage depressions with sandstone rock formation. Artefact densities were found not to increase in density with proximity to water (Kuskie 2009: 135).

As a result of the archaeological assessment of the Ulan Coal Mine (Table 2), including spatial analysis of the distribution of sites and a review of the historical sources, an archaeological model was developed and has been refined (Kuskie and Clarke 2005b, 2007, Kuskie 2009). This model has subsequently been applied to the Wilpinjong Coal Mine and the Moolarben Coal Complex.

The model states that most evidence of occupation will date within the last 5,000 years though may have extended 30-40,000 years before present. The model determines three zones of resources: primary resource zones, secondary resource zones and a third zone that encompasses the land beyond primary and secondary resource zones (Kuskie 2009: 22).

Primary resource zones: areas of more abundant and diverse resource rich zones in north-east Wiradjuri territory such as the junction of the higher order watercourses such as Goulburn and Talbragar Rivers, would most likely be a focus of occupation. These zones may have supported nuclear and extended family base camps, community base camps and congregations of larger groups. This zone may have been subject to longer stays, more frequent occupation than other areas, for example secondary resource zones. Kuskie's model states that these zones would contain substantially higher counts and densities of artefacts, a greater range of stone materials and artefact types and a higher number of activity areas would be present.

Outside primary and secondary zones: occupation is anticipated to be hunter gatherer activities with small parties of men, women or children. Movement across the landscape would be transitory between resource locations and may include special purpose journeys for ceremonial purpose or the procurement of stone. Utilisation of landforms such as simple slopes, ridge crests, spur crests and lower order watercourses would be far less intense than that found in primary and secondary resource zones. The evidence of this occupation would be low to very low artefact counts and densities, little range in the number of activity areas, and dates of sporadic occupation rather than continuous occupation. Evidence of stone quarries at sources may also be present.

Activities that may have occurred in the landscape, in this model, include food procurement and processing, food consumption, maintenance and production of tools, the building of shelter, children's play, ceremonial activity, spiritual activity, burials and social and political activity by people.

The bulk of these activities would be evidenced through the presence of material evidence; in particular through the stone artefact assemblage. For instance, food procurement and processing might be evidenced through the presence of usewear residue on stone tools. Ceremonial activities may be evidenced by the presence of carved trees, bora grounds and stone arrangements.

The archaeological model predicts that most stone artefacts will be made of quartz due to its ease of access and availability in the local landscape. The model hypothesises that the relative intensity of use of each of the materials will be dependent on the proximity of the original source of the stone. Most stone procurement is hypothesised to have occurred during normal daily and seasonal movement without the need for special purpose visits and as a result of the abundance of available local stone, the stone is less likely to exhibit intensive reduction as evidence of conservation of material.

Most stone technology will be basic and non specific (e.g. complete and broken flakes) with low frequencies of microblade or microlithic technologies, bipolar knapping, backing and usewear.

Grinding grooves for the sharpening of ground edge axes may occur on exposed sandstone bedrock but are unlikely to occur in high numbers and most likely represent occasional activity and short term activities rather than special purpose visits.

Wilpinjong Coal Mine

The Wilpinjong Coal Mine is an open cut mine located adjacent to and east of the Moolarben Coal Complex. The Wilpinjong Coal Mine was approved under Part 3A of the EP&A Act and has been operational since 2006. During this time, 17 Aboriginal archaeological assessments are known to have occurred (Table 3).

In 2005 Navin Officer undertook the primary environmental assessment, identifying 224 Aboriginal sites and PADs for the project and subsequently completed a series of salvage excavations and surface collections and rock art recording of some shelter sites (Navin Officer 2005, 2006a, 2006b). An ACHMP was developed for the project (WCPL 2008). Between 2006 and 2009, Kayandel Archaeological Services (2006a, 2006b, 2006c, 2006d, 2007a, 2007b, 2007c, 2008a, 2008b, 2009a, 2009b; Boer-Mah 2006) completed a number of surface collections and test excavations. Many of these reports were not available for review at the time of this assessment.

Subsequently, South East Archaeology undertook a review of archaeological assessments at Wilpinjong as part of a proposed modification project for the Wilpinjong Coal Mine and provided an updated Aboriginal site database, an analysis of some stone artefacts recorded during an archaeological survey of the proposed modification and an updated distribution and occupation model (Kuskie 2013a, 2013b).

As of April 2013, the Wilpinjong Coal Mine Aboriginal Site Database contained 463 Aboriginal sites (Kuskie 2013a, Table 4). Aboriginal site types known to occur at the Wilpinjong Coal Mine include individual stone artefacts, stone artefact scatters, scarred and carved trees, a stone quarry, ceremonial sites, grinding grooves, resources sites such as waterholes and rockshelters with art, stone artefacts, archaeological deposit or potential archaeological deposit. A number of areas of contemporary cultural significance have been identified including Castle Rock and the high density archaeological deposits at Cumbo Creek.

Table 3: Summary of Assessments at the Wilpinjong Coal Mine (Source: Kuskie 2013b)

Author	Date	Title
Navin Officer Heritage Consultants Pty Ltd	2005	Wilpinjong Coal Project Appendix F Aboriginal Cultural Heritage Assessment
Navin Officer Heritage Consultants Pty Ltd	2006a	Wilpinjong Coal Project: Archaeological Salvage and Post EIS Investigations
Navin Officer Heritage Consultants Pty Ltd	2006b	Baseline Recording of Three Aboriginal Rock Arts Sites WCP 72, 152 and 163 at Wilpinjong, NSW
Kayandel Archaeological Services.	2006a	Aboriginal Heritage Rapid Survey
Kayandel Archaeological Services	2006b	Wilpinjong Coal Project: Aboriginal Heritage Surface Salvage Summary Report. September 2006
Boer-Mah, T.	2006	Lithics Report for Surface Salvage and Salvage Excavation at Wilpinjong Mine, N.S.W: June 2006. Prepared for Kayandel Archaeological Services
Kayandel Archaeological Services	2006c	Proposed Electricity Transmission Line: Ulan Substation to Wilpinjong Coal Project: Aboriginal Cultural Heritage Assessment. March 2006
Kayandel Archaeological Services	2006d	Wilpinjong Coal Project: Aboriginal Cultural Heritage Survey: Supplemental Survey of Escarpment Areas and Report of Findings. November 2006
Kayandel Archaeological Services	2007a	Kayandel Archaeological Services. 2007. Archaeological Survey Report and Mapping for Proposed Borehole Locations: Aboriginal Pedestrian Survey. May 2007. Prepared for Wilpinjong Coal Pty Ltd
Kayandel Archaeological Services.	2007b	Wilpinjong Coal Project: Aboriginal Heritage: Surface Salvage of Sites. August 2007. Prepared for Wilpinjong Coal Pty Ltd
Kayandel Archaeological Services.	2007c	Wilpinjong Coal Project. Aboriginal Heritage Surface Salvage Summary. Report. September 2007
Kayandel Archaeological Services	2008a	Surface Salvage Report: Wilpinjong Coal Mine, Mudgee: December 2008. Prepared for Wilpinjong Coal Ltd Pty
Kayandel Archaeological Services	2008b	Slate Gully Drillhole Assessments. Report not available for review
Kayandel Archaeological Services	2009a	Test excavations of the Pit 5 Extension. Report not available for review
Kayandel Archaeological Services	2009b	Wintersun Hill / Bald Knobb Test Excavations. Report not available for review
Kuskie, P.	2013b	Wilpinjong Coal Mine, Central Tablelands of New South Wales - Modification: Aboriginal Cultural Heritage Assessment
Brennan, W.	2013	Wilpinjong Coal Mine, Rock Art Conservation and Monitoring Project: Field Inspection Report and Recommendations. Unpublished report to Wilpinjong Pty Ltd

The stone artefact assemblage at the Wilpinjong Coal Mine was found to be waterworn and terrestrial quartz dominated the assemblage. The dominance of quartz is thought to relate to the accessibility of quartz conglomerates in the local geological landscape. Tuff and chert were also present in the stone artefact assemblage and very small frequencies of acidic volcanic stone, jasper, petrified wood, porphyritic rhyolite and quartzite (Kuskie 2013b: 56).

Table 4: Summary of Aboriginal Sites Within the Wilpinjong Coal Mine
(Source: Kuskie 2013b:11)

Aboriginal Site Features	Number of Aboriginal Sites
Bora/ceremonial site and carved tree	1
Grinding grooves	2
Grinding grooves and open artefact site	1
Lithic quarry	1
Non-Aboriginal mounds	1
Open Artefact site	271
PAD	2
Possible cultural value and association	2
Rockshelter with art	4
Rockshelter with art and PAD	2
Rockshelter with artefacts	25
Rockshelter with artefacts and art	1
Rockshelter with artefacts and waterhole/well	1
Rockshelter with PAD	80
Scarred Tree	8
Scarred tree (possible – Aboriginal)	45
Scarred tree (possible – European)	4
Uncertain*	2
Waterhole possible	3
Waterhole/well	7
Total	463

* This feature description is used in the original source with no further explanation.

The types of artefacts in the assemblage were also found to be consistent with the Ulan Coal Mine stone artefact assemblage (Kuskie 2013a, 2013b: 58). Complete and broken flakes were the most common artefact types followed by angular fragments, cores and core fragments. Retouched or utilised flakes were also present while backed artefacts such as bondi points and geometric microliths made up a less than 2% of the overall assemblage. A tula slug and hammerstone were also present (Kuskie 2013a, 2013b: 58-59).

The revised archaeological model presented by Kuskie (2013a, 2013b) is consistent with the current models for the archaeological resources at the Ulan Coal Mine.

