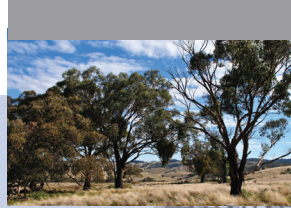


APPENDIX J

ABORIGINAL ARCHAEOLOGY AND CULTURAL HERITAGE ADDENDUM





Moolarben Coal Project

14 December 2011

Moolarben Preferred Project Report

Aboriginal Archaeological and Cultural Heritage Addendum



AECOM

Moolarben Coal Project
Moolarben Preferred Project Report

Moolarben Preferred Project Report

Aboriginal Archaeological and Cultural Heritage Addendum

Prepared for
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Prepared by

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Moolarben Coal Project
Moolarben Preferred Project Report

Quality Information

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Executive Summary

AECOM Australia Pty Ltd (AECOM) was commissioned on behalf of Moolarben Coal Mines Pty Limited (MCO) (the Proponent) to undertake an Aboriginal Cultural Heritage assessment for the Moolarben Coal Stage 2 Preferred Project (PPR). This assessment is an addendum to the Aboriginal Cultural Heritage Assessment report prepared for the Stage 2 EA by Archaeological Risk Assessment Services (ARAS) and authored by Giles Hamm (2008) (Project Area). As such, it does not contain environmental, ethnographic and historical background information. The reader is referred to the ARAS report. The management recommendations in this report, however, replace those proposed in the aforementioned report.

The purpose of this assessment is to form part of a Preferred Project Report (PPR) being prepared by Hansen Bailey to support the application for Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to facilitate the development of a 24-year open cut and underground coal mine and associated infrastructure and integration with the existing Stage 1 operations (Figure 1).

An Aboriginal Heritage Management System (AHIMS) search was undertaken for the Project Boundary and a buffer of approximately 500 m on 16 November 2011. The search returned 262 archaeological sites identified by Hamm (Archaeological Risk Assessment Services 2008b) as part of the Stage 2 EA, as well as 144 sites identified as part of the Stage 1 EA. Sites identified during Stage 1 have only been addressed in this report where they are impacted by the Preferred Project (n=10). The balance of the sites are managed through the existing approvals and Stage 1 Aboriginal Heritage Management Plan (Archaeological Risk Assessment Services 2008a).

Some discrepancies were identified between the Archaeological Risk Assessment Services and the data in AHIMS, probably due to the transposition of digits in the co-ordinates during data entry. These inconsistencies were investigated and resolved, where possible. In total, 471 sites have been identified within or adjacent to the Project Boundary.

Additional field survey was undertaken by AECOM archaeologists Luke Kirkwood and Dr Susan Lampard on 7 and 8 November 2011 to confirm the findings of Hamm (2008). The survey was targeted to areas where impacts have been modified and had not previously been surveyed by ARAS (2008). The areas were:

- Stage 2 Surface Facilities;
- Southern portion of the modified Haul Road; and
- South eastern boundary of the Out of Pit Emplacement.

In addition the following areas/sites were visited to validate their significance, heritage values and/or the proposed management measures:

- Site S2MC231 – Rock overhang within the Northern Out of Pit Emplacement (Northern OOP) area;
- Site S2MC229 – Rock shelter adjacent to Open Cut 4 (OC4);
- The Red Hills Management Area; and
- The Murragamba Creek Management Area.

The survey did not identify additional sites, but did identify the Stage 2 Surface Facilities area as an area of high archaeological potential. It is recommended that archaeological test excavations and salvage, where required, be undertaken in accordance with the Aboriginal Heritage Management Plan (AHMP) to be developed.

The additional field appraisal also confirmed the Management Areas as being of high archaeological significance and as being suitable areas for protection.

A further site inspection was undertaken on 13 December 2011 to address inconsistencies between AHIMS data and information provided on site cards.

An updated archaeological impact assessment was undertaken for the 471 identified sites within the Project Area. The Preferred Project will directly impact 148 sites and indirectly impact 8 sites. This represents 15 additional sites to be affected by the Preferred Project to that described in the Stage 2 EA for the original proposal. These include 13 sites of low significance, one medium and one high. Conversely, 29 sites which were proposed to be affected within the Project Boundary will now remain in situ as part of the Preferred Project. This includes 15 sites of low significance, seven medium and seven high. A further 315 sites, identified in surrounding areas, will not be

impacted by the project. Of these, 62 will be conserved within four Management Areas. As part of the Preferred Project, therefore, a total of 14 fewer sites are proposed to be disturbed.

Management recommendations suitable to the nature and significance of the sites have been provided in Table 6, Table 7 and Table 8. An extended set of management recommendations for rock shelter S2MC231, which is directly impacted by the Northern OOP has been formulated and is provided in Section 6.0.

1.0 Introduction

1.1 Project Background and Description

AECOM Australia Pty Ltd (AECOM) was commissioned on behalf of Moolarben Coal Mines Pty Limited (Moolarben Coal Operations - MCO) (the Proponent) to review the Aboriginal Cultural Heritage assessment for the Moolarben Coal Stage 2 Project (Stage 2) and provide additional assessment associated with proposed project changes for the Preferred Project (Project). This assessment is an addendum to the Aboriginal Cultural Heritage Assessment report prepared for the EA by Archaeological Risk Assessment Services and authored by Giles Hamm (2008). As such, it does not contain environmental, ethnographic and historical background information. The reader is referred to the ARAS report. The management recommendations in this report, however, replace those proposed in the aforementioned report. New management measures are also recommended for 10 Stage 1 sites proposed for impact by the Preferred Project.

1.2 Project Location

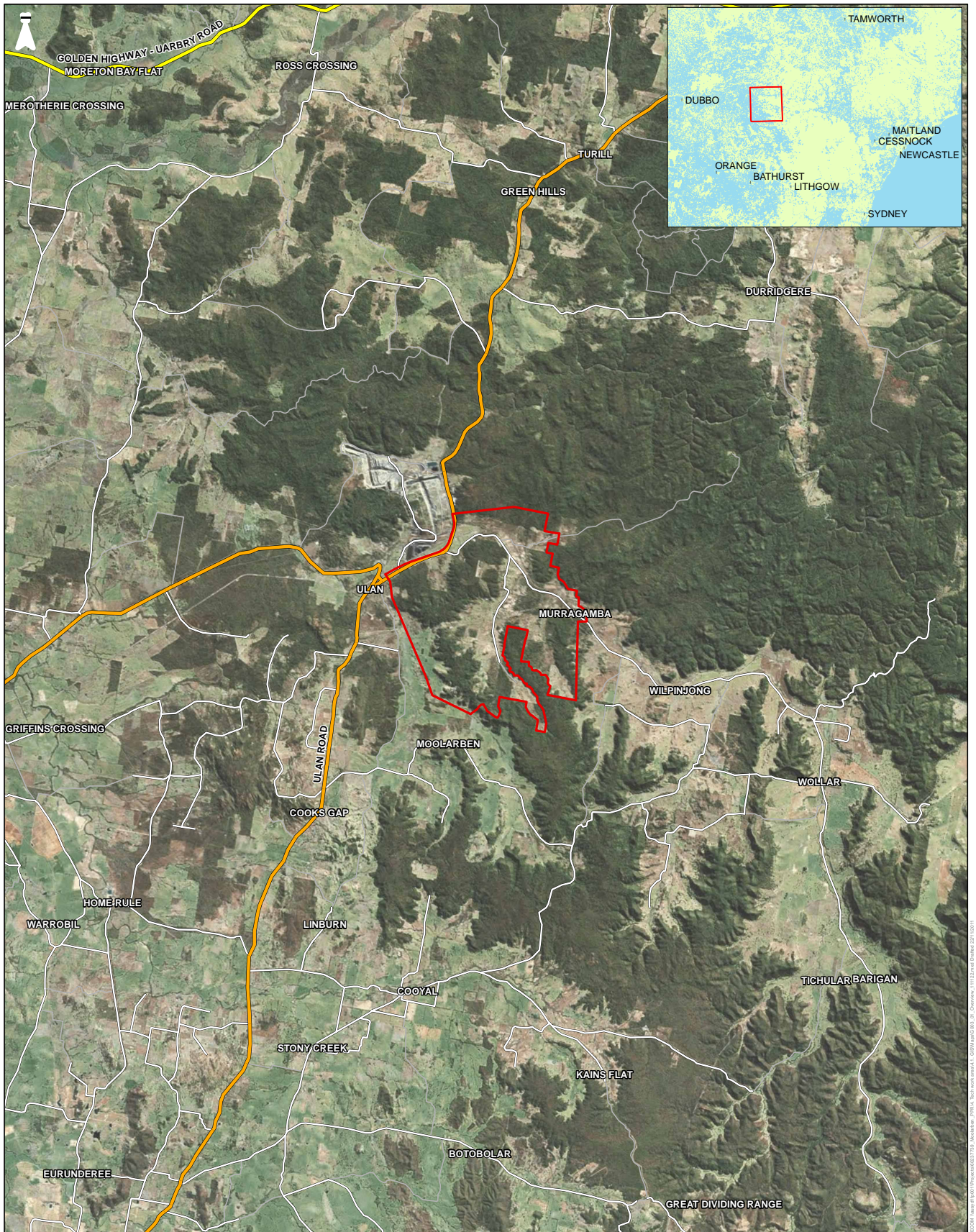
The Project area is located 40 km north east of Mudgee, 2 km east of Ulan and east of and adjacent to the existing Moolarben Stage 1 Project (see Figure 1) within Exploration Lease 6288. The Project area is boarded by the Stage 1 Project to the west, Goulburn River National Park to the north, the Wilpinjong Coal Mine to the east and Munghorn Gap Nature Reserve to the south.

1.3 Project Description

The purpose of this assessment is to form part of a Preferred Project Report (PPR) being prepared by Hansen Bailey to support the application for Project Approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to facilitate the development of a 24-year open cut and underground coal mine and associated infrastructure and integration with the existing Stage 1 operations (Figure 2).

Specifically, the Preferred Project will consist of:

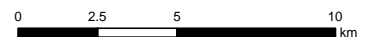
- The construction and operation of an open cut (OC) mining operation (OC4) extracting up to 12 Million tonnes per annum (Mtpa) Run of Mine (ROM) coal and up to 13 Mtpa combined rate with the Stage 1 open cuts;
- The construction and operation of two underground (UG) mining operations (UG1 and UG2) extracting up to 4 Mtpa ROM coal cumulative with the Stage 1 underground;
- The construction and operations of the Stage 2 ROM coal facility;
- Extension of the life of the Stage 1 Coal Handling and Preparation Plant (CHPP) to Year 24 of Stage 2 and increased throughput of up to 17 Mtpa (13 Mtpa open cut and 4 Mtpa underground);
- The development of the Northern Out Of Pit (OOP) emplacement area;
- The construction and operation of two conveyors and associated facilities between the Stage 2 ROM coal facility and Stage 1 CHPP;
- The construction and operation of a Mine Access Road;
- The construction and operation of administration, workshop and related facilities;
- The partial relocation of Murragamba and Eastern Creeks;
- The construction and operation of water management infrastructure; and
- The installation of supporting power and communications infrastructure.



- Stage 2 project boundary
- Principal Road
- Secondary Road
- Minor Road
- Track

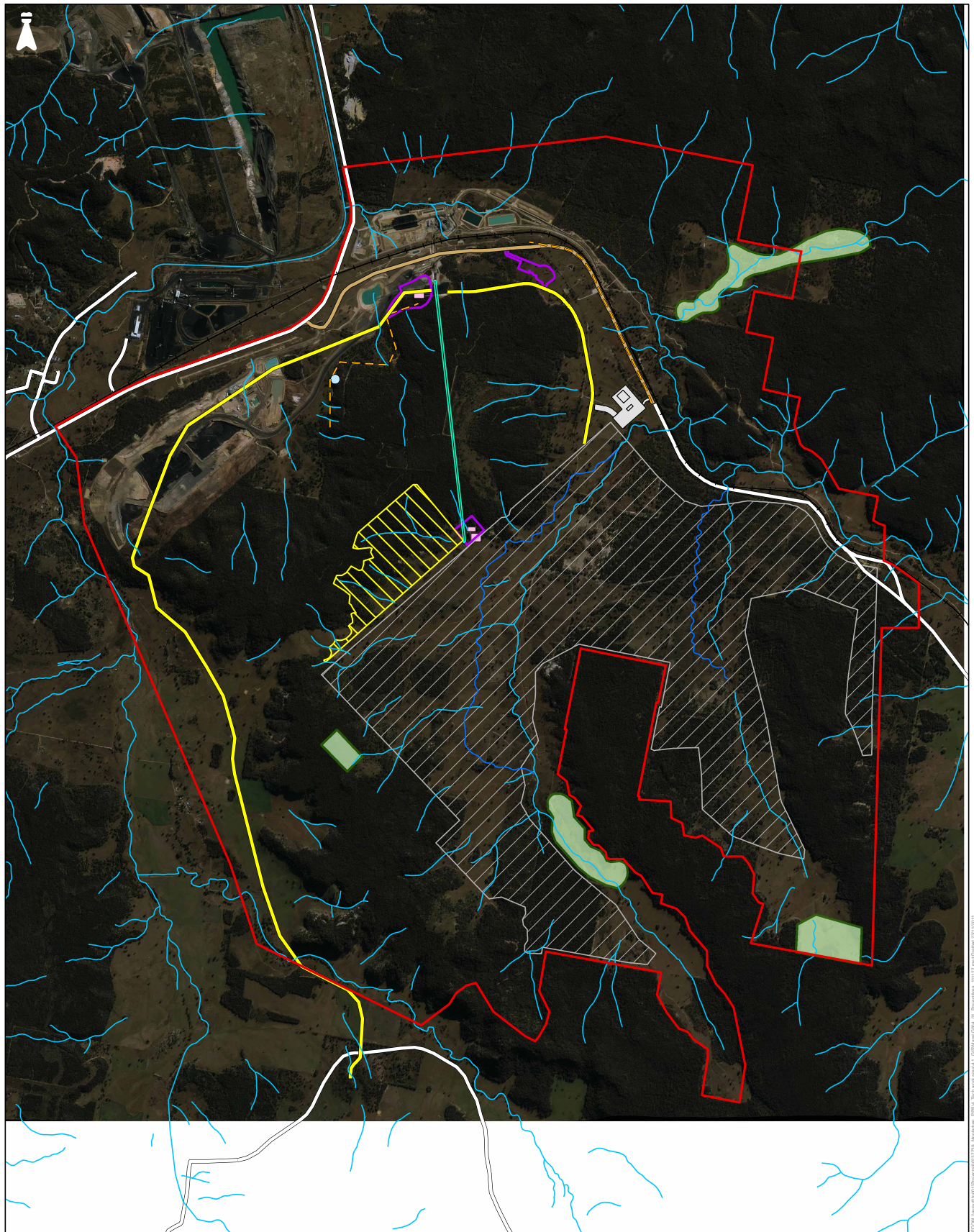
MOOLARBEN STAGE 2 PREFERRED PROJECT Location

Source: Hansen Bailey, 2011



22 NOV 2011
60237739

Fig. 1



- | | | |
|---|--|---|
| Stage 2 Project Boundary | Conveyor | ROM pad |
| Creek re-alignments | Proposed Ulan Wollar diversion | ROM stockpile |
| Drainage lines | Relocated powerlines | Rejects bin |
| Haul road | Open Cut 4 | Dump station |
| Roads | Out of Pit | Watertank |
| Railway | Conservation zones | Surface facilities |

MOOLARBEN STAGE 2 PREFERRED PROJECT
Moolarben stage 2 preferred project boundary and proposed facilities
 Source: Hansen Bailey, 2011



23 NOV 2011
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Fig 2

2.0 Methodology

2.1 Updated AHIMS Search

Due to the length of time that has elapsed since Hamm undertook his survey in 2008, an updated AHIMS search was lodged for the Project Boundary with a buffer of approximately 500 m on 16 November 2011. The purpose of this revised AHIMS search was to confirm the current status and validity of archaeological sites recorded by Hamm in 2008 and also identify whether additional sites had been recorded for the Project Area both prior to and post the 2008 assessment. The Project Boundary for Stage 2 incorporates the Stage 1 area and sites identified during Stage 1 have only been addressed in this report where they are impacted by the PPR. The balance of the sites, including those mapped within areas of Stage 1 impacts, are managed through the existing approvals and Aboriginal Heritage Management Plan (Archaeological Risk Assessment Services 2008a).

2.2 Survey

Additional field survey was undertaken by AECOM archaeologists Luke Kirkwood and Dr Susan Lampard on 7 and 8 November 2011. AECOM field staff were escorted by Moolarben Coal Mines Environmental Coordinator Klay Marchant. The scope of the survey was to reinspect sites previously assessed by Hamm (ARAS 2008) and determine whether additional areas of impact required full reassessment. Given the extensive previous survey and community consultation process/feedback for the PPR, no registered Aboriginal stakeholders were required for the subsequent field reappraisal of selected sites. The survey was targeted to areas where impacts have been modified and had not previously been surveyed by Hamm (2008). The areas were:

- Stage 2 Surface Facilities;
- Southern portion of the modified Haul Road; and
- South eastern boundary of the Out of Pit Emplacement.

Property access was not available to the Powers Management Area, the northern section of the Haul Road or the Stage 2 ROM Coal Facilities during the survey. As the latter two areas have not previously been surveyed, it is recommended this be undertaken prior to commencement of works and is to be included within the AHMP.

Ground surface visibility during the survey was between 10% and 20% throughout the majority of the survey areas. Areas of surface exposure were therefore identified via vehicle transects and targeted for intensive pedestrian survey.

In addition the following areas/sites were visited to validate their significance, heritage values and/or the proposed management measures:

- Site S2MC231 – Rock overhang within the Northern Out of Pit Emplacement (Northern OOP) area;
- Site S2MC229 – Rock shelter adjacent to Open Cut 4 (OC4);
- The Red Hills Management Area; and
- The Murragamba Creek Management Area.

The rock shelter and rock overhang (S2MC229 and 231) were visited and the following details were collected:

- GPS (Global Positioning System) location referenced to the Geocentric Datum of Australia (GDA94) co-ordinate system;
- Width of the shelter (with maximum and minimum widths if appropriate);
- Height of roof and secondary roof, if present;
- Breadth of shelter to main and secondary roof, if present;
- Minimum depth of deposit;
- Number of artefacts visible and raw material; and
- Shelter aspect (direction facing).

Where additional archaeological sites were located during the course of the field survey the following details were collected:

- GPS (Global Positioning System) location referenced to the Geocentric Datum of Australia (GDA94) co-ordinate system;
- Number of artefacts visible and raw material; and
- Landform (see Table 1).

Table 1 Landform elements identified in the Project area

Landform Element	Description
Hilltop/Ridge	Landform that stands above all, or almost all, points in the adjacent terrain.
Upper-slope	Slope element adjacent below a crest.
Mid-slope	Slope element lying between the upper-slope and lower-slope.
Lower-slope	A waning slope, below a mid-slope and above a footslope.
Flat	A planar landform that is neither a crest nor a depression and is level or very gently inclined (less than 3% tangent approximately).
Creek line	The channel of a creek/watercourse.

2.3 Site Inspection

An additional half day site inspection was undertaken on 13 December 2011 by AECOM archaeologists Dr Susan Lampard and Rochelle Coxon. AECOM field staff were escorted by Keith Simpkin, sub-contractor to Moolarben Coal. The purpose of the inspection was to appraise two AHIMS (ID# 36-3-0287/36-3-0720 and 36-3-0695) sites recorded as containing art within an open site. The sites were located using the GPS co-ordinates and a pedestrian survey undertaken in an attempt to locate the art.

2.4 Community Consultation

The consultation log previously conducted for the Stage 2 EA heritage assessment can be found in Appendix A and the associated correspondence in Appendix B.

The original Aboriginal stakeholder engagement program for the Stage 2 EA was conducted in accordance with the draft Guidelines for *Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC 2005) and the *Interim Community Consultation Requirements for Applicants* (DEC 2004). Following its release in April 2010, consultation for the Preferred Project has been conducted in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010).

All registered stakeholder groups who were consulted as part of the Stage 2 EA were consulted in relation to the Preferred Project. Wellington Valley Wiradjuri Aboriginal Corporation (WVWAC) were not registered during the consultation for the State 2 EA however did register an interest after this time and have been included in all consultation since registering.

A list of all Aboriginal stakeholder groups consulted with as part of the Preferred Project is presented in Table 2.

A letter was sent to all registered stakeholders on the 22 March 2011 providing details of the activities associated with the Preferred Project and seeking comments on the proposed changes. Following this, an invitation to a meeting at site was issued in relation to the Preferred Project with 10 stakeholders attending on 7 April 2011.

The meeting was to provide a background to the Stage 2 EA and the need for the Preferred Project, identify potential impacts to items of Aboriginal heritage and outline suggested management and mitigation measures as well as providing Aboriginal stakeholders with a forum to raise any issues they may have.

One written comment was received in relation to the impacts of Aboriginal heritage items associated with the Preferred Project. Murong Gialinga Aboriginal and Torres Strait Islander Corporation requested that sites S2MC231 and S2MC111 be excavated during the surface collection salvage to determine if there are archaeological deposits associated with these sites.

Table 2 Aboriginal Stakeholder Groups

Ref	Aboriginal Stakeholder Group
1	Mudgee Local Aboriginal Land Council
2	Murong Gialinga Aboriginal and Torres Strait Islander Corporation
3	Secretary (Warrabinga)
4	Member (North East Wiradjuri)
5	Wellington Valley Wiradjuri Aboriginal Corporation

A further letter was sent to all five registered Aboriginal stakeholders on 10 May 2011 confirming the potential impacts to all sites to be impacted at the MCC as a result of the PPR. The letter also addressed Murong Gialinga Aboriginal and Torres Strait Islander Corporation's comments indicating that sites S2MC231 and S2MC111 will be excavated and noted that these works will be detailed in an AHMP which would be developed in consultation with the Aboriginal community following the grant of Project Approval.

All groups were requested to provide any additional comments regarding the content of the letter however no further comments were received.

2.5 Significance Assessment

This report reassesses the scientific significance of items within the Project Boundary using the following principals.

Heritage sites and places hold value for different communities in a variety of different ways. As recently highlighted by Smith and Bourke (2007:227), one of the primary responsibilities of cultural heritage practitioners is to determine which heritage sites and places are worthy of preservation and management (and why) and, conversely, which are not (and why). This, by necessity, requires an assessment of relative cultural significance.

In Australia, the primary guide to the assessment of cultural significance is the *Australian ICOMOS Charter for the Conservation of Places of Cultural Significance* (Australia ICOMOS 1999), informally known as the *Burra Charter*, which defines it as the "aesthetic, historic, scientific, social or spiritual value for past, present or future generations" of a site or place. With respect to Aboriginal sites and places, it is possible to identify two major streams in the overall significance assessment process: the assessment of scientific significance by archaeologists and the assessment of cultural or social significance to Aboriginal people.

2.5.1 Scientific Significance

Scientific value refers to the contribution that the heritage resource (i.e. an Aboriginal site or archaeological distribution) can make to knowledge and understanding of the past. It is assessed according to the rarity, representativeness or research potential of a site. These factors are inter-related. The degree to which the heritage resource can contribute to knowledge is summed up in the notion of significance. Significance increases according to the degree of research potential and rarity of a site or area.

Levels of Scientific Significance

To adequately assess significance, evidence is required which includes information about the presence of subsurface deposits, integrity of these deposits, nature of site contents and extent of the site. A review of information about previously recorded sites within the local area and region enables the rarity and representativeness of a site to be assessed.

- **High significance** is usually attributed to sites, which are so rare or unique that the loss of the site would affect our ability to understand aspects of past Aboriginal use/occupation for an area. In some cases a site may be considered highly significant because its type is now rare due to destruction of the archaeological record through development.
- **Moderate significance** can be attributed to sites that provide information on an established research question or on the basis of moderate rareness.
- **Low significance** is attributed to sites that cannot contribute new information about past Aboriginal use/occupation of an area. This may be due to site disturbance or the nature of the site's contents.

Research Potential

Research potential or demonstrated research importance is considered according to the contribution that a heritage site can make to present understanding of human society and the human past. Heritage sites, objects or places of high scientific significance are those that provide an uncommon opportunity to inform us about the specific age of people in an area, provide a rare glimpse of artistic endeavour or provide a rare chronological record of changing life through deep archaeological stratigraphy.

The capacity of a site to address research questions is predicated on a definition of what the key research issues are for a region. For example, in the Hunter Valley and surrounding districts, such questions will revolve around stone tool manufacture, settlement patterning; how regional resources were used; how uses changed throughout the Holocene; and how these changes manifested in the archaeological record.

Some archaeologists suggest that the value of a place/object can be judged by answering the following questions:

- Can the site contribute knowledge that no other resource can?
- Is the knowledge relevant to general questions about human history or other substantive subjects?

Rarity and Representativeness

Rarity and representativeness are related concepts. The comparative rarity of a site is a consideration in assessing scientific significance. A certain site type may be “one of a kind” in one region, but very common in another. Artefacts of a particular type may be common in one region, but outside the known distribution in another.

Integrity

The integrity of a site is also a consideration in determining scientific significance. While disturbance of a topsoil deposit with artefacts does not entirely diminish research value, it may limit the types of questions that may be addressed. A heavily cultivated paddock may be unsuited to addressing research questions of small-scale site structure, but it may still be suitable for answering more general questions about implement distribution and raw material logistics.

3.0 Results

3.1 AHIMS Search

An AHIMS search was undertaken for the Project Boundary and a buffer of approximately 500 m on 16 November 2011. The site locations are shown on the figures in Appendix D. The search returned 471 archaeological sites, which included sites identified by Hamm (Archaeological Risk Assessment Services 2008b) as part of the Stage 2 EA, as well as the Stage 1 EA. Sites identified during Stage 1 have only been addressed in this report where they are impacted by the PPR. The balance of the sites are managed through the existing approvals and AHMP (Archaeological Risk Assessment Services 2008a). Therefore, sites overlying existing operations on the figures have been mitigated through these approvals and the AHMP.

Some discrepancies were identified between the data provided in the 2008 heritage assessment report and the data recorded in the AHIMS database. A number of these incongruities were likely the result of human error involving the transposition of digits in the co-ordinates during AHIMS database entry. In order to capture and isolate this information, both sets of co-ordinates (Hamm 2008 and AHIMS) have been mapped. However, based on a spatial interrogation of the AHIMS data and associated site cards, it was determined that the original co-ordinates provided within Hamm's 2008 report are correct and impacts have subsequently been assessed for those sites. Impacts have not been assessed for the additional AHIMS co-ordinates as it has been determined that there are errors in the recording of these sites co-ordinates.

In addition to these previously noted errors with the AHIMS database concerning site co-ordinates, a number of sites were found to have been entered into AHIMS twice. AHIMS sites 36-3-0016 and 36-3-0134 have been determined by AECOM through comparison of site cards and reports as being the same site. During the Stage 2 EA this site was referred to as S2MC236.

Likewise, AHIMS sites 36-3-0287 and 36-3-0720 have identical site cards, but different co-ordinates, the latter being located 1 km due west of the former. Based on the plan provided with the site cards, site 36-3-0720 is determined by AECOM to be recorded in the correct location. In addition, the site card describes the site as "Open site, Art work", however, no details or photographs of the nature or extent of the art work is provided. The description on the site card provides details of an open camp containing 52 artefacts across an area of 68 by 80 m. The site inspection undertaken on 13 December 2011 determined that there was no art at this site. The site is located on a bend in Wilpinjong Creek, with level, sandy banks (Plate 19). The creek, at this point, has a sand and silt base. The inspection focused on locating suitable surfaces for the production of art. No rock outcrop was located in the area. Trees were also inspected for scars and carvings, but none were evident. It is therefore probable that the classification of the site as "Open camp, artwork" is a clerical error. The management measures provided in Section 4.0 are based on the site as an open camp.

The last site of concern with respect to data integrity is AHIMS site 36-3-0695 (CE-19-OS) which has been entered into the database as an art site. The site is located adjacent to Murrumbidgee Creek and 100 m from its confluence with Wilpinjong Creek and is registered as an open site. The site card and associated report are currently unavailable and clarification of the nature of the site has therefore been problematic. The site co-ordinates were ground-truthed by MCO Environmental Coordinator Klay Marchant on 24 November 2011 and were found to be within a highly disturbed area between the Ulan Wollar Road and the Gulgong to Sandy Hollow Rail Line (Plate 20). Given the site's location and similar site type discrepancies within the AHIMS database, it is therefore considered highly likely that the site was an artefact scatter which has inadvertently been entered into AHIMS as an art site. There is a high likelihood that the site has been subsequently disturbed during road upgrades and/or rail alignments, un-associated with MCO's mine disturbance.

A further inspection was undertaken by AECOM archaeologists on 13 December 2011. As with the site discussed above, the inspection focused on locating suitable surfaces for the production of art. This included inspection of the area closer to Murrumbidgee Creek (Plate 21), which was considered to be a more probable location for a surface suitable for art. No rock outcrops were located in the area and the trees had not been modified. The management measures in Section 4.0 have been provided based on the site as an artefact scatter.

3.2 Rock shelter S2MC231

Rock shelter S2MC231 is located within the proposed Out of Pit Emplacement, towards the northern end. It is located on a sandstone ridge, which is oriented roughly northeast to southwest at an RL of 507 m AHD north of the rock shelter. The sandstone ridge has a series of gullies at right angles to the orientation of the ridge. The rock

shelter is located in the northern side of a gully towards the top of the slope. The shelter could be approached from either the top of the ridge or from the bottom.

The shelter has a stepped overhang roof, the main roof having a height of 5.4 m and the secondary roof being 1.6 m. At its maximum, the width is 13.8 m, with a minimum width of 9.9 m. The breadth of the main roof is 4.6 m, which reduces to 2.3 m under the secondary roof. The minimum depth of deposit is estimated to be at least 400 mm determined through probe testing away from the main habitation floor area. Twelve quartz artefacts were identified on the floor of the shelter, with an additional 13 being visible on the slope in front, probably as a result of erosion.

The shelter faces 318° and there is a rock strewn gentle slope of 25.4 m between the main roof and a reasonably sheer drop off. To the east and west of the shelter the slope is gentler and it is possible to climb up to the shelter with relative ease.

There is a series of black marks on the rear wall, approximately 5.5 m from the eastern edge of the shelter. It is unclear at this stage whether these marks are cultural in origin. It is recommended that a rock art specialist be engaged to determine the nature of the marks. This determination may be aided by excavation of deposits below the marking to determine if additional markings occur below the current ground surface.

The shelter was identified in Hamm's report and was ascribed low archaeological significance. It is suggested that this was an error, as rock shelters, especially of this size, associated with surface artefacts and possessing large habitation floors, are of high archaeological significance. Rock shelters have the potential to contain stratigraphic deposits of well preserved material that can answer questions regarding length of occupation, diet and stone tool use in a way that open artefact scatters cannot. The scientific significance of the shelter is reassessed as being high, having the potential to yield information regarding Aboriginal habitation of the area that is not available from open artefact scatters.

The shelter was not impacted by the development proposed in the initial EA. However, the relocation of the Overburden Emplacement Area has resulted in the direct impact of this item. DP&I and OEH have requested justification for the archaeological excavation of the shelter. As the shelter is to be directly impacted, it is prudent to obtain the maximum amount of archaeological information possible. Excavation allows for the controlled collection of data and the investigation of buried deposits that may contain information otherwise unavailable. Through the consultation process, Aboriginal representatives indicated that they wished to undertake a community excavation of the shelter. As the shelter has been reassessed as being of high scientific significance it is recommended that the excavation be undertaken by a qualified archaeologist with assistance provided by the Aboriginal community. Further recommendations regarding the manner in which the excavation is carried out are provided in Section 6.2.

3.3 Rock shelter S2MC229

Rock shelter S2MC229 is located on the same sandstone ridge as Rock shelter S2MC231 and is directly adjacent to the proposed OC 4. It is located to the north east of S2MC231 with an aspect of 350°.

The shelter is smaller in size, having a width of 6.6 m and breadth of 2.3 m. It has a sandstone rock floor, which is 1.8 m from the roof, the ground surface being 3.4 m. There was no sediment for deposit accumulation within the shelter and no artefacts were identified. Two quartz flakes were identified outside the shelter on the slope; however, artefact identification was limited by large quantities of leaf litter.