Local Archaeological Assessments

Moolarben Coal Complex

The subject area is situated within the Moolarben Coal Complex, which is adjacent the Ulan and Wilpinjong Coal Mines. Between 2006 and 2013, 23 archaeological assessments and management plans were completed for the Moolarben Coal Complex. These are summarised in Table 5.

Table 5: Summary of Past Aboriginal Heritage Investigations at Moolarben Coal Complex (Source: Kuskie 2013c: 12-14)

Author	Date	Title
Hamm	2006a	Moolarben Coal project – Aboriginal Cultural Heritage Assessment Report
Hamm	2006b	Responses to Issues Raised in Respect of the Moolarben Coal Project Aboriginal Cultural Heritage Assessment Report
Hamm	2008a	Moolarben Coal Project – Aboriginal Cultural Heritage Assessment Report Stage 2
Hamm	2008b	Aboriginal Heritage Plan for MCP Stage 1 Development Areas: Open Cut 1 and Main Infrastructure Area
Urban Tree Management Australia	2008	Report: Aboriginal cultural Assessment of Scarred Tree ref. 26-3-0798: SIMC1) at Ulan, New South Wales for Moolarben Coal Project Stage 1
Hamm	2009a	Aboriginal Cultural Heritage & Archaeological Assessment for Moolarben Coal Project Stage 1 Infrastructure Area & Proposed Water Sharing Pipeline Modification Project in Support of a Section 75w (2) Approval
Hamm	2009b	Aboriginal Cultural Heritage & Archaeological Assessment for Moolarben Coal project Stage 1 Northern Borefield Area
Hamm	2009c	Moolarben Coal Project Executive Summary
Coffey Natural Systems	2009	Response to Submissions Report – Part A Moolarben Coal Project – Stage 2
Hamm	2010	Disturbance Report for Moolarben Coal Project Stage 2
Hamm and Foley	2010	Cultural Heritage Management Report on Moolarben Coal Project Stage 1: Open Cut & Main Infrastructure Area
Kuskie	2010b	Moolarben Coal project Stage 2: Aboriginal Heritage Advice on Potential Impact to Aboriginal Sites
AECOM	2011a	Moolarben Preferred project Report: Aboriginal Archaeological and Cultural Heritage Addendum
AECOM	2011b	Archaeological Collection & Excavation: Northern Borefield, Moolarben Coal Operations, Ulan, NSW
AECOM	2011c	Due Diligence Assessment of Proposed Exploration Drill Sites EL 6288
AECOM	2012	Due Diligence Assessment of Proposed Exploration Drill Sites EL 6288
Hansen Bailey	2012	Moolarben Coal Project Stage 2 Preferred project Report Response to Submissions
Kuskie	2012b	Moolarben Coal project Stage 2 – Preliminary Report on Aboriginal heritage Survey of Geotechnical Investigation Areas
Kuskie	2012c	Moolarben Coal Project Stage 2 – Preliminary Report on Aboriginal Heritage Survey of Proposed Ulan- Wollar Road and Country Energy 66kv Powerline realignment
Kuskie	2012d	Moolarben Coal project: Preliminary Aboriginal heritage Assessment of Proposed Temporary Workers Accommodation near Ulan, Central Tablelands of new South Wales
Kuskie	2013c	Aboriginal Heritage Management Plan Stage 1. Version 2
Kuskie	2013d	Moolarben Coal Project – Stage 1 Optimisation Modification, near Ulan, Central Tablelands of New South Wales: Aboriginal Cultural Heritage Assessment
Kuskie	2013e	Moolarben Coal Project Stage 2: Aboriginal Heritage Assessment of proposed Ulan – Wollar Road and Essential Energy Powerline Realignments, near Ulan Central Tablelands of New South Wales

Some of these earlier surveys (Table 5) assessed parts of the subject area for Aboriginal heritage values. Approximately 400 m of the Option 2 haul road was surveyed for Aboriginal heritage values in April 2013. No Aboriginal objects were identified in the subject area at this time.

Approximately 100 m of the 321 m of the accessible portion of Option 1 was also surveyed in April 2013, with no Aboriginal objects being identified in the subject area.

In 2006, an ACHA for environmental assessment of Stage 1 of the Moolarben Coal Project was undertaken and included an investigation area of 34.8 square kilometres (km²) (Hamm 2006a). This area was surveyed using a sampling strategy with effective survey coverage of 1.1%. The assessment identified 222 Aboriginal sites, including isolated artefacts, artefact scatters, rockshelters with artefacts/art, a scarred tree and a grinding groove site (Hamm 2006a). In addition to this, Hamm also identified a number of PADs (Hamm 2006). The assessment noted that concentrations of Aboriginal sites occurred on the Moolarben and Bora Creek alluvial flats and the northern ridges. A series of management and mitigation measures were recommended including the collection of 51 Aboriginal sites, the test excavation and salvage of 43 sites, recording and salvage of three sites and subsidence monitoring and recording of 23 sites.

In response to submissions to the Environmental Assessment for Stage 1, three cultural landscapes were identified by the RAPs including the Bora Creek alluvial flats, the Goulbourn River and the Drip. Revisions were made to the underground plan to reduce impact to a rockshelter site with art (Hamm 2006b).

An area of 37 km² was investigated for Aboriginal heritage values in 2008 as part of the proposed Stage 2 Project (Hamm 2008a). This assessment work identified 258 new Aboriginal sites, 102 isolated artefacts, 150 artefact scatters, 5 rockshelters with artefacts, one grinding groove site, 33 PADs and 4,825 stone artefacts. Aboriginal sites were found to concentrate around the central and southern portion of Murragamba Creek within 100 m of the creek channel, within 100 m of the "Eastern Creek" tributary of Wilpinjong Creek, within 100 m of the headwaters of the Wilpinjong Creek (northern catchment) and the Moolarben Ridge south of Carrs Gap and the Trig station flank of the ridge (Hamm 2008a). Management recommendations included the surface collection of 133 Aboriginal sites, the test excavation and salvage of 34 sites and recording of six sites.

An ACHMP was developed for the initial Stage 1 works in 2008. In the process of actioning the management and mitigation measures, Hamm and Foley (2010) completed test excavations across the Open Cut 1 area and mine infrastructure area. An approximate surface area of 13,700 m² was subject to mechanical exposure (surface scrapes) and 271 m² excavated by hand/shovel testing, resulting in the recovery of 2,643 artefacts and identification of 35 new open artefact sites (Hamm and Foley 2010).

In 2011, AECOM assessed a revision to the Stage 2 Project. The assessment targeted Stage 2 surface facilities, the southern portion of a proposed modified haul road and the south-eastern boundary of an alternative out of pit emplacement location, two rockshelter sites and the Red Hills and Murragamba Creek Management Areas. No additional sites were identified and an updated impact assessment was completed for the proposed works (AECOM 2011b: 1).

In addition to the above work, an additional 16 Aboriginal cultural heritage sites have been documented as the result of various due diligence activities at the Moolarben Coal Complex.

A revised HMP was subsequently approved and implemented to include all of the Stage 1 Project areas and replace the earlier ACHMP for OC 1 and mine infrastructure area. The revised AHMP contained an updated summary of the Moolarben Coal Mine Aboriginal Sites Database (Kuskie 2013c, 2013d, Table 6), which at that time contained a total of 531 Aboriginal sites.

Subsequent work including the Moolarben Coal Project Stage 1 Optimisation Modification (Kuskie 2013d), Moolarben Coal Project Stage 2 utilities realignments (Kuskie 2013e), gap surveys of the OC2 area and due diligence assessments for drilling activities has resulted in an additional 72 sites being recorded since January 2013. The Moolarben Coal Mine Aboriginal Sites Database as current at February 2014 is shown in Table 6. Currently there has been 603 Aboriginal sites identified at the Moolarben Coal Complex. Similar to the Wilpinjong and Ulan Coal Mines, open artefact sites (including artefact scatters and isolated finds) are the most frequent site type with occasional grinding groove sites, ochre quarries, scarred trees and rock shelters with art, artefacts and/or PADs also being present.

Table 6: Summary of Identified Aboriginal Heritage Sites within Stages 1 and 2 of the Moolarben Coal Complex (Source: Moolarben Coal Mine Aboriginal Sites Database as at February 2014)

Aboriginal Site Features	Number of Aboriginal Sites
Artefact Scatter ¹	248
Artefact Scatter and Grinding Grooves	1
Artefact Scatter and PAD	10
Grinding Grooves	2
Grinding Grooves and Artefact Scatter	2
Isolated Find ²	276
Ochre Quarry	1
PAD	9
Rock Shelter with Art	1
Rock Shelter with Art and Artefacts	1
Rock Shelter with Art and Grinding Grooves	1
Rock Shelter with Artefacts ³	23
Rock shelter with PAD	26
Scarred Tree	1
Scarred Tree and Artefact Scatter	1
Total	603

¹ Includes sites recorded as "Open Artefact Site" with greater than 1, or an unspecified number of artefacts

² Includes sites recorded as "Open Artefact Site" with 1 artefact

³ Includes site recorded as "Artefact Shelter/Scatter"

Overall the existing information presents few identifiable limitations, with extensive assessments having been carried out in the vicinity of the subject area, including some previous assessments which overlap the subject area. It is assumed all available and up-to-date information has been assessed and presented in this report, however minor limitations such as unidentifiable AHIMS errors may exist. It is assumed that all relevant cultural knowledge that may have the potential to be harmed by the proposed Modification has been provided by the RAPs during the ACHA consultation process.

10. Predictive Model

As described above, parts of the subject area have previously been surveyed for Aboriginal heritage values on a number of occasions and no Aboriginal sites have been identified. The subject area is situated on simple slopes and ridge crests with gently to moderately inclined slopes and the distance from water is greater than 1 km. Sandstone formations are present. It is therefore anticipated that any evidence of Aboriginal occupation is likely to take the form of rockshelters with art, artefacts or PADs. This landscape would be considered in the current model for the Moolarben, Wilpinjong and Ulan coal mines as outside a primary or secondary resource zone. The occupation will therefore most likely represent transient movement through the landscape for activities such as hunting or gathering and this would be reflected in low counts and densities of Aboriginal sites and artefacts. Any artefacts contained within the rockshelters will most likely be made of locally obtained quartz with infrequent artefacts of tuff or chert. Types of artefacts will most likely be complete or broken flakes with infrequent occurrences of other technologies such as retouched flakes, backed artefacts and other stone tool technologies.

11. Field Methods

Survey Sampling Strategy

Due to the relatively small and accessible size of the subject area, and because the subject area included some parts that were previously surveyed, a detailed landscape or landform sampling strategy was not used. Rather the approach taken was to use a low intensity transect survey across the majority of the subject area, including all those landforms that occur within it.

This approach was considered appropriate given that previous survey efforts in the subject area, and in the immediate vicinity of the subject area, had not identified any Aboriginal objects or areas of cultural value. The approach was discussed with the RAP representatives on site prior to and during the 12 March 2014 survey, and it was agreed that the method employed was appropriate given the low likelihood of Aboriginal objects or areas of cultural value being present. The same survey approach was employed during the 31 July 2014 survey.

Survey Methods

The proposed OC4 haul road Option 1 and Option 2 subject area exists in hilly terrain comprised of simple slopes, ridge crests and first order drainage paths with low to steep slopes. With the exception of the cleared pastures fringing the southern parts of the subject area, the area has seen relatively little recent disturbance, with the exception of occasional vehicle tracks, and some areas where exploration activities have removed undergrowth.

During both the 12 March 2014 and 31 July 2014 survey campaigns, the survey team consisted of five team members (i.e. four representatives of the RAPs and one archaeologist), walking pedestrian transects across the subject area. Because of the small size of the subject area, and the previous findings in the vicinity of the subject area which indicate a low likelihood of Aboriginal objects being present, a low intensity survey was conducted with team member spacing being flexible dependant on terrain conditions. Notwithstanding, the spacing was generally 10 m - 20 m apart. This method retains the potential for discovering large sites on the ground surface through inspection of areas of exposure, and allows conspicuous sites such as rockshelters and scarred trees to be readily inspected by the team. During both the 12 March 2014 and 31 July 2014 surveys all areas of relatively higher exposure were inspected for artefacts, and all potential rockshelters and rock formations were inspected for possible art, occupation and grinding grooves.

The location of survey units and archaeological finds were recorded using a hand-held DGPS, and uploaded directly to a GIS for presentation on maps and figures. All positional recording used Map Grid of Australia (MGA) coordinates (zone 55) based on the Geocentric Datum of Australia (GDA94). Details such as landform, visibility and exposure for each survey unit were recorded on standard survey unit recording forms, with transects being determined based on changes in the landform, as per the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010b). Exposure and visibility were estimated in accordance with the requirements of the *Code of Practice*. A compact digital camera with 7 mega pixel resolution was used for all photography.

Methods of Assessing Heritage Significance

Heritage significance was assessed by considering each cultural or archaeological site against the significance criteria set out in the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

In all cases the assessment of significance was informed by the Aboriginal community, and this is documented in this report. If any culturally sensitive values were identified they would not be specifically included in the report, or made publicly available, but would be documented and lodged with the knowledge holder providing the information.

12. Results

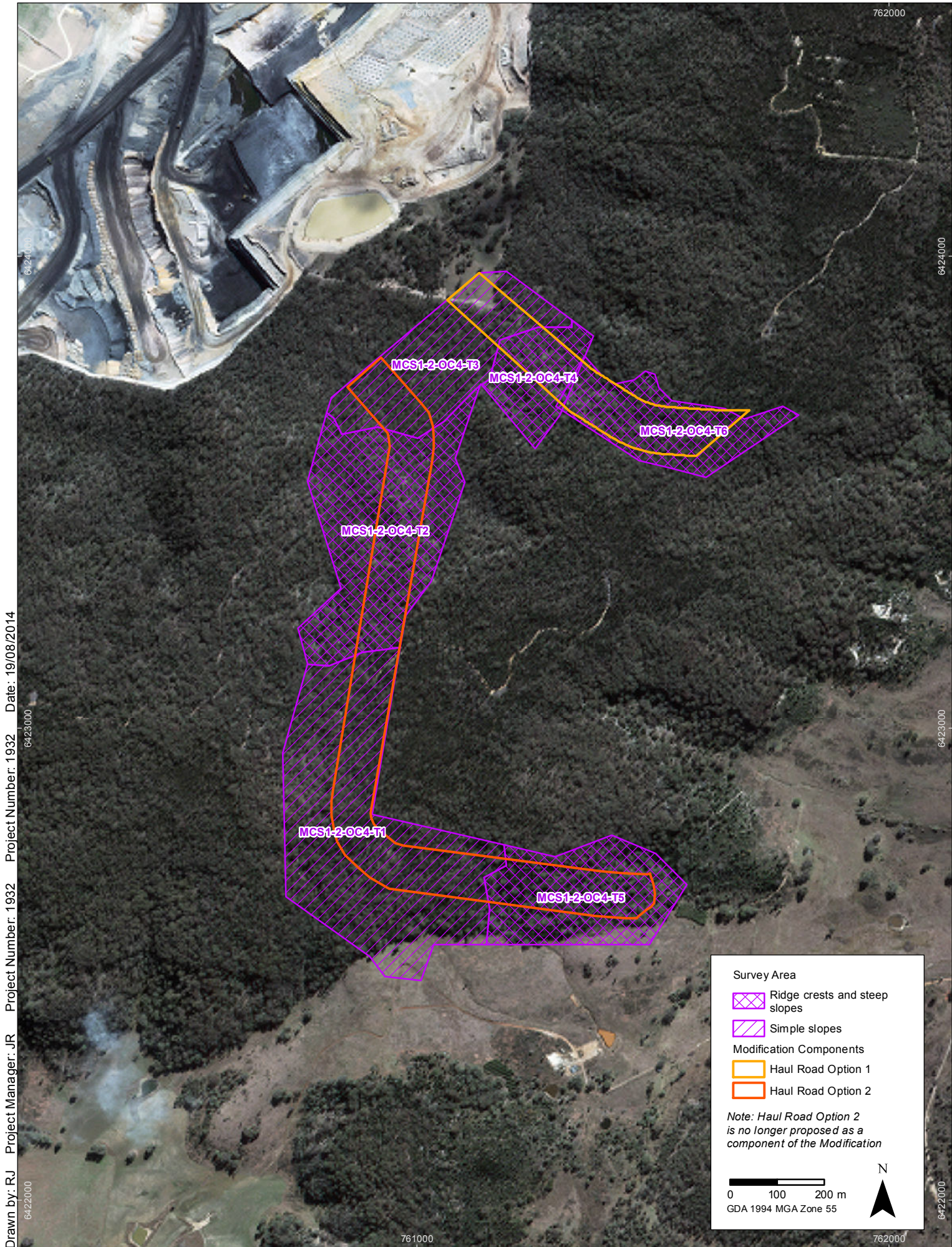
The survey covered the majority of the subject area, and no Aboriginal objects or areas of Aboriginal cultural heritage value were identified during either the 12 March 2014 or 31 July 2014 survey periods. All areas of exposure and areas of archaeological potential observed within the survey transects, such as rockshelters and overhangs, were inspected by the survey team. Whilst on-site, the representatives from the RAPs expressed their satisfaction with the conduct, methods and coverage of the survey. The survey conditions were good with fine weather with no constraints to access. A summary table of the coverage of the survey is outlined below in Table 7, and a summary of the landform areas is provided in Table 8. The survey results are displayed in Figure 4.

Table 7: Survey Coverage Data

Survey Unit	Landform	Survey Unit Area (ha)	Visibility %	Exposure %	Effective Coverage (ha)	Effective Coverage %
Transect 1	Simple slopes	18.14	40	40	2.90	16
Transect 2	Ridge crests and steep slopes	3.56	60	50	1.07	30
Transect 3	Simple slopes	12.46	50	40	2.49	20
Transect 4	Ridge crests and steep slopes	7.71	60	50	2.31	30
Transect 5	Ridge crests and steep slopes	7.36	60	50	2.20	30
Transect 6	Ridge crests and steep slopes	5.79	40	50	1.16	20
<i>Total:</i>		<i>55.02</i>			<i>12.14</i>	<i>22.06</i>

Table 8: Landform Summary Data

Landform	Landform Area	Area Effectively Surveyed	% of landform effectively surveyed	Number of sites	Number of features
Simple slopes	30.60	5.39	18	0	0
Ridge crests and steep slopes	24.42	6.75	28	0	0
<i>Total:</i>	<i>55.02</i>	<i>12.14</i>			



Landforms and Survey Results
Moolarben Haul Road ACHA

FIGURE 4

Imagery: (c) YanCoal 2013-08-12

Simple Slopes

Transects 1 and Transect 3 covered the simple slope landform. This landform was characterised by low relief slopes with slope gradients of less than 10 degrees. The soils encountered in this landform were loose, coarse siliceous soils with low fertility. The landform was generally heavily treed with cypress pine and eucalyptus, with a clear understorey, possibly due to cattle grazing. Rock outcrop was an occasional feature, and where observed formed distinctive inversion of relief with tor-like structures being present. All proposed disturbance areas (parts of Option 1 and Option 2 haul road corridors, and the Mine Water Dam wall [which is no longer a component of the Modification]) within this landform were surveyed (Figure 4).