The shelter was initially identified in Hamm's 2008 report, but was not within the area of impact. The relocation of the Overburden Emplacement Area has resulted in the direct impact of this item. Hamm assessed the shelter as having low significance, which is supported by this addendum. The shelter has a sandstone floor and therefore does not have the potential to yield stratigraphic archaeological deposits. The number and quality of the stone tools identified during the field survey also indicates that the shelter was probably used infrequently and as a place of last resort. It is recommended that a recording of the shelter and surface collection of the artefacts be undertaken. This is considered to adequately mitigate the low significance of the shelter.

3.4 Site S2MC111

Site S2MC111 was not relocated during the field survey. Hamm (2008) notes that the site consists of three artefacts and is of low significance. During consultation following the development of the Preferred Project, Aboriginal representatives expressed a wish to undertake a community excavation at this site. In line with this request, it is recommended that a community excavation of this site be undertaken.

3.5 Haul Road

Two sections of the proposed realigned Haul Road were surveyed. A 250 m section in the north was surveyed by a combination of vehicle and pedestrian survey and a 450 m section from OC 4 north. No isolated artefacts, sites or PADs were identified. The Road runs parallel to a sandstone ridge, on the lower slope and is located, at the southern most point where it is closest to a creek, 300 m from Murragamba Creek. The area is considered to be of low archaeological sensitivity, based on the absence of artefacts identified, land form and distance to water. The survey also attempted to relocate two isolated artefacts that are in proximity to the proposed Haul Road - S2MC 2 and S2MC013. Poor surface visibility hampered the search and the artefacts could not be located.

3.6 Stage 2 Surface Facilities

The proposed location of the relocated open cut Surface Facilities is within 50 m of Murragamba Creek near a bend where the course is altered from a north-south to east-west orientation. The landform is a series of creek terraces adjacent to a creek line and associated flats. Towards the northern part of the proposed Surface Facilities area is a historical orchard of fruit trees with a wind break planting along the north eastern side.

Poor ground surface visibility (GSV 0-10%) made extensive survey of the Surface Facilities area unfeasible. However the survey did relocate archaeological sites S2MC014, S2MC015 and S2MC016. The first of these two sites are artefact scatters and PADs with 16 and 28 artefacts respectively, the latter being an artefact scatter of two. The artefact scatter was of low density, but continuous along Murragamba Creek and likely forms part of a larger archaeological complex. Despite poor GSV, the landforms/creek terraces associated with the footprint of the proposed surface facility area are considered to be of high archaeological sensitivity in that they are typical of landforms utilised in the past for habitation areas by Aboriginal peoples.

3.7 Murragamba Creek Management Area

The Murragamba Creek Management Area was visited to confirm its suitability as a Management Area. The Area contains 19 sites, assessed as being of high through to low significance (Hamm 2008). A summary of the sites within the Area is provided in Table 3. For data confirmation purposes, the survey relocated S2MC064, a large artefact scatter of 627 artefacts and S2MC261, a series of grinding grooves. In addition, a general appreciation of the area was gained from the inspection.

Site S2MC64 was relocated and approximately 100 quartz artefacts were identified in exposures. In addition, one metavolcanic, one chert and three basalt flakes were identified. The site is located on Murragamba Creek, the banks sloping with the direction of water flow. As a result, the site has been subject to extensive slope wash erosion, with many of the artefacts having been washed down slope in a northerly direction. The erosion, together with poor ground surface visibility, may account for the difference in artefact density recorded by Hamm (2008).

The grinding grooves (S2MC261) were relocated and inspected. The grooves were located during a geomorphological survey conducted in 2009 and were subsequently inspected by Aboriginal community representatives. Grooves were found to be located on a sandstone outcrop on the creek bed and on boulders adjacent to the creek. Historically the sandstone had been mined from the creek bed and piles remain on the creek bank. Several grooves were also found on this quarried stone. In all, 92 grooves were identified. A comprehensive survey was undertaken by a surveyor on 31 July 2009. Data was collected sufficient to create a 3D model with which to analyse the relationships between the clusters of grooves.

This collection of grinding grooves is of the highest archaeological scientific significance, which is increased by the location of two ground-edge axes on the nearby creek bank. The finding of hand axes associated with grinding grooves is highly significant as it connects two different site types through cultural usage.

The suitability of the Murragamba Creek Management Area as a Management Area is verified. It contains artefact scatters of higher density than occurs elsewhere along the length of the creek. The artefacts are also more diverse in their raw material. In addition, the Management Area preserves the highly significant grinding groove site.

Table 3 Sites protected within the Murrumbidgee Creek Management Area

Site Name	Site Type	Artefact Density	Significance
S2MC054	Artefact Scatter & PAD	85	High
S2MC055	Artefact Scatter	18	Low
S2MC056	Artefact Scatter	110	Medium
S2MC057	Artefact Scatter	53	Medium
S2MC058	Artefact Scatter	58	Medium
S2MC059	Artefact Scatter	25	Low
S2MC059a	Artefact Scatter	6	Low
S2MC060	Isolated Find	1	Low
S2MC061	Artefact Scatter	51	Medium
S2MC062	Artefact Scatter & PAD	67	High
S2MC063	Artefact Scatter & PAD	28	High
S2MC065	Artefact Scatter	21	Low
S2MC066	Isolated Find	1	Low
S2MC067	Artefact Scatter	13	Low
S2MC068	Isolated Find	1	Low
S2MC069	Isolated Find	1	Low
S2MC070	Artefact Scatter	3	Low
S2MC071	Artefact Scatter	4	Low
S2MC261	Grinding Grooves	92 grooves + 2 ground edge axes	High

3.8 Red Hills Management Area

The Red Hills Management Area was visited to confirm its suitability as a Management Area. The 33 sites protected within the Area are summarised in Table 4. The Management Area is located in the north of the Project Boundary on Wilpinjong Creek. Within the area, the banks are flat and of coarse sand, making an ideal camping area.

The inspection relocated S2MC200 and S2MC201 with 260 and 360 artefacts respectively having been recorded at these sites. S2MC200 was also identified as being a PAD. Using Hamm's 2008 field data, MCO has employed surveyors to mark the boundaries of the archaeological sites located in this area in preparation, pending Project Approval, for fencing the sites.

It would appear that ground surface visibility has decreased since Hamm undertook his survey, as there was substantial new growth, which hindered artefact relocation. It was noted that there was a general scatter of artefacts across the area, reinforcing the notion that the sites along the creeks in the area represent a continuous site complex rather than discreet archaeological sites.

The appropriateness of this Management Area has been verified and is supported.

Table 4 Sites protected within the Red Hills Management Area

Site Name	Site Type	Artefact Density	Significance
S2MC195	Artefact Scatter	3	Low
S2MC196	Artefact Scatter	8	Low
S2MC197	Artefact Scatter & PAD	13	Low
S2MC198	Artefact Scatter	2	Low
S2MC199	Artefact Scatter	7	Low
S2MC200	Artefact Scatter & PAD	260	High
S2MC201	Artefact Scatter	360	Medium
S2MC202	Artefact Scatter	2	Low
S2MC203	Artefact Scatter	20	Low
S2MC204	Artefact Scatter	3	Low
S2MC205	Artefact Scatter	2	Low
S2MC206	Artefact Scatter	53	Low
S2MC207	Artefact Scatter & PAD	112	High
S2MC208	Artefact Scatter & PAD	53	Medium
S2MC209	Artefact Scatter & PAD	89	Medium
S2MC210	Artefact Scatter	8	Low
S2MC211	Isolated Artefact	1	Low
S2MC212	Artefact Scatter	2	Low
S2MC213	Isolated Artefact	1	Low
S2MC214	Isolated Artefact	1	Low
S2MC215	Artefact Scatter	5	Low
S2MC216	Artefact Scatter	91	Medium
S2MC217	Artefact Scatter	9	Low
S2MC218	Artefact Scatter	50	Medium
S2MC219	Artefact Scatter	7	Low
S2MC220	Artefact Scatter	15	Low
S2MC221	Isolated Artefact	1	Low
S2MC222	Artefact Scatter	72	Medium
S2MC223	Isolated Artefact	1	Low
S2MC224	Isolated Artefact	1	Low
S2MC225	Artefact Scatter	45	Low
S2MC226	Artefact Scatter & PAD	109	Medium
S2MC227	Artefact Scatter & PAD	62	Medium

3.9 Powers Management Area

Access was not available to the Powers Management Area during the field survey. Table 5 summarises the seven sites protected within the Management Area. The primary archaeological site of high significance within this area is S2MC151, a series of grinding grooves and associated artefact scatter. Hamm (2008) describes the site as being a sandstone boulder outcrop located above a natural soak. The outcrop occurs on a ridge crest. The site covers an area of 81 by 50 m and contains 30 grinding grooves some of which are broken and 17 artefacts. Hamm assessed the site as being of high scientific significance. The Management Area is considered appropriate as it protects the grinding groove site and a representative sample of artefact scatters and a PAD.

Table 5 Sites protected within the Powers Management Area

Site Name	Site Type	Artefact Density	Significance
S2MC148	Artefact Scatter	6	Low
S2MC149	Isolated Artefact	1	Low
S2MC150	Artefact Scatter	64	Medium
S2MC151	Grinding Grooves & Artefact Scatter	17	High
S2MC152	Artefact Scatter	2	Low
S2MC153	Artefact Scatter	67	Low
S2MC154	Artefact Scatter & PAD	49	Medium

3.10 Rockshelter Management Area

The Rockshelter Management Area is located above the underground 2 mine. The purpose of the Management Area is to protect S2MC 236 (AHIMS No.s 36-3-0016 and 36-3-0134). The site consists of a rockshelter 23 m long, 7 m in depth and 2.5 m in height. It contains hand stencils and iguana (sic ?) and emu tracks in red pigment (Archaeological Risk Assessment Services 2008b:29).

The site was not visited during the field survey, but the protection of this significant art site is considered appropriate. It is recommended that the site be monitored for indirect impacts from vibration and blasting before, during and after proposed open cut mining operations within the Project Boundary.

4.0 Impacts

4.1 Introduction

This section describes and assesses the potential impacts of the Preferred Project on identified Aboriginal heritage sites within the Project Boundary. An assessment of the cumulative impact of the Project on the known and potential Aboriginal heritage resource of the region is also provided.

The proposed works associated with the Project were outlined in Section 1.1. Principally, these comprise the of open cut and underground mining activities, upgrades to existing administration, transport and other infrastructure and the construction of new coal processing and linking transport infrastructure (e.g. haul roads and power lines).

4.2 Direct Impacts

Direct impacts to Aboriginal heritage are defined, for the purposes of this assessment, as those resulting from surface works. Three potential sources of direct impacts can be identified for the Project: open cut mining, infrastructure construction/upgrade activities and the Northern OOP. One Aboriginal archaeological site has been recorded within the OOP will be destroyed by this activity. Rock shelter site S2MC231 is described in Section 3.1. Sites directly impacted (n=148) by the Preferred Project are summarised in Table 6.

The establishment of a new open cut mine (OC 4) is proposed (Figure 2), which will directly impact 125 sites.

All Aboriginal archaeological sites recorded within areas designated for open cut mining will be greatly impacted or destroyed by ground works associated with this activity.

The Aboriginal sites identified as being within proposed open cut mining areas are summarised in Table 6.

4.3 Indirect Impacts

Indirect impacts to Aboriginal heritage are defined here as impacts resulting from subsidence and potential blast-related vibration associated with open cut mining. In the context of the current assessment, AECOM has identified 8 sites within the Project area as having the potential to be indirectly impacted by the Project. These sites are summarised in Table 7.

AHIMS registered rock shelter sites 36-3-0016 and 36-3-0134 have been confirmed as the same site by Hamm (Archaeological Risk Assessment Services 2008b). Hamm also identified an additional rock shelter 50 m to the north of AHIMS site 36-3-0016/0134 and incorporated the shelter into that site, which was referred to as S2MC236 in the Stage 2 EA report.

4.4 Non-Impacted Sites

There are 315 sites within or immediately adjacent to the Project Boundary that will not be impacted - directly or indirectly - by the Project, as summarised in Table 8.

Table 6 Sites directly impacted by the Preferred Project

Red indicates items which are now impacted by the Preferred Project

Orange indicates items where the management measures have been altered by the Preferred Project, but are still conserved

Green indicates items where a positive conservation measure has now been identified by the Preferred Project

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Biodiversity Offset	36-3-0237	MC11	Medium	Direct	Recording and surface collection	No Change
	36-3-0879	S1MC74	Low	Direct	Surface collection	No Change
	36-3-0880	S1MC75	Low	Direct	Surface collection	No Change
	36-3-0881	S1MC76	Low	Direct	Surface collection	No Change
	36-3-0882	S1MC77	Low	Direct	Surface collection	No Change
Dam	36-3-1194	S2MC49	Low	Direct	Conservation of the site by protective fencing.	Surface collection
	36-3-1195	S2MC50	Medium	Direct	Murrumbidgee Creek Conservation Area (incorrectly mapped)	Surface collection
	36-3-1197	S2MC52	Low	Direct	Conservation of the site by protective fencing.	Surface collection
	36-3-1198	S2MC53	Low	Direct	Recording and surface collection	No Change
	36-3-1316	S2MC170	Low	Direct	Surface collection	No Change
Forestry regeneration	36-3-1156	S2MC262	Low	Direct	Surface collection	Surveyed since the Stage 2 EA
	36-3-1228	S2MC7	Low	Direct	Nil required	Surface collection
Haul Road	36-3-1151	S2MC82	Low	Direct	Surface collection	No Change
	36-3-1150	S2MC2	Low	Direct	Surface collection	No Change
Infrastructure	36-3-1150	S2MC1	Low	Direct	Surface collection	No Change
	36-3-0238	MC10	Medium	Direct	Recording and surface collection	No Change
OC4	36-3-0239	MC8	Medium	Direct	Recording and surface collection	No Change
	36-3-0240	MC6	Medium	Direct	Recording and surface collection	No Change
	36-3-0241	MC4	Medium	Direct	Recording and surface collection	No Change

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
OC4	36-3-0337	MC7	Medium	Direct	Recording and surface collection	No Change
	36-3-1144	S1MC307	Low	Direct	Not identified	Surface collection
	36-3-1145	S1MC308	Low	Direct	Not identified	Surface collection
	36-3-1162	S2MC13	Low	Direct	Nil required	Recording, surface collection, test excavation and salvage
	36-3-1167	S2MC18	Medium	Direct	Recording, surface collection, test excavation and salvage	No Change
	36-3-1168	S2MC19	Low	Direct	Surface collection	No Change
	36-3-1169	S2MC20	Low	Direct	Surface collection	No Change
	36-3-1170	S2MC21	Low	Direct	Surface collection	No Change
	36-3-1171	S2MC22	Low	Direct	Recording and surface collection	No Change
	36-3-1172	S2MC23	Low	Direct	Surface collection	No Change
	36-3-1173	S2MC24	Low	Direct	Surface collection	No Change
	36-3-1174	S2MC25	Low	Direct	Surface collection	No Change
	36-3-1175	S2MC29	Low	Direct	Surface collection	No Change
	36-3-1176	S2MC30	Medium	Direct	Surface collection	No Change
	36-3-1177	S2MC31	Low	Direct	Surface collection	No Change
	36-3-1178	S2MC32	Low	Direct	Recording and surface collection	No Change
	36-3-1179	S2MC33	Low	Direct	Recording and surface collection	No Change
	36-3-1180	S2MC34	Low	Direct	Surface collection	No Change
	36-3-1181	S2MC35	Low	Direct	Surface collection	No Change
	36-3-1182	S2MC36	Low	Direct	Surface collection	No Change
36-3-1183	S2MC37	Low	Direct	Surface collection	No Change	
36-3-1184	S2MC38	Low	Direct	Surface collection	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
OC4	36-3-1185	S2MC39	Low	Direct	Surface collection	No Change
	36-3-1186a*	S2MC40	Low	Direct	Recording and surface collection	No Change
	36-3-1187	S2MC42	Low	Direct	Recording and surface collection	No Change
	36-3-1188	S2MC43	High	Direct	Recording, surface collection, test excavation and salvage	No Change
	36-3-1189	S2MC44	Low	Direct	Recording and surface collection	No Change
	36-3-1190	S2MC45	Medium	Direct	Recording, surface collection, test excavation and salvage	No Change
	36-3-1191	S2MC46	Medium	Direct	Recording, surface collection, test excavation and salvage	No Change
	36-3-1192	S2MC47	Low	Direct	Recording, surface collection and test excavation	No Change
	36-3-1193	S2MC48	Low	Direct	Recording and surface collection	No Change
	36-3-1219	S2MC72	Low	Direct	Surface collection	No Change
	36-3-1223	S2MC77	Low	Nil	Surface collection	No Change
	36-3-1224	S2MC78	Low	Nil	Surface collection	No Change
	36-3-1226	S2MC80	Low	Nil	Surface collection	No Change
	36-3-1227	S2MC81	Medium	Nil	Surface collection	No Change
	36-3-1225	S2MC79	Low	Direct	Surface collection	No Change
	36-3-1236	S2MC90	Low	Direct	Surface collection	No Change
	36-3-1237	S2MC91	Low	Direct	Surface collection	No Change
	36-3-1238	S2MC92	Low	Direct	Surface collection	No Change
	36-3-1239	S2MC93	Low	Direct	Surface collection	No Change
36-3-1240	S2MC94	Low	Direct	Surface collection	No Change	
36-3-1241	S2MC95	Low	Direct	Surface collection	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
OC4	36-3-1242	S2MC96	Low	Direct	Surface collection	No Change
	36-3-1253	S2MC107	Low	Direct	Surface collection	No Change
	36-3-1254	S2MC108	Low	Direct	Surface collection	No Change
	36-3-1255	S2MC109	Low	Direct	Surface collection	No Change
	36-3-1256	S2MC110	Low	Direct	Surface collection	No Change
	36-3-1257	S2MC111	Low	Direct	Surface collection	Surface collection, test excavation and salvage in conjunction with Aboriginal community stakeholders
	36-3-1258	S2MC112	Low	Direct	Surface collection	No Change
	36-3-1259	S2MC113	Low	Direct	Surface collection	No Change
	36-3-1260	S2MC114	Low	Direct	Surface collection	No Change
	36-3-1263	S2MC117	Low	Direct	Surface collection	No Change
	36-3-1264	S2MC118	Low	Direct	Surface collection	No Change
	36-3-1265	S2MC119	Low	Direct	Recording, surface collection and test excavation	No Change
	36-3-1266	S2MC120	Low	Direct	Surface collection	No Change
	36-3-1267	S2MC121	Low	Direct	Surface collection	No Change
	36-3-1268	S2MC122	Low	Direct	Recording, surface collection and test excavation	No Change
	36-3-1269	S2MC123	High	Direct	Recording, surface collection, test excavation and salvage	No Change
	36-3-1270	S2MC124	High	Direct	Recording, surface collection, test excavation and salvage	No Change
36-3-1271	S2MC125	Medium	Direct	Recording and surface collection	No Change	
36-3-1272	S2MC126	Low	Direct	Recording, surface collection and test excavation	No Change	
36-3-1273	S2MC127	Low	Direct	Surface collection	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
OC4	36-3-1274	S2MC128	Low	Direct	Surface collection	No Change
	36-3-1275	S2MC129	Low	Direct	Surface collection	No Change
	36-3-1276	S2MC130	Low	Direct	Surface collection	No Change
	36-3-1277	S2MC131	Low	Direct	Surface collection	No Change
	36-3-1278	S2MC132	Low	Direct	Recording and surface collection	No Change
	36-3-1279	S2MC133	Low	Direct	Surface collection	No Change
	36-3-1280	S2MC134	Low	Direct	Recording and surface collection	No Change
	36-3-1281	S2MC135	Low	Direct	Surface collection	No Change
	36-3-1282	S2MC136	Low	Direct	Surface collection	No Change
	36-3-1283	S2MC137	Low	Direct	Surface collection	No Change
	36-3-1284	S2MC138	Low	Direct	Surface collection	No Change
	36-3-1285	S2MC139	Low	Direct	Surface collection	No Change
	36-3-1286	S2MC140	Low	Direct	Surface collection	No Change
	36-3-1287	S2MC141	Low	Direct	Recording and surface collection	No Change
	36-3-1288	S2MC142	Low	Direct	Surface collection	No Change
	36-3-1289	S2MC143	Low	Direct	Surface collection	No Change
36-3-1290	S2MC144	Low	Direct	Surface collection	No Change	
36-3-1291	S2MC145	Low	Direct	Surface collection	No Change	
36-3-1292	S2MC146	Low	Direct	Surface collection	No Change	
36-3-1293	S2MC147	Low	Direct	Surface collection	No Change	
36-3-1304	S2MC158	Low	Direct	Surface collection and test excavation	No Change	
36-3-1305	S2MC159	Low	Direct	Surface collection and test excavation	No Change	
36-3-1306	S2MC160	Low	Direct	Surface collection	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
OC4	36-3-1307	S2MC161	Low	Direct	Surface collection	No Change
	36-3-1308	S2MC162	Low	Direct	Recording and surface collection	No Change
	36-3-1309	S2MC163	Low	Direct	Surface collection	No Change
	36-3-1310	S2MC164	Low	Direct	Surface collection	No Change
	36-3-1311	S2MC165	Low	Direct	Surface collection	No Change
	36-3-1312	S2MC166	Low	Direct	Surface collection	No Change
	36-3-1313	S2MC167	Low	Direct	Surface collection	No Change
	36-3-1314	S2MC168	Low	Direct	Surface collection	No Change
	36-3-1315	S2MC169	Low	Direct	Surface collection	No Change
	36-3-1317	S2MC171	Low	Direct	Surface collection	No Change
	36-3-1318	S2MC172	Low	Direct	Surface collection	No Change
	36-3-1319	S2MC173	Low	Direct	Surface collection	No Change
	36-3-1320	S2MC174	Low	Direct	Surface collection	No Change
	36-3-1321	S2MC175	Low	Direct	Surface collection	No Change
	36-3-1322	S2MC176	Low	Direct	Surface collection	No Change
	36-3-1323	S2MC177	Low	Direct	Surface collection	No Change
	36-3-1324	S2MC178	Low	Direct	Recording and surface collection	No Change
	36-3-1325	S2MC179	Low	Direct	Recording and surface collection	No Change
	36-3-1326	S2MC180	Low	Direct	Surface collection	No Change
	36-3-1327	S2MC181	Low	Direct	Surface collection	No Change
36-3-1328	S2MC182	Low	Direct	Surface collection	No Change	
36-3-1329	S2MC183	Low	Direct	Surface collection	No Change	
36-3-1330	S2MC184	Low	Direct	Surface collection	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure	
OC4	36-3-1331	S2MC185	Low	Direct	Surface collection	No Change	
	36-3-1332	S2MC186	Low	Direct	Surface collection	No Change	
	36-3-1333	S2MC187	Low	Direct	Surface collection	No Change	
	36-3-1334	S2MC188	Low	Direct	Surface collection	No Change	
	36-3-1335	S2MC189	Low	Direct	Surface collection	No Change	
	36-3-1336	S2MC190	Low	Direct	Surface collection	No Change	
	36-3-1337	S2MC191	Low	Direct	Surface collection	No Change	
	36-3-1338	S2MC192	Low	Direct	Surface collection	No Change	
	36-3-1339	S2MC193	Low	Direct	Surface collection	No Change	
	36-3-1340	S2MC194	Low	Direct	Surface collection	No Change	
	36-3-2581	S2MC74	Low	Direct	Surface collection	No Change	
	36-3-1186b*	S2MC41	Low	Direct	Surface Collection	No Change	
	OOP	36-3-1378	S2MC231	High	Direct	Record, surface collection and test excavation where monitoring indicates impacts are likely	Recording, surface collection, test excavation and salvage
		36-3-0822	S1MC25	Low	Direct	Not identified	Surface collection
Powerlines	36-3-0834	S1MC37	Low	Direct	Not identified	Surface collection	
	36-3-0835	S1MC38	Low	Direct	Not identified	Surface collection	
	36-3-0836	S1MC39	Low	Direct	Not identified	Surface collection	
	36-3-1165	S2MC16	Low	Direct	Nil required	Recording, surface collection, test excavation and salvage	
Surface Facilities	36-3-1166	S2MC17	Low	Direct	Recording and surface collection	No Change	

Table 7 Sites indirectly impacted by the Preferred Project

Red indicates items which are now impacted by the Preferred Project

Orange indicates items where the management measures have been altered by the Preferred Project, but are still conserved

Green indicates items where a positive conservation measure has now been identified by the Preferred Project

Area	AHIMS No.	Site Name	Significance	Impact	Previously proposed Management Measure	Preferred Project Management Measure
Surface Facilities	36-3-1164	S2MC15	Medium	Indirect	Nil required	In situ conservation - fence site
	36-3-0016^	Ulan Murragamba (S2MC236)	High	Indirect	Underground 2 Conservation Area	No Change
UG	36-3-0134^	Murragamba_No:1 (S2MC236)	High	Indirect	Underground 2 Conservation Area	No Change
	36-3-1379	S2MC232	Low	Indirect	Nil required	Monitoring
UG1	36-3-1380	S2MC233	Low	Indirect	Nil required	Monitoring
	36-3-1302	S2MC156	Low	Indirect	Nil required	In situ conservation - fence site
Infrastructure	36-3-1377	S2MC230	Low	Indirect	Nil required	In situ conservation - fence site
	36-3-1376	S2MC229	Low	Indirect	Surface collection where monitoring indicates impacts are likely	Monitoring and fence site

^Sites 36-3-0016 and 36-3-0134 are the same site, having been registered twice. Hamm (2008) ascribed the site name S2MC236 for his report.

Table 8 Sites not impacted by the Preferred Project

Red indicates items which are now impacted by the Preferred Project

Orange indicates items where the management measures have been altered by the Preferred Project, but are still conserved

Green indicates items where a positive conservation measure has now been identified by the Preferred Project

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Forestry regeneration	36-3-1155	S2MC6	Medium	Nil	Test excavation and salvage	In situ conservation - fence site
	36-3-1220	S2MC73	Low	Nil	Surface collection	No Change
	36-3-1221	S2MC75	Low	Nil	Surface collection	No Change
	36-3-1222	S2MC76	Medium	Nil	Recording and surface collection	In situ conservation - fence site
	36-3-1233	S2MC87	Low	Nil	Recording and surface collection	No Change
	36-3-1234	S2MC88	Low	Nil	Surface collection	No Change
	36-3-1235	S2MC89	Medium	Nil	Nil required	In situ conservation - fence site
	36-3-1244	S2MC98	Low	Nil	Surface collection	No Change
	36-3-1245	S2MC99	Low	Nil	Surface collection	No Change
	36-3-1247	S2MC101	Low	Nil	Recording and surface collection	No Change
	36-3-1248	S2M102	Low	Nil	Surface collection	No Change
	36-3-1249	S2MC103	Low	Nil	Surface collection	No Change
	36-3-1251	S2MC105	Low	Nil	Surface collection	No Change
Dam	36-3-1252	S2MC106	Low	Nil	Surface collection	No Change
	36-3-1301	S2MC155	Low	Nil	Nil required	No Change
	36-3-1303	S2MC157	Low	Nil	Nil required	In situ conservation - fence site
	36-3-1196	S2MC51	Medium	Nil	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
	36-3-1405	S2MC260	Low	Nil	Surface collection	No Change
Infrastructure						

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Murrumbidgee Creek Management Area	36-3-1199	S2MC54	High	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1200	S2MC55	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1201	S2MC56	Medium	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1202	S2MC57	Medium	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1203	S2MC58	Medium	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1206	S2MC59b	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1207	S2MC60	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1208	S2MC61	Medium	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1209	S2MC62	High	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1210	S2MC63	High	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1211	S2MC64	High	Nil	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
	36-3-1212	S2MC65	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1213	S2MC66	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1214	S2MC67	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1215	S2MC68	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1216	S2MC69	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1217	S2MC70	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1218	S2MC71	Low	Nil	Murrumbidgee Creek Management Area	No Change
Murrumbidgee Creek Management Area	36-3-1406	S2MC261	High	Nil	Murrumbidgee Creek Management Area	Surveyed since the Stage 2 EA
	36-3-1406	S2MC261a	High	Nil	Murrumbidgee Creek Management Area	Surveyed since the Stage 2 EA
	36-3-1406	S2MC261b	High	Nil	Murrumbidgee Creek Management Area	Surveyed since the Stage 2 EA
Outside Project Boundary	36-3-0060	Ulan Creek Site 18	Low	Nil	Not identified	Outside of Project Area

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Outside Project Boundary	36-3-0061	Ulan Creek Site 19	Low	Nil	Not identified	Outside of Project Area
	36-3-0485	WCP209	Low	Nil	Not identified	Outside of Project Area
	36-3-0486	WCP210	Low	Nil	Not identified	Outside of Project Area
	36-3-0487	WCP211	Low	Nil	Not identified	Outside of Project Area
	36-3-0491	WCP215	Low	Nil	Not identified	Outside of Project Area
	36-3-0492	WCP216	Low	Nil	Not identified	Outside of Project Area
	36-3-0551	WCP115	Low	Nil	Not identified	Outside of Project Area
	36-3-0552	WCP116	Low	Nil	Not identified	Outside of Project Area
	36-3-0553	WCP117	Medium	Nil	Not identified	Outside of Project Area
	36-3-0554	WCP118	Medium	Nil	Not identified	Outside of Project Area
	36-3-0555	WCP119	Medium	Nil	Not identified	Outside of Project Area
	36-3-0556	WCP120	Low	Nil	Not identified	Outside of Project Area
	36-3-0707	CE-31-IF	Low	Nil	Not identified	Outside of Project Area
	36-3-0708	CE-32-IF	Low	Nil	Not identified	Outside of Project Area
	36-3-0709	CE-33-IF	Low	Nil	Not identified	Outside of Project Area
	36-3-0888	S1MC80	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0889	S1MC81	Low	Nil	Not identified	Manage under Stage 1 Approval.
36-3-0890	S1MC82	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-0891	S1MC83	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-0892	S1MC84	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-0893	S1MC85	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-0894	S1MC86	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-0895	S1MC87	Low	Nil	Not identified	Manage under Stage 1 Approval.	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Outside Project Boundary	36-3-0896	S1MC88	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0897	S1MC89	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0898	S1MC90	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0899	S1MC91	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0900	S1MC92	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0901	S1MC93	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0902	S1MC94	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-0939	S1MC130	Low	Nil	Recording and surface collection	No Change
	36-3-0940	S1MC131	Low	Nil	Surface collection	No Change
	36-3-0945	S1MC136	Low	Nil	Surface collection	No Change
	36-3-0946	S1MC137	Low	Nil	Surface collection	No Change
	36-3-0947	S1MC138	Low	Nil	Surface collection	No Change
	36-3-0948	S1MC139	Low	Nil	Recording and surface collection	No Change
	36-3-1204	S2MC59	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1205	S2MC59a	Low	Nil	Murrumbidgee Creek Management Area	No Change
	36-3-1243	S2MC97	Low	Nil	Nil required	No Change
	36-3-1246	S2MC100	Low	Nil	Nil required	No Change
	36-3-1261	S2MC115	Low	Nil	Nil required	No Change
36-3-1262	S2MC116	Low	Nil	Nil required	No Change	
36-3-1375	S2MC228	Low	Nil	Nil required	No Change	
36-3-1381	S2MC234	Low	Nil	Nil required	No Change	
36-3-1432	Identifier 1	Low	Nil	Not identified	Outside of Project Area	
36-3-1433	Identifier 2	Low	Nil	Not identified	Outside of Project Area	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Outside Project Boundary	36-3-1434	Identifier 3	Low	Nil	Not identified	Outside of Project Area
	36-3-1435	Identifier 4	Low	Nil	Not identified	Outside of Project Area
	36-3-1436	Identifier 5	Low	Nil	Not identified	Outside of Project Area
	36-3-1437	Identifier 6	Low	Nil	Not identified	Outside of Project Area
	36-3-1481	Identifier 88	Destroyed	Nil	Not identified	Outside of Project Area
	36-3-1482	Identifier 91 T10 to 11	Destroyed	Nil	Not identified	Outside of Project Area
	36-3-1483	Identifier 92 T12	Destroyed	Nil	Not identified	Outside of Project Area
	36-3-1487	Ulan id#127 (UV1)	Low	Nil	Not identified	Outside of Project Area
	36-3-2520	Ulan Stone (US1)	Low	Nil	Not identified	Outside of Project Area
	Powers Management Area	36-3-1294	S2MC148	Low	Nil	Powers Management Area
36-3-1295		S2MC149	Low	Nil	Powers Management Area	No Change
36-3-1296		S2MC150	Medium	Nil	Powers Management Area	No Change
36-3-1297		S2MC151	High	Nil	Powers Management Area	No Change
36-3-1298		S2MC152	Low	Nil	Powers Management Area	No Change
36-3-1299		S2MC153	Low	Nil	Powers Management Area	No Change
36-3-1300		S2MC154	Medium	Nil	Powers Management Area	No Change
36-3-0222		Moolarben Creek MC1	Low	Nil	Not identified	Nil required
36-3-0223		MC2	Low	Nil	Not identified	Nil required
36-3-0287*		WC/1	Medium	Nil	Not identified	Nil
36-3-0657	WC OS 18	Low	Nil	Not identified	Nil required	
Project Boundary						