Due to a lack of terrain differentiation on this landform (there are no drainage lines for example), and based on the results of this and previous survey results, the landform is considered to have low archaeological potential. Plate 1 shows an example of this landform.

Plate 1. Example of the Simple slopes landform (Source: Niche)



Ridge Crests and Steep Slopes

Transect 2, Transect 4, Transect 5 and Transect 6 covered the ridge crests and steep slopes landform. This landform was characterised by steep slopes (gradients greater than 10 degrees, but highly variable above this) and ridge crests, and occasional low cliffs. Where they were present the soils were loose and skeletal, but frequently the ground surface was either stone rubble, or bare rock surfaces at rock outcrops, which were very frequent and consisted of tor like structures and boulders.

All of the disturbance footprint within this landform was covered by the survey, in addition, such features have been extensively surveyed previously in the immediate area, and the results of these surveys do not suggest these ridge features are of more sensitivity than the remainder of the ridge crests and steep slopes landform that have been subject to systematic survey.

The landform is well vegetated, generally with eucalypts and shrubs/bushes. Overall this landform is generally steep and rocky terrain. Where boulders and outcrop formed potential shelters these were inspected, but generally the areas under shelter were small. Due to the ruggedness of this landform, and the lack of large shelter formations (which may have made the landform more attractive for habitation or use to Aboriginal people in the past) this landform is determined to have low archaeological potential. Plate 2 shows an example of the ridge crests and steep slopes landform.

Plate 2. Example of the Ridge crests and steep slopes landform (Source: Niche)



13. Analysis and Discussion

The subject area was characterised by the predictive model as being likely to contain only the sparse archaeological traces of transient movement through the area by Aboriginal people in the past. The main reasons for this were:

- ❑ Distance greater than 1 km from water;
- ❑ Outside of a primary or secondary resource zone based on current models of Aboriginal past land use for the Moolarben, Wilpinjong and Ulan coal mine areas; and
- ❑ Steep, rocky terrain that may contain shelter deposits.

A survey of the majority of the subject area was conducted. Some small areas were not surveyed, however this is not considered a notable constraint as the current survey and previous surveys have concluded the local area is of low archaeological potential and cultural value. Given the low archaeological potential the surveyed areas provide an adequate sample from which to confidently extrapolate their results to the small portions of land not directly surveyed. The survey achieved a good level of effective survey coverage, and inspected all features, such as potential rockshelters, boulders and tor like structures that were present within the subject area for evidence of past Aboriginal land use.

The survey also inspected all areas of ground surface exposure that were encountered, as these areas are most likely to reveal any Aboriginal stone objects that may be present. Despite skeletal soils and good exposure and visibility conditions no Aboriginal objects were found by the survey.

The survey results are in line with the expectations of the predictive model, and are commensurate with the results of previous surveys that have overlapped with the subject area, and previous surveys in areas adjacent to the subject area, which have generally not found any Aboriginal objects or areas of Aboriginal cultural heritage value, or have found only low numbers of Aboriginal objects.

14. Scientific Values and Significance Assessment

The *Burra Charter* (Australia ICOMOS 1999) defines the basic principles and procedures to be observed in the conservation of important places. It provides the primary framework within which decisions about the management of heritage sites in Australia should be made. The *Burra Charter* defines cultural significance as being derived from the following values:

Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use.

Historic Value

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section.

A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

Scientific Value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information.

Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group.

Other Approaches

The categorisation into aesthetic, historic, scientific and social values is one approach to understanding the concept of cultural significance. However, more precise categories may be developed as understanding of a particular place increases.

The NSW DECCW guidelines for the significance assessment of Aboriginal archaeological sites are contained within the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (DEC 1997). The Kit identifies with two main streams in the overall significance assessment process: the assessment of cultural/social significance to Aboriginal people and the assessment of scientific significance to archaeologists.

This approach encapsulates those aspects of the Burra Charter that are relevant to Aboriginal archaeological sites. The guidelines specify the following criteria for archaeological significance, as paraphrased below:

Research Potential

It is the potential to elucidate past behaviour which gives significance under this criterion rather than the potential to yield collections of artefacts. Matters considered under this criterion include - the intactness of a site, the potential for the site to build a chronology and the connectedness of the site to other sites in the archaeological landscape.

Representativeness

As a criterion, representativeness is only meaningful in relation to a conservation objective. Presumably all sites are representative of those in their class or they would not be in that class. What is an issue is the extent to which a class of sites is conserved and whether the particular site being assessed, should be conserved in order to ensure that we retain a representative sample of the archaeological record as a whole. The conservation objective which underwrites the 'representativeness' criteria is that such a sample should be conserved.

Rarity

This criterion cannot easily be separated from that of representativeness. If a site is 'distinctive' then it will, by definition, be part of the variability which a representative sample would represent. The criteria might best be approached as one which exists within the criteria of representativeness, giving a particular weighting to certain classes of site. The main requirement for being able to assess rarity will be to know what is common and what is unusual in the site record but also the way that archaeology confers prestige on certain sites because of their ability to provide certain information.

The criterion of rarity may be assessed at a range of levels: local, regional, state, national, and global.

Educational Potential

Heritage sites and areas should be conserved and managed in relation to their value to people. It is assumed that archaeologists have the ability to speak of the value of sites to members of their own profession. Where archaeologists or others carrying out assessments are speaking for the educational value of sites to the public, the onus is on them to go to the public for an assessment of this value, or to reputable studies which have canvassed public demand for education. The danger, otherwise, is that archaeologists would be projecting their values onto a public which is itself given no voice on the matter.

Aesthetics

Archaeologists are not expected to include an assessment of aesthetic significance along with their assessment of scientific significance. In relation to heritage places, aesthetic significance is generally taken to mean the visual beauty of the place. Aesthetic value is not inherent in a place, but arises in the sensory response people have to it.

Although the guidelines provide no expectation for archaeologists to consider *aesthetic values* it is often the case that a site's or a landscape's aesthetic is a significant contributory value to significance. Examples of archaeological sites that may have high aesthetic values would be rock art sites, or sites located in environments that evoke strong sensory responses. For this reason we consider it appropriate to include aesthetic values as part of the significance assessment below.

Assessment of Significance

The assessment of significance has been completed in consideration of previous assessments, as well as the contemporary survey and assessment.

The subject area contains no identified Aboriginal objects or areas of identified Aboriginal cultural heritage value. The subject area is concluded to be unlikely to contain Aboriginal objects or areas of Aboriginal cultural heritage value, and is therefore concluded to have low Aboriginal heritage significance.

Archaeological Value

The archaeological value of this site is considered to be low due to there being no identified Aboriginal objects within the subject area, and to the conclusion of this and previous assessments which conclude the area has low potential to contain Aboriginal archaeological or cultural heritage sites.

Cultural Value

There were no specific areas or places of cultural value identified during the survey for the Modification. However, previous assessments have identified and documented cultural values for the Moolarben Coal Complex area, including:

- ❑ Archaeological sites having contemporary cultural value because they provide a tangible link to the traditional past (Kuskie 2013a: 59).
- ❑ The presence of flora and fauna species with known traditional uses (Kuskie 2013a: 59).
- ❑ The area of Moolarben Ridge to the south of Carrs Gap having contemporary cultural value to the Wiradjuri community (Hamm 2008b, Kuskie 2013a). The Modification would not affect this area or these values.
- ❑ The area along the Goulburn River known as “The Drip” (approximately 8 km north of the subject area) is considered to have high cultural value as the sites represent easily identified material remains and the area is ceremonially important (Hamm 2006a). The Modification would not affect this area or these values.

Social Value

For the reasons described above the Moolarben Coal Complex area has social value to the Wiradjuri community. It is also noted that Aboriginal people who are not Wiradjuri have identified a social and cultural connection to the place (Kuskie 2013a: 59).

Historic Value

Owing to its small size the subject area is not considered to be important to the cultural or natural history of the local area and/or region and/or state.

Scientific (Archaeological) Value

The subject area does not have potential to yield information that would contribute to a further understanding of the cultural or natural history of the local area and/or region and/or state. The subject area contains no identified Aboriginal objects, and this and previous assessments have concluded Aboriginal objects are unlikely to occur.

Aesthetic Value

Owing to its small size the subject area is not important in demonstrating aesthetic characteristics in the local area and/or region and/or state.

15. Impact Assessment

A detailed surface survey was undertaken within the subject area, covering the majority of the subject area and focussing on areas of visibility and areas of potential sensitivity, such as ground surface exposures and rock formations that may have formed rockshelters suitable for art or habitation. No Aboriginal objects were identified, and none are considered to be likely to occur within the subject area. The subject area is deemed to have low archaeological potential.

Because no Aboriginal objects or areas of cultural heritage value have been identified within the subject area it is concluded that the proposed OC4 haul road Modification (regardless of which haul road route is ultimately selected) will have no impact on known Aboriginal cultural heritage values.

The original proposed OC4 haul road would have impacted a single Aboriginal archaeological site (AECOM 2011a: Appendix B, p.8); both Option 1 and Option 2 for the proposed modification to the OC4 haul road will not impact any identified Aboriginal objects. At the time of finalisation of this report, Option 1 is the preferred haul road option.