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0658	WC OS 17 with PAD	Medium	Nil	Not identified	In situ conservation - fence site
	36-3-0690	CE-14-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0691	CE-15-IF	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0692	CE-16-IF	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0693	CE-17-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0694	CE-18-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0695 [#]	CE-19-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0696	CE-20-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0697	CE-21-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0698	CE-22-OS	Low	Nil	Not identified	In situ conservation - fence site
	36-3-0720*	WC1 - WILPINJONG CREEK 1	Medium	Indirect	Not identified	In situ conservation - fence site
	36-3-0798	S1MC1	Medium	Nil	Arbicultural Assessment undertaken 18/12/2008. Site to be impacted as part of mining operations in Open Cut 1.	No Change
	36-3-0799	S1MC2	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0800	S1MC3	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0801	S1MC4	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0802	S1MC5	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0803	S1MC6	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0804	S1MC7	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0805	S1MC8	Low	Nil	Managed under Stage 1 Approval	No Change
36-3-0806	S1MC9	Low	Nil	Managed under Stage 1 Approval	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0807	S1MC10	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0808	S1MC11	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0809	S1MC12	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0810	S1MC13	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0811	S1MC14	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0812	S1MC15	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0813	S1MC16	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0814	S1MC17	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0815	S1MC18	Low	Nil	In situ Conservation	No Change
	36-3-0816	S1MC19	Low	Nil	In situ Conservation	No Change
	36-3-0817	S1MC20	Low	Nil	In situ Conservation	No Change
	36-3-0818	S1MC21	Low	Nil	In situ Conservation	No Change
	36-3-0819	S1MC22	Low	Nil	In situ Conservation	No Change
	36-3-0820	S1MC23	Low	Nil	In situ Conservation	No Change
	36-3-0821	S1MC24	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0823	S1MC26	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0824	S1MC27	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0825	S1MC28	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0826	S1MC29	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0827	S1MC30	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0828	S1MC31	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0829	S1MC32	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0830	S1MC33	Low	Nil	Managed under Stage 1 Approval	No Change

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0831	S1MC34	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0832	S1MC35	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0833	S1MC36	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0837	PAD 1 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
	36-3-0838	PAD 2 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
	36-3-0839	PAD 3 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
	36-3-0840	S1MC298	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0841	S1MC299	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0842	S1MC300	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0843	S1MC301	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0844	S1MC302	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0845	S1MC40	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0846	S1MC41	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0847	S1MC42	Low	Nil	Managed under Stage 1 Approval	No Change
36-3-0848	S1MC43	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change	
36-3-0849	S1MC44	Low	Nil	Managed under Stage 1 Approval	No Change	
36-3-0850	S1MC45	Low	Nil	Managed under Stage 1 Approval	No Change	
36-3-0851	S1MC46	Low	Nil	Managed under Stage 1 Approval	No Change	
36-3-0852	S1MC47	Low	Nil	Managed under Stage 1 Approval	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0853	S1MC48	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0854	S1MC49	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0855	S1MC50	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0856	S1MC51	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0857	S1MC52	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0858	S1MC53	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0859	S1MC54	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0860	S1MC55	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0861	S1MC56	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0862	S1MC57	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0863	S1MC58	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0864	S1MC59	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0865	S1MC60	Low	Nil	Recording and surface collection	No Change
	36-3-0866	S1MC61	Low	Nil	Surface collection	No Change
	36-3-0867	S1MC62	Low	Nil	Surface collection	No Change
	36-3-0868	S1MC63	Low	Nil	Surface collection	No Change
36-3-0869	S1MC64	Low	Nil	Surface collection	No Change	
36-3-0870	S1MC65	Low	Nil	Managed under Stage 1 Approval	No Change	
36-3-0871	S1MC66	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0872	S1MC67	Medium	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-0873	S1MC68	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0874	S1MC69	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0875	S1MC70	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0876	S1MC71	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0877	S1MC72	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0878	S1MC73	Low	Nil	Managed under Stage 1 Approval	No Change
	36-3-0883	PAD 4 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
	36-3-0884	PAD 5 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
	36-3-0885	PAD 6 Moolarben Coal	Low	Nil	Not identified	Nil required
	36-3-0954	PAD 8 Moolarben Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change
36-3-0955	PAD 9 Moolarbeen Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change	
36-3-0956	PAD 10 Moolarbeen Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change	
36-3-0957	PAD 11 Moolarbeen Coal	Low	Nil	Test excavation where monitoring indicates impacts are likely	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-0958	PAD 12 Moolarbeen Coal		Nil	Not identified	Nil required
	36-3-1041	S1MC 225	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1042	S1MC226	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1043	S1MC227	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1044	S1MC228	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1045	S1MC229	Medium	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1046	S1MC230	High	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1047	S1MC231	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1048	S1MC232	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1049	S1MC233	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1050	S1MC234	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1051	S1MC235	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1052	S1MC236	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1053	S1MC237	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1054	S1MC238	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1055	S1MC239	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1056	S1MC240	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1057	S1MC241	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1058	S1MC242	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1059	S1MC243	Low	Nil	Not identified	Manage under Stage 1 Approval.
36-3-1060	S1MC244	Low	Nil	Not identified	Manage under Stage 1 Approval.	
36-3-1061	S1MC245	Low	Nil	Not identified	Manage under Stage 1 Approval.	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-1062	S1MC246	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1063	S1MC247	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1064	S1MC248	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1065	S1MC249	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1066	S1MC250	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1067	S1MC252	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1068	S1MC253	Low	Nil	Not identified	Manage under Stage 1 Approval.
	36-3-1089	S1MC274	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
	36-3-1090	S1MC275	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
	36-3-1091	S1MC276	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-1092	S1MC277	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
	36-3-1093	S1MC278	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
	36-3-1094	S1MC279	Low	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
	36-3-1113	S1MC244A	Low	Nil	Not identified	Nil required
	36-3-1136	WC-OS21 (Wollar)	Low	Nil	Not identified	Nil required
	36-3-1140	S1MC303	Low	Nil	Not identified	Nil required
	36-3-1141	S1MC304	Low	Nil	Not identified	Nil required
	36-3-1142	S1MC305	Low	Nil	Not identified	Nil required
	36-3-1143	S1MC306	Low	Nil	Not identified	Nil required
	36-3-1152	S2MC3	Low	Nil	Nil required	Nil required
	36-3-1153	S2MC4	Low	Nil	Nil required	Nil required

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-1229	S2MC83	Low	Nil	Nil required	No Change
	36-3-1230	S2MC84	Low	Nil	Nil required	No Change
	36-3-1231	S2MC85	Low	Nil	Nil required	No Change
	36-3-1232	S2MC86	Low	Nil	Nil required	No Change
	36-3-1250	S2MC104	Low	Nil	Recording and surface collection	In situ conservation - fence site
	36-3-1382	S2MC237	Low	Nil	Nil required	No Change
	36-3-1385	S2MC240	Low	Nil	Nil required	No Change
	36-3-1386	S2MC241	Low	Nil	Nil required	No Change
	36-3-1387	S2MC242	Low	Nil	Nil required	No Change
	36-3-1388	S2MC243	Low	Nil	Nil required	No Change
	36-3-1389	S2MC244	Low	Nil	Nil required	No Change
	36-3-1390	S2MC245	Low	Nil	Nil required	No Change
	36-3-1391	S2MC246	Low	Nil	Nil required	No Change
	36-3-1392	S2MC247	Low	Nil	Nil required	No Change
	36-3-1393	S2MC248	Low	Nil	Nil required	No Change
	36-3-1394	S2MC249	Low	Nil	Nil required	No Change
	36-3-1395	S2MC250	Medium	Nil	Nil required	No Change
	36-3-1396	S2MC251	Medium	Nil	Nil required	No Change
	36-3-1397	S2MC252	Low	Nil	Nil required	No Change
36-3-1398	S2MC253	Low	Nil	Nil required	No Change	
36-3-1399	S2MC254	Low	Nil	Nil required	No Change	
36-3-1400	S2MC255	Low	Nil	Nil required	No Change	
36-3-1401	S2M257 (S2MC256)	Low	Nil	Nil required	No Change	

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Project Boundary	36-3-1402	S2MC257	Low	Nil	Nil required	No Change
	36-3-1403	S2MC258	Medium	Nil	Nil required	No Change
	36-3-1404	S2MC259	Low	Nil	Nil required	No Change
	36-3-1478	Ulan ID#85 (Identifier 85)	Low	Nil	Not identified	Manage under Stage 1 Approval
	36-3-1479	Ulan ID86# (Identifier 86)	Low	Nil	Not identified	Manage under Stage 1 Approval
	36-3-1480	Ulan ID87 (Identifier 87)	Low	Nil	Not identified	Manage under Stage 1 Approval
	36-3-1341	S2MC195	Low	Nil	Red Hills Management Area	No Change
	36-3-1342	S2MC196	Low	Nil	Red Hills Management Area	No Change
	36-3-1343	S2MC197	Low	Nil	Red Hills Management Area	No Change
Red Hills Management Area	36-3-1344	S2MC198	Low	Nil	Red Hills Management Area	No Change
	36-3-1345	S2MC199	Low	Nil	Red Hills Management Area	No Change
	36-3-1346	S2MC200	High	Nil	Red Hills Management Area	No Change
	36-3-1347	SMC201	High	Nil	Red Hills Management Area	No Change
	36-3-1348	S2MC201	Medium	Nil	Red Hills Management Area	No Change
	36-3-1349	S2MC202	Low	Nil	Red Hills Management Area	No Change
	36-3-1350	S2MC203	Low	Nil	Red Hills Management Area	No Change
	36-3-1351	S2MC204	Low	Nil	Red Hills Management Area	No Change
	36-3-1352	S2MC205	Low	Nil	Red Hills Management Area	No Change
	36-3-1353	S2MC206	Low	Nil	Red Hills Management Area	No Change
	36-3-1354	S2MC207	High	Nil	Red Hills Management Area	No Change
	36-3-1355	S2MC208	Medium	Nil	Red Hills Management Area	No Change
	36-3-1356	S2MC209	Medium	Nil	Red Hills Management Area	No Change

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
Red Hills Management Area	36-3-1357	S2MC210	Low	Nil	Red Hills Management Area	No Change
	36-3-1358	S2MC211	Low	Nil	Red Hills Management Area	No Change
	36-3-1359	S2MC212	Low	Nil	Red Hills Management Area	No Change
	36-3-1360	S2MC213	Low	Nil	Red Hills Management Area	No Change
	36-3-1361	S2MC214	Low	Nil	Red Hills Management Area	No Change
	36-3-1362	S2MC215	Low	Nil	Red Hills Management Area	No Change
	36-3-1363	S2MC216	Medium	Nil	Red Hills Management Area	No Change
	36-3-1364	S2MC217	Low	Nil	Red Hills Management Area	No Change
	36-3-1365	S2MC218	Medium	Nil	Red Hills Management Area	No Change
	36-3-1366	S2MC219	Low	Nil	Red Hills Management Area	No Change
	36-3-1367	S2MC220	Low	Nil	Red Hills Management Area	No Change
	36-3-1368	S2MC221	Low	Nil	Red Hills Management Area	No Change
	36-3-1369	S2MC222	Medium	Nil	Red Hills Management Area	No Change
	36-3-1370	S2MC223	Low	Nil	Red Hills Management Area	No Change
36-3-1371	S2MC224	Low	Nil	Red Hills Management Area	No Change	
36-3-1372	S2MC225	Low	Nil	Red Hills Management Area	No Change	
36-3-1373	S2MC226	Medium	Nil	Red Hills Management Area	No Change	
36-3-1374	S2MC227	Medium	Nil	Red Hills Management Area	No Change	
Surface Facilities	36-3-1163	S2MC14	Medium	Nil	Nil required	In situ conservation - fence site
UG1	36-3-1154	S2MC5	Low	Nil	Surface collection and test excavation where monitoring indicates impacts are likely	No Change
	36-3-1157	S2MC8	Low	Nil	Nil required	No Change
	36-3-1158	S2MC9	Low	Nil	Nil required	No Change

Area	AHIMS No.	Site Name	Significance	Impact	Previously Proposed Management Measure	Preferred Project Management Measure
UG2	36-3-1159	S2MC10	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change
	36-3-1160	S2MC11	Low	Nil	Nil required	No Change
	36-3-1161	S2MC12	Low	Nil	Nil required	No Change
	36-3-1383	S2MC238	High	Nil	Recording and surface collection where monitoring indicates impacts are likely	No Change
	36-3-1384	S2MC239	Low	Nil	Surface collection where monitoring indicates impacts are likely	No Change

* Sites 36-3-0287 and 36-3-0720 are the same site, having the same site cards, the information has been entered into AHIMS twice, with 36-3-0287 having an incorrect digit. The site card records the site has being an 'art site', but there are no details regarding the art. A site inspection indicated that there was no art in the vicinity.

Site 36-3-0695 has been identified in AHIMS as an art site. The site card and report are not currently available to verify the site. It is considered unlikely that the site contains art – being an open site adjacent to a creek.

5.0 Management Strategy

5.1 Introduction

Management strategies to mitigate the impacts of the Project on the identified Aboriginal heritage resource of the Project area have been summarised in Table 6, Table 7 and Table 8. It is recommended that these strategies be detailed in a revised AHMP for all sites within MCO. This will provide one document and remove overlaps and conflicts between management recommendations resulting in differing impacts between Stage 1 and the PPR. Where the impacts to sites identified during Stage 1 have changed as a result of the PPR, the revised management measures should be included. The AHMP should be revised in consultation with registered Aboriginal stakeholders and the NSW Office of Environment and Heritage (OEH, formerly DECCW) and to the satisfaction of the NSW Department of Planning and Infrastructure (DP&I, formerly Department of Planning).

5.2 Aboriginal Stakeholder Input into Management Strategy

Aboriginal stakeholder input is fundamental to determining an appropriate management strategy for identified Aboriginal archaeological sites within the Project area. Accordingly, throughout the assessment process, Aboriginal stakeholders were encouraged, both verbally and in writing, to provide input on appropriate management measures. The stakeholder input into the preparation of the Preferred Project has been outlined in Section 2.3.

5.3 Surface Artefact Collection of Directly Impacted Open Artefact Scatters and Isolates

A total of 143 sites will be directly impacted by proposed open cut mining and infrastructure upgrades of which the majority are isolated artefacts. To mitigate this impact, surface artefact collection prior to the commencement of works is recommended for all 143 sites. Fifteen additional sites are to be impacted as a result of the Preferred Project, with 29 sites no longer impacted. Surface collection should be conducted prior to the commencement of works by a qualified archaeologist and Aboriginal stakeholder representatives. Surface collection is considered an appropriate and effective mitigation option for these sites given their uniformly small size and distributed nature. Subsurface archaeological investigations (e.g. test excavations, grader scraping) are not deemed warranted for these sites.

Recovered artefacts will be subject to appropriate forms of analysis and managed in accordance with the AHMP for the Project. Once analysis has been completed the collected artefacts are to be stored at the designated Stage 1 keeping place, or other agreed location as appropriate.

5.4 Monitoring Regime for Identified Rock shelter Sites

Three Aboriginal rock shelter sites, S2MC229, S2MC233 and S2MC236 (which incorporates AHIMS no.s 36-3-0016 and 36-3-0134) have been identified as having the potential to be indirectly impacted by the Project through subsidence and/or blast-related vibration.

In recognition of these potential impacts, it is recommended that the AHMP for the Project contain provisions for the implementation of comprehensive monitoring regime for these sites. All three sites are to be monitored before, during and after proposed open cut mining operations within the Project Boundary.

5.5 Management Areas

Four Management Areas have been proposed as areas of specific in situ conservation by the Preferred Project:

- Red Hills Management Area;
- Murrumbidgee Creek Management Area;
- Powers Management Area; and
- Rockshelter Management Area.

It is recommended that archaeological sites within these areas be fenced and clearly marked at the earliest possible time. However, activities related to weed and erosion control may be required to ensure the integrity and natural values of the areas are enhanced and protected.

It is understood the MCO has surveyed and pegged the sites within the Red Hills Management Area and revegetation contractors have been advised not to enter these areas. It is understood no active revegetation will be undertaken within the Red Hills Management Area.

Additionally, it is recommended that the AHMP specify the protection of the Management Areas for the life of the current mine.

5.6 Biodiversity Offset and Woodland Regeneration Areas

Additional Aboriginal sites will be preserved within the Stage 1 Biodiversity Offset and Woodland Regeneration areas. In order to maximise the preservation of Aboriginal sites while maintaining the usefulness of the Offset and Regeneration areas, isolated finds and artefact scatters of 19 artefacts or less will be collected, analysed and stored at the MCO keeping place. Sites of 20 artefacts or more will be conserved in situ, the sites will be delineated and no activities will take place within the confines of the site.

Sites within the Offset and Regeneration areas will be protected through MCOs Ground Disturbance Permit (GDP) system. Before any land is disturbed at MCO, including regeneration activities, a GDP needs to be authorised by a member of the MCO's Environment and Community Department. A plan of the area to be disturbed is provided to the Environment and Community Department. This plan and supporting documentation identifies the following:

- Location of the disturbance works;
- Land ownership;
- Approval boundaries;
- Location of proposed erosion and sediment control structures;
- Management of topsoil;
- Management of cleared vegetation;
- Management of salvageable hollow bearing trees;
- Location of known Aboriginal and/or European heritage sites; and
- Information on members of the public that may need additional consideration (e.g. private landowner for exploration works).

The proposed disturbance area is pegged and clearly marked prior to any work commencing. If required, an inspection of the site is undertaken by a member of the Environment and Community Department to identify any additional environmental issues that may need further management. If previously unrecorded archaeological sites are identified within the pre-clearance process, then a qualified archaeologist will be engaged to conduct a heritage assessment of the newly identified areas to identify potential archaeological features that may need additional management.

6.0 Recommendations

6.1 General Recommendations

The following recommendations are made regarding the Project:

- Prior to the commencement of works, the current AHMP should be revised to incorporate the management measures of both Stage 1 and the PPR in consultation with Aboriginal community stakeholders and relevant government authorities to detail and direct the management of sites;
- Where errors have been identified, OEH should be notified and the AHIMS site cards updated;
- Survey of the northern section of the Haul Road and the Stage 2 ROM Coal Facilities should be included in the AHMP and undertaken prior to the commencement of works;
- It is recommended that the AHMP for the Project contain provisions for the implementation of comprehensive monitoring regime for rockshelter sites S2MC229, S2MC233 and S2MC236 (which incorporates AHIMS sites 36-3-0016 and 36-3-0134). All three sites are to be monitored before, during and after proposed mining operations within the Project Boundary;
- The AHMP should describe the archaeological test excavation and salvage methods to be implemented for the Stage 2 open cut Surface Facilities area, where required; and
- The AHMP should clearly identify heritage management protocols for dealing with rehabilitation activities at the mine.

6.2 Rock shelter S2MC231 Management Recommendations

The following recommendations are made regarding the archaeological salvage of S2MC231. Further details are to be included within the AHMP:

- The excavation be undertaken by a suitably qualified archaeologist, with assistance provided by Aboriginal representatives;
- Detailed survey, using a total station (electronic theodolite) to be undertaken of the layout and profile of the rock shelter prior to excavation;
- A geomorphological assessment be undertaken prior to and during excavation to assist in the determination of the age of the deposits, the formation of the shelter and the interpretation of the archaeological deposits;
- Excavation of, at a minimum 9 m², with the following methodology:
 - Excavation in 2 cm spits;
 - Spoil to be sieved through 3 mm mesh;
 - Allowance for carbon dating, should a suitable sample be excavated;
 - Allowance for Optically Stimulated Luminescence (OSL) dating;
 - Collection and analysis of environmental samples to determine the historical vegetation and utilisation of the environment;
 - Collection and detailed analysis of the chipped stone tool assemblage;
 - Gain a second opinion from a rock art specialist regarding the marking on the rear wall;
 - Consider excavating the deposits directly below the mark to determine whether build up within the shelter has obscured part of the mark; and
 - Summary report providing the results to the respective Aboriginal groups and OEH from assessment undertaken of Rock Shelter 231.

7.0 References

Archaeological Risk Assessment Services, 2008a. Aboriginal Heritage Plan for MCP Stage 1 Development Areas: Open Cut 1 and Main Infrastructure Area. *National Parks*, (July).

Archaeological Risk Assessment Services, 2008b. Moolarben Coal Project Aboriginal Cultural Heritage Assessment Report Stage 2.







Australia ICOMOS, 1999. The Burra Charter. Available at: http://australia.icomos.org/wp-content/uploads/BURRA_CHARTER.pdf.

DEC, 2005. *Guidelines For Aboriginal Cultural Heritage Impact Assessment and Community Consultation*, Sydney: Department of Environment and Conservation.





DEC, 2004. Interim Community Consultation Requirements for Applicants.



DECCW, 2010. *Aboriginal Cultural Heritage Consultation Requirements for Proponents*, Department of Environment, Climate Change and Water.

Smith, C. and Burke, H., 2007. *Digging It Up Down Under: A Practical Guide to Doing Archaeology in Australia.*, New York: Springer.

	
<p>Plate 1 An example of the typical environment within the Project Area. Taken at Murragamba Creek Conservation Area</p>	<p>Plate 2 Murragamba Creek taken near the proposed Stage 2 Surface Facilities</p>
	
<p>Plate 3 View of the Project Area looking east from Carrs Gap. This location is rich in volcanic soils and contrasts with the coarse sandstone present across the rest of the Project Area.</p>	<p>Plate 4 An example of the typical environment within the Project Area. Taken at the Red Hills Conservation Area</p>
	
<p>Plate 5 Example of typical sandstone overhangs within the Project Area. These rockshelters only occur in locations conducive to erosion, making the locating of rockshelters a predictable process.</p>	<p>Plate 6 Typical vegetation of slopes of hills within the project area consisting of mostly young regenerating trees and sparse scrub.</p>

	
<p>Plate 7 Rockshelter S2MC231 is a large shelter with two overhangs creating a large habitation floor. Pink flags in the foreground mark quartz artefacts eroding down the hill slope.</p>	<p>Plate 8 Habitation floor of rockshelter S2MC231 with pink flags indicating quartz artefacts. A 2 metre range pole stands against the wall of the rockshelter.</p>
	
<p>Plate 9 Faint black markings suggestive of charcoal etchings identified on the back wall of S2MC231. It is recommended that a rock art expert be engaged to assess their cultural validity.</p>	<p>Plate 10 Rockshelter S2MC229 is a hollowed out sandstone bluff with a sandstone rock floor. There is little possibility of intact deposit associated with this site. Pink flags in front of the overhang indicate potential quartz artefacts.</p>
	
<p>Plate 11 A selection of quartz, crystal quartz, metavolcanic and basalt flakes identified at site S2MC64.</p>	<p>Plate 12 A selection of quartz and metavolcanic flakes and a hammerstone identified at site S2MC64.</p>

	
<p>Plate 13 Site S2MC261 is a series of 94 grinding grooves located on the sandstone bedrock of Murragamba Creek.</p>	<p>Plate 14 Faint impressions of grinding grooves at S2MC261.</p>
	
<p>Plate 15 Basalt cobble outcropping at Carrs Gap. Basalt and other heavy volcanic were commonly used as a raw material resource for making hand axes. Flakes of basalt were identified at S2MC64 likely resulting from the sharpening and retouch of hand axe edges.</p>	<p>Plate 16 Examples of quartz cores and flakes identified at S2MC109</p>
	
<p>Plate 17 Landscape shot of the proposed Stage 2 Surface Facilities, showing Murragamba Creek to the right (tree line) and low to medium creek terraces where habitation zones are potentially likely to occur.</p>	<p>Plate 18 Single crystal quartz flake identified adjacent to Murragamba Creek.</p>

	
<p>Plate 19 View west of AHIMS Site ID# 36-3-0287/36-3-0720</p>	<p>Plate 20 View east of area recorded as AHIMS Site ID#36-3-0695</p>
	
<p>Plate 21 View west of Murragamba Creek in the area adjacent to recorded AHIMS Site ID#36-3-0695</p>	

AECOM

Moolarben Coal Project
Moolarben Preferred Project Report

Appendix A

Aboriginal Community Consultation Log

Appendix A Aboriginal Community Consultation Log

Stakeholder Acronym	Stakeholder	Title	Main Contact Surname	Main Contact Name	Email Address	Postal Address	Ph or Mobile No	Letter sent on 22 March 2011 providing details of the activities associated with the PP and seeking comments	Comments received from letter sent on 22 March 2011	Invitation Letter to meeting at site in 7 April 2011	Attendance to meeting at site	Letter sent on 10 May 2011	Comments received from letter sent on 10 May 2011
Mudgee LALC	Mudgee Local Aboriginal Land Council	Mr.	Lonsdale	Tony	mudgeelaic@bigpond.com	PO Box 1098 Mudgee 2850	263723511	✓	✗	✓	✓	✓	✗
Murong Gialinga	Murong Gialinga Aboriginal and Torres Strait Islander Corporation (ATSI)	Mr.	Foley	Larry	dfoley2850@hotmail.com	PO Box 1097 Mudgee 2850	0263720859	✓	✗	✓	✓	✓	✓
Warrabinga	Secretary (Warrabinga)	Ms.	Lewis	Wendy		525 Pheasants Nest Rd Pheasants Nest 2574	0409 966 163	✓	✗	✓	✓	✓	✗
NEWCO	Member (North East Wiradjuri)	Ms.	Syme	Lyn	lsyme@appt.net.au	PO Box 29 Kandos 2848	0425332434	✓	✗	✓	✓	✓	✗
WWWAC*	Wellington Valley Wiradjuri Aboriginal Corporation	Mr.	Parkes	Stephen	sekrapp04@bigpond.com	PO Box 2508 Wellington 2820	0417 742 714	✓	✓	✓	✗	✓	✗
								✓					
								✗					
									Letter sent, attended meeting				
									Did not comment on letter, absent from meeting				

Appendix B

Aboriginal Community Consultation Correspondence

Appendix B Aboriginal Community Consultation Correspondence

Hansen Bailey

ENVIRONMENTAL CONSULTANTS

22 March 2011

Mudgee Local Aboriginal Land Council
PO Box 1098
MUDGEES NSW 2850

Attention: Tony Lonsdale

Dear Tony,

Moolarben Coal Project Stage 2 – Preferred Project Aboriginal Archaeology & Cultural Heritage Impact Assessment

1 INTRODUCTION

Moolarben Coal Operations Pty Limited (MCO) is seeking a contemporary Project Approval from the Minister for Planning under Part 3A of the *Environmental Planning & Assessment Act 1972* (EP&A Act) for the Stage 2 Open Cut Coal Project which would facilitate the development and operation of open cut 4 and longwall undergrounds 1 and 2 for a period of 24 years (the Project). The Project Approval will also facilitate the integration of the Stage 2 activities with the approved Moolarben Coal Stage 1 Project for the Moolarben Coal Complex (MCC).

The Project Approval is supported by an Environmental Assessment (EA) prepared in 2008, which included an Aboriginal Archaeology and Cultural Heritage Impact Assessment prepared by Archaeological Risk Assessment Services Pty Ltd (hereafter referred to as the "ARAS Report").

Associated with the above Application, a consultation program was undertaken in accordance with Department of Environment and Climate Change (DECCW) *Interim Community Consultation Requirements for Applicants*, December 2004 in relation to Aboriginal Archaeology and Cultural Heritage.

Since this time, some minor changes to the Project have been proposed which will largely reduce impacts to Aboriginal heritage as proposed in the EA. A Preferred Project Report (PPR) is being prepared to support these changes for the Preferred Project.

MCO is seeking to notify the Aboriginal stakeholders who were involved in initial consultation regarding the Project or have since registered an interest, of the changes to impacts to Aboriginal sites resulting from the Preferred Project. The purpose of this letter is to seek your comments on the proposed changes.

2 BACKGROUND

During October to November 2006, January to February 2007 and June to July 2008 an Aboriginal archaeological assessment associated with the EA was conducted.

Towards the end of 2008, the ARAS Report was completed and a final draft was provided to the registered stakeholders for comment before being included in the EA. Key findings of the report are described in the following paragraphs.

The Stage 2 Aboriginal Heritage assessment identified 258 previously unidentified Aboriginal heritage sites within and surrounding the Stage 2 Project Boundary. Of these, 153 sites were known to occur within the Stage 2 mine disturbance footprint, including four sites in infrastructure development areas, 14 sites in subsidence affected areas and 135 sites in the open cut and Out of Pit (OOP) emplacement areas. The remaining 105 sites were located on land outside the Stage 2 mine disturbance footprint.

A further 15 sites within the open cut mine disturbance area and 32 sites within the subsidence footprint of Stage 2 underground areas were previously identified in the Stage 1 EA. A further six sites previously registered with the Department of Environment and Climate Change (DECC) were known to lie within the open cut footprint and one site was above the underground 2 mine. However the latter DECC registered site was also included as one of the 258 Stage 2 EA identified sites.

Of the 206 sites within the Stage 2 disturbance footprint (including Stage 2 EA, Stage 1 EA and DECC registered sites), six sites were classified as high significance, 15 sites as medium significance and 185 sites as low significance.

Heritage conservation areas (**Figure 1**) were to be set aside to protect 43 Aboriginal sites which comprise 33 artefact finds, seven isolated finds, two rock shelters with artefacts and one grinding groove and artefact scatter. Eight PADs were also located in the conservation areas. These conservation areas are located on property 14 (Red Hills) and the southern part of property 44 (Powers Property) and were to be set aside for the life of the Moolarben Coal Project.

The Heritage Conservation Areas comprise mainly narrow drainage channels which run through open woodlands and pastures with ground visibility variable. Environmental features of the conservation areas include the Wilpinjong Creek Valley and the freshwater seepages along the upper sections of Eastern Creek which are predicted to have influenced Aboriginal occupation patterns.

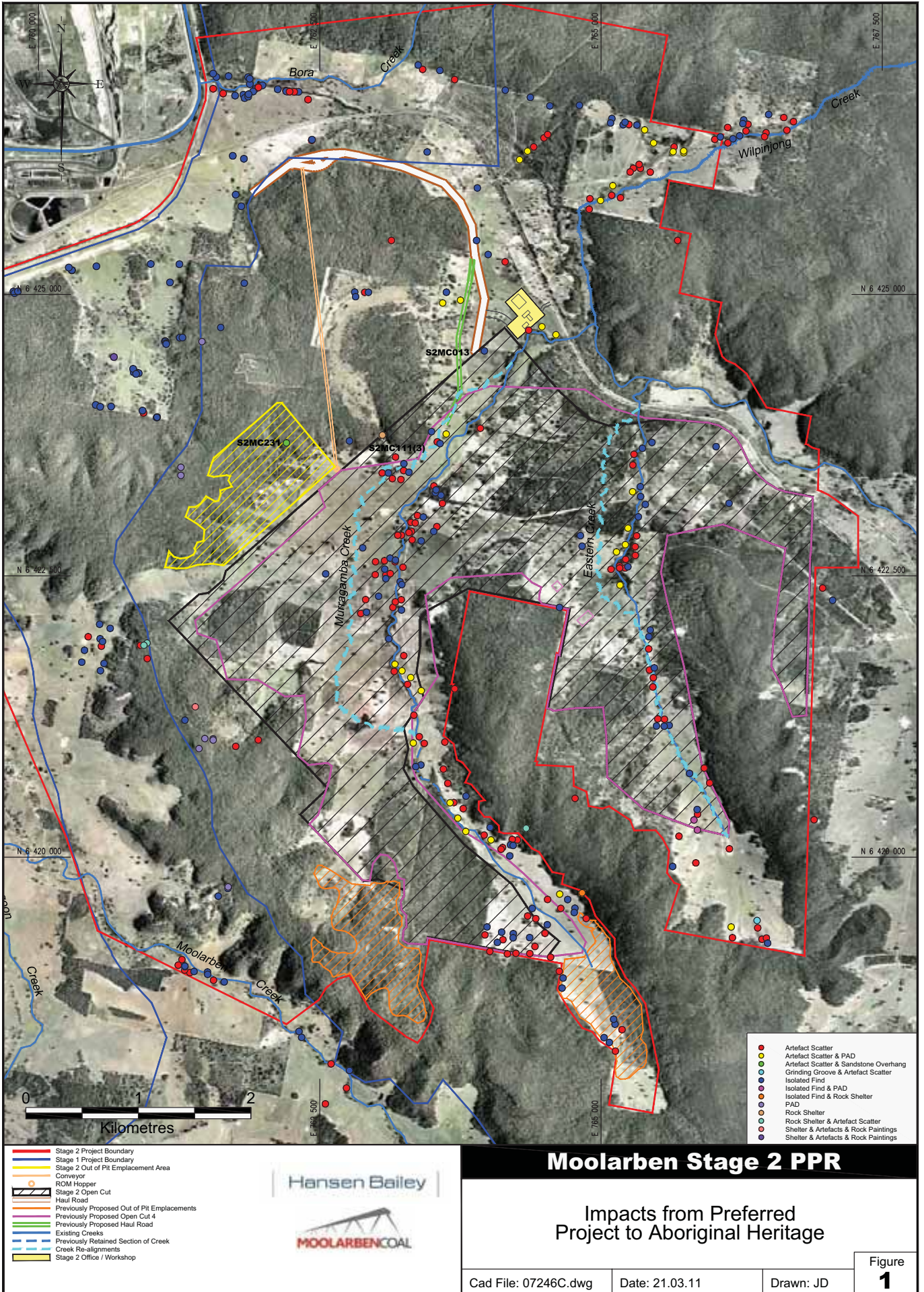
ARAS found that the majority of sites recorded during the Aboriginal archaeological assessment were *'not unique or rare but rather commonly represented'*. It was shown that Aboriginal occupation dominated the Murrumbidgee Creek Valley and the surrounding low ridges. ARAS contended that these areas offered long term resources and places appropriate for art and ceremonies. Sites in these areas also contributed more evidence of transport corridor and patterns of seasonal movement across a broader region.

3 PREFERRED PROJECT

Figure 1 shows the proposed changes to the Stage 2 Project layout in relation to known Aboriginal heritage sites from the EA. Activities associated with the Preferred Project which may affect impacts on Aboriginal heritage items include:

- Minor changes to the open cut 4 footprint resulting in a greater length of Murragamba Creek being maintained in it's existing state;
- Construction of the Northern OOP emplacement area instead of the southern and south-western OOP emplacement areas proposed in the EA;
- Minor widening of the open cut 4 haul road route; and
- Construction of conveyors, Run of Mine (ROM) hopper and associated stockpile for alternative transport of coal.

As a result of the above changes, 16 sites will no longer be impacted by the Preferred Project. Four additional sites will be impacted by the proposed changes.



3.1 ABORIGINAL HERITAGE SITES NO LONGER REQUIRING DISTURBANCE

Figure 1 demonstrates Aboriginal heritage sites which would no longer be impacted by the Preferred Project. These broadly include sites within the footprint of the southern OOP including the sites detailed in **Table 1** and the southern end of the Stage 2 Open Cut.

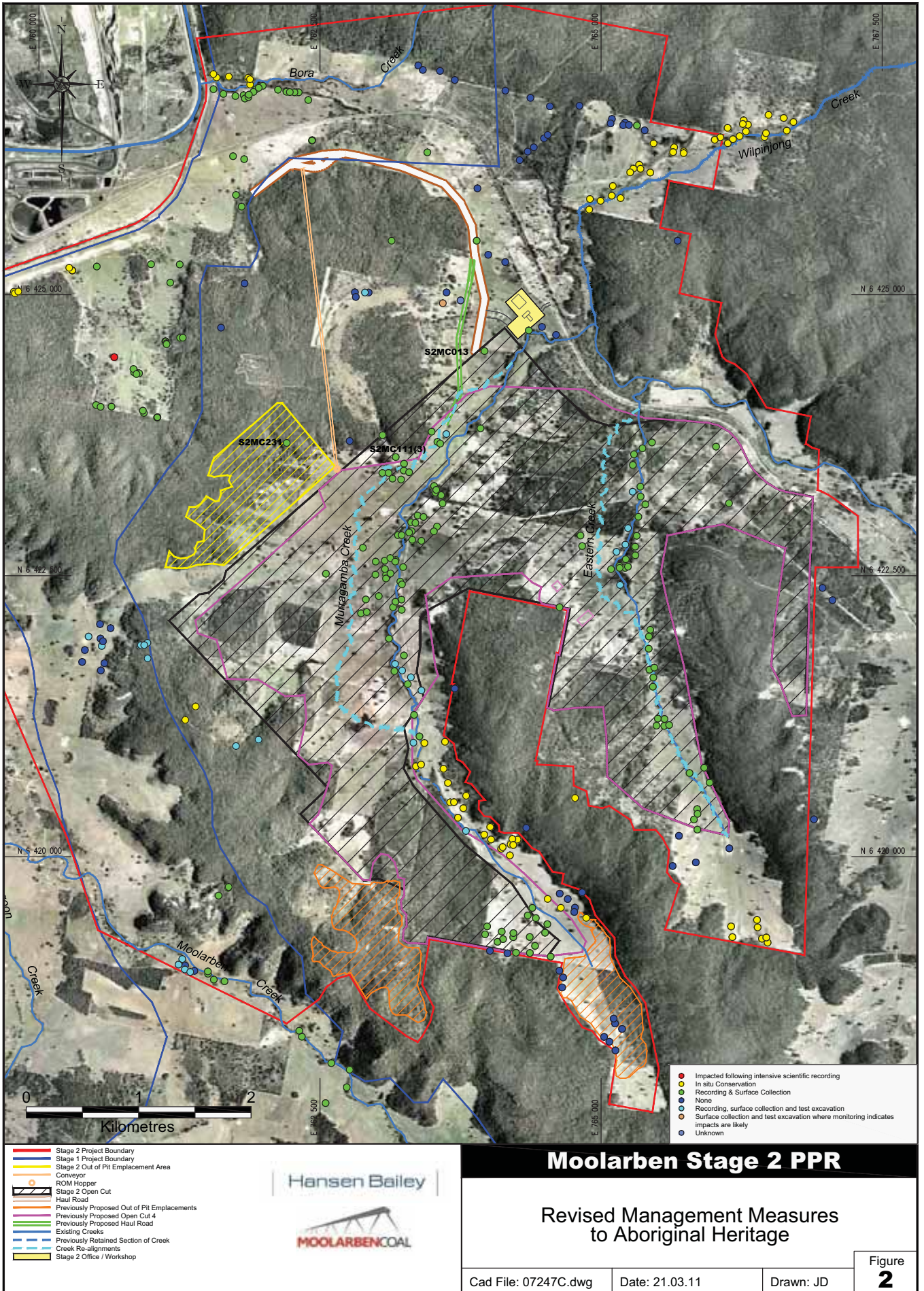
Figure 2 shows management measures for sites due to the changes proposed for the Preferred Project.

Table 1
Aboriginal Sites Not Impacted by the Preferred Project

Site	Type	Significance	ARAS Report		Preferred Project Impact and Revised Recommended Management Measures
			Impact Status	Management Measures Recommended	
S2MC 51 (17)	Artefact Scatter and PAD	Medium ARAS assigned significance	High	Test Excavation by mechanical (grader scrapes or back hoe trenching), shovel testing and hand excavation if required. Salvage and recover all cultural material, mapped at the appropriate scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no excavation or salvage required. Site to be fenced as within 100 m MCO activities.
S2MC 64 (627)	Artefact Scatter and PAD	High ARAS assigned significance	High	Test Excavation by mechanical (grader scrapes or back hoe trenching), shovel testing and hand excavation if required. Salvage and recover all cultural material, mapped at the appropriate scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no excavation or salvage required. Site to be fenced as within 100 m MCO activities.
S2MC 73	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required. Site to be fenced as within 100 m MCO activities.
S2MC 75	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required. Site to be fenced as within 100 m MCO activities.

Site	Type	Significance	ARAS Report		Preferred Project Impact and Revised Recommended Management Measures
			Impact Status	Management Measures Recommended	
S2MC 76 (60)	Artefact Scatter	Medium ARAS assigned significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required. Site to be fenced as within 100 m MCO activities.
S2MC 82 (3)	Artefact Scatter	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required.
S2MC 87 (13)	Artefact Scatter	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required.
S2MC 88 (4)	Artefact Scatter	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to Aboriginal community.	No impact, no collection required.
S2MC 98	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact.
S2MC99	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.

Site	Type	Significance	ARAS Report		Preferred Project Impact and Revised Recommended Management Measures
			Impact Status	Management Measures Recommended	
S2MC 101 (9)	Artefact Scatter	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.
S2MC 102	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.
S2MC 103	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.
S2MC 104 (8)	Artefact Scatter	Low scientific significance and no other significance	High	Test Excavation by mechanical (grader scrapes or back hoe trenching), shovel testing and hand excavation if required. Salvage and recover all cultural material, mapped at the appropriate scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no excavation or salvage required.
S2MC 105	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.
S2MC 106	Isolated Find	Low scientific significance and no other significance	High	Surface Collection by control gridded method (20 m x 20 m) area. Bagged and labelled appropriately. Mapped according to scale. All retrieved material bagged and properly labelled for artefact analysis and catalogued for return to the Aboriginal community.	No impact, no collection required.



Moolarben Stage 2 PPR

Revised Management Measures to Aboriginal Heritage



3.2 ADDITIONAL ABORIGINAL HERITAGE SITES TO BE DISTURBED

Figure 1 shows Aboriginal archaeology sites by type from the EA. The Aboriginal heritage sites by type, significance, impact status and management measures as described in ARA Report which would be impacted by the Preferred Project are listed in **Table 2**. The revised impact status for each site due to the Preferred Project is also shown in **Table 2**.

Table 2
Additional Aboriginal Sites To Be Impacted

Site	Type	Significance	ARAS 2008 Report		Preferred Project	
			Impact Status	Recommended Management Measures	Revised Impact Status	Revised Recommended Management Measures
S2MC16	Artefact scatter	Low	None	Conservation of site by protective fencing. MCO should also make contractors aware of the site and the site should be incorporated into an Aboriginal Heritage Management Plan.	Within close proximity to the footprint of the Proposed Open cut pit.	Site to be intensively recorded and salvaged in accordance with methodology to be included in Aboriginal Heritage Management Plan.
S2MC 231	Artefact scatter and sandstone overhang	Low	Low	Intensive recording and long term site monitoring for any effects of subsidence impacts. Any artefacts that require protection from potential impacts such as subsidence would either need to be removed from the overhangs or would need to be protected by minimising the risk of rock falls at the relevant overhang.	High - within the footprint of the Northern OOP emplacement area.	Site to be intensively recorded and salvaged in accordance with methodology to be included in Aboriginal Heritage Management Plan.

Site	Type	Significance	ARAS 2008 Report		Preferred Project	
			Impact Status	Recommended Management Measures	Revised Impact Status	Revised Recommended Management Measures
S2MC111	Artefact scatter	Low	Low	Conservation of site by protective fencing. MCO should also make contractors aware of the site and the site should be incorporated into an Aboriginal Heritage Management Plan.	Within close proximity to the footprint of the Proposed Open cut pit.	Site to be intensively recorded and salvaged in accordance with methodology to be included in Aboriginal Heritage Management Plan.
S2MC013	Isolated Find	Low	None	Surface collection be conducted with a controlled gridded method (20 m x 20 m), bagged and labelled appropriately, mapped according to scale, all retrieval material bagged and labelled properly for artefact analysis and catalogued for return to the Aboriginal community.	High - within the footprint of the Proposed Open cut pit.	Site to be intensively recorded and salvaged in accordance with methodology to be included in Aboriginal Heritage Management Plan.

Where artefacts are proposed to be salvaged and provided to the Aboriginal community, an application for a Section 85A Care Agreement under *National Parks and Wildlife Act 1974* would be sought.

Consistent with the ARAS Report, the monitoring and management of the sites which are to be disturbed; and the ongoing management and protection of the sites to be retained, will be described in detail in the Aboriginal Heritage Management Plan which shall be prepared in consultation with registered Aboriginal stakeholders and DECCW should Project Approval be granted.

4 CONCLUSION

MCO would like to extend an invitation for you to provide comment on the above changes to the impacts on Aboriginal sites.

If you could provide a response by 20 April 2011 it would be appreciated. A response faxback form has been attached to assist in your reply, alternatively please provide other response as you prefer.

Should you have any queries in relation to this letter, please contact me on 02 6575 2000.

Yours faithfully

HANSEN BAILEY



Belinda Hale
Environmental Scientist

Attach: Return Fax Form

PO BOX 508

Wellington NSW 2820

ABN: 7755 4814 3187

ICN: 7398

05 April 2011

Moolarben Coal
Locked Bag 2003
Mudgee NSW 2850

Attention: Mr Steve Peart

RE: Invitation to Moolarben Coal Cultural Heritage consultation session-Stage 2 Project

Dear Steve

Wellington Valley Wiradjuri Aboriginal Corporation (WVWAC) acknowledges receipt of your correspondence dated 30/3/11.

WVWAC are unable to attend this information session due to insufficient notice of the proposed meeting. We suggest that it may be in your company's interest to delay further meetings as:

- The parties with whom Moolarben is currently dealing are all before the Federal Court and a hearing date has been set down for early June 2011. Those parties will not only have to prove their connection to their claimed Country but also prove they are Wiradjuri people. You no doubt have already been advised that if the persons with whom you have consulted are not found to be Wiradjuri, the entire aboriginal heritage process that Moolarben has undertaken to date in relation to Aboriginal culture and heritage may be invalid.

WVW claimants hold the cultural and heritage knowledge for the geographic area occupied by the Moolarben Coal Project and Moolarben's response to the letter forwarded to its office on 3.2.11 by our solicitors, Teitzel & Partners, clearly rejects WVW claimants' offer to properly inform the company of the cultural and heritage sites in the Moolarben area and to assess the possible impacts on those significant sites which will be detrimentally affected by the Moolarben Coal Project. We look forward to further pursuing a discussion on this matter at the next consultation meeting in respect of the Stage 2 Project and would appreciate receiving not less than fourteen days notice of such meeting.

Yours Faithfully

Stephen Parkes
WVW Claimant

13-04-11;10:22 ;

;61 2 63782743

1/ 1

Attention Steve Pent

63761599

**Murong Gialinga Aboriginal and Torres Strait
Islander Corporation**

C/O PO Box 1097

Mudgee NSW 2850

Ph: 02 63720859

Email: muronggialinga@hotmail.com

To whom it may concern,

Thankyou for the meeting and giving all Aboriginal Groups
The opportunity to see and discuss the new preferred project with our members Directors and
to be able to get all views on the project.

After speaking to our directors We at Murong Gialinga are writing to you concerning the
preferred project at Moolarben coal we are concerned that sites S2MC231&211 are going to
be impacted and that they have been recorded as low signifienc we would like to
recommended that site be test excavated to see if any more Artefacts are to be found. All sites
whether low medium or high are still important to our Culture but we are pleased that with
this new preferred project that Sixteen sites will be saved also we were wondering what is
happening with the powers property? Are they still leasing it if so what measures have
Moolarben taken to save the Grinding Grooves .Does DECCW and The Department of
planning need are copy of this letter?

Regards

Larry Foley

Chairperson



10 May 2011

Mudgee Local Aboriginal Land Council
PO Box 1098
MUDGEES NSW 2850

Attention: Tony Lonsdale

Dear Tony,

**Moolarben Coal Project Stage 2 – Preferred Project
Aboriginal Archaeology & Cultural Heritage Impact Assessment Summary**

1 INTRODUCTION

Moolarben Coal Operations Pty Limited (MCO) is seeking a contemporary Project Approval from the Minister for Planning under Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act) for the Stage 2 Open Cut Coal Project which would facilitate the development and operation of open cut 4 and longwall undergrounds 1 and 2 for a period of 24 years (the Project).

A Preferred Project Report is now being compiled as indicated in our letter to you dated 22 March and discussed at our onsite meeting on 7 April 2011 whereby a presentation was made on the changes to impacts to Aboriginal heritage due to the Project's changes (that is the Preferred Project).

The purpose of this letter is to provide a summary of impacts and management measures for all sites relevant to the Preferred Project as requested at our onsite meeting. This summary also summarises comments raised following the onsite meeting held on 7 April 2011. Comments primarily related to potential impacts on Aboriginal heritage items and preferred management measures and how the Aboriginal community would like some sites managed.

2 PREFERRED PROJECT IMPACT ON CULTURAL HERITAGE

A total of 258 Aboriginal heritage sites were identified within the Preferred Project Boundary by the 2008 ARAS Report. Of these Aboriginal heritage sites, 194 occur within the Preferred Project Mine Disturbance Boundary.

In total, five sites with high archaeological significance were identified within the Preferred Project Mine Disturbance Boundary. These significant sites consisted of four artefact scatters and one rock shelter. The most expansive site was of S2MC123, an artefact scatter consisting of approximately 255 artefacts.

Of the remaining sites 13 were of medium archaeological significance and 176 were of low archaeological significance. Isolated finds and artefact scatters were the most common site type located within the Preferred Project Mine Disturbance Boundary.

Table 1 (see **Appendix 1**) provides a summary of all previously identified Aboriginal sites located within and adjacent to the Preferred Project Boundary, notes their significance, the likely impact of the Preferred Project on each site and the recommended management measure. Changes to Aboriginal heritage items associated with the Preferred Project are shown in **bold**.

Where artefacts are proposed to be salvaged and provided to the Aboriginal community, an application for a Section 85A Care Agreement under *National Parks and Wildlife Act 1974* would be sought.

MCO will develop an Aboriginal Archaeology and Cultural Heritage Management Plan (AHMP) that will be guided by specific policies and procedures to manage Aboriginal archaeological sites within the Preferred Project Boundary. The AHMP will be developed consistent with management measures described in **Table 1** in **Appendix 1** and in consultation with registered Aboriginal stakeholders and the Office of Environment and Heritage (OEH), should Project Approval be granted.

3 SUMMARY OF RESPONSES

One Aboriginal community group responded that for sites S2MC231 and S2MC111, they would like further test excavated to see if any more artefacts are to be found.

As a result, to determine the full extent of sites S2MC111 (low significance artefact scatter consisting of three artefacts) and S2MC231 (low significance artefact scatter consisting of 31 artefacts and sandstone overhang) MCO will intensively record (including test excavation and salvage) in accordance with the methodology to be included in the AHMP (which will be forwarded to registered Aboriginal stakeholders for consultation in the future).

4 CONCLUSION

Should you wish to make any further comment, MCO would appreciate if you could reply by 24 May 2011.

Should you have any queries in relation to this letter, please contact me on 02 6376 1500.

Yours faithfully

MOOLARBEN COAL OPERATIONS

Steve Peart
Environment & Community Relations Manager

Appendix 1
Summary of Impacts to Aboriginal Heritage
(Table 1)

Table 1
Preferred Project – Summary of Impacts to Aboriginal Heritage

Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
36-3-02371*	Artefact Scatter	14	Medium	OC4	Recording and surface collection	No Change
36-3-02381*	Artefact Scatter	6	Medium	OC4	Recording and surface collection	No Change
36-3-02391*	Artefact Scatter	3	Medium	OC4	Recording and surface collection	No Change
36-3-02401*	Isolated Find	1	Medium	OC4	Recording and surface collection	No Change
36-3-02411*	Artefact Scatter	19	Medium	OC4	Recording and surface collection	No Change
36-3-0287	Artefact Scatter	unknown	Medium	Not Impacted	Nil required	No Change
36-3-03371*	Artefact Scatter	32	Medium	OC4	Recording and surface collection	No Change
PAD 1†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change
PAD 10†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
PAD 11†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
PAD 2†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change
PAD 3†§	Pad	N/A	Low	UG1	Test excavation where monitoring indicates impacts are likely	No Change
PAD 4†§	Pad	N/A	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
PAD 5†§	Pad	N/A	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
PAD 8†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
PAD 9†§	Pad	0	Low	UG2	Test excavation where monitoring indicates impacts are likely	No Change
S1MC 22	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC 23	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC027†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC029†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC040†	Artefact Scatter	12	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S1MC041†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC042†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC043†	Artefact Scatter	9	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S1MC044†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC045†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC046†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC047†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC048†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC049†	Isolated Find	1	Low	UG1	Nil required	No Change
S1MC054†	Artefact Scatter	3	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S1MC055†	Rock Shelter & Artefact Scatter	8	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S1MC056†	Rock Shelter & Artefact Scatter	1	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S1MC057†	Artefact Scatter	16	Low	UG1	Surface collection where monitoring indicates impacts are	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
					likely	
S1MC058†	Artefact Scatter	10	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change
S1MC059†	Artefact Scatter	8	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change
S1MC060†	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change
S1MC061†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC062†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC063†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC064†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC065†	Isolated Find	1	Low	UG2	Nil required	No Change
S1MC066†	Artefact Scatter	24	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change
S1MC067†	Artefact Scatter	52	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change
S1MC068†	Isolated Find	1	Low	UG2	Nil required	No Change
S1MC069†	Isolated Find	1	Low	UG2	Nil required	No Change
S1MC074†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC075†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC076†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC077†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC1	Scarred Tree	1	Medium	OC1	Arboricultural Assessment undertaken 18/12/2008. Site to be impacted as part of mining operations in Open Cut 1.	No Change
S1MC130†	Artefact Scatter	23	Low	OC4	Recording and surface collection	No Change
S1MC131†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC136†	Artefact Scatter	5	Low	OC4	Surface collection	No Change
S1MC137†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC138†	Isolated Find	1	Low	OC4	Surface collection	No Change
S1MC139†	Artefact Scatter	23	Low	OC4	Recording and surface collection	No Change
S1MC18	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC19	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC20	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC21	Isolated Find	1	Low	In situ Conservation	In situ Conservation	No Change
S1MC274	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
S1MC275	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
S1MC276	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S1MC277	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
S1MC278	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
S1MC279	Isolated Find	1	Low	In situ Conservation	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.	No Change
S2MC 228	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change
S2MC001	Isolated Find	1	Low	Infrastructure	Surface collection	No Change
S2MC002	Isolated Find	1	Low	Infrastructure	Surface collection	No Change
S2MC003	Artefact Scatter	5	Low	Not Impacted	Nil required	No Change
S2MC004	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC005	Artefact Scatter & PAD	2	Low	UG1	Surface collection and test excavation where monitoring indicates impacts are likely	No Change
S2MC006	Artefact Scatter & PAD	25	Medium	UG1	Site to be intensively recorded including test excavation and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan	No Change
S2MC006*	Artefact Scatter & PAD	25	Medium	Infrastructure and UG1	Recording, surface collection, test excavation and salvage	No Change
S2MC007	Isolated Find	1	Low	UG1	Nil required	No Change
S2MC008	Isolated Find	1	Low	UG1	Nil required	No Change
S2MC009	Isolated Find	1	Low	UG1	Nil required	No Change
S2MC010	Artefact Scatter	3	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S2MC011	Isolated Find	1	Low	UG1	Nil required	No Change
S2MC012	Isolated Find	1	Low	UG1	Nil required	No Change
S2MC013	Isolated Find	1	Low	OC4	Nil required	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
S2MC014	Artefact Scatter and PAD	16	Medium	Not Impacted	Nil required	No Change
S2MC015	Artefact Scatter and PAD	28	Medium	Not Impacted	Nil required	No Change
S2MC016	Artefact Scatter	2	Low	OC4	Nil required	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
S2MC017	Artefact Scatter	27	Low	OC4	Recording and surface collection	No Change
S2MC018	Artefact Scatter and PAD	15	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC019	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC020	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC021	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC022	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change
S2MC023	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC024	Isolated Find	1	Low	OC4	Surface collection	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC025	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC029	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change
S2MC030	Artefact Scatter	58	Medium	OC4	Recording and surface collection	No Change
S2MC031	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC032	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change
S2MC033	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change
S2MC034	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC035	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC036	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC037	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC038	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC039	Artefact Scatter	9	Low	OC4	Surface collection	No Change
S2MC040	Artefact Scatter	12	Low	OC4	Recording and surface collection	No Change
S2MC041	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC042	Artefact Scatter	47	Low	OC4	Recording and surface collection	No Change
S2MC043	Artefact Scatter and PAD	152	High	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC044	Artefact Scatter	18	Low	OC4	Recording and surface collection	No Change
S2MC045	Artefact Scatter and PAD	16	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC046	Artefact Scatter and PAD	20	Medium	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC047	Artefact Scatter and PAD	5	Low	OC4	Recording, surface collection and test excavation	No Change
S2MC048	Artefact Scatter	17	Low	OC4	Recording and surface collection	No Change
S2MC049	Isolated Find	1	Low	Dam	Conservation of the site by protective fencing.	Surface collection
S2MC050	Artefact Scatter	68	Medium	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC051	Artefact Scatter and PAD	17	Medium	No Impact	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
S2MC052	Isolated Find	1	Low	Dam	Conservation of the site by protective fencing.	Surface collection
S2MC053	Artefact Scatter	43	Low	OC4	Recording and surface collection	No Change
S2MC054	Artefact Scatter and PAD	85	High	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC055	Artefact Scatter	18	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC056	Artefact Scatter	110	Medium	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC057	Artefact Scatter	53	Medium	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC058	Artefact Scatter	98	Medium	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC059	Artefact Scatter	25	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC059a	Artefact Scatter	6	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC060	Isolated Find	1	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC061	Artefact Scatter	51	Medium	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC062	Artefact Scatter and PAD	67	High	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC063	Artefact Scatter and PAD	28	High	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC064	Artefact Scatter and PAD	627	High	No Impact	Recording, surface collection, test excavation and salvage	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
S2MC065	Artefact Scatter	21	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC066	Isolated Find	1	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC067	Artefact Scatter	13	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC068	Isolated Find	1	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC069	Isolated Find	1	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC070	Artefact Scatter	3	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC071	Artefact Scatter	4	Low	Not Impacted	Murrumbidgee Creek Conservation Area	No Change
S2MC072	Artefact Scatter	4	Low	OC4	Surface collection	No Change
S2MC073	Isolated Find	1	Low	No Impact	Surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
S2MC074	Artefact Scatter	9	Low	OC4	Surface collection	No Change
S2MC075	Isolated Find	1	Low	No Impact	Surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
S2MC076	Artefact Scatter	60	Medium	No Impact	Recording and surface collection	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
S2MC077	Artefact Scatter	4	Low	OC4	Surface collection	No Change
S2MC078	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC079	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC080	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC081	Artefact Scatter	52	Medium	OC4	Recording and surface collection	No Change
S2MC082	Artefact Scatter	3	Low	No Impact	Surface collection	No impact, no collection required
S2MC083	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC084	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC085	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC086	Artefact Scatter and PAD	6	Low	Not Impacted	Nil required	No Change
S2MC087	Artefact Scatter	13	Low	No Impact	Recording and surface collection	No impact, no collection required
S2MC088	Artefact Scatter	4	Low	No Impact	Surface collection	No impact, no collection required
S2MC089	Artefact Scatter	93	Medium	Not Impacted	Nil required	No Change
S2MC090	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC091	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC092	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC093	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC094	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC095	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC096	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC097	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change
S2MC098	Isolated Find	1	Low	No Impact	Surface collection	No impact
S2MC099	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required
S2MC100	Artefact Scatter	4	Low	Not Impacted	Nil required	No Change
S2MC101	Artefact Scatter	9	Low	No Impact	Recording and surface collection	No impact, no collection required
S2MC102	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required
S2MC103	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required
S2MC104	Artefact Scatter	8	Low	No Impact	Recording and surface collection	No impact, no excavation or salvage required
S2MC105	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required
S2MC106	Isolated Find	1	Low	No Impact	Surface collection	No impact, no collection required
S2MC107	Isolated Find	1	Low	OC4	Surface collection	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC108	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC109	Artefact Scatter	5	Low	OC4	Surface collection	No Change
S2MC110	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC111	Artefact Scatter	3	Low	OC4	Surface collection	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
S2MC112	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC113	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC114	Artefact Scatter	4	Low	OC4	Surface collection	No Change
S2MC115	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC116	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change
S2MC117	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC118	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC119	Artefact Scatter and PAD	14	Low	OC4	Recording, surface collection and test excavation	No Change
S2MC120	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC121	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC122	Artefact Scatter and PAD	33	Low	OC4	Recording, surface collection and test excavation	No Change
S2MC123	Artefact Scatter and PAD	255	High	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC124	Artefact Scatter and PAD	171	High	OC4	Recording, surface collection, test excavation and salvage	No Change
S2MC125	Artefact Scatter	30	Medium	OC4	Recording and surface collection	No Change
S2MC126	Artefact Scatter and PAD	7	Low	OC4	Recording, surface collection and test excavation	No Change
S2MC127	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC128	Artefact Scatter	5	Low	OC4	Surface collection	No Change
S2MC129	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC130	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC131	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC132	Artefact Scatter	10	Low	OC4	Recording and surface collection	No Change
S2MC133	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC134	Artefact Scatter	50	Low	OC4	Recording and surface collection	No Change
S2MC135	Artefact Scatter	4	Low	OC4	Surface collection	No Change
S2MC136	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC137	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC138	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC139	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC140	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC141	Artefact Scatter	6	Low	OC4	Recording and surface collection	No Change
S2MC142	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC143	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC144	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC145	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC146	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC147	Isolated Find	1	Low	OC4	Surface collection	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC148	Artefact Scatter	6	Low	Not Impacted	Powers Conservation Area	No Change
S2MC149	Isolated Find	1	Low	Not Impacted	Powers Conservation Area	No Change
S2MC150	Artefact Scatter	64	Medium	Not Impacted	Powers Conservation Area	No Change
S2MC151	Grind Grooves / Artefact Scatter	17	High	Not Impacted	Powers Conservation Area	No Change
S2MC152	Artefact Scatter	2	Low	Not Impacted	Powers Conservation Area	No Change
S2MC153	Artefact Scatter	67	Low	Not Impacted	Powers Conservation Area	No Change
S2MC154	Artefact Scatter and PAD	49	Medium	Not Impacted	Powers Conservation Area	No Change
S2MC155	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC156	Artefact Scatter	12	Low	Not Impacted	Nil required	No Change
S2MC157	Artefact Scatter	5	Low	Not Impacted	Nil required	No Change
S2MC158	Isolated Find and PAD	1	Low	OC4	Surface collection and test excavation	No Change
S2MC159	Isolated Find and PAD	1	Low	OC4	Surface collection and test excavation	No Change
S2MC160	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC161	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC162	Artefact Scatter	26	Low	OC4	Recording and surface collection	No Change
S2MC163	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC164	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC165	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC166	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC167	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC168	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC169	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC170	Artefact Scatter	2	Low	Dam	Surface collection	No Change
S2MC171	Artefact Scatter	4	Low	OC4	Surface collection	No Change
S2MC172	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC173	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC174	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC175	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC176	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC177	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC178	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change
S2MC179	Artefact Scatter	8	Low	OC4	Recording and surface collection	No Change
S2MC180	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC181	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC182	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC183	Artefact Scatter	5	Low	OC4	Surface collection	No Change
S2MC184	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC185	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC186	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC187	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC188	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC189	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC190	Isolated Find	1	Low	OC4	Surface collection	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC191	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC192	Isolated Find	1	Low	OC4	Surface collection	No Change
S2MC193	Artefact Scatter	2	Low	OC4	Surface collection	No Change
S2MC194	Artefact Scatter	3	Low	OC4	Surface collection	No Change
S2MC195	Artefact Scatter	3	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC196	Artefact Scatter	8	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC197	Artefact Scatter and PAD	13	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC198	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC199	Artefact Scatter	7	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC200	Artefact Scatter and PAD	260	High	Not Impacted	Red Hills Conservation Area	No Change
S2MC201	Artefact Scatter	360	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC202	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC203	Artefact Scatter	20	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC204	Artefact Scatter	3	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC205	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC206	Artefact Scatter	53	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC207	Artefact Scatter and PAD	112	High	Not Impacted	Red Hills Conservation Area	No Change
S2MC208	Artefact Scatter and PAD	53	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC209	Artefact Scatter and PAD	89	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC210	Artefact Scatter	8	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC211	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC212	Artefact Scatter	2	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC213	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC214	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC215	Artefact Scatter	5	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC216	Artefact Scatter	91	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC217	Artefact Scatter	9	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC218	Artefact Scatter	50	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC219	Artefact Scatter	7	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC220	Artefact Scatter	15	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC221	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC222	Artefact Scatter	72	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC223	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC224	Isolated Find	1	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC225	Artefact Scatter	45	Low	Not Impacted	Red Hills Conservation Area	No Change
S2MC226	Artefact Scatter and PAD	109	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC227	Artefact Scatter and PAD	62	Medium	Not Impacted	Red Hills Conservation Area	No Change
S2MC229	Rock-shelter	14	Low	UG1	Surface collection where monitoring indicates impacts are likely	No Change
S2MC230	Isolated Find	1	Low	UG1	Nil required	No Change

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Site Name	Site Type	Artefact Density	Significance	Impact Status	Previously Proposed Management Measure	Preferred Project Management Measure
S2MC231	Artefact Scatter / Sandstone Overhang	31	Low	Stage 2 Out of Pit Emplacement Area	Record, surface collection and test excavation where monitoring indicates impacts are likely	Site to be intensively recorded including test excavation and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
S2MC232	Isolated Find / Rock Shelter	1	Low	Not Impacted	Nil required	No Change
S2MC233	Artefact Scatter / Rock Shelter	3	Low	Not Impacted	Nil required	No Change
S2MC234	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change
S2MC236 / 36-3-0134*	Shelter / Artefacts / Rock Paintings	5	High	UG2	Intensive recording and long term site monitoring for any effects of subsidence impacts. The site should have its own plan of management and with Aboriginal community involvement be researched and managed to prevent any further impacts from public visitation and natural impacts (i.e. dust, wasps nests etc). The issue of graffiti removal and regional site significance should be thoroughly researched.	No Change
S2MC236 36-3-0134*	Shelter / Artefacts / Rock Paintings	5	High	Not Impacted	Underground 2 Conservation Area	No Change
S2MC237	Isolated Find	1	Low	UG2	Nil required	No Change
S2MC237	Isolated Find	1	Low	Not Impacted	Underground 2 Conservation Area	No Change
S2MC238	Artefact Scatter	104	High	UG2	Recording and surface collection where monitoring indicates impacts are likely	No Change
S2MC239	Artefact Scatter	3	Low	UG2	Surface collection where monitoring indicates impacts are likely	No Change
S2MC240	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change
S2MC241	Artefact Scatter	4	Low	Not Impacted	Nil required	No Change
S2MC242	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC243	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC244	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC245	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC246	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC247	Artefact Scatter	3	Low	Not Impacted	Nil required	No Change
S2MC248	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change
S2MC249	Artefact Scatter	7	Low	Not Impacted	Nil required	No Change
S2MC250	Artefact Scatter and PAD	2	Medium	Not Impacted	Nil required	No Change
S2MC251	Artefact Scatter and PAD	12	Medium	Not Impacted	Nil required	No Change
S2MC252	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC253	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC254	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC255	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC256	Artefact Scatter	2	Low	Not Impacted	Nil required	No Change
S2MC257	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC258	Artefact Scatter	9	Medium	Not Impacted	Nil required	No Change
S2MC259	Isolated Find	1	Low	Not Impacted	Nil required	No Change
S2MC260	Isolated Find	1	Low	Infrastructure	Surface collection	No Change
S2MC059b	Isolated Find	1	Low	Not Impacted	Murragamba Creek Conservation Area	No Change

*Bold denotes changes associated with the Preferred Project.
 Source: Response to Submissions (Coffey Natural Systems 2009), Moolarben Coal Mine Aboriginal Heritage Management Plan.