16. Management and Mitigation Measures

The proposed activity will not harm any known Aboriginal objects or cultural heritage values, and is located in an area of low Aboriginal archaeological potential. In addition to this, as described above, the Modification will result in a reduced ground disturbance footprint compared to the original proposed OC4 haul road, and will not harm any known Aboriginal objects (the original OC4 haul road proposal would have harmed 1 Aboriginal archaeological site). As such, the Modification supports, albeit within the context of a much larger development, the principles of *ecological sustainable development* and *inter-generational equity* described and recommended in the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

Nevertheless, MCO should ensure that the proposed works proceed as planned, and remain within the assessed boundaries of the subject area. The emergency response procedures described in the HMP should be implemented to manage the low residual risk of Aboriginal objects being identified during the further design and construction of the OC4 haul road Modification.

17. Recommendations

There were no Aboriginal objects or areas of cultural heritage value identified within the subject area, however the following recommendations are made:

1. For the 280 m area of Option 1 that was not surveyed, MCO should implement the following procedures³:
 - a. In locations with Aboriginal heritage potential where impacts are proposed that may involve significant ground disturbance, but heritage survey sampling has not occurred to a level consistent with the OEH requirements, MCO will engage an appropriately qualified and experienced archaeologist to conduct a detailed archaeological survey and recording of those locations, in consultation with the RAPs, prior to any impacts occurring.
2. For any previously unrecorded open artefact sites identified by Recommendation 1⁴:
 - a. Where feasible, MCO will seek to redesign the proposed works such that impacts are minimised or avoided to the heritage evidence;
 - b. Where the site is assessed as being of low significance and impacts cannot be avoided, following detailed recording of the evidence, impacts will be permitted to occur without further action;

³ It is noted that additional detailed archaeological survey work was undertaken on 31 July 2014 for haul road route Option 1 to cover the area of land that was previously inaccessible during the 12 March 2014 surveys. This recommendation is therefore no longer relevant. However, as this recommendation was reviewed by the RAPs during the draft ACHA review period this recommendation has been footnoted rather than removed to maintain consistency between the draft version and final version of this report.

⁴ This recommendation remains relevant for any previously unrecorded open artefact sites identified during surface disturbance works.

- c. Where the site is assessed as being of low to moderate, or moderate significance, and impacts cannot be avoided, following detailed recording of the evidence, the Environment and Community Relations Manager of MCO will determine in consultation with a heritage expert the extent of proposed impacts, and where impacts are substantial, the evidence within the impact area will be subject to surface collection before impacts are permitted to occur. Where the consensus agreement of MCO and the RAPs is reached, additional mitigation measures, such as surface scrapes and/or hand excavation, may be implemented for evidence within the impact area. Where the impacts are determined to be minimal, impacts will be permitted to occur without further action; and
- d. Where the site is assessed as being of moderate to high, or high significance, and impacts cannot be avoided, following detailed recording of the evidence, the Environment and Community Relations Manager of MCO will determine in consultation with a heritage expert the extent of proposed impacts, and where impacts are substantial, the evidence within the impact area will be subject to surface collection and any other mitigation measures, such as surface scrapes and/or hand excavation, as determined by the consensus agreement of MCO and the RAPs before impacts are permitted to occur. Where the impacts are determined to be minimal, impacts will be permitted to occur after the evidence within the impact area has been subject to surface collection. In the event that consensus agreement cannot be reached between MCO and the RAPs about the mitigation strategy, the Environment and Community Relations Manager of MCO will determine that strategy in consultation with a heritage expert, but it will as a minimum involve surface collection of the evidence.

3. For any previously unrecorded open grinding groove sites identified by Recommendation 1⁵:
 - a. Where feasible, MCO will seek to redesign the proposed works such that impacts are minimised or avoided to the heritage evidence;
 - b. Where the site is assessed as being of low, low to moderate, or moderate significance and impacts cannot be avoided, following detailed recording of the evidence and use-wear and residue analysis, impacts will be permitted to occur without further action; and
 - c. Where the site is assessed as being of moderate to high, or high significance, following detailed recording of the evidence and use-wear and residue analysis, the Environment and Community Relations Manager of MCO will determine in consultation with a heritage expert the extent of proposed impacts. Where impacts are substantial, the evidence will be subject to any mitigation measures, such as removal of the sandstone slab hosting the grooves and subsequent display for educational purposes, as determined by the consensus agreement of MCO and the RAPs before impacts are permitted to occur. In the event that consensus agreement cannot be reached between MCO and the RAPs about the mitigation strategy, the Environment and Community Relations Manager of MCO will determine that strategy in consultation with a heritage expert. Where the impacts are determined to be minimal, impacts will be permitted to occur without further action.
4. For any previously unrecorded rockshelters identified by Recommendation 1⁶:
 - a. MCO will seek to redesign the proposed works such that impacts are minimised or avoided to the heritage evidence;

⁵ This recommendation remains relevant for any previously unrecorded grinding groove sites identified during surface disturbance works.

⁶ This recommendation remains relevant for any previously unrecorded rock shelters identified during surface disturbance works.

- b. Where the site is assessed as being of low to moderate, or moderate significance, and impacts cannot be avoided, following detailed recording of the evidence, where the consensus agreement of MCO and the RAPs is reached, the site will be subject to test excavation and consideration of further mitigation measures (salvage excavation). In the event that consensus agreement cannot be reached between MCO and the RAPs about the mitigation strategy, the Environment and Community Relations Manager of MCO will determine that strategy in consultation with a heritage expert; and
 - c. Where the site is assessed as being of moderate to high, or high significance, and impacts cannot be avoided, it will be subject to test excavation and any other mitigation measures, such as salvage excavation by hand, as determined by the consensus agreement of MCO and the RAPs before impacts are permitted to occur. In the event that consensus agreement cannot be reached between MCO and the RAPs about the mitigation strategy, the Environment and Community Relations Manager of MCO will determine that strategy in consultation with a heritage expert, but it will as a minimum involve test excavation of the shelter.
5. For any other previously unrecorded site types (i.e. site types other than open artefact scatters, grinding grooves and rockshelters) identified by Recommendation 1⁷:

⁷ This recommendation remains relevant for any other previously unrecorded site types during surface disturbance works.

- a. MCO will seek to redesign the proposed works such that impacts are minimised or avoided to the heritage evidence. Where avoidance of impacts is not feasible, the Environment and Community Relations Manager of MCO will determine an appropriate mitigation strategy in consultation with a heritage expert and with the consensus agreement of the RAPs. In the event that consensus agreement cannot be reached between MCO and the RAPs about the mitigation strategy, the Environment and Community Relations Manager of MCO will determine that strategy in consultation with a heritage expert. Where the site is assessed as being of moderate to high, or high significance, and impacts are substantial, some form of mitigation will be implemented before impacts are permitted to occur.
6. MCO should implement emergency response procedures for the unexpected discovery of Aboriginal objects during design and construction activities for the Modification:
 - a. With the exception of skeletal material, where the newly identified heritage evidence may be subject to impacts, MCO will engage an appropriately qualified and experienced archaeologist to undertake a detailed archaeological recording of the evidence and assess the significance of the evidence in consultation with the RAPs, assess the nature of the proposed impacts, and provide advice on appropriate management strategies consistent with the approved MCO HMP Stage 1; and
 - b. If human skeletal material is identified, all work in the area of the material will cease immediately and notification and protection procedures will be implemented.
 7. That the approved MCO AHMP Stage 1 (or other relevant contemporary heritage management plan [i.e. the complex wide Heritage Management Plan required by Project Approval 08_0135]) is updated to include the extent of the Modification and the management of Aboriginal heritage values within it.
 8. MCO should continue to liaise with the RAPs throughout the design and construction activities for the Modification.

18. References

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19. Glossary

Term	Definition
Aboriginal Cultural Heritage	The tangible (objects) and intangible (dreaming stories, legends and places) cultural practices and traditions associated with past and present day Aboriginal communities.
Aboriginal Object(s)	The legal definition for material Aboriginal cultural heritage under the <i>National Parks and Wildlife Act 1974</i> .
Aboriginal Stakeholders	Members of a local Aboriginal land council, registered holders of Native Title, Aboriginal groups or other Aboriginal people who may have an interest in the project.
Archaeology	The scientific study of human history, particularly the relics and cultural remains of the distant past.
Archaeological Deposit	A layer of soil material containing archaeological remains.
Archaeological Investigation	The process of assessing the archaeological potential of an impact area by a qualified archaeologist.
Archaeological site	A site with material evidence of past Aboriginal or non-Aboriginal activity in which material evidence (artefacts) of past activity is preserved.
Artefact	An object made by human agency (e.g. stone artefacts).
Assemblage	<ol style="list-style-type: none"> 1. A group of stone artefacts found in close association with one another. 2. Any group of items designated for analysis - without any assumptions of chronological or spatial relatedness.
Avoidance	A management strategy which protects Aboriginal sites within an impact area by avoiding them totally in development.
Borehole	A hole produced in the ground by drilling for the investigation and assessment of soil and rock profiles.
Catchment	The area from which a surface watercourse or a groundwater system derives its water.
Cumulative Impacts	Combination of individual effects of the same kind due to multiple actions from various sources over time.
Development	The operations involved in preparing a mine for extraction, including cutting roadways and headings. Also includes tunnelling, sinking, crosscutting, drifting, and raising.
Drainage	Natural or artificial means for the interception and removal of surface or subsurface water.
Ephemeral	Existing for a short duration of time.
Exploration	The work done to prove or establish the extent of the coal resource.
Flake	A piece of stone detached from a core, displaying a bulb of percussion and striking platform.
Harm	With regard to Aboriginal objects this has the same meaning as the <i>National Parks and Wildlife Act 1974</i> .
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment.
Impact Area	An area that requires archaeological investigation and management assessment.
In situ	Latin words meaning 'on the spot, undisturbed'.
Isolated Find	A single artefact found in an isolated context.
Landscape Character	The aggregate of built, natural and cultural aspects that make up an area and provide a sense of place. Includes all aspects of a tract of land – built, planted and natural topographical and ecological features.
Land Unit	An area of common landform, and frequently with common geology, soils and vegetation types, occurring repeatedly at similar points in the landscape over a defined region. It is a constituent part of a land system.
Landform	Any one of the various features that make up the surface of the earth.