Appendix C

AHIMS Search

Appendix C AHIMS Search

Note: This Excel report shows the sites found in AHIMS on the 17/11/2011. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

<u>SiteID</u>	<u>SiteName</u>	<u>Contact</u>	<u>Date</u>	<u>Zone</u>	<u>Eastng</u>	<u>Northing</u>	<u>Context</u>	<u>SiteStatus</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Permits</u>	<u>Reports</u>	<u>Recorder</u>
36-3-0222	Moolaben Creek MC1		AGD	55	760420	6420820	Open	Valid	Artefact :-	Open			Mr.David
36-3-0223	MC2		AGD	55	760420	6420880	Open	Valid	Artefact :-	Open			Mr.David
36-3-0134	Murragamba_No:1;		AGD	55	761300	6421170	Closed	Valid	Art (Pigment or	Shelter			Warren
36-3-0016	Ulan Murragamba		AGD	55	760796	6421957	Closed	Valid	Art (Pigment or	Shelter		1299	Fred
36-3-0237	MC11		AGD	55	763384	6421070	Open	Valid	Artefact :-				Mr.David
36-3-0239	MC8		AGD	55	763193	6422680	Open	Valid	Artefact :-				Mr.David
36-3-0240	MC6		AGD	55	763113	6421940	Open	Valid	Artefact :-				Mr.David
36-3-0241	MC4		AGD	55	763161	6421650	Open	Valid	Artefact :-				Mr.David
36-3-0337	MC7	T Russell	AGD	55	763136	6422480	Open	Valid	Artefact : 32				Mr.David
36-3-0845	S1MC40		AGD	55	760441	6421958	Open	Valid	Artefact : 1				Mr.Giles
36-3-0846	S1MC41		AGD	55	760384	6421732	Open	Valid	Artefact : 1				Mr.Giles
36-3-0847	S1MC42		AGD	55	760408	6421838	Open	Valid	Artefact : 1				Mr.Giles
36-3-0848	S1MC43		AGD	55	760558	6421874	Open	Valid	Artefact : 1				Mr.Giles
36-3-0849	S1MC44		AGD	55	760550	6421657	Open	Valid	Artefact : 1				Mr.Giles
36-3-0850	S1MC45		AGD	55	760582	6421721	Open	Valid	Artefact : 1				Mr.Giles
36-3-0851	S1MC46		AGD	55	760547	6421941	Open	Valid	Artefact : 1				Mr.Giles
36-3-0852	S1MC47		AGD	55	760637	6422033	Open	Valid	Artefact : 1				Mr.Giles
36-3-0853	S1MC48		AGD	55	760569	6421916	Open	Valid	Artefact : 1				Mr.Giles
36-3-0854	S1MC49		AGD	55	760543	6422069	Open	Valid	Artefact : 1				Mr.Giles
36-3-0855	S1MC50		AGD	55	760340	6422126	Open	Valid	Artefact : 1				Mr.Giles
36-3-0856	S1MC51		AGD	55	760434	6422195	Open	Valid	Artefact : 1				Mr.Giles
36-3-0857	S1MC52		AGD	55	760422	6422175	Open	Valid	Artefact : 1				Mr.Giles
36-3-0858	S1MC53		AGD	55	759942	6422062	Open	Valid	Artefact : 1				Mr.Giles
36-3-0859	S1MC54		AGD	55	760966	6421764	Open	Valid	Artefact : 1				Mr.Giles
36-3-0860	S1MC55		AGD	55	760964	6421902	Open	Valid	Artefact : 1				Mr.Giles
36-3-0861	S1MC56		AGD	55	760936	6421882	Open	Valid	Artefact : 1				Mr.Giles
36-3-0862	S1MC57		AGD	55	760906	6421882	Open	Valid	Artefact : 1				Mr.Giles
36-3-0885	PAD 6 Moolarben Coal		AGD	55	761341	6420748	Open	Valid	Potential				Mr.Giles
36-3-0954	PAD 8 Moolarben Coal		AGD	55	761478	6421053	Open	Valid	Artefact : 1				Mr.Giles
36-3-0955	PAD 9 Moolarben Coal		AGD	55	761552	6421040	Open	Valid	Potential				Mr.Giles
36-3-0956	PAD 10 Moolarben Coal		AGD	55	761551	6421051	Open	Valid	Potential				Mr.Giles
36-3-0957	PAD 11 Moolarben Coal		AGD	55	761426	6420964	Open	Valid	Potential				Mr.Giles

36-3-0958	PAD 12 Moolarbeen Coal	AGD	55	761318	6420832	Open	Valid	Potential	Mr. Giles
36-3-1144	S1MC307	GDA	55	762110	6421138	Open	Valid	Artefact : 1	101600 Mr. Giles
36-3-1145	S1MC308	GDA	55	761997	6421905	Open	Valid	Artefact : 1	101600 Mr. Giles
36-3-1193	S2MC48	GDA	55	763246	6421790	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1194	S2MC49	GDA	55	763398	6420819	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1195	S2MC50	GDA	55	763428	6421011	Open	Valid	Artefact : 68	101603 Mr. Giles
36-3-1196	S2MC51	GDA	55	763330	6421014	Open	Valid	Artefact : 17	101603 Mr. Giles
36-3-1197	S2MC52	GDA	55	763353	6420804	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1261	S2MC115	GDA	55	767058	6422282	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1262	S2MC116	GDA	55	766969	6422391	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1268	S2MC122	GDA	55	765239	6422923	Open	Valid	Artefact : 33	101603 Mr. Giles
36-3-1269	S2MC123	GDA	55	765215	6422776	Open	Valid	Artefact : 255	101603 Mr. Giles
36-3-1270	S2MC124	GDA	55	765137	6422712	Open	Valid	Artefact : 171	101603 Mr. Giles
36-3-1271	S2MC125	GDA	55	765088	6422558	Open	Valid	Artefact : 30	101603 Mr. Giles
36-3-1272	S2MC126	GDA	55	765168	6422417	Open	Valid	Artefact : 7	101603 Mr. Giles
36-3-1273	S2MC127	GDA	55	762552	6422517	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1274	S2MC128	GDA	55	765165	6422569	Open	Valid	Artefact : 5	101603 Mr. Giles
36-3-1275	S2MC129	GDA	55	765163	6422587	Open	Valid	Artefact : 3	101603 Mr. Giles
36-3-1276	S2MC130	GDA	55	765213	6422569	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1277	S2MC131	GDA	55	765238	6422580	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1278	S2MC132	GDA	55	765219	6422646	Open	Valid	Artefact : 10	101603 Mr. Giles
36-3-1279	S2MC133	GDA	55	765304	6422681	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1280	S2MC134	GDA	55	765303	6422758	Open	Valid	Artefact : 50	101603 Mr. Giles
36-3-1281	S2MC135	GDA	55	765316	6422855	Open	Valid	Artefact : 4	101603 Mr. Giles
36-3-1288	S2MC142	GDA	55	765137	6421782	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1289	S2MC143	GDA	55	765437	6422018	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1290	S2MC144	GDA	55	765425	6421959	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1291	S2MC145	GDA	55	765423	6421850	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1292	S2MC146	GDA	55	765430	6421663	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1293	S2MC147	GDA	55	765473	6421682	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1309	S2MC163	GDA	55	765460	6421512	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1310	S2MC164	GDA	55	765605	6421171	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1312	S2MC166	GDA	55	765561	6421163	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1313	S2MC167	GDA	55	765492	6421165	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1314	S2MC168	GDA	55	765492	6421165	Open	Valid	Artefact : 2	101603 Mr. Giles
36-3-1315	S2MC169	GDA	55	765786	6420744	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1317	S2MC171	GDA	55	765965	6422065	Open	Valid	Artefact : 4	101603 Mr. Giles
36-3-1318	S2MC172	GDA	55	765916	6420791	Open	Valid	Artefact : 3	101603 Mr. Giles
36-3-1319	S2MC173	GDA	55	765831	6422857	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1320	S2MC174	GDA	55	764630	6422763	Open	Valid	Artefact : 1	101603 Mr. Giles
36-3-1321	S2MC175	GDA	55	764630	6422219	Open	Valid	Artefact : 1	101603 Mr. Giles

36-3-1322	S2MC176	GDA	55	763310	6422975	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1323	S2MC177	GDA	55	763292	6422884	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1381	S2MC234	GDA	55	763698	6421496	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1175	S2MC29	GDA	55	762864	6422165	Open	Valid	Artefact : 12	101603	Mr.Giles
36-3-1176	S2MC30	GDA	55	762907	6422288	Open	Valid	Artefact : 58	101603	Mr.Giles
36-3-1177	S2MC31	GDA	55	762915	6422176	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1178	S2MC32	GDA	55	762993	6422509	Open	Valid	Artefact : 8	101603	Mr.Giles
36-3-1179	S2MC33	GDA	55	762993	6422509	Open	Valid	Artefact : 6	101603	Mr.Giles
36-3-1180	S2MC34	GDA	55	763086	6422475	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1181	S2MC35	GDA	55	763022	6422318	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1182	S2MC36	GDA	55	763218	6422447	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1183	S2MC37	GDA	55	763228	6422422	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1184	S2MC38	GDA	55	763224	6422287	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1185	S2MC39	GDA	55	763171	6422268	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1186	S2MC40 & 41	GDA	55	763149	6422219	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1187	S2MC42	GDA	55	763239	6422576	Open	Valid	Artefact : 47	101603	Mr.Giles
36-3-1188	S2MC43	GDA	55	763401	6421479	Open	Valid	Artefact : 152	101603	Mr.Giles
36-3-1189	S2MC44	GDA	55	763280	6421535	Open	Valid	Artefact : 18	101603	Mr.Giles
36-3-1190	S2MC45	GDA	55	763308	6421596	Open	Valid	Artefact : 16	101603	Mr.Giles
36-3-1191	S2MC46	GDA	55	763230	6421656	Open	Valid	Artefact : 20,	101603	Mr.Giles
36-3-1192	S2MC47	GDA	55	763167	6421714	Open	Valid	Artefact : 5,	101603	Mr.Giles
36-3-1198	S2MC53	GDA	55	763336	6421261	Open	Valid	Artefact : 43	101603	Mr.Giles
36-3-1202	S2MC57	GDA	55	763637	6420656	Open	Valid	Artefact : 53	101603	Mr.Giles
36-3-1203	S2MC58	GDA	55	763598	6420782	Open	Valid	Artefact : 98	101603	Mr.Giles
36-3-1204	S2MC59	GDA	55	763611	6421022	Open	Valid	Artefact : 25	101603	Mr.Giles
36-3-1205	S2MC59a	GDA	55	764768	6420522	Open	Valid	Artefact : 6	101603	Mr.Giles
36-3-1213	S2MC66	GDA	55	764188	6422001	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1324	S2MC178	GDA	55	763320	6422819	Open	Valid	Artefact : 8	101603	Mr.Giles
36-3-1325	S2MC179	GDA	55	763315	6422895	Open	Valid	Artefact : 8	101603	Mr.Giles
36-3-1326	S2MC180	GDA	55	763348	6422969	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1329	S2MC183	GDA	55	763540	6422937	Open	Valid	Artefact : 5	101603	Mr.Giles
36-3-1330	S2MC184	GDA	55	763512	6422894	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1331	S2MC185	GDA	55	763401	6422810	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1333	S2MC187	GDA	55	763124	6422657	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1334	S2MC188	GDA	55	763169	6422625	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1335	S2MC189	GDA	55	763172	6422639	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1336	S2MC190	GDA	55	762881	6422748	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1337	S2MC191	GDA	55	763677	6422559	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1338	S2MC192	GDA	55	763077	6422559	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1339	S2MC193	GDA	55	763126	6422520	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1340	S2MC194	GDA	55	763075	6422634	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1308	S2MC162	GDA	55	765464	6421594	Open	Valid	Artefact : 26	101603	Mr.Giles

36-3-1382	S2MC237	GDA	55	761302	6421217	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1383	S2MC238	GDA	55	761752	6420984	Open	Valid	Artefact : 104	101603	Mr. Giles
36-3-1384	S2MC239	GDA	55	761953	6421041	Open	Valid	Artefact : 3	101603	Mr. Giles

Report generated by AHIMS Web Service on 17/11/2011 for Geordie Oakes for the following area at Datum :GDA, Zone : 55, Eastings : 758900 - 767100, Northings : 6420500 - 6423000 with a Buffer of 0 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 119

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AHIMS Web Services (AWS)

Extensive search - Site list

Your Ref Number : 60237739 1.1

Client Service ID :56594

Note: This Excel report shows the sites found in AHIMS on the 17/11/2011. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

SiteID	SiteName	Contact	Datu	Zone	Easting	Northing	Context	SiteStatus	SiteFeatures	SiteTypes	Permits	Reports	Recorder
36-3-0060	Ulan Creek Site 18	AGD	55	760215	6426006	Open	Valid	Artefact : -	Open			361,129	Ms.Laila
36-3-0061	Ulan Creek Site 19	AGD	55	760878	6426622	Open	Valid	Artefact : -	Open			361,129	Ms.Laila
36-3-0287	WC/1	AGD	55	765680	6425480	Open	Valid	Art (Pigment or					Mr.David
36-3-0691	CE-15-IF	AGD	55	761205	6425777	Open	Valid	Artefact : 1			2531		Mr.Lance
36-3-0692	CE-16-IF	AGD	55	763631	6425794	Open	Valid	Artefact : 1			2531		Mr.Lance
36-3-0708	CE-32-IF	AGD	55	760509	6425477	Open	Valid	Artefact : 1			2531		Mr.Lance
36-3-0709	CE-33-IF	AGD	55	760810	6425593	Open	Valid	Artefact : 1			2531		Mr.Lance
36-3-0720	WC1 - WILPINJONG CREEK 1	T Russell	AGD	55	764680	6425480	Open	Valid	Art (Pigment or				Mr.David
36-3-1041	S1MC 225	AGD	55	761752	6425887	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1042	S1MC226	AGD	55	761726	6426232	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1043	S1MC227	AGD	55	761825	6426206	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1044	S1MC228	AGD	55	762428	6426370	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1045	S1MC229	AGD	55	762430	6426375	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1046	S1MC230	AGD	55	761640	6426786	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1047	S1MC231	AGD	55	761907	6426804	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1048	S1MC232	AGD	55	761926	6426825	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1049	S1MC233	AGD	55	761954	6426840	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1050	S1MC234	AGD	55	761990	6426858	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1051	S1MC235	AGD	55	762126	6426823	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1052	S1MC236	AGD	55	762199	6426811	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1053	S1MC237	AGD	55	762202	6426805	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1054	S1MC238	AGD	55	762211	6426803	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1055	S1MC239	AGD	55	762220	6426805	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1056	S1MC240	AGD	55	762231	6426802	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1057	S1MC241	AGD	55	762272	6426800	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1058	S1MC242	AGD	55	762291	6426801	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1060	S1MC244	AGD	55	762395	6426732	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1061	S1MC245	AGD	55	761552	6426828	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1062	S1MC246	AGD	55	761820	6426775	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1063	S1MC247	AGD	55	761831	6426745	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1064	S1MC248	AGD	55	761863	6426758	Open	Valid	Artefact : 1			3439		Mr.Giles
36-3-1065	S1MC249	AGD	55	761863	6426771	Open	Valid	Artefact : 1			3439		Mr.Giles

36-3-1066	S1MC250	AGD	55	761860	6426773	Open	Valid	Artefact : 1	3439	Mr. Giles
36-3-1067	S1MC252	AGD	55	761867	6426779	Open	Valid	Artefact : 1	3439	Mr. Giles
36-3-1068	S1MC253	AGD	55	761870	6426772	Open	Valid	Artefact : 1	3439	Mr. Giles
36-3-1089	S1MC274	AGD	55	761580	6426932	Open	Valid	Artefact : 1		Mr. Giles
36-3-1090	S1MC275	AGD	55	761878	6426869	Open	Valid	Artefact : 1		Mr. Giles
36-3-1091	S1MC276	AGD	55	761877	6426917	Open	Valid	Artefact : 1		Mr. Giles
36-3-1092	S1MC277	AGD	55	761862	6426931	Open	Valid	Artefact : 1		Mr. Giles
36-3-1093	S1MC278	AGD	55	761688	6426940	Open	Valid	Artefact : 1		Mr. Giles
36-3-1094	S1MC279	AGD	55	761551	6426963	Open	Valid	Artefact : 1		Mr. Giles
36-3-1113	S1MC244A	AGD	55	761552	6426828	Open	Valid	Artefact : 1	3439	Mr. Giles
36-3-0822	S1MC25	AGD	55	761802	6425783	Open	Valid	Artefact : 1	3439	Mr. Giles
36-3-1140	S1MC303	GDA	55	762029	6426950	Open	Valid	Artefact : 1		Mr. Giles
36-3-1141	S1MC304	GDA	55	762216	6426991	Open	Valid	Artefact : 1		Mr. Giles
36-3-1142	S1MC305	GDA	55	762474	6426945	Open	Valid	Artefact : 1		Mr. Giles
36-3-1143	S1MC306	GDA	55	762426	6426370	Open	Valid	Artefact : 1		Mr. Giles
36-3-1150	S2MC1	GDA	55	763454	6426266	Open	Valid	Artefact : 1		Mr. Giles
36-3-1353	S2MC206	GDA	55	765649	6426311	Open	Valid	Artefact : 53		Mr. Giles
36-3-1354	S2MC207	GDA	55	765640	6426268	Open	Valid	Artefact : 361		Mr. Giles
36-3-1355	S2MC208	GDA	55	765734	6426259	Open	Valid	Artefact : 53		Mr. Giles
36-3-1356	S2MC209	GDA	55	765734	6426275	Open	Valid	Artefact : 89,		Mr. Giles
36-3-1357	S2MC210	GDA	55	766010	6426378	Open	Valid	Artefact : 8		Mr. Giles
36-3-1358	S2MC211	GDA	55	766060	6426400	Open	Valid	Artefact : 1		Mr. Giles
36-3-1359	S2MC212	GDA	55	766126	6426347	Open	Valid	Artefact : 2		Mr. Giles
36-3-1360	S2MC213	GDA	55	766172	6426383	Open	Valid	Artefact : 1		Mr. Giles
36-3-1361	S2MC214	GDA	55	766231	6426410	Open	Valid	Artefact : 1		Mr. Giles
36-3-1362	S2MC215	GDA	55	766288	6426452	Open	Valid	Artefact : 5		Mr. Giles
36-3-1363	S2MC216	GDA	55	766453	6426402	Open	Valid	Artefact : 91		Mr. Giles
36-3-1364	S2MC217	GDA	55	766466	6426437	Open	Valid	Artefact : 9		Mr. Giles
36-3-1365	S2MC218	GDA	55	766651	6426460	Open	Valid	Artefact : 50		Mr. Giles
36-3-1366	S2MC219	GDA	55	766710	6426536	Open	Valid	Artefact : 7		Mr. Giles
36-3-1367	S2MC220	GDA	55	766624	6426572	Open	Valid	Artefact : 15		Mr. Giles
36-3-1368	S2MC221	GDA	55	766489	6426599	Open	Valid	Artefact : 1		Mr. Giles
36-3-1369	S2MC222	GDA	55	766305	6426512	Open	Valid	Artefact : 72		Mr. Giles
36-3-1370	S2MC223	GDA	55	766267	6426551	Open	Valid	Artefact : 1		Mr. Giles
36-3-1371	S2MC224	GDA	55	766260	6426518	Open	Valid	Artefact : 1		Mr. Giles
36-3-1372	S2MC225	GDA	55	766125	6426484	Open	Valid	Artefact : 45		Mr. Giles
36-3-1373	S2MC226	GDA	55	765466	6426346	Open	Valid	Artefact : 109		Mr. Giles
36-3-1374	S2MC227	GDA	55	765387	6426462	Open	Valid	Artefact : 62		Mr. Giles
36-3-1201	S2MC56	GDA	55	763691	6426485	Open	Valid	Artefact : 110		Mr. Giles
36-3-1206	S2MC59b	GDA	55	764799	6426542	Open	Valid	Artefact : 1		Mr. Giles
36-3-1387	S2MC242	GDA	55	765212	6425630	Open	Valid	Artefact : 1		Mr. Giles
36-3-1388	S2MC243	GDA	55	765519	6426508	Open	Valid	Artefact : 1		Mr. Giles

36-3-1389	S2MC244	GDA	55	765096	6426564	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1390	S2MC245	GDA	55	765984	6426524	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1391	S2MC246	GDA	55	764807	6426681	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1392	S2MC247	GDA	55	764525	6426421	Open	Valid	Artefact : 3	101603	Mr. Giles
36-3-1393	S2MC248	GDA	55	764492	6426391	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1394	S2MC249	GDA	55	764401	6426311	Open	Valid	Artefact : 7	101603	Mr. Giles
36-3-1395	S2MC250	GDA	55	764346	6426273	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1396	S2MC251	GDA	55	764275	6426197	Open	Valid	Artefact : 12	101603	Mr. Giles
36-3-1397	S2MC252	GDA	55	763900	6425946	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1398	S2MC253	GDA	55	764544	6426676	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1399	S2MC254	GDA	55	764371	6426751	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1400	S2MC255	GDA	55	764148	6426815	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1401	S2M257	GDA	55	763698	6426910	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1341	S2MC195	GDA	55	764894	6425757	Open	Valid	Artefact : 3	101603	Mr. Giles
36-3-1402	S2MC257	GDA	55	763567	6426991	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1403	S2MC258	GDA	55	763414	6427000	Open	Valid	Artefact : 9	101603	Mr. Giles
36-3-1404	S2MC259	GDA	55	763374	6427039	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1405	S2MC260	GDA	55	765318	6426505	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1406	S2MC261	GDA	55	763640	6426505	Open	Valid	Grinding Groove	101603	Mr. Giles
36-3-1342	S2MC196	GDA	55	764900	6425851	Open	Valid	Artefact : 8	101603	Mr. Giles
36-3-1343	S2MC197	GDA	55	764995	6425835	Open	Valid	Artefact : 13	101603	Mr. Giles
36-3-1344	S2MC198	GDA	55	765094	6425881	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1345	S2MC199	GDA	55	765173	6425859	Open	Valid	Artefact : 7	101603	Mr. Giles
36-3-1346	S2MC200	GDA	55	765104	6425966	Open	Valid	Artefact : 260	101603	Mr. Giles
36-3-1347	SMC201	GDA	55	765437	6426087	Open	Valid	Artefact : 361	101603	Mr. Giles
36-3-1348	S2MC201	GDA	55	765437	6426087	Open	Valid	Artefact : 361	101603	Mr. Giles
36-3-1349	S2MC202	GDA	55	765350	6426120	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1350	S2MC203	GDA	55	765338	6426156	Open	Valid	Artefact : 20	101603	Mr. Giles
36-3-1351	S2MC204	GDA	55	765258	6426088	Open	Valid	Artefact : 3	101603	Mr. Giles
36-3-1352	S2MC205	GDA	55	765286	6426122	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1432	Identifier 1	GDA	55	761272	6427235	Open	Valid	Artefact : -		Ms.Laila
36-3-1433	Identifier 2	GDA	55	761121	6427218	Open	Valid	Artefact : -		Ms.Laila
36-3-1434	Identifier 3	GDA	55	760665	6426887	Open	Valid	Artefact : -		Ms.Laila
36-3-1435	Identifier 4	GDA	55	760625	6426927	Open	Valid	Artefact : -		Ms.Laila
36-3-1436	Identifier 5	GDA	55	760695	6426926	Open	Valid	Artefact : -		Ms.Laila
36-3-1437	Identifier 6	GDA	55	760668	6427046	Open	Valid	Artefact : -		Ms.Laila
36-3-1478	Ulan ID#85 (Identifier 85)	GDA	55	762012	6426721	Open	Valid	Artefact : -	102138	Ms.Laila
36-3-1479	Ulan ID86# (Identifier 86)	GDA	55	761715	6426877	Open	Valid	Artefact : -	102138	Ms.Laila
36-3-1480	Ulan ID87 (Identifier 87)	GDA	55	761593	6426739	Open	Valid	Artefact : -	102138	Ms.Laila
36-3-1481	Identifier 88	GDA	55	761476	6426901	Open	Destroyed	Artefact : -		Ms.Laila
36-3-1482	Identifier 91, T10 to 11	GDA	55	760234	6426304	Open	Destroyed	Modified Tree		Ms.Laila
36-3-1483	Identifier 92, T12	GDA	55	759813	6426292	Open	Destroyed	Modified Tree		Ms.Laila

36-3-1487	Ulan id#127 (UV1)	GDA	55	759653	6426674	Open	Valid	Artefact : -	102138	Ms.Laila
36-3-1385	S2MC240	GDA	55	765318	6426505	Open	Valid	Artefact : 7	101603	Mr.Giles
36-3-1386	S2MC241	GDA	55	765247	6426510	Open	Valid	Artefact : 4	101603	Mr.Giles
36-3-2520	Ulan Stone (US1)	AGD	55	758926	6427166	Open	Valid	Artefact : 1	102024	Mr.David

Report generated by AHIMS Web Service on 17/11/2011 for Geordie Oakes for the following area at Datum : GDA, Zone : 55, Eastings : 758900 - 767100, Northings : 6425600 - 6427485 with a Buffer of 50 meters. Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 120

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AHIMS Web Services (AWS)

Extensive search - Site

Your Ref Number : 60237739 1.1

Client Service ID :56597

Note: This Excel report shows the sites found in AHIMS on the 17/11/2011. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

SiteID	SiteName	Contact	Datu	Zone	Easting	Northing	Context	SiteStatus	SiteFeatures	SiteTypes	Permits	Reports	Recorder
36-3-0485	WCP209	Searle	GDA	55	766850	6418150	Open	Valid	Artefact : 5				Navin
36-3-0487	WCP211	Searle	GDA	55	766953	6418347	Open	Valid	Artefact : 5				Navin
36-3-0491	WCP215	Searle	GDA	55	766857	6418302	Open	Valid	Artefact : 1				Navin
36-3-0492	WCP216	Searle	GDA	55	767084	6418194	Open	Valid	Artefact : 10				Navin
36-3-0551	WCP115	Searle	GDA	55	767119	6418092	Closed	Valid	Artefact : 2				Navin
36-3-0552	WCP116	Searle	GDA	55	767042	6417975	Closed	Valid	Artefact : 2				Navin
36-3-0553	WCP117	Searle	GDA	55	767046	6417986	Closed	Valid	Potential				Navin
36-3-0554	WCP118	Searle	GDA	55	767012	6417958	Open	Valid	Potential				Navin
36-3-0555	WCP119	Searle	GDA	55	767012	6417958	Closed	Valid	Artefact : 11,				Navin
36-3-0863	S1MC58		AGD	55	761241	6419040	Open	Valid	Artefact : 1				Mr.Giles
36-3-0864	S1MC59		AGD	55	761274	6419089	Open	Valid	Artefact : 1				Mr.Giles
36-3-0865	S1MC60		AGD	55	761555	6418906	Open	Valid	Artefact : 1				Mr.Giles
36-3-0882	S1MC77		AGD	55	761597	6419653	Open	Valid	Artefact : 1				Mr.Giles
36-3-0883	PAD 4 Moolarben Coal		AGD	55	761685	6419735	Open	Valid	Potential				Mr.Giles
36-3-0884	PAD 5 Moolarben Coal		AGD	55	761685	6419736	Open	Valid	Potential				Mr.Giles
36-3-0866	S1MC61		AGD	55	761650	6418891	Open	Valid	Artefact : 1				Mr.Giles
36-3-0867	S1MC62		AGD	55	761503	6418958	Open	Valid	Artefact : 1				Mr.Giles
36-3-0868	S1MC63		AGD	55	761502	6418979	Open	Valid	Artefact : 1				Mr.Giles
36-3-0869	S1MC64		AGD	55	761502	6418989	Open	Valid	Artefact : 1				Mr.Giles
36-3-0870	S1MC65		AGD	55	761382	6418984	Open	Valid	Artefact : 1				Mr.Giles
36-3-0871	S1MC66		AGD	55	761345	6418974	Open	Valid	Artefact : 1				Mr.Giles
36-3-0872	S1MC67		AGD	55	761298	6418996	Open	Valid	Artefact : 1				Mr.Giles
36-3-0873	S1MC68		AGD	55	761300	6419026	Open	Valid	Artefact : 1				Mr.Giles
36-3-0874	S1MC69		AGD	55	761300	6419031	Open	Valid	Artefact : 1				Mr.Giles
36-3-0875	S1MC70		AGD	55	761427	6419023	Open	Valid	Artefact : 1				Mr.Giles
36-3-0876	S1MC71		AGD	55	761428	6419024	Open	Valid	Artefact : 1				Mr.Giles
36-3-0877	S1MC72		AGD	55	761421	6419023	Open	Valid	Artefact : 1				Mr.Giles
36-3-0878	S1MC73		AGD	55	761429	6419089	Open	Valid	Artefact : 1				Mr.Giles
36-3-0879	S1MC74		AGD	55	761687	6419730	Open	Valid	Artefact : 1				Mr.Giles
36-3-0880	S1MC75		AGD	55	761683	6419722	Open	Valid	Artefact : 1				Mr.Giles
36-3-0881	S1MC76		AGD	55	761684	6419723	Open	Valid	Artefact : 1				Mr.Giles
36-3-0939	S1MC130		AGD	55	762600	6418163	Open	Valid	Artefact : 1				Mr.Giles