Term	Definition
Management Plans	Conservation plans which identify short and long term management strategies for all known sites recorded within a (usually approved) project area.
Methodology	The procedures used to undertake an archaeological investigation.
Minimum Requirements	The minimum standard of which NPWS will accept the reporting of an archaeological investigation.
Mitigation	To address the problem of conflict between land use and site conservation.
Open Camp Site	An archaeological site situated within an open space (e.g. archaeological material located on a creek bank, in a forest, on a hill, etc.).
PAD	Potential archaeological deposit. A location considered to have a potential for subsurface archaeological material.
Site Recording	The systematic process of collecting archaeological data for an archaeological investigation.
Site	A place where past human activity is identifiable.
Spatial Significance	A site which may contain potential sub-surface deposits or in situ material useful in the analysis of human use of land and site formation process.
Survey Coverage	A graphic and statistical representation of how much of an impact area was actually surveyed and therefore assessed.
Tributary	A river or stream flowing into a larger river or lake.

Appendix I Consultation Log

Date	Organisation/Person Contacted	How Contacted	Contacted By	Nature of Consultation
4/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd, Aleisha Lonsdale and Warranha Ngumbaay	Email	Moolarben Coal	Email to RAPs to invite them to the information session on Tuesday 11 March 2014.
5/3/2014	Craig McConnell	Email	Moolarben Coal	Email to RAPs to invite them to the information session on Tuesday 11 March 2014.
11/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd	In person	Moolarben Coal	Attendance at information session.
11/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd	In person	Moolarben Coal	Attendees at information session provided with a hard copy of the proposed methodology.
12/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd, Aleisha Lonsdale and Warranha Ngumbaay	Email/Post	Moolarben Coal	Email to all RAPs following the information session providing a copy of the proposed methodology (and covering letter) and information session presentation. Raps who didn't attend information session posted a hard of the proposed methodology.
12/3/2014 13/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd	In person	Moolarben Coal	Attendance at field surveys on Wednesday 12 and Thursday 13 March 2014.
12/3/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd	Email	Moolarben Coal	Email to thank the RAPs for their attendance at the field surveys.
7/5/2014	Mudgee LALC, Warrabinga Native Title Claimants Aboriginal Corporation, Murong Gialinga Aboriginal & Torres Strait Islander Corporation, North East Wiradjuri Company Ltd, Aleisha Lonsdale, Craig McConnell and Warranha Ngumbaay	Post	Moolarben Coal	Draft ACHA and covering letters posted to all RAPs for their review and comment.
8/5/2014	Warranha Ngumbaay	Email	Moolarben Coal	Email to Warranha to provide an electronic copy of the draft ACHA and covering letter and to confirm that a hard copy had been posted to her.

Date	Organisation/Person Contacted	How Contacted	Contacted By	Nature of Consultation
9/5/2014	NC01	Email	Moolarben Coal	Email to NC01 providing a copy of the draft ACHA and covering letter for their review and comment, and a copy of the proposed methodology and information session presentation for their records.
12/5/2014	NC01	Post	Moolarben Coal	A copy of the draft ACHA and covering letter was posted to NC01 for their review and comment, and a copy of the proposed methodology and information session presentation for their records.
26/5/2014	Moolarben Coal	Email	Craig McConnell	Craig provided comments on the draft ACHA.
5/6/2014	Moolarben Coal	Email	Murong Gialinga Aboriginal & Torres Strait Islander Corporation	Murong Gialinga Aboriginal & Torres Strait Islander Corporation provided comments on the draft ACHA.
6/6/2014	Moolarben Coal	Email	NC01	NC01 provided comments on the draft ACHA.
10/6/2014	Moolarben Coal	Email	Warrabinga Native Title Claimants Aboriginal Corporation	Warrabinga Native Title Claimants Aboriginal Corporation provided comments on the draft ACHA.
13/6/2014	NC01	Email	Moolarben Coal	Moolarben Coal emailed NC01 a copy of the Proposed Methodology and a covering letter explicitly providing 28 days to review the Proposed Methodology.
13/6/2014	NC01	Post	Moolarben Coal	Moolarben Coal posted NC01 a copy of the Proposed Methodology and a covering letter explicitly providing 28 days to review the Proposed Methodology.
17/6/2014	NC01	Meeting	Moolarben Coal	Meeting held between Moolarben Coal and NC01 as requested.
18/6/2014	North East Wiradjrui Company Ltd	Post	Moolarben Coal	An additional copy of the draft ACHA was provided to North East Wiradjrui Company Ltd as requested.
23/6/2014	NC01	Email	Moolarben Coal	NC01 contacted to confirm approach to presenting their comments and registered group name in the ACHA report.
24/6/2014	Moolarben Coal	Email	NC01	NC01 emailed to confirm their satisfaction with the proposed approach to referring to their group as NC01 throughout the report, including an explanatory footnote and blacking-out the identifying details in their correspondence.

Appendix 2 Copies of Comments on Draft Report

WARRABINGA

Native Title Claimants Aboriginal Corporation

DN: 2972 Incorporated in the Corporations (Aboriginal and Torres Strait Islander) Act 2006
PO BOX 282
MUDGEES NSW 2850
FAX: 02 4627 8633
MAIL: INFO@WARRABINGA.COM.AU



Moolarben Coal
Attn: Donna Whillock
Cultural Heritage Officer
Locked Bag 2003
Mudgee NSW 2850

10 June 2014

Mrs Whillock,

RE: Comment on Moolarben Coal Mine – OC4 South-West Modification Draft Aboriginal Cultural Heritage Assessment

Below you will find our comments for the Aboriginal Cultural Heritage Assessment completed by Niche Environment and Heritage for the Moolarben Coal Mine OC4 South-West Modification dated May 2014.

Warrabinga have reviewed the report prepared by Niche Environment and Heritage and whilst we can see that it will in the main meet all regulatory requirements we are of the opinion that it has aspects that can be improved. The first area of improvement relates the provision of more detailed and referenced maps so an accurate understanding of the areas stated in Section 1 paragraphs 2 and 3 can be understood in context. Further we note that there are two options identified for the haul road yet there is no preferred option identified, are we to assume that both haul roads are to be built.

Could you also please confirm whether the “pipeline network” mentioned in Section 4 is proposed to be contained wholly within the Haul Road Easement (90m wide) or are they proposed for separate routes and therefore are not currently adequately assessed.

We note that two Aboriginal sites are known to be located to the south east of the proposed Mine Water Dam (Figure 3). Yet those two sites do not appear to receive any specific consideration in the report. We have concerns that the placement of the mine water dam in the present location will make inundation of these two sites easier to justify in the future. Without further more specific details in relation to these two sites we are unable to indicate any level of agreement or endorsement of the proposed works.

It is critical that these documents contain sufficient information for a person unfamiliar with the project to gain an appreciation of the project and understand what is being asked for. How can we be expected to seek input from our senior people in relation to these areas and what is being proposed when this is unclear in the report.

WARRABINGA

Native Title Claimants Aboriginal Corporation

CN: 2972 Incorporated in the Corporations (Aboriginal and Torres Strait Islander) Act 2006
PO BOX 282
MUDGEE NSW 2850
FAX: 02 4627 8633
MAIL: INFO@WARRABINGA.COM.AU



We also are unable to understand how some of the visibility and exposure percentages specified in Table 7 can be accurate. We assume that Plates 1 and 2 document the typical conditions in their respective Survey Units and as such we certainly do not agree with visibility and exposure percentage to the levels specified in the report. By overstating the Visibility and Exposure percentages it has the effect of making the effective survey coverage appear higher and therefore has the effect of making the results of the survey appear more legitimate. I would suggest that visibility and exposure percentage in the order of 10-20% would be more in keeping with the area surveyed.

There is a question over Moolarben Coal Mines ability to respond to any queries raised in relation to the methodology. If the period for comment was 11/3/2014 to 8/4/2014 as stated Section 5 then how is it that the survey could be conducted on 12/3/2014. I would suggest to you that the reason you received no comment was because there was no reason bothering drafting a letter when clearly it could not be considered, as Moolarben Coal Mine had already undertaken the works which were supposed to be subject to comment. This is not the first time that Moolarben Coal Mine has been found to have not completed their consultation appropriately. I believe that it speaks to a corporate culture within Moolarben Coal Mine where Aboriginal cultural heritage is not treated with the respect it deserves. There is no genuine willingness to engage and consult with the Aboriginal community only a willingness to tick a box and be seen to have complied with a process.

Warrabinga requests that our comments be addressed in the report and that a further round of consultation be undertaken once these comments have been addressed. At this stage we do not believe that the report provided sufficient detail for us to reach a position supporting the proposed works.

Should you wish to have a meeting to discuss the issues we have raised please coordinate this with our office via email (info@warrabinga.com.au)

Regards,

A handwritten signature in blue ink that reads "per Lance". The signature is written in a cursive style.

Lance Syme
Director

[REDACTED]

06 June 2014

Moolarben Coal
C/- Donna Whillock
Cultural Heritage Officer,
Locked Bag 2003
Mudgee NSW 2850.