36-3-0940	S1MC131	AGD	55	762763	6418104	Open	Valid	Artefact : 1	Mr. Giles
36-3-0945	S1MC136	AGD	55	762737	6417948	Open	Valid	Artefact : 1	Mr. Giles
36-3-0946	S1MC137	AGD	55	762338	6418398	Open	Valid	Artefact : 1	Mr. Giles
36-3-0947	S1MC138	AGD	55	762315	6418451	Open	Valid	Artefact : 1	Mr. Giles
36-3-0948	S1MC139	AGD	55	762549	6417807	Open	Valid	Artefact : 1	Mr. Giles
36-3-1294	S2MC148	GDA	55	766469	6419281	Open	Valid	Artefact : 6	101603
36-3-1295	S2MC149	GDA	55	766480	6419235	Open	Valid	Artefact : 1	101603
36-3-1316	S2MC170	GDA	55	766140	6420074	Open	Valid	Artefact : 2	101603
36-3-1375	S2MC228	GDA	55	766893	6420332	Open	Valid	Artefact : 1	101603
36-3-1379	S2MC232	GDA	55	764831	6419682	Open	Valid	Artefact : 1	101603
36-3-1380	S2MC233	GDA	55	764334	6420256	Open	Valid	Artefact : 3	101603
36-3-1199	S2MC54	GDA	55	763657	6420483	Open	Valid	Artefact : 85	101603
36-3-1200	S2MC55	GDA	55	763774	6420431	Open	Valid	Artefact : 18	101603
36-3-1205	S2MC59a	GDA	55	764768	6420522	Open	Valid	Artefact : 6	101603
36-3-1207	S2MC60	GDA	55	764013	6420264	Open	Valid	Artefact : 1	101603
36-3-1208	S2MC61	GDA	55	763960	6420196	Open	Valid	Artefact : 51	101603
36-3-1209	S2MC62	GDA	55	764021	6420153	Open	Valid	Artefact : 67	101603
36-3-1210	S2MC63	GDA	55	763726	6420346	Open	Valid	Artefact : 28	101603
36-3-1211	S2MC64	GDA	55	763797	6420228	Open	Valid	Artefact : 627	101603
36-3-1212	S2MC65	GDA	55	764111	6420070	Open	Valid	Artefact : 21	101603
36-3-1214	S2MC67	GDA	55	764124	6420085	Open	Valid	Artefact : 13	101603
36-3-1215	S2MC68	GDA	55	764195	6420109	Open	Valid	Artefact : 1	101603
36-3-1216	S2MC69	GDA	55	764218	6420104	Open	Valid	Artefact : 1	101603
36-3-1217	S2MC70	GDA	55	764218	6420104	Open	Valid	Artefact : 3	101603
36-3-1218	S2MC71	GDA	55	764256	6420152	Open	Valid	Artefact : 4	101603
36-3-1219	S2MC72	GDA	55	764347	6419476	Open	Valid	Artefact : 4	101603
36-3-1220	S2MC73	GDA	55	764388	6419544	Open	Valid	Artefact : 1	101603
36-3-1229	S2MC83	GDA	55	764761	6419508	Open	Valid	Artefact : 1	101603
36-3-1230	S2MC84	GDA	55	764761	6419546	Open	Valid	Artefact : 1	101603
36-3-1231	S2MC85	GDA	55	764703	6419623	Open	Valid	Artefact : 1	101603
36-3-1232	S2MC86	GDA	55	764632	6419671	Open	Valid	Artefact : 6	101603
36-3-1233	S2MC87	GDA	55	764641	6419545	Open	Valid	Artefact : 13	101603
36-3-1234	S2MC88	GDA	55	764524	6419624	Open	Valid	Artefact : 4	101603
36-3-1235	S2MC89	GDA	55	764167	6419140	Open	Valid	Artefact : 93	101603
36-3-1236	S2MC90	GDA	55	764218	6419283	Open	Valid	Artefact : 1	101603
36-3-1237	S2MC91	GDA	55	764219	6419320	Open	Valid	Artefact : 1	101603
36-3-1238	S2MC92	GDA	55	764116	6419333	Open	Valid	Artefact : 1	101603
36-3-1239	S2MC93	GDA	55	764127	6419266	Open	Valid	Artefact : 3	101603
36-3-1240	S2MC94	GDA	55	764078	6419242	Open	Valid	Artefact : 1	101603
36-3-1241	S2MC95	GDA	55	763986	6419379	Open	Valid	Artefact : 1	101603
36-3-1242	S2MC96	GDA	55	763968	6419309	Open	Valid	Artefact : 3	101603
36-3-1221	S2MC75	GDA	55	764521	6419399	Open	Valid	Artefact : 1	101603

36-3-1222	S2MC76	GDA	55	764419	6419453	Open	Valid	Artefact : 60	101603	Mr. Giles
36-3-1223	S2MC77	GDA	55	764551	6419111	Open	Valid	Artefact : 4	101603	Mr. Giles
36-3-1224	S2MC78	GDA	55	764412	6419206	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1225	S2MC79	GDA	55	764365	6419285	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1226	S2MC80	GDA	55	764366	6419143	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1227	S2MC81	GDA	55	764243	6419145	Open	Valid	Artefact : 5	101603	Mr. Giles
36-3-1228	S2MC82	GDA	55	764867	6419455	Open	Valid	Artefact : 3	101603	Mr. Giles
36-3-1243	S2MC97	GDA	55	764011	6419162	Open	Valid	Artefact : 7	101603	Mr. Giles
36-3-1244	S2MC98	GDA	55	764653	6418836	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1245	S2MC99	GDA	55	764662	6418925	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1246	S2MC100	GDA	55	764628	6418985	Open	Valid	Artefact : 4	101603	Mr. Giles
36-3-1247	S2MC101	GDA	55	765127	6418276	Open	Valid	Artefact : 9	101603	Mr. Giles
36-3-1248	S2M102	GDA	55	765073	6418353	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1249	S2MC103	GDA	55	765026	6418396	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1250	S2MC104	GDA	55	765186	6418467	Open	Valid	Artefact : 8	101603	Mr. Giles
36-3-1251	S2MC105	GDA	55	765124	6418515	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1252	S2MC106	GDA	55	765111	6418559	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1296	S2MC150	GDA	55	766392	6419371	Open	Valid	Artefact : 64	101603	Mr. Giles
36-3-1297	S2MC151	GDA	55	766386	6419437	Open	Valid	Artefact : 17	101603	Mr. Giles
36-3-1298	S2MC152	GDA	55	766430	6419270	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-1299	S2MC153	GDA	55	766167	6419284	Open	Valid	Artefact : 67	101603	Mr. Giles
36-3-1300	S2MC154	GDA	55	766156	6419379	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1301	S2MC155	GDA	55	765636	6419917	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1302	S2MC156	GDA	55	765842	6419949	Open	Valid	Artefact : 1	101603	Mr. Giles
36-3-1303	S2MC157	GDA	55	765692	6420186	Open	Valid	Artefact : 5	101603	Mr. Giles
36-3-1304	S2MC158	GDA	55	765856	6420241	Open	Valid	Artefact : -	101603	Mr. Giles
36-3-1305	S2MC159	GDA	55	765825	6420330	Open	Valid	Artefact : 1,	101603	Mr. Giles
36-3-1306	S2MC160	GDA	55	765854	6420423	Open	Valid	Artefact : 1	101366	Mr. Giles
36-3-1307	S2MC161	GDA	55	765857	6420381	Open	Valid	Artefact : 2	101603	Mr. Giles
36-3-2581	S2MC74	GDA	55	764501	6419323	Open	Valid	Artefact : 9	Archaeolo	

Report generated by AHIMS Web Service on 17/11/2011 for Geordie Oakes for the following area at Datum :GDA, Zone : 55, Eastings : 758900 - 767100, Northings : 6418000 - 6420500 with a Buffer of 50 meters.Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 104

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Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site

Your Ref Number : 60237739 1.1

Client Service ID :56599

Note: This Excel report shows the sites found in AHIMS on the 17/11/2011. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

SiteID	SiteName	Contact	Datum	Zone	Easting	Northing	Context	SiteStatus	SiteFeatures	SiteTypes	Permits	Reports	Recorder
36-3-0486	WCP210	Searle	GDA	55	766789	6417930	Open	Valid	Artefact : 1				Navin
36-3-0552	WCP116	Searle	GDA	55	767042	6417975	Closed	Valid	Artefact : 2				Navin
36-3-0553	WCP117	Searle	GDA	55	767046	6417986	Closed	Valid	Potential				Navin
36-3-0554	WCP118	Searle	GDA	55	767012	6417958	Open	Valid	Potential				Navin
36-3-0555	WCP119	Searle	GDA	55	767012	6417958	Closed	Valid	Artefact : 11,				Navin
36-3-0556	WCP120	Searle	GDA	55	767018	6417924	Closed	Valid	Artefact : 1,				Navin
36-3-0888	S1MC80	AGD	AGD	55	761535	6417281	Open	Valid	Artefact : 1				Mr.Giles
36-3-0889	S1MC81	AGD	AGD	55	761547	6417308	Open	Valid	Artefact : 1				Mr.Giles
36-3-0890	S1MC82	AGD	AGD	55	761563	6417309	Open	Valid	Artefact : 1				Mr.Giles
36-3-0891	S1MC83	AGD	AGD	55	761557	6417330	Open	Valid	Artefact : 1				Mr.Giles
36-3-0892	S1MC84	AGD	AGD	55	761580	6417360	Open	Valid	Artefact : 1				Mr.Giles
36-3-0893	S1MC85	AGD	AGD	55	761613	6417323	Open	Valid	Artefact : 1				Mr.Giles
36-3-0894	S1MC86	AGD	AGD	55	761612	6417508	Open	Valid	Artefact : 1				Mr.Giles
36-3-0895	S1MC87	AGD	AGD	55	761615	6417500	Open	Valid	Artefact : 1				Mr.Giles
36-3-0896	S1MC88	AGD	AGD	55	761608	6417465	Open	Valid	Artefact : 1				Mr.Giles
36-3-0897	S1MC89	AGD	AGD	55	761591	6417421	Open	Valid	Artefact : 1				Mr.Giles
36-3-0898	S1MC90	AGD	AGD	55	761579	6417403	Open	Valid	Artefact : 1				Mr.Giles
36-3-0899	S1MC91	AGD	AGD	55	761631	6417624	Open	Valid	Artefact : 1				Mr.Giles
36-3-0900	S1MC92	AGD	AGD	55	761659	6417596	Open	Valid	Artefact : 1				Mr.Giles
36-3-0901	S1MC93	AGD	AGD	55	761659	6417588	Open	Valid	Artefact : 1				Mr.Giles
36-3-0902	S1MC94	AGD	AGD	55	761638	6417728	Open	Valid	Artefact : 1				Mr.Giles
36-3-0948	S1MC139	AGD	AGD	55	762549	6417807	Open	Valid	Artefact : 1				Mr.Giles

Report generated by AHIMS Web Service on 17/11/2011 for Geordie Oakes for the following area at Datum :GDA, Zone : 55, Eastings : 758305 - 767243, Northings : 6417370 - 6418000 with a Buffer of 0 meters.Additional Info : Archaeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 22

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AHIMS Web Services (AWS)

Extensive search - Site

Your Ref Number : 60237739 1.1

Client Service ID :56595

Note: This Excel report shows the sites found in AHIMS on the 17/11/2011. If this date is not the same as the original date of the Search Results letter obtained during the Basic Search, then the search results might be different. The PDF version of this report will always coincide with the Basic Search Results letter.

SiteID	SiteName	Contact	Datu	Zone	Eastng	Northing	Context	SiteStatus	SiteFeatures	SiteTypes	Permits	Reports	Recorder
36-3-0238	MC10		AGD	55	763226	6422860	Open	Valid	Artefact: -				Mr.David
36-3-0690	CE-14-OS		AGD	55	766753	6423009	Open	Valid	Artefact : 3	2531			Mr.Lance
36-3-0693	CE-17-OS		AGD	55	764072	6425106	Open	Valid	Artefact : 3	2531			Mr.Lance
36-3-0694	CE-18-OS		AGD	55	764552	6424451	Open	Valid	Artefact : 11	2531			Mr.Lance
36-3-0695	CE-19-OS		AGD	55	764594	6424380	Open	Valid	Art (Pigment or				Mr.Lance
36-3-0696	CE-20-OS		AGD	55	764646	6424228	Open	Valid	Artefact : 34	2531			Mr.Lance
36-3-0697	CE-21-OS		AGD	55	764890	6423937	Open	Valid	Artefact : 2	2531			Mr.Lance
36-3-0698	CE-22-OS		AGD	55	764986	6423883	Open	Valid	Artefact : 2	2531			Mr.Lance
36-3-0657	WC OS 18	Sarah	AGD	55	765865	6423952	Open	Valid	Artefact : 2				Mr.David
36-3-0658	WC OS 17 with PAD		AGD	55	766479	6423495	Open	Valid	Artefact : 30				Mr.David
36-3-0707	CE-31-IF		AGD	55	759498	6425055	Open	Valid	Artefact : 1	2531			Mr.Lance
36-3-0843	S1MC301		AGD	55	758993	6424099	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0844	S1MC302		AGD	55	758886	6423780	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-1059	S1MC243		AGD	55	762310	6424801	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0798	S1MC1		AGD	55	760670	6424444	Open	Valid	Modified Tree				Mr.Giles
36-3-0799	S1MC2		AGD	55	760840	6424339	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0800	S1MC3		AGD	55	760846	6424309	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0801	S1MC4		AGD	55	760866	6424307	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0802	S1MC5		AGD	55	760867	6424306	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0803	S1MC6		AGD	55	760890	6424301	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0804	S1MC7		AGD	55	760867	6424294	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0805	S1MC8		AGD	55	760548	6424002	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0806	S1MC9		AGD	55	760508	6424018	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0807	S1MC10		AGD	55	760645	6424004	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0808	S1MC11		AGD	55	760924	6423968	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0809	S1MC12		AGD	55	760933	6423948	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0810	S1MC13		AGD	55	761054	6423910	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0811	S1MC14		AGD	55	761050	6423907	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0812	S1MC15		AGD	55	761252	6425269	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0813	S1MC16		AGD	55	761168	6425107	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0814	S1MC17		AGD	55	760997	6425271	Open	Valid	Artefact : 1	3439			Mr.Giles
36-3-0815	S1MC18		AGD	55	759777	6425026	Open	Valid	Artefact : 1	3439			Mr.Giles

36-3-0816	S1MC19	AGD	55	759786	6425012	Open	Valid	Artefact : 1	Mr.Giles
36-3-0817	S1MC20	AGD	55	759816	6425028	Open	Valid	Artefact : 1	Mr.Giles
36-3-0818	S1MC21	AGD	55	760296	6425214	Open	Valid	Artefact : 1	Mr.Giles
36-3-0819	S1MC22	AGD	55	760297	6425216	Open	Valid	Artefact : 1	Mr.Giles
36-3-0820	S1MC23	AGD	55	760269	6425239	Open	Valid	Artefact : 1	Mr.Giles
36-3-0821	S1MC24	AGD	55	760514	6425250	Open	Valid	Artefact : 1	Mr.Giles
36-3-0823	S1MC26	AGD	55	761766	6425183	Open	Valid	Artefact : 1	Mr.Giles
36-3-0824	S1MC27	AGD	55	761828	6425100	Open	Valid	Artefact : 1	Mr.Giles
36-3-0825	S1MC28	AGD	55	761627	6425002	Open	Valid	Artefact : 1	Mr.Giles
36-3-0826	S1MC29	AGD	55	761619	6424707	Open	Valid	Artefact : 1	Mr.Giles
36-3-0827	S1MC30	AGD	55	761135	6424559	Open	Valid	Artefact : 1	Mr.Giles
36-3-0828	S1MC31	AGD	55	761132	6424567	Open	Valid	Artefact : 1	Mr.Giles
36-3-0829	S1MC32	AGD	55	761124	6424585	Open	Valid	Artefact : 1	Mr.Giles
36-3-0830	S1MC33	AGD	55	761125	6424584	Open	Valid	Artefact : 1	Mr.Giles
36-3-0831	S1MC34	AGD	55	761128	6424583	Open	Valid	Artefact : 1	Mr.Giles
36-3-0832	S1MC35	AGD	55	761125	6424584	Open	Valid	Artefact : 1	Mr.Giles
36-3-0833	S1MC36	AGD	55	761255	6424616	Open	Valid	Artefact : 1	Mr.Giles
36-3-0834	S1MC37	AGD	55	761256	6424618	Open	Valid	Artefact : 1	Mr.Giles
36-3-0835	S1MC38	AGD	55	761279	6424617	Open	Valid	Artefact : 1	Mr.Giles
36-3-0836	S1MC39	AGD	55	761280	6424620	Open	Valid	Artefact : 1	Mr.Giles
36-3-0837	PAD 1 Moolarben	AGD	55	761452	6424581	Open	Valid	Potential	Mr.Giles
36-3-0838	PAD 2 Moolarben	AGD	55	761265	6423464	Open	Valid	Potential	Mr.Giles
36-3-0839	PAD 3 Moolarben	AGD	55	761265	6423392	Open	Valid	Potential	Mr.Giles
36-3-0840	S1MC298	AGD	55	759258	6423654	Open	Valid	Artefact : 1	Mr.Giles
36-3-0841	S1MC299	AGD	55	759331	6423850	Open	Valid	Artefact : 1	Mr.Giles
36-3-0842	S1MC300	AGD	55	759071	6423798	Open	Valid	Artefact : 1	Mr.Giles
36-3-1151	S2MC2	GDA	55	763893	6425480	Open	Valid	Artefact : 1	101603
36-3-1152	S2MC3	GDA	55	764147	6425290	Open	Valid	Artefact : 2	101603
36-3-1153	S2MC4	GDA	55	763996	6425355	Open	Valid	Artefact : 1	101603
36-3-1154	S2MC5	GDA	55	763592	6424924	Open	Valid	Artefact : 2	101603
36-3-1155	S2MC6	GDA	55	763750	6424949	Open	Valid	Artefact : 26	101603
36-3-1156	S2MC7	GDA	55	763625	6425020	Open	Valid	Artefact : 1	101603
36-3-1157	S2MC8	GDA	55	762810	6425021	Open	Valid	Artefact : 1	101603
36-3-1158	S2MC9	GDA	55	762818	6424980	Open	Valid	Artefact : 1	101603
36-3-1159	S2MC10	GDA	55	762899	6425019	Open	Valid	Artefact : 3	101603
36-3-1160	S2MC11	GDA	55	762932	6425019	Open	Valid	Artefact : 1	101603
36-3-1161	S2MC12	GDA	55	762928	6425072	Open	Valid	Art (Pigment or	Mr.Giles
36-3-1162	S2MC13	GDA	55	763963	6424498	Open	Valid	Artefact : 1	Mr.Giles
36-3-1163	S2MC14	GDA	55	764599	6424642	Open	Valid	Artefact : 16,	Mr.Giles
36-3-1164	S2MC15	GDA	55	764474	6424713	Open	Valid	Artefact : 28	Mr.Giles
36-3-1165	S2MC16	GDA	55	764356	6424682	Open	Valid	Artefact : 2	Mr.Giles
36-3-1166	S2MC17	GDA	55	763927	6423811	Open	Valid	Artefact : 27,	Mr.Giles

36-3-1167	S2MC18	GDA	55	763623	6423760	Open	Valid	Artefact : 15,	101603	Mr.Giles
36-3-1168	S2MC19	GDA	55	763569	6423675	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1169	S2MC20	GDA	55	763544	6423690	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1170	S2MC21	GDA	55	763492	6423781	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1171	S2MC22	GDA	55	763514	6423298	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1172	S2MC23	GDA	55	763533	6423263	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1173	S2MC24	GDA	55	763527	6423238	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1174	S2MC25	GDA	55	763577	6423216	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1136	WC-OS21 (Wollar)	GDA	55	764360	6425500	Open	Valid	Artefact : 3	101681	Doctor.Jod
36-3-1263	S2MC117	GDA	55	766137	6423144	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1264	S2MC118	GDA	55	766022	6423648	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1265	S2MC119	GDA	55	765280	6423247	Open	Valid	Artefact : 14	101603	Mr.Giles
36-3-1266	S2MC120	GDA	55	765349	6423292	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1267	S2MC121	GDA	55	765351	6423204	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1282	S2MC136	GDA	55	765331	6423024	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1283	S2MC137	GDA	55	765393	6423134	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1284	S2MC138	GDA	55	765367	6423633	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1285	S2MC139	GDA	55	765452	6423685	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1286	S2MC140	GDA	55	765292	6423580	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1287	S2MC141	GDA	55	765282	6423484	Open	Valid	Artefact : 6	101603	Mr.Giles
36-3-1376	S2MC229	GDA	55	763056	6423750	Open	Valid	Artefact : 14	101603	Mr.Giles
36-3-1377	S2MC230	GDA	55	762763	6423968	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1378	S2MC231	GDA	55	762203	6423681	Open	Valid	Habitat	101603	Mr.Giles
36-3-1327	S2MC181	GDA	55	763367	6423035	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1328	S2MC182	GDA	55	763420	6423022	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1332	S2MC186	GDA	55	763589	6423143	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1253	S2MC107	GDA	55	763292	6423420	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1254	S2MC108	GDA	55	763221	6423355	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1255	S2MC109	GDA	55	763245	6423435	Open	Valid	Artefact : 5	101603	Mr.Giles
36-3-1256	S2MC110	GDA	55	763247	6423496	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1257	S2MC111	GDA	55	763173	6423555	Open	Valid	Artefact : 3	101603	Mr.Giles
36-3-1258	S2MC112	GDA	55	763144	6423363	Open	Valid	Artefact : 2	101603	Mr.Giles
36-3-1259	S2MC113	GDA	55	763109	6423414	Open	Valid	Artefact : 1	101603	Mr.Giles
36-3-1260	S2MC114	GDA	55	763054	6423414	Open	Valid	Artefact : 4	101603	Mr.Giles

Report generated by AHIMS Web Service on 17/11/2011 for Geordie Oakes for the following area at Datum :GDA, Zone : 55, Eastings : 758900 - 767100, Northings : 6423000 - 6425600 with a Buffer of 0 meters.Additional Info : Archeological Assessment. Number of Aboriginal sites and Aboriginal objects found is 108

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Appendix D

Figures - Impacts from Preferred Project to Aboriginal Heritage

Appendix D Figures - Impacts from Preferred Project to Aboriginal Heritage



4	5	6
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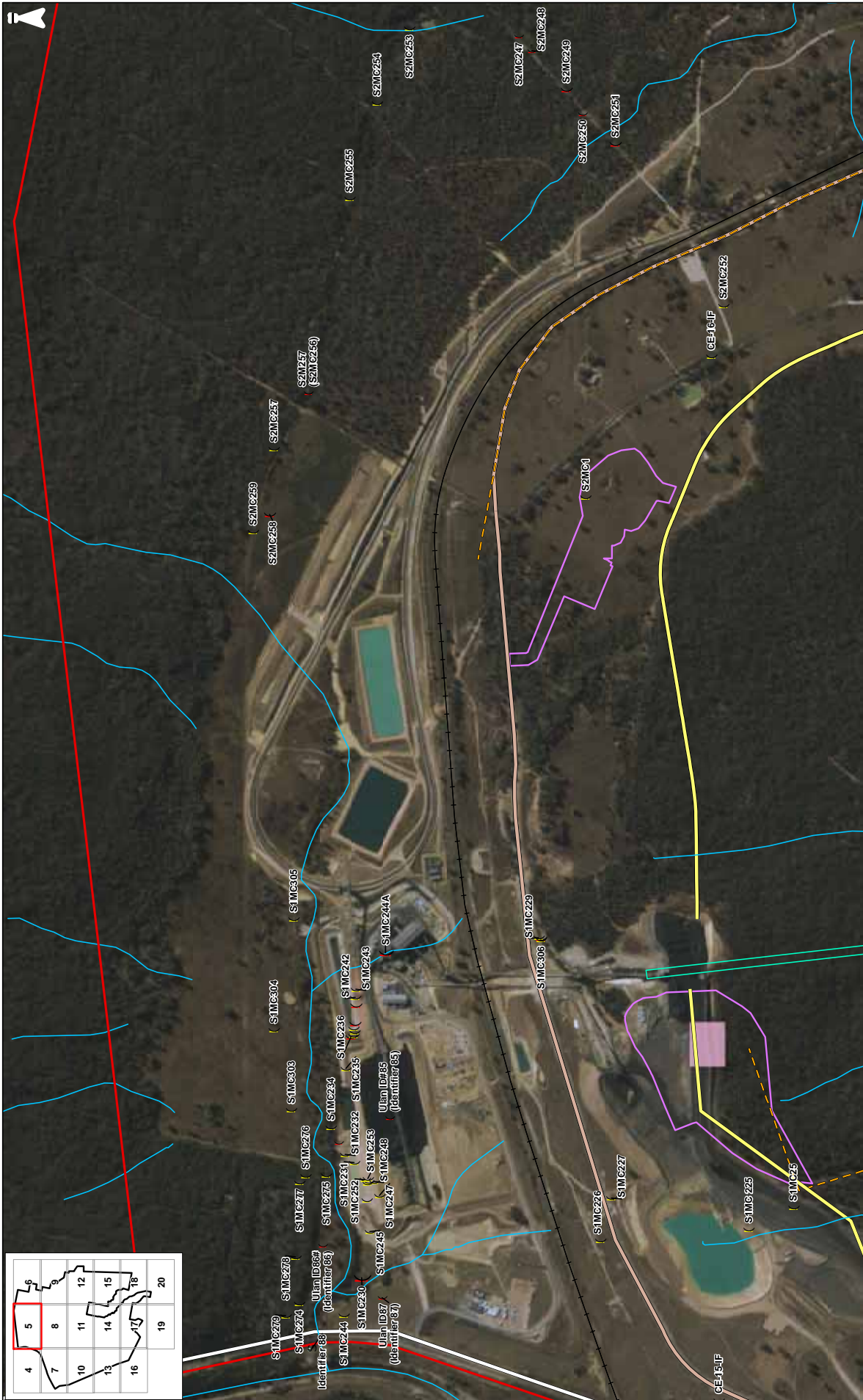
MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hansen Bailey, 2011; AHMIS, 2011

14 DEC 2011
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Fig. 4

- Stage 2 Project Boundary
- Art Site
- S Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry Artefact Density
 - PAD
 - Rock Shelter
 - Scattered Tree
- Creek re-alignments
- Drainage lines
- Watermark
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities



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MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage

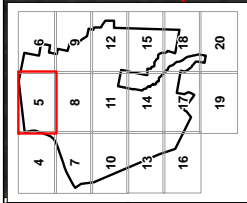
Source: Hansen Bailey, 2011; AHIMS, 2011

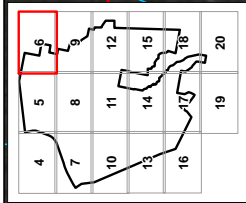
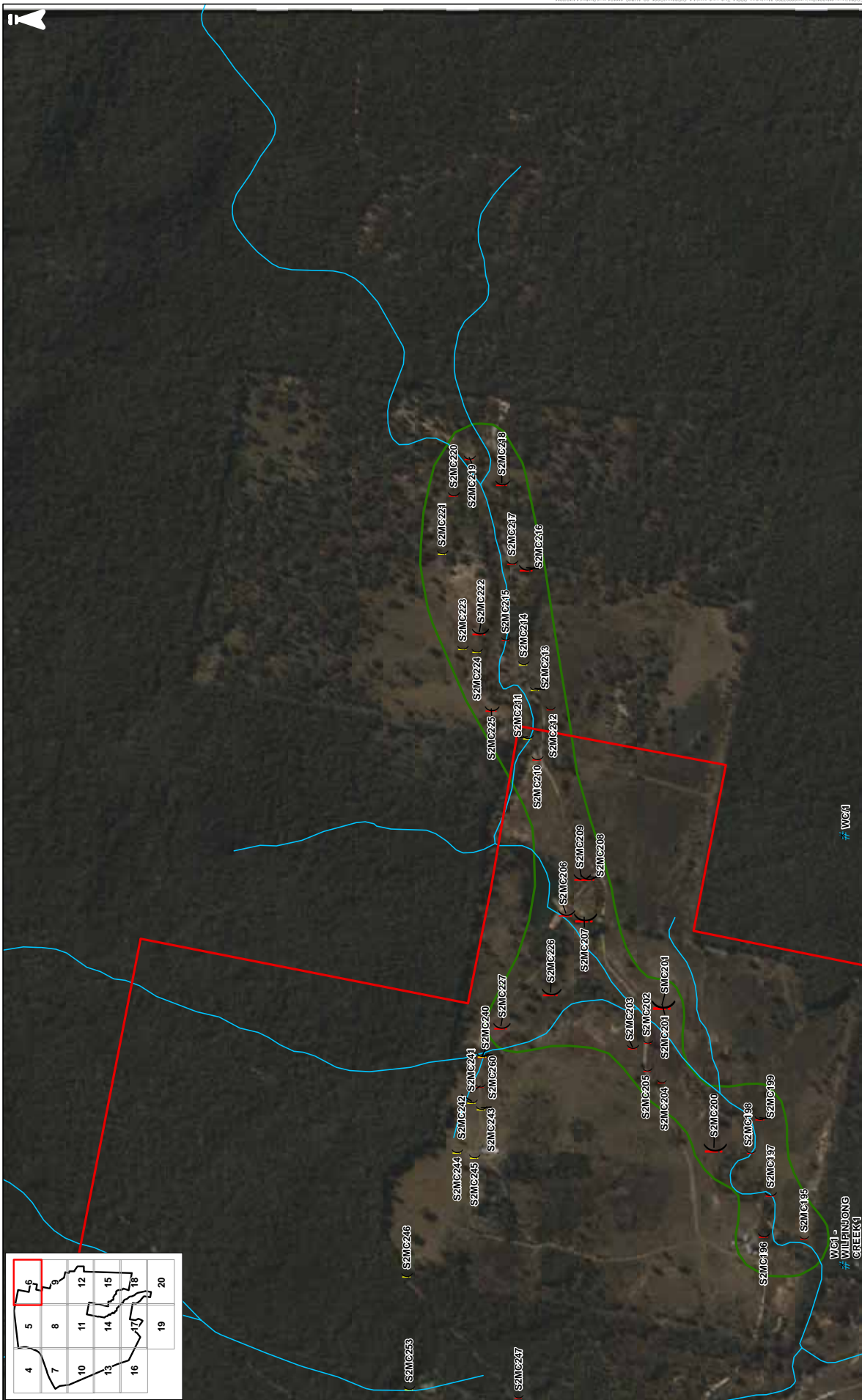
0 125 250 500 m

Fig 5

Legend:

- [Red outline] Stage 2 Project Boundary
- [Purple star] Art Site
- [S] Destroyed
- [Green circle] Grinding Grooves
- [Yellow circle] Isolated Artefact
- [Pink star] Ochre Quarry
- [Green circle] PAD
- [Purple star] Rock Shelter
- [Green circle] Scarred Tree
- [Blue circle] Creek re-alignments
- [Blue circle] Drainage lines
- [Blue circle] Water tank
- [Green circle] Management areas
- [Grey circle] 51 - 100
- [Grey circle] 101 - 200
- [Grey circle] 200+
- [Grey circle] Open Cut 4
- [Grey circle] Proposed Ulan Wollar diversion
- [Grey circle] Relocated powerlines
- [Grey circle] Surface facilities
- [Grey circle] Dump station
- [Grey circle] ROM pad
- [Grey circle] ROM stockpile
- [Grey circle] Rejects bin
- [Grey circle] Haul road
- [Grey circle] Railway
- [Grey circle] Roads
- [Grey circle] Conveyor





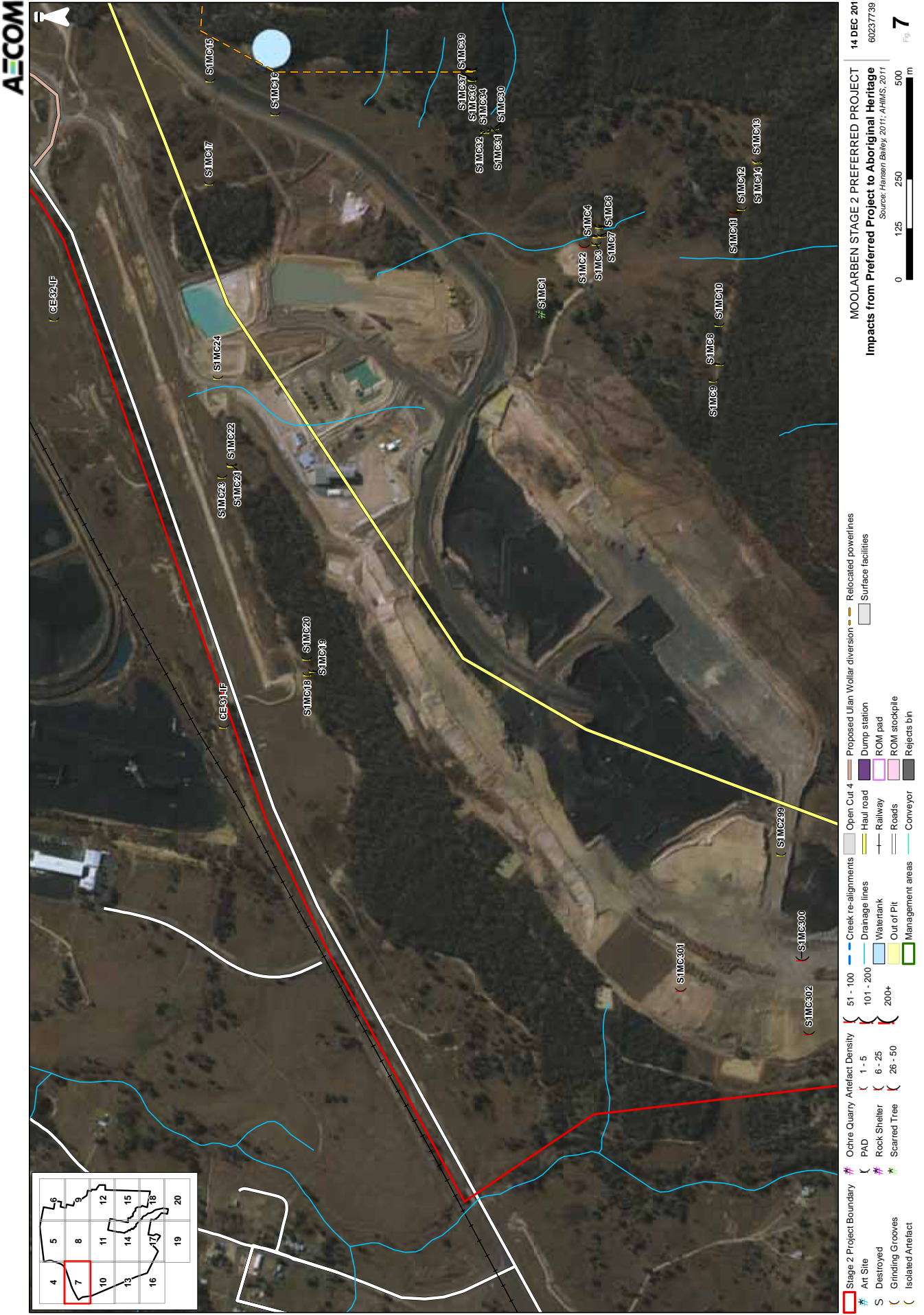
MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hansen Bailey, 2017; AHIMS, 2011

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Fig 6

0 125 250 500 m

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry Artefact Density
 - PAD 1 - 5
 - Rock Shelter 6 - 25
 - Scarred Tree 26 - 50
 - 200+
- Creek re-alignments
- Drainage lines
- Waterbank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Relocated powerlines
- Surface facilities
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin

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MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
Source: Hansen, Bailey, 2011; AHIMS, 2011



Map grid showing numbered cells (1-20). Cell 9 is highlighted in red.

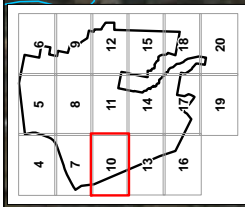
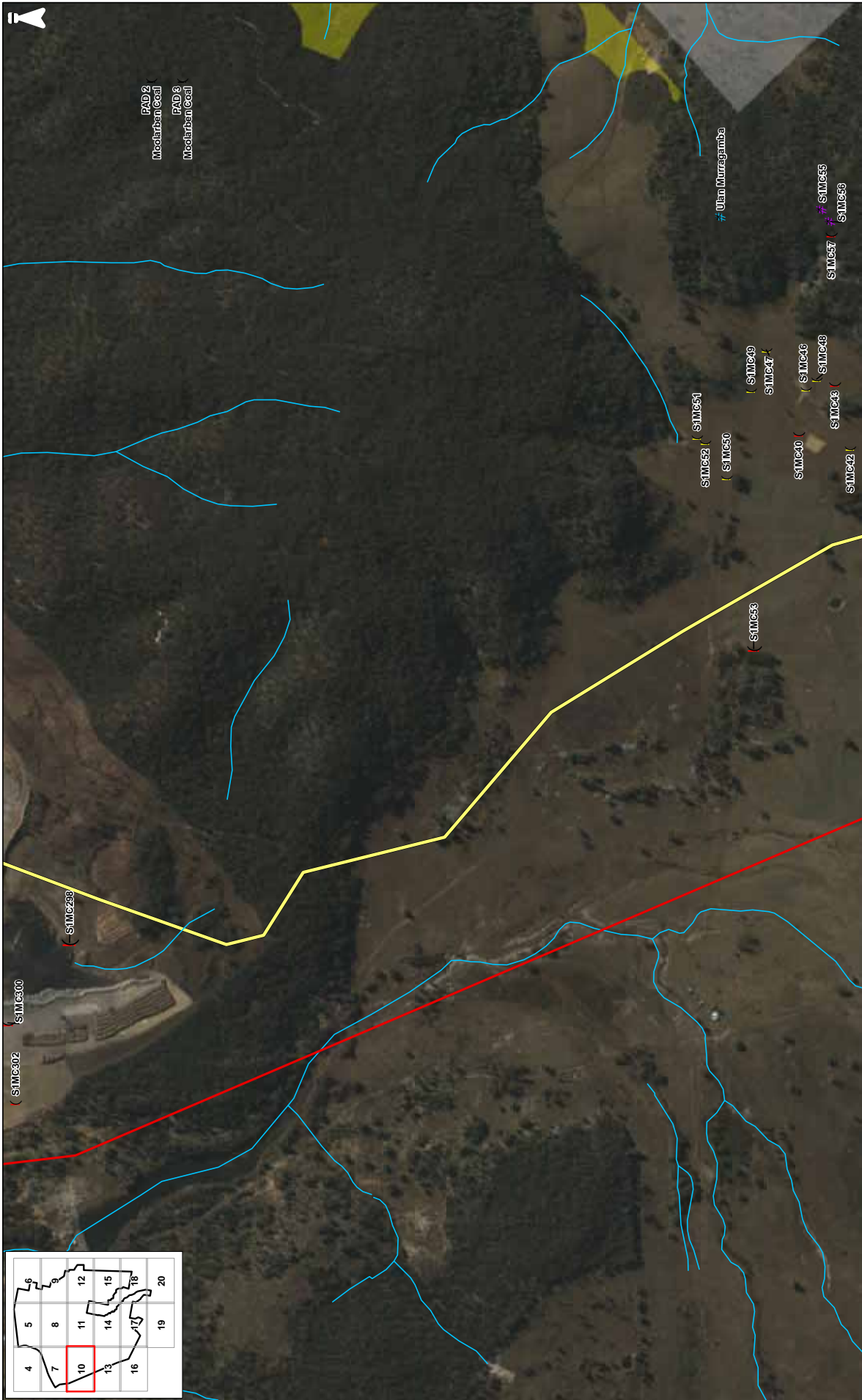
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MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hanson Bailey 2011; AHMS 2011
 14 DEC 2011
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 Fig 9

Legend:

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Other Quarry Artefact Density
 - PAD
 - Rock Shelter
 - Scanned Tree
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities

Scale: 0, 125, 250, 500 m

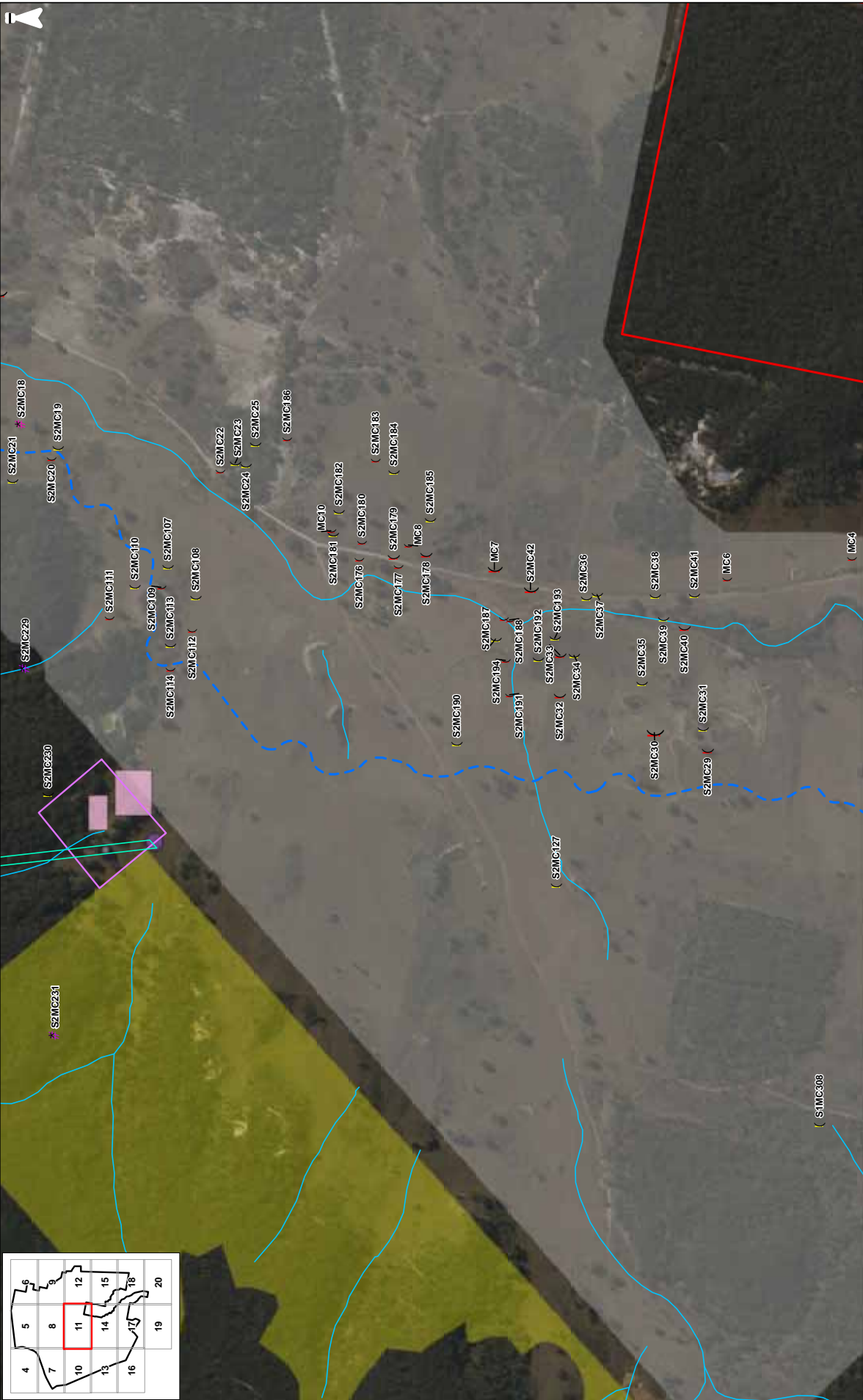


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Fig 10

MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
Source: Hansen, Bailey, 2011; AHIMS, 2011

0 125 250 500 m

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Artefact Density
 - 1 - 5
 - 6 - 25
 - 26 - 50
- PAD
- Rock Shelter
- Scarred Tree
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities



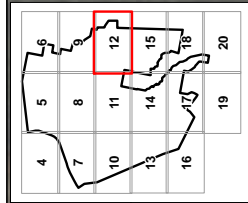
MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hanson Bailey 2011; AHMS 2011

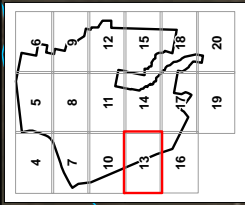
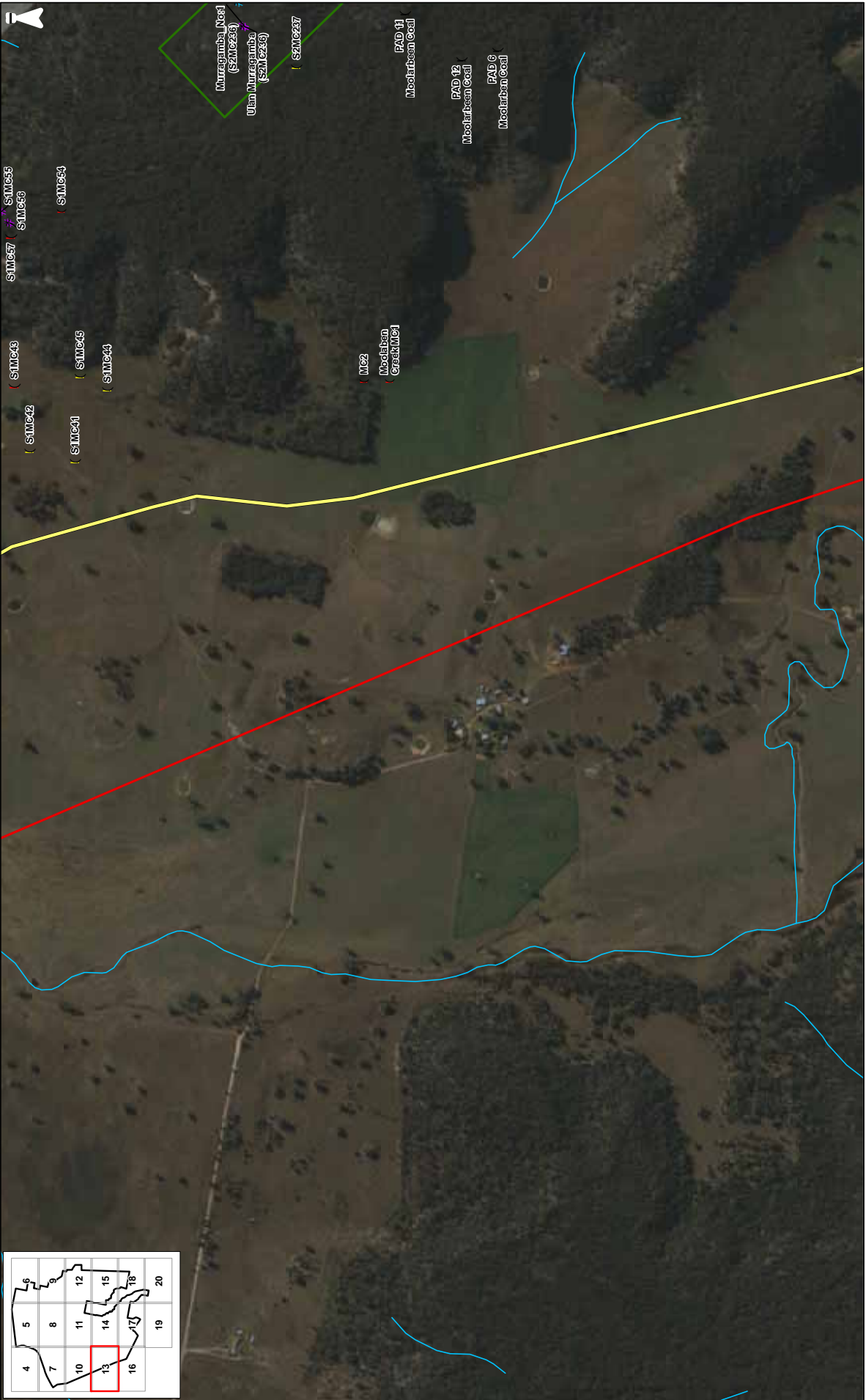
14 DEC 2011
 60237739
 Fig 11

0 125 250 500 m

Legend:

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Artifact Density:
 - 1 - 5
 - 6 - 25
 - 26 - 50
 - 51 - 100
 - 101 - 200
 - 200+
- Creek re-alignments
- Drainage lines
- Wateriank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities





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MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
Source: Hansen Bailey 2011; AHMS 2011

0 125 250 500 m

Fig 13



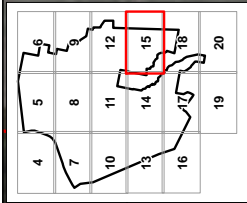
MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hansen, Bailey, 2011; AHIMS, 2011

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 Fig. 14

0 125 250 500 m

Legend:

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Artefact Density:
 - 1 - 5
 - 6 - 25
 - 26 - 50
 - 51 - 100
 - 101 - 200
 - 200+
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Relocated powerlines
- Surface facilities
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin



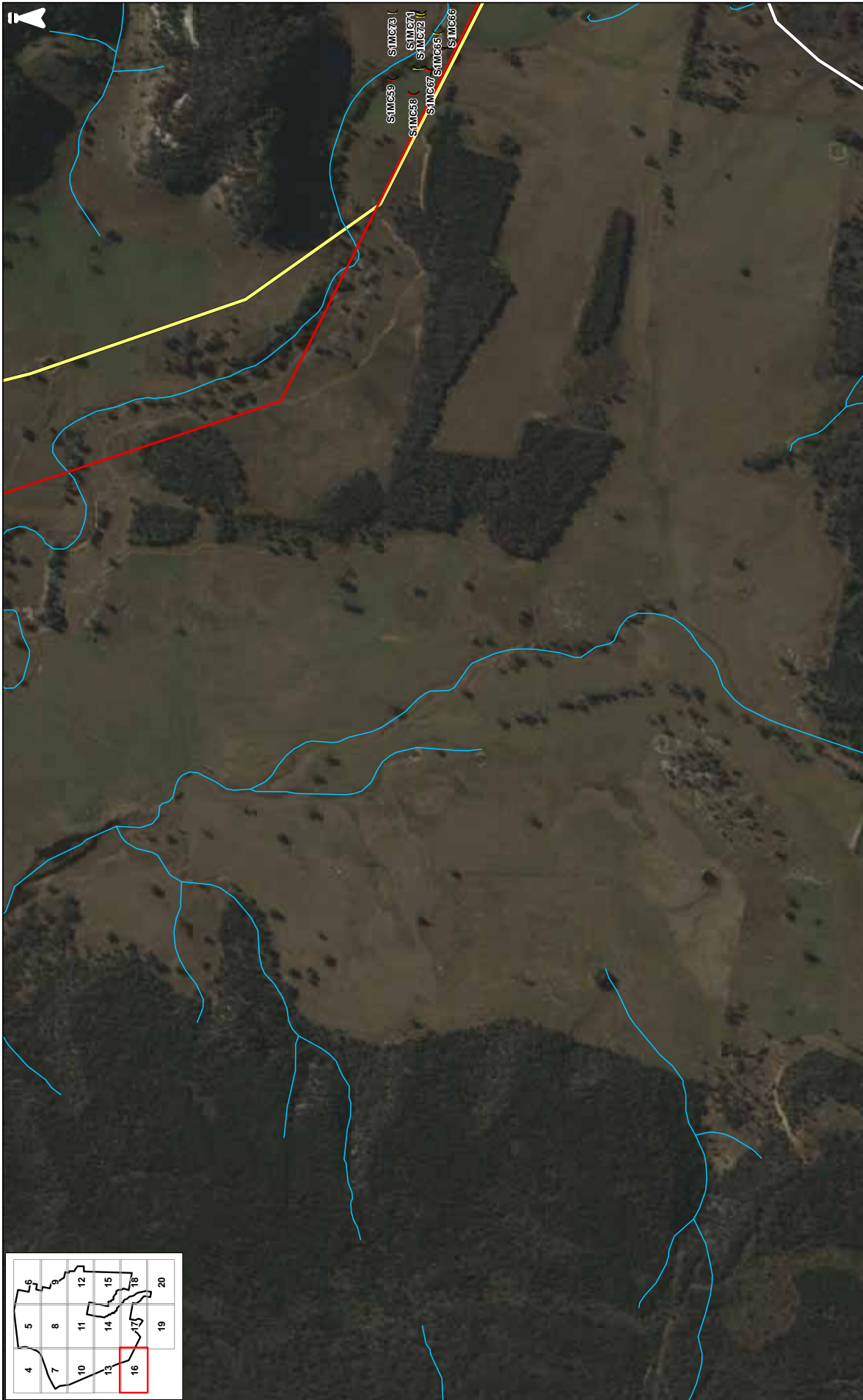
MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hanson Bailey 2011; AHIMS 2011

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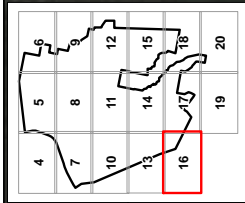
Fig 15

0 125 250 500 m

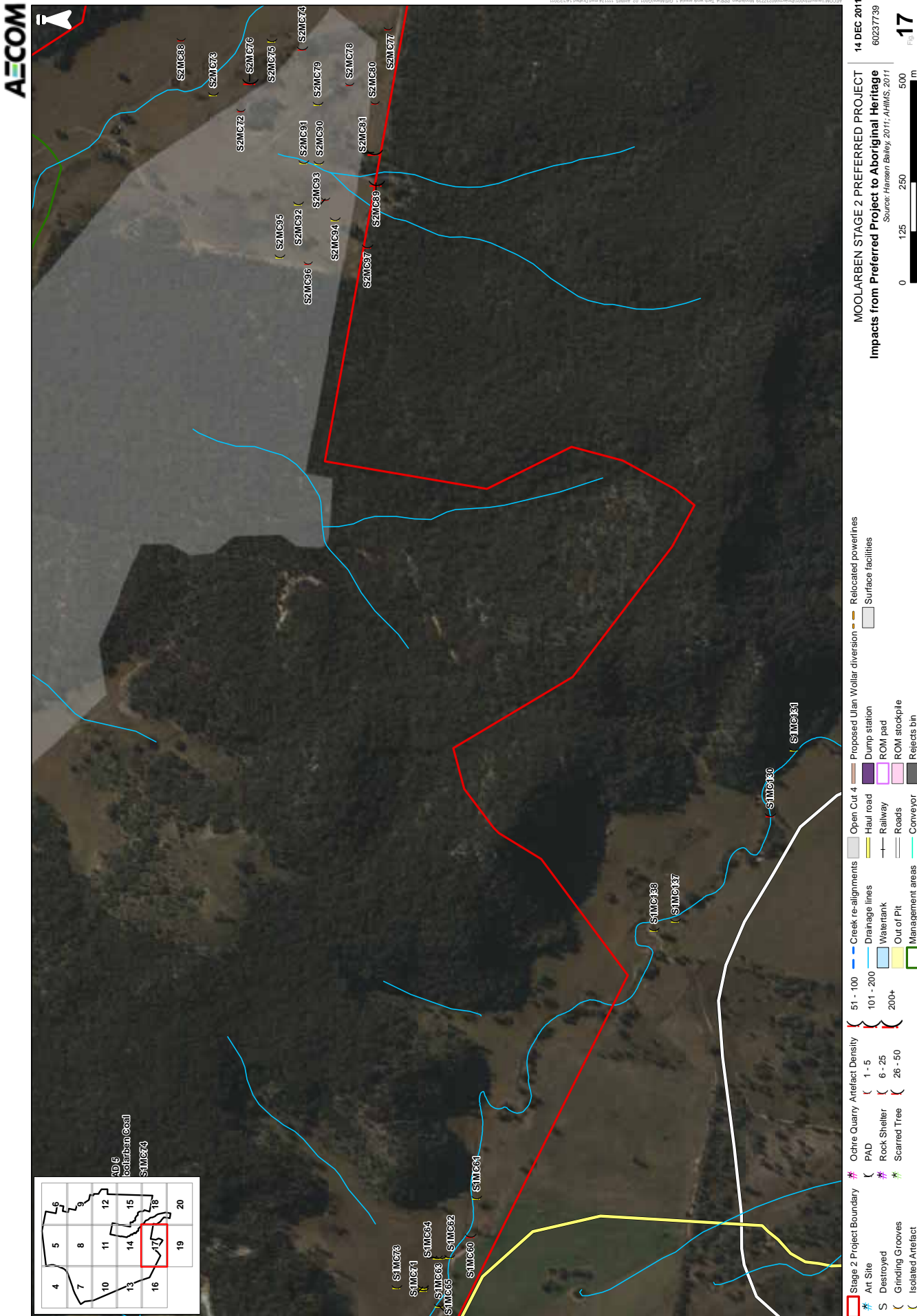
- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Quarry Artefact Density
 - PAD
 - Rock Shelter
 - Scanned Tree
- 51 - 100
- 101 - 200
- 200+
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities

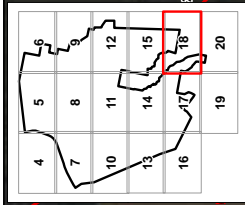


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MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
Source: Hansen, Bailey, 2011; AHIMS, 2011
Fig. 16



- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Quarry Artefact Density
 - 1 - 5
 - 6 - 25
 - 26 - 50
- PAD
- Rock Shelter
- Scarred Tree
- 51 - 100
- 101 - 200
- 200+
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Proposed Ulan Wollar diversion
- Relocated powerlines
- Surface facilities
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin



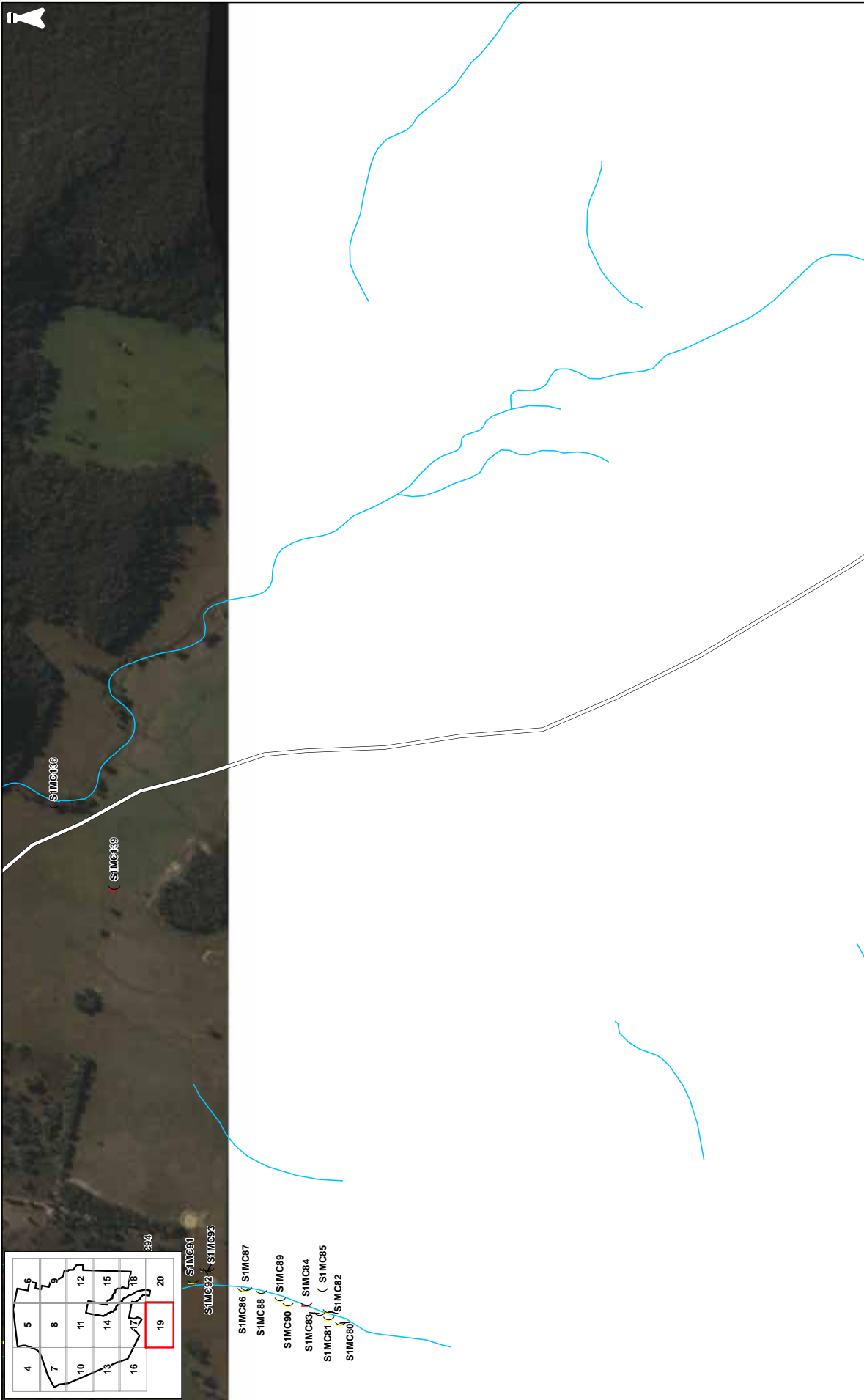


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Fig. 18

MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
Source: Hansen, Bailey, 2011; AHIMS, 2011

0 125 250 500 m

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Other Quarry Artefact Density
 - PAD
 - Rock Shelter
 - Scarred Tree
- 51 - 100
- 101 - 200
- 200+
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin
- Relocated powerlines
- Surface facilities



MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hanson Bailey 2011; AHMS 2011

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 Fig 19

0 125 250 500 m

Legend:

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry Artefact Density
 - PAD
 - Rock Shelter
 - Scanned Tree
- Creek re-alignments
- Drainage lines
- Water tank
- Out of Pit
- Management areas
- Proposed Ulan Wollar diversion
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Relocated powerlines
- Surface facilities
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin

51 - 100
 101 - 200
 200+



4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	

WCP#16 (WCP#17)
WCP#19 (WCP#20)
WCP#20 (WCP#20)

MOOLARBEN STAGE 2 PREFERRED PROJECT
Impacts from Preferred Project to Aboriginal Heritage
 Source: Hansen, Bailey, 2011; AHIMS, 2011

14 DEC 2011
60237739

0 125 250 500 m

20

- Stage 2 Project Boundary
- Art Site
- Destroyed
- Grinding Grooves
- Isolated Artefact
- Ochre Quarry
- Artefact Density
 - 1 - 5
 - 6 - 25
 - 26 - 50
 - 51 - 100
 - 101 - 200
 - 200+
- Creek re-alignments
- Drainage lines
- Watertank
- Out of Pit
- Management areas
- Open Cut 4
- Haul road
- Railway
- Roads
- Conveyor
- Proposed Ulan Wollar diversion
- Relocated powerlines
- Surface facilities
- Dump station
- ROM pad
- ROM stockpile
- Rejects bin

Appendix E

Consolidated Aboriginal Archaeological Site Listing for the Moolarben Coal Lease

Appendix E Consolidated Aboriginal Archaeological Site Listing for the Moolarben Coal Lease

AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0016	Ulan Murrumbidgee (S2MC236)	761393	6421336	Rock Shelter	High	UG – Rockshelter Management Area	Indirect	Rockshelter Management Area
36-3-0060	Ulan Creek Site 18	760365	6426186	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0061	Ulan Creek Site 19	761028	6426802	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0134	Murrumbidgee No.1 (S2MC236)	761393	6421336	Rock Shelter	High	UG – Rockshelter Management Area	Indirect	Rockshelter Management Area
36-3-0222	Moolarben Creek MC1	760570	6421000	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-0223	MC2	760570	6421060	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-0237	MC11	763534	6421250	Artefact Scatter	Medium	Biodiversity Offset	Direct	Recording and Surface Collection
36-3-0238	MC10	763376	6423040	Artefact Scatter	Medium	OC4	Direct	Recording and Surface Collection
36-3-0239	MC8	763343	6422860	Artefact Scatter	Medium	OC4	Direct	Recording and Surface Collection
36-3-0240	MC6	763263	6422120	Artefact Scatter	Medium	OC4	Direct	Recording and Surface Collection
36-3-0241	MC4	763311	6421830	Artefact Scatter	Medium	OC4	Direct	Recording and Surface Collection
36-3-0287	WC/1	764680	6425480	Artefact Scatter	Medium	Project Boundary	Nil	Nil required
36-3-0337	MC7	763286	6422660	Artefact Scatter	Medium	OC4	Direct	Recording and Surface Collection
36-3-0485	WCP209	766850	6418150	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0486	WCP210	766789	6417930	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required