Re: Moolarben - OC4 South-West Modification - Draft ACHA

Dear Ms. Whillock,

We thank you for your invitation to provide a response for This Aboriginal Cultural Heritage issue relevant to obligations to protect our Heritage within our Traditional Lands. [REDACTED] represents fourteen traditional families with identified apical ancestry pre European occupation with our known Traditional Lands. We know our culture, country and continue with our association with our traditional lands.

[REDACTED] objects to any other non-traditional aboriginal organizations or people taking part in site surveys, consultation and assessments within our defined traditional lands. These non-traditional people and groups are outsiders under Traditional Lore and have no right to advise on or to be present during consultation or site visits as they do not possess the specific traditional knowledge in relation to these lands or sites. These participants may be indigenous and may live locally however this still does not give them the right to disregard Traditional Lore and values.

[REDACTED] has been established as a Prescribe Body Corporation to represent and administer our Native Title for the Claimants. Our charter is to protect Aboriginal culture and our heritage on our country and our aim is to work with all relevant parties to achieve our objectives. [REDACTED] as officially taken responsibility of all Culture and Heritage within our Traditional Lands from Gallangabang Aboriginal Corporation as of 22nd May 2010.

[REDACTED] is supportive of any efforts to provide facilities for the community at large within our Traditional Lands, where it **does not significantly impact on cultural artefacts, heritage sites, the environment including water sources and the sub-terrain water table, endangered or threatened species of flora or fauna** and provided Proponents have consulted with [REDACTED] and negotiated an agreed outcome in relation to our cultural, heritage and environmental concerns which Moolarben have not [REDACTED] as Registered Native Titles Claimants were not involved nor Consulted in any Heritage aspects at Moolarben Coal from 2010 to present day and this is contrary to the Native Title Act and Consultation Guidelines and is therefore constitutes an illegal act by Moolarben Coal and its parent company Yancoal.

On behalf of the [REDACTED] We formally object as a Traditional Owner Group with interest over this Mining Lease and wider lands were not involved in nor consulted at any time in the drafting of this Aboriginal Cultural Heritage Assessment report.

[REDACTED] representatives have not been consulted in person nor onsite and a mutual agreement has not been reached and therefore we **strongly object** to the entire project.

It is as Traditional owners that [REDACTED] **cannot support** this Aboriginal Cultural Heritage report by Moolarben Coal **as it will significantly impact on cultural artefacts, heritage sites, the environment including water sources and the sub-terrain water table, endangered or threatened species of flora or fauna.**

[REDACTED] does not object to our details being given to OEH, however [REDACTED] do not wish you to advise any other organization of our interest to this project.

We trust our response meets your requirements. Please contact [REDACTED] Directors should you require our assistance to address any Aboriginal issues to support your future plans.

Yours sincerely,

[REDACTED]

[REDACTED]

Subject: FW: draft acha

From: Murong Gialinga [<mailto:muronggialinga@hotmail.com>]
Sent: Thursday, 5 June 2014 9:05 PM
To: Donna Whillock
Subject: RE: draft acha

Hello Donna we are replying to the Draft Aboriginal Cultural Heritage Assessment for OC4. After reading the draft we would like to recommend that all the areas be thoroughly surveyed and the rock shelters be Monitored For Impact and Subsidence all Aboriginal stakeholders be involved with the monitoring
Regards Larry Foley Chairperson Murong Gialinga

From: Donna.Whillock@yancoal.com.au
To: muronggialinga@hotmail.com
Subject: draft acha
Date: Mon, 2 Jun 2014 23:01:35 +0000

Good morning all,

You would have by now received a copy of the Draft Aboriginal Cultural Heritage Assessment for the Moolarben Coal Mine OC4 South-West Modification for your review and comment (sent 7 May 2014).

Please note that the closing date for the provision of comments and feedback (either in writing or verbally) on the draft report is **5.00pm Friday 6 June 2014**. All comments received by that date will be taken into consideration (and appended in full) in the finalisation of the assessment.

To provide any comments on the draft ACHA, please don't hesitate to send me an email (Donna.Whillock@yancoal.com.au) or a hard copy letter (Locked Bag 2003 Mudgee NSW 2850 Australia).

Regards,

Donna

Donna Whillock | CULTURAL HERITAGE OFFICER

Moolarben Coal Operations Pty Ltd

SITE: 4250 Ulan Road, Ulan NSW 2850
POSTAL: Locked Bag 2003 Mudgee NSW 2850 Australia
PHONE: 02 6376 1403
FAX: +61 2 6376 1599
MOBILE: N/A
EMAIL: Donna.Whillock@yancoal.com.au
WEBSITE: www.moolarbencoal.com.au



Craig McConnell
6 Wanda Crescent Mudgee N.S.W. 2850

26 May 2014

In reply to: Moolarben Coal Mine- OC4 South West Modification Draft Aboriginal Cultural Heritage Assessment

Mr Mark Jacobs
C/- Donna Whillock
Moolarben Coal
General Manager, Environment, Approvals & Community Relations

Dear Mr Jacobs:

I thank Moolarben Coal for the opportunity to comment on the proposed Modifications to OC4 South-West Aboriginal Cultural Heritage Assessment. Due to work & family commitments I have not been involved in this process to date, & an apology is in order from me. Therefore my comments must be solely based on the information provided by the Report Supplied to me By Moolarben Coal, Dated 7th May 2014.

From the Draft report I can summarise there will less Environmental Impacts, Improved water Management, & The Cultural Heritage Survey of the subject area found no Aboriginal objects or areas of Aboriginal Cultural Significance. The report states the reps from the RAPs have expressed their satisfaction with the Methodology of the site survey. I am Pleased with the Reference to Historical survey data, the fact that the proposed Modifications will not impact any Identified Aboriginal objects, or Significant sites in the surrounding areas, & the Quantity & Quality of the Report.

I have no objections or Amendments, from the information provided, to the Moolarben Coal Mine OC4 South-West Modifications Aboriginal Cultural Heritage Assessment.

Craig McConnell

Appendix 3 AHIMS Search Results

NSW Office of Environment & Heritage		AHIMS Web Services (AWS)				Your Ref Number : 3932 Moolarben Client Service ID : 124265				
Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-0134	Murrumbidgee No.1	AGD	SS	761300	6421170	Closed site	Valid	Art (Pigment or Engraving) :-	Shelter with Art	
	Contact	Recorders		Warren Bluff				Permits		
36-3-0060	Ulan Creek Site 10	AGD	SS	760215	6426006	Open site	Valid	Artifact :-	Open Camp Site	361,1299
	Contact	Recorders		Ms Lalla Haglund				Permits		
36-3-0016	Ulan Murrumbidgee	AGD	SS	760796	6421957	Closed site	Valid	Art (Pigment or Engraving) :-	Shelter with Art	1299
	Contact	Recorders		Bred McCarthy				Permits		
36-3-0043	SIMC301	AGD	SS	758993	6424099	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-0044	SIMC302	AGD	SS	758886	6423700	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-0045	SIMC40	AGD	SS	760441	6421958	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0046	SIMC41	AGD	SS	760384	6421732	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0047	SIMC42	AGD	SS	760408	6421838	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0048	SIMC43	AGD	SS	760558	6421874	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0049	SIMC44	AGD	SS	760550	6421657	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0050	SIMC45	AGD	SS	760592	6421721	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0051	SIMC46	AGD	SS	760547	6421941	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0052	SIMC47	AGD	SS	760637	6422033	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0053	SIMC48	AGD	SS	760569	6421916	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0054	SIMC49	AGD	SS	760543	6422069	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0055	SIMC50	AGD	SS	760340	6422126	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0056	SIMC51	AGD	SS	760434	6422195	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		

Report generated by AHIMS Web Service on 06/02/2014 for Clare Anderson for the following area at Datum :GDA, Zone : 55, Eastings : 750739 - 762000, Northings : 6420970 - 6426639 with a Buffer of 0 metres. Additional Info :arch assessment. Number of Aboriginal sites and Aboriginal objects found is 117
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Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-0057	SIMC52	AGD	SS	760422	6422175	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0058	SIMC53	AGD	SS	759942	6422062	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0059	SIMC54	AGD	SS	760966	6421764	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0060	SIMC55	AGD	SS	760964	6421902	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0061	SIMC56	AGD	SS	760936	6421882	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0062	SIMC57	AGD	SS	760906	6421882	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-1041	SIMC225	AGD	SS	761752	6425007	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-1042	SIMC226	AGD	SS	761726	6426232	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-1043	SIMC227	AGD	SS	761825	6426206	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-1044	SIMC228	AGD	SS	762428	6426370	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-1045	SIMC229	AGD	SS	762430	6426375	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-1059	SIMC243	AGD	SS	762310	6424601	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-0798	SIMC1	AGD	SS	760670	6424444	Open site	Valid	Modified Tree (Carved or Scarred) :- 1		
	Contact	Recorders		Mr Giles Hamon				Permits		
36-3-0799	SIMC2	AGD	SS	760040	6424339	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-0800	SIMC3	AGD	SS	760046	6424309	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	
36-3-0801	SIMC4	AGD	SS	760046	6424307	Open site	Valid	Artifact : 1		
	Contact	Recorders		Mr Giles Hamon				Permits	3439	