Moolarben Coal Project
Moolarben Preferred Project Report

AEOM

AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0487	WCP211	766953	6418347	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0491	WCP215	766857	6418302	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-0492	WCP216	767084	6418194	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0551	WCP115	767119	6418092	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0552	WCP116	767042	6417975	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0553	WCP117	767046	6417986	PAD	Medium	Outside Project Boundary	Nil	Nil required
36-3-0554	WCP118	767012	6417958	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0555	WCP119	767012	6417958	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-0556	WCP120	767018	6417924	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-0657	WC OS 18	766015	6424132	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-0658	WC OS 17 with PAD	766629	6423675	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0690	CE-14-OS	766903	6423189	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0691	CE-15-IF	761355	6425957	Isolated Artefact	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0692	CE-16-IF	763781	6425974	Isolated Artefact	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0693	CE-17-OS	764222	6425286	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0694	CE-18-OS	764702	6424631	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0695	CE-19-OS	764744	6424560	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-0696	CE-20-OS	764796	6424408	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0697	CE-21-OS	765040	6424117	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0698	CE-22-OS	765136	6424063	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-0707	CE-31-IF	759648	6425235	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-0708	CE-32-IF	760659	6425657	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-0709	CE-33-IF	760960	6425773	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-0720	WC1 - WILPINJONG CREEK 1	764680	6425480	Artefact Scatter	Medium	Project Boundary	Nil	Nil required
36-3-0798	S1MC1	760670	6424444	Scarred Tree	Medium	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0799	S1MC2	760840	6424339	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0800	S1MC3	760846	6424309	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0801	S1MC4	760866	6424307	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0802	S1MC5	760867	6424306	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0803	S1MC6	760890	6424301	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0804	S1MC7	760867	6424294	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0805	S1MC8	760548	6424002	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0806	S1MC9	760508	6424018	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0807	S1MC10	760645	6424004	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0808	S1MC11	760924	6423968	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Eastings (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0809	S1MC12	760933	6423948	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0810	S1MC13	761054	6423910	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0811	S1MC14	761050	6423907	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0812	S1MC15	761252	6425269	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0813	S1MC16	761168	6425107	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0814	S1MC17	760997	6425271	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0815	S1MC18	759777	6425026	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0816	S1MC19	759786	6425012	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0817	S1MC20	759816	6425028	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0818	S1MC21	760296	6425214	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0819	S1MC22	760297	6425216	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0820	S1MC23	760269	6425239	Isolated Artefact	Low	Project Boundary	Nil	In situ Conservation
36-3-0821	S1MC24	760514	6425250	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0822	S1MC25	761802	6425783	Isolated Artefact	Low	Powerlines	Direct	Surface collection
36-3-0823	S1MC26	761766	6425183	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0824	S1MC27	761828	6425100	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0825	S1MC28	761627	6425002	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0826	S1MC29	761619	6424707	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0827	S1MC30	761135	6424559	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0828	S1MC31	761132	6424567	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0829	S1MC32	761124	6424585	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0830	S1MC33	761125	6424584	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0831	S1MC34	761128	6424583	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0832	S1MC35	761125	6424584	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0833	S1MC36	761255	6424616	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0834	S1MC37	761256	6424618	Isolated Artefact	Low	Powerlines	Direct	Surface collection
36-3-0835	S1MC38	761279	6424617	Isolated Artefact	Low	Powerlines	Direct	Surface collection
36-3-0836	S1MC39	761280	6424620	Isolated Artefact	Low	Powerlines	Direct	Surface collection
36-3-0837	PAD 1 Moolarben Coal	761452	6424581	PAD	Low	Project Boundary	Nil	Test excavation where monitoring impacts are likely
36-3-0838	PAD 2 Moolarben Coal	761265	6423464	PAD	Low	Project Boundary	Nil	Test excavation where monitoring impacts are likely
36-3-0839	PAD 3 Moolarben Coal	761265	6423392	PAD	Low	Project Boundary	Nil	Test excavation where monitoring impacts are likely
36-3-0840	S1MC298	759258	6423654	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0841	S1MC299	759331	6423850	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0842	S1MC300	759071	6423798	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0843	S1MC301	758993	6424099	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0844	S1MC302	758886	6423780	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0845	S1MC40	760441	6421958	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0846	S1MC41	760384	6421732	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0847	S1MC42	760408	6421838	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0848	S1MC43	760558	6421874	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0849	S1MC44	760550	6421657	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0850	S1MC45	760582	6421721	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0851	S1MC46	760547	6421941	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0852	S1MC47	760637	6422033	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0853	S1MC48	760569	6421916	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0854	S1MC49	760543	6422069	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0855	S1MC50	760340	6422126	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0856	S1MC51	760434	6422195	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0857	S1MC52	760422	6422175	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0858	S1MC53	759942	6422062	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0859	S1MC54	760966	6421764	Artefact Scatter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0860	S1MC55	760964	6421902	Rock Shelter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0861	S1MC56	760936	6421882	Rock Shelter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0862	S1MC57	760906	6421882	Artefact Scatter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0863	S1MC58	761241	6419040	Artefact Scatter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0864	S1MC59	761274	6419089	Artefact Scatter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0865	S1MC60	761555	6418906	Artefact Scatter	Low	Project Boundary	Nil	Recording and surface collection
36-3-0866	S1MC61	761650	6418891	Isolated Artefact	Low	Project Boundary	Nil	Surface collection
36-3-0867	S1MC62	761503	6418958	Isolated Artefact	Low	Project Boundary	Nil	Surface collection
36-3-0868	S1MC63	761502	6418979	Isolated Artefact	Low	Project Boundary	Nil	Surface collection
36-3-0869	S1MC64	761502	6418989	Isolated Artefact	Low	Project Boundary	Nil	Surface collection
36-3-0870	S1MC65	761382	6418984	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0871	S1MC66	761345	6418974	Artefact Scatter	Low	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely

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AHIMS Site Number	Site Name	Eastings (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0872	S1MC67	761298	6418996	Artefact Scatter	Medium	Project Boundary	Nil	Surface collection where monitoring indicates impacts are likely
36-3-0873	S1MC68	761300	6419026	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0874	S1MC69	761300	6419031	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0875	S1MC70	761427	6419023	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0876	S1MC71	761428	6419024	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0877	S1MC72	761421	6419023	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0878	S1MC73	761429	6419089	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0879	S1MC74	761687	6419730	Isolated Artefact	Low	Biodiversity Offset	Direct	Surface collection
36-3-0880	S1MC75	761683	6419722	Isolated Artefact	Low	Biodiversity Offset	Direct	Surface collection
36-3-0881	S1MC76	761684	6419723	Isolated Artefact	Low	Biodiversity Offset	Direct	Surface collection
36-3-0882	S1MC77	761597	6419653	Isolated Artefact	Low	Biodiversity Offset	Direct	Surface collection
36-3-0883	PAD 4 Moolarben Coal	761685	6419735	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0884	PAD 5 Moolarben Coal	761685	6419736	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0885	PAD 6 Moolarben Coal	761341	6420748	PAD	Low	Project Boundary	Nil	Nil required
36-3-0888	S1MC80	761535	6417281	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0889	S1MC81	761547	6417308	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0890	S1MC82	761563	6417309	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0891	S1MC83	761557	6417330	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0892	S1MC84	761580	6417360	Artefact Scatter	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0893	S1MC85	761613	6417323	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0894	S1MC86	761612	6417508	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0895	S1MC87	761615	6417500	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0896	S1MC88	761608	6417465	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0897	S1MC89	761591	6417421	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0898	S1MC90	761579	6417403	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0899	S1MC91	761631	6417624	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0900	S1MC92	761659	6417596	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0901	S1MC93	761659	6417588	Isolated Artefact	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0902	S1MC94	761638	6417728	Artefact Scatter	Low	Outside Project Boundary	Nil	Managed under Stage 1 Approval
36-3-0939	S1MC130	762600	6418163	Artefact Scatter	Low	Outside Project Boundary	Nil	Recording and surface collection

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-0940	S1MC131	762763	6418104	Isolated Artefact	Low	Outside Project Boundary	Nil	Surface collection
36-3-0945	S1MC136	762737	6417948	Artefact Scatter	Low	Outside Project Boundary	Nil	Surface collection
36-3-0946	S1MC137	762338	6418398	Isolated Artefact	Low	Outside Project Boundary	Nil	Surface collection
36-3-0947	S1MC138	762315	6418451	Isolated Artefact	Low	Outside Project Boundary	Nil	Surface collection
36-3-0948	S1MC139	762549	6417807	Artefact Scatter	Low	Outside Project Boundary	Nil	Recording and surface collection
36-3-0954	PAD 8 Moolarben Coal	761478	6421053	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0955	PAD 9 Moolarbeen Coal	761552	6421040	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0956	PAD 10 Moolarbeen Coal	761551	6421051	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0957	PAD 11 Moolarbeen Coal	761426	6420964	PAD	Low	Project Boundary	Nil	Test excavation where monitoring indicates impacts are likely
36-3-0958	PAD 12 Moolarbeen Coal	761318	6420832	PAD	Low	Project Boundary	Nil	Nil required
36-3-1041	S1MC 225	761752	6425887	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1042	S1MC226	761726	6426232	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1043	S1MC227	761825	6426206	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1044	S1MC228	762428	6426370	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1045	S1MC229	762430	6426375	Isolated Artefact	Medium	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1046	S1MC230	761640	6426786	Artefact Scatter	High	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1047	S1MC231	761907	6426804	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1048	S1MC232	761926	6426825	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1049	S1MC233	761954	6426840	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1050	S1MC234	761990	6426858	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1051	S1MC235	762126	6426823	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1052	S1MC236	762199	6426811	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1053	S1MC237	762202	6426805	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1054	S1MC238	762211	6426803	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1055	S1MC239	762220	6426805	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1056	S1MC240	762231	6426802	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1057	S1MC241	762272	6426800	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1058	S1MC242	762291	6426801	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1059	S1MC243	762310	6426800	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1060	S1MC244	761552	6426828	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1061	S1MC245	761747	6426767	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1062	S1MC246	761820	6426775	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1063	S1MC247	761831	6426745	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1064	S1MC248	761863	6426758	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1065	S1MC249	761863	6426771	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1066	S1MC250	761860	6426773	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1067	S1MC252	761867	6426779	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1068	S1MC253	761870	6426772	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1089	S1MC274	761580	6426932	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1090	S1MC275	761878	6426869	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.
36-3-1091	S1MC276	761877	6426917	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.
36-3-1092	S1MC277	761862	6426931	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.
36-3-1093	S1MC278	761688	6426940	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.

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AHIMS Site Number	Site Name	Eastings (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1094	S1MC279	761551	6426963	Isolated Artefact	Low	Project Boundary	Nil	Site is currently undisturbed and will be conserved within the Bora Creek Riparian Conservation Area. Restricted access is being maintained by fencing, padlocks, signage and site communication protocols; including inductions.
36-3-1113	S1MC244A	762395	6426731	Artefact Scatter	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1136	WC-OS21 (Wollar)	764360	6425500	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1140	S1MC303	762029	6426950	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1141	S1MC304	762216	6426991	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1142	S1MC305	762474	6426945	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1143	S1MC306	762426	6426370	Isolated Artefact	Low	Project Boundary	Nil	Managed under Stage 1 Approval
36-3-1144	S1MC307	762110	6421138	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1145	S1MC308	761997	6421905	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1150	S2MC1	763454	6426266	Isolated Artefact	Low	Infrastructure	Direct	Surface collection
36-3-1151	S2MC2	763893	6425480	Isolated Artefact	Low	Haul Road	Direct	Surface collection
36-3-1152	S2MC3	764147	6425290	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1153	S2MC4	763996	6425355	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1154	S2MC5	763592	6424924	Artefact Scatter	Low	UG1	Nil	Surface collection where monitoring indicates impacts are likely
36-3-1155	S2MC6	763750	6424949	Artefact Scatter	Medium	Forestry regeneration	Nil	In situ conservation - fence site

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36-3-1156	S2MC7	763625	6425020	Isolated Artefact	Low	Forestry regeneration	Direct	Surface collection
36-3-1157	S2MC8	762810	6425021	Isolated Artefact	Low	UG1	Nil	Nil required
36-3-1158	S2MC9	762818	6424980	Isolated Artefact	Low	UG1	Nil	Nil required
36-3-1159	S2MC10	762899	6425019	Artefact Scatter	Low	UG1	Nil	Surface collection where monitoring indicates impacts are likely
36-3-1160	S2MC11	762932	6425019	Isolated Artefact	Low	UG1	Nil	Nil required
36-3-1161	S2MC12	762928	6425072	Isolated Artefact	Low	UG1	Nil	Nil required
36-3-1162	S2MC13	763963	6424498	Isolated Artefact	Low	OC4	Direct	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
36-3-1163	S2MC14	764599	6424642	Artefact Scatter	Medium	Surface Facilities	Nil	In situ conservation - fence site
36-3-1164	S2MC15	764474	6424713	Artefact Scatter	Medium	Surface Facilities	Indirect	In situ conservation - fence site
36-3-1165	S2MC16	764356	6424682	Artefact Scatter	Low	Surface Facilities	Direct	Site to be intensively recorded and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
36-3-1166	S2MC17	763927	6423811	Artefact Scatter	Low	Surface Facilities	Direct	Recording and surface collection
36-3-1167	S2MC18	763623	6423760	Ochre Quarry	Medium	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1168	S2MC19	763569	6423675	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1169	S2MC20	763544	6423690	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1170	S2MC21	763492	6423781	Isolated Artefact	Low	OC4	Direct	Surface collection

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36-3-1171	S2MC22	763514	6423298	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1172	S2MC23	763533	6423263	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1173	S2MC24	763527	6423238	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1174	S2MC25	763577	6423216	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1175	S2MC29	762864	6422165	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1176	S2MC30	762907	6422288	Artefact Scatter	Medium	OC4	Direct	Surface collection
36-3-1177	S2MC31	762915	6422176	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1178	S2MC32	762993	6422509	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1179	S2MC33	763087	6422508	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1180	S2MC34	763086	6422475	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1181	S2MC35	763022	6422318	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1182	S2MC36	763218	6422447	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1183	S2MC37	763228	6422422	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1184	S2MC38	763224	6422287	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1185	S2MC39	763171	6422268	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1186a*	S2MC40	763149	6422219	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1186b*	S2MC41	763226	6422196	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1187	S2MC42	763239	6422576	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1188	S2MC43	763401	6421479	Artefact Scatter	High	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1189	S2MC44	763280	6421535	Artefact Scatter	Low	OC4	Direct	Recording and surface collection

AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1190	S2MC45	763308	6421596	Artefact Scatter	Medium	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1191	S2MC46	763230	6421656	Artefact Scatter	Medium	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1192	S2MC47	763167	6421714	Artefact Scatter	Low	OC4	Direct	Recording, surface collection and test excavation
36-3-1193	S2MC48	763246	6421790	Isolated Artefact	Low	OC4	Direct	Recording and surface collection
36-3-1194	S2MC49	763398	6420819	Isolated Artefact	Low	Dam	Direct	Surface collection
36-3-1195	S2MC50	763428	6421011	Artefact Scatter	Medium	Dam	Direct	Surface collection
36-3-1196	S2MC51	763330	6421014	Artefact Scatter	Medium	Dam	Direct	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
36-3-1197	S2MC52	763353	6420804	Isolated Artefact	Low	Dam	Direct	Surface collection
36-3-1198	S2MC53	763336	6421261	Artefact Scatter	Low	Dam	Direct	Recording and surface collection
36-3-1199	S2MC54	763657	6420483	Artefact Scatter	High	Murrumbidgee Creek Management Area	Nil	Murrumbidgee Creek Management Area
36-3-1200	S2MC55	763774	6420431	Artefact Scatter	Low	Murrumbidgee Creek Management Area	Nil	Murrumbidgee Creek Management Area
36-3-1201	S2MC56	763691	6420485	Artefact Scatter	Medium	Murrumbidgee Creek Management Area	Nil	Murrumbidgee Creek Management Area
36-3-1202	S2MC57	763637	6420656	Artefact Scatter	Medium	Murrumbidgee Creek Management Area	Nil	Murrumbidgee Creek Management Area
36-3-1203	S2MC58	763598	6420782	Artefact Scatter	Medium	Murrumbidgee Creek Management Area	Nil	Murrumbidgee Creek Management Area
36-3-1204	S2MC59	763611	6421022	Artefact Scatter	Low	Outside Project Boundary	Nil	Murrumbidgee Creek Management Area

AHIMS Site Number	Site Name	Eastings (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1205	S2MC59a	764768	6420522	Artefact Scatter	Low	Outside Project Boundary	Nil	Murrumba Creek Management Area
36-3-1206	S2MC59b	763799	6420542	Isolated Artefact	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1207	S2MC60	764013	6420264	Isolated Artefact	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1208	S2MC61	763960	6420196	Artefact Scatter	Medium	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1209	S2MC62	764021	6420153	Artefact Scatter	High	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1210	S2MC63	763726	6420346	Artefact Scatter	High	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1211	S2MC64	763797	6420228	Artefact Scatter	High	Murrumba Creek Management Area	Nil	No impact, no excavation or salvage required. Site to be fenced within 100 m of MCO activities
36-3-1212	S2MC65	764111	6420070	Artefact Scatter	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1213	S2MC66	764188	6420011	Isolated Artefact	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1214	S2MC67	764124	6420085	Artefact Scatter	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1215	S2MC68	764195	6420109	Isolated Artefact	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1216	S2MC69	764218	6420104	Isolated Artefact	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1217	S2MC70	764210	6420157	Artefact Scatter	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1218	S2MC71	764256	6420152	Artefact Scatter	Low	Murrumba Creek Management Area	Nil	Murrumba Creek Management Area
36-3-1219	S2MC72	764347	6419476	Artefact Scatter	Low	OC4	Direct	Surface collection

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36-3-1220	S2MC73	764388	6419544	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1221	S2MC75	764521	6419399	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1222	S2MC76	764419	6419453	Artefact Scatter	Medium	Forestry regeneration	Nil	In situ conservation - fence site
36-3-1223	S2MC77	764551	6419111	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1224	S2MC78	764412	6419206	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1225	S2MC79	764365	6419285	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1226	S2MC80	764366	6419143	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1227	S2MC81	764243	6419145	Artefact Scatter	Medium	OC4	Direct	Surface collection
36-3-1228	S2MC82	764867	6419455	Artefact Scatter	Low	Forestry regeneration	Direct	Surface collection
36-3-1229	S2MC83	764761	6419508	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1230	S2MC84	764761	6419546	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1231	S2MC85	764703	6419623	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1232	S2MC86	764632	6419671	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1233	S2MC87	764641	6419545	Artefact Scatter	Low	Forestry regeneration	Nil	Recording and surface collection
36-3-1234	S2MC88	764524	6419624	Artefact Scatter	Low	Forestry regeneration	Nil	Surface collection
36-3-1235	S2MC89	764167	6419140	Artefact Scatter	Medium	Forestry regeneration	Nil	In situ conservation - fence site
36-3-1236	S2MC90	764218	6419283	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1237	S2MC91	764219	6419320	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1238	S2MC92	764116	6419333	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1239	S2MC93	764127	6419266	Artefact Scatter	Low	OC4	Direct	Surface collection

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36-3-1240	S2MC94	764078	6419242	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1241	S2MC95	763986	6419379	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1242	S2MC96	763968	6419309	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1243	S2MC97	764011	6419162	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1244	S2MC98	764653	6418836	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1245	S2MC99	764662	6418925	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1246	S2MC100	764628	6418985	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1247	S2MC101	765127	6418276	Artefact Scatter	Low	Forestry regeneration	Nil	Recording and surface collection
36-3-1248	S2M102	765073	6418353	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1249	S2MC103	765026	6418396	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1250	S2MC104	765186	6418467	Artefact Scatter	Low	Project Boundary	Nil	In situ conservation - fence site
36-3-1251	S2MC105	765124	6418515	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1252	S2MC106	765111	6418559	Isolated Artefact	Low	Forestry regeneration	Nil	Surface collection
36-3-1253	S2MC107	763292	6423420	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1254	S2MC108	763221	6423355	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1255	S2MC109	763245	6423435	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1256	S2MC110	763247	6423496	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1257	S2MC111	763173	6423555	Artefact Scatter	Low	OC4	Direct	Aboriginal community excavation

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36-3-1258	S2MC112	763144	6423363	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1259	S2MC113	763109	6423414	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1260	S2MC114	763054	6423414	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1261	S2MC115	767058	6422282	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-1262	S2MC116	766969	6422391	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1263	S2MC117	766137	6423144	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1264	S2MC118	766022	6423648	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1265	S2MC119	765280	6423247	Artefact Scatter	Low	OC4	Direct	Recording, surface collection and test excavation
36-3-1266	S2MC120	765349	6423292	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1267	S2MC121	765351	6423204	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1268	S2MC122	765239	6422923	Artefact Scatter	Low	OC4	Direct	Recording, surface collection and test excavation
36-3-1269	S2MC123	765215	6422776	Artefact Scatter	High	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1270	S2MC124	765137	6422712	Artefact Scatter	High	OC4	Direct	Recording, surface collection, test excavation and salvage
36-3-1271	S2MC125	765088	6422558	Artefact Scatter	Medium	OC4	Direct	Recording and surface collection
36-3-1272	S2MC126	765168	6422417	Artefact Scatter	Low	OC4	Direct	Recording, surface collection and test excavation
36-3-1273	S2MC127	762552	6422517	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1274	S2MC128	765165	6422569	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1275	S2MC129	765163	6422587	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1276	S2MC130	765213	6422569	Isolated Artefact	Low	OC4	Direct	Surface collection

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36-3-1277	S2MC131	765238	6422580	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1278	S2MC132	765219	6422646	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1279	S2MC133	765304	6422681	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1280	S2MC134	765303	6422758	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1281	S2MC135	765316	6422855	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1282	S2MC136	765331	6423024	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1283	S2MC137	765393	6423134	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1284	S2MC138	765367	6423633	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1285	S2MC139	765452	6423685	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1286	S2MC140	765292	6423580	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1287	S2MC141	765282	6423484	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1288	S2MC142	765137	6421782	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1289	S2MC143	765437	6422018	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1290	S2MC144	765425	6421959	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1291	S2MC145	765423	6421850	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1292	S2MC146	765430	6421663	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1293	S2MC147	765473	6421682	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1294	S2MC148	766469	6419281	Artefact Scatter	Low	Powers Management Area	Nil	Powers Management Area
36-3-1295	S2MC149	766480	6419235	Isolated Artefact	Low	Powers Management Area	Nil	Powers Management Area
36-3-1296	S2MC150	766392	6419371	Artefact Scatter	Medium	Powers Management Area	Nil	Powers Management Area

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36-3-1297	S2MC151	766386	6419437	Artefact Scatter	High	Powers Management Area	Nil	Powers Management Area
36-3-1298	S2MC152	766430	6419270	Artefact Scatter	Low	Powers Management Area	Nil	Powers Management Area
36-3-1299	S2MC153	766167	6419284	Artefact Scatter	Low	Powers Management Area	Nil	Powers Management Area
36-3-1300	S2MC154	766156	6419379	Isolated Artefact	Medium	Powers Management Area	Nil	Powers Management Area
36-3-1301	S2MC155	765636	6419917	Isolated Artefact	Low	Forestry regeneration	Nil	Nil required
36-3-1302	S2MC156	765842	6419949	Isolated Artefact	Low	Dam	Indirect	In situ conservation - fence site
36-3-1303	S2MC157	765692	6420186	Artefact Scatter	Low	Forestry regeneration	Nil	In situ conservation - fence site
36-3-1304	S2MC158	765856	6420241	PAD	Low	OC4	Direct	Surface collection and test excavation
36-3-1305	S2MC159	765825	6420330	PAD	Low	OC4	Direct	Surface collection and test excavation
36-3-1306	S2MC160	765854	6420423	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1307	S2MC161	765857	6420381	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1308	S2MC162	765464	6421594	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1309	S2MC163	765460	6421512	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1310	S2MC164	765605	6421171	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1311	S2MC165	765563	6421225	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1312	S2MC166	765561	6421163	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1313	S2MC167	765492	6421165	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1314	S2MC168	765504	6421228	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1315	S2MC169	765786	6420744	Isolated Artefact	Low	OC4	Direct	Surface collection

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36-3-1316	S2MC170	766140	6420074	Artefact Scatter	Low	Dam	Direct	Surface collection
36-3-1317	S2MC171	765965	6420659	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1318	S2MC172	765916	6420791	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1319	S2MC173	764816	6422857	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1320	S2MC174	764831	6422763	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1321	S2MC175	764630	6422219	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1322	S2MC176	763310	6422975	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1323	S2MC177	763292	6422884	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1324	S2MC178	763320	6422819	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1325	S2MC179	763315	6422895	Artefact Scatter	Low	OC4	Direct	Recording and surface collection
36-3-1326	S2MC180	763348	6422969	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1327	S2MC181	763367	6423035	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1328	S2MC182	763420	6423022	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1329	S2MC183	763540	6422937	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1330	S2MC184	763512	6422894	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1331	S2MC185	763401	6422810	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1332	S2MC186	763589	6423143	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1333	S2MC187	763124	6422657	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1334	S2MC188	763169	6422625	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1335	S2MC189	763172	6422639	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1336	S2MC190	762881	6422748	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1337	S2MC191	762995	6422625	Artefact Scatter	Low	OC4	Direct	Surface collection

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1338	S2MC192	763077	6422559	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1339	S2MC193	763126	6422520	Isolated Artefact	Low	OC4	Direct	Surface collection
36-3-1340	S2MC194	763075	6422634	Artefact Scatter	Low	OC4	Direct	Surface collection
36-3-1341	S2MC195	764894	6425757	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1342	S2MC196	764900	6425851	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1343	S2MC197	764995	6425835	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1344	S2MC198	765094	6425881	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1345	S2MC199	765173	6425859	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1346	S2MC200	765104	6425966	Artefact Scatter	High	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1347	S2MC201	765437	6426087	Artefact Scatter	High	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1348	S2MC201	765437	6426087	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1349	S2MC202	765350	6426120	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1350	S2MC203	765338	6426156	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1351	S2MC204	765258	6426088	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1352	S2MC205	765286	6426122	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1353	S2MC206	765649	6426311	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area

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36-3-1354	S2MC207	765640	6426268	Artefact Scatter	High	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1355	S2MC208	765734	6426259	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1356	S2MC209	765734	6426275	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1357	S2MC210	766010	6426378	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1358	S2MC211	766060	6426400	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1359	S2MC212	766126	6426347	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1360	S2MC213	766172	6426383	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1361	S2MC214	766231	6426410	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1362	S2MC215	766288	6426452	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1363	S2MC216	766453	6426402	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1364	S2MC217	766466	6426437	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1365	S2MC218	766651	6426460	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1366	S2MC219	766710	6426536	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1367	S2MC220	766624	6426572	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1368	S2MC221	766489	6426599	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1369	S2MC222	766305	6426512	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1370	S2MC223	766267	6426551	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1371	S2MC224	766260	6426518	Isolated Artefact	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1372	S2MC225	766125	6426484	Artefact Scatter	Low	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1373	S2MC226	765466	6426346	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1374	S2MC227	765387	6426462	Artefact Scatter	Medium	Red Hills Management Area	Nil	Red Hills Management Area
36-3-1375	S2MC228	766893	6420332	Isolated Artefact		Outside Project Boundary	Nil	Nil required
36-3-1376	S2MC229	763056	6423750	Rock Shelter	Low	OC4	Indirect	Monitoring and fence site
36-3-1377	S2MC230	762763	6423698	Isolated Artefact	Low	Infrastructure	Indirect	In situ conservation - fence site
36-3-1378	S2MC231	762203	6423681	Rock Shelter	High	OOP	Direct	Site to be intensively recorded including test excavation and salvaged in accordance with the methodology to be included in the Aboriginal Heritage Management Plan
36-3-1379	S2MC232	764831	6419682	Rock Shelter	Low	UG1	Indirect	Monitoring
36-3-1380	S2MC233	764334	6420256	Rock Shelter	Low	UG1	Indirect	Monitoring
36-3-1381	S2MC234	763698	6421496	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1382	S2MC237	761302	6421217	Isolated Artefact	Low	Project Boundary	Nil	Nil required

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1383	S2MC238	761752	6420984	Artefact Scatter	High	UG2	Nil	Recording and surface collection where monitoring indicates impacts are likely
36-3-1384	S2MC239	761953	6421041	Artefact Scatter	Low	UG2	Nil	Surface collection where monitoring indicates impacts are likely
36-3-1385	S2MC240	765318	6426505	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1386	S2MC241	765247	6426510	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1387	S2MC242	765212	6426530	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1388	S2MC243	765196	6426508	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1389	S2MC244	765096	6426564	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1390	S2MC245	765084	6426524	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1391	S2MC246	764807	6426681	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1392	S2MC247	764525	6426421	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1393	S2MC248	764492	6426391	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1394	S2MC249	764401	6426311	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1395	S2MC250	764346	6426273	Artefact Scatter	Medium	Project Boundary	Nil	Nil required
36-3-1396	S2MC251	764275	6426197	Artefact Scatter	Medium	Project Boundary	Nil	Nil required
36-3-1397	S2MC252	763900	6425946	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1398	S2MC253	764544	6426676	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1399	S2MC254	764371	6426751	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1400	S2MC255	764148	6426815	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1401	S2M257 (S2MC256)	763698	6426910	Artefact Scatter	Low	Project Boundary	Nil	Nil required
36-3-1402	S2MC257	763567	6426991	Isolated Artefact	Low	Project Boundary	Nil	Nil required

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1403	S2MC258	763414	6427000	Artefact Scatter	Medium	Project Boundary	Nil	Nil required
36-3-1404	S2MC259	763374	6427039	Isolated Artefact	Low	Project Boundary	Nil	Nil required
36-3-1405	S2MC260	765318	6426505	Isolated Artefact	Low	Infrastructure	Nil	Surface collection
36-3-1406	S2MC261	763640	6420446	Grinding Grooves	High	Murrumba Creek Management Area	Nil	Surveyed since the Stage 2 EA
36-3-1406	S2MC261a	763692	6420418	Isolated Artefact	High	Murrumba Creek Management Area	Nil	Surveyed since the Stage 2 EA
36-3-1406	S2MC261b	763671	6420556	Isolated Artefact	High	Murrumba Creek Management Area	Nil	Surveyed since the Stage 2 EA
36-3-1432	Identifier 1	761272	6427235	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1433	Identifier 2	761121	6427218	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1434	Identifier 3	760665	6426887	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1435	Identifier 4	760625	6426927	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1436	Identifier 5	760695	6426926	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1437	Identifier 6	760668	6427046	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-1478	Ulan ID#85 (Identifier 85)	762012	6426721	Artefact Scatter	Low	Project Boundary	Nil	Manage under Stage 1 Approval
36-3-1479	Ulan ID86# (Identifier 86)	761715	6426877	Artefact Scatter	Low	Project Boundary	Nil	Manage under Stage 1 Approval
36-3-1480	Ulan ID87 (Identifier 87)	761593	6426739	Artefact Scatter	Low	Project Boundary	Nil	Manage under Stage 1 Approval

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AHIMS Site Number	Site Name	Easting (GDA94)	Northing (GDA94)	Site Type	Significance	Area	Impact	Preferred Project Management Measure
36-3-1481	Identifier 88	761476	6426901	Destroyed	Nil	Outside Project Boundary	Nil	Nil required
36-3-1482	Identifier 91 T10 to 11	760234	6426304	Destroyed	Nil	Outside Project Boundary	Nil	Nil required
36-3-1483	Identifier 92 T12	759813	6426292	Destroyed	Nil	Outside Project Boundary	Nil	Nil required
36-3-1487	Ulan id#127 (UV1)	759653	6426674	Artefact Scatter	Low	Outside Project Boundary	Nil	Nil required
36-3-2520	Ulan Stone (US1)	759076	6427346	Isolated Artefact	Low	Outside Project Boundary	Nil	Nil required
36-3-2581	S2MC74	764501	6419323	Artefact Scatter	Low	OC4	Direct	Surface collection
	S2MC262	763513	6420829	Isolated Artefact	Low	Dam	Direct	Surveyed since the Stage 2 EA