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Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-0802	S1MC05	AGD	SS	760867	6424306	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0803	S1MC06	AGD	SS	760890	6424301	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0804	S1MC07	AGD	SS	760867	6424294	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0805	S1MC08	AGD	SS	760548	6424002	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0806	S1MC09	AGD	SS	760508	6424018	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0807	S1MC10	AGD	SS	760645	6424006	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0808	S1MC11	AGD	SS	760924	6423968	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0809	S1MC12	AGD	SS	760933	6423948	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0810	S1MC13	AGD	SS	761054	6423910	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0811	S1MC14	AGD	SS	761050	6423907	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0812	S1MC15	AGD	SS	761252	6425269	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0813	S1MC16	AGD	SS	761168	6425107	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0814	S1MC17	AGD	SS	760997	6425271	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0815	S1MC18	AGD	SS	759777	6425026	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0816	S1MC19	AGD	SS	759786	6425012	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0817	S1MC20	AGD	SS	759816	6425028	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0818	S1MC21	AGD	SS	760294	6425214	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								

Report generated by AHIMS Web Service on 06/02/2014 for Clare Anderson for the following area at Datum: GDA, Zone : 55, Eastings : 750739 - 762000, Northings : 6420978 - 6426639 with a Buffer of 0 metres. Additional Info : arch assessment. Number of Aboriginal sites and Aboriginal objects found is 117
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NSW Office of Environment & Heritage		AHIMS Web Services (AWS)				Your Ref Number : 3932 Moolarben Client Service ID : 124265				
Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-0819	S1MC22	AGD	SS	760297	6425216	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0820	S1MC23	AGD	SS	760269	6425239	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0954	PAD 8 Moolarben Coal	AGD	SS	761478	6421053	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0955	PAD 9 Moolarben Coal	AGD	SS	761552	6421040	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0956	PAD 10 Moolarben Coal	AGD	SS	761551	6421051	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0957	PAD 11 Moolarben Coal	AGD	SS	761426	6420964	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0958	PAD 12 Moolarben Coal	AGD	SS	761318	6420832	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0821	S1MC24	AGD	SS	760514	6425250	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0822	S1MC25	AGD	SS	761802	6425783	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0823	S1MC26	AGD	SS	761766	6425183	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0824	S1MC27	AGD	SS	761828	6425100	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0825	S1MC28	AGD	SS	761627	6425002	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0826	S1MC29	AGD	SS	761619	6424707	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0827	S1MC30	AGD	SS	761135	6424559	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								
36-3-0828	S1MC31	AGD	SS	761132	6424567	Open site	Valid	Artefact : 1		
Contact										
Recorders		Mr Giles Hamon								

Report generated by AHIMS Web Service on 06/02/2014 for Clare Anderson for the following area at Datum: GDA, Zone : 55, Eastings : 750739 - 762000, Northings : 6420978 - 6426639 with a Buffer of 0 metres. Additional Info : arch assessment. Number of Aboriginal sites and Aboriginal objects found is 117
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SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-0829	S1MC212	AGD	SS	761124	6424585	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0830	S1MC233	AGD	SS	761125	6424584	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0831	S1MC254	AGD	SS	761128	6424583	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0832	S1MC235	AGD	SS	761125	6424584	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0833	S1MC236	AGD	SS	761255	6424616	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0834	S1MC237	AGD	SS	761256	6424618	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0835	S1MC250	AGD	SS	761279	6424617	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0836	S1MC239	AGD	SS	761280	6424620	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0837	PAD 1 Moolarben Coal	AGD	SS	761452	6424581	Mr Giles Hamon	Open site	Valid	Potential Archaeological Deposit (PAD) : 1	Permits : 3439
	Contact	Recorders								
36-3-0838	PAD 2 Moolarben Coal	AGD	SS	761265	6423444	Mr Giles Hamon	Open site	Valid	Potential Archaeological Deposit (PAD) : 1	Permits : 3439
	Contact	Recorders								
36-3-0839	PAD 3 Moolarben Coal	AGD	SS	761265	6423392	Mr Giles Hamon	Open site	Valid	Potential Archaeological Deposit (PAD) : 1	Permits : 3439
	Contact	Recorders								
36-3-0840	S1MC298	AGD	SS	759258	6423654	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0841	S1MC299	AGD	SS	759331	6423850	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-0842	S1MC280	AGD	SS	759071	6423798	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-1143	S1MC286	GDA	SS	762426	6426370	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 101600
	Contact	Recorders								

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SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-1144	S1MC287	GDA	SS	762110	6421138	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-1145	S1MC288	GDA	SS	761997	6421905	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2602	S2MC262	GDA	SS	762104	6421992	Mr Giles Hamon	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2657	S2MC266	GDA	SS	762632	6423366	South East Archaeology	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2660	S1MC255	GDA	SS	760344	6422239	Mr Peter Kuski/ South East Archaeology	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2661	S1MC256	GDA	SS	760362	6421794	Mr Peter Kuski/ South East Archaeology	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2662	S1MC257	GDA	SS	760253	6422144	Kayandol Archaeological Services/ Mr Bridget Walker	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2607	S1MC225	GDA	SS	760137	6423587	South East Archaeology	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2653	S2MC270	GDA	SS	762243	6423241	South East Archaeology	Open site	Valid	Artefact : 1	Permits : 3439
	Contact	Recorders								
36-3-2608	S1MC226	GDA	SS	759832	6422848	South East Archaeology	Open site	Valid	Potential Archaeological Deposit (PAD) : -	Permits : 3439
	Contact	Recorders								
36-3-2609	S1MC227	GDA	SS	759841	6422853	South East Archaeology	Open site	Valid	Potential Archaeological Deposit (PAD) : -	Permits : 3439
	Contact	Recorders								
36-3-2610	S1MC228	GDA	SS	759847	6422847	South East Archaeology	Open site	Valid	Artefact : -	Permits : 3439
	Contact	Recorders								
36-3-2611	S1MC229	GDA	SS	760119	6422761	South East Archaeology	Open site	Valid	Potential Archaeological Deposit (PAD) : -	Permits : 3439
	Contact	Recorders								
36-3-2612	S1MC230	GDA	SS	760097	6422739	South East Archaeology	Open site	Valid	Potential Archaeological Deposit (PAD) : -	Permits : 3439
	Contact	Recorders								

Report generated by AHIMS Web Service on 06/02/2014 for Clare Anderson for the following area at Datum: GDA, Zone : 55, Eastings: 758739 - 762000, Northings: 6420978 - 6426639 with a Buffer of 0 metres. Additional Info : arch assessment. Number of Aboriginal sites and Aboriginal objects found is 117
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Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-2613	21MC531	GEDA	SS	760943	6421283	Open site	Valid	Artefact :-		
	Contact									
	Recorders									
36-3-2633	21MC551	GEDA	SS	761070	6421070	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	Contact									
	Recorders									
36-3-2634	21MC552	GEDA	SS	761168	6421080	Open site	Valid	Potential Archaeological Deposit (PAD) :-		
	Contact									
	Recorders									
36-3-0222	Moolarben Creek MCI	AGD	SS	766420	6420920	Open site	Valid	Artefact :-	Open Camp Site	
	Contact									
	Recorders									
36-3-0223	MCI	AGD	SS	766420	6420880	Open site	Valid	Artefact :-	Open Camp Site	
	Contact									
	Recorders									
36-3-0691	CB-15-IP	AGD	SS	761205	6425777	Open site	Valid	Artefact : 1		
	Contact									
	Recorders									
36-3-0703	CB-27-IP	AGD	SS	758686	6425350	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0704	CB-28-IP	AGD	SS	758674	6425280	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0705	CB-29-IP	AGD	SS	758745	6425257	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0706	CB-30-IP	AGD	SS	758769	6425190	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0707	CB-31-IP	AGD	SS	759498	6425055	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0708	CB-32-IP	AGD	SS	760009	6425477	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-0709	CB-33-IP	AGD	SS	760010	6425593	Open site	Valid	Artefact : 1	2531	
	Contact									
	Recorders									
36-3-1273	22MC217	GEDA	SS	762552	6422517	Open site	Valid	Artefact : 1		101603
	Contact									
	Recorders									
36-3-1377	22MC230	GEDA	SS	762763	6423968	Open site	Valid	Artefact : 1		101603
	Contact									
	Recorders									
36-3-1378	22MC231	GEDA	SS	762203	6423681	Open site	Valid	Habituation Structure :- Artefact : 31		101603

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Extensive search - Site list report										
SiteID	SiteName	Datum	Zone	Eastings	Northings	Contact	Site Status	SiteFeatures	SiteTypes	Reports
36-3-1208	22MC261	GEDA	SS	762172	6421977	Open site	Valid	Artefact : 51		101603
	Contact									
	Recorders									
36-3-1209	22MC262	GEDA	SS	762104	6421992	Open site	Valid	Artefact : 67		101603
	Contact									
	Recorders									
36-3-1402	Identifier 91.T10 to 11	GEDA	SS	760234	6426304	Open site	Destroyed	Modified Tree (Carved or Scarred) :-		
	Contact									
	Recorders									
36-3-1403	Identifier 92.T12	GEDA	SS	759813	6426292	Open site	Destroyed	Modified Tree (Carved or Scarred) :-		
	Contact									
	Recorders									
36-3-1382	22MC237	GEDA	SS	761302	6421217	Open site	Valid	Artefact : 1		101603
	Contact									
	Recorders									
36-3-1383	22MC238	GEDA	SS	761752	6420984	Open site	Valid	Artefact : 104		101603
	Contact									
	Recorders									
36-3-1384	22MC239	GEDA	SS	761953	6421041	Open site	Valid	Artefact : 3		101603
	Contact									
	Recorders									

Report generated by AHIMS Web Service on 06/02/2014 for Clare Anderson for the following area at Datum: GDA, Zone: 55, Eastings: 758739 - 762000, Northings: 6420978 - 6426639 with a Buffer of 0 meters. Additional Info : arch assessment. Number of Aboriginal sites and Aboriginal objects found is 117

